

# HIGHWAY WORK PROPOSAL

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

Proposal Number:

13

<u>COUNTY</u>	<u>STATE PROJECT ID</u>	<u>FEDERAL PROJECT ID</u>	<u>PROJECT DESCRIPTION</u>	<u>HIGHWAY</u>
Brown	1133-11-74	WISC 2013 382	DePere - Suamico Memorial Drive - CTH M IH 43 Early Structures/Early Fill	USH 41

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, \$ 1,000,000.00 Payable to: Wisconsin Department of Transportation	Attach Proposal Guaranty on back of this PAGE.
Bid Submittal Due  Date: August 13, 2013 Time (Local Time): 9:00 AM	Firm Name, Address, City, State, Zip Code
Contract Completion Time  May 22, 2015	<b>SAMPLE</b> <b>NOT FOR BIDDING PURPOSES</b>
Assigned Disadvantaged Business Enterprise Goal  8%	This contract is subject to federal oversight.

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

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

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

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

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

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

Notary Seal

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

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

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

## For Department Use Only

Type of Work

Grading, strip drains and drainage blankets, temporary shoring, breaker run, base aggregate dense, HMA pavement, bridge structures B-5-671, B-5-677, B-5-678, B-5-679, B-5-681, retaining walls R-5-84, R-5-255, R-5-256, R-5-257, overhead sign structures S-5-284 and S-5-286, temporary structures TW-5-001, TW-5-002, and TW-5-003, concrete barrier temporary precast left in place, sidewalk, curb and gutter, storm sewer, culverts, erosion control, guardrail, signing, pavement marking, traffic signals, site clearance for Parcel 16, razing and removing building for Parcel 16, and grading, shaping and finishing for Parcel 16.

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.

## BID PREPARATION

### **Preparing the Proposal Schedule of Items**

#### **A General**

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

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

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

#### **B Submitting Electronic Bids**

##### **B.1 On the Internet**

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

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

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

- (1) Download the latest schedule of items from the Wisconsin pages of the Bid Express™ web site reflecting the latest addenda posted on the department's web site at <http://www.dot.wisconsin.gov/business/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

DT1303 1/2006

Wisconsin Department of Transportation

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

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

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

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

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

## PRINCIPAL

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

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

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

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

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

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

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

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

## NOTARY FOR PRINCIPAL

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

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

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

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

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

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

**Notary Seal**

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

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

## NOTARY FOR SURETY

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

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

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

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

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

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

**Notary Seal**

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



# CERTIFICATE OF ANNUAL BID BOND

DT1305 8/2003

Wisconsin Department of Transportation

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

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

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

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

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

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



## March 2010

## LIST OF SUBCONTRACTORS

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

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

[illegible]



**DECEMBER 2000**

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

Instructions for Certification

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

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

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

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

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



## Special Provisions

### Table of Contents

Article	Description	Page #
1.	Administrative.....	6
1.1	General.....	6
1.2	Scope of Work. ....	6
1.3	Labor Compliance Reporting – Payroll Requirements.....	6
1.4	Field Facilities.....	6
1.5	Other Contracts.....	7
1.6	Loads on Structures.....	8
1.7	Work by Others – Removal of Billboard.....	9
1.8	Work by Others – Traffic Signals.....	9
1.9	Notice to Contractor – Airport Operating Restrictions, FAA Coordination by Contractor.....	9
1.10	Notice to Contractor – Project Storage and Staging Areas.....	10
1.11	Notice to Contractor – Potential Borrow Sources.....	11
1.12	Notice to Contractor – Geotechnical Investigation.....	11
1.13	Pay Plan Quantity.....	11
2.	Prosecution and Progress.....	12
2.1	Prosecution and Progress.....	12
2.2	CPM Baseline Schedule, Item SPV.0060.001; CPM Schedule Monthly Updates, Item SPV.0060.002.....	16
3.	Meetings.....	25
3.1	Pre-Bid Meeting.....	25
3.2	Leadership Partnering Meetings.....	26
3.3	Project Communication Enhancement Effort.....	26
3.4	Traffic Meetings and Traffic Control Scheduling.....	26
4.	Alternative Dispute Resolution.....	27
4.1	Contract Award and Execution.....	27
4.2	Claims Process for Unresolved Changes.....	35
5.	Insurance.....	43
5.1	Bidding Instructions for Insurance.....	43
5.2	Owner Controlled Insurance Program.....	44
5.3	Railroad Insurance and Coordination.....	52
6.	Environmental.....	55
6.1	Environmental Protection.....	55
6.2	Environmental Protection, Emerald Ash Borer.....	56
6.3	Information to Bidders, U.S. Army Corps of Engineers Section 404 Permit.....	59
6.4	Environmental Protection, Aquatic Exotic Species Control.....	59
6.5	Construction Over or Adjacent to Navigable Waters.....	60
6.6	Notice to Contractor – Contamination Beyond Construction Limits.....	60
6.7	Notice to Contractor - Abatement of Asbestos Containing Material.....	60
6.8	Notice to Contractor – Fertilizer.....	61
6.9	Notice to Contractor – Layout Information for Permitted Impact to Wetlands....	61

6.10	Notice to Contractor – Causeways.....	61
6.11	Endangered Resources.....	62
7.	Traffic and Restrictions to Work.....	62
7.1	Traffic.....	62
7.2	Traffic Control.....	74
7.3	Holiday and Other Work Restrictions.....	75
7.4	Public Convenience and Safety.....	76
7.5	Steel Plate Beam Guard Class A and MGS Guardrail 3.....	77
7.6	Concrete Barrier Temporary Precast.....	77
7.7	Crash Cushions Temporary.....	77
7.8	Construction Access Road Left in Place by Others.....	77
7.9	Crash Cushions Temporary Left In Place, Item SPV.0060.200.....	78
7.10	Temporary Thrie Beam Connection Left in Place, Item SPV.0060.201.....	79
7.11	Crash Cushions Extra Wide Temporary Left In Place, Item SPV.0060.203.....	79
7.12	Traffic Control Signs Modified, Item SPV.0060.204.....	80
7.13	Truck Mounted Attenuator with Operator, Item SPV.0075.200; Truck Mounted Attenuator without Operator, Item SPV.0075.201.....	81
7.14	Concrete Barrier Temporary Precast Anchoring, Item SPV.0090.200.....	82
7.15	Concrete Barrier Temporary Precast Left In Place, Item SPV.0090.201.....	83
7.16	Glare Screens Temporary, Item SPV.0090.202.....	84
7.17	Traffic Control for Duck Creek Recreational Vehicles, Item SPV.0105.200.....	85
8.	Utilities and Railroads.....	86
8.1	Utilities.....	86
8.2	Electrical Service.....	90
9.	Clear – Demolition – Removal.....	90
9.1	Clearing and Grubbing.....	90
9.2	Grubbing.....	90
9.3	Notice to Contractor - Clearing.....	90
9.4	Removing or Abandoning Miscellaneous Structures.....	91
9.5	Salvaged Rail and Salvaged Guardrail End Treatments.....	91
9.6	Rubbish Pile Excavation, Item SPV.0035.002.....	91
9.7	Removing Field Entrance, Item SPV.0060.003.....	92
9.8	Removing Building Parcel 16, Item SPV.0060.004.....	93
9.9	Site Clearance Parcel No. 16, Item SPV.0105.001.....	94
9.10	Grading, Shaping and Finishing Parcel 16, Item SPV.0105.002.....	96
9.11	Removing Traffic Signals (USH 41 NB and USH 141), Item SPV.0105.450.....	96
9.12	Removing Sand Barrel Array and Concrete Pad Station 1188+90 NIH LT, Item SPV.0105.003.....	97
10.	Earthwork.....	98
10.1	Frozen Ground.....	98
10.2	Marsh Excavation.....	98
10.3	Staged Embankment Construction.....	99
10.4	Embankment Construction.....	101
10.5	Roadway Excavation.....	101
10.6	Borrow.....	102
10.7	Roadway Embankment, Item SPV.0035. 003.....	102

10.8	Geotextile Fabric Type ES.....	103
10.9	Drainage Blanket, Item SPV.0035.004.....	103
10.10	Vibrating Wire Piezometer Instrumentation System, Delivered, Item SPV.0060.005.....	104
10.11	Settlement Gauges, Item SPV.0060.006.....	109
10.12	Strip Drains, Item SPV.0090.001; Pre-bored Strip Drains, Items SPV.0090.002. .....	111
10.13	Geotechnical Instrumentation, Item SPV.0105.004. ....	114
10.14	Maintenance Road Excavation MR1, Item SPV.0105.008; MR2, Item SPV.0105.009; MR3, Item SPV.0105.010; MR4, Item SPV.0105.011; MR5, Item SPV.0105.012. ....	124
10.15	Geogrid Reinforcement, Item SPV.0180.001.....	125
10.16	Salvaged Topsoil.....	128
11.	Bases, Subbases and Pavements. ....	128
11.1	QMP Base Aggregate. ....	128
11.2	Aggregate Quality Testing for High-Performance Concrete (HPC) Mixes.....	136
11.3	Breaker Run. ....	138
11.4	Concrete Pavement. ....	138
11.5	Temporary Haul Road Access for Structure Construction, Item SPV.0105.005.....	138
11.6	Temporary Creek Access for Structure B-05-681, Item SPV.0105.006.....	140
11.7	Base Aggregate Dense ¾-Inch Special, Item SPV.0195.001. ....	142
11.8	Breaker Run Special, Item SPV.0195.002.....	143
12.	Bridges.....	143
12.1	Stay-In-Place (SIP) Metal Deck Forms. ....	143
12.2	Temporary Shoring, Item 206.6000.S.....	146
12.3	Stockpile Formliners and Stain.....	147
12.4	Expansion Device B-5-678, B-5-681.....	148
12.5	Expansion Device Modular B-5-671, Item 502.3110.S.009; B-5-678, Item 502.3110.S.010; B-5-679, Item 502.3110.S.011 and B-5-681, Item 502.3110.S.012. ....	149
12.6	Anchor Assemblies Light Poles on Structures, Item 657.6005.S. ....	153
12.7	High Performance Concrete (HPC) Masonry Structures, Item SPV.0035.700..	154
12.8	Ground Fault Circuit Interrupter (GFCI) Receptacles, Item SPV.0060.350. ....	161
12.9	Vapor Proof L.E.D. Light Fixture, Item SPV.0060.351.....	162
12.10	Junction Boxes Stainless Steel 27x18x8-Inch, Item SPV.0060.352; 27x24x12- Inch, Item SPV.0060.353.....	163
12.11	Standpipe System, Item SPV.0060.700.....	164
12.12	Pile Dynamic Analyzer (PDA) Testing, Item SPV.0060.701; Pile Dynamic Analyzer (PDA) Restrikes, Item SPV.0060.702.....	168
12.13	Anchor Bolt Assembly, Overhead Sign Supports, Item SPV.0060.703.....	171
12.14	Bar Steel Reinforcement HS Stainless Bridges, Item SPV.0085.700.....	172
12.15	Conduit Rigid Metallic PVC Coated 4-Inch, Item SPV.0090.350. ....	173
12.16	Driving Piling Steel State Furnished HP 14-Inch x 89 LB, Item SPV.0090.700. .....	175
12.17	Downspout RTRP 6-Inch, Item SPV.0090.702.....	181

12.18	Electrical Service Installation B-5-671, Item SPV.0105.350; B-5-678, Item SPV.0105.351 and B-5-679, Item SPV.0105.352. ....	182
12.19	Erecting Structural Steel B-5-671, Item SPV.0105.700; B-5-678, Item SPV.0105.701; B-5-679, Item SPV.0105.702; and B-5-681, Item SPV.0105.703. ....	184
12.20	Field Painting Structural Steel B-5-671, Item SPV.0105.704; B-5-678, Item SPV.0105.705; B-5-679, Item SPV.0105.706 and B-5-681, Item SPV.0105.707. ....	192
12.21	Architectural Surface Treatment, Item SPV.0165.700. ....	195
12.22	Staining Concrete, Item SPV.0165.701. ....	197
12.23	Staining Concrete Brick, Item SPV.0165.702. ....	199
12.24	Longitudinal Grooving Bridge Deck, Item SPV.0165.703. ....	201
12.25	Polymer Overlay, Item SPV.0180.700. ....	202
13.	Retaining Walls, Ground Support. ....	207
13.1	Wall Wire Faced Mechanically Stabilized Earth, Item 532.0700.S. ....	207
13.2	Helical Tieback Anchors, Item SPV.0060.850. ....	212
13.3	Fence Decorative Wall, Item SPV.0090.850. ....	223
13.4	Prestressed Precast Concrete Wall Panel, Item SPV.165.850. ....	225
13.5	Temporary Shoring Left In Place, Item SPV.0165.851. ....	232
13.6	Temporary Wall Wire Faced Mechanically Stabilized Earth, Item SPV.0165.852. ....	233
13.7	Piling Steel Sheet Temporary, Item SPV.0165.855. ....	240
14.	Drainage and Erosion Control. ....	241
14.1	Erosion Control. ....	241
14.2	Temporary Ditch Checks. ....	242
14.3	Erosion Control Implementation Plan (ECIP). ....	242
14.4	Erosion Control Structures. ....	242
14.5	Surface Drain Pipe Corrugated Metal Slotted, 18-Inch, Item 521.2005.S.001. .	243
14.6	Removal of Erosion Control Between Lifts of Staged Embankment. ....	244
14.7	Notice to Contractor – Riprap Light, Medium and Heavy. ....	244
14.8	Sedimentation Basin, Item SPV.0060.150. ....	244
14.9	Street Sweeping, Item SPV.0075.150. ....	245
14.10	Temporary Slope Drain to Remain, Item SPV.0180.150. ....	245
15.	Miscellaneous Concrete. ....	246
15.1	Concrete Curb and Gutter and Barrier, Cold Weather Covering, Plastic 1 Layer, Item SPV.0090.004; Plastic 2 Layers, Item SPV.0090.005. ....	246
16.	Signing and Marking. ....	247
16.1	Removing Pavement Marking. ....	247
16.2	Blue Specific Information Signs. ....	247
16.3	Sign Supports Shorten Structural Steel, Item 635.9010.S. ....	247
16.4	Sign Blanks Left in Place, Item SPV.0165.950. ....	248
17.	Lighting/Electrical (Not Used). ....	249
18.	Intelligent Transportation Systems (ITS). ....	249
18.1	Furnish and Install Microwave Based Traffic Sensor, Item SPV.0060.450. ....	249
19.	Miscellaneous/Incidental Construction. ....	250
19.1	Fence Safety, Item 616.0700.S. ....	250

19.2	Mudjacking, Item SPV.0035.005.....	251
19.3	Section Survey Monuments, Reconstruct Project, Item SPV.0060.008. ....	252
19.4	Cover Plates Temporary Special, Item SPV.0060.009. ....	253
19.5	Survey Project 1133-11-74, Item SPV.0105.007.....	254
19.6	Water for Seeded Areas, Item SPV.0120.001.....	255

## **SPECIAL PROVISIONS**

### **1. Administrative.**

#### **1.1 General.**

Perform the work under this construction contract for Project 1133-11-74, De Pere – Suamico, Memorial Drive – CTH M, IH 43 Early Structures / Early Fill, USH 41, Brown 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, 2013 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 (20120615)

#### **1.2 Scope of Work.**

The work under this contract shall consist of grading, strip drains and drainage blankets, temporary shoring, breaker run, base aggregate dense, HMA pavement, construction of permanent Structures B-5-671, B-5-677, B-5-678, B-5-679, B-5-681, R-5-84, R-5-255, R-5-256, and R-5-257, construction of overhead sign Structures S-05-284 and S-05-286, construction of temporary Structures TW-5-001, TW-5-002 and TW-5-003, concrete barrier temporary precast left in place, sidewalk, curb and gutter, storm sewer, culverts, erosion control, guardrail, signing, pavement marking, traffic signals, site clearance, razing and removing building, grading, shaping and finishing, for Parcel 16 of Plat No 1133-10-21-4.03, and all incidental items necessary to complete the work as shown on the plans and included in the proposal and contract.

#### **1.3 Labor Compliance Reporting – Payroll Requirements.**

Submit weekly certified payrolls verifying prevailing wage rates for all work performed under the contract as directed in the civil rights and labor compliance management system manual. Submit weekly certified payrolls within 14 calendar days of the week covered by the weekly certified payroll.

#### **1.4 Field Facilities.**

The department will provide primary field facilities for this project located at 1940 West Mason Street, Green Bay, WI 54303.

Provide two field facilities within the limits of this project in accordance to the field office bid item provided in the contract.

## **1.5 Other Contracts.**

The following projects will be under construction concurrently with the work under this contract. Coordinate trucking activities, detours, work zone traffic control, roadway and lane closures, and other work items as required with other contracts.

### **South Segment: Glory Road – Ninth Street USH 41 Mainline**

Project 1133-09-71, Glory Rd – Morris Ave USH 41 Mainline; Project, 1133-03-77, Morris Ave – Ninth Street USH 41 Mainline; Project 1133-09-76, Oneida St (CTH AAA) Interchange; Project 1133-09-74, Hansen Rd B-05-611, projects are located in Brown County, Wisconsin under a department contract. Work under these contracts (anticipated Construction Start date of August 2013) is anticipated to be complete in July 2016. Coordinate work with 1133-09-71, 1133-03-77, 1133-09-76, and 1133-09-74 contractors. Intermittent closures for the following STH 172 interchange ramps are expected to occur between September 2013 and May 2014: northbound USH 41 to eastbound STH 172, westbound STH 172 to northbound USH 41, westbound STH 172 to southbound USH 41, southbound USH 41 and eastbound STH 172. IH 43 ramps shall not be closed concurrently with the STH 172 interchange ramp for the same movement, as follows: northbound USH 41 to southbound IH 43 and northbound USH 41 to eastbound STH 172; northbound IH 43 to northbound USH 41 and westbound STH 172 to northbound USH 41; northbound IH 43 to southbound USH 41 and westbound STH 172 to southbound USH 41; southbound USH 41 to southbound IH 43 and southbound USH 41 to eastbound STH 172. Projects 1133-09-71 and 1133-03-77 and 1133-09-76 and 1133-09-74 will be let on July 23, 2013.

### **Central Segment: STH 29 Interchange and USH 41 Mainline**

Project 1133-03-71, De Pere – Suamico, USH 41, Larsen Road – Memorial Drive, Mainline; Project, 1133-03-73, De Pere – Suamico, WIS 29 Interchange, Packerland Dr – USH 41; Project 9202-07-71, De Pere – Suamico, WIS 29 Mainline, Duck Creek – Packerland Dr/CTH EB, projects are located in Brown County, Wisconsin under a department contract. Work under these contracts (anticipated Construction Start date of September 2012) is anticipated to be complete in October 2014. Coordinate work with 1133-03-71, 1133-03-73, and 9202-07-71 contractors for USH 41 traffic control, including lane closures, regulatory posted speed reductions, and advance warning signs. Closure of the Shawano Avenue Interchange is anticipated for mid-April to mid-June 2014 – during this period, do not close lanes on Velp Avenue, or close ramps at IH 43 or at Velp Avenue, for a continuous period longer than one night. The prime contractor for 1133-03-71, 1133-03-73 and 9202-07-71 is Hoffman Construction, (715) 284-2512.

### **North Segment: Early Steel Fabrication and Mainline USH 41; Beaver Dam Creek Box Culvert and Creek Realignment and Velp Avenue Stormwater Pond.**

Projects 1133-11-71/76/77/78, De Pere – Suamico, IH 43 Early Steel Fabrication, are located in Brown County, Wisconsin under a department contract. Work involves procuring, storing, protecting, transporting, and delivering approved fabricated structural

steel, bearings, and painting system for Structures B-05-671/678/679/681. Coordinate with the contractors for these projects.

Project 1133-10-72, De Pere – Suamico, Lineville Rd (CTH M) Interchange; Project 1133-10-81, Duck Creek – Lineville Rd Mainline are both located Brown County, Wisconsin under a department contract. Work under this contract (anticipated Construction Start date of June 2013) is expected to be complete in October 2014. Coordinate work with 1133-10-72 and 1133-10-81 contractors for USH 41 traffic control, including lane closures, regulatory posted speed reductions, and advance warning signs. Closure of the Lineville Road Interchange is anticipated for August to October 2014 – during this period, do not close any of the following: lanes on Velp Avenue; ramps at the Velp Avenue Interchange; ramps at the IH 43 Interchange. The prime contractor for 1133-10-72 and 1133-10-81 is Michels Corporation, (920) 924-4377.

Project 1133-10-80, De Pere – Suamico, Memorial Drive to CTH M, Island Ct Cul De Sac and Lone Grove Cul De Sac; 1133-11-75, De Pere – Suamico, Memorial Drive to CTH M, Beaver Dam Creek Box Culvert and Creek Re-alignment; Project 1133-11-86, De Pere – Suamico, Memorial Drive – CTH M, Velp Ave Stormwater Pond, projects are located in Brown County, Wisconsin under a department contract. Work under this contract (anticipated Construction Start date of April 2013) is anticipated to be complete in June 2014. Coordinate work with 1133-10-80, 1133-11-75, and 1133-11-86 contractors for USH 41 traffic control, including lane closures, regulatory posted speed reductions, and advance warning signs. Also coordinate in Fall 2013 for lane closures on Velp Avenue, full closure of the northbound USH 41 off-ramp to Velp Avenue, closure of sidewalk along eastbound Velp Avenue, construction of the long-term temporary northbound off-ramp to Velp Avenue, including drainage and fencing; and coordinate in Spring 2014 for traffic impacts from construction of the stormwater pond, and for closure of the sidewalk along eastbound Velp Avenue. The prime contractor for 1133-10-80, 1133-11-75, and 1133-11-86 is Hoffman Construction, (715) 284-2512.

Additional projects may be under construction concurrently with the work items under this contract. Inquire with the Village of Howard, City of Green Bay, Brown County, and the department for any additional projects anticipated to be under construction in the project area or along proposed hauls routes.

## **1.6 Loads on Structures.**

*Supplement standard spec 108.7.3 with the following:*

4. As directed by the engineer, inspect all structures within the project limits prior to equipment being placed on the structure for the purposes of girder erection. Complete all bridge inspections by a bridge inspector certified by the State of Wisconsin. Inspections are incidental to the structure construction items. Prior to any bridge inspection, contact Northeast Region Bridge Maintenance Section (920) 492-7161 to oversee the inspection.



5. As directed by the engineer, inspect all structures within the project limits which carried equipment for the purposes of girder erection prior to opening to traffic. Complete all bridge inspections by a bridge inspector certified by the State of Wisconsin. Inspections are incidental to the structure construction items. Prior to any bridge inspection, contact Northeast Region Bridge Maintenance Section (920) 492-7161 to oversee the inspection. As directed by the engineer, repair damage to the structure caused by construction activities to the initial (pre-loaded) condition as covered in standard spec 108.7.2.

6. If construction loads exceed the structural capacity of any structure within the project limits, provide stamped and signed structure shoring plan, copies of analyses, and associated calculations performed by a professional engineer (PE) registered in the state of Wisconsin to the engineer and to the department's bureau of structures. Do not begin construction operations or move a heavy load across a structure without the engineer's written authorization.

### **1.7 Work by Others – Removal of Billboard.**

The "Next Media" billboard on the railroad right-of-way corridor at Station 1184+60IHA LT will be removed and relocated by others prior to the start of work under this contract.

### **1.8 Work by Others – Traffic Signals.**

At the interchange of USH 41 southbound and Velp Avenue, the Wisconsin Department of Transportation Northeast Region Electrical Unit will perform the following work:

- Provide and install the Flashing Yellow Arrow (FYA) signal heads
- Provide and install the microwave detectors
- Provide and install the pedestrian signal heads
- Provide and install the traffic signal control cabinet
- Terminate all electrical wire in the traffic signal cabinet

At the interchange of USH 41 northbound and Velp Avenue, the Wisconsin Department of Transportation Northeast Region Electrical Unit will perform the following work:

- Provide and install the traffic signal control cabinet
- Terminate all electrical wire in the traffic signal cabinet

### **1.9 Notice to Contractor – Airport Operating Restrictions, FAA Coordination by Contractor.**

The Federal Aviation Administration (FAA) controls the height and/or elevation of temporary and permanent features within the airspace around Austin Straubel International Airport. The department has determined that a Temporary Determination of No Hazard to Air Navigation is not needed for the below estimated crane erection heights

associated with bridge, noise wall and retaining wall construction at the following locations on the project:

**Determinations for bridges:**

Roadway	Structure	Latitude	Longitude	Heights	Notice Criteria Elev.
USH 41 northbound over Wietor Wharf Dr.	Crane for B-05-677	N44°33'54.73"	W88°03'58.52"	628' (AGL) 778' (Top of Crane)	970'
Ramp IHA (41/43 Interchng)	Crane for B-05-671	N44°33'27.50"	W88°03'29.20"	604' (AGL) 754' (Top of Crane)	956'
Ramp IHB (41/43 Interchng)	Crane for B-05-678	N44°33'37.90"	W88°03'18.40"	605' (AGL) 755' (Top of Crane)	969'
Ramp NIH (41/43 Interchng)	Crane for B-05-679	N44°33'27.60"	W88°02'56.60"	591' (AGL) 741' (Top of Crane)	969'
USH 41 northbound over Duck Creek	Crane for B-05-681	N44°33'52.10"	W88°02'55.90"	585' (AGL) 735' (Top of Crane)	990'

**Determinations for retaining walls:**

Roadway	Structure	Latitude	Longitude	Heights	Notice Criteria Elev.
Flyover 41northbound-43southbound (IHA) – LT (B-5-671)	Crane for R-05-84	N44°33'17.49"	W88°03'44.62"	631' (AGL) 781' (Top of Crane)	941'
E. Abutment B-05-671	Crane for R-05-255	N44°33'27.50"	W88°03'29.20"	604' (AGL) 754' (Top of Crane)	956'
S. Abutment B-05-679	Crane for R-05-256	N44°33'27.60"	W88°02'56.60"	591' (AGL) 741' (Top of Crane)	969'
S. Abutment B-05-671	Crane for R-05-257	N44°33'27.50"	W88°03'29.20"	604' (AGL) 754' (Top of Crane)	956'

If crane elevations will exceed the estimated notice criteria elevations in the above table, the contractor will need to prepare and submit FAA Form 7460-1 Notice of proposed construction or Alteration at least 60 days prior to the start of construction activities. The required form can be found at the following location:

<http://oeaaa.faa.gov/oeaaa/external/portal.jsp>

The contractor shall copy the engineer on any correspondence with the FAA as it relates to new determinations. The contractor must also notify the manager of Austin Straubel International Airport, telephone (920) 498-4800, if a filing of FAA Form 7460-1 is necessary. A determination concerns the effect of temporary structures on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance or regulation of any Federal, State or local government body.

## **1.10 Notice to Contractor – Project Storage and Staging Areas.**

*Supplement standard spec 106.4(2) and standard spec 107.9 with the following:*

To accommodate stage construction of the department planned contracts for the USH 41 Brown County program, the department will implement a review and approval process for use of storage and staging areas within the right-of-way and adjacent to the project.

Equipment and materials can be stored within the slope intercepts shown on the plan and within the footprint of the roadway or structures within the project limits. Storage of equipment and materials will not be allowed in areas which are restricted by traffic and other requirements provided in the special provisions.

Make any requests for storage and staging areas located outside of the slope intercepts or outside of the proposed roadway and structure footprints to the engineer. The request should include the anticipated date for occupying the area, the anticipated date for vacating the area, and a proposed restoration plan for the area. Review by the department does not constitute approval.

### **1.11 Notice to Contractor – Potential Borrow Sources.**

The department has been notified of potential sources of borrow materials in the project area. A list of potential borrow sources is available from the department via the USH 41 website at <http://us41.wisconsin.gov/resources/contractor-resources>.

This information is being provided as a notice to the contractor and any materials incorporated into the project work will be required to meet the applicable portions of the standard specifications. Existing data which may be available for the listed borrow sources such as boring data collected, soil analyses completed, and minimum standard admixture information will be made available from the department. Information available will be noted in the list of potential borrow sources at the website link provided.

### **1.12 Notice to Contractor – Geotechnical Investigation.**

Geotechnical Design Memorandums for the project 1133-11-74, are available for viewing on the Highway Construction Contract Information (HCCI) website.

### **1.13 Pay Plan Quantity.**

#### **A Bid Items Designated as Pay Plan Quantity**

*Replace standard spec 109.1.1.2 with the following:*

If the schedule of items designates a bid item with a **\*\*P\*\*** in the title, the department will not measure that bid item. The department will use the plan quantity, the approximate quantity shown on the schedule of items, for payment unless a contract revision affects a designated bid item.

If the engineer revises the contract under standard spec 104.2, the department will adjust the quantity of designated items that are affected by the revised work. The engineer will adjust the affected quantity, with or without a contract modification as defined in standard spec 101.3, regardless of the magnitude of the revised work, which may result in either an increase or a decrease from the quantity shown on the schedule of items. The department will measure revised work as specified in standard spec 109.1.1.1. If the

engineer revises the contract to eliminate a designated item, the engineer will not pay for the designated item, except as specified in standard spec 109.5.

The approximate quantity shown on the schedule of items for a designated item is for information only and only an estimate. The engineer makes no guarantee that the quantity, which can be determined by computations based on contract information, will equal the approximate quantity shown on the schedule of items. The engineer will not make a quantity adjustment for discrepancies.

## **2. Prosecution and Progress.**

### **2.1 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.

The contract time for completion is based on the expedited work schedule and may require extraordinary forces and equipment.

Indicate on the proposed schedule of operations that a large force and adequate equipment will be needed to assure that the work will be completed within the established contract time.

Winter weather work, excavation of frozen ground, high ground water, dewatering during winter months, and mitigation efforts for high water table elevations shall not be considered adverse weather delays to construction. Cost for dewatering is considered incidental to construction.

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 suitable self-contained particulate collectors to prevent discharge from the collection bin into the atmosphere.

The contractor is advised that there may be multiple mobilizations for such items as erosion control, traffic control, signing items, temporary pavement markings and other incidental items related to the staging. The department will make no additional payment for said mobilizations.

An assumed duration of specific traffic control set up and related construction activities have been included for information only. The contractor can elect to complete individual construction stages and traffic phases any time during the project contract, provided the prerequisites have been met and interim and final completion dates are met.

Prior to the start of continuous closure of the Shawano Avenue Interchange, on or about April 15, 2014, complete closures associated with structural steel erection over USH 41, including intermittent overnight closures of northbound USH 41 and of southbound USH 41, and the associated 30-day continuous closure of four ramps.

Prior to the start of continuous closure of the Shawano Avenue Interchange, on or about April 15, 2014, complete the three calendar week (21 day) continuous closure of the eastbound Velp Avenue outside lane.

### **Interim Liquidated Damages**

#### **Stage 1A and Stage 1B**

Complete all work for Stage 1A and Stage 1B construction operations on USH 41, IH 43, Velp Avenue, and ramps, to open all traffic lanes and full-width shoulders to their condition to remain over Winter 2013-2014 prior to 12:01 AM November 27, 2013. Work under Stage 1A and 1B to open roadway traffic lanes and full-width shoulders includes, but is not limited to, paving, barrier, signing, and pavement marking.”

*Supplement standard spec 108.11 as follows:*

If the contractor fails to complete all work for Stage 1A and Stage 1B construction operations on USH 41, IH 43, Velp Ave, and ramps, to open all traffic lanes and full-width shoulders to their condition to remain over Winter 2013-2014, prior to 12:01 AM, November 27, 2013, the department will assess the contractor \$1,605 in interim liquidated damages for each calendar day that the work remains incomplete after 12:01 AM, November 27, 2013. 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. Work under Stage 1A and Stage 1B to open roadway traffic lanes and full-width shoulders includes, but is not limited to, paving, barrier, signing, and pavement marking.”

#### **USH 41 and IH 43**

Open USH 41 and IH 43 to two lanes of traffic in each direction and remove all traffic control devices associated with the lane closure during times that single lane closures are not allowed, including periods shown in the article for Traffic.

*Supplement standard spec 108.11 as follows:*

If the contractor fails to open USH 41 and IH 43 to two lanes of traffic in each direction and remove all traffic control devices associated with the lane closure during times that single lane closures are not allowed including periods shown in the Article for Traffic, the department will assess an initial deduction of \$2,500 in interim liquidated damages

and an additional \$2,500 per 15-minute interval or portion thereof in interim liquidated damages from money due under this contract for each 15-minute interval that lane closure(s) remain. The department will administer interim liquidated damages for the road not being open to traffic under the Failing to Open Road to Traffic administrative item.

### **Continuous Closure of Ramps**

At the beginning of structural steel erection over USH 41, close the following ramps to traffic for a maximum of 30 continuous calendar days. Once one ramp is closed, even if others are still open, the 30 calendar day time limit starts for all ramps listed below:

- NB USH 41 ramp to SB IH 43
- NB IH 43 ramp to SB USH 41
- NB USH 41 on-ramp from Velp Avenue
- SB USH 41 off-ramp to Velp Avenue

Do not reopen the ramps until completing the required work.

*Supplement standard spec 108.11 as follows:*

If the contractor fails to complete the work necessary to reopen a ramp to traffic within 30 continuous calendar days, the department will assess the contractor \$15,000 in interim liquidated damages for each calendar day the contract work remains incomplete beyond 30 continuous calendar days. An entire calendar day will be charged for any period of time within a calendar day that each ramp remains closed beyond 12:01 AM.

### **Nighttime Full Roadway Closures**

Complete construction operations during off peak and nighttime lane closures to traffic for all of the IH 43/USH 41 system ramps, both directions of Velp Avenue at the crossing of USH 41, and all of the Velp Avenue ramps at USH 41, to the stage necessary to reopen it to through traffic prior to peak hours as specified in the Traffic article.

*Supplement standard spec 108.11 as follows:*

If the contractor fails to open designated ramps and/or direction of Velp Avenue to traffic and remove all traffic control devices associated with the full roadway closure during times that nighttime closures are not allowed including periods shown in the Article for Traffic, the department will assess an initial deduction of \$500 in interim liquidated damages and an additional \$500 per 15-minute interval or portion thereof, for each ramp or direction of Velp Avenue, in interim liquidated damages from money due under this contract for each 15-minute interval that each closure remains. The department will administer interim liquidated damages for the road not being open to traffic under the Failing to Open Road to Traffic administrative item.

**Embankment Completion Date**

Complete Roadway Embankment Item SPV.0035.003 prior to 12:01 AM November 15, 2014.

*Supplement standard spec 108.11 as follows:*

If the contractor fails to complete Roadway Embankment item SPV.0035.003 for any portion of a calendar day after 12:01 AM, November 15, 2014, the department will assess the contractor \$500 in interim liquidated damages for each calendar day that the Roadway Embankment item SPV.0035.003 is not complete, as determined by the department, after 12:01 AM, November, 15, 2014. An entire calendar day will be charged for any period of time within a calendar day that the embankment placement is not completed beyond 12:01 AM.

The department will not grant time extensions to the interim completion dates specified above for the following:

1. Severe weather as specified in standard spec 108.10.2.2.
2. Labor disputes that are not industry wide.
3. Delays in material deliveries.

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.

**Temporary Impacts to Waters**

All temporary impacts to waters of the United States, including wetlands, rivers, and streams, shall be restored to their pre-impact condition within 30 days of completion of their use.

**Duck Creek Temporary Causeway Calendar Day**

Remove the temporary causeway used for construction of bridge B-05-681 over Duck Creek within ten calendar weeks (70 calendar days) of initiating placement of causeway materials into Duck Creek.

**Fish Spawning**

There shall be no instream disturbance of Duck Creek, or of the unnamed waterway crossing USH 41 at Station 1235+20 NMC, as a result of construction activity under or for this contract, from March 1 to June 15 both dates inclusive, in order to avoid adverse impacts upon the spawning fish such as northern pike, walleye, suckers, and redhorse.

Any change to this limitation will require submitting a written request by the contractor to the engineer, subsequent review and concurrence by the Department of Natural Resources in the request, and final approval by the engineer. The approval will include all conditions to the request as mutually agreed upon by WisDOT and DNR.

### **Migratory Birds**

Swallow and other migratory birds' nests have been observed on or under the existing bridge. All active nests (when eggs or young are present) of migratory birds are protected under the federal Migratory Bird Treaty Act.

The nesting season for swallows and other birds is usually between May 1 and August 30. Either prevent active nests from becoming established, or apply for a depredation permit from the US Fish and Wildlife Service for work that may disturb or destroy active nests. The need for a permit may be avoided by removing the existing bridge structure prior to nest occupation by birds, or clearing nests from all structures before the nests become active in early spring. As a last resort, prevent birds from nesting by installing a suitable netting device on the remaining structure prior to nesting activity. Preventing the nesting is incidental to the contract.

Falsework for the northbound Duck Creek Bridge (Structure B-05-677) will be left in place over the winter of 2013-2014. Prevent birds from nesting by installing a suitable netting device on the falsework and structure prior to nesting activity. Preventing the nesting is incidental to the contract.

## **2.2 CPM Baseline Schedule, Item SPV.0060.001; CPM Schedule Monthly Updates, Item SPV.0060.002.**

*Replace standard spec 108.4 with the following:*

### **108.4 Critical Path Method Progress Schedule**

#### **108.4.1 Definitions**

The department defines terms as follows:

#### **Activity**

A task, event or other project element on a schedule that contributes to completing the project. Activities have a description, start date, finish date, duration and one or more logic ties.

#### **Contract Completion Date**

The current extended date for completion of the contract.

#### **Critical Path**

The longest continuous path of activities through the project that has the least amount of total float. In general, a delay on the critical path will extend the scheduled completion date.

#### **Critical Path Method (CPM)**

A network based planning technique using activity durations and the relationships between activities to mathematically calculate a schedule for the entire project.



**Data Date**

The earliest work period after the date through which a schedule is current. Everything occurring earlier than the data date is "as-built" and everything on or after the data date is "as-planned."

**Department's Preliminary Design Schedule**

The department's schedule for the contract work, developed during design, and provided to the contractor for informational purposes only.

**Float**

The difference between the earliest and latest allowable start or finish times for an activity.

**Fragnet**

A group of logically-related activities, typically inserted into an existing CPM schedule to model a portion of the project, such as the work associated with a change order.

**Milestone**

An event activity that has zero duration and is typically used to represent the beginning or end of a certain stage of the project.

**Scheduled Completion Date**

The planned project finish date shown on the current accepted schedule.

**Total Float**

The amount of time that an activity or chain of activities can be delayed before extending the scheduled completion date. It is the most critical total float if the start float and finish float differ.

**108.4.2 Department's Preliminary Design Schedule**

The department's Preliminary Design Schedule was developed during the design phase of the Contract. Its purpose was to illustrate work areas per Stage/Phase of construction. Durations and resource availability are department estimates only. Contractor is solely responsible for its use of means and methods and as such is fully responsible for determining durations based on own estimate of production and available resources. The suggested use of the department's Preliminary Design Schedule is ease of identification of work availability during each Stage/Phase and the logical relationship between the Stages/Phases. Any reliance on the department's Preliminary Design Schedule is at the sole risk of the contractor.

**108.4.3 Contractor's Scheduling Responsibilities**

The CPM Schedule shall be a tool capable of forward planning and monitoring the Project. The schedule will further be used as a communication tool between the contractor and the department. It will be used to illustrate the plan, develop what-if scenarios, and analyze impacts. The accuracy and completeness of the CPM Schedule will benefit both the contractor and the department.

The contractor shall submit to the department initial and monthly update schedules, each consistent in all respects with the time and order of work requirements of the contract. The project work shall be executed in the sequence indicated on the current accepted schedule. Schedules shall show the order in which the contractor proposes to carry out the work with logical links between activities, and calculations made using the critical path method to determine the controlling operation or operations. The contractor is responsible for assuring that each schedule shows a coordinated plan for complete performance of the work.

Contractor Project management personnel shall actively participate in the schedule development. Subcontractors and suppliers working on the project shall also contribute in developing and maintaining an accurate schedule.

The schedules shall be computer produced using the latest version of Primavera Project Planner, by Oracle, Inc., Bala Cynwyd, PA or compatible software. The contractor shall designate a Project Scheduler who will be responsible for scheduling the work and submit for approval a professional resume describing their experience.

#### **108.4.4 Submittals**

##### **108.4.4.1 Initial Work Plan**

At least ten business days before the Preconstruction Meeting, as scheduled in standard spec 103.10 as defined in article 4.1 Contract Award and Execution, submit an Initial Work Plan consisting of the following:

- Provide a detailed plan of activities to be performed within the first 90 calendar days of the contract. Provide construction activities with durations not greater than 21 calendar days (15 business days), unless the department accepts requested exceptions.
- Provide activities as necessary to depict administrative work, including submittals, reviews, and procurements that will occur within the first 90 calendar days of the contract. Activities other than construction activities may have durations greater than 21 calendar days (15 business days). Allow 21 calendar days (15 business days) for department review of submittals.
- Provide summary activities for the balance of the project. Summary activities may have durations greater than 21 calendar days (15 business days).
- Submit/email an electronic schedule data file and a PDF plot file of the Initial Work Plan to the department.
- The department will accept the contractor's Initial Work Plan or provide comments within five business days after receipt of the Initial Work Plan. Address comments and resubmit the Initial Work Plan within five business days. The department will use the initial work plan to monitor the progress of the work until the CPM Baseline Schedule is accepted.

- Submit an updated version of the Initial Work Plan on a bi – weekly (every other week) basis until the department accepts the CPM Baseline Schedule. With each update, include actual start dates, completion percentages, and remaining durations for activities started but not completed. Include actual finish dates for completed activities.

#### **108.4.4.2 CPM Baseline Schedule (Initial Schedule)**

Within 60 calendar days after the notice to proceed submit a CPM Baseline Schedule and written narrative consisting of the following:

1. The CPM Baseline Schedule shall include the following:
  - Provide a detailed plan of activities to be performed during the entire contract duration, including all administrative and construction activities required to complete the work as described in the contract documents. Provide construction activities with durations not greater than 21 calendar days (15 business days), unless the department accepts requested exceptions.
  - Provide activities as necessary to depict administrative work, including submittals, reviews, procurements, inspections, and all else necessary to complete the work as described in the contract documents. Activities other than construction activities may have durations greater than 21 calendar days (15 business days). Allow 21 calendar days (15 business days) for department review of submittals.
  - Provide activities as necessary to depict third party work related to the contract.
  - Make allowance for specified work restrictions, non-working days, time constraints, calendars, and weather.
  - With the exception of the Project Start Milestone and Project Completion Milestone, all activities must have predecessors and successors. The start of an activity shall have a Start-to-Start or Finish-to-Start relationship with preceding activities. The completion of an activity shall have a Finish-to-Start or Finish-to-Finish relationship with succeeding activities. Use of Start-to-Finish relationships, Finish-to-Start relationships with a lag, and negative lags will not be accepted unless the department accepts requested exceptions.
  - Schedule all intermediate Contract required milestones (Incentive/Disincentive target dates are not considered Contract requirements) in the proper sequence and input as either a “Start-no-Earlier-Than” or “Finish-no-Later-Than” date (mandatory dates will not be permitted.). Provide predecessors and successors for each intermediate milestone as necessary to model each Stage of the Work. Unless the department accepts a requested exception, the schedule shall encompass all the time in the contract period between the starting date and the specified completion date.
  - Schedules shall have not less than 150 and not more than 400 activities unless otherwise authorized by the department. The number of activities shall be sufficient to assure adequate planning of the project, to permit monitoring and evaluation of progress, and to do an analysis of time impacts. Schedule activities shall include the following:

- A clear and legible description.
- Required constraints.
- Codes for responsibility, stage and area.

2. Provide a written narrative with the CPM Baseline Schedule explaining the planned sequence of work, as-planned critical path, critical activities for achieving intermediate milestone dates, traffic phasing, and planned labor and equipment resources. Use the narrative to further explain:

- The basis for activity durations in terms of production rates for each major type of work (number of shifts per day and number of hours per shift), and equipment usage and limitations.
- Use of constraints.
- Use of calendars.
- Estimated number of adverse weather days on a monthly-basis.
- Scheduling of permit and environmental constraints, and coordination of the schedule with other contractors, utilities, and public entities.

3. Submit/email an electronic schedule data file and a PDF plot file of the CPM Baseline Schedule to the department.

Within ten business days of receiving the CPM Baseline Schedule, the department will provide comments and schedule a meeting for the contractor to present its CPM Baseline Schedule within fifteen business days of receiving the CPM Baseline Schedule.

At the meeting scheduled by the department, provide a presentation of the CPM Baseline Schedule. In the presentation, include a discussion of the staging and sequencing of the work, understanding of traffic phasing, and application of labor and equipment resources to the work. Address comments raised in the department's review.

Within five business days after the meeting, the department will accept the contractor's CPM Baseline Schedule or provide additional comments. Address the department's comments and resubmit a revised CPM Baseline Schedule within ten business days after the department's request. If the department requests justification for activity durations, provide information that may include estimated labor, equipment, unit quantities, and production rates used to determine the activity duration.

The department accepts the CPM Baseline Schedule based solely on whether the schedule is complete as specified in this section. Errors or omissions on schedules shall not relieve the contractor from finishing all work within the time limit specified for completion of the contract. If, after a schedule has been accepted by the department, either the contractor or the department discovers that any aspect of the schedule has an error or omission, it shall be corrected by the contractor on the next update schedule.

The department will not consider requests for contract time extensions as specified in standard spec 108.10 or additional compensation for delay specified in standard spec 109.4.7 until the department accepts the CPM Baseline Schedule.

#### **108.4.4.3 CPM Schedule Monthly Updates**

Submit CPM Schedule Monthly Updates on a monthly basis after acceptance of the CPM Baseline Schedule. With each CPM Schedule Monthly Update include the following:

- Actual start dates, completion percentages, and remaining durations for activities started but not completed, and actual finish dates for completed activities.
- Additional activities as necessary to depict additions to the contract by changes and logic revisions as necessary to reflect changes in the contractor's plan for prosecuting the work. Changes that result in a change to the current Critical Path will be subject to the provisions in CPM Schedule Revisions.
- A narrative report that shall be organized in the following sequence with all applicable documents included:
  - a. Contractor's transmittal letter.
  - b. Work completed during the period.
  - c. Identification of unusual conditions or restrictions regarding labor, equipment or material; including multiple shifts, 6-day work weeks, specified overtime or work at times other than regular days or hours.
  - d. Description of the current critical path.
  - e. Changes to the critical path and scheduled completion date since the last schedule submittal.
  - f. Description of problem areas including: current and anticipated delays; cause of delay; impact of delay on other activities, milestones and completion dates; corrective action and schedule adjustments to correct the delay.
  - g. Pending items and status thereof, including: Permits, Change orders and Time adjustments
  - h. Work planned for the next 30 calendar days, and
  - i. Changes to the CPM Baseline Schedule including: the addition or deletion of activities; changes to activity descriptions, original durations, relationships, constraints, calendars, or previously recorded actual dates. Justify changes to the CPM Baseline Schedule in the narrative by describing associated changes in the planned methods or manner of performing the work or changes in the work itself.

Submit/email and electronic schedule data file and a PDF plot file of the CPM Schedule Monthly Update to the department.

If additions or changes were made to the CPM Baseline Schedule since the previous update, submit an updated hard copy of the revised logic diagram as described above.

Within five business days of receiving each CPM Schedule Monthly Update, the department will provide comments and schedule a meeting as necessary to address comments raised in the department's review. Address the department's comments and

resubmit a revised CPM Schedule Monthly Update within five business days after the department's request.

#### **108.4.4.4 Three-Week Look-Ahead Schedules**

Submit Three-Week Look-Ahead Schedules on a weekly basis, at the weekly construction meeting, after notice to proceed (NTP). The schedule can be hand drawn or generated by computer; however, the schedule activities must conform to the latest approved update. With each Three-Week Look-Ahead include:

- Activities underway and as-built dates for the past week.
- Planned work for the upcoming two-week period including lane closures and traffic switches.
- The activities of the Three-Week Look-Ahead schedule shall include the activities underway and critical RFIs and submittals, based on the CPM Progress Schedule. The Three-Week Look-Ahead may also include details on other activities not individually represented in the CPM Progress Schedule. Indicate the controlling items of work.
- On a weekly basis, the department and the contractor shall agree on the as-built dates depicted in the Three-Week Look-Ahead schedule or document any disagreements. Use the as-built dates from the Three-Week Look-Ahead schedules for the month when updating the CPM Progress Schedule.

#### **108.4.4.5 Weekly Production Data**

Provide estimated and actual weekly production curves for items of work on a weekly basis for applicable items of work as determined by the department as follows:

1. Provide data on the following items by area or station:
  - Retaining Walls—SF per week
  - MSE Walls
  - Other Wall Types
  - Bridge Construction
  - Foundation Pile—each per week
  - Foundation/Substructure Concrete—CY per week
  - Structural Steel Girders – Each per week
  - Prestressed Concrete Girders—Each per week
  - Deck Formwork—SF per week
  - Roadway Excavation—CY per week
  - Roadway Embankment—CY per week
  - Roadway Structural Section
  - Grading/Subgrade Preparation—SY per week
  - Base Material Placement—Ton per week
  - Base Material Subgrade Preparation—SY per week
  - Asphaltic Base—Ton per week
  - Asphaltic and HMA Pavements—Ton per week
  - Concrete Pavement – SY per week
  - Concrete Pavement – CY per week

Note: Base material shall include all breaker run, base aggregate, subbase items or other base items included in the contract. Provide production information for each individual base material item.

2. For each item, indicate the actual daily production for the past week and the anticipated weekly production for the next week. Also include cumulative production curves showing the production information for each item to-date.

3. Submit the data in an electronic spreadsheet format at the same time the Three-Week Look-Ahead is submitted. On a weekly basis, the department and the contractor shall agree on the production data or document any disagreements.

#### **108.4.5 Progress Review Meetings**

##### **108.4.5.1 Weekly Progress Review Meetings**

After completing the weekly submittal of the Three-Week Look-Ahead and production data, attend a weekly meeting to review the submittals with the department. At the meeting, address comments as necessary, and document agreement or disagreement with the department.

##### **108.4.5.2 Monthly Update Review Meetings**

After submitting the monthly update and receiving the department's comments, attend a job-site meeting, as scheduled by the department, to review the progress of the schedule. At that meeting, address comments as necessary, and document agreement or disagreement with the department. The monthly meeting will be coordinated to take place on the same day and immediately before or after a weekly meeting, whenever possible.

#### **108.4.6 CPM Schedule Revisions**

##### **108.4.6.1 Revision by the Contractor**

If necessary, due to changes in the work or project conditions, and authorized by the department, the contractor may submit a revised CPM Schedule Monthly Update and/or CPM Baseline Schedule. Prepare the revised schedule(s) in the same format as required for the CPM Schedule Monthly Update and/or CPM Baseline Schedule. Include an updated written narrative, detailing all schedule modifications and justification for the changes. The process for comment and acceptance of the CPM schedule(s) revision will be the same as for a CPM Schedule Monthly Update and/or CPM Baseline Schedule. If the revised schedule(s) is accepted, prepare the next monthly update based on the revised CPM Schedule Monthly Update and/or CPM Baseline Schedule. If the revised schedule(s) is rejected, prepare the next monthly update based on the previous month's update.

##### **108.4.6.2 Department's Right to Request Revisions**

The department will monitor the progress of the work and may request revisions to the CPM Schedule Monthly Update and/or the CPM Baseline Schedule. Revise the schedule(s) as requested by the department, and submit a CPM Schedule Monthly Update and/or CPM Baseline Schedule revision within ten business days of the request. The

process for comment and acceptance of the revised schedule(s) will be the same as for the CPM Schedule Monthly Updates and/or the CPM Baseline Schedule. The department may request schedule revisions for one or more of the following reasons:

- The project scheduled completion date(s) and/or interim completion date(s) are scheduled to occur more than 14 calendar days after the contract completion date.
- The department determines that the current schedule(s) is not an accurate record of the as-built work and/or is not an accurate forecast of the remaining work.
- A contract change order requires the addition, deletion, or revision of activities that causes a change in the contractor's work sequence or the method and manner of performing the work.
- Changes to the current update result in changes to the critical path.

#### **108.4.7 Requests for Time Extension**

In the event the contractor believes it is entitled to an extension of the contract completion date, or any interim milestone date, furnish the following for a determination by the department: justification, project schedule data, and supporting evidence as the department may deem necessary. Submission of proof of excusable delay, based on revised activity logic, duration, and costs (updated to the specific date that the delay occurred) is a condition precedent to any approvals by the department.

#### **Justification of Delay**

The project schedule shall clearly display that the contractor has used, in full, all the float time available for the work involved with this request. The department's determination as to the number of allowable days of contract extension shall be based upon the project schedule updates in effect for the time period in question, and other factual information. Actual delays that are found to be caused by the contractor's own actions, which result in a calculated schedule delay, will not be a cause for an extension to contract completion date, or any interim milestone date.

#### **Submission Requirements**

Submit a justification for each request for a change in the contract completion date of less than 2 weeks based upon the most recent schedule update at the time of the NTP or constructive direction issued for the change. Such a request shall be in accordance to the requirements of other appropriate Schedule Provisions and shall include, as a minimum:

- A list of affected activities, with their associated project schedule activity number.
- A brief explanation of the causes of the change.
- An analysis of the overall impact of the changes proposed.
- A sub-network of the affected area.

Identify activities impacted in each justification for change by a unique activity code.



### **Additional Submission Requirements**

The department may request an interim update with revised activities for any requested time extension of over 2 weeks. Provide this data within 5 days of the department's request.

### **Not Considered Delays**

The department will not grant time extensions to the interim completion dates as specified for the following:

- Delays in material deliveries.
- Labor disputes that are not industry wide.

The department will grant time extensions to the interim completion dates specified above for severe weather as provided for in the Article for Incentive/Disincentive for Interim Completion of Work.

### **108.4.8 Payment for CPM Baseline Schedule and CPM Schedule Monthly Updates**

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.001	CPM Baseline Schedule	Each
SPV.0060.002	CPM Schedule Monthly Updates	Each

The department will only make progress payments for the value of materials, as specified in standard spec 109.6.3.2.1, until the contractor has submitted the CPM Baseline Schedule. The department will retain ten percent of each estimate until the department accepts the CPM Baseline Schedule. Payment is full compensation for all work required under these bid items, including the three week look ahead. The department will pay the contract unit price for the CPM Baseline Schedule after the department accepts the schedule.

Thereafter, the department will pay the contract unit price for each CPM Schedule Monthly Updates that is accepted by the department. The department may, at its sole discretion, choose to suspend the requirement for one or more monthly updates. Should the requirement be suspended, the department shall give the contractor a minimum 5 work-day notice prior to the next scheduled update.

## **3. Meetings.**

### **3.1 Pre-Bid Meeting.**

*Supplement standard spec 102.3.1 with the following:*

Prospective bidders are invited to attend a pre-bid meeting on July 24, 2013 at 10:00 AM at the WisDOT project field office, 1940 West Mason Street, Green Bay, WI 54303.

The meeting is not mandatory, but it is highly encouraged. No meeting minutes will be prepared. Issues discovered at the meeting which may impact the contract will be handled by addendum.

### **3.2 Leadership Partnering Meetings.**

The department will implement mandatory leadership partnering meetings on this contract.

Key members of the contractor project team, major subcontractors' project team shall meet with department leadership on a bi-weekly or as needed basis. Attendance at this meeting shall include project level supervisory personnel, corporate/state level management personnel, and key project personnel of the contractor's principal subcontractors and suppliers. Project design engineers, FHWA, local government representatives, environmental regulators, emergency service personnel, utility companies, impacted business and/or landowners, and other stakeholders may also be invited to attend, as needed.

This meeting will facilitate communication between parties and review issues and issues resolution procedures, help resolve disputes timely, satisfactorily, and as near as possible to the originating level of the dispute.

All Leadership Partnering Meetings costs are incidental to the contract work.

### **3.3 Project Communication Enhancement Effort.**

Use the Project Communication Enhancement Effort (PCEE) tools on this contract. Coordinate with the department to modify the various published tools as necessary to meet the particular project needs and determine how to implement those tools under the contract. Ensure the full participation of the contractor and its principal subcontractors throughout the term of the contract.

Forms and associated guidance are published in the PCEE Manual available at the department's Highway Construction Contract Information (HCCI) web site at:

<http://roadwaystandards.dot.wi.gov/standards/admin/pcee-user-manual.doc>

### **3.4 Traffic Meetings and Traffic Control Scheduling.**

Every Wednesday by 10:00 AM, submit a detailed proposed 2-week look-ahead traffic closure schedule to the engineer. Type the detailed proposed 2-week look-ahead closure schedule into an excel spreadsheet provided by the engineer. Enter information such as closure dates, duration, work causing the closure and detours to be used. Also enter information such as ongoing long-term closures, emergency contacts and general 2-month look-ahead closure information into the excel spreadsheet.

As scheduled by the engineer, attend a traffic meeting. The meeting will bring local agencies, project stakeholders, owner managers, owner engineers, contractors, document control and construction engineering personnel together to discuss traffic staging, closures and general impacts. Upon obtaining feedback from the meeting attendees, edit, delete and add information to the detailed 2-week look-ahead closure schedule, as needed. Submit the revised 2-week look-ahead to the engineer.

Obtain approval from the engineer for any mid-week changes to the closure schedule. Revise the 2-week look-ahead as required and obtain engineer approval.

#### **4. Alternative Dispute Resolution.**

##### **4.1 Contract Award and Execution.**

*Supplement standard spec 103 as follows:*

###### **103.9 Bid Escrow Documentation**

The department will require the lowest responsible bidder to submit documentation to be placed in escrow at a document storage facility. Bid Escrow Documentation (BED) consists of writings, working papers, computer printouts, charts, and data compilations that contain or reflect information, data, calculations or assumptions used by the bidder to determine the proposal submitted. If the apparent low bid is withdrawn or rejected, the second low bidder will provide the required documents as specified below within 72 hours of written notification by the department.

The BED shall clearly itemize the contractor's estimated costs of performing the scope of work defined in the contract.

The BED shall include, but not be limited to, all quantity takeoffs, rate schedules for the direct costs of craft labor, construction (expendable materials), construction equipment ownership costs, construction equipment operating costs, permanent materials subcontractors and insurance. Also include development of rates of production including, where appropriate: estimate of crews, construction materials, construction equipment, and construction sequence and duration. Submit the BED for each subcontractor whose total subcontract costs exceed \$500,000.

Identify the allocation of construction plant and equipment, time and non-time related indirect costs (including if applicable joint venture fees), home office overhead, contingencies and margin applicable to each bid item. Further, documentation shall include consultant's reports, final estimate adjustment calculations, and all other information used by bidders to arrive at the estimate.

Any manuals standard to the industry used by the bidder in determining the proposal are also considered part of the BED. These manuals may be included in the proposal documentation by reference and shall show the name and date of the publication and the publisher.

It is not necessary to include documents provided by the department for the bidder's use in the preparation of the proposal.

The low bidder shall present authentic copies of their BED at the department's office, located at 1940 West Mason Street, Green Bay, WI by August 16, 2013, at 10:00 AM.

At the time of submittal, only designated representatives of the apparent low bidder and the department will jointly examine the apparent low bidder's bid documentation to determine if it is authentic, legible, and generally meets the requirements of this special provision. The department will not share the BED information with, or in any other way divulge the contents of the apparent low bidder's BED to, their subcontractors or any other party.

The department, if requested by apparent low-bidder subcontractors, will also independently examine the BED submitted by the apparent low bidder's subcontractors in the same manner as the apparent low bidder's BED was examined. Only designated representatives of the individual subcontractor and the department will be present during this examination. The department will not share the BED information with, or in any other way divulge the contents of a subcontractor's BED to, the apparent low bidder or any other party.

The department's examination of the BED will not include review of, nor will it constitute approval of, proposed construction methods, estimating assumptions, or interpretation of the contract. The examination will not alter any conditions or terms of the contract. The department will determine if the BED complies with this special provision within 4 hours after the time the BED is submitted. If the BED does not meet the requirements of this special provision, the department may reject the bid.

If the BED of the apparent low bidder meets the requirements of this special provision, the department and bidder will jointly deposit the BED at an agreed document storage facility. Place the BED in a sealed envelope or container clearly marked with the bidder's name and address, date of submittal, project name and identification number. Representatives of the department and the bidder will deliver all bid escrow documentation and the original affidavit directly to a document storage facility, to be placed in escrow.

If the apparent low bid is withdrawn or rejected, the designated representative of the second low bidder and the department will examine and inventory the bid documentation of the second low bidder and their subcontractors in the manner specified above, then seal and deposit in escrow. If a subcontractor with a subcontract exceeding \$500,000 is replaced, the contractor shall submit new BED for examination and escrow before the engineer will authorize the substitution.

The department will pay for the costs of the escrow document storage facility and will provide escrow instructions to the document facility consistent with this special provision.

The department acknowledges that the bidder considers that the BED constitutes trade secrets or proprietary information. This acknowledgment is based upon department's understanding that the information contained in the BED is not known outside each bidder's business, is known only to a limited extent and by a limited number of employees of bidder, is safeguarded while in bidder's possession, and may be valuable to bidder's construction strategies, assumptions and intended means, methods and techniques of design and construction. Except as set forth in the contract or as required by applicable Law, the department acknowledges that the BED will remain in the possession of the Escrow Agent at all times and will at no time be received by, or become the property of, the department.

Submit a copy of the affidavit below, signed under oath before a Notary Public by a representative of the bidder authorized to execute proposals. Department representatives will sign the affidavit after reviewing the BED.

The BED will remain in escrow until:

1. The bidder and the department mutually agree to release of the BED;
2. A court orders the department to provide the BED;
3. A dispute is referred to the Dispute Review Board or claims review panel; or
4. Either party seeks judicial review of a dispute.

If any of the events numbered 1-4 above occurs, the department will take possession of all relevant portions of the BED, as determined by the department, until complete resolution of the issue for which the request was made or the court order was issued. In absence of such actions, and provided the bidder signs an appropriate release, the unopened BED will be released to the bidder upon final acceptance and the expiration of all warranty periods provided by this contract.

## BID ESCROW DOCUMENTATION CERTIFICATION

Using this BID ESCROW DOCUMENTATION CERTIFICATION, the bidder certifies that the material submitted below constitutes all the documentary information used in preparation of the bid and that said bidder has fully examined the contents of the container and that they are complete. The undersigned Wisconsin Department of Transportation representatives have reviewed the BED for compliance.

BIDDER

WITNESS

\_\_\_\_\_  
(Name of Bidder)

\_\_\_\_\_  
(Name of Witness)

By: \_\_\_\_\_  
(Signature\*)

By: \_\_\_\_\_  
(Signature\*)

Title: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

Date: \_\_\_\_\_

WISCONSIN DOT

WISCONSIN DOT

\_\_\_\_\_  
(Name of Department Representative)

\_\_\_\_\_  
(Name of Department Representative)

By: \_\_\_\_\_  
(Signature\*)

By: \_\_\_\_\_  
(Signature\*)

Title: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

Date: \_\_\_\_\_

(END OF BID ESCROW DOCUMENTS)

## **103.10 Mobilization Workshops**

### **103.10.1 Workshop Schedule**

After contract award, attend the following workshops. Each workshop is described below and will include but not be limited to the following topics.

	Workshop Schedule	Date
1.	Project Kickoff: Includes Initial Work Plan, Cost Reduction Incentives, Utility Coordination, Submittals and CPM Progress Schedule	TBD TBD
2.	Partnering (Initial Meetings)	TBD
3.	Notice to Proceed	TBD

If necessary, the engineer may modify the workshop schedule to ensure attendance by the necessary department and contractor personnel; however, all workshops will be completed prior to issuing the Notice to Proceed.

## **103.10.2 Workshop**

### **103.10.2.1 Project Kickoff**

#### **103.10.2.1.1 General**

The Project Kickoff Workshop will provide a forum to discuss and answer questions relative to the proposal, bid schedule, and other questions in the Project Questionnaire described in standard spec 103.10.2.1.2. The Initial Work Plan will include:

- Contractor responses to the attached Project Questionnaire.
- Department presentation of the use of CPM scheduling on the project and presentation of the department's Master Schedule to the contractor.
- Contractor presentation of its conceptual work plan for the project.
- Department and contractor discussion of the level of detail and features in the Initial Work Plan and the Baseline CPM Progress Schedule.

#### **103.10.2.1.2 Project Questionnaire**

Provide the following information in the order shown below. This information will constitute the "Project Questionnaire."

#### **General Information**

If a Joint Venture, provide information for each member of the Joint Venture.

Provide the following information about the company:

- Firm Name
- Address
- Telephone and facsimile numbers; e-mail address
- Contracting Specialties
- Years performing work in contracting specialties
- Geographic areas served
- Total Management Employees and years of service

- Project Managers
- General Superintendents
- Craft Superintendents
- Engineers
- Estimators
- CPM Schedulers

### **Construction Engineering**

Provide/attach a copy of your Construction Project Manager's resume indicating the manager's experience in similar major construction projects. The resume shall include similar projects with references. (Note: references are only for verification of work scope performed).

- Provide (if applicable) your third-party construction engineering firms.
- Provide plan for Construction surveying.

### **Subcontractors**

Attach the list of all subcontractors that are intended for this Project and the items of work they shall perform.

### **Permanent Material Suppliers**

Attach the list of all permanent material suppliers that are intended for the project.

### **Quality Control** (where applicable)

- Provide the name of your Construction Quality Control firm and qualifications indicating the firms' experience in similar major construction projects. The resume shall include similar projects with references. (Note: references are only for verification of work scope performed).
- Provide/attach a copy of your Construction Quality Control Manager's resume indicating the manager's experience in similar major construction projects. The resume shall include similar projects with references. (Note: references are only for verification of work scope performed).
- List the major elements and/or Table of Contents of your Construction Quality Management Program.
- Provide the name of your Independent Quality Control Testing firm (Construction Quality Control Lab) and qualifications indicating the firm's experience in similar major construction projects. The resume shall include similar projects with references. (Note: references are only for verification of work scope performed).

### **Organization Chart**

Provide a functional and personnel Organization Chart showing the authority and responsibilities of each individual identified.



**Work Rules**

Provide the plan for hours per day, days per week, and number of shifts for key elements of work; i.e. retaining wall construction, roadway excavation, bridge structures, and roadway structural section activities.

**Maintenance of Traffic**

- Provide the name of your Traffic Control Manager and qualifications indicating the firm's experience in similar major construction projects. The resume shall include similar projects with references. (Note: references are only for verification of work scope performed).
- Include an outline of your approach to the Maintenance of Traffic and how you shall stage the construction to meet the substantial completion schedule.
- Attach a copy of your Preliminary Schedule indicating your approach to achieving the substantial completion schedule.

**Construction**

Provide the approach (type of equipment, number of crews, and where required ground support systems) for the following activities.

- Retaining wall construction by type of work
- Bridge demolition
- Roadway structural section
- Roadway excavation
- Office and yard facilities

**103.10.2.3 Cost Reduction Incentives**

The Project Kickoff Workshop will identify value enhancing opportunities and consider modifications to the plans and specifications that will reduce either the total cost, time of construction or traffic congestion, without impairing, in any manner, the essential functions or characteristics of the project, including, but not limited to, service life, economy of operation, ease of maintenance, benefits to the traveling public, desired appearance, or design and safety standards.

The contractor may submit recommendations resulting from the workshop for approval by the engineer as cost reduction incentive proposals in conformance with the provisions in standard spec 104.10 "Cost Reduction Incentive," of the standard specifications.

The department and the contractor may be able to complete the CRI Concept process, as specified in standard spec 104.10.2, during the CRI workshop.

The contractor may submit CRIs after the CRI workshop that were not introduced at the CRI workshop.

**103.10.2.4 Utility Coordination**

The Project Kickoff Workshop will define the scope and schedule of utility relocation work and the respective roles and responsibilities of the project team.

1. At a minimum, the following key personnel will attend the Utility Coordination Meeting.
  - Department's Utility Coordinator.
  - Contractor's Utility Coordinator.
  - Designer Team's Utility Coordinator.
  - Key Utility Company Representative(s)
2. At a minimum, the Utility Coordination Meeting will include a review of the following:
  - Summary of all required utility relocations on the project.
  - Special provisions addressing utility work.
  - Sharing of contact information.
  - Scheduling of work for utility relocation including critical milestones and staging for the work.

#### **103.10.2.5 Submittals**

The Project Kickoff Workshop will identify the key required submittals for the project, categorize submittals into functional areas, and develop a schedule for submittals and submittal reviews. The Workshop participants will at a minimum:

1. Review the project special provisions.
2. Categorize submittals into functional areas including but not limited to:
  - 2.1 MSE Retaining Walls
  - 2.2 Temporary Shoring
  - 2.3 Falsework and Formwork
  - 2.4 Girder Shop Drawings
  - 2.5 Steel Transportation, Delivery and Erection
  - 2.6 Structure Demolition Plans
  - 2.7 Pile Hammers and High Capacity Piling
  - 2.8 Concrete/ Asphalt
  - 2.9 Materials
  - 2.10 ITS / Lighting
  - 2.11 Traffic Signals
  - 2.12 Sanitary Sewer and Water
  - 2.13 Permits
3. Develop a schedule for submittals.

#### **103.10.2.6 CPM Progress Schedule**

The Project Kickoff Workshop will provide a forum to discuss department requirements for CPM scheduling and the development of the baseline CPM schedule. At a minimum, the CPM Progress Schedule Workshop will include:

1. Discussion of CPM scheduling best practices.
2. Contractor presentation of its Initial Work Plan and comments on the Master Schedule.

3. Department presentation of comments on the Initial Work Plan.
4. Discussion of finalization of the Initial Work Plan and development of the Baseline CPM Progress Schedule.

#### **103.10.2.7 Partnering (Initial Session)**

Prepare for and participate in the initial partnering session as specified in the article Partnering Meetings.

#### **103.10.3 Payment for Mobilization Workshops**

All mobilization workshop costs are incidental to the contract work.  
(NER41-20110718)

### **4.2 Claims Process for Unresolved Changes.**

*Add the following to standard spec 105.13.2(2):*

3. When filing the notice of claim, use the “Initial Notice Claim Record” form developed for the USH 41 corridor. The Initial Notice Claim Record establishes the claim nature and circumstances. The claim nature and circumstances must remain consistent. Request the form from the engineer.

*Supplement standard spec 105.13.4(1) with the following:*

When submitting the claim, use the “Final and Full Claim Record” form developed for the USH 41 corridor. Request the form from the engineer.

*Supplement standard spec 105.13.5 with the following:*

The department will conduct an initial review phase and a decision phase to resolve the claim in accordance to section 105.13.5 of the standard specifications. At any point in these two phases, the department may waive its review and request a dispute review board (DRB).

*Replace standard spec 105.13.5(4) with the following:*

<sup>(4)</sup> In the appeal phase, the contractor will have up to 28 calendar days from the date of the region's decision to request a dispute review board hearing. If the contractor does not submit a written request to the region within those 28 days, the region's decision is final. If the region does not render a decision within the 28 calendar days specified in standard spec 105.13.5(3) of the standard specifications, the region will forward the claim to the DRB as if the region had rejected the contractor's claim.

*Replace standard spec 105.13.6 and standard spec 105.13.7 with the following:*

### **105.13.6 Dispute Resolution**

#### **105.13.6.1 Definitions**

<b>Agreement Formal</b>	Dispute Review Board Three-Party Agreement
<b>Bureau</b>	Bureau of Project Development
<b>Contract</b>	The construction contract between the prime contractor and Wisconsin Department of Transportation.
<b>Contractor</b>	Prime contractor
<b>Department</b>	Wisconsin Department of Transportation
<b>Dispute</b>	An issue, claim, change order request, or other controversy that remains unresolved following good faith negotiations between authorized representatives of the department and contractor.
<b>Dispute Review Board</b>	One or three neutral individuals mutually selected by the department and contractor to review disputes and render findings and recommendations based on the contract.
<b>DRB</b>	See Dispute Review Board.
<b>Project Manager</b>	Region project manager assigned to administer, oversee, and manage the project.
<b>Regional Construction Oversight Engineer</b>	Bureau of Project Development engineer assigned to the WisDOT region in which the claim or dispute originated.
<b>Standard Specifications</b>	State of Wisconsin Standard Specifications for Highway and Structure Construction – Edition in effect with contract.
<b>WTBA</b>	Wisconsin Transportation Builders Association

#### **105.13.6.2 Dispute Review Board (DRB)**

The purpose of a DRB is to resolve claims in a manner that complies with the contract, is impartial, and expedites the standard claims process. The DRB will do so by issuing recommendations that may be binding or non-binding depending on the claim amount.

It must be emphasized and firmly understood that individual DRB members are not the "representative of" or "advocate for" the party which selected them. The entire DRB will function as an objective, impartial, and independent body at all times. In order to avoid any suggestion of partiality, there should be no individual communication in regard to the project between DRB members and employees of the contractor or department during the life of the DRB. The parties shall direct any matters needing attention between members of the DRB to the chair of the DRB. The regional construction oversight engineer or their designee will engage the DRB process. The DRB will impartially consider the dispute(s) referred to it.

### **105.13.6.3 Selection of Members and Agreement for Services**

The department and the contractor will cooperatively establish the DRB promptly after contract execution.

#### **105.13.6.3.1 General**

A three member DRB shall be established.

#### **105.13.6.3.2 Experience**

It is desirable that all DRB members be experienced with the construction process including design, construction, contract administration, contract law, and resolution of construction disputes.

It is not necessary that the DRB members be intimately familiar with the specific type of construction involved in the dispute. The DRB may consult technical and legal experts if the need arises under the terms of standard spec 105.13.6.4.6 Special Services described below.

All DRB members shall have attended the one-day DRB panel member workshop offered by the Dispute Review Board Foundation, or its substantial equivalent in other training, or shall be a qualified DRB panel member in another state which has training as a prerequisite to qualification for service on DRB panels.

#### **105.13.6.3.3 Neutrality**

It is imperative that the DRB members be neutral, act impartially, and be free of any conflict of interest.

The term "member" also includes the member's current primary or full-time employer, and "involved" means having a contractual relationship with either the department or the contractor, such as a subcontractor, architect, engineer, or construction manager.

#### **105.13.6.3.4 Prohibitions; Disqualifying Relationships for Prospective Members**

- An ownership interest in any entity involved in the construction contract, or a financial interest in the contract, except for payment for services on this Dispute Review Board;
- Previous employment by, or financial ties to, any party involved in the construction contract within a period of 6 months prior to award of the contract, except for fee-based consulting services on other projects;
- A close professional or personal relationship with any key member of any entity involved in the construction contract which, in the judgment of either the department or the contractor, could suggest partiality; or
- Prior involvement in the project of a nature that could compromise the prospective member's ability to participate impartially in the DRB's activities.

#### **105.13.6.3.5 Prohibitions; Disqualifying Relationships for Members**

- Employment, including fee-based consulting services, by any entity involved in the construction contract.
- Discussion concerning, or the making of, an agreement with any entity involved in the contract regarding employment after the contract is completed.

#### **105.13.6.3.6 Disclosure Statement**

As a part of the selection process, each prospective DRB member will be required to submit a complete disclosure statement for the approval of both the department and the contractor. Each statement shall include a resume of experience, together with a declaration describing all past, present, and anticipated or planned future relationships, including indirect relationships through the prospective member's primary or full-time employer, to this project and with the department or the contractor, or others involved in the contract, including subcontractors, suppliers, design professionals, and consultants. Disclosure of close professional or personal relationships with all key members of the department or the contractor or other parties involved in the construction contract shall be included.

#### **105.13.6.3.7 Statewide Standing Roster**

The department and WTBA have established a statewide standing roster of prequalified DRB members.

#### **105.13.6.3.8 Selection Process**

When establishing a 3-member DRB for a particular project or dispute, the department and the contractor will each select 1 DRB member. The two selected DRB members shall then jointly select a chair for the DRB. The disputing parties may mutually place restrictions on the chair selection. Any restriction agreed upon by the disputing parties will be communicated to the DRB members charged with selecting chair.

After being selected, DRB member(s) must submit an updated disclosure statement to the department and contractor for review and approval. DRB members do not need to be on the Statewide Standing DRB Roster in order to be selected. However, if a DRB member (chair or non-chair) is selected from outside the standing roster, the proposed DRB member must meet all the aforementioned criteria and disclosure requirements and both disputing parties must approve the selection.

If a party disputes the qualification of a proposed DRB member (from the Statewide Standing DRB Roster or from outside the Roster), the disputing party shall identify what disqualifies the proposed neutral. The department and the contractor shall then jointly determine whether the candidate will be accepted on the DRB. If the candidate is rejected, the party responsible for the selection shall select another candidate and again seek approval from the other party(s).

#### **105.13.6.3.9 Tenure of DRB**

Once a DRB is engaged on a project, the DRB will be deemed established for any subsequent disputes that may require a DRB in accordance to standard spec 105.13.

The DRB will be dissolved as of the date of final payment to the contractor unless earlier terminated or dissolved by mutual agreement of the department and contractor.

#### **105.13.6.3.10 Three-Party Agreement**

After DRB member selections have been made, the DRB member(s) and authorized representatives of the department and the contractor shall execute the Formal Dispute Review Board Three-Party Agreement that sets forth the terms and conditions that apply to services provided by the DRB including procedures for standard operation of the DRB, use of the DRB in an advisory role, periodic site visits, and any other pertinent terms. The department, contractor, and all three DRB members will execute the DRB agreement within 14 calendar days after the selection of the chairperson. Payment for the DRB shall be in accordance to standard spec 105.13.7.

#### **105.13.6.4 Operation**

In general, the DRB will operate in accordance to the guidelines established. However, it is not desirable to adopt hard and-fast rules for the functioning of the DRB. The entire procedure shall be kept flexible to adapt to changing situations. The DRB shall initiate, with the department's and contractor's concurrence, new procedures or modifications to existing procedures whenever this is deemed beneficial and appropriate.

The department and the contractor will cooperate to ensure that the DRB considers disputes promptly, taking into consideration the particular circumstances and the time required to prepare appropriate documentation.

Procedures and time periods may be modified by mutual agreement of the disputing parties.

#### **105.13.6.4.1 Contract Documents, Reports and Information**

The department will provide a set of plans and specifications to each DRB member. The department and contractor will provide the DRB requested reports, documents or other information needed to completely understand and review the dispute. The DRB may not request reports, documents, or other information that are not normally generated by the department or the contractor in the course of construction of the project.

#### **105.13.6.4.2 Scheduling Review**

The regional construction oversight engineer and DRB chair shall schedule the hearing. The DRB will set a date and location for a hearing no earlier than 30 calendar days but no later than 60 calendar days after the receipt of a written request for a DRB hearing.

After conferring with both the department and the contractor, the DRB Chairperson will establish a submittal schedule so that adequate time is allowed for the each party to address the other party's statements and supporting documentation before the presentation.

#### **105.13.6.4.3 Pre-presentation Requirements**

Concise written position statements shall be prepared by both the department and the contractor, with page number references to any supporting documentation. The position statement shall be submitted to each DRB member and to the other party. Submit one copy to each DRB member and 3 copies to the other disputing party at least 14 calendar days prior to the DRB hearing. Both parties will be allowed to amend or append information to their position statement up to 7 calendar days prior to the hearing. Any amendments or appendages shall be copied to the involved parties as prescribed for the position statement.

In large dollar amount disputes or disputes involving complex issues, the DRB may meet privately to review the information provided, discuss the procedures to be followed in hearing the dispute and the method of presentation to be followed. The DRB may also call a pre-meeting conference to discuss procedures with both the department and the contractor.

At least 7 calendar days prior to the date scheduled for a hearing, each party must submit to the DRB Members and to the other party a list of the persons who will attend and/or represent them at the hearing.

#### **105.13.6.4.4 Presentation**

Unless otherwise agreed by the DRB, the department, and the contractor, the presentation will be conducted at the nearest department region office. However, any location that would be more convenient and still provide all required facilities and access to necessary documentation is satisfactory.

The department and the contractor shall have representatives at all presentations. The DRB will establish which party will make its presentation first. The department and the contractor will be allowed successive rebuttals until all aspects are fully covered. The DRB members and the department and the contractor may ask questions, request clarification, or ask for additional data. All questions from the department or contractor shall be directed to the DRB; cross examination will not be allowed. In difficult or complex cases, additional presentations may be necessary in order to facilitate full consideration and understanding of all the evidence presented by both the department and the contractor. Both the department and the contractor shall be provided adequate opportunity to present their evidence, documentation, and testimony regarding all issues before the DRB.

Unless otherwise agreed by the department and the contractor, presentations will relate to issues of entitlement only. When the department and the contractor agree that the DRB will review or give guidance on issues of quantum as well as entitlement, both the department and the contractor will complete their presentations on entitlement before quantum is presented.



Normally, a formal transcript of the presentations will not be prepared. When requested by either the department or the contractor, the DRB may allow recordation and transcription by a court reporter with the cost to be allocated as agreed by the department and the contractor. Such transcript, when prepared, shall not constitute the official record of the DRB Review. The record prepared by the DRB shall be the official record of the DRB Review. The DRB may provide for audio or video recordings of the presentations for the use of the DRB only.

The department and the contractor may have their attorneys or other representatives in attendance at the presentations to counsel and advise them. When agreed by the department and the contractor, the representatives will be allowed to make brief opening and closing remarks to the DRB, but are not allowed to present project specific details. No other participation by attorneys at the presentations will be permitted except by mutual agreement of the department and the contractor.

If either the department or the contractor fails to appear before the DRB on the date scheduled for the presentations, without justifiable cause, the party that was absent will be liable for any and all additional costs attributable to the cancellation of the hearing.

#### **105.13.6.4.5 Deliberations**

After the presentation is concluded, the DRB will confer to formulate its findings and recommendations. All DRB deliberations shall be conducted in private, with all individual views kept strictly confidential from disclosure to others.

#### **105.13.6.4.6 Special Services**

If at any time in the DRB process, the DRB believes that assistance from a technical expert or specialist is necessary or would facilitate resolution of the dispute, the DRB may request permission to retain such services. The DRB will provide to the department and contractor a written request detailing the following:

- -Services desired
- -Benefit of services requested
- -Proposed service provider
- -Qualifications of proposed service provider; and
- -Estimated fees for requested services

The department and contractor must mutually agree to such assistance and approve the proposed service provider.

#### **105.13.6.4.7 Claims by the Subcontractor**

If the contractor's claim includes one or more subcontractor claims, the contractor shall ensure that an authorized representative with actual knowledge of the facts underlying the subcontractor claim assists in presenting the subcontractor's claim and answering questions raised by the DRB members or the department's representatives.

#### **105.13.6.4.8 Findings and Recommendations**

After all DRB hearings are concluded the DRB will formulate findings and recommendations. The DRB will conduct private and confidential deliberations and attempt to reach a unanimous decision. The DRB will base its findings and recommendations on the terms of the contract documents, established principles of law, statutes and regulations, the facts and circumstances of the claim, and the information provided by the parties.

Within 28 calendar days of the hearings the DRB will issue its final findings and recommendations. Claims resulting in a decision involving \$250,000 or less will be binding on the parties to the extent permitted by Wisconsin law. For claims resulting in a decision involving more than \$250,000, if accepted by the parties, the department will process the DRB decision for approval and will promptly process any required contract changes.

If the three-member DRB is unable to reach unanimity in its findings and recommendations, the DRB will so advise the department and the contractor in the report of the DRB. A dissenting member may, at his/her discretion, prepare a minority report to be included with the DRB report.

#### **105.13.6.4.9 Further Action on Decisions Exceeding \$250,000**

Each party will have 45 calendar days from receipt of a final decision of the DRB exceeding \$250,000 to accept or reject, in writing, the decision. If either party fails to accept or reject, in writing, that final decision of the DRB within 45 calendar days of receipt of such decision, the DRB will notify the parties that non-response is considered to be acceptance of that decision and further administrative or judicial review will be barred. Provide notice of acceptance or rejection of the final decision to the DRB in a manner and form prescribed by the DRB. The DRB will reject any notice on a final decision not filed by either party in a timely manner. This 45-day appeal period may be extended if agreed to in writing prior to the 45-day expiration period.

#### **105.13.6.4.10 Advisory Dispute Review Board**

As an alternative to the standard DRB process, the department may elect to use the DRB in an advisory role to expedite the resolution of a dispute or claim. The DRB may review and hear disputes or claim issues during a regularly scheduled site visit. The DRB will offer its advice either during or promptly after the site visit.

#### **105.13.7 Payment for DRB**

DRB members shall be compensated as prescribed in the Agreement.

The department and the contractor shall bear the costs and expenses of the DRB equally. Each DRB member shall be compensated and reimbursed expenses as prescribed in the Agreement executed by the department, contractor, and DRB member.

If the DRB desires special services such as legal, technical, or other expert assistance or testimony, or other consultation, accounting, data research, and the like, both the department and the contractor must agree to the special services. When both parties agree to special services, the procedures described in standard spec 105.13.6.4.6 Special Services of this document will be followed.

The department will provide, at no cost to the contractor, administrative services such as coordination of the DRB and state owned conference facilities. If other facilities and/or amenities are desired by both parties, these facility and amenity expenses shall be shared equally by both parties.

The following payment procedures will be used:

- The DRB members shall submit invoices to the regional construction oversight engineer for review.
- After the regional construction oversight engineer has reviewed and approved the invoices, the invoices will be forwarded to the project manager for review and approval.
- After the project manager has reviewed and approved the invoices, the invoices will be forwarded to the contractor for review and approval.
- If the contractor approves the invoices, the contractor shall make payment of all approved invoices.
- The contractor shall provide the project manager documentation verifying payment.
- The department will then execute a change order to pay the contractor one-half of the contractor paid invoice.

There will be no markups applied to expenses connected with the DRB, either by the DRB members or by the contractor when requesting payment of the department's share of DRB expenses. Regardless of the DRB recommendation, neither the department nor the contractor shall be entitled to reimbursement of DRB costs from the other party.

Department's payment to contractor for accepted work will be made as follows:

**Pay Item** Dispute Review Board

**Pay Unit** Dollar

These procedures and the Agreement contain all of the provisions for compensation and expenses of the DRB.

## **5. Insurance.**

### **5.1 Bidding Instructions for Insurance.**

The department will implement, an Owner Controlled Insurance Program (OCIP) for this contract as described in the:

- Owner Controlled Insurance Program Article
- USH 41 Corridor Project OCIP Insurance Manual
- USH 41 Corridor Project Safety Manual
- USH 41 Corridor Project Claims Manual

Do not include in your bid the “cost of OCIP coverage’s” and as specified in section 107.26(1)(a)9 of the OCIP article. The “costs of OCIP coverage’s” are described in the USH 41 Corridor Project OCIP Insurance Manual.

The USH 41 Corridor Project OCIP Insurance Manual and the Safety Manual contain minimum safety requirements that meet or exceed those required by law, and they include special requirements for the following programs:

- Substance Abuse Program
- Return to Work Program

Enroll and maintain enrollment in the OCIP. Enroll in the OCIP within five days of executing the contract.

Obtain and maintain insurance coverage’s in addition to the OCIP as specified in section 107.26(1)(a)8 of the OCIP article.

Ensure that subcontractors, both those enrolled in and excluded from the OCIP, obtain and maintain insurance coverage’s in addition to the OCIP as specified in section 107.26(1)(a) 8 of the OCIP article.

## **5.2 Owner Controlled Insurance Program.**

Section 107.26, “Standard Insurance Requirements” of the standard specifications is deleted in its entirety and the following section 107.26 is substituted thereof:

107.26 Standard Insurance Requirements

107.26(1)(a) Owner Controlled Insurance Program

- 1. Overview.** The State of Wisconsin, Department of Transportation (“the WisDOT”) has arranged with Aon Risk Services Central, Inc., (the “OCIP administrator”) for this Project to be insured under its Owner Controlled Insurance Program (“OCIP”). The OCIP is more fully described in the USH 41 North-South Corridor manual for the Owner Controlled Insurance Program (the “Insurance Manual”) and the Safety and Health Plan Manual that are incorporated in this Special Provision and the Contract by this reference. Parties performing labor or services at the Project are eligible to enroll in the OCIP unless the party is an excluded party (as defined below). The OCIP will provide to enrolled parties(as defined below) Workers’ Compensation and Employer’s Liability insurance, Commercial General Liability insurance, and excess liability insurance as summarily described below in connection with the performance of the Work (“OCIP coverage’s”).

**2. Enrolled Parties and Their Insurance Obligations.** OCIP coverage applies only to Enrolled Parties. Enrolled Parties include the WisDOT and its employees, eligible Contractors and Subcontractors who enroll in the OCIP, and such other persons or entities that the WisDOT, in its sole discretion, may designate (each such party who is insured under the OCIP is collectively referred to as an “ Enrolled Party”). Enrolled Parties shall obtain and maintain, and shall require each of its Subcontractors to obtain and maintain, the insurance coverage specified in 107.26(1)(a) 8 below.

**3. Excluded Parties and Their Insurance Obligations.** OCIP coverage’s do not apply to the following “Excluded Parties”:

- a. Hazardous materials remediation, removal and/or transport companies;
- b. Vendors, suppliers, fabricators, material dealers, truckers, haulers, drivers and others who merely transport, pickup, deliver, or carry materials, personnel, parts or equipment or any other items or persons to or from the Project;
- c. Contractors and each of their respective Subcontractors who do not perform any actual labor on the Project site;
- d. Any party or entity not specifically identified in this special provision or excluded by the WisDOT as permitted by law, even if otherwise eligible.

Excluded Parties and parties no longer enrolled or covered by the OCIP shall obtain and maintain, and shall require each of its Subcontractors to obtain and maintain, the insurance coverage specified in Section 107.26(1)(a) 8 below and in the Insurance Manual. Excluded Parties shall comply with all of the safety requirements pursuant to 107.26(1)(a) 16.

**4. OCIP Insurance Policies Establish OCIP coverage’s.** The OCIP coverage’s and exclusions summarized in this special provision and the other contract documents are set forth in full in their respective insurance policy forms. The summary descriptions of the OCIP coverage’s in this special provision or the Insurance Manual are not intended to be complete or to alter or amend any provision of the actual OCIP coverage’s. In the event any provision of this special provision, the Insurance Manual, the contract documents, or the summary below conflicts with the OCIP insurance policies, the provisions of the actual OCIP insurance policies shall govern.

**5. Summary of OCIP Coverage’s.** OCIP coverage’s will apply only to those operations of each Enrolled Party performed at the Project site, as defined in the OCIP insurance policies, in connection with the Work and only to Enrolled Parties that are eligible for the OCIP. OCIP coverage’s will not apply to Excluded Parties, even if erroneously enrolled in the OCIP. An Enrolled Party’s operations away from the Project site, including product manufacturing, assembling, or otherwise, will only be insured if such “off-site” operations are identified, endorsed onto the OCIP policies, and are dedicated solely to the Project. Contractor may request such “off-site” operations to be insured in writing to WisDOT; however, OCIP coverage’s will

not insure “off-site” operations until the OCIP policies have been endorsed to insure such “off-site” location. The decision to insure “off-site” operations shall be determined by WisDOT and the OCIP insurer.

The OCIP coverage’s are primary insurance for all on-site operations of eligible and Enrolled Parties. The OCIP will provide only the following insurance to eligible and Enrolled Parties:

Summary Only

- a. Workers’ Compensation insurance - Statutory Limit including Jones Act and USL&H coverage, as applicable.
- b. Employer’s Liability insurance
  - i. Bodily Injury by Accident, each accident \$1,000,000
  - ii. Bodily Injury by Disease, each employee \$1,000,000
  - iii. Bodily Injury by Disease, policy limits \$1,000,000
- c. Commercial General Liability (ISO Occurrence Form – Limits Shared By All Insureds)
  - i. Each Occurrence Limit \$2,000,000 (Annual Limit)
  - ii. General Aggregate Limit for all Enrolled Parties \$4,000,000 (Annual Limit)
  - iii. 10 yr. Products & Completed Operations Extension
  - iv. Products & Completed Operations Aggregate for all Enrolled Parties \$4,000,000(Single Limit Applies to Entire Products & Completed Operations Extension)
- d. The OCIP Commercial General Liability policy will not provide coverage for any claim that could be covered under a property policy or Builder’s Risk policy.
- e. Excess Liability insurance (over Employer’s Liability & General Liability – Limits Shared By All Insureds)
  - Each Occurrence Limit \$150,000,000
  - Aggregate \$150,000,000 (Annual Limit)
  - \$150,000,000 Products & Completed Operations Aggregate Limit (Single Limit Applies to Entire Products & Completed Operations Extension).

- 6. The WisDOT’s Insurance Obligations.** The WisDOT will pay the costs of premiums for the OCIP coverage’s. The WisDOT will receive or pay, as the case may be, all adjustments to such costs, whether by way of dividends, retroactive adjustments, return premiums, other moneys due, audits or otherwise. Each Contractor and each of its Subcontractors hereby assign to the WisDOT the right to receive all such adjustments. The WisDOT assumes no obligation to provide insurance other than that specified in this special provision and the OCIP insurance policies. The WisDOT’s furnishing of OCIP coverage’s will in no way relieve or

limit, or be construed to relieve or limit, Contractor or any of its Subcontractors of any responsibility, liability, or obligation imposed by the contract documents, the OCIP insurance policies, or by law, including without limitation any indemnification obligations which Contractor or any of its Subcontractors has to the WisDOT there under. The WisDOT reserves the right at its option, without obligation to do so, to furnish other insurance coverage of various types and limits provided that such coverage is not less than that specified in the contract documents.

**7. Contractor's OCIP Obligations.** Contractor shall:

- a. Incorporate the terms of this special provision in all subcontract agreements.
- b. Enroll in the OCIP within five (5) business days of execution of the contract and maintain enrollment in the OCIP, and assure that Contractor's eligible Subcontractors enroll in the OCIP and maintain enrollment in the OCIP within five (5) business days of subcontracting and prior to the commencement of their Work at the Project site.
- c. Comply with all of the administrative, safety, insurance, and other requirements outlined in this special provision, the Insurance Manual, the OCIP insurance policies, the Safety and Health Plan Manual, or elsewhere in the contract documents.
- d. Provide each of its Subcontractors with a copy of the Insurance Manual and ensure Subcontractor compliance with the provisions of the OCIP insurance policies, the Insurance Manual, this special provision, and the contract documents. The failure of (a) the WisDOT to include the Insurance Manual in the bid documents or (b) Contractor to provide each of its eligible Subcontractors with a copy of same, shall not relieve Contractor or any of its Subcontractors from any of the obligations contained therein.
- e. Acknowledge, and require all of its Subcontractors to acknowledge in writing, that the WisDOT and the OCIP administrator are not agents, partners or guarantors of the insurance companies providing coverage under the OCIP (each such insurer, an "OCIP insurer") and that the WisDOT is not responsible for any claims or disputes between or among Contractor, its Subcontractors, and any OCIP insurer(s). Any type of insurance coverage or limits of liability in addition to the OCIP coverage's that Contractor or any Subcontractor requires for its or their own protection, or that is required by applicable laws or regulations, shall be Contractor's or its Subcontractor's sole responsibility and expense and shall not be billed to the WisDOT.
- f. Cooperate fully with the OCIP administrator and the OCIP insurers, as applicable, in its or their administration of the OCIP.
- g. Provide, within five (5) business days of the WisDOT's or the OCIP administrator's request, all documents or information as requested of Contractor or its Subcontractors. Such information may include but not be limited to, payroll records, certified copies of insurance coverage's, declaration pages of coverage's, certificates of insurance, underwriting data, prior loss history

information, safety records or history, OSHA citations, or such other data or information as the WisDOT, the OCIP administrator, or OCIP insurers may request in the administration of the OCIP, or as required by the Insurance Manual.

- h. Pay to the WisDOT's designee within five (5) days of written notification, a sum of up to \$ 10,000 of each claim, including court costs, attorneys fees and costs of defense for property damage to the extent losses are insured under the OCIP Commercial General Liability policy for those losses that are attributable to Contractor's Work, acts or omissions, or the Work, acts or omissions of any of its Subcontractors, or any other entity or party for whom Contractor may be responsible ("contractor General Liability obligation"). The contractor General Liability obligation will not be insured by the OCIP Coverage's.

**8. Additional Insurance Required From Enrolled Parties and Excluded Parties.**

Contractor shall obtain and maintain, and shall require each of its Subcontractors of every tier to obtain and maintain, the insurance coverage specified in this Section 107.26(1)(a) 8 in a form and from insurance companies reasonably acceptable to the WisDOT. The insurance limits may be provided through a combination of primary and excess policies, including the umbrella form of policy. The insurance required by this Section 107.26(1)(a) 8 shall conform to the WisDOT's requirements outlined in the Insurance Manual and be written by companies authorized to do business in the State of Wisconsin, and Illinois if applicable, with an AM Best rating of A- or better. Contractor shall provide certificates of insurance coverage to the WisDOT as required below and by the Insurance Manual. As to eligible and Enrolled Parties, the Workers' Compensation, Employer's Liability, and Commercial General Liability insurance required by this section shall only be for off-site activities or operations not insured under the OCIP coverage's. The cost of providing the required insurance coverage and limits is incidental to the contract. The department will make no additional or special payment for providing insurance.

**TYPE OF INSURANCE MINIMUM LIMITS REQUIRED**

- 1. Commercial General Liability insurance shall be endorsed to include blanket contractual liability coverage.
  - a. \$2 Million Combined single limits per occurrence with an annual aggregate limit of not less than \$4 Million.
  - b. The OCIP Coverage's shall exclude blasting or explosion operations. If blasting or explosion operations are used in connection with the Work, Commercial General Liability insurance shall not contain an exclusion for blasting or explosion and shall be provided in limits established by the WisDOT at the time such blasting or explosion methods are elected. Such coverage shall apply to operations whether the operations occur on the Project site or away from the Project site.
  - c. Commercial General Liability insurance shall be maintained in force for two (2) years following completion and the WisDOT's acceptance of the work.



- d. Wisconsin Department of Transportation, their respective officers, agents and employees, and any additional entities as the WisDOT may request as additional insureds must be named as an Additional Insured which shall include: i) liability arising out of the Work performed by the named insured; ii) liability arising out of the supervision of the Work performed by or operations of the named insured; and iii) liability of the acts or omissions of the Additional Insureds relating to Work performed by the named insured for the Project, except for sole negligence of the Additional Insureds iv) will state that coverage is afforded on a primary and non-contributory basis.
2. Workers' Compensation and Employer's Liability insurance.
  - a. Workers' Compensation limits: statutory limits
  - b. Employer's Liability limits:
    - i. Bodily injury by accident: \$100,000 each accident
    - ii. Bodily injury by disease: \$500,000 policy limit
    - iii. Bodily injury by disease: \$100,000 each employee
3. Commercial automobile liability insurance as specified by Insurance Services Office (ISO), form CA 00 01, symbol 1 (any auto) with the following limits and endorsements:
  - a. No Trucking or Hauling: \$1,000,000 Each Accident
  - b. Trucking or Hauling (Non Hazardous Materials): \$2,000,000 Each Accident
  - c. Trucking or Hauling Hazardous Materials: \$5,000,000 Each Accident with an MCS 90 Endorsement and ISO Endorsement CA 99 48.
4. For any work over water, whether deemed navigatable or otherwise, Contractors Pollution Liability insurance with \$2,000,000 per occurrence and \$2,000,000 aggregate policy limits.
5. Aviation and/or Watercraft Liability insurance, as appropriate, including hull and protection and indemnity for watercraft, or other insurance, in form and with limits of liability and from an insuring entity reasonably satisfactory to the WisDOT.

Contractor's failure to procure or maintain the insurance required by this 107.26(1)(a)8 and to assure all its Subcontractors of every tier maintain the required insurance during the entire term of the contract shall constitute a material breach of this contract under which the WisDOT may immediately suspend or terminate this contract or, at its discretion, procure or renew such insurance to protect the WisDOT's interests and pay any and all premiums in connection therewith, and withhold or recover all monies so paid from the Contractor.

Contractor shall provide the WisDOT with certificates of insurance as evidence that required coverage's for insurance detailed in this section are in force. The bidder shall provide certificates of insurance in their pre-qualification statement as specified in 102.1.

Contractor shall notify the WisDOT at least 60 calendar days before a cancellation or material change in coverage and only obtain coverage from insurance companies licensed to do business in the state that have an AM Best rating of A- or better. The cost of providing the required insurance coverage and limits is incidental to the contract. The WisDOT will make no additional or special payment for providing insurance.

The above insurance requirements shall apply with equal force whether the Contractor or a Subcontractor, or anyone directly or indirectly employed by either, performs the work under the Project.

**9. Contractor Representations and Warranties to the WisDOT.** Contractor represents and warrants to the WisDOT or behalf of itself and its Subcontractors:

- a. That all information it submits to the WisDOT or the OCIP administrator shall be accurate and complete.
- b. That Contractor, on behalf of itself and its Subcontractors, has had the opportunity to read and analyze copies of the OCIP binders and specimen policies that are on file in the WisDOT's office. Any reference or summary in the contract, this special provision, the Insurance Manual, or elsewhere in any other contract document as to amount, nature, type or extent of OCIP coverage's and/or potential applicability to any potential claim or loss is for reference only. Contractor and its Subcontractors have not relied upon said reference but solely upon their own independent review and analysis of the OCIP coverage's in formulating any understanding and/or belief as to amount, nature, type or extent of any OCIP coverage's and/or its potential applicability to any potential claim or loss.
- c. That the costs of OCIP coverage's were not included in Contractor's bid or proposal for the Work, the contract price, and will not be included in any change order, change modification, or any request for payment for the Work or extra work. The "costs of OCIP coverage's" is defined as the dollar amount of premiums, costs and fees the Contractor and its Subcontractors would have paid its insurance carrier to insure the operations and exposures which are being insured under the OCIP.
- d. That Contractor acknowledges that the WisDOT will not pay or compensate Contractor or any Subcontractor, in any manner, for costs of OCIP coverage's or for "insurance costs" except as specifically required to be maintained by Contractor by the terms of this special provision.

**10. Audits.** Contractor agrees that the WisDOT, the OCIP administrator, and/or any OCIP insurer may audit Contractor's or any of its Subcontractor's Project payroll records, books and records, insurance coverage's, insurance cost information, or any other information that Contractor provides to the WisDOT, the OCIP administrator, or the OCIP insurers to confirm their accuracy and to assure that costs of OCIP coverage's are not included in any payment for the work.

- 11. The WisDOT's Election to Modify or Discontinue OCIP.** The WisDOT may, for any reason, modify the OCIP coverage's, discontinue the OCIP, or request that Contractor or any of its Subcontractors withdraw from the OCIP upon thirty (30) days written notice. Upon such notice Contractor and/or one or more of its Subcontractors, as specified by the WisDOT in such notice, shall obtain and thereafter maintain at the WisDOT's expense, Contractor Maintained Coverages (or a portion thereof as specified by the WisDOT) of the OCIP coverage's. The form, content, limits of liability, cost, and the insurer issuing such replacement insurance shall be subject to the WisDOT's approval.
- 12. Withhold of Payments.** The WisDOT may withhold from any payment owing to Contractor the costs of OCIP coverage's if included in a request for payment. In the event the WisDOT audit of Contractor's records and information as permitted in the Contract, this special provision, or other contract documents reveals a discrepancy in the insurance, payroll, safety, or any other information required by the contract documents to be provided by Contractor to the WisDOT, or to the OCIP administrator, or reveals the inclusion of costs of OCIP coverage's in any payment for the work, the WisDOT will have the right to full deduction from the Contract Price of all such costs of OCIP coverage's and all audit costs. Audit costs will include but not be limited to the fees of the OCIP administrator, and the fees of attorneys and accountants conducting the audit and review. If the Contractor or its Subcontractors fail to timely comply with the provisions of this special provision or the requirements of the Insurance Manual, the WisDOT may withhold any payments due Contractor and its Subcontractors until such time as they have performed the requirements of this special provision. Such withholding by the WisDOT will not be deemed to be a default hereunder.
- 13. Waiver of Subrogation.** Where permitted by law, Contractor hereby waives all rights of recovery under subrogation because of deductible clauses, inadequacy of limits of any insurance policy, limitations or exclusions of coverage, or any other reason against the WisDOT, the State of Wisconsin and any of its Agencies or Officer's, Agents or employees including without limitation, the OCIP administrator, its or their officers, agents, shareholders or employees of each, if any, and any other Contractor or Subcontractor performing work or rendering services on behalf of the WisDOT in connection with the planning, development and construction of the Project. Where permitted by law, Contractor shall also require that all Contractor maintained insurance coverage related to the work include clauses providing that each insurer shall waive all of its rights of recovery by subrogation against Contractor together with the same parties referenced immediately above in this section. Contractor shall require similar written express waivers and insurance clauses from each of its Subcontractors. A waiver of subrogation shall be effective as to any individual or entity even if such individual or entity (a) would otherwise have a duty of indemnification, contractual or otherwise, (b) did not pay the insurance premium directly or indirectly, and (c) whether or not such individual or entity has an insurable interest in the property damaged.

- 14. Duty of Care.** Nothing contained in this special provision or the Insurance Manual shall relieve the Contractor or any of its Subcontractors of their respective obligations to exercise due care in the performance of their duties in connection with the work and to complete the work in strict compliance with the contract documents.
- 15. Conflicts.** In the event of a conflict, the provisions of this special provision shall govern, then the provisions of the contract and its other related contract documents, then the provisions of the Insurance Manual.
- 16. Safety.** Contractor shall be solely responsible for safety on the Project and safety relating to the Work. Contractor shall establish a safety program that, at a minimum, complies with all local, state and federal safety standards, and any safety standards established by the WisDOT for the Project, including the Project Safety and Health Plan Manual.

### **5.3 Railroad Insurance and Coordination.**

#### **A Description**

Comply with standard spec 107.17 for all work affecting Wisconsin Central Ltd. 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 Central Ltd. (d.b.a. Canadian National).

Notify evidence of the required coverage, and duration to Jackie Macewicz, Manager Public Works at 1625 Depot St., Stevens Point, WI 54481. Include the following information on the insurance document:

Project 1133-11-74  
Route Name USH 41 and IH 43 interchange, Brown County  
Crossing ID: 188337B  
Railroad Subdivision Manistique  
Railroad Milepost: 3.7

#### **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. None

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

Contact Jackie Macewicz, Manager Public Works, 1625 Depot St., Stevens Point, WI, 54481, TELEPHONE (715) 345-2503, FAX (715) 345-2534, email [jackie.macewicz@cn.ca](mailto:jackie.macewicz@cn.ca) for consultation on railroad requirements during construction.

Contact Mary Ellen Carmody, Audit Officer, Administration Service Center, 700 Pershing Street, Pontiac, MI 48340, TELEPHONE (248) 452-4705, FAX (248) 452-4972, email [maryellen.carmody@cn.ca](mailto:maryellen.carmody@cn.ca) for flagging arrangements. Advise Ms. Carmody that the flagging services are to be billed at the rate for a public highway project.

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**

Approximately eight through freight trains operate daily through the construction site. Through freight trains operate at up to 20 mph.

### **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:

1. Cranes swinging or handling materials or equipment within 25 feet of the centerline of any track.
2. 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.
3. 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.
4. Bridge painting activities including rigging of falsework, scaffolding or similar activities within 25 feet of the centerline of any track.
5. Deck removal activities within 25 feet of the centerline of any track.
6. Pouring of bridge decks in spans over an operated track.
7. 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 5 business days before starting work near a track. Provide the specific time planned to start the operations.

### **C.2 Rates – Canadian National (WCL, SSMBRCo, DM&IR, DWP)**

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

\$1000 daily rate (including wages, labor surcharges, meals, lodging, vehicle and mileage expenses) for a minimum eight-hour flagging day at the job site;

\$1200 daily rate (including wages, labor surcharges, meals, lodging, vehicle and mileage expenses) for a minimum eight-hour flagging day at the job site on Saturdays, Sundays or holidays;

\$150 per hour overtime rate for all time worked before or after the eight hour flagging day.

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:

1. Additional flagging requirements imposed by the railroad beyond the flagging requirements provided in subsection B above due to violations by the contractor.
2. 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.

107-034 (20110615)

## **6. Environmental.**

### **6.1 Environmental Protection.**

*Supplement standard spec 107.18 follows:*

#### **Wetlands**

The contractor shall not disturb nor store materials or topsoil within the nearby wetlands as shown on the erosion control sheets unless areas are designated to be filled or impacted as permitted in the project's U.S. Army Corps of Engineers Section 404 Permit. The work area shall be separated from the wetlands by silt fence, as shown on the plans, to avoid siltation and inadvertent fill into the wetland areas.

#### **Phragmites**

Phragmites, an invasive species plant, exists within the USH 41 and IH 43 corridor. All soil areas along USH 41 and IH 43 containing plant or root fragments that will be disturbed as part of the work within the contract shall be incorporated into and paid for as Salvaged Topsoil. Only remove soil in Phragmites areas to a depth consistent with the stripped topsoil for use as Salvaged Topsoil. Salvaged topsoil containing Phragmites material shall be placed in upland locations in the general area where the plant currently exists. Do not excavate the entire root system.

If any Excavation Below Subgrade (EBS) contains phragmites roots this material may be placed outside of the 1:1 slope adjacent to the shared use path from Station 16+00 BP1 to 28+00 BP1 or in designated areas as determined by the engineer.

For all equipment that comes into contact with Phragmites infested areas, follow the guidelines established under the Environmental Protection, Aquatic Exotic Species Control section of this special provision for inspection and cleaning of equipment prior to leaving the project site. Additional information on this plant can be found at the following website: [www.dnr.wi.gov/invasives/plants.asp](http://www.dnr.wi.gov/invasives/plants.asp).

### **Dewatering**

If dewatering is required, treat the water to remove suspended solids before allowing it to enter any waterway or wetland. Provide a sedimentation basin with sufficient capacity and size to provide an efficient means to filter the water from the dewatering operation before it is discharged back into the waterway or wetland as provided in the standard specifications and these special provisions. 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.

Refer to the dewatering guidelines of WisDNR Storm Water Management Technical Standards, Code #1061, "Dewatering". This document can be found at the WisDNR website: <http://dnr.wi.gov/runoff/stormwater/techstds.htm>

The cost of all work and materials associated with water treatment and/or dewatering is incidental to the bid item "Sedimentation Basin".

## **6.2 Environmental Protection, Emerald Ash Borer.**

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

Ash trees include the following species:

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

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



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

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

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

ATCP 21.17 Emerald ash borer; import controls and quarantine.

IMPORTING OR MOVING REGULATED ITEMS FROM INFESTED AREAS; PROHIBITION. Except as provided in sub. (3), no person may do any of the following:

- (a) Import a regulated item under sub. (2) into this state if that item originates from an emerald ash borer regulated area identified in 7CFR 301.53-3.
- (b) Move any regulated item under sub. (2) out of an emerald ash borer regulated area that is identified in 7CFR 301.53-3 and located in this state.

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

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

Ash trees.

Ash limbs, branches, and roots.

Ash logs, slabs or untreated lumber with bark attached.

Cut firewood of all non-coniferous species.

Ash chips and ash bark fragments (both composted and uncomposted) larger than one inch in diameter.

Any other item or substance that may be designated as a regulated item if a DATCP pest control official determines that it presents a risk of spreading emerald ash borer and notifies the person in possession of the item or substance that it is subject to the restrictions of the regulations.

**Regulatory Considerations**

The quarantine means that ash wood products may not be transported out of the quarantined area.

If ash trees are identified within clearing and grubbing limits of the Project, the following measures are required for the disposal:

**Chipped ash trees**

May be left on site if used as landscape mulch within the project limits.

May be buried on site within the right-of-way in accordance to standard spec 201.3 (14).

May be buried on adjacent properties to projects within the quarantined zone with prior approval of the engineer in accordance to standard spec 201.3 (15).

May be trucked to a licensed landfill within the quarantined zone with the engineer's approval in accordance to standard spec 201.3 (15).

Burning chips is optional if in compliance with standard spec 201.3.

Chips must be disposed of immediately and may not be stockpiled.

Chipper equipment must be cleaned following post-chipping activities to insure no spread of wood chip debris into non-quarantined counties.

**Ash logs, branches, and roots**

May be buried without chipping within the existing right-of-way or on adjacent properties in accordance to standard spec 201.3 (14)(15).

May be trucked to a licensed landfill within the quarantined zone with the engineer's approval in accordance to standard spec 201.3 (15).

Burning is optional if in compliance with standard spec 201.3.

Ash logs, branches, and roots must be disposed of immediately and may not stockpiled.

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

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

**Updates for compliance**

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

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

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

calling (608) 224-4573, by visiting the department's website, or by writing to the above address.

### **6.3 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 Paul Vraney at (920) 492-2232.  
107-054 (20080901)

### **6.4 Environmental Protection, Aquatic Exotic Species Control.**

Exotic invasive organisms such as VHS, zebra mussels, purple loosestrife, and Eurasian water milfoil are becoming more prolific in Wisconsin and pose adverse effects to waters of the state. Wisconsin State Statutes 30.07, "Transportation of Aquatic Plants and Animals; Placement of Objects in Navigable Waters", details the state law that requires the removal of aquatic plants and zebra mussels each time equipment is put into state waters.

At construction sites that involve navigable water or wetlands, use the follow cleaning procedures to minimize the chance of exotic invasive species infestation. Use these procedures for all equipment that comes in contact with waters of the state and/or infested water or potentially infested water in other states.

Ensure that all equipment that has been in contact with waters of the state, or with infested or potentially infested waters, has been decontaminated for aquatic plant materials and zebra mussels prior to being used in other waters of the state. Before using equipment on this project, thoroughly disinfect all equipment that has come into contact with potentially infested waters. Use the following inspection and removal procedures (guidelines from the Wisconsin Department of Natural Resources [http://dnr.wi.gov/fish/documents/disinfection\\_protocols.pdf](http://dnr.wi.gov/fish/documents/disinfection_protocols.pdf)) for disinfection:

1. Prior to leaving the contaminated site, wash machinery and ensure that the machinery is free of all soil and other substances that could possibly contain exotic invasive species;
2. Drain all water from boats, trailers, bilges, live wells, coolers, bait buckets, engine compartments, and any other area where water may be trapped;
3. Inspect boat hulls, propellers, trailers and other surfaces. Scrape off any attached mussels, remove any aquatic plant materials (fragments, stems, leaves, seeds, or roots), and dispose of removed mussels and plant materials in a garbage can prior to leaving the area or invested waters; and
4. Disinfect your boat, equipment and gear by either:

- a. Washing with ~212° F water (steam clean), or
- b. Drying thoroughly for five days after cleaning with soap and water and/or high pressure water, or
- c. Disinfecting with either 200 ppm (0.5 oz per gallon or 1 Tablespoon per gallon) Chlorine for 10-minute contact time or 1:100 solution (38 grams per gallon) of Virkon Aquatic for 20- to 30-minute contact time. Note: Virkon is not registered to kill zebra mussel veligers nor invertebrates like spiny water flea. Therefore this disinfect should be used in conjunction with a hot water (>104° F) application.

Complete the inspection and removal procedure before equipment is brought to the project site and before the equipment leaves the project site.  
107-055 (20110615)

## **6.5 Construction Over or Adjacent to Navigable Waters.**

*Supplement standard spec 107.19 with the following:*

Duck Creek is classified as a navigable waterway.  
107-060 (20040415)

## **6.6 Notice to Contractor – Contamination Beyond Construction Limits.**

The department completed testing for soil and ground water contamination for locations within this project where excavation is required. Testing indicated that petroleum-contaminated soil is present at the following site(s):

1. Station 1178+60 EVEB to 1181+00 EVEB from 75 feet RT of centerline to 280 feet RT of centerline.

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

The Hazardous Materials Report is available by contacting: Kathie VanPrice, 944 Vanderperren Way, Green Bay, WI 53324, (920) 492-7175.  
107-100 (20050901)

## **6.7 Notice to Contractor - Abatement of Asbestos Containing Material.**

Abatement of Regulated Asbestos-Containing Material (RACM), under direction of the department's regional contact, will be completed by others before the

beginning of construction. A copy of the inspection report is available from: Eric Gwidt, (920) 492-7373.

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 to Eric Gwidt at (920) 492-7373 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: Parcel 16
- Site Address: 727 North Memorial Drive, Green Bay, WI 54303
- Ownership Information: WisDOT Northeast Region, 944 Vanderperren Way, P.O. Box 28080, Green Bay, WI 54324-0080
- Contact: Eric Gwidt
- Phone: (920) 492-7373

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.

## **6.8 Notice to Contractor – Fertilizer.**

Fertilizer shall not be used within 20-feet of a water body or wetland.

## **6.9 Notice to Contractor – Layout Information for Permitted Impact to Wetlands.**

Upon award of the contract, the department can supply information for laying out boundaries of permanent and temporary impact to wetlands as defined under the Section 404 permit. Contact Paul Vraney, phone (920) 492-2232.

## **6.10 Notice to Contractor – Causeways.**

No more than one causeway at a time will be allowed in Duck Creek. Once construction of the causeway for Structure B-5-681 as show in the plans has been started it must be removed within ten calendar weeks (70 days) of initiating placement of causeway materials into Duck Creek.

## **6.11 Endangered Resources.**

There are State Threatened Wood and Blanding's turtles within the project area. Provide 10 day business notice to the department (Mike Helmrick, WisDOT, (920) 492-7738) prior to start of any construction activity. The department will field review and remove any turtle, if found within the project area. The department will monitor and remove turtle if necessary throughout the construction period.

The State Threatened Wood Turtle (*Glyptemys insculpta*) and Blanding's Turtle (*Emydoidea blandingii*) are known inhabitants to the waterways and riparian corridors throughout the USH 41 segments. Wood and Blanding's turtles may be present at the site, or near the site, therefore;

The project construction must protect the perimeter of the area to be disturbed with properly trenched-in silt fence with turtle turnarounds at the ends prior to March 15 to discourage the turtles from entering the area. The silt fence installation must meet both the department's specifications and the approval of the Department of Natural Resources.

If the project construction area cannot be silt fenced prior to March 15, the trenched-in silt fence must be installed prior to construction activities and the area behind the silt fence must be surveyed to ensure no turtles have ventured into the construction site.

Contact Mike Helmrick for additional measures if any Wood or Blanding's turtles are in the construction limits.

Any turtles that are found in the project site, during construction season, must be removed prior to any site disturbance and shall continue throughout the construction period to ensure no turtles are harmed during construction.

## **7. Traffic and Restrictions to Work.**

### **7.1 Traffic.**

Complete the work under this contract in a staged sequence as shown in the plan. The construction staging plans show an overview of the work areas for the project and the traffic control plans show detail of the work zone activities and the routing of traffic for each stage and phase.

Reduce the regulatory posted speed for USH 41 from 65 mph to 55 mph at the beginning of construction, and retain the 55 mph posting throughout construction, including winter months.

Reduce the regulatory posted speed for northbound IH 43 from 65 mph to 55 mph starting at the beginning of construction, and retain the 55 mph posting throughout construction, including winter months.

### **Clear Zone Working Restrictions**

Do not store materials or equipment within the clear zone of traffic lanes which are not protected by temporary precast barrier. Remove materials from the clear zone prior to opening lane closures. Do not leave any slopes steeper than 3:1 or any drop offs at the edge of the traveled way greater than 2 inches within the clear zone which are not protected by temporary precast barrier prior to opening lane closures.

Do not perform heavy equipment work in the median at any time unless protected by concrete barrier in both directions except as allowed during night work with lane closures.

Do not perform heavy equipment work within 18 feet of the edge of the traveled way unless protected by concrete barrier or a lane closure during the allowed closure periods.

Park equipment a minimum of 30-feet from the edge of the traveled way. Equipment may be parked in the median if it meets the minimum distance requirement from both traveled ways or if it is protected by concrete barrier.

If the contractor is unsure whether an individual work operation will meet the safety requirements for working within the clear zone, review the proposed work operation with the engineer before proceeding with the work.

### **Expressway/Freeway Traffic Control Meeting**

Conduct a traffic control meeting prior to:

1. Initial traffic control set up.
2. Intermediate traffic switches.
3. Reopening of the highway to traffic.

Notify Kevin Lohff at (920) 606.3176; seven business days prior to setting up the meeting.

### **Freeway Service Team (FST)**

As part of a traffic mitigation program called Freeway Service Team (FST), the department has contracted with a private towing vendor to patrol parts of US 41 during peak hours, holidays and special events. To improve safety and minimize delay, contact 911 immediately for breakdowns or incidents in or near the construction work zone. FST will be dispatched directly to the scene to aid the vehicles that need to be removed.

### **Wisconsin Lane Closure System Advanced Notification**

Provide the following minimum advance notification to the engineer for incorporation into the Wisconsin Lane Closure System

Lane closures (without width, height or weight restriction)	3 business days
Service Ramp closures	3 business days
Extended closure hours	3 business days
System Ramp closures	7 calendar days

Local Street openings/closings	7 calendar days
Lane closures (with width, height or weight restriction)	14 calendar days
Project Start	14 calendar days
Full Freeway closures	14 calendar days
Construction stage changes	14 calendar days
Detours	14 calendar days

Notify the engineer if there are any changes in the schedule, early completions, or cancellations for scheduled work.

### **Portable Changeable Message Signs – Message Prior Approval**

After coordinating with department construction field staff, notify Kevin Lohff at (920) 606-3176 (secondary contact number is (920) 606-0236) three business days prior to deploying or changing a message on a PCMS to obtain approval of the proposed message.

### **Private Driveways**

Maintain access to all business driveways and private residence driveways on a minimum of crushed aggregate base course surface at all times except as follows. Close driveways for a maximum of 7 calendar days due to roadway concrete paving. Close driveways for a maximum of 7 calendar days for grading and placement of base aggregate and concrete paving for each driveway. Notify each business and/or each residence on the property a minimum of 7 days prior to any driveway closures.

### **Full Closure of Wietor Drive**

Wietor Drive may be closed for girder erection from the hours of 7:00 PM and 5:00 AM, on all days. Notify the Village of Howard at least one calendar week in advance of a full closure of Wietor Drive, contact Geoff Farr, phone (920) 434-4060. Immediately before full closure of Wietor Drive, ensure that no persons are at facilities along Wietor Drive west of USH 41.

### **Protection of Bridge Pier Columns**

Bridge pier columns are to remain protected at all times throughout construction. Removal of existing guardrail shall be done concurrently with the placement of the temporary concrete barrier so that the bridge pier columns remain protected at all times. Placement of new beamguard shall be completed to a point to provide protection for the pier columns before the temporary concrete barrier is removed. Remaining beamguard shall be placed within 24 hours of the temporary concrete barrier being removed.

### **Roadside Hazard Protection During Construction**

Conduct existing beam guard removal in several phases to allow timely installation of temporary barriers. Bridge pier columns and parapets are to remain protected at all times throughout construction. Removal of existing guardrail shall be done concurrently with the placement of the temporary concrete barrier or temporary barrier left in place so that the bridge pier columns/parapets remain protected at all times. Placement of new beamguard shall be completed to a point to provide protection for the pier



columns/parapet before the temporary concrete barrier is removed. Railing connecting to structure parapet should be in place prior to opening the lanes for traffic. Remaining beamguard shall be placed within 24 hours of the temporary concrete barrier being removed.

### **Ramp Access**

Access on and off of ramps will only be allowed if approved by the engineer. Crossing ramps with construction equipment/vehicles, unless shown in the plans, needs to be approved by the engineer. For crossing of ramps with equipment that is not tire equipped, an engineer approved rolling road block will be required during non-peak hours associated with the ramp area on USH 41.

### **Rolling Closures**

For setting of the I-beam girders for Structure B-05-677 and B-05-681, the northbound IH 43 ramps to northbound USH 41 and southbound USH 41, and the southbound USH 41 ramp to southbound IH 43 may be closed for periods not to exceed 20 minutes between the hours of 10:00 PM to the following morning at 5:00 AM, Sunday, Monday, Tuesday, Wednesday, and Thursday nights. Allow all vehicle backups to clear the project area prior to setting up the next road closure during the above timeframe. The department has contracted with the Wisconsin State Highway Patrol to assist with traffic control operations by setting up rolling roadblocks for these closures. Coordinate with the Traffic Management Engineer, Kevin Lohff at (920) 606-3176, on these road closures and provide 72 hours prior notice to the engineer.

### **Temporary Regulatory Speed Limit Reduction-Extended Length Shoulder Closure**

A reduction of the posted regulatory speed limit from 65 mph to 55 mph is allowed during times when project documents allow the following: 1. Lanes narrowed to less than 12 feet and adjacent shoulder width is reduced. 2. Traffic is shifted partly or completely onto a shoulder and/or temporary pavement and shoulder width is reduced.

A reduction of the posted regulatory speed limit from 65 mph to 55 mph is also allowed during approved temporary lane closures when workers are present and active in close proximity to an open lane.

Any required modification of temporary and existing/permanent signs between 65 mph and 55 mph shall be considered incidental to the project.

During approved temporary regulatory speed limit reductions, install temporary regulatory speed limit signs on the inside and outside shoulders of the roadway at the beginning of the reduced regulatory speed zone and after all side road locations where traffic may enter the highway segment within the reduced regulatory speed zone. Temporary regulatory speed limit signs shall be installed at the end of the temporary regulatory speed zone to inform drivers where the posted regulatory speed limit reverts back to 65 mph.

In coordination with department construction field staff, notify the Northeast Region Traffic Section at (920) 492-5652 (secondary contact number is (920) 492-5641) if

temporary traffic control field conditions meet the above criteria. Contact the Northeast Region Traffic Section at least 14-calendar days prior to installation of the 55 mph regulatory speed zone. After notification, Northeast Region Traffic will create a “Temporary Speed Zone Declaration” to meet statutory requirements, allowing enforcement of this temporary regulatory speed limit.

When construction activities impede the location of a post mounted regulatory speed limit sign, mount the regulatory speed limit sign on portable supports that meet the “crashworthy” definition in the Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD).

### **Winter Maintenance**

During winter months park equipment at a safe distance (at a minimum of 30 feet from the edge of travel lane, equipment parked in the median if it meets the minimum 30 feet from both traveled ways or if it is protected by concrete barrier) from the active travel lanes to prevent damage to equipment from snow plowing operations. Do not store equipment or materials within the work zone which may interfere with horizontal sight distances along USH 41 and IH 43.

Snow may be plowed from the traveled roadway into the work site by the maintaining authority. The contractor is responsible for any snow removal from the work site that may be required to continue work operations.

The contractor is responsible for plowing any areas which may need to be cleared of snow or ice to accommodate changes in traffic control and to facilitate construction staging during winter months. Brown County or the local maintaining authority will not provide snow plowing operations in areas outside of the active traveled lanes.

Re-install or adjust any traffic control devices that may be damaged, removed, or shifted as part of normal winter maintenance operations. Clean and maintain traffic control devices as necessary or directed as a result of winter maintenance operations.

Anticipated locations of traffic control devices are shown in the plans. Review the work site with the engineer for locations where additional area may be available to maximize lane and shoulder widths over winter months to aid in winter maintenance operations and to maximize snow storage area. Adjust traffic control devices in these areas.

Snow plowing, ice removal including any road salt which may be required, maintenance and cleaning of traffic control devices, and other winter maintenance activities are incidental other items of work under this contract.

At dead-end roadways, provide access to the entire paved or gravel area of the cul-de-sac for access and turnaround of snowplow vehicles used by the maintaining authority. Do not hinder snowplow access to the cul-de-sac surface with parked equipment, stored materials, or placement of traffic control devices.

### **Velp Avenue Traffic Signals**

Operate traffic signals at the intersections of the USH 41 northbound and southbound ramps with Velp Avenue under the permanent condition the duration of the project. Do not provide temporary traffic signals or a temporary stop location at either location at any time during the project construction.

At least one calendar week in advance of temporary conditions affecting Velp Avenue traffic signals at the USH 41 ramps, identified below, notify the department's Northeast Region Traffic group, contact Bob Schuurmans, phone (920) 492-5710.

1. Full closure of the northbound USH on ramp exceeding one night in duration, as the northbound USH 41 off-ramp is open to traffic.
2. Closure of the eastbound Velp Avenue outside lane underneath USH 41 exceeding one night in duration. No signed detour will be in place.
3. Full closure of eastbound and westbound Velp Avenue for structural steel erection, and associated closure of both left turn lanes for the southbound and northbound USH 41 off-ramps. No signed detour will be in place.
4. Overnight single lane closure on eastbound or westbound Velp Avenue, and associated closure of one of the two left turn lanes for the southbound or northbound USH 41 off-ramp.
5. Removal of all existing traffic signal equipment and placement of the concrete cabinet base traffic signal standards (including poles, faces, and bases) and all wiring at the newly-constructed long term temporary northbound USH 41 ramp configuration. WisDOT forces will terminate all electrical wiring in the existing traffic signal cabinet and power the new traffic signal cabinet at this time to shift traffic to the new northbound USH 41 ramp terminal.

### **Lane Closures and Full Roadway Closures**

Lane closures and full roadway closures are permitted in accordance to the tables below, under this "Traffic" article, for miscellaneous operations such as traffic switches; girder erection over traffic lanes; construction of structure abutments, piers, and retaining walls adjacent to traffic lanes; pavement construction, including widening, shoulder replacement, temporary crossovers, mill and overlay, and cross slope adjustment; installation of rumble strips; placement of culverts and storm sewer under traffic lanes; adjustment to traffic signals; installation of guardrail; and the installing, moving, and removing of concrete barrier temporary precast. In addition, lane closures and full roadway are also permitted as follows:

**Northbound USH 41:** Single-lane overnight closures are permitted during the hours provided in the pertinent table below, under this "Traffic" article. For structural steel erection over USH 41 for Structure B-05-678, shift two-lane northbound USH 41

traffic to the outside shoulder, between Velp Avenue and IH 43, to allow two-lane southbound USH 41 traffic to be temporarily moved to the median side of the northbound USH 41 roadway. Provide concrete barrier temporary precast to separate the four-lane bi-directional USH 41 traffic, and narrow marked traffic lanes and shoulders to 11' and 1', respectively. Details for the bi-directional traffic shift are provided in the plan. During the structural steel erection over USH 41, full overnight closure for northbound USH 41 is permitted three times any day of the week from 10:00 PM to 5:00 AM. As shown in the plan, provide detour signing for full overnight closure for northbound USH 41.

**Southbound USH 41:** Single-lane overnight closures are permitted during the hours provided in the pertinent table below, under this "Traffic" article. For structural steel erection over USH 41 for Structure B-05-678, construct temporary median crossovers to shift two-lane southbound USH 41 traffic to the median side of the northbound USH 41 roadway between Velp Avenue and IH 43. Provide concrete barrier temporary precast to separate the four-lane bi-directional USH 41 traffic, and narrow marked traffic lanes and shoulders to 11' and 1', respectively. Details for the bi-directional traffic shift are provided in the plan. During the structural steel erection over USH 41, full overnight closure for southbound USH 41 is permitted one time any day of the week from 10:00 PM to 5:00 AM. As shown in the plan, provide detour signing for full overnight closure for southbound USH 41.

**Northbound IH 43:** Single lane overnight closures for work *downstream* of the split point for the single-lane ramps from northbound IH 43 to northbound USH 41 and to southbound USH 41, are permitted during the same overnight hours the closure of each individual single lane ramp is permitted. Single lane overnight closures for work *upstream* (southeast) of the split point for the two ramps, are permitted during the hours provided in the pertinent table below, under this "Traffic" article.

**Northbound USH 41 Ramp to southbound IH 43:** Full overnight closure of the ramp is permitted between the hours of 10:00 PM Sunday, Monday, Tuesday, Wednesday, and Thursday to the following morning at 5:00 AM, and between the hours of 8:00 PM Friday and Saturday to the following day at 12:00 PM (noon).

Continuous full closure of the ramp is permitted for 30 days for structural steel erection over USH 41. As shown in the plan, provide detour signing for the continuous thirty-day maximum full closure.

**Southbound USH 41 Ramp to southbound IH 43:** Full overnight closure of the ramp is permitted between the hours of 8:00 PM Sunday, Monday, Tuesday, Wednesday, and Thursday to the following morning at 5:00 AM, and between the hours of 8:00 PM Friday and Saturday to the following day at 12:00 PM (noon). These closures do not cover the operation to set I beam girders for Structure B-05-677, which are instead anticipated to occur under the means of "Rolling Closures," described above in this "Traffic" article.

**Northbound IH 43 Ramp to northbound USH 41:** Full overnight closure of the ramp is permitted between the hours of 8:00 PM Sunday, Monday, Tuesday, Wednesday, and Thursday to the following morning at 5:00 AM, and between the hours of 10:00 PM Friday and Saturday to the following morning at 5:00 AM. These closures do not cover the operation to set I beam girders for Structure B-05-681, which are instead anticipated to occur under the means of “Rolling Closures,” described above in this “Traffic” article. This ramp may be used under traffic for access to construct the south abutment and pier 1 for Structure B-05-681, and pier 14 for Structure B-05-678, and the staged fill embankment for northbound USH 41 (NMC-line).

**Northbound IH 43 Ramp to southbound USH 41:** Full overnight closure of the ramp is permitted between the hours of 9:00 PM Sunday, Monday, Tuesday, Wednesday, and Thursday to the following morning at 5:00 AM, and between the hours of 10:00 PM Friday and Saturday to the following morning at 5:00 AM. Continuous full closure of the ramp is permitted for thirty days for structural steel erection over USH 41. As shown in the plan, provide detour signing for the continuous thirty-day maximum full closure. These closures do not cover the operation to set I beam girders for Structure B-05-677, which are instead anticipated to occur under the means of “Rolling Closures,” described above in this “Traffic” article.

**Eastbound Velp Avenue:** Single-lane overnight closures are permitted during the hours provided in the pertinent table below, under this “Traffic” article. The outside lane may be closed for up to three calendar weeks (21 calendar days) to construct the abutment and retaining walls at the south end of bridge Structure B-05-671. As shown in the plan, provide temporary signing and marking to delineate temporary lanes during this 21 calendar day maximum period. To erect structural steel over the roadway for Structure B-05-671, the eastbound Velp Avenue roadway may be fully closed overnight twice from 10:00 PM to 5:00 AM any day of the week, concurrent with the full closure of westbound Velp Avenue. No signed detour is required.

**Westbound Velp Avenue:** Single-lane overnight closures are permitted during the hours provided in the pertinent table below, under this “Traffic” article. To erect structural steel over the roadway for Structure B-05-671, the westbound Velp Avenue roadway may be fully closed overnight twice from 10:00 PM to 5:00 AM any day of the week, concurrent with the full closure of eastbound Velp Avenue. No signed detour is required.

**Northbound USH 41 On Ramp from Velp Avenue:** Full overnight closure of the ramp is permitted from 8:00 PM to 6:00 AM any day of the week. To switch traffic to the newly constructed ramp, including removal of the existing westbound Velp Avenue to northbound USH 41 on ramp free-flow turning roadway, continuous full closure of the ramp is permitted from 8:00 PM Friday to 6:00 AM the following Monday (58 hours). No signed detour is required for the 58-hour maximum continuous closure. Continuous full closure of the ramp is also permitted for thirty days for structural steel erection over USH 41. As shown in the plan, provide detour signing for the continuous 30-day maximum full closure.

**Northbound USH 41 Off Ramp to Velp Avenue:** Full overnight closure of the ramp is permitted from 6:00 PM to 6:00 AM any day of the week as shown in the pertinent table below, under this “Traffic” article.

**Southbound USH 41 Off Ramp to Velp Avenue:** Full overnight closure of the ramp is permitted from 6:00 PM to 6:00 AM any day of the week as shown in the pertinent table below, under this “Traffic” article. Continuous full closure of the ramp is permitted for thirty days for structural steel erection over USH 41. As shown in the plan, provide detour signing for the continuous 30-day maximum full closure.

#### USH 41 Traffic

Submit any traffic control change request to the engineer at least 72 hours prior to an actual traffic control change. A request does not constitute approval.

Maintain the following lanes during work on each roadway unless otherwise allowed. Each hour shown in the lane requirement tables is defined as a sixty minute period (example: Hour 7 is the period from 7:00 to 7:59).

Freeway/Expressway Lane Requirements																									
Limits:	Northbound USH 41: Memorial Drive to Lineville Road (CTH M)																								
	AM												PM												
From Hour to Hour	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Monday through Thursday	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1
Fridays	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1
Saturdays	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1
Sundays	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	1	1	1	1	1	1	1
Legend																									
1	Provide at least one through freeway lane open in each direction of travel																								
2	Open all USH 41 lanes to travel																								
REMARKS:																									
Do not close northbound USH 41 ramp to southbound IH 43 concurrently with closure of northbound USH 41 ramp to eastbound STH 172 by others.																									
Do not close northbound USH 41 or northbound USH 41 ramp to southbound IH 43 concurrently with closure of northbound USH 41 off-ramp to Velp Avenue.																									

Freeway/Expressway Lane Requirements																									
Limits:	Southbound USH 41: Lineville Road (CTH M) to Memorial Drive																								
	AM												PM												
From Hour to Hour	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Monday through Thursday	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1
Fridays	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1
Saturdays	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1
Sundays	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1
Legend																									
1	Provide at least one through freeway lane open in each direction of travel																								
2	Open all USH 41 lanes to travel																								
REMARKS: Do not close southbound USH 41 concurrently with closure of southbound USH 41 ramp to southbound IH 43. Do not close southbound USH 41 ramp to southbound IH 43 concurrently with closure of southbound USH 41 ramp to eastbound STH 172 by others. Do not close southbound USH 41 ramp to southbound IH 43 concurrently with closure of southbound USH 41 off-ramp to Velp Avenue, except for one overnight period to erect field section 16 RT of unit 5 for bridge B-05-678.																									

Freeway/Expressway Lane Requirements																										
Limits:	IH 43 Southbound: US 41 to Fox River																									
	AM													PM												
From Hour to Hour	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	
Daily	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	
Legend																										
1	Provide at least one through freeway lane open in each direction of travel																									
2	Open all Southbound IH 43 lanes to travel																									
Do not close ramps to southbound IH 43 from either northbound or southbound USH 41 concurrently with full closure of eastbound Velp Avenue.																										

Freeway/Expressway Lane Requirements																									
Limits:	IH 43 Northbound: Fox River to US 41																								
	AM												PM												
From Hour to Hour	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Daily	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1
Legend																									
1	Provide at least one through freeway lane open in each direction of travel																								
2	Open all Northbound IH 43 lanes to travel																								
REMARKS:																									
Do not close northbound IH 43 ramp to southbound USH 41 concurrently with closure of westbound STH 172 ramp to southbound USH 41 by others.																									
Do not close northbound IH 43 ramp to northbound USH 41 concurrently with closure of westbound STH 172 ramp to northbound USH 41 by others.																									
Do not close northbound IH 43 ramp to northbound USH 41 concurrently with northbound IH 43 ramp to southbound USH 41.																									
Do not close the northbound IH 43 ramps to either northbound or southbound USH 41 concurrently with the full closure of westbound Velp Avenue.																									
Do not close northbound IH 43 ramp to northbound USH 41 concurrently with closure of northbound USH 41 on-ramp from Velp Avenue.																									

Interchange and Side Road Lane Requirements																									
Limits:	USH 141 Interchange (Velp Avenue)																								
	AM												PM												
From Hour to Hour	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Daily (M)	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1
Daily (R)	C	C	C	C	C	C	O	O	O	O	O	O	O	O	O	O	O	O	C	C	C	C	C	C	C
Legend																									
1	Single lane closures allowed																								
2	Open all USH 141 lanes to travel																								
(M)	Mainline																								
(R)	Ramps																								
C	USH 141 ramps may be closed completely																								
O	Open all lanes on USH 141 ramps to travel																								
REMARKS:																									
Do not close USH 141 (Velp Avenue) concurrently with STH 29 (service or system), CTH M, IH 43 interchange at Atkinson Drive, the STH 29/CTH EB intersection, Memorial Drive, or Lakeview Drive.																									
For single overnight lane closure on eastbound or westbound Velp Avenue, also provide for the associated closure of one of the two left turn lanes for the southbound or northbound USH 41 off-ramp.																									
Do not fully close eastbound Velp Avenue concurrently with the closure of the ramp from either northbound USH 41 or southbound USH 41 to southbound IH 43.																									



Do not fully close westbound Velp Ave concurrently with the closure of the ramp from northbound IH 43 to either northbound USH 41 or southbound USH 41.

For the full overnight closure of eastbound and westbound Velp Avenue, also provide for the associated closure of both of the two left turn lanes for the southbound and northbound USH 41 off-ramps.

Do not close northbound USH 41 off-ramp to Velp Avenue concurrently with northbound USH 41 ramp to southbound IH 43.

Do not close northbound USH 41 on-ramp from Velp Avenue concurrently with northbound IH 43 ramp to northbound USH 41.

Do not close southbound USH 41 off-ramp to Velp Avenue concurrently with southbound USH 41 ramp to southbound IH 43.

### **Construction Access**

Restrict work on USH 41 and USH 41 ramps, and IH 43 and IH 43 ramps within closed shoulders or closed lanes as allowed by the plans or engineer. Provide and utilize temporary deceleration and acceleration lanes to/from the work zones. Construction of the temporary lanes shall be incidental to other items of work. All construction access is subject to approval of the engineer.

During the period when lane closures are allowed on USH 41 or IH 43, access into the work zones from USH 41 or IH 43 can be made from the closed lane, subject to the approval of the engineer. Construction traffic from the work zone entering USH 41 or IH 43 must run out of the closed lane. Once construction traffic is within a lane closure, all construction traffic re-entering USH 41 or IH 43 must come to within 10 mph of posted speed before re-entering the live USH 41 or IH 43 lane.

During the period when lane closures are not allowed on USH 41 or IH 43, access into the work zones from USH 41 or IH 43 must be made with a deceleration lane. The length of the deceleration lane is subject to review and approval by the engineer to ensure work zone traffic is exiting safely from USH 41 or IH 43. Construction traffic from the work zone entering live traffic on USH 41 or IH 43 must use an acceleration lane with a minimum length of 1000-feet. The acceleration lane entrance to USH 41 or IH 43 cannot be placed within 1500-feet of an interchange ramp.

Construction traffic cannot travel counter-directional adjacent to USH 41 or IH 43 traffic except behind temporary concrete barrier.

### **General Access**

U-Turns at existing maintenance crossovers or temporary crossovers between US 41 or IH 43 northbound and southbound will be allowed when lane closures are in place for inside northbound and southbound passing lanes.

Construction operations affecting the traveling public's safety on USH 41 or IH 43 will not be allowed during snow and ice conditions, or any other adverse weather conditions, unless approved by the engineer.

Close one lane along entire project during hours when lane closures are required or provide 2-mile minimum spacing between lane closures.

Delivery of equipment to USH 41 or IH 43 requiring the use of a semi tractor and trailer shall only occur during those hours identified as non-peak work periods.

### **Closure of Interchanges**

As provided in the article “Other Contracts,” avoid lane closures and full ramp closures conflicting with closure by others of the Shawano Avenue Interchange to the south, and the Lineville Road Interchange to the north.

Do not close consecutive interchanges. Coordinate with the department and other contracts as required to ensure consecutive interchanges are not closed. Submit the schedule for the proposed interchange closure period to the engineer at least 14 calendar days prior to the planned closure for review and approval. A request does not constitute approval.

### **Velp Avenue Sidewalk**

Close eastbound Velp Avenue sidewalk at the start of construction, and leave closed throughout construction, and after construction.

Close westbound Velp Avenue sidewalk to public use at the beginning of construction, leave closed throughout construction, but open back up to public use after construction.

## **7.2 Traffic Control.**

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

Submit to engineer for approval a detailed traffic control plan for any changes to the proposed traffic control detail as shown on the plans. Submit this plan 10 days prior to the preconstruction conference.

Provide 24 hours-a-day availability of equipment and forces to expeditiously restore lights, signs, or other traffic control devices that are damaged or disturbed. The cost to maintain and restore the above items shall be considered incidental to the item as bid and no additional payment will be made therefore.

Supply the name and telephone number of a local contact person for traffic control repair before starting work.

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

The turning of traffic control devices when not in use to obscure the message will not be allowed under this contract.

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

Cover existing signs which conflict with traffic control as directed by the engineer.

Conduct operations in such a manner that causes the least interference and inconvenience to the free flow of vehicles on the roadways. This includes the following:

- a. Do not park or store any vehicle, piece of equipment, or construction materials on the right-of-way without approval of the engineer.
- b. All construction vehicles and equipment entering or leaving live traffic lanes shall yield to through traffic.
- c. Equip all vehicles and equipment entering or leaving the live traffic lanes with a hazard identification beam (flashing yellow signal) capable of being visible on a sunny day when viewed without the sun directly on or behind the device from a distance of 1000 feet. Activate the beam when merging into or exiting a live traffic lane.

Do not disturb, remove or obliterate any traffic control signs, advisory signs, shoulder delineators or beam guard in place along the traveled roadways without the approval of the engineer. Immediately repair or replace any damage done to the above during the construction operations at contractor expense.

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

### **7.3 Holiday and Other Work Restrictions.**

USH 41 shall be restored to 4-lane counter-directional traffic during the following periods. Do not perform work on, nor haul materials of any kind along or across, any portion of the highway carrying USH 41, IH 43, IH 43 ramps, USH 141 (Velp Avenue) ramps, and USH 141 (Velp Avenue) traffic, and entirely clear the traveled way and shoulders of such portions of the highway of equipment, barricades, signs, lights and any other material that might impede the free flow of traffic during the following holiday periods:

- Green Bay Packers home games and Packer Family Scrimmage: From 5 hours prior to game until 5 hours after the game;
- All major events at Lambeau Field (as determined by the engineer) from 5 hours prior to the event until 5 hours after the event;
- From noon Friday, August 30, 2013 to 5:00 AM Tuesday, September 3, 2013 for Labor Day;
- From 5:00 PM to 10:00 PM Friday, November 22, 2013 for Deer Hunting Season;
- From noon Wednesday, November 27, 2013 to 5:00 AM Monday, December 2, 2013 for Thanksgiving and Deer Hunting Season;
- From 5:00 PM to 10:00 PM Friday, May 2, 2014;
- From noon Friday, May 23, 2014 to 5:00 AM Tuesday, May 27, 2014 for Memorial Day;
- From noon Thursday, July 3, 2014 to 5:00 AM Monday, July 7, 2014 for Independence Day;

- From noon Friday, August 29, 2014 to 5:00 AM Tuesday, September 2, 2014 for Labor Day;
- From 5:00 PM to 10:00 PM Friday, November 21, 2014 for Deer Hunting Season;
- From noon Wednesday, November 26, 2014 to 5:00 AM Monday, December 1, 2014 for Thanksgiving and Deer Hunting Season;;
- From 5:00 PM to 10:00 PM Friday, May 1, 2015;
- From noon Friday, May 22, 2015 to 5:00 AM Tuesday, May 26, 2015 for Memorial Day.

Prior to preparing bids, verify the dates of each festival, game, or event listed to obtain current dates for work restrictions.

#### **7.4 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.

The Village of Howard has granted a noise variance for construction operations performed at night. The Village of Howard will allow unrestricted nighttime work with the exception of the following:

- Do not perform pile driving between 10:00 PM and 6:00 AM.
- Do not perform any demolition work with hydraulic excavator mounted hammers between 10:00 PM and 6:00 AM.

*Delete standard spec 107.8 (4) and replace with the following:*

Notify the following organizations and departments at least 72 hours before road closures or detours are put into effect:

Brown County Public Safety Communications,	(920) 391-7440
On duty supervisor	
Wisconsin State Patrol	(920) 929-3700
Brown County Sheriff's Department	(920) 448-4219
US Post Office (Green Bay, Packerland Ave)	(920) 498-3895
US Post Office (Green Bay, Military Ave)	(920) 497-5216
Village of Howard Fire Department	(920) 434-4679
Howard/Suamico School District	(920) 662-7878

The Brown County Public Safety Communications 911 dispatches all area police, fire and ambulance services, and will relay any notification given by the contractor in the event of an emergency.

## **7.5 Steel Plate Beam Guard Class A and MGS Guardrail 3.**

*Supplement standard spec 614.2.1 with the following:*

Steel Plate Beam Guard Class A, and MGS Guardrail 3, installed along USH 41 shall be attached to steel posts and notched plastic blockouts.

## **7.6 Concrete Barrier Temporary Precast.**

Perform this work in accordance to standard spec 603, these special provisions, and as hereinafter provided.

Concrete Barrier Temporary Precast shall be 12'-6" in length. Concrete Barrier Temporary Precast 10'-0" will not be allowed.

If the contractor chooses to store materials, equipment or other items that are a hazard within 4-feet of the construction zone side (deflection zone) of the barrier the barrier shall be anchored. The barrier must also be anchored when used on edge of bridge decks or locations where the drop-off exceeds 2-feet, is steeper than 3H:1V and is less than 4-feet from the side of the barrier closest to the drop off. The system must be anchored as shown in the standard detail drawing.

## **7.7 Crash Cushions Temporary.**

Complete work in accordance to standard spec 614 and as hereinafter provided.

*Supplement standard spec 614.3.4 with the following:*

Locate the manufacturer's foundation pad adjacent to the existing paved shoulder. Provide a transition foundation pad section using a 15:1 taper rate after the required manufacturer's crash cushion pad following the manufacturer's recommended dimensions. Construct this transition piece using identical materials and depths used for the foundation pad. Place aggregate base course behind the transition pad section to blend to existing slopes.

## **7.8 Construction Access Road Left in Place by Others.**

The Green Bay Metropolitan Sewerage District (GBMSD) will leave in place a construction access road along the outside of the right-of-way fence for the southbound USH 41 off-ramp, between Velp Avenue and the railroad, used to construct a new sanitary interceptor line. The construction access road begins at the outside shoulder of the ramp, slightly north of Velp Avenue. After GBMSD vacates the site, ATC anticipates using this construction access road prior to the start of work under this contract. This access point may be used to deliver equipment and materials. However, if a different access point is desired, whether further north off the ramp or off of westbound Velp Avenue, obtain the approval of the engineer. After construction, as shown in the plan, leave in place for future

use by others the southernmost portion of the access road, extending from the connection to the ramp to the grading limits at Station 1175+00 VEC.

## **7.9 Crash Cushions Temporary Left In Place, Item SPV.0060.200.**

### **A Description**

This special provision describes providing temporary crash cushions to be left in place in accordance to standard spec 614.

Crash Cushions Temporary Left In Place become the property of the department upon substantial completion.

### **B Materials**

Furnish temporary crash cushions in accordance to the pertinent requirements of standard spec 614.

### **C Construction**

Install temporary crash cushions in accordance to the pertinent requirements of standard spec 614.

*Supplement standard spec 614.3.4 with the following:*

Locate the manufacturer's foundation pad adjacent to the existing paved shoulder. Provide a transition foundation pad section using a 15:1 taper rate after the required manufacturer's crash cushion pad following the manufacturer's recommended dimensions. Construct this transition piece using identical materials and depths used for the foundation pad. Place aggregate base course behind the transition pad section to blend to existing slopes.

Maintain the temporary crash cushion until the contract is substantially complete.

### **D Measurement**

The department will measure Crash Cushions Temporary Left In Place as each individual crash cushion temporary installation, 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.0060.200	Crash Cushions Temporary Left In Place	Each

Payment is full compensation for furnishing, installing, and maintaining the crash cushions.

## **7.10 Temporary Thrie Beam Connection Left in Place, Item SPV.0060.201.**

### **A Description**

Furnish, install, maintain and leave in place temporary thrie beam connections between permanent concrete barrier and temporary precast concrete barrier at the indication locations in accordance to the plans, standard specifications, as directed by the engineer and as hereinafter provided.

Temporary Thrie Beam Connection Left In Place becomes the property of the department upon substantial completion.

### **B Materials**

Provide all materials in accordance to standard spec 614.

### **C Construction**

Securely attach thrie beam to the concrete barrier as indicated in the plans.

Maintain the temporary thrie beam connection until the contract is substantially complete.

### **D Measurement**

The department will measure Temporary Thrie Beam Connection Left in Place as each individual temporary thrie beam connection installation, 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.0060.201	Temporary Thrie Beam Connection Left in Place	Each

Payment is full compensation for furnishing, installing, maintaining and leaving in place the temporary thrie beam connections, including hardware.

## **7.11 Crash Cushions Extra Wide Temporary Left In Place, Item SPV.0060.203.**

### **A Description**

This special provision describes providing temporary crash cushions wide enough to shield the end of two abutting lines of concrete barrier temporary precast to be left in place in accordance to standard spec 614.

Crash Cushions Extra Wide Temporary Left In Place become the property of the department upon substantial completion.

**B Materials**

Furnish extra wide temporary crash cushions in accordance to the pertinent requirements of standard spec 614.

**C Construction**

Install extra wide temporary crash cushions in accordance to the pertinent requirements of standard spec 614, in a manner that satisfactorily shields the end of two abutting lines of concrete barrier temporary precast, as shown in the plan.

*Supplement standard spec 614.3.4 with the following:*

Locate the manufacturer's foundation pad adjacent to the existing paved shoulder. Provide a transition foundation pad section using a 15:1 taper rate after the required manufacturer's crash cushion pad following the manufacturer's recommended dimensions. Construct this transition piece using identical materials and depths used for the foundation pad. Place aggregate base course behind the transition pad section to blend to existing slopes.

Maintain the extra wide temporary crash cushion until the contract is substantially complete.

**D Measurement**

The department will measure Crash Cushions Extra Wide Temporary Left In Place as each individual extra wide crash cushion temporary installation, 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.0060.203	Crash Cushions Extra Wide Temporary Left In Place	Each

Payment is full compensation for furnishing, installing, and maintaining the extra wide crash cushions.

**7.12 Traffic Control Signs Modified, Item SPV.0060.204.****A Description**

This special provision describes providing traffic control signs in accordance to standard spec 643 but with the shape modified as detailed in the plans.

**B Materials**

Furnish materials conforming to the details shown on the plan and in accordance to standard spec 643.

**C Construction**

Construct the Traffic Control Signs Modified in accordance to standard spec 643 and as detailed in the plans.



**D Measurement**

The department will measure Traffic Control Signs Modified as each individual sign 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.0060.204	Traffic Control Signs Modified	Each

Payment is full compensation for furnishing, installing, maintaining, moving and removing each modified sign.

**7.13 Truck Mounted Attenuator with Operator, Item SPV.0075.200;  
Truck Mounted Attenuator without Operator, Item  
SPV.0075.201.****A Description**

This special provision describes furnishing a truck with Truck Mounted Attenuator (TMA) and operator, if required, for use on this project during operations which are directly next to live lanes of traffic which have limited mobility, limited ingress/regress, confined space, or as directed by the engineer. All work shall be in accordance to section 643 of the standard specifications, the plans, and as directed by the engineer. Request to protect construction workers from construction vehicle traffic will be denied for this item.

Use of a TMA should be requested to the engineer for approval 72 hours prior to its use or at the prior weekly construction meeting. Approval or denial will be given within 24 hours of request.

**B Materials**

Provide a TMA that meets the requirements of the NCHRP Report 350, and a truck meeting the TMA manufacturer's recommendations with a minimum total gross vehicle weight of 25,000 pounds.

For the TMA with Operator bid item, provide an operator who shall remain with the vehicle at all times during moving operations.

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

The department will measure Truck Mounted Attenuator with Operator by the hour acceptably completed. The measured quantity will equal the number of hours the TMA including the truck and operator are used in protection of workers.

The department will measure Truck Mounted Attenuator without Operator by the hour, acceptably completed. The measured quantity will equal the number of hours the TMA without an operator is used in protection of workers.

#### **E Payment**

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0075.200	Truck Mounted Attenuator with Operator	HRS
SPV.0075.201	Truck Mounted Attenuator without Operator	HRS

Payment is full compensation for mobilizing and furnishing each truck with truck mounted attenuator (TMA) and operator, if required.

Delivery, set up, and removal of the TMA without Operator is incidental to the Truck Mounted Attenuator without Operator bid item.

### **7.14 Concrete Barrier Temporary Precast Anchoring, Item SPV.0090.200.**

#### **A Description**

This special provision describes anchoring temporary concrete barrier. Perform this work in accordance to applicable portions of standard spec 603 and as hereinafter provided.

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

#### **C Construction**

Perform this work in accordance to standard spec 603.3.2.1, the plans, and as hereinafter provided.

Under the Concrete Barrier Temporary Precast Anchoring bid item, furnish, deliver, and install anchors at the locations shown in the plans, as required by the project conditions, or as directed by the engineer. Install anchors during the initial installation of the temporary concrete barrier and during any subsequent reinstallations of the temporary concrete barrier as required.

Remove any anchoring during barrier removal and fill remaining holes with epoxy.

#### **D Measurement**

The department will measure Concrete Barrier Temporary Precast Anchoring by the linear foot, acceptably completed, measured as the linear feet of barrier initially installed or reinstalled. The department will not measure anchoring made solely to accommodate the contractor's means and methods.

**E Payment**

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.200	Concrete Barrier Temporary Precast Anchoring	LF

Payment is full compensation for furnishing, delivering, and installing anchoring devices; for removal of any anchoring devices and filling holes with epoxy.

**7.15 Concrete Barrier Temporary Precast Left In Place, Item SPV.0090.201.****A Description**

This special provision describes leaving in place temporary precast reinforced concrete barrier conforming to the shape, dimensions, and details the plans show and in accordance to the pertinent provisions of standard spec 603, these special provisions, and as hereinafter provided.

Concrete Barrier Temporary Precast Contractor Left In Place becomes the property of the department upon substantial completion.

**B (Vacant)****C Construction**

Complete work in accordance to standard spec 603.3.3. Maintain the barrier until the contract is substantially complete.

**D Measurement**

The department will measure Concrete Barrier Temporary Precast Left in Place by the linear foot, acceptably completed, measured along the base of the barrier after final installation in its left-in-place location.

**E Payment**

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.201	Concrete Barrier Temporary Precast Left in Place	LF

Payment is full compensation for leaving Concrete Barrier Temporary Precast on the project site including any necessary anchoring and anchoring devices.

Delivery, installation, and anchoring of the barrier will be paid for under the pertinent items included in the contract.

## **7.16 Glare Screens Temporary, Item SPV.0090.202.**

### **A Description**

The work under this item shall include furnishing, installing, maintaining, and removing a modular paddle glare guard system on concrete barrier temporary precast at the indicated locations in accordance to the plans and standard specifications, as directed by the engineer and as hereinafter provided.

### **B Materials**

Glare guard units shall be modular units consisting of vertical blades, bases, and a horizontal base rail. The paddle devices shall be a minimum of 24-inches in height and be constructed of durable, impact resistant, non-warping flexible materials.

Units shall be modular in design to provide for portability, quick repair and easy installation. The cumulative nominal length of the modular units shall equal the length of the temporary barrier on which they are installed so that the joint between the barrier sections shall not be spanned by any one unit. Units shall not alter the design of the concrete barrier.

The relative connection strengths between various components of the assembly shall be designed to minimize the potential impact and debris hazard to approaching traffic and to simplify repairs. The modular units shall be fabricated in a manner to allow replacement of individual blades while the modular unit remains in place.

The blade, base and rail shall be made of high impact materials with sufficient strength to withstand three impacts from a horizontal steel bar traveling at 40 mph and impacting at mid-height of the blade. After three impacts, there shall be no evidence of cracking, splitting, delaminating or separation from the system.

The paddle glare guard provided shall be a material manufactured by Safe-Hit Corporation, 2405 IH 35 West, New Braunfels, Texas, 78130; Carsonite International, 2900 Lockhead Way, Carson City, Nevada, 89701; Flexstake Incorporated, 2150 Andrea Lane, Fort Myers, Florida, 33912; or equal.

### **C Construction**

Attachment of the base rail to the top of the concrete barrier temporary precast shall be by means of a mechanical or adhesive system with a minimum pullout and shear of 3000 psi. All mounting hardware shall be as specified by the manufacturer.

### **D Measurement**

The department will measure Glare Screens Temporary by the linear foot of paddle glare guard, acceptably completed.

### **E Payment**

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.202	Glare Screens Temporary	LF

Payment is full compensation for furnishing, installing, maintaining and removing the Glare Screens Temporary.  
(NER41-20100201)

## **7.17 Traffic Control for Duck Creek Recreational Vehicles, Item SPV.0105.200.**

### **A Description**

While maintaining Duck Creek access through the work zone for recreational vehicles (boats, snowmobiles, etc.), furnish, place, move, and maintain sixteen 7-inch diameter buoys and signs to provide traffic control for Duck Creek recreational vehicles. Buoys and signs are to be used to delineate traffic for recreational vehicles through the construction site as shown on the plans and directed by the engineer.

### **B Materials**

For signs, conform to standard spec 637.2 and standard spec 643.2.

On the 7-inch diameter buoys, provide red flashing lights operating at 30 flashes per minute.

Provide materials suitable to securely fasten signs and buoys.

### **C Construction**

Adhere to conditions in the Waterway Marker Permit, approved by the Wisconsin Department of Natural Resources on March 12, 2013. A copy of the buoy permit is available from the regional office by contacting Paul Vraney at (920) 492-2232.

As provided in the plan, securely place buoys and signs prior to constructing or placing a hazardous feature in Duck Creek. Do not remove signs until the removal from Duck Creek of hazardous features that are temporary.

Boat excluded buoy and hazard warning buoy, type and requirements shall conform to the Bureau of Law Enforcement, Department of Natural Resources Publication PUB-LE-317-92, as shown on the plans and as hereinafter provided. This work also includes providing a temporary support system for the end of the safety cable attached to a stable feature, such as the pier of an existing or proposed structure.

Maintain Duck Creek access through the work zone for recreational vehicles at all times.

Two calendar weeks in advance of setting girders for bridge B-5-681 over the waterway, notify the maintaining authority for boat landings on Duck Creek upstream of the USH 41 crossing, which is the Village of Howard. Contact Geoff Farr, (920) 434-4060.

At the end of construction, remove “Bridge Work Ahead” (W20-1MOD) signs, while leaving buoys and other appurtenances in place for future use by others to remove and replace existing northbound USH 41 and southbound USH 41 bridges over Duck Creek. Before vacating the site, inspect with the engineer installations to remain after construction, and provide necessary repairs and maintenance.

#### **D Measurement**

The department will measure Traffic Control for Duck Creek Recreational Vehicles as a single complete lump sum unit of work, acceptably completed.

#### **E Payment**

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.200	Traffic Control for Duck Creek Recreational Vehicles	LS

Payment is full compensation for furnishing, placing, fastening, moving, and maintaining traffic signs, danger buoys, safety cable and attachments and similar control devices; for removal of “Bridge Work Ahead” signs; for inspection with the engineer of installations to remain after construction, including necessary repairs and maintenance; and for maintaining recreation vehicle access through the work zone.

## **8. Utilities and Railroads.**

### **8.1 Utilities.**

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

There are utility facilities within the construction limits of this project. Additional detailed information regarding the location of discontinued, relocated, and/or removed utility facilities is available in the work plan provided by each utility company or on the permits issued to them. View these documents at the Regional Office during normal working hours.

Work around or remove and dispose of any discontinued utility conduits, cables, and pipes encountered during excavation. Any removal and disposal shall be incidental to common excavation, unless specified otherwise in this contract as a separate bid item.

Verify that all utility connections have been shut off and disconnected from the building being razed.

**American Transmission Company (ATC)** has overhead **electric** transmission facilities crossing ramps ‘NMC’ and ‘NIH’ near Station 1215‘NMC’/‘NIH’+00. This facility is in conflict with the construction of Structure B-5-681. ATC plans to remove this facility and install a new one along the east side of USH 41 between approximately Station

1211'NMC'+00 and Station 1224'NMC'+00 and crossing USH 41 near Station 1224'NMC'+00 prior to construction.

ATC has an overhead electric transmission facility along the east side of ramp 'NIH' from approximately Station 1182'NIH'+00 to Station 1210'NIH'+00. This facility is in conflict with the construction of B-5-679. ATC plans to remove this facility and install a new one further east along ramp 'NIH' prior to construction.

ATC has an overhead electric transmission facility crossing ramp NIH near Station 1181'NIH'+00, along the north side of ramp 'IHB' and crossing ramp 'IHB' near Station 1195'IHB'+50. This facility is in conflict with the construction of Structure B-5-678. ATC plans to remove this facility and install a new one crossing ramp 'IHB' near Station 1171'IHB'+50 and along the east side of ramp 'IHB' prior to construction.

ATC has overhead electric transmission facilities crossing ramp 'IHA' near Station 1186'IHA'+00 and across ramp 'IHB' near Station 1215'IHB'+00. These facilities are in conflict with the construction of Structures B-5-671 and B-5-678. ATC plans to remove these facilities and install new ones crossing USH 41 near Station 1182'NMC'+50 prior to construction.

**AT&T Wisconsin** has discontinued underground **communication** facilities crossing USH 41 near Station 1214'NMC'/'NIH'+50. This facility is in conflict with Structure B-5-681 pier construction. AT&T Wisconsin does not plan to relocate this facility since it is no longer in use. Remove it as needed.

AT&T Wisconsin has underground communication facilities along the south side of Velp Avenue crossing USH 41 near Station 1173'IHA'+00. AT&T Wisconsin plans to discontinue this facility throughout the construction limits and install a new one in a location not yet determined. This work will be completed prior to construction.

AT&T Wisconsin has an underground communication facility along the west side of USH 41 from Velp Avenue to Wietor Drive. AT&T plans to discontinue use of this underground facility and remove any pedestals associated with it prior to construction.

**CenturyLink** (formerly Qwest Communications) has an underground **communication** facility along the west side of USH 41 from southwest of construction limits to Wietor Drive. CenturyLink plans to remove this facility and install a new one along the west side of USH 41.

CenturyLink has an underground communication facility crossing USH 41 along the north side of Wietor Drive. CenturyLink plans to remove this facility and install a new one along the south side of proposed Wietor Drive.

CenturyLink has an underground communication facility crossing ramps 'VEC' and 'IHB' along the north side of Wietor Drive. CenturyLink plans to remove this facility and install a new one along the south side of proposed Wietor Drive.

CenturyLink has an underground communication facility along the north side of Weitor Drive throughout construction limits. CenturyLink plans to remove this facility and install a new one along the south side of proposed Weitor Drive from 108+00 WT to a crossing of Weitor Drive at Station 92+00 WT. CenturyLink will be installing the **Merit Network** underground **communication** facility in the same trench through this area.

CenturyLink has an underground communication facility crossing I-43 at Station 1210+50 IHA. CenturyLink plans to remove this facility and install a new facility along the north side of Weitor Drive to a crossing at Station 1219+50 IHA.

CenturyLink will have a construction representative present for marsh excavation from Station 1153+50 to 1161+00SMC as well as Phase 3 bridge removal of existing US 41 northbound and southbound bridges. Please contact Rudy Wheeler at (920) 362-1184 one week in advance of when a construction representative will be required.

CenturyLink plans to begin their work on March 15, 2013 and anticipates 25 working days will be required to complete it.

The **Green Bay Metropolitan Sewerage District (GBMSD)** has a **sanitary sewer** facility along Velp Avenue, Memorial Drive, and the Canadian National Railway throughout the construction limits. GBMSD plans to discontinue this facility throughout the construction limits and install a new one along the west side of USH 41 and across USH 41 near Station 1181'NMC'+00 prior to construction.

**Merit Network** will install a new underground **communication** facility along the west side of US 41 from approximately 1218+00 SMC to 1210+00 SMC., crossing under the bike path at approximately 9+00 BP1 and 12+00 BP1. This line will continue along the west side of BP2 to Weitor Drive Cul-de-Sac. The line will then continue along the east side of Weitor Drive from the Cul-de-Sac to a crossing at 109+25 WT. The line will then continue along the west side of Weitor Drive to 108+00 WT.

Merit Network will install a new underground communication facility along the south side of proposed Weitor Drive from 108+00 WT to a crossing of Weitor Drive at Station 92+00 WT. This work will be completed by CenturyLink.

Merit Network will have a construction representative present for Phase 3 bridge removal of existing US 41 northbound and southbound bridges. Please contact Robert Duncan at (734) 527-5726 five business days in advance of when a construction representative will be required.

Merit Network plans to complete this work prior to construction.

The **Village of Howard** has a discontinued **sanitary sewer** facility along the south side of Velp Avenue throughout the construction limits. The Village of Howard does not anticipate any conflicts with this facility.



The **Village of Howard** has a discontinued **water** facility along the Velp Avenue median throughout the construction limits. The Village of Howard does not anticipate any conflicts with this facility.

**Time Warner Cable** has an underground **communication** facility along the north side of Velp Avenue throughout the construction limits. Time Warner Cable will have a construction representative present for northbound US 41 ramp terminal and B-5-671 pier construction to ensure that no conflicts arise. Contact Tyler Gustaveson at (920) 750-8273 three business days in advance of when a construction representative will be required.

Time Warner Cable has overhead communication facilities along the east side of Memorial Avenue at the Velp Avenue intersection. Time Warner Cable does not anticipate any conflict with these facilities.

**Windstream** (formerly KDL) has an underground **communication** facility crossing ramp 'IHA' near Station 1185'IHA'+00 and crossing ramp 'IHB' near Station 1216'IHB'+00 along the west side of the Canadian National Railway. Windstream does not anticipate any conflicts with this facility.

**Wisconsin Public Service Corporation (WPS)** has overhead **electric** facilities along the north side of Velp Avenue throughout the construction limits. These facilities are in conflict with the construction of Structure B-5-671. WPS plans to remove these facilities and install a new underground facility across USH 41 near Station 1176'NMC'+00. WPS also plans to install underground electric facilities along the north side of Velp Avenue from west of the construction limits, crossing ramp 'VEC' near Station 1174 'VEC'+25, and along the east side of ramp 'VEC' from approximately Station 1174 'VEC'+25 to Station 1176'VEC'+25 prior to construction.

WPS has overhead electric facilities across Velp Avenue west of ramp 'VEC', between ramp 'VEC' and USH 41, and near Station 202'EVEW'+50. These facilities are in conflict with road construction. WPS plans to remove these facilities and install a new overhead facility across Velp Avenue near Station 202'EVEW'+50 prior to construction.

WPS has overhead electric service drop facilities along the east side of ramp 'IHA' from approximately Station 1180'IHA'+00 to Station 1183'IHA'+00. These facilities are in conflict with the construction of Structure B-5-671. WPS plans to remove these facilities back to the distribution line along Memorial Drive prior to construction.

**Wisconsin Public Service Corporation (WPS)** has a **gas** facility along the south side of Velp Avenue. WPS plans on cutting and capping this facility at approximately Station 108+00 VEE and Station 115+75 VEE, thus vacating the facility between 108+00 and 115+75 VEE. Contractor shall seal and open ends of this facility if the vacated portion is cut. WPS plans on completing this work prior to construction.

WPS has a gas facility crossing ramp 'VEA' along the south side of Velp Avenue (CTH HS). WPS does not anticipate any conflicts with this facility.

WPS has a gas facility along the east side of Memorial Drive near Station 1184'IHA'+00. WPS does not anticipate any conflicts with this facility.

## **8.2 Electrical Service.**

### **A Description**

Work under this item shall be in accordance to standard spec 656 with the following addition.

### **B (Vacant)**

### **C Construction**

Under this item, the department will perform preliminary coordination with the utility to arrange for installation of the Service Lateral(s). The Utility will provide the department with a utility routing number for each lateral.

The contractor is responsible to arrange for the actual installation of the Service Lateral with the utility. The contractor is also responsible for payment of the Service Lateral installation in accordance to standard spec 656. The contractor shall contact the department at (920) 492-5628 to obtain the utility routing number established during preliminary utility coordination.

## **9. Clear – Demolition – Removal.**

### **9.1 Clearing and Grubbing.**

Complete work in accordance to standard spec 201 and as herein provided.

*Revise standard spec 201.3 as follows:*

Burning of stumps, roots, brush, waste logs and limbs, timber tops, and debris resulting from clearing and grubbing is not allowed.

### **9.2 Grubbing.**

Do not grub in wooded swamp wetland areas under bridges not within the limits of haul road or fingers used to construct pier footings. Submit to the department a clearing plan that will minimize ground disturbance in the area that will not be grubbed.

### **9.3 Notice to Contractor - Clearing.**

Only clear trees necessary for construction of the project. Clearing the entire right-of-way is not allowed. Coordinate with engineer all areas to be cleared before work starts.

Clearing trees in wetland areas is considered a wetland impact that is regulated by the project's U. S. Army Corps of Engineers Section 404 permit.

#### **9.4 Removing or Abandoning Miscellaneous Structures.**

*Supplement standard spec 204.3.2.2 (1) with the following:*

Any mesh or reinforcement that is found in concrete pavements or other removal items is incidental to the removal bid item(s) included in the contract.

#### **9.5 Salvaged Rail and Salvaged Guardrail End Treatments.**

Salvage Rail and Guardrail End Treatments in accordance to the pertinent requirements of standard spec 614 and as hereinafter provided.

Salvage all rails, end treatments, posts, hardware, and all connections for Brown County.

Give one week advance notice to Brown County before starting the guard rail salvage work to coordinate pickup arrangements. Notify Randy Braun at (920) 662-2169 prior to needing the stockpiled material removed.

Remove and properly dispose of all other material from the right-of-way.

*Replace standard spec 614.5 (11) with the following:*

Payment for the salvaged bid items is full compensation for removing and stockpiling reusable rail, guardrail end treatments, posts, hardware, and all connections and components; for replacing contractor-damaged material remaining in place; and for excavating, restoring the site, and disposing of damaged and surplus material.

#### **9.6 Rubbish Pile Excavation, Item SPV.0035.002.**

##### **A Description**

This special provision describes excavating the portion of existing concrete stockpile along Hurlbut Road as necessary to construct proposed maintenance road MR1, in accordance to the pertinent provisions of standard spec 204 and as hereinafter provided.

A visual site inspection was conducted on November 26, 2012. Results from the inspection indicate the majority of waste material present is concrete with and without imbedded rebar. Other debris present included asphalt, metal pipe, television sets, and other debris.

The department discussed the history of the rubbish pile with the Village of Howard and Brown County. That information indicates that the rubbish pile was used as a dump site, primarily for contractors, and consists of mainly concrete, clay, and other construction materials.

**B (Vacant)**

**C Construction**

As directed by the engineer, remove all materials above proposed maintenance road subgrade and slopes, including concrete, asphalt, metal and other disposable materials from the existing stockpile.

**D Measurement**

The department will measure Rubbish Pile Excavation by the cubic yard, acceptably completed.

Rubbish Pile Excavation does not include the removal of materials that cannot legally be disposed of in the same manner as specified in standard spec 204.3.

**E Payment**

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0035.002	Rubbish Pile Excavation	CY

Payment is full compensation for removing the rubbish pile and properly disposing removed materials. Clearing and grubbing, topsoil, Seeding Mixture No. 60, mulch, Fertilizer Type B, and erosion control items will be measured and paid for separately. Bid item does not cover the potential removal of materials that cannot legally be disposed of in the same manner as specified in standard spec 204.3.

Excavation of the rubbish pile to install footings for bridge B-05-678, or to place a temporary haul road to construct the bridge, will not be measured and paid for separately, but instead will be considered incidental to other items of work.

**9.7 Removing Field Entrance, Item SPV.0060.003.**

**A Description**

This special provision describes removing and disposing of field entrances, located outside the limits of proposed grading, for restoring the disturbed ground, and as hereinafter provided.

**B (Vacant)**

**C Construction**

Excavate and remove the gravel and earthen components of the field entrance not matching the natural configuration of the roadway slopes and ditch, in accordance to the pertinent requirements of standard spec 204 and standard spec 205, and as shown on the plans.

Restore the disturbed ground with topsoil, mulch, fertilizer, and seed. As directed by the engineer, use Seeding Mixture No 40 to restore areas having a maintained lawn turf surface, per standard spec 630. In other areas, Seeding Mixture No 20, per standard spec 630, may be used.

**D Measurement**

The department will measure Removing Field Entrance as each individual field entrance, acceptably 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.0060.003	Removing Field Entrance	Each

Payment is full compensation for removing the field entrance and disposing of the materials; for restoring the disturbed ground with topsoil, mulch, fertilizer, and seeding. Removal of existing pipe culverts will be measured and paid for separately, in accordance to standard spec 203.

**9.8 Removing Building Parcel 16, Item SPV.0060.004.**

**A Description**

This special provision describes removing existing buildings at locations as shown on plan and disposing of all material and debris resulting from removing building. The department defines Removing Building herein after as follows:

**Removing Building**

The portion of the building above any masonry or subsidiary foundation structure.

**B (Vacant)**

**C Construction**

All buildings removed and all materials resulting from building removal become the contractor's property. Dispose of unclaimed and removed material as specified for disposing of materials in standard spec 203.3.4. Do not burn buildings to remove.

The department encourages the sale of all buildings and unclaimed materials.

The department assumes no responsibility for the condition of any building at any time. The department makes or implies no guarantee that any building will remain in the condition the bidder finds it in when the bidder prepares its proposal.

Procure all permits necessary for removing buildings, including those necessary if the contractor's operations obstruct streets or alleys.

Remove buildings and materials safely and according to the requirements of the Wisconsin department of workforce development, applicable ordinances of the municipality where the building is located, and the WDNR. Pay close attention to the requirements regulating the handling and disposal of asbestos, lead paint, and other hazardous substances. If creating hazardous conditions incident to the contract operations, furnish, erect, and maintain suitable barricades to safeguard the public.

Notify public utility companies serving the building in sufficient time, before removal operations, to allow them to disconnect and remove their facilities from the building.

Shut off municipal water service lines at the curb boxes.

Remove heating units, plumbing fixtures, and similar appurtenances to the elevation of the basement floor.

#### **D Measurement**

The department will measure Removing Building Parcel 16 as each individual building, 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.0060.004	Removing Building Parcel 16	Each

Payment is full compensation for breaking down and removing buildings; for obtaining any required work permits; and for hauling and disposing of materials off site.

### **9.9 Site Clearance Parcel No. 16, Item SPV.0105.001.**

#### **A Description**

This provision describes site clearance work at those locations shown within the plan. Perform work in accordance to standard spec 204, as directed by the engineer, and as hereinafter provided.

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

#### **C Construction**

Remove materials safely and according to the requirements of the Wisconsin Department of Workforce Development, applicable ordinances of the municipality where the building is located, and the WDNR. Pay close attention to the requirements regulating the handling and disposal of lead paint and other hazardous substances. If creating hazardous conditions incident to the contract operations, furnish, erect, and maintain suitable barricades to safeguard the public.

*Delete standard spec 204.3.2.1 (2) and replace with the following:*

Remove the entire building foundation including masonry floors and walls.

*Delete standard spec 204.3.2.2 (13) and replace with the following:*

Remove building foundation walls, foundation floor, building concrete and concrete slab, backfill exposed openings, and clear site at the locations the plans show. Materials from building sites under this bid item become the contractor's property. Clear the entire premises of all decomposable and combustible refuse, debris, and materials resulting from the removals and leave the premises in a neat condition.

Masonry, concrete, building debris, and construction debris are prohibited for use as backfill.

Removing parking lot pavement and underlying base course, private sidewalk and impervious structures are considered incidental to the site clearance bid item.

Removing sign structure concrete bases is considered incidental to the site clearance bid item.

Clearing and grubbing activities that are necessary to complete the site clearance item are considered incidental. Disposal of all waste material derived from this operation, including trees, brush, roots, logs, windfalls, and other vegetation deemed necessary by the engineer, is incidental to the item site clearance.

Abandon and remove laterals for the sanitary sewer, water main, and sump pump following local plumbing codes. The abandonment will be made at the right-of-way line. Remove all utilities outside of the right-of-way line. All utilities removed and all materials resulting from utility abandonment and removal become the contractor's property. Dispose of removed material as specified for disposing of materials in standard spec 203.3.4.

For parcels located within the Village of Howard, contact the Village of Howard Public Works Department at (920) 434-4060 for permits, forms, and questions

#### **D Measurement**

The department will measure Site Clearance Parcel No. 16 as a single complete lump sum unit of work for site clearance, 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.0105.001	Site Clearance Parcel No. 16	LS

Payment is full compensation for breaking down and removing; hauling and disposing of material; obtaining any permits; abandoning and removing laterals; necessary clearing and grubbing activities; removing pavement and underlying base, sidewalk, and sign bases; providing any bentonite or soil; and backfill.

## **9.10 Grading, Shaping and Finishing Parcel 16, Item SPV.0105.002.**

### **A Description**

This special provision describes excavating, filling, grading, shaping, compacting and finishing, as necessary, to integrate the parcel with the surrounding terrain and drainage in accordance to the pertinent requirements of the standard specifications and as hereinafter provided.

### **B Materials**

Provide Topsoil, Fertilizer Type B, Seeding Mixture No.40 and Seeding Temporary conforming to standard spec 625, standard spec 629, and standard spec 630, respectively.

### **C Construction**

Place Topsoil, Fertilizer Type B, Seed Mixture No. 40 and Seeding Temporary, as directed by the engineer, and in accordance to standard spec 625, standard spec 629, and standard spec 630, respectively.

Dispose of all surplus and unsuitable material in accordance to standard spec 205.3.12.

### **D Measurement**

The department will measure Grading, Shaping and Finishing Parcel 16, as a single complete lump sum unit of work, acceptably completed.

### **E Payment**

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.002	Grading, Shaping and Finishing Parcel 16	LS

Payment is full compensation for furnishing all excavation, grading, shaping, compacting, placing fill, topsoil, fertilizer, seed, and mulch.

## **9.11 Removing Traffic Signals (USH 41 NB and USH 141), Item SPV.0105.450.**

### **A Description**

This work shall consist of removing the existing traffic signal equipment from the intersection of USH 41 northbound and USH 141 (Velp Avenue) and returning it to the WisDOT NE Region Facility at 944 Vanderperren Way, Green Bay, WI as shown in the plans and in accordance to the requirements of standard spec 657 and standard spec 658, standard detail drawings, and as hereinafter provided.



**B (Vacant)**

**C Construction**

The existing traffic signal equipment shall be disconnected from the concrete bases, carefully loaded, and transported to the WisDOT NE Region facility as described above. All signal heads and luminaires should remain attached to the standard, pole or respective mast arm. The contractor shall conduct operations in such a manner to prevent any damage to the traffic signal equipment. The contractor shall replace or repair any equipment that was damaged during this removal and transport operation. Prior to delivering the removed equipment, the contractor shall make arrangements with the WisDOT NE Region Electrical Personnel who can be reached at (920) 492-5654 or (920) 492-5710 for delivery to the regional facility.

Removing bases and pull boxes will be paid as a separate item and are not included herein.

**D Measurement**

The department will measure Removing Traffic Signals (USH 41 NB and USH 141) as 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 items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.450	Removing Traffic Signals (USH 41 NB and USH 141)	LS

Payment for Remove Traffic Signal (USH 41 northbound and USH 141) is full compensation for removal, disassembly, and delivery to the regional facility.

**9.12 Removing Sand Barrel Array and Concrete Pad Station 1188+90  
NIH LT, Item SPV.0105.003.**

**A Description**

This special provision describes removing and disposing of the array of approximately eleven sand barrels, and the concrete pad on which they sit, shielding the overhead sign structure along the outside (driver's right) shoulder of northbound IH 43 at Station 1188+90 NIH LT, located outside the limits of proposed grading, for backfilling in accordance to 204.3.1.2, for restoring the disturbed ground, and as hereinafter provided.

**B (Vacant)**

**C Construction**

Excavate, remove, and backfill in accordance to the pertinent requirements of standard spec 204 and standard spec 205, and as shown on the plans.

Restore the disturbed ground with topsoil, mulch, fertilizer, and seed.

#### **D Measurement**

The department will measure Removing Sand Barrel Array and Concrete Pad Station 1188+90NIH LT as a single lump sum unit of work, acceptably 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.0105.003	Removing Sand Barrel Array and Concrete Pad Station 1188+90 NIH LT	LS

Payment is full compensation for removing and disposing of the sand barrel array and associated concrete pad; for backfilling the area vacated by the concrete pad removal; and for restoring the disturbed ground with topsoil, mulch, fertilizer, and seeding.

### **10. Earthwork.**

#### **10.1 Frozen Ground.**

Excavation of frozen ground directed by the engineer to maintain work as scheduled will be paid for as common excavation. Backfilling of these excavated areas will be paid for as either borrow or breaker run as directed by the engineer. This does not relieve the contractor of their responsibility to protect the subgrade from further freezing of the soils prior to or after this excavation or the timely backfilling of any areas excavated due to frozen conditions.

#### **10.2 Marsh Excavation.**

*Add the following to standard spec 205.2.5:*

During toe trench excavation from Station 1168+37 RVEA to Station 1172+74 RVEA and from Station 103+45 TWT to Station 104+65 TWT, do not excavate and expose more than 50 feet of the proposed trench. Backfill the trench with materials as specified in the plans, while not exceeding the maximum 50 feet of exposed trench length. Additional excavation outside of the limits shown in the cross sections for toe trench placement is incidental to the item Marsh Excavation.

Provide notice to the engineer one week in advance of Marsh Excavation operations from Station 1168+50 EVEA to Station 1173+00 EVEA; Station 1178+50 NIH to Station 1187+88 NIH; Station 1195+35 NMC to Station 1204+05 NMC; Station 1220+42 NMC to Station 1222+00 NMC; Station 1196+60 IHA to Station 1197+25 IHA; Station 1172+00 to Station 1177+33 IHB to monitor the slope stability of the exposed 1:1 slopes. Backfill Marsh Excavation limits within specified timeframes as directed by the engineer. Contact Paul Vraney at (920) 492-2232 for any existing geotechnical boring information.

### 10.3 Staged Embankment Construction.

Construct the proposed embankments from Station 1181+00 VEB to Station 1184+90 VEB, Station 1162+50 IHA to Station 1173+30 IHA, Station 1196+30 to Station 1197+50 IHA, Station 1178+50 NIH to Station 1187+50 NIH, Station 1185+60 NMC to Station 1187+00 NMC, Station 1194+90 NMC to Station 1200+75 NMC, Station 1200+00 NMC to Station 1204+05 NMC, Station 1219+80 NMC to Station 1224+00 NMC, Station 1181+00 VEC to Station 1184+75 VEC in accordance with the plan, standard spec 207, and as hereinafter provided.

The embankment fill shall be placed to the extent of the proposed side slopes.

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 the installation of the strip drains and sand blanket and will require a minimum of 5 working days at the project site for installation of the piezometers prior to the construction of the temporary roadway construction and prior to the construction of the first embankment lift within each designated area.

Each Stage of construction shall consist of phases. A phase is the placement of a lift to a specified total thickness. During the first phase of embankment construction, place the lift thickness shown in the table below in layers from the existing grade unless directed otherwise by the engineer.

Area	Station Begin	Station End	Alignment	Feature	Total Est. Primary Settlement	Lift #	Lift Thickness	Average Depth of Strip Drain
A	1181+00	1182+25	VEB	Embankment and B-05-671	12 inches	1	15 feet	Varies (see cross sections)
						2	12 feet	
B	1182+25	1184+90	VEB	Embankment, B-05-671 Pier 5 and future B-05-675	9 inches	1	13 feet	Varies (see cross sections)
						2	10 feet	
						3	8 feet	
C	1162+50	1173+30	IHA	Embankment, B-05-671, R-05-84, R-05-257	6-12 inches	1	25 feet	32 feet
						2	12 feet	
D	1196+30	1197+50	IHA	B-05-671 and R-05-255	7 inches	1	12 feet	35 feet
						2	9 feet	
						3	7 feet	
E	1178+50	1187+50	NIH	Embankment and R-05-256	12-18 inches	1	10 feet	35 feet
						2	18 feet	
F	1185+60	1187+00	NMC	Embankment and future	6-16 inches	1	13 feet	Varies (see cross sections)
						2	10 feet	

Area	Station Begin	Station End	Alignment	Feature	Total Est. Primary Settlement	Lift #	Lift Thickness	Average Depth of Strip Drain
				B-05-675		3	8 feet	
G	1195+00	1200+75	NMC	Embankment, B-05-677, B-05-678 Pier 17	20-26 inches	1	14 feet	38 feet
						2	10 feet	
						3	8 feet	
						4	8-12 feet	
H	1200+00	1204+05	NMC	Embankment and B-05-681	15-20 inches	1	14 feet	42 feet
						2	10 feet	
						3	10 feet	
						4	8-12 feet	
I	1219+80	1220+20	NMC	Embankment south of B-05-681 north abutment	2-6 inches	1	11 feet	39 feet
						2	8 feet	
J	1220+20	1222+00	NMC	Embankment and B-05-681	6-8 inches	1	11 feet	38 feet
						2	8 feet	
K	1222+00	1224+00	NMC	Embankment	4-6 inches	1	11 feet	Varies (see cross sections)
						2	6 feet	
L	1181+00	1182+00	VEC	Embankment and future R-05-86	12 inches	1	16 feet	Varies (see cross sections)
						2	14 feet	
M	1182+00	1184+75	VEC	Embankment; B-05-678; future R-05-86, B-05-672, and B-05-673	7 inches	1	14 feet	Varies (see cross sections)

Construct and compact the fill in accordance to standard spec 207.3.6.2. Do not place the next embankment construction phase until instrumentation indicates that excess pore water pressures have been significantly dissipated and significant consolidation of the underlying soft soils has occurred. If these conditions have not occurred within 3 months, site conditions will be re-assessed and embankment construction procedures may be revised.

After the approval of the engineer, the next and subsequent phases of embankment construction can begin. Place a maximum amount of lift thickness shown in the table above during any phase of embankment construction.

Subsequent embankment construction phases may not be placed until excess pore water pressures have been significantly dissipated and the underlying soft soils have achieved a significant portion of their anticipated consolidation under the weight of the present embankment construction phase. Each phase should be constructed and compacted per standard spec 207.3.6.2.

The 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.

Do NOT use excavated organic material for any portion of the embankment fill except as topsoil for landscaping purposes.

#### **10.4 Embankment Construction.**

*Replace standard spec 205.3.2(4) with the following:*

If placing embankment on side slopes 10-feet high or higher and steeper than one vertical to 3 horizontal, cut a minimum 2 foot horizontal bench into the existing embankment every 4 feet of vertical fill height.

#### **10.5 Roadway Excavation.**

*Add the following to standard spec 205.5.2(1):*

Provide the department with an earth flow diagram within 30 calendar days of receiving the contract Notice to Proceed.

Identify all excavation required for the project, shrinkage and swell factors, anticipated material available for embankment if stockpiling or off-site disposal is required, and location of material to be placed in embankment on the earth flow diagrams.

Upon acceptance of the earth flow diagram by the department, the department will include the earth flow diagram with the Bid Escrow Documentation.

## **10.6 Borrow.**

*Replace standard spec 208.1(1) with the following:*

This section describes constructing embankments and other portions of the work consistent with the earthwork summary and defines the contract requirements for borrow material if required by the plans or if the contractor elects to utilize off-site material to complete the roadway embankments.

*Delete standard spec 208.2.2(2).*

*Add the following to standard spec 208.3:*

The contractor shall be responsible for complying with all permit requirements in obtaining borrow materials.

*Replace standard spec 208.4 with the following:*

The department will not measure borrow.

*Replace standard spec 208.5 with the following:*

The department will not pay directly for work specified under this section. This work is incidental to the Roadway Embankment bid item.

## **10.7 Roadway Embankment, Item SPV.0035. 003.**

*Replace standard spec 207.1(1) with the following:*

This section describes placing in embankments and in miscellaneous backfills, material obtained under the bid items in the roadway and drainage excavation or excavation for structure sections.

*Replace standard spec 207.4(1) with the following:*

The department will measure roadway embankment by the cubic yard acceptably completed in its final location using the method of average end areas, with no correction for curvature or settlement, except as follows:

- The engineer and contractor mutually agree to an alternative volume calculation method;
- The method of average end areas is not feasible;
- Other methods are specified herein standard spec 207.4.

If it is not possible to compute volumes of the various classes of roadway and drainage embankment by the method of average end areas due to erratic location of isolated deposits, the department may compute the volumes by alternative methods involving three-dimensional measurements.

The department will not measure embankment material beyond the limits of the required slopes.

*Replace standard spec 207.5(1) with the following:*

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0035.003	Roadway Embankment	CY

The work includes forming, compacting, shaping, sloping, trimming, finishing, maintaining the embankments, and all other incidental work required under this section.

## 10.8 Geotextile Fabric Type ES.

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

Test	Method	Value <sup>(1)</sup>	
		MD	CD
Tensile Strength at ultimate (lbs/ft)	ASTM D4595	68,532	6,853
Creep Reduced Strength (lbs/ft)	ASTM D5262	41,119	41,119
Long Term Design Strength (lbs/ft)	GRI-GT7	33,983	33,983
Tensile Strength in Machine Direction at 5% Strain (lbs/ft)	ASTM 4595	27,413	27,413
UV Resistance at 250 hours (%)	ASTM D4355	100	100

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

## 10.9 Drainage Blanket, Item SPV.0035.004.

### 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 1.

**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 in cubic yards of volume in its final position and condition within the limits and in places designated on the plans, in the contract, or directed by the engineer, and in accordance to standard spec 209.4.

**E Payment**

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0035.004	Drainage Blanket	CY

Payment is full compensation for furnishing and placing all materials.

**10.10 Vibrating Wire Piezometer Instrumentation System, Delivered, Item SPV.0060.005.****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 plans and as provided herein.

**B Materials**

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

Vibrating Wire Piezometers: A total of thirty-two 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	2X rated pressure range
Pressure:	
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:	⌀ 0.75 inches

Provide a canvas bag, 2½-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.

Area	Feature	Description of Location	Station	Off set	Estimated Tip Elev.
C	R-05-84/257	Top of R-05-84	1167+00 IHA	10' right of RL	570 feet
C	R-05-84/257	Top of R-05-84	1170+00 IHA	10' right of RL	572 feet
C	R-05-84/257	Top of embankment (behind abutment)	1172+75 IHA	25' right of RL	565 feet
G	STA 1196 – 1202 NMC	Top of embankment	1195+60 NMC	10' left of RL	564 feet
G	STA 1196 – 1202 NMC	Top of embankment	1198+00 NMC	10' right of RL	576 feet
H	STA 1196 – 1202 NMC	Top of embankment	1202+00 NMC	20' left of RL	570 feet
--	STA 1172-1177 IHB	Top of embankment (behind abutment)	1176+50 IHB	10' right of RL	560/529 (nested piezometer)
E	R-05-256	Top of wall R-05-256	1184+00 NIH	10' right of RL	555/564 (nested piezometer)
E	R-05-256	Top of wall R-05-256 (behind abutment)	1186+90 NIH	5' right of RL	555/564 (nested piezometer)
A	Embankment	--	1181+85 VEB	40' RT of RL	558 feet
B	Embankment	--	1183+00 VEB	50' RT of RL	565' & 555'
B	Embankment	--	1184+00 VEB	40' RT of RL	555 feet
B	B-05-675	South Abutment	1184+65 VEB	10' RT of RL	556 feet
F	B-05-675	North Abutment	1185+88 NMC	10' RT of RL	556 feet
F	Embankment	--	1186+50 NMC	90' RT of RL	556 feet
--	Embankment	--	1189+00 NMC	72' RT of RL	554 feet
--	Embankment	--	1192+00 NMC	65' RT of RL	554 feet
--	B-05-677	South Abutment	1192+80 NMC	10' RT of RL	572 feet
J	Embankment	--	1220+50 NMC	95' RT of RL	569' & 553'
K	Embankment	--	1222+00 NMC	110' RT of RL	569' & 553'
D	B-05-671	Abutment, R-5-255	1196+60 IHA	28' RT of RL	568' & 558'
M	Embankment	--	1182+50 VEC	25' RT of RL	555 feet
M	Future R-05-86	--	1182+50 VEC	25' LT of RL	555 feet
M	Future R-05-86	--	1184+00 VEC	26' LT of RL	555 feet
M	Embankment	--	1184+00 VEC	32' RT of RL	555 feet

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 plate, 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 °F to 120 °F
Excitation Range:	450 - 6000 Hz
Resolution:	0.01% Full Scale
Weight :	≈12 lb

Nine 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 fiberglass, 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 lightning damage by installing at the factory surge arrestors, and with a ground rod and grounding cable.

Furnish the 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 pre-shipment 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.
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 specification sheet; (2) *calibration procedures*, i.e. step-by-step acceptance 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 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, Delivered will be measured for payment as a single complete lump sum unit of work satisfactory delivered, and for provision of technical support at the job site.

**E Payment**

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.005	Vibrating Wire Piezometer Instrumentation System, Delivered	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.

**10.11 Settlement Gauges, Item SPV.0060.006.**

**A Description**

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

**B (Vacant)**

**C Construction**

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

Area	Feature	Description of Location	Station	Off set	Settlement Gage Elevation (feet)
C	R-05-84/257	Top of R-05-84	1167+00 IHA	10' right of RL	594
C	R-05-84/257	Top of R-05-84	1170+00 IHA	10' right of RL	594
C	R-05-84/257	Top of embankment (behind abutment)	1172+75 IHA	25' right of RL	590
C	R-05-84/257	Toe of R-05-257 (upper leg) and Top of R-05-257 (lower leg)	1173+00 IHA	50' right of RL	590
G	STA 1196 – 1202 NMC	Top of embankment	1195+60 NMC	10' left of RL	588
G	STA 1196 – 1202 NMC	Toe of temporary slope	1198+00 NMC	10' right of RL	588
H	STA 1196 – 1202 NMC	Top of embankment	1202+00 NMC	20' left of RL	590
--	STA 1172 – 1177 IHB	Top of embankment (behind abutment)	1176+50 IHB	10' right of RL	580
E	R-05-256	Top of wall R-05-256	1184+00 NIH	10' right of RL	582
E	R-05-256	Top of wall R-05-256 (behind abutment)	1186+90 NIH	5' right of RL	582
A	Embankment	--	1182+00 VEB	30' RT of RL	587
B	Embankment	--	1183+00 VEB	30' RT of RL	587
B	Embankment	--	1184+00 VEB	30' RT of RL	586
F	B-05-675	North Abutment	1186+50 NMC	78' RT of RL	586
--	Embankment	--	1189+00 NMC	64' RT of RL	584
--	Embankment	--	1192+00 NMC	57' RT of RL	584
J	Embankment	--	1220+50 NMC	64' RT of RL	581
K	Embankment	--	1222+00 NMC	64' RT of RL	581
D	B-05-671	Abutment, R-05-255	1196+60 IHA	42' RT of RL	579
M	Embankment	--	1182+50 VEC	35' RT of RL	587
M	Embankment	--	1184+00 VEC	22' RT of RL	587

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. The elevation of the plate shall be determined by the engineer and the lengths of any added riser pipe(s) shall be accurately measured and recorded.

Embankment and retaining wall 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. A complete set of readings shall be obtained from all nearby instrumentation if any gauges are repaired or replaced. 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.0060.006	Settlement Gauges	Each

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

### **10.12 Strip Drains, Item SPV.0090.001; Pre-bored Strip Drains, Items SPV.0090.002.**

#### **A Description**

This special provision describes furnishing and installing prefabricated strip drains after topsoil has been removed and ground has been graded for positive drainage. Perform all work according to the plans and as provided herein.

#### **B Materials**

The strip 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 strip drains shall be insect, rodent, mildew, and rot resistant.

Furnish the strip drains in a wrapping which will protect them from abrasion due to shipping and hauling. The strip drains are to be kept dry until installed.

Clearly mark the strip drain rolls showing the type of vertical drain.

Furnish the engineer for approval manufacturer's certifications and strip drain samples a minimum of 14 days prior to delivery of the strip drains to the site. Only one type of strip drain, i.e. strip drain made by the same manufacturer and of the same dimensions and in-plane flow rate, is to be used for the entire project. The delivered strip drains shall bear markings to clearly identify it with the manufacturer's certifications previously furnished to the engineer.

### **C Construction**

Install strip drains with approved equipment of a type which will cause a minimum disturbance of the subsoil during the installation operation. Install the strip drain using a mandrel or sleeve which completely encloses the strip 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 strip 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 strip drains in accordance to these specifications.

Prior to the installation of strip drains within the designated areas, demonstrate that his 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 strip drains at locations designated by the engineer. Payment will be at the unit price per linear foot for the strip drains. Payments will not be made for installing unsatisfactory trial strip drains.

At locations shown on the plan, the pre-boring is required for strip drain installation.

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.

Strip 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 strip drain inside into the ground to the depth shown on the contract documents. Retract the mandrel leaving the strip drain in place to function as a vertical drain. Cut the strip 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 strip 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 strip drain material will not be allowed.

Carefully check the equipment for plumbness prior to advancing each strip 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. Pay contractor for all obstructed drains at the contract unit price unless the drain is improperly installed.

Observe precautions necessary for protection of instrumentation devices. After instrumentation devices have been installed, replace at his cost any equipment that is damaged or become unreliable due to his construction operations.

Strip drains that are out of their proper location by more than 6 inches, strip drains that are damaged during construction or strip 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 strip drain material used at each strip drain location. During installation of the strip drain, provide suitable means of determining the depth of the strip drain.

#### **D Measurement**

The department will measure Strip Drains and Pre-bored Strip Drains by the linear foot for the full length of strip drain installed, acceptably complete. The contractor will not be paid for any more than an 18 inch length of strip 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.0090.001	Strip Drains	LF
SPV.0090.002	Pre-bored Strip Drains	LF

Payment is full compensation for the cost of furnishing the strip drain material, pre-drilling, installation, 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 strip drains or for any delays or expense incurred through changes necessitated by improper or unacceptable material or equipment.

### **10.13 Geotechnical Instrumentation, Item SPV.0105.004.**

#### **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 retaining wall and embankments. The instrumentation program specified herein and shown on the plans 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.

Instrumentation installed under this contract shall remain fully operational until after final pavement is constructed and after all appreciable settlement ceases as determined by the engineer.

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:

1. Submit qualifications and experience of instrumentation specialists and personnel.
2. Instrumentation shop drawings detailing locations, depths based on general information shown on the plans, type, details, and other pertinent information showing the installation details for each type of instrumentation required.
3. Drawing that indicates the locations of control points and benchmarks associated with surveys for monitoring geotechnical instrumentation.
4. Description of methods for installing and protecting all instruments.
5. Schedule of instrument installation related to significant activities or milestones in the overall project.

6. 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.
7. Manufacturer's literature describing installation, operation, and maintenance procedures for all instruments, materials, readout units, and accessories.
8. Drilling and installation logs for instrumentation installations prepared by the instrumentation specialist.
9. 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.
10. Submit permits and consents for drilling holes from ground surface and conducting monitoring activities.
11. Plans for geotechnical instrumentation to be installed at contractor's option.
12. Copies of completed DNR abandonment forms for vibrating wire piezometers.

### A.3 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.

Area	Feature	Description of Location	Station	Off set	Estimated Tip Elev.
C	R-05-84/257	Top of R-05-84	1167+00 IHA	10' right of RL	570 feet
C	R-05-84/257	Top of R-05-84	1170+00 IHA	10' right of RL	572 feet
C	R-05-84/257	Top of embankment (behind abutment)	1172+75 IHA	25' right of RL	565 feet
G	STA 1196 – 1202 NMC	Top of embankment	1195+60 NMC	10' left of RL	564 feet
G	STA 1196 – 1202 NMC	Top of embankment	1198+00 NMC	10' right of RL	576 feet
H	STA 1196 – 1202 NMC	Top of embankment	1202+00 NMC	20' left of RL	570 feet
--	STA 1172-1177 IHB	Top of embankment (behind abutment)	1176+50 IHB	10' right of RL	560/529 (nested piezometer)
E	R-05-256	Top of wall R-05-256	1184+00 NIH	10' right of RL	555/564 (nested piezometer)

Area	Feature	Description of Location	Station	Off set	Estimated Tip Elev.
E	R-05-256	Top of wall R-05-256 (behind abutment)	1186+90 NIH	5' right of RL	555/564 (nested piezometer)
A	Embankment	--	1181+85 VEB	40' RT of RL	558 feet
B	Embankment	--	1183+00 VEB	50' RT of RL	565' & 555'
B	Embankment	--	1184+00 VEB	40' RT of RL	555 feet
B	B-05-675	South Abutment	1184+65 VEB	10' RT of RL	556 feet
F	B-05-675	North Abutment	1185+88 NMC	10' RT of RL	556 feet
F	Embankment	--	1186+50 NMC	90' RT of RL	556 feet
--	Embankment	--	1189+00 NMC	72' RT of RL	554 feet
--	Embankment	--	1192+00 NMC	65' RT of RL	554 feet
--	B-05-677	South Abutment	1192+80 NMC	10' RT of RL	572 feet
J	Embankment	--	1220+50 NMC	95' RT of RL	569' & 553'
K	Embankment	--	1222+00 NMC	110' RT of RL	569' & 553'
D	B-05-671	Abutment, R-5-255	1196+60 IHA	28' RT of RL	568' & 558'
M	Embankment	--	1182+50 VEC	25' RT of RL	555 feet
M	Future R-05-86	--	1182+50 VEC	25' LT of RL	555 feet
M	Future R-05-86	--	1184+00 VEC	26' LT of RL	555 feet
M	Embankment	--	1184+00 VEC	32' RT of RL	555 feet

**Readout Post (ROP):** Posts with the readout box, positioned with agreement between the contractor and engineer.

**Slope Inclometers (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. A complete set of readings shall be obtained from all nearby inclinometers if any gauges are repaired or replaced. Engineer will determine which instrumentation require a complete set of readings.

Area	Feature	Description of Location	Station	Off set	Estimated Tip Elev.
C	R-05-84/257	Toe of R-05-84	1167+00 IHA	15' left of RL	544 feet
C	R-05-84/257	Toe of R-05-81	1167+00 IHA	110' right of RL	544 feet
C	R-05-84/257	Toe of slope	1170+00 IHA	85' right of RL	537 feet
C	R-05-84/257	Toe of R-05-84	1173+00 IHA	15' left of RL	533 feet
C	R-05-84/257	Toe of R-05-257 (upper leg) and Top of R-05-257 (lower leg)	1173+00 IHA	50' right of RL	533 feet
C	R-05-84/257	Toe of Slope	1172+50 IHA	125' right of RL	533 feet
C	R-05-84/257	Toe of R-05-257 (in front of abutment)	1173+25 IHA	20' right of RL	533 feet
C	R-05-84/257	Toe of R-05-257 (lower leg)	1173+25 IHA	80' right of RL	533 feet
G	STA 1196 – 1202 NMC	Top of Temporary MSE wall	1195+10 NMC	100' right of RL	530 feet
G	STA 1196 – 1202 NMC	Toe of Temporary slope	1195+60 NMC	60' left of RL	530 feet
G	STA 1196 – 1202 NMC	Toe of embankment	1195+60 NMC	210' right of RL	530 feet
G	STA 1196 – 1202 NMC	Toe of Temporary slope	1198+00 NMC	230' right of RL	530 feet
H	STA 1196 – 1202 NMC	Toe of Temporary slope	1201+00 NMC	40' right of RL	530 feet
G	STA 1196 – 1202 NMC	Toe of Temporary slope	1200+50 NMC	225' right of RL	530 feet
H	STA 1196 – 1202 NMC	Toe of embankment	1201+75 NMC	210' right of RL	530 feet
H	STA 1196 – 1202 NMC	Toe of Temporary slope	1202+00 NMC	95' left of RL	530 feet
H	STA 1196 – 1202 NMC	Toe of embankment	1203+25 NMC	75' right of RL	530 feet
H	STA 1196 – 1202 NMC	Toe of Temporary slope	1203+50 NMC	75' left of RL	530 feet
H	STA 1196 – 1202 NMC	Toe of slope in front of abutment	1204+00 NMC	10' left of RL	530 feet
--	STA 1172 – 1177 IHB	Toe of slope	1176+50 IHB	45' left of RL	515 feet
--	STA 1172 – 1177 IHB	Toe of slope	1176+50 IHB	65' right of RL	515 feet
--	STA 1172 – 1177 IHB	Toe of stability berm	1177+50 IHB	10' right of RL	515 feet

Area	Feature	Description of Location	Station	Off set	Estimated Tip Elev.
E	R-05-256	Toe of wall R-05-256	1184+00 NIH	30' left of RL	513 feet
E	R-05-256	Toe of embankment	1184+00 NIH	50' right of RL	513 feet
E	R-05-256	Toe of wall R-05-256	1187+00 NIH	40' left of RL	513 feet
E	R-05-256	Toe of embankment	1187+00 NIH	90' right of RL	513 feet
E	R-05-256	Through stability berm in front of abutment	1187+90 NIH	10' right of RL	513 feet
B	Embankment	--	1183+00 VEB	94' RT of RL	538 feet
B	B-05-675	South Abutment	1184+75 VEB	10' RT of RL	538 feet
M	Embankment	--	1184+00 VEC	38' LT of VEC	534 feet

#### **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**

SSMs, (SS) 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 on the plans, 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.

### **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. The piezometer shall be installed after wick drain and drainage blanket construction (by others) excavation of the retaining wall is completed. All instrumentation shall be installed under the direct supervision of the contractor's instrumentation specialist.

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 before commencing any filling work for the retaining wall and embankment. A qualified instrumentation specialist shall install the instrumentation as shown on the project plans and as specified herein. The instrumentation specialist shall have documented experience as set forth in the subsection, Quality Assurance.

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 on the plans 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 located outside of excavations a minimum of 1 week prior to retaining wall and embankment construction within 100 feet of the instrument.

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. A complete set of readings shall be obtained from all nearby instrumentation if any instrumentation is repaired or replaced. Engineer will determine which instrumentation requires complete set of readings.

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, settlement systems and observation wells 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. Drill borings for double piezometers using 6-inch minimum inside diameter casing for a minimum of the full depth of the upper vibrating wire piezometer. 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.

For double piezometers, allow the annular space seal between the lower and upper sensing zones to set a minimum of 12 hours before the upper filter pack is placed. Alternatively, form the annular space seal by a mixture of coarse sand and grout placed in small lifts. Tamp the sand during placement. Place grout by tremie method. Take care to provide a watertight seal between the upper and lower sensing zones, and to avoid contaminating the upper sensing zone with grout.

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 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.10 Initial Readings**

Record initial readings for each instrument before construction of the retaining wall and embankment. 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.

### **C.11 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.

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 retaining wall and embankment construction:  
Record a minimum of one reading per week per instrument.
2. During retaining wall and embankment 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 retaining wall and embankment construction is completed:  
Record a minimum of one reading per instrument every two days.

As a minimum, data should be provided within 24 hours of collection to the engineer for evaluation. Immediately contact engineer if values obtained indicate changes that are abrupt, have increasing rate of change, are indicative of deteriorating conditions, or other cause for concern.

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.12 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.13 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.

The department will provide caps for contractor installation to protect active instrumentation.

Contractor shall protect all existing, active geotechnical instrumentation installed during adjacent project. Any changes to existing instrumentation shall be repaired and resume fully operational at the contractor's expense.

### **D Measurement**

The department will measure Geotechnical Instrumentation as a complete 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 items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.004	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 for abandonment.

## **10.14 Maintenance Road Excavation MR1, Item SPV.0105.008; MR2, Item SPV.0105.009; MR3, Item SPV.0105.010; MR4, Item SPV.0105.011; MR5, Item SPV.0105.012.**

### **A Description**

This special provision describes excavating for the permanent maintenance roads in accordance to standard spec 205, the plans, and as hereinafter provided.

### **B Materials**

Materials are in accordance to standard spec 205.2.

### **C Construction**

Construct in accordance to the requirements of standard spec 205.3 and as shown in the plans.

Excavate undercut for special breaker run and base aggregate dense  $\frac{3}{4}$  per the typical section.

Portions of excavating for the permanent maintenance roads not included in this item include the following areas:

- Station 69+50 MR1 to Station 76+50 MR1
- Station 80+00 MR1 to Station 83+50 MR1
- Station 103+50 MR2 to Station 104+00 MR2
- Station 30+39 MR3 to Station 31+50 MR3
- Station 94+50 MR4 to Station 95+28 MR4
- Station 96+00 MR5 to Station 105+50 MR5

The above earthwork stationing will be paid for separately with the adjacent roadways according to the earthwork summary table as shown in the plans.

#### **D Measurement**

The department will measure Maintenance Road Excavation 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.0105.008	Maintenance Road Excavation MR1	LS
SPV.0105.009	Maintenance Road Excavation MR2	LS
SPV.0105.010	Maintenance Road Excavation MR3	LS
SPV.0105.011	Maintenance Road Excavation MR4	LS
SPV.0105.012	Maintenance Road Excavation MR5	LS

Payment is in accordance to standard spec 205.5. If excavation below subgrade (EBS) is required, exceeding the 12" X 18' undercut provided under this item as shown in the plan, it will be paid for as Common Excavation.

### **10.15 Geogrid Reinforcement, Item SPV.0180.001.**

#### **A Description**

This special provision describes furnishing and installing geogrids for subgrade stabilization, base reinforcement, or pavement structure applications in accordance to the plans, section 645 of the standard specifications, and as hereinafter provided.

#### **B Materials**

Provide geogrid that consists of either single or joined multiple layers of a uniform rectangular grid of bonded, formed, or fused polymer tensile strands crossing with a nominal right angle orientation. The polymer shall consist of polyester, polypropylene, polyamide, or polyethylene. The grid shall maintain dimensional stability during

handling, placing, and installation. The geogrid shall be insect, rodent, mildew, and rot resistant. Minimum geogrid width shall be 6.0 feet.

Provide geogrid that complies with the following physical properties:

Test	Method	Value <sup>(1)</sup>
Tensile Strength at 5% Strain, Both Principal Directions (lb/ft)	ASTM D 4595 <sup>(2)</sup>	450 min.
Flexural Rigidity Both Principal Directions (mg-cm)	ASTM D 1388 <sup>(3)</sup>	150,000 min
Aperture Area (in <sup>2</sup> )	Inside Measurement <sup>(4)</sup>	5.0 max.
Aperture Dimension (in)	Inside Measurement <sup>(4)</sup>	0.5 min

<sup>(1)</sup> All numerical values represent minimum/maximum average roll values, i.e. the average minimum test results on any roll in a lot should meet or exceed the minimum specified value.

<sup>(2)</sup> The Tensile Strength  $T$  of the joined multi-layered geogrid shall be computed using the following equation:

$$\text{where} \quad T = n(f)t$$

$n$  = the number

of individual layers in the joined multi-layered geogrid,

$t$  = the tensile strength of a single layer of geogrid as determined using testing method ASTM D4595, and

$f$  = reduction factor based on the number of layers comprising the multi-layered system and determined by the equation  $f = 1.00 - [0.04(n - 1)]$ .

<sup>(3)</sup> Values shall be determined by Option "A" (Cantilever Test) of testing method ASTM D1388 using test specimens that are 36 inches  $\pm 0.04$  inch long. Test specimen widths for differing geogrids shall be variable and equal to 1 element plus 1/2 the aperture width on both sides of that element. An element is defined as the minimum number of parallel strands that form a distinguishable repeating pattern.

<sup>(4)</sup> Aperture Area and Aperture Dimension for joined multi-layer geogrids shall be determined based on measurement of a single layer of the geogrid.

Protect the geogrid from ultraviolet radiation and from damage due to shipping and handling. Keep the geogrid dry until it is installed. The geogrid rolls shall be clearly marked to identify the material contained.

Deliver a sample of the geogrid material to the engineer at least 10 days prior to its incorporation into the work. At the same time, furnish a manufacturer's Certified Report of Test or Analysis that verifies that the geogrid delivered for use on the work meets the

above requirements. Samples of geogrid for test purposes will be obtained from the job site for each 10,000 square yards or portions thereof used on the contract.

### **C Construction**

Prior to placement of the geogrid, bring the indicated placement surface to the required lines, grades, and dimensions as shown on the plans. Smooth and shape the surface to eliminate any rocks, clods, roots, or other items that may cause damage to the geogrid during placement or covering.

Place the geogrid on the prepared surface at the locations and to the limits as shown on the plans. After placement, pull the geogrid taut and secure it using pins, clips, staples, or other devices to prevent movement or displacement. Place parallel strips of geogrid with a minimum overlap of 6 inches. Lap butt joints between roll ends a minimum of 12 inches. Fasten all lapped sections together by using ties, straps, clips, or other devices to develop a secure joint that meets the approval of the engineer. No vehicles or construction equipment shall be permitted to operate directly on the geogrid.

Cover small rips, tears, or defects in the geogrid with an additional section of geogrid; secure the additional geogrid in place so that it overlaps the damaged area by at least 3 feet in all directions. Remove and replace geogrid sections with large rips, tears, defects, or other damage at the direction of the engineer. All costs to repair or replace damaged or defective geogrid shall be the responsibility of the contractor.

After placement, cover the geogrid to the indicated depth with the type of material required on the plans or in the special provisions. Placing, spreading, and compacting of this material shall comply with the applicable sections of the standard specifications or special provisions except that the initial lift of material placed on the geogrid must be at least 4 inches. Place, spread, and compact the required backfill material so that the geogrid is not displaced or damaged. The engineer may require changes in equipment and/or operations to prevent such damage or displacement.

### **D Measurement**

The department will measure Geogrid Reinforcement by the square yard of surface area upon which the geogrid has been placed, 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.0180.001	Geogrid Reinforcement	SY

Payment is full compensation for furnishing, transporting, and installing the geogrid; and for furnishing and installing all devices and materials necessary to join or secure the geogrid in place.

## **10.16 Salvaged Topsoil.**

Salvaged topsoil may be placed up to 12-inches thick on slopes. Dispose of any excess salvaged topsoil as detailed in standard spec 625.3.2.4.

Topsoil containing Phragmites plant or root fragments is to be incorporated and paid for as Salvaged Topsoil. Only remove soil in Phragmites areas to a depth consistent with the stripped topsoil. Salvaged topsoil containing Phragmites material shall be placed in upland locations in the general area where the plant currently exists. Do not excavate the entire root system.

Phragmites excavated as Salvaged Topsoil may also be placed outside of the 1:1 slope adjacent to the shared use path from Station 16+00 BP1 to 28+00 BP1 or in designated areas as determined by the engineer.

## **11. Bases, Subbases and Pavements.**

### **11.1 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:
- | <b>Plan Quantity</b>               | <b>Minimum Required Testing</b>  |
|------------------------------------|--|
| $\leq 1500$ tons                   | One test from production, load-out, or placement at the contractor's option <sup>[1]</sup>                           |
| $> 1500$ tons and $\leq 6000$ tons | Two tests of the same type, either from production, load-out, or placement at the contractor's option <sup>[1]</sup> |
| $> 6000$ tons and $\leq 9000$ tons | Three placement tests <sup>[2] [3]</sup>   |
- <sup>[1]</sup> If using production tests for acceptance, submit test results to the engineer for review prior to incorporating the material into the work. Production test results are valid for a period of 3 years.
- <sup>[2]</sup> For 3-inch material, obtain samples at load-out.
- <sup>[3]</sup> If the actual quantity overruns 9000 tons, create overrun sublots to test at a rate of one additional placement test for each 3000 tons, or fraction of 3000 tons, of overrun.
3. No control charts are required. Submit aggregate load-out and placement test results to the engineer within one business day of obtaining the sample. Assure that all properties are within the limits specified for each test.
  4. Department verification testing is optional for quantities of 6000 tons or less.
- (3) Material represented by a subplot with any property outside the specification limits is nonconforming. The department may reject material or otherwise determine the final disposition of nonconforming material as specified in standard spec 106.5.

## **B Materials**

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

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

- (2) Do not change the quality control plan without the engineer's review. Update the plan with changes as they become effective. Provide a current copy of the plan to the engineer and post in each of the contractor's laboratories as changes are adopted. Ensure that the plan provides the following elements:
  1. An organizational chart with names, telephone numbers, current certifications and/or titles, and roles and responsibilities of QC personnel.
  2. The process used to disseminate QC information and corrective action efforts to the appropriate persons. Include a list of recipients, the communication means that will be used, and action time frames.
  3. A list of source and processing locations, section and quarter descriptions, for all aggregate materials requiring QC testing.
  4. Test results for wear, sodium sulfate soundness, freeze/thaw soundness, and plasticity index of all aggregates requiring QC testing. Obtain this information from the region materials unit or from the engineer.
  5. Descriptions of stockpiling and hauling methods.
  6. Locations of the QC laboratory, retained sample storage, and where control charts and other documentation is posted.
  7. An outline for resolving a process control problem. Include responsible personnel, required documentation, and appropriate communication steps.

## B.2 Personnel

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

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

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

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

## B.3 Laboratory

- (1) Perform QC testing at a department-qualified laboratory. Obtain information on the Wisconsin laboratory qualification program from:

Materials Management Section  
3502 Kinsman Blvd.  
Madison, WI 53704  
Telephone: (608) 246-5388  
<http://www.dot.state.wi.us/business/engrserv/lab-qualification.htm>

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

### **B.4.1 General**

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

### **B.4.2 Records**

- (1) Document all placement observations, inspection records, and control adjustments daily in a permanent field record. Also include all test results in the project records. Provide test results to the engineer within 6 hours after obtaining a sample. For 3-inch base, extend this 6-hour limit to 24 hours. Post or distribute tabulated results using a method mutually agreeable to the engineer and contractor.

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

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

## **B.5 Contractor Testing**

- (1) Test gradation, fracture, liquid limit and plasticity index during placement for each base aggregate size, source or classification, and type.
- (2) Test gradation once per 3000 tons of material placed. Determine random sample locations and provide those sample locations to the engineer. Obtain samples after the material has been bladed, mixed, and shaped but before compacting; except collect 3-

inch samples from the stockpile at load-out. Do not sample from material used to maintain local traffic or from areas of temporary base that will not have an overlying pavement. On days when placing only material used to maintain local traffic or only temporary base that will not have an overlying pavement, no placement testing is required.

- (3) Split each contractor QC sample and identify it according to CMM 8.30. Retain the split for 7 calendar days in a dry, protected location. If requested for department comparison testing, deliver the split to the engineer within one business day.
- (4) The engineer may require additional sampling and testing to evaluate suspect material or the technician's sampling and testing procedures.
- (5) Test fracture for each gradation test until the fracture running average is above the lower warning limit. Subsequently, the contractor may reduce the frequency to one test per 10 gradation tests if the fracture running average remains above the warning limit.
- (6) Test the liquid limit and plasticity index for the first gradation test. Subsequently, test the liquid limit and plasticity index a minimum of once per 10 gradation tests.

## **B.6 Test Methods**

### **B.6.1 Gradation**

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

4. Open graded warning limits for the 1-inch, 3/8-inch, and No. 4 sieves are 2 percent within the upper and lower control limits. Upper warning limits for the No. 10, No. 40, and No. 200 sieves are 1 percent inside the upper control limit.

### **B.6.2 Fracture**

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

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

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

## **B.7 Corrective Action**

### **B.7.1 General**

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

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

- (1) Do not blend additional material on the roadbed to correct gradation problems.
- (2) Notify the engineer whenever the running average exceeds a warning limit. When 2 consecutive running averages exceed a warning limit, the engineer and contractor will discuss appropriate corrective action. Perform the engineer's recommended corrective action and increase the testing frequency as follows:
  1. For gradation, increase the QC testing frequency to at least one randomly sampled test per 1000 tons placed.
  2. For fracture, increase the QC testing frequency to at least one test per gradation test.
- (3) If corrective action improves the property in question such that the running average after 4 additional tests is within the warning limits, the contractor may return to the testing frequency specified in B.5.3. If corrective action does not improve the property in question such that the running average after 4 additional individual tests is still in the warning band, repeat the steps outlined above starting with engineer notification.

- (4) If the running average exceeds a control limit, material starting from the first running average exceeding the control limit and ending at the first subsequent running average inside the control limit is nonconforming and subject to pay reduction.
- (5) For individual test results significantly outside the control limits, notify the engineer, stop placing base, and suspend other activities that may affect the area in question. The engineer and contractor will jointly review data, data reduction, and data analysis; evaluate sampling and testing procedures; and perform additional testing as required to determine the extent of potentially unacceptable material. The engineer may direct the contractor to remove and replace that material. Individual test results are significantly outside the control limits if meeting one or more of the following criteria:
  - 1. A gradation control limit for the No. 200 sieve is exceeded by more than 3.0 percent.
  - 2. A gradation control limit for any sieve, except the No. 200, is exceeded by more than 5.0 percent.
  - 3. The fracture control limit is exceeded by more than 10.0 percent.

## **B.8 Department Testing**

### **B.8.1 General**

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

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

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

- (1) The department will have an HTCP technician, or ACT working under a certified technician, perform QV sampling and testing. Department verification testing personnel must meet the same certification level requirements specified in B.2 for contractor testing personnel for each test result being verified. The department will notify the contractor before sampling so the contractor can observe QV sampling.
- (2) The department will conduct QV tests of each base aggregate size, source or classification, and type during placement conforming to the following:
  - 1. One non-random test on the first day of placement.
  - 2. At least one random test per 30,000 tons, or fraction of 30,000 tons, placed.
- (3) The department will sample randomly, at locations independent of the contractor's QC work, collecting one sample at each QV location. The department will collect QV samples after the material has been bladed, mixed, and shaped but before compacting; except, for 3-inch aggregates, the department will collect samples from the stockpile at load-out. The department will split each sample, test half for QV, and retain half.

- (4) The department will conduct QV tests in a separate laboratory and with separate equipment from the contractor's QC tests. The department will use the same methods specified for QC testing.
- (5) The department will assess QV results by comparing to the appropriate specification limits. If QV test results conform to the specification, the department will take no further action. If QV test results are nonconforming, add the QV to the QC test results as if it were an additional QC test.

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

- (1) Independence assurance is unbiased testing the department performs to evaluate the department's QV and the contractor's QC sampling and testing including personnel qualifications, procedures, and equipment. The department will perform an IA review according to the department's independent assurance program. That review may include one or more of the following:
  1. Split sample testing.
  2. Proficiency sample testing.
  3. Witnessing sampling and testing.
  4. Test equipment calibration checks.
  5. Reviewing required worksheets and control charts.
  6. Requesting that testing personnel perform additional sampling and testing.
- (2) If the department identifies a deficiency, and after further investigation confirms it, correct that deficiency. If the contractor does not correct or fails to cooperate in resolving identified deficiencies, the engineer may suspend placement until action is taken. Resolve disputes as specified in B.9.

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

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

or otherwise determine the final disposition of nonconforming material as specified in standard spec 106.5.

**C (Vacant)**

**D (Vacant)**

**E Payment**

- (1) Costs for all sampling, testing, and documentation required under this special provision are incidental to this work. If the contractor fails to perform the work required under this special provision, the department may reduce the contractor's pay. The department will administer pay reduction under the non-performance of QMP administrative item.
- (2) For material represented by a running average exceeding a control limit, the department will reduce pay by 10 percent of the contract price for the affected Base Aggregate bid items listed in subsection A. The department will administer pay reduction under the Nonconforming QMP Base Aggregate Gradation or Nonconforming QMP Base Aggregate Fracture Administrative items. The department will determine the quantity of nonconforming material as specified in B.7.2.

301-010 (20100709)

**11.2 Aggregate Quality Testing for High-Performance Concrete (HPC) Mixes.**

**A Description**

- (1) This provision describes additional requirements for testing the quality of coarse aggregates being used in high-performance concrete mixes for structures and pavements.
- (2) Conform to the standard specifications and high-performance concrete provisions contained within the contract, as modified in this provision.

**B Materials**

**B.1 Personnel**

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

**B.2 Laboratory**

- (1) Perform testing at a department-qualified laboratory. Obtain information on the Wisconsin laboratory qualification program from:

Materials Management Section

3502 Kinsman Blvd.

Madison, Wisconsin 53704

Telephone: (608) 246-5388

<http://www.dot.state.wi.us/business/engrserv/lab-qualification.htm>



### **B.3 Equipment**

- (1) Furnish the necessary equipment and supplies for performing quality control testing. 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.

### **B.4 Records**

- (1) Document all observations, inspection records, and test results. Submit testing records to the engineer.

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

- (1) Perform all quality control tests necessary to control the production processes applicable to this special provision. Use the test methods identified below, or other methods the engineer approves, to perform the following tests:

LA Wear (100 and 500 revolutions) ..... AASHTO T 96  
Sodium Sulfate Soundness (R-4, 5 cycles) ..... AASHTO T 104  
Freeze-Thaw Soundness ..... AASHTO T 103  
Chert<sup>[1]</sup> .....

<sup>[1]</sup>Material classified lithologically as chert and having a bulk specific gravity (saturated surface-dry basis) of less than 2.45. Determine the percentage of chert by dividing the weight of chert in the sample retained on the 3/8-inch sieve by the weight of the total sample.

- (2) The department may periodically observe contractor sampling and testing, and direct additional contractor sampling and testing for department evaluation. Ensure that all test results are available for the engineer's review at any time during normal working hours.
- (3) In addition to the requirements of standard spec 106.3.4.2.2, perform tests for LA wear, sodium sulfate soundness, freeze-thaw soundness and chert at least once per calendar year when producing coarse aggregates for use in high-performance concrete mixes.
- (4) Randomly test the percentage of chert at least once per 10,000 tons during production of coarse aggregates to be used in high-performance concrete mixes or at least once per 10,000 cubic yards during placement of high performance concrete pavement.

### **B.6 Department Testing**

- (1) The department will have a HTCP certified technician, or ACT working under a certified technician, perform verification testing. The department will sample randomly at locations independent of the contractor's QC work. In all cases, the department will conduct the verification tests with separate personnel and equipment from the contractor's QC tests. The department will perform verification testing of chert at a frequency of 10 percent of the random quality control tests or a minimum of

once per project, or at greater frequency if determined to be necessary by the engineer.

**C (Vacant)**

**D (Vacant)**

**E Payment**

- (1) Costs for all sampling, testing, and documentation required under this special provision are incidental to the work. If the contractor fails to perform the work required under this special provision, the department may reduce the contractor's pay.

**11.3 Breaker Run.**

*Replace standard spec 311.3 (1) with the following:*

Place breaker run where the plans show or as the engineer directs. The contractor may substitute select crushed material conforming to standard spec 312.2 for breaker run.

**11.4 Concrete Pavement.**

*Supplement standard spec 415 as follows:*

**415.3.3 Preparing the Foundation**

*Add the following text:*

- Place multiple layers of polyethylene sheets over entire area where concrete pavement contacts the concrete masonry associated with the MSE wall. Total thickness of the sheets shall be at least 0.03 inches.

**415.5.1 General**

*Add the following text:*

- (6) Payment for multiple layers of polyethylene sheets placed at locations where concrete pavement contacts the concrete masonry associated with the MSE wall is considered incidental to the Concrete Pavement bid items or HPC Concrete Pavement bid items included in the contract.

**11.5 Temporary Haul Road Access for Structure Construction, Item SPV.0105.005.**

**A Description**

Construct temporary haul roads between the railroad and Duck Creek to facilitate construction of structures, as needed to transport equipment and materials, in accordance to the stipulations of the Section 404 permit. This item provides for construction, and maintenance of the temporary haul roads throughout construction, for removing the temporary haul roads after construction, and for restoration of the site.

**B Materials**

Obtain approval of the engineer for all materials and conform to the pertinent requirements of the standard specifications.

Provide clean virgin materials if stone is used; salvaged or recycled materials are not allowed.

**C Construction**

Wetlands are present throughout a significant portion of the area within the limits of this project and are identified in the plans. Operations, including constructed features, storage of equipment and materials, and stockpile of excavation from pier footings, shall occur only in permitted areas covered by the Section 404 permit, as shown in the plan. If the contractor determines additional areas for stockpiling or storage is required, the materials and/or equipment shall be hauled to another location outside the wetland areas.

Address temporary erosion control in the erosion control implementation plan.

At least 14 days prior to the pre-construction meeting, submit a plan to the DNR for approval showing proposed dimensions within the permitted wetland boundaries, materials, method and timetable for construction of the temporary haul roads, and their removal.

Construct the temporary haul roads to obtain a usable travel way for delivery of equipment and materials. Excavate as necessary outside the limits required for permanent maintenance roads, while avoiding wetlands not permitted as temporary impacts.

Provide necessary seeding (Mixture No. 60) and topsoil, temporary erosion control, and culverts to supplement what is provided in the plan for permanent maintenance roads.

When removing the temporary haul roads, restore underlying wetlands as closely as possible to their natural state. Thoroughly remove all temporary haul road materials. If necessary, excavate materials below existing ground as necessary to backfill with materials contiguous to the area. Match existing depth of all organic material.

After removing the temporary haul roads, seed the underlying ground with seeding mixture No. 60.

Materials and related items of work necessary to construct the permanent maintenance roads at the line, grade, and section shown in the plan, including permanent pipe culverts and backfill, will only be paid for once. If the use of temporary haul roads damages a previously constructed permanent maintenance road and/or pipe culvert, restore the permanent feature to conform to the plan without additional compensation. As necessary, replace culverts and/or shape and provide materials necessary for a smooth surface, without bumps and potholes.

#### **D Measurement**

The department will measure Temporary Haul Road Access for Structure Construction as a single complete lump sum unit of work, acceptably completed.

#### **E Payment**

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.005	Temporary Haul Road Access for Structure Construction	LS

Payment is full compensation for any additional agency coordination and/or permitting; for furnishing all materials; for constructing and maintaining the temporary haul roads; for removing temporary haul roads; for providing, installation and removal of temporary erosion control and culverts beyond what is provided in the plan for permanent maintenance roads; for excavation outside the limits required for permanent maintained roads, if necessary to remove materials, including the rubbish pile near Hurlbut Street, and for backfill; for restoring the site, including excavation, if necessary to remove haul road materials, and associated backfill; for seeding after removal; and for maintaining permanent maintenance roads and culverts to line, grade, and section shown on the plan.

### **11.6 Temporary Creek Access for Structure B-05-681, Item SPV.0105.006.**

#### **A Description**

Construct a temporary access to Duck Creek to construct pier 7 for Structure B-05-681, located in the channel, as needed to transport equipment and materials, in accordance to the stipulations of the Section 404 permit. Said access consists of a causeway within the limits of Duck Creek, connected to a shoreline access road extending off the north end of permanent maintenance road MR5. This item provides for the construction and maintenance of the shoreline access road and causeway, removal of the causeway, leaving in place the shoreline access road in a condition suitable for future use by others, and the restoration of the site.

#### **B Materials**

Obtain approval of the engineer for all materials and conform to the pertinent requirements of the standard specifications.

Provide clean virgin materials for the stone; salvaged or recycled materials are not allowed.

#### **C Construction**

Do not place materials within the limits of Duck Creek between March 1 and June 15.

Operations, including constructed features, and storage of equipment and materials shall occur only in permitted areas covered by the Section 404 permit, as shown in the plan.

Address temporary erosion control, and erosion control to remain after construction, in the erosion control implementation plan.

At least 14 days prior to the pre-construction meeting, submit a plan to the DNR for approval showing proposed dimensions, materials, method and timetable for construction of the shoreline access road and causeway, and removal of the causeway.

The length of time the causeway is in place shall be limited as described under “Prosecution and Progress”.

According to preliminary geotechnical analysis, the size of stone at the bottom of the causeway may be approximately 8-inches.

Construct the shoreline access road and causeway to obtain a usable travel way for delivery of equipment and materials.

If the shoreline access road is elevated, and does not consist of timber mats, seed the inslopes with seeding mixture No. 60.

Provide seeding, topsoil, and erosion control for the shoreline access road.

Though not expected to be necessary, if dredging is desired to facilitate means and methods of construction, obtain all necessary regulatory agency approvals.

Construction activities shall allow sufficient clearances for the navigation of boat and snowmobile traffic along Duck Creek. As provided under the item “Traffic Control for Duck Creek Recreational Vehicles”, install devices for maintaining boat and snowmobile traffic during and after construction as shown in the plans, including buoys and signing, prior to the start of any work in the creek.

When removing the causeway, restore Duck Creek as closely as possible to its natural state. Thoroughly remove all causeway materials from Duck Creek.

Leave the shoreline access road in place after construction, in a condition suitable for future use by others, for later extension west to remove existing USH 41 structures over Duck Creek, and to construct a new structure for southbound USH 41, under future Project 1133-10-71. If the shoreline access road is elevated, shape to a smooth surface, eliminating bumps and potholes. If timber mats are used, remove and replace damaged mats not suitable for future use by others.

#### **D Measurement**

The department will measure Temporary Creek Access for Structure B-05-681 as a single complete lump sum unit of work, acceptably completed.

**E Payment**

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.006	Temporary Creek Access for Structure B-05-681	LS

Payment is full compensation for any additional agency coordination and/or permitting; for furnishing all materials; for constructing and maintaining the shoreline access road and causeway; for the removal of all causeway materials from Duck Creek; for installation and removal of temporary erosion control along the shoreline access road; for installation of erosion control to remain after construction along the shoreline access road; for shaping the shoreline access road, if elevated, to a smooth surface for future use by others after construction, and for seeding and topsoiling; and for leaving timber mats, if used for the shoreline access road, in place for future use by others after construction. The following erosion control features will be measured and paid for separately: temporary turbidity barrier in the Duck Creek waterway, and permanent heavy riprap along the Duck Creek shorelines.

**11.7 Base Aggregate Dense ¾-Inch Special, Item SPV.0195.001.****A Description**

This special provision describes providing base aggregate dense ¾-inch, exclusively consisting of virgin material.

**B Materials**

Provide virgin materials; salvaged or recycled materials are not allowed. Otherwise, conform to standard spec 305.2.

**C Construction**

Conform to standard spec 305.3.

**D Measurement**

Conform to standard spec 305.4 (1).

The department will measure Base Aggregate Dense ¾-Inch Special by the ton, acceptably completed.

**E Payment**

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0195.001	Base Aggregate Dense ¾-Inch Special	TON

Payment is full compensation conforming to standard spec 305.5(2) and standard spec 305.5(4).

## **11.8 Breaker Run Special, Item SPV.0195.002.**

### **A Description**

This special provision describes providing breaker run, exclusively consisting of virgin material.

### **B Materials**

Provide virgin materials; salvaged or recycled materials are not allowed. Otherwise, conform to standard spec 311.2.

### **C Construction**

Conform to standard spec 311.3.

### **D Measurement**

Conform to standard spec 311.4 (1).

The department will measure Breaker Run Special by the ton, acceptably completed.

### **E Payment**

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0195.002	Breaker Run Special	TON

Payment is full compensation conforming to standard spec 311.5 (2) and standard spec 311.5 (3).

## **12. Bridges.**

### **12.1 Stay-In-Place (SIP) Metal Deck Forms.**

#### **A Description**

Work under this item applies to the optional use of stay-in-place (SIP) metal deck forms to construct cast-in-place bridge decks on steel box girders. Use of the SIP metal deck forms is permitted in lieu of conventional removable deck forms only in the interior bay of steel box girders as shown on the plans.

Use conventional forming for deck areas indicated herein for which the use of SIP metal deck forms is not allowed. If conventional forming is used over the interior bay of steel box girders, remove all forming materials after use.

#### **B Materials**

Fabricate SIP metal deck forms and supports from steel conforming to ASTM A653 having a galvanized coating designation of G210. Use any grade except Grade 50, Class 3.

Galvanize SIP metal deck form appurtenances and hardware in accordance to ASTM A123 and A153.

## **C Construction**

### **C.1 General**

The contractor may, at their option, use SIP metal deck forms in lieu of conventional forms as the bottom forms for the cast-in-place concrete bridge decks supported on steel box girders. The use of the SIP metal deck forms is subject to the limitations in this special provision and as indicated on the plans.

Coordinate the SIP metal deck forms and the box girder shop drawings. Position the deck forms so that they do not conflict with the top flange lateral bracing.

Locate transverse steel deck form panel construction joints at the bottom of a flute. Field drill ¼-inch diameter weep holes at 12-inch maximum spacing along the joint.

Do not rest form sheets directly on the top of the box girder flange or the lateral bracing members. Sheets shall be securely fastened to form supports and shall have a minimum bearing length of one inch at each end.

For all reinforcement, maintain the design concrete cover required by the plans.

Detail SIP metal deck forms such that they in no way infringe upon the concrete outline of the slab and haunches shown on the plans. Use SIP metal deck forms that provide and maintain the dimensions and configuration of the original slab in regards to minimum thickness and slope. Maintain the plan dimensions of both layers of primary deck reinforcement from the top surface of the concrete deck.

Clean and recoat all damaged steel form panel galvanizing prior to placement of deck concrete. Repair damaged galvanizing using methods described in ASTM A780. Thoroughly clean, wire brush, and paint it with two coats of galvanizing compound to the satisfaction of the engineer. Do not touch up minor heat discoloration in areas of welds.

Vibrate concrete to avoid honeycomb and voids, especially at construction joints, expansion joints, valleys and ends of form sheets. Use approved pouring sequences. The direction of concrete placement will be such that the upper layer of the form overlap is loaded first.

Do not use calcium chloride or any other admixture containing chloride salts in the concrete.

The seam between the angles / support and the beam should be caulked or grouted.

The flutes of non-cellular SIP metal deck forms may be filled with polystyrene foam or concrete. When polystyrene foam is used to fill the flutes, fill form flutes completely; do not allow any portion of the polystyrene foam to extend beyond the limits of the flutes.



Ensure that the polystyrene foam remains in its required position within flutes during the entire concrete placement process. Do not use reinforcing steel supports or other accessories in such a manner as to cause damage to the polystyrene foam. Replace all damaged polystyrene foam to the satisfaction of the engineer.

## **C.2 Submittals**

Provide plans and design calculations that are signed and sealed by a registered professional engineer licensed in the State of Wisconsin for each structure where the SIP metal deck forms are to be used. Submit three copies of the plans for review and acceptance before ordering material and starting construction. Show on the drawings the grade of steel, the physical and section properties for all deck members, the method of support and grade adjustment, deflections, accommodation for skew and methods of end sealing against concrete or grout leaks, and the method for handling, storage and erection of the SIP metal deck panels. Do not install SIP metal deck forms until the forming system has been approved by the engineer. Review and acceptance of the installation plan by the department does not relieve the contractor of responsibility for properly designing and constructing the bridge decks with the use of SIP metal deck forms.

## **C.3 Limitations**

The use of SIP metal deck forms for bridge deck construction is not permitted as follows:

- For bridges with steel I girder and prestressed girder superstructures.
- The bay between the steel box girders and the deck cantilever in multi steel box girder superstructures. The deck cantilever is the deck area that extends beyond any exterior flange and web of a steel box girder and is only supported on one side by the exterior flange and web.

## **C.4 Design**

Compute physical design properties in conformance with the requirements of the latest edition of the AISI specification for the "Design of Cold Formed Steel Structural Members."

The maximum self-weight of the SIP metal deck forms, plus the weight of the concrete or expanded polystyrene required to fill the form flutes (where used), shall not exceed 20 psf.

Design the forms on the basis of dead load of form, reinforcement, and plastic concrete plus 50 psf for construction loads.

Do not allow deflection under the weight of the forms, reinforcement and plastic concrete to exceed 1/180 of the form span, or 1/2-inch, whichever is less, for form spans of 10 feet or less or 1/240 of the form span or 3/4 inch, whichever is less, for form spans greater than 10 feet.

Use a design span of the form equal to the clear span of the form plus 2 inches.

Design the clearance between the surface of permanent forms and any bar reinforcement to be no less than 1½-inch.

Do not consider the SIP metal deck form as lateral bracing for compression flanges of supporting structural members.

Secure forms to the supporting members by means other than welding directly to the member. Welding to the girder flanges is not allowed.

#### **D Measurement**

If used, SIP metal deck forms will not be measured separately for payment and will be considered included in the work for other items in the contract.

#### **E Payment**

Payment to the contractor utilizing SIP metal deck forms is considered included in the contract unit bid price and plan quantity for the item High Performance Concrete (HPC) Masonry Structures in the contract documents. Payment includes all work required in this special provision. The superstructure HPC quantities shown on the Plans include the concrete required to fill the deck form flutes. If the contractor chooses (and is allowed) to utilize the polystyrene foam then the additional concrete to fill the flutes should not be paid as estimated in the plan quantity.

### **12.2 Temporary Shoring, Item 206.6000.S.**

#### **A Description**

This special provision describes designing and providing temporary shoring at locations the plans show.

#### **B Materials**

##### **B.1 Shoring Design**

Provide a shoring design for each location where the plan requires temporary shoring. Have a professional engineer, registered in the State of Wisconsin and knowledgeable of the specific site conditions and requirements, verify the adequacy of the design. Submit one copy of each shoring design, signed and sealed by the same professional engineer verifying the design, to the engineer for incorporation into the permanent project record.

#### **C Construction**

Provide temporary shoring at each required location conforming to the design developed for that location.

Remove the shoring when it is no longer needed unless the engineer allows it to remain in place. Backfill the space that is excavated but not occupied by the new permanent construction conforming to standard spec 206.3.13.

## **D Measurement**

The department will measure Temporary Shoring by the square foot, acceptably completed at locations the plans show, measured as the area of exposed face in the plane of the shoring from the ground line in front of the shoring to a maximum of one foot above the retained grade. Shoring used for staged construction in multiple configurations without removal and reinstallation will be measured once based on the configuration with the largest area of exposed face.

## **E Payment**

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

ITEM NUMBER	DESCRIPTION	UNIT
206.6000.S	Temporary Shoring	SF

Payment is full compensation for designing and providing shoring; for providing a signed and sealed copy of the design; and for backfilling and removing the shoring.

The department will not pay for temporary shoring, installed for contractor convenience that is not required in the plans.

206-005 (20110615)

## **12.3 Stockpile Formliners and Stain.**

### **A Description**

This special provision describes furnishing and delivering to the department formliners and concrete stain used on bridges, retaining walls, sign bases, and other areas upon completion of the project.

### **B Materials**

Provide a document containing the pertinent information for the formliners and stain colors incorporated into the project along with materials in accordance to the following:

#### **B.1 Concrete Stain**

Provide stain colors in accordance to the specifications for the staining items included in the contract. Materials shall be provided in original manufacturer's containers which allow for long term storage. Partial containers of stain will not be accepted.

#### **B.2 Formliners**

Provide section(s) of reusable formliner for the architectural pattern(s) used in the contract.

### **C Construction**

The required formliners and stain become the property of the department upon completion of the project. The department will inspect the materials prior to delivery to the local municipality or to the department office to ensure materials are in an acceptable condition.

Deliver the items to the local municipality or department as approved by the engineer. Coordinate time and location of delivery with the engineer.

Deliver the following items:

- Formliner: Four 4-feet high x 3-feet wide formliner panels for each architectural pattern per municipality used
- Stain: 5 gallons of each color of stain for each municipality on the project

#### **D Measurement**

The department will not make measurement for these items and they will be considered incidental to the other items in the contract.

#### **E (Vacant)**

### **12.4 Expansion Device B-5-678, B-5-681.**

#### **A Description**

This special provision describes furnishing and installing an expansion device in accordance to standard spec 502, as shown on the plans, and as hereinafter provided.

#### **B Materials**

The minimum thickness of the polychloroprene strip seal shall be ¼-inch for non-reinforced elastomeric glands and 1/8-inch for reinforced glands. Furnish the strip seal gland in lengths suitable for a continuous one-piece installation at each individual expansion joint location. Provide preformed polychloroprene strip seals that conform to the requirements ASTM D3542, and have the following physical properties:

<b>Property Requirements</b>	<b>Value</b>	<b>Test Method</b>
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 hours @212°F, max.	35%	D395 Method B Modified
Ozone Resistance, after 70 hrs. at 100°F under 20% Strain with 100 pphm ozone	No Cracks	ASTM D1149 Method A
Mass Change in Oil 3 after 70 hr. 212°F	45%	ASTM D471
Mass Change, max.		

Install the elastomeric strip seal gland with tools recommended by the manufacturer, and with a lubricant adhesive conforming to the requirements of ASTM D4070.

The manufacturer and model number shall be one of the following approved strip seal expansion device products:

Manufacturer	Model Number Strip Seal Gland Size*		
	4-Inch	5-Inch	6-Inch
D.S. Brown	SSA2-A2R-400	SSA2-A2R-XTRA	SSA2-A2R-XTRA
R.J. Watson	RJA-RJ400	RJA-RJ500	RJA-RJ600
Watson Bowman Acme	A-SE400	A-SE500	A-SE800
Commercial Fabricators	A-AS400	-----	-----

\*Expansion device strip seal gland size requirement of 4", 5", and 6" shall be as shown on the plans.

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 steel extrusion or retainer shall conform to ASTM designation A 709 grade 36 steel. After fabrication, steel shall be galvanized conforming to the requirements ASTM A123.

Manufacturer's certifications for adhesive and steel shall attest that the materials meet the specification requirements.  
502-020 (20110615)

## **12.5 Expansion Device Modular B-5-671, Item 502.3110.S.009; B-5-678, Item 502.3110.S.010; B-5-679, Item 502.3110.S.011 and B-5-681, Item 502.3110.S.012.**

### **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:

1. D.S. Brown Company, Steelflex Modular D-Series  
(419) 257-3561
2. R.J. Watson, Inc., Modular RJW-Series  
(716) 741-2166
3. 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 1/4-inch and conform to ASTM D3542 modified to omit the recovery test. The elastomeric seal elements shall meet the following physical properties:

<b>Property</b>	<b>Requirement</b>	<b>Test Method</b>
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 @ 212° F, max	35%	D395 Method, B Modified
Ozone Resistance, after 70 hours at 100° F under 20% Strain with 100 pphm ozone	No Cracks	ASTM D1149 and D518, Method A
Mass Change in Oil 3 after 70 hours @ 212° 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  $\frac{1}{4}$ -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.009	Expansion Device Modular B-5-671	LS
502.3110.S.010	Expansion Device Modular B-5-678	LS
502.3110.S.011	Expansion Device Modular B-5-679	LS
502.3110.S.012	Expansion Device Modular B-5-681	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)

### **12.6 Anchor Assemblies Light Poles on Structures, Item 657.6005.S.**

#### **A Description**

This special provision describes furnishing and installing anchor bolt assemblies for light poles as shown on the plans, and as hereinafter provided.

#### **B Materials**

Furnish anchors of the size and spacing as given on the plans, and that conform to ASTM A449 or AASHTO M314 GR 55. The upper 8 inches of the bolts, nuts, and washers shall be hot-dipped galvanized in accordance to ASTM A153, Class C. Provide enlarged threads on nuts for proper fit after galvanizing.

#### **C Construction**

Provide two nuts and two washers per anchor bolt, and install per light standard manufacturer's recommendations.

#### **D Measurement**

The department will measure Anchor Assemblies Light Poles on Structures as a unit for each individual anchor bolt assembly, acceptably completed.

## **E Payment**

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

ITEM NUMBER	DESCRIPTION	UNIT
657.6005.S	Anchor Assemblies Light Poles on Structures	Each

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

657-060 (20100709)

## **12.7 High Performance Concrete (HPC) Masonry Structures, Item SPV.0035.700.**

This special provision describes specialized material and construction requirements for high-performance concrete used in bridge structures. Conform to standard specification standard spec 501 and standard spec 502 as modified in this special provision. Conform to standard spec 715 for QMP, as modified in this special provision.

### ***MODIFY STANDARD SPEC 501 AS FOLLOWS:***

#### **501.2.5.4.1 General**

*Replace the entire text with the following:*

- (1) Use clean, hard, durable crushed limestone with 100% fractured surfaces and free of an excess of thin or elongated pieces, frozen lumps, vegetation, deleterious substances or adherent coatings considered injurious.
- (2) Use virgin aggregates only.

#### **501.2.5.4.2 Deleterious Substances**

*Replace paragraph one with the following:*

- (1) The amount of deleterious substances must not exceed the following percentages:

DELETERIOUS SUBSTANCE	PERCENT BY WEIGHT
Shale.....	1.0
Coal.....	1.0
Clay lumps .....	0.3
Soft fragments.....	5.0
Any combination of above.....	5.0
Thin or elongated pieces based on a 3:1 ratio.....	15.0
Materials passing the No. 200 sieve .....	1.5
Chert <sup>[1]</sup> .....	1.0

<sup>[1]</sup>Material classified lithologically as chert and having a bulk specific gravity (saturated surface-dry basis) of less than 2.45. Determine the percentage of chert by dividing the weight of chert in the sample retained on a 3/8-inch sieve by the weight of the total sample.

#### **501.2.5.4.3 Physical Properties**

*Replace paragraph one with the following:*

- (1) The department will ensure that Los Angeles wear testing conforms to AASHTO T 96, soundness testing conforms to AASHTO T 104 using 5 cycles in sodium sulfate solution on aggregate retained on the No. 4 sieve, and freeze-thaw soundness testing conforms to AASHTO T 103. The percent wear must not exceed 30, the weighted soundness loss must not exceed 6 percent, and the weighted freeze-thaw average loss must not exceed 15 percent.

#### **501.2.9 Concrete Curing Materials**

*Replace paragraph 3 with the following:*

- (3)Furnish burlap conforming to AASHTO M 182, class 1, 2, 3 or 4.

#### **501.3.2.4.3.3 Extended Delivery Time**

*Delete paragraph one.*

#### **501.3.5.2 Delivery**

*Replace paragraph three with the following:*

- (3) Deliver and completely discharge concrete within one hour beginning when adding water to the cement, or when adding cement to the aggregates. A decrease in air temperature below 60° F or the use of department-approved retarders does not increase the discharge time.

#### **501.3.7.1 Slump**

*Replace the entire text with the following:*

- (1) Use a 2-inch to 4-inch slump.
- (2) Perform the slump tests for concrete according to AASHTO T 119.

#### **501.3.8.2.1 General**

*Replace the entire text with the following:*

- (1) The contractor is responsible for the quality of the concrete placed in hot weather. Submit a written temperature control plan at or before the pre-pour meeting. In that plan, outline the actions the contractor will take to control concrete temperature if the concrete temperature at the point of placement exceeds 80° F. Do not place concrete without the engineer's written

acceptance of that temperature control plan. Perform the work as outlined in the temperature control plan.

- (2) If the concrete temperature at the point of placement exceeds 80° F, do not place concrete for items covered in this special provision.
- (3) Notify the engineer whenever conditions exist that might cause the temperature at the point of placement to exceed 80° F. If project information is not available, the contractor should obtain information from similar mixes placed for other nearby work.
- (4) Any additive or action taken by the contractor to control the temperature of the concrete to within the limits of this special provision, including but not limited to the addition of ice to the concrete mix, is considered incidental to the work and will not be measured or paid for separately.

#### **501.3.8.2.2 Bridge Decks**

*Replace the entire text with the following:*

- (1) Do not place concrete for bridge decks when the ambient air temperature is above 80° F.
- (2) For concrete placed in bridge decks, submit a written evaporation control plan at each pre-pour meeting. In that plan, outline the actions the contractor will take to maintain concrete surface evaporation at or below 0.15 pounds per square foot per hour. Do not place concrete for bridge decks without the engineer's written acceptance of that evaporation control plan. Perform the work as outlined in the evaporation control plan.
- (3) If predicting a concrete surface moisture evaporation rate exceeding 0.15 pounds per square foot per hour, do not place concrete for bridge decks.
- (4) Provide evaporation rate predictions to the engineer 24 hours prior to each bridge deck pour.
- (5) Compute the evaporation rate from the predicted ambient conditions at the time and place of the pour using the nomograph, or computerized equivalent, specified in CMM 5.25, figure 1. Use weather information from the nearest national weather service station. The engineer will use this information to determine if the pour will proceed as scheduled.
- (6) At least 8 hours before each pour, the engineer will inform the contractor in writing whether or not to proceed with the pour as scheduled. If the actual computed evaporation rate during the pour exceeds 0.15 pounds per square foot per hour, at the sole discretion of the engineer, the contractor may be allowed to implement immediate corrective action and complete the pour.

**MODIFY STANDARD SPEC 502 AS FOLLOWS:**

**502.3.5.4 Superstructures**

*Delete paragraph six.*

**502.3.7.8 Floors**

*Replace paragraph five with the following:*

- (5) The contractor shall set the rails or tracks, that the machine finisher rides on, to the required elevation; and ensure they adjust to allow for settlement under load. The rails or tracks shall be supported outside the limits of the finished riding surface. Rails or tracks are not allowed to be supported within the finished riding surface, without written permission of the engineer.

*Delete paragraphs thirteen, fourteen and fifteen. Add the following to the end as paragraphs nineteen, twenty and twenty-one.*

- (19) Do not place bridge deck concrete more than 10 feet ahead of the finishing machine. If there is a delay of more than 10 minutes during the placement of a bridge deck, cover all concrete (unfinished and finished) with wet burlap to protect the concrete from evaporation until placement operations resume.
- (20) Hand finishing, except for the edge of deck, must be kept to a minimum. The finishing machine must be equipped with a pan behind the screed. Apply micro texture using a broom or turf drag following the use of a 10-foot straight edge. Only finish by hand as necessary to close up finished concrete. Begin wet curing the deck immediately following the micro texture.
- (21) For bridge decks with a design speed of 40 mph or greater, provide longitudinal grooving according to the provision included in this contract.

**502.3.8.1 General**

*Replace paragraph one with the following:*

- (1) Maintain adequate moisture throughout the concrete mass to support hydration for at least 14 days.

#### **502.3.8.2.1 General**

*Replace the entire text with the following:*

- (1) Wet-cure the concrete for bridge decks, sidewalks and raised medians for 14 days by use of a soaker hose system, or other engineer-approved methods. Cover the finished surface of bridge decks and overlays with one layer of wetted burlap or wetted cotton mats within 10 minutes after the finishing machine has passed. Apply the burlap/cotton gently so as to minimize marking of the fresh concrete. Keep the first layer of burlap/cotton continuously moist by means of fogging equipment until the bridge deck or overlay is sufficiently hard to apply a second layer of wetted burlap/cotton. Care shall be taken to not apply too much water to the fresh concrete surface. Any and all damage to the concrete surface shall be the responsibility of the contractor to correct to the engineer's approval. The intent is to keep the surface moist until the soaker hose system is in place. Free standing water shall not be on or running off the deck surface. Immediately after applying the second layer of burlap/cotton, continue to keep the deck moist until placing and activating the soaker hose system. Throughout the remainder of the curing period, keep the burlap/cotton continuously wet with soaker hoses hooked up to a continuous water source. Inspect the burlap/cotton twice daily to ensure the entire surface is moist. If necessary, alter the soaker hose system as needed to ensure the entire surface is completely covered and stays moist. After 48 hours from the time of completion of the bridge deck or overlay pour, the soaker hose system and burlap/cotton may be covered with polyethylene sheeting. Provide a continuous flow of water through the soaker hose system for the entire curing period.
- (2) Do not uncover any portion of the deck at any time for any reason during the first 7 days of the curing period.
- (3) Set up and test the fogging system before each bridge deck, raised median and sidewalk pour. The fogging system must remain set up and in operating condition for the duration of the pour.

#### **502.3.8.2.3 Decks**

*Delete the entire text.*

#### **502.3.8.2.4 Parapets**

*Replace the entire text with the following:*

- (1) Cure the inside and outside concrete faces and tops of railings or parapets by covering with wetted burlap immediately after form removal and surface finish application. Keep the burlap thoroughly wet for at least 7 days; or by covering for the same period with thoroughly wet polyethylene-coated burlap conforming to standard spec 501.2.9.
- (2) Secure coverings along all edges to prevent moisture loss.

### **502.3.9.6 Bridge Decks**

*Replace paragraph two with the following:*

- (2) Protect the underside of the deck, including the girders, for bridge deck and overlay pours by housing and heating when the national weather service forecast predicts temperatures to fall below 32° F during the cold weather protection period. Maintain a minimum temperature of 40° F in the enclosed area under the deck for the entire 14-day curing period.

### **502.5.1 General**

*Replace paragraph one with the following:*

- (1) The department will pay for measured quantities at the contract unit price and incidentals necessary to complete the work under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0035.700	HPC Masonry Structures	CY

### ***MODIFY STANDARD SPEC 710 AS FOLLOWS:***

*Add the following subsection:*

#### **710.5.7 Chloride Penetration Resistance**

- (1) For each new or changed mix design, measure chloride penetration resistance according to AASHTO T 259 (Salt Ponding Test).
- (2) For each new or changed mix design, measure chloride penetration resistance according to AASHTO T 277 (Rapid Chloride Permeability Test) at a frequency of 1 test per 3 months (quarterly) of production.
- (3) Permeability samples for AASHTO T 277 testing must be stripped of their molds and wet cured to an age of 7 days in a standard moist room or water tank. After 7 days, submerge the samples in water heated to 100° F until an age of 28 days. Upon completion of the curing process, obtain one sample from each cylinder and test according to AASHTO T 277.
- (4) Ensure that the initial accepted mix designs meet the chloride penetration resistance limit of 1500 coulombs based on the AASHTO T 277 Rapid Chloride Permeability test. Chloride resistance testing conducted quarterly using AASHTO T 277 Rapid Chloride Permeability Test during production will not be used for acceptance of previously accepted mixes and concrete masonry mixed and placed according to the contract requirements. For quarterly chloride resistance test results exceeding 1500 coulombs, the department may require adjustment of the concrete mix going forward to improve the chloride penetration resistance.

**MODIFY STANDARD SPEC 715 AS FOLLOWS:**

**715.2.3.2 Structures**

*Replace paragraph two with the following:*

- (2) Provide a minimum cementitious content of 540 pounds per cubic yard and a maximum cementitious content of 600 pounds per cubic yard. For all superstructure and substructure concrete, unless the engineer approves otherwise in writing, conform to one of the following:
  1. Use class C fly ash or grade 100 or 120 slag as a partial replacement for Portland cement. For binary mixes use 15% to 30% fly ash or 20% to 30% slag. For ternary mixes use 15% to 30% fly ash plus slag in combination. Percentages are stated as percent by weight of the total cementitious material in the mix.
  2. Use a type IP, IS, or I(SM) blended cement.

*Add the following subsection:*

**715.2.3.3 Trial Mixes**

- (1) Develop and test each mix to be used for HPC Masonry Structures. Produce a laboratory trial mix for each mix, as well as a trial mix from each plant used to supply the project. Test all mixes at a department-qualified laboratory.
- (2) The laboratory trial mix data must include the results of the following tests:
  1. AASHTO T 119 Slump of Hydraulic Cement Concrete.
  2. AASHTO T 121 Mass per Cubic Foot, Yield
  3. AASHTO T 152 Air Content.
  4. AASHTO T 22 Compressive Strength.
  5. AASHTO T 277 Rapid Determination of the Chloride Permeability of Concrete, using the modified curing procedure according to standard spec 710.5.7(3) herein.
  6. AASHTO T 309 Temperature.
  7. Water Cement Ratio.
- (3) The 28-day compressive strength must be greater than or equal to 4000 psi. The 28-day results of the permeability test must be less than or equal to 1500 coulombs.



### 715.5.3 Structures

Replace standard spec 715.5.3 with the following:

- (1) The department will adjust pay for each lot using equation “QMP 2.03” as follows:

Percent within Limits (PWL)	Pay Adjustment <sup>[1]</sup> (dollars per cubic yard)
≥ 90 to 100	0
≥ 50 to < 90	$(7/8 \times \text{PWL}) - 78.75$
< 50	-35

- (2) For lots with less than four sublots, the department will assess a disincentive based on the individual subplot average strengths. The department will reduce pay for sublots with an average strength below 4000 psi by \$35 per cubic yard.

## 12.8 Ground Fault Circuit Interrupter (GFCI) Receptacles, Item SPV.0060.350.

### A Description

This special provision describes furnishing, installing and connecting a heavy duty, commercial grade Ground Fault Circuit Interrupter (GFCI) Receptacles in the locations specified on the plans.

### B Materials

Provide GFCI duplex receptacles that are feed-through type, convenience receptacle with integral ground fault current interrupter. UL rated Class A, Group 1, NEMA configuration 5-20R. Provide GFCI's that are rated at 120 VAC and 20 A and capable of detecting a current leak of 5 mA. Connect receptacles to protect the local load without disruption of the rest of the circuits.

### C Construction

Furnish and install two 20 A duplex receptacles, ground fault interrupting, premium specification grade in a 4-inch square box with cover, for auxiliary use.

Method of installation and locations of receptacles are as shown on the plans.

### D Measurement

The department will measure Ground Fault Circuit Interrupter (GFCI) Receptacles by Each unit consisting of two duplex receptacles complete with box and covers, installed, wired, 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.0060.350	Ground Fault Circuit Interrupter (GFCI) Receptacles	Each

Payment is full compensation for furnishing and installing Ground Fault Circuit Interrupter (GFCI) Receptacles, of the size and type indicated on the plans and for furnishing all labor, tools, equipment, materials, and incidentals necessary to complete the contract work.

## **12.9 Vapor Proof L.E.D. Light Fixture, Item SPV.0060.351.**

### **A Description**

This special provision describes furnishing, installing and connecting a heavy duty, commercial grade, 26 Watt Vapor Proof L.E.D. Ceiling Mount Light Fixture with integral driver and L.E.D., in the locations specified on the plans.

### **B Materials**

#### **B.1 Driver**

Furnish a driver mounted within the fixture that is designed to operate at 100V-277V, 50/60 HZ, 0.48 Amp and the THD is less than or equal to 20% Power Factor 97.9%. Must be capable of operating at temperatures of -40°F through 104°F.

Provide flexible conduits of the type, size, and length shown on the plans to be included in the cost of the light fixtures.

#### **B.2 Housing**

Furnish outer housing constructed of die cast aluminum designed for maximum heat dissipation. Gaskets made from high temperature silicon. Finish shall be natural shot blasted aluminum.

#### **B.3 L.E.D.**

Supply a L.E.D. with the following criteria: Multi-chip 26W high-output, 66 lumens per watt, 68CRI, 4900K, minimum 1,955 lumens, 100,000-hour L.E.D. life span and must be capable of operating at a temperature rating of -40°F through 104°F. CCT (Correlated Colored Temperature) shall follow the guidelines of the American National Standard for Specifications for the Chromaticity of solid state lighting products, ANSI C38.377-2011. L.E.D. shall be integral to the light fixture.

#### **B.4 Guard and Globe**

Furnish die cast aluminum shot blasted guard with frosted globe.

#### **B.5 Certification**

Luminaries must comply with IESNA LM-79 and LM-80 testing and be UL listed suitable for wet locations as down light.

#### **B.6 Hardware**

Furnish and install galvanized steel or 304 stainless steel supports, hardware, nuts, bolts, and washers. All threaded hardware shall be stainless steel.

### **C Construction**

Install fixtures at the locations shown on the plans. Provide and install hardware to facilitate the proper mounting of the light fixtures to the pre-fabricated connection brackets at the K frames and diaphragms. Drilling is not allowed in any of the box girder structural steel. Furnish and install flexible conduit of type, size and length shown on the plans. Include any additional/special mounting hardware needed to complete the work as shown on the plans.

### **D Measurement**

The department will measure Vapor Proof L.E.D. Light Fixture by each individual unit, installed with flexible conduit, wired 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.0060.351	Vapor Proof L.E.D. Light Fixture	Each

Payment is full compensation for furnishing and installing the light fixture, of the size and type indicated on the plans; all mounting hardware; and for flexible conduit and wiring between the junction boxes and luminaries.

## **12.10 Junction Boxes Stainless Steel 27x18x8-Inch, Item SPV.0060.352; 27x24x12-Inch, Item SPV.0060.353.**

### **A Description**

This special provision describes furnishing, installing and connecting Junction Boxes Stainless Steel of the size and type specified on the plans.

### **B Material**

Install Junction Box Stainless Steel with a cover, gasket, and hardware. Furnish stainless steel hardware for the cover.

Furnish box covers that have a continuous formed, seamless, urethane, oil-resistant gasket. Place the gasket directly onto the junction box cover. Adhere the gasket to the cover without the use of adhesives. Attach junction box covers to the box with un-slotted hex head screws unless otherwise specified. For boxes mounted on bridge structures, furnish the cover with a retaining chain and captive screws.

Provide Type 304 stainless steel, not less than 10 gauge with all seams continuously welded with stainless steel weld wire and ground smooth. Provide exterior surfaces having a smooth polished finish. Provide box in conformance with UL 50 and NEMA Type 4X. Furnish box suitable for surface mounting when specified for attachment to a structure, complete with external stainless steel mounting lugs or brackets welded to the box. Furnish an overlapping stainless steel cover that is secured to the box with a

continuous stainless steel hinge and a minimum of four captive stainless steel clamps utilizing captive stainless steel hex-head bolts or deep slotted stainless steel screws.

### **C Construction**

Install exposed junction boxes on structures on ½-inch long stainless steel or brass spacers with the hinge on bottom of the box and the cover lying in the vertical plane when closed. The exact orientation is shown on the plans or as directed by the engineer. Take care to assure proper orientation of mounting lugs.

Make field cut conduit openings uniform and smooth. File smooth all burrs and rough edges prior to the installation of conduits into the junction box. Field cut conduit openings to be fitted with the appropriate conduit fittings and accessories.

### **D Measurement**

The department will measure Junction Boxes Stainless Steel (Size) by each individual unit, acceptably completed.

### **E Payment**

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.352	Junction Boxes Stainless Steel 27x18x8-Inch	Each
SPV.0060.353	Junction Boxes Stainless Steel 27x24x12-Inch	Each

Payment is full compensation for furnishing and installing Junction Boxes Stainless Steel, of the size and type indicated on the plans.

## **12.11 Standpipe System, Item SPV.0060.700.**

### **A Description**

This special provision describes furnishing and installing a dry standpipe water delivery system on Structure B-5-671 as shown on the plans and as specified herein.

### **B Materials**

Furnish galvanized steel pipe conforming to standard spec 506.2.3.6 with a nominal inner diameter of 4-inches. Galvanize the steel pipe per ASTM A123.

Furnish carbon galvanized steel Schedule 80 pipe meeting all requirement of ASTM A53 B. The pipe shall be rated for a minimum of 200 pounds per square inch of working pressure at 400° F.

Furnish galvanized pre-manufactured bends and couplings as required by the plans. The bends and couplings shall be rated for a minimum of 200 pounds per square inch of working pressure.

Furnish storz couplings with locking caps as required by the plans. The storz couplings shall be rated for a minimum of 200 pounds per square inch of working pressure meeting NFPA 1963 standards for fire hose connections. Locking caps for the storz shall be Knox StorzGuard Caps, Item 5002 5" StorzGuard – Dark, Hard Anodized Aluminum keyed to a #112 key.

The flexible stainless steel metal pipe as shown on the contract drawings must transmit water up to a pressure of 200 psi. The flexible metal pipe must have a diameter of 4" and must be connectible to the rigid standpipe system.

Galvanized steel pipe, bends, and couplings shall be painted with a corrosion resistant paint that is resistant to acids, alkalies, solvents, salts, sunlight, and water. The paint color shall be Basket Beige SW 6143 (Sherwin Williams color chart) and shall be able to be field applied depending on temperature. It shall be applicable by brushing, dipping, rolling, or spraying.

Furnish steel pipe hangers and clamp assemblies for attaching and anchoring the standpipe system to the structure. Furnish anchor brackets, clamps and fittings for anchoring steel pipe conforming to ASTM A709, Grade 36. Blast clean and zinc coat all ASTM A 709 Grade 36 steel anchor components according to ASTM A 123. Provide galvanized anchor bolts, structural bolts, nuts and washers conforming to 513.2.2.5 of the standard specifications for all hanger and clamp assemblies and galvanizing for hardware to match galvanized pipe.

## **C Construction**

### **C.1 General**

Install the pipe, bends, expansion devices and connectors on designated structures and in the locations shown in the plans.

Design, furnish and install a pipe anchoring system to adequately anchor the standpipes to Structure B-5-671. Attach anchor assemblies for horizontal pipe runs located under bridge decks to the bridge deck using cast in threaded inserts, sized and spaced to accept the threaded anchor rods of the furnished anchor assemblies. Attach anchor assemblies for vertical pipe runs located along pilasters, walls, columns and pier caps using engineer-approved adhesive anchors. Space anchor assemblies along the length of pipe runs a maximum of 8 feet or as required to adequately anchor the pipe assuming it is completely filled with water and pressurized.

### **C.2 Painting**

Submit material cut sheets, as required in these special provisions, for the paint to be applied for approval prior to applying to any materials.

After galvanizing, paint all exterior surfaces of steel railing assemblies and inside of rail elements at field erection and expansion joints as hereinafter provided. All galvanized surfaces to be painted shall be cleaned per SSPC-SP1 to remove chlorides, sulfates, zinc salts, oil, dirt, organic matter and other contaminants. The cleaned surface shall then be

brush blast cleaned per SSPC-SP16 to create a slight angular surface profile per manufacturer's recommendation for adhesion of the tie coat. Blasting shall not fracture the galvanized finish or remove any dry film thickness. Within 24 hours after cleaning, or sooner if recommended by the manufacturer, apply a tie coat from an approved coating system that is specifically intended to be used on a galvanized surface, per manufacturer's recommendations. The tie coat shall etch the galvanized rail and prepare the surface for the top coat. Apply a top coat per manufacturer's recommendations, matching the specified color shown on the plans. Use a preapproved top coat that is resistant to the effects of the sun and is suitable for a marine environment. The tie and top coats should be of contrasting colors, and come from the same manufacturer.

Ensure that the paint manufacturer reviews the process to be used for surface preparation and application of the paint coating system with the paint applicator. The review shall include a visit to the facility performing the work if requested by the paint manufacturer. Provide written confirmation, from the paint manufacturer to the engineer, that the review has taken place and that issues raised have been addressed before beginning coating work under the contract.

Use one of the qualified paint manufacturers and products given below. An equivalent system may be used with the written approval of the engineer.

<b>Manufacturer</b>	<b>Coat</b>	<b>Products</b>	<b>Dry Film Minimum Thickness</b>	<b>Min. Time1 Between Coats</b>
			<b>(mils)</b>	<b>(hours)</b>
Sherwin Williams 1051 Perimeter Drive Suite 710 Schaumburg, IL 60173 (847) 330-1562	Tie	Recoat Epoxy Primer B67-5 Series / B67V5	2.0 to 4.0	6
	Top	Acrolon 218 HS Polyurethane, B65-650	2.0 to 4.0	NA
Carboline 350 Hanley Industrial St. Louis, MO 63144 (314) 644-1000	Tie	Rustbond Penetrating Sealer FC	1	36
	Tie	Carboguard 60	4.0 to 6.0	10
	Tie	Carboguard 635	4.0 to 6.0	1
	Top	Carbothane 133 LH(satin)	4	NA
Wasser Corporation 4118 B Place NW Suite B Auburn, WA 98001 (253) 850-2967	Tie	MC-Ferrox B 100	3.0 to 5.0	8
	Top	MC-Luster 100	2.0 to 4.0	NA

<sup>1</sup> Time is dependent on temperature and humidity. Contact manufacturer for more specific information.

Apply paint following all manufacturer recommendations for material preparation. Paint may be applied prior to delivering materials to project area. If paint is applied in project area, all manufacturer recommendations, including those regarding temperature and drying time must be observed. Upon final installation of the pipe, bends, and fittings, all materials must be touched up wherever paint has chipped or cracked.

**C.3 Shop Drawings**

Prepare and submit shop drawings of the entire dry standpipe system to the engineer in accordance to standard spec 506.3.2.

**C.4 Testing**

Test the completed installed system for water tightness to 200 pounds per square inch using a pressurized air test. The system shall be pressurized air to 125% or the equivalent water pumping pressure with an attached dial pressure gage. The system will be deemed acceptable if it maintains 95% of the specified applied air pressure after 24 hours.

If the system does not maintain 95% of the specified air pressure after 24 hours, the contractor must locate and remedy all leaks and retest until an acceptable test result is obtained. If required, the cost of repairs to satisfy the pressurized air test are included in the pay item and will be at no additional cost to the department nor will any request for contract time extension as a result of time delays for repairs and additional tests be granted.

**D Measurement**

The department will measure Standpipe System by each individual unit with the pipe, anchor assemblies, bends, connectors, and Storz couplings, acceptably completed.

**E Payment**

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.70	Standpipe System	Each

Payment is full compensation for furnishing and installing Standpipe System Galvanized Steel Pipe; furnishing and installing all connectors, flexible metal pipe sections and bends, and Storz couplings; Knox StorzGuard Cap, Item 5002 5” StorzGuard – Hard, Anodized Aluminum with #112 key, designing, furnishing and installing pipe anchors; pressurized air acceptance testing; shop drawing preparation and submittal; and for terminating connecting the pipe to fittings.

## **12.12 Pile Dynamic Analyzer (PDA) Testing, Item SPV.0060.701; Pile Dynamic Analyzer (PDA) Restrikes, Item SPV.0060.702.**

### **A Description**

These items consist of providing means to perform Pile Dynamic Analyzer (PDA) load testing by the engineer, as outlined in the contract plans and this special provision. This Dynamic Pile Load Testing is being done to set pile resistance criteria. Production piles will be driven in accordance to pile resistance criteria produced by the engineer after PDA testing at each substructure unit. PDA Restrikes may be needed as described in this special provision or as directed by the engineer.

The piles and pile driving will be paid for under the appropriate special provision for piles and pile driving contained within this contract. This applies to both piles installed using the PDA criteria and for production piles installed using the criteria developed by the engineer from the PDA installations.

Data collected during the testing described herein will form the basis for the final driving criteria to be applied to production piles in the substructure unit under consideration.

### **B (Vacant)**

### **C Construction**

#### **C1 Test Locations**

The engineer will perform dynamic pile load testing at the pile locations identified on the plans. These locations are referred to simply as ‘PDA Test Piles’ throughout the remainder of this specification. Piles noted as PDA Test Piles are a functional load-carrying part of the completed foundation unit and not solely used for testing.

#### **C2 Driving Sequence**

The engineer will perform PDA testing on the first piles installed in the substructure. PDA Test Piles shall be located as shown on the footing plan. No other piles in the substructure unit shall be used for PDA testing unless agreed to by the engineer. Do not drive any other piles in the unit until all required testing has been completed and accepted by the engineer and the final driving criteria for that substructure unit has been determined and issued to the contractor in writing.

#### **C3 Pile Driving**

Drive PDA Test Piles to penetration depths and/or penetration resistances as directed by the engineer. Drive PDA Test Piles using the accepted production driving equipment.



Drive PDA Test Piles to one of the following lengths:

1. If the required plan driving resistance is achieved at a pile length less than plan length, stop driving the pile and no restrikes will be required.
2. If PDA indicated pile capacity is greater than or equal to 85% of the required driving resistance, at the estimated plan length, stop driving. Pile restrikes will be required as described in Section C6 of this special provision to document that the minimum plan required driving resistance is achieved. (If PDA indicated pile capacity is 100% or more of the plan requirement, no restrikes will be required.)
3. If the pile resistance at plan length is less than 85% of the required driving resistance, continue to drive the pile until the resistance reaches 85% or more of the plan driving resistance. Upon achieving 85% or more, stop driving. Pile restrikes will be required as described in Section C6 of this special provision to document that the minimum plan required driving resistance is achieved. (If PDA indicated pile capacity is 100% or more of the plan requirement, no restrikes will be required.)

In all cases, the required plan driving resistance will be shown either through end of initial drive data or from restrike data as given in #2 and #3 above.

#### **C4 Scheduling**

Provide a written schedule to the engineer showing all required PDA Test Piles activities for the following week. Submit this schedule a minimum of 2 working days prior to the first day included in the schedule. Schedule the work so that PDA testing activities of any kind - installation tests, or restrike tests - will occur at no more than two locations at any given time. Schedule a minimum of one complete working day after PDA testing, (which includes restrike testing, see section C6) is complete at a substructure unit for the engineer to provide final driving criteria for that location. If testing is complete at multiple substructure units, final driving criteria will be provided at the maximum rate of one substructure unit per one working day and in the order specified by the contractor in the testing schedule.

#### **C5 Installation Testing**

The engineer will take dynamic measurements following procedures set forth in ASTM D-4945 during the driving of piles designated as PDA Test Piles.

Prior to placement in the leads, make each designated PDA Test Pile available for predrilling the required instrument attachment holes. Support PDA Test Piles on blocking, and roll or re-position PDA Test Piles as required to facilitate the predrilling of attachment holes. The engineer will furnish the equipment, materials, and labor necessary for drilling holes in the piles. Allow a minimum of one hour per pile for this operation. Furnish vehicle access to the substructure unit to allow for PDA testing.

Attach and remove the instruments to and from the pile after the pile is placed in the leads, following the engineer's instructions. Do not install the gauges and sensors on a pile before it is in the leads. Take precautions and exercise care to ensure that gauges and sensors are not damaged during installation. Check and reinstall gauges and sensors during pile driving operations at the direction of the engineer. The engineer has the option to access a pile in the leads prior to and during driving operations to ensure that the gauges and sensors have been properly installed. Make available to the engineer a safety line attached to the pile leads for the engineer's use. Provide the engineer with sufficient time to inspect, attach, and remove gauges and sensors on the pile, if it is necessary.

It is estimated that approximately one hour per pile will be needed for both instrument attachment and removal for a total of 2 hours per installation. Continuous PDA monitoring may require multiple installations of PDA testing equipment depending on the supplied pile length. If multiple piles lengths are used to produce the final installed pile, multiple PDA equipment installations will be required.

Furnish electric power for the dynamic test equipment. The power supply at the outlet shall be 10-amp, 115-volt, 55- to 60-cycle, alternating current (AC) only. Field generators used as the power source shall be equipped with functioning meters for monitoring voltage and frequency levels.

Pile-driving criteria for each substructure unit shall be determined from dynamic pile tests conducted on the total length of each pile noted for PDA Testing in the plans. Driving on these piles shall continue until the required driving resistance is achieved for 30 consecutive hammer blows. Mark penetration per 10 consecutive hammer blows as directed by the engineer. The engineer shall utilize the dynamic test data to establish the following pile driving criteria: (1) a minimum driven length below cutoff level, and (2) a maximum penetration rate per 10 hammer blows for 30 consecutive blows. Drive all remaining piles in that unit in accordance to the established criteria. The engineer may alter driving criteria as necessary to assure development of adequate pile capacity. In any pile where pile capacity or integrity is suspect, the engineer may order PDA testing.

With the PDA testing equipment attached, drive the pile as directed by the engineer.

### **C6 Restrike Tests**

An initial restrike test may be performed on all test piles as part of the initial dynamic pile load test as described in section C5. See restrike criteria given in section C3.

Wait a minimum of 12 hours or a time period as directed by the engineer after initial pile installation is complete; then, restrike each test pile with the required dynamic testing instruments attached.

Warm the hammer before the restrike by applying at least 20 blows to a non-test pile, or by other means acceptable to the engineer.

The maximum amount of penetration required during the restrike test shall be 6 inches, or the maximum number of hammer blows required will be 30, whichever occurs first.

The pre-approved pile-driving hammer used for restrike testing shall be capable of supplying enough energy to develop a minimum of twice the required driving resistance shown on the plans.

Required driving resistance for production piles shall be determined by dynamic pile testing conducted by the engineer.

#### **D Measurement**

The department will measure Pile Dynamic Analyzer (PDA) Testing as each individual unit, acceptably completed, in which one unit includes all PDA-related effort on one pile during the initial driving. When required by the engineer the department will measure Pile Dynamic Analyzer (PDA) Restrikes as a unit, in which one unit includes all of the restrike effort and testing required each time the contractor sets up on a pile to do a restrike test.

#### **E Payment**

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.701	Pile Dynamic Analyzer (PDA) Testing	Each
SPV.0060.702	Pile Dynamic Analyzer (PDA) Restrikes	Each

Payment for PDA Testing is full compensation for facilitating the initial dynamic pile load test on a given pile, including the possible multiple sensor installations.

Payment for PDA Restrikes is full compensation for facilitating and performing one restrike test when required by the engineer, including the sensor installation, mobilization of equipment, hammer warm-up, and pile restriking.

#### **F Delays and Standby Time**

If the contractor requests the department/engineer to perform the PDA tests on piles and the department is unable to begin PDA testing on the same working day as scheduled, due to the contractor not being ready, the contractor will be assessed a penalty by the department. The penalty will be \$1500/day for all working days that PDA Testing is scheduled on the project site but no PDA testing is completed due to the contractor not being ready to perform the scheduled tests.

### **12.13 Anchor Bolt Assembly, Overhead Sign Supports, Item SPV.0060.703.**

#### **A Description**

This special provision describes furnishing and installing anchor bolt assemblies for overhead sign supports as shown on the plans, and as hereinafter provided.

**B Materials**

Furnish anchors of the size and spacing as given on the plans, and that conform to AASHTO M 314 GR 55. The upper 12 inches of the bolts, nuts, and washers shall be hot-dipped galvanized in accordance to ASTM A153, Class C. Provide enlarged threads on nuts for proper fit after galvanizing.

**C Construction**

Provide the number of anchor bolts, nuts, washers, and anchor plate/template, as detailed on the plans and install per plan details.

**D Measurement**

The department will measure Anchor Bolt Assembly Overhead Sign Supports as each individual anchor bolt assembly, acceptably completed.

**E Payment**

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.0703	Anchor Bolt Assembly Overhead Sign Supports	Each

Payment is full compensation for furnishing and installing the anchorages.

**12.14 Bar Steel Reinforcement HS Stainless Bridges, Item  
SPV.0085.700.****A Description**

This special provision describes furnishing and placing high strength stainless steel bar steel reinforcement in cut lengths as shown on the plans, and as hereinafter provided.

**B Material****B.1 General**

Reinforcement bars shall be deformed Grade 60, with a yield stress of 60,000 psi, meeting the requirements of ASTM A615, Standard Specifications for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement, ASTM A955, Standard Specification for Deformed and Plain Stainless Steel Bars for Concrete Reinforcement, section 505 of the standard specifications, and the following.

**B.2 Stainless Steel Requirements**

The specified solid stainless steel can be as follows: Type 316L, Type 316LN, or 2205 Duplex stainless steel meeting the requirements of ASTM A240, ASTM A276, ASTM A479, ASTM A955, and ASME SA479 as applicable.

The stainless steel reinforcement bars shall meet the bending requirements of ASTM A615 and ASTM A955.

## **C Construction**

Handle, store and place stainless steel bars in accordance to the applicable requirements of standard spec 505 except as herein modified.

Exercise care when handling bars to avoid damage to the bundles.

Equipment for handling bars shall have protected contact areas.

Off-load bars as close as possible to their points of placement or under the crane so that the bars can be hoisted to the areas of placement to minimize rehandling.

Store bars off the ground on protective cribbing. Use timbers placed between the bundles when stacking is necessary. Space supports sufficiently close to prevent sags in the bundles.

Store bars separately from black steel.

Do not flame cut stainless steel bars.

Use epoxy-coated steel or stainless steel wire supports, spacers, and tying wire.

Minimize or eliminate where possible contact between stainless steel bars and black bars.

Welding of stainless steel bars is prohibited.

## **D Measurement**

The department will measure Bar Steel Reinforcement HS Bridges Stainless by the pound 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.0085.700	Bar Steel Reinforcement HS Stainless Bridges	LB

Payment is full compensation for providing, transporting, storing and placing reinforcement including supports.

(NER41-20101117)

## **12.15 Conduit Rigid Metallic PVC Coated 4-Inch, Item SPV.0090.350.**

### **A Description**

This special provision describes furnishing, installing and connecting Conduit Rigid Metallic PVC Coated of the size and type specified on the plans. Furnish and install conduits and raceways in the quantities and sizes required completing the work as shown on the plans and as required by NEC. Section Includes: metal conduit, non-metallic conduit, liquidtight flexible metal conduit, and fittings and conduit bodies.

## **B Material**

### **B.1 Definitions**

Conduit: Pipe that has been treated, threaded, and classified to be suitable for use as an electrical raceway.

Conduit Body: Fitting with removable cover to allow pulling conductors and which may also provide means for making a tight turn or “tee” connection in conduit.

Fitting: Accessory component for joining conduit (coupling), connecting conduit to box or enclosure (connector or hub), or providing other functions (such as expansion fitting).

### **B.2 Standards**

Furnish and install all materials that conform to the following standards:

- NEMA/ANSI C80.1 – Rigid Steel Conduit – Zinc Coated (GCR).
- NEMA FB 1 – Fittings, Cast Metal Boxes, and Conduit Bodies for Conduit and Cable Assemblies.
- NEMA RN 1 – Polyvinyl-Chloride (PVC) Externally Coated Galvanized Rigid Steel Conduit and Intermediate Metal Conduit.
- NEMA TC 3 – PVC Fittings for use with Rigid PVC Conduit and Tubing.
- NCEA 101 – Standard Practice for Good Workmanship in Electrical Construction.
- UL 514B – Fittings for Cable and Conduit.
- UL 360 – Liquid-Tight Flexible Steel Conduit.
- UL 6 – Rigid Metal Conduit.
- PVC Coated Metal Conduit Description: NEMA RN 1; rigid steel conduit (ANSI C80.1) with external PVC coating, 40 mil thick. Fittings and Conduit Bodies: NEMA FB 1; steel fittings with external PVC coating to match conduit.
- Liquidtight Flexible Metal Conduit Description: UL 360; Interlocked steel construction with PVC jacket. Fittings: NEMA FB 1.
- Non-metallic conduit description: NEMA TC 2, schedule 80 (UL 651). PVC fittings NEMA TC 3 to match conduit. Embedded in concrete use only.

## **C Construction**

Install and construct all conduits according to applicable WisDOT standards and specifications, NEC Code, and as shown on the plans. Include all installation hardware, clamps, and other incidentals necessary to complete the work.

## **D Measurement**

The department will not measure Conduit Rigid Metallic PVC Coated 4-Inch. The department will use pay plan quantity according to the Pay Plan Quantity article.

## **E Payment**

The department will pay for plan quantities according to the Pay Plan Quantity article at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.350	Conduit Rigid Metallic PVC Coated 4-Inch	LF

Payment is full compensation for furnishing and installing the conduit, Liquid Tight Flexible Metal Conduits (LTFMC), elbows, connectors, adapters, and fittings of the size and type indicated on the plans.

## **12.16 Driving Piling Steel State Furnished HP 14-Inch x 89 LB, Item SPV.0090.700.**

### **A Description**

This special provision describes driving, cutting off, and finishing HP 14-Inch x 89 LB piles; making submittals for driving system; and splicing if necessary for Structure B-5-679.

This special provision also describes methods used to determine the penetration resistance required to achieve the driving resistance required, as shown on the plans.

### **B Materials**

#### **B.1 Steel Piling**

The department will furnish and make available for pick-up HP 14x89 piling, of quantities specified in the plans and proposal, for Structure B-5-679. Delivery of the state-owned HP 14x89 piling is described and paid for under this special provision.

Contact the engineer for a map of the stockpile location, for loading and delivery arrangements and for quantity and lengths of piling available. Piling delivery is the responsibility of the contractor. Multiple deliveries are expected

Exercise care when obtaining and transporting the piling to prevent damage to the piling. Piling damaged by the contractor will be refused for payment and removed from the project site at the contractor's expense, or disposed of as directed by the engineer

The department will provide any material certifications required.

### **C Construction**

#### **C.1 General**

Use only one type of pile throughout the structure unless shown on the plans or the engineer allows otherwise.

Coordinate all pile driving operations so that no damage or displacement occurs to concrete in any substructure unit because of pile driving operations.

Do not drive piles for any substructure unit until the excavation for that unit is complete. Remove any material within the limits of the footing forced up by pile driving operations to correct elevation before placing concrete. All necessary removal of material will be at no expense to the department.

Drive all piles with a variation of not more than  $\frac{1}{4}$  inch per foot from the vertical or from the batter the plans show. Drive piles for trestle bents so that no pile is more than 3 inches from the position the plans show after driving and that placing the cap on the piles does not adversely affect the resistance of the piles. Ensure that all other piles are within 6 inches of the position the plans show after driving.

Do not damage piles by applying excessive force to correct misalignment.

Drive piles continuously to the required driving resistance shown in the plans, and if specified in the plans, the required minimum tip elevation, unless the engineer approves discontinuous driving. The engineer may review discontinuous driving at the end of initial driving. For the purposes of this section, the department defines discontinuous driving as an interruption to the driving of a pile lasting 3 hours or more.

Drive piles in pile groups starting at the center of the group and proceeding outward in both directions, or start at the outside row and proceed progressively across the group.

Remove and replace all piles that are in the engineer's judgment unsuitable for use due to improper positioning, misalignment, or damage such as bends, breaks, kinks, deformation, cracking, or spalling resulting from internal defects, improper handling, or improper driving. Other corrective measures may be used if approved by the engineer. All corrective measures shall be at no expense to the department.

Conform to the requirements of C.4 for all welds and welding necessary for pile splices.

Re-drive all piles pushed up 0.25 inch or more by the driving of adjacent piles or by any other cause. Re-drive piles as directed by the engineer using approved equipment and methods.

## **C.2 Obtaining Piles**

The estimated lengths of piling the plans show are approximate only and were determined for design and estimating purposes from soil borings taken at the site.

Obtain the state-owned piling of sufficient length to achieve the penetration resistance required to develop the required driving resistance shown on the plans for each pile. The piles are stockpiled at northeast corner of Spirit Way and Main Ave and the contact person to arrange for the pile pick up is Eric Gwidt, at (920) 492-7373.

## **C.3 Fabrication**

### **C.3.1 Steel Piles**

Do not fabricate piles from cutoffs unless approved by the engineer.

Use pile segments at least 5 feet in length for the manufacture of all piles.



#### **C.4 Splices**

Weld splices as the plans show and conforming to the AWS D1.1/D1.1M Structural Welding Code – Steel. Use shielded metal arc welding (SMAW) for welds on portions of piles that will be above grade in service. Certify the quality of field welds as follows:

1. Designate who will visually inspect the contractor's welding. Ensure that the designated inspector is an AWS certified welding inspector (CWI) or a department-approved individual competent to perform inspections.
2. Have the designated inspector evaluate the field welding at suitable intervals.
3. Have the designated inspector complete department form DT2320 for each structure and submit the form to the engineer for inclusion in the permanent project record.

##### **C.4.1 Steel HP Piling**

All splices shall develop the full strength of the pile in compression, tension, and bending.

Conform to all details for splices as shown in the plans. If splice details are not shown, submit proposed splice details for the engineer's approval.

#### **C.5 Equipment**

##### **C.5.1 Hammers**

Drive piles with diesel, air, steam, or hydraulic hammers. Vibratory hammers may be used with the approval of the engineer. Piling installed with a vibratory hammer must be re-struck with an impact hammer to determine final penetration resistance necessary to obtain the required driving resistance.

Furnish single acting diesel hammers equipped with a suitable device or mechanism to permit the engineer to visually determine accurate hammer stroke at all times during pile driving operations. Provide the engineer with a chart from the hammer manufacturer that equates stroke and equivalent energy for the hammer furnished.

Furnish double acting diesel hammers equipped with a bounce chamber pressure gauge in good working order mounted near ground level so as to be easily read by the engineer. Furnish the engineer with a certified chart calibrated to actual hammer performance equating bounce chamber pressure to either equivalent energy or stroke for the hammer furnished. Furnish an initial calibration no more than 90 days old. Recalibrate the hammer every 90 calendar days.

Furnish air or steam hammers with a plant and equipment that can maintain the manufacturer's specified volume and pressure under working conditions. Equip the plant and equipment with accurate pressure gauges that are easily accessible to the engineer. The weight of the striking parts of the air and steam hammers shall not be less than the weight of the helmet and pile being driven, but in no case shall the striking parts weigh less than 2,750 lb.

Furnish hydraulic hammers with power plants that can maintain the manufacturer's specified volume and pressure under working conditions. Equip the power plant and equipment with accurate pressure gauges that are easily accessible to the engineer.

## **C.5.2 Drive System Components and Accessories**

### **C.5.2.1 Hammer Cushions**

For impact driving systems designed for use with a hammer cushion, furnish a suitable thickness of hammer cushion material to prevent damage to the hammer or pile and ensure uniform driving behavior. Furnish hammer cushions made of durable manufactured materials that conform to the hammer manufacturer's guidelines and requirements. Do not use wood, wire rope, and asbestos hammer cushions. Place a striker plate as recommended by the hammer manufacturer on the hammer cushion to ensure uniform compression of the cushion material. Remove the hammer cushion from the helmet for inspection in the presence of the engineer at the beginning of pile driving on the project and after each 100 hours of driving. Replace the hammer cushion before resuming pile driving if the thickness of the hammer cushion has been reduced by more than 25% of its original thickness.

### **C.5.2.2 Helmets**

Furnish an adequate helmet to distribute hammer blows to the pile head. The helmet shall be guided by the leads and shall not be free swinging. During driving, maintain the helmet in axial alignment with the hammer and the pile so that torsional forces are not transferred to the pile.

### **C.5.2.3 Leads**

Furnish and use leads with all pile hammers. Leads may be either fixed or swinging type. Use leads that give the hammer freedom of movement while maintaining alignment of the hammer and pile to ensure concentric impact for each hammer blow.

Rig swinging leads so that the line of travel of the hammer maintains alignment with the axis of the pile. Provide braces or other support to maintain required alignment during driving. Equip swinging leads with a pile gate at the bottom of the leads.

Unless driving piles through water, make the leads long enough to not require the use of a follower.

### **C.5.2.4 Followers**

Use followers only if driving piles through water and only with the engineer's permission. When permitted, use followers of such material and dimensions to permit driving of the pile to the required depth or elevation.

### **C.5.2.5 Water Jets**

Water jet use is restricted to end bearing piling and may be used only if allowed in the contract or approved by the engineer.

Ensure a sufficient number of jets and a sufficient water volume and pressure at the jet nozzles to freely erode the material next to the pile without affecting the lateral stability of the completed pile.

Ensure a plant capacity capable of operating two  $\frac{3}{4}$  inch jet nozzles simultaneously with at least 100-psi pressure at each nozzle.

## **C.6 Pile Hammer Submittal**

### **C.6.1 General**

At least 30 calendar days prior to pile driving, submit to the engineer Wave Equation Analysis of Pile Driving (WEAP) program results that successfully demonstrate all proposed piling installations for all of the contractor's proposed hammers. Use only hammers that show satisfactory WEAP results and drive the piles to the required driving resistances shown on plans.

With WEAP analysis, also submit completed Form DT3550 to the engineer at least 30 days prior to the start of pile driving. The engineer will reply to the contractor with analysis review comments, if any, within 14 calendar days of receipt of WEAP results and Form DT3550. If engineer comment is not received, resubmit a modified WEAP results and Form DT3550 in accordance to the requirements of this section. The engineer will reply to the contractor with analysis review comments within 7 calendar days of receipt. Delays resulting from submission or review of contractor's submittal shall not constitute a basis for a contract time extension. Transport of any and all pile-driving equipment to the project site shall be contractor's responsibility. Form DT3550 can be obtained at the following website:

<http://www.dot.wisconsin.gov/forms/docs/dt3550.pdf>

Obtain approval from the engineer, in writing, for any changes to the hammer(s) that differ from that originally submitted. Submit Form DT3550 for the proposed changed system for the engineer's review. The engineer will reply to the contractor with analysis comments of the revised driving system within 7 calendar days of receipt. Delays resulting from submission or review of contractor's resubmittal or change shall not constitute a basis for a contract time extension.

### **C.6.2 Review of Pile Hammer(s) and WEAP Analyses Submittal**

The engineer will review submitted WEAP results and DT3550 forms for the proposed pile driving equipment to ensure that piles drive with reasonable effort (i.e. 30 to 120 blows per foot) and drive without damage (i.e. stress typically below 90 steel yield stress) to the required driving resistance and, if required, the minimum tip elevation.

The engineer may order removed from service any hammer that is unable to successfully install piling. The hammer may not be returned to service until repaired to the satisfaction of the engineer. Obtain approval from the engineer for any changes to the driving system in accordance to the requirements of this section.

## **C.7 Pile Driving**

### **C.7.1 General**

Drive all piles with the necessary driving system to the required driving resistance, as shown on plans or provided by the engineer. The engineer will determine the required penetration resistance by the methods and equations in C.7.2. In addition, if a minimum tip elevation is shown on the plans, drive the piles to, or beyond, that elevation.

Drive all piles to meet the required alignment and location tolerances. The engineer will evaluate all piles that do not meet these requirements to determine if the piles are unacceptable or if corrective measures may be considered. Propose corrective measures for the engineer's review and approval. Complete all corrective measures approved by the engineer at no expense to the department. The engineer may order removal of any pile determined to be unacceptable.

Remove and replace any pile damaged by reason of internal defects, improper handling, or improper driving as directed by the engineer. If allowed by the engineer, submit other corrective measures for review and approval. Complete all corrective measures approved by the engineer at no expense to the department.

### **C.7.2 Penetration Resistance**

End of drive criteria will be developed by the engineer from the PDA testing performed on the designated piles at each substructure unit as shown on the plan. The criteria will be based on blows per foot and minimum penetration of the pile or as directed by the engineer.

The PDA test piles at each substructure unit are designated on the plans and will be installed using a Pile Dynamic Analyzer (PDA). Pile installation for these test piles will be controlled by PDA testing and the engineer as given in the PDA Testing Special Provision within this contract.

Pile restrikes may be required as given in the PDA Testing Special Provision or as directed by the engineer. A time delay as defined in the PDA Testing Special Provision shall be included in the pile driving sequence to allow the engineer to develop the production pile driving criteria.

## **C.8 Test Piles**

When shown on the plans or required in the special provisions, furnish test piles of the length specified. Drive test piles at the locations shown on the plans. In each substructure unit, drive all test piles before driving any production piles in that unit.

Drive all test piles with the necessary pile hammer(s) as will be used to drive the production piles.

Complete all excavation for the substructure unit before driving test piles.

Drive test piles to the required driving resistance. The engineer will determine the required penetration resistance by the methods and equations in C.7.2. In addition, if a minimum tip elevation is shown on the plans, drive the piles to, or beyond, that elevation. Splice test piles if necessary.

## **C.9 Finishing Piles**

### **C.9.1 General**

Cut off all piles to a true plane at the elevations shown on the plans.

Take possession and properly dispose of all pile cut-offs.

## **D Measurement**

The department will measure Driving Piling Steel State Furnished HP 14-Inch x 89 LB by the linear foot, acceptably completed. The measured quantity equals the lengths of piling driven, and left in place below cutoff elevation.

## **E Payment**

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.700	Driving Piling Steel State Furnished 14-Inch x 89 LB	LF

Payment for the Driving Piling Steel State Furnished HP 14-Inch x 89 LB bid item is full compensation for hammer submittal; for obtaining state-owned piles from stockpile area, for preparing, driving, and cutting off piles; for re-driving heaved up piles when necessary; for disposal of cutoffs not used; and for removal of material within the footing perimeter heaved up by pile driving operations.

The department will pay an amount equivalent to the contract price for 6 feet of Piling Steel State Furnished HP 14-Inch x 89 LB for field splices. The department will pay for one splice per pile under the Splices HP Piling administrative item. The department will pay for splices meeting the following conditions:

1. The contractor cannot get the plan bearing capacity in the length the plans show.
2. The contractor actually splices the pile.
3. The spliced pile is acceptably driven to the plan pile capacity.

The department will not pay separately or additionally for providing a pile fabricated from cutoffs as allowed under C.3.

## **12.17 Downspout RTRP 6-Inch, Item SPV.0090.702.**

### **A Description**

This special provision describes furnishing and installing bridge downspouts in accordance to standard spec 514, as shown on the plans, and as hereinafter provided.

### **B Material**

Provide materials conforming to standard spec 514.2 except as modified hereinafter.

Furnish downspouts and fittings constructed of Reinforced Thermosetting Resin Piping (RTRP). Steel pipe is not allowed for downspouts and fittings.

Furnish one, 2-foot long flexible downspout connector for each deck drain as shown on the plan.

### **C Construction**

Construct in accordance to the pertinent requirements of standard spec 514.3.4.

Pigment inject all RTRP downspouts and fittings to match with the steel girder paint color, according to Sherwin Williams Virtual Taupe (SW7039).

Provide the engineer with a sample of the pigment injected downspout prior to installation.

Secure one end of the flexible downspout connector to the end of the downspout and the other end of the flexible connector to either the drop pipe protruding from the abutment slope paving or to the drop pipe protruding from the pier reveal such that it may be removed for future maintenance.

### **D Measurement**

The department will not measure Downspout RTRP 6-Inch. The department will use pay plan quantity according to the Pay Plan Quantity article.

### **E Payment**

The department will pay for plan quantities according to the Pay Plan Quantity article at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.702	Downspout RTRP 6-Inch	LF

Payment is full compensation in accordance to standard spec 514.5(5).

## **12.18 Electrical Service Installation B-5-671, Item SPV.0105.350; B-5-678, Item SPV.0105.351 and B-5-679, Item SPV.0105.352.**

### **A Description**

This special provision describes furnishing, installing and connecting a meter pedestal, disconnect switch, a main electrical panel, electrical distribution panels and sub-panels, conduit and cable between equipment and to the meter pedestal, and ground rods and grounding equipment at the locations specified on the plans.

### **B Materials**

Items included in the Electrical Service Installation:

### **B.1 Service Disconnect Switch**

When required, Provide and install an outdoor rated, heavy duty, non-fusible, single throw disconnect switch enclosed in a NEMA Type 4X housing with padlocks. Switch is lockable in either the "On" or "Off" position.

### **B.2 Meter Pedestal**

Furnish an approved service having a meter pedestal, NEMA 3R rated enclosure, unless the local utility requires otherwise, grounding electrodes and connections, conduit and fittings, and all necessary conductors and equipment required by the utility for a service connection. Provide a Meter Pedestal with a pad-lockable main circuit breaker compartment. Circuit breaker in the meter pedestal will serve as the main disconnecting means from the utility service. Main breaker in the pedestal shall be as shown on the plans. Perform all work according to standard spec 656.

### **B.3 Electrical Panels**

Furnish and install a heavy duty, commercial grade, branch circuit breaker panel with a main circuit breaker as shown on the plans. Provide circuit breakers that are standard UL listed molded case, thermal magnetic bolt-on type circuit breakers with trip free indicating handles. 240 V circuit breakers are UL listed interrupting rating of not less than 22,000 rms symmetrical amperes at rated circuit voltage for which the breaker is applied. Provide the outdoor rated electrical panel in a NEMA 4X rated enclosure. Provide cabinet with padlocking provisions.

Furnish and install four electrical sub-panels per bridge, two in each box girder, as shown on the plans. Each sub-panel has a main and branch circuit breakers. See plans for electrical panelboard schedules. Rearrange electrical panel branch circuits if necessary to evenly distribute the loads and balance the phases.

Include all conduits and cables needed to complete the installation as part of this item. Provide and install all cables and conduits from the meter pedestal, and between the meter pedestal, disconnect switch (if needed) and the electrical panel.

## **C Construction**

Install the electric utility service from a wall mounted meter pedestal to a disconnect switch, and then to an electrical panel. Include all conduits, cables, fittings, and appurtenances needed to complete the installation and provide a fully functioning electric service as shown on the plans and according to the utility guidelines.

### **C.1 Utility Coordination and installation payment**

Refer to the standard spec 656.3.2, Service Lateral, for coordination and payment instructions.

## **D Measurement**

The department will measure Electrical Service Installation (Structure) as a single lump sum unit of work, acceptably completed. This measurement includes all items described here and shown on the plans.

## **E Payment**

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.350	Electrical Service Installation B-5-671	LS
SPV.0105.351	Electrical Service Installation B-5-678	LS
SPV.0105.352	Electrical Service Installation B-5-679	LS

Payment is full compensation for furnishing and installing Electrical Service Installation.

## **12.19 Erecting Structural Steel B-5-671, Item SPV.0105.700; B-5-678, Item SPV.0105.701; B-5-679, Item SPV.0105.702; and B-5-681, Item SPV.0105.703.**

### **A Description**

This special provision describes erecting new structural steel and placing new bearings for Structures B-5-671, 678, 679 and B-5-681. Work and material shall be in accordance to standard spec 506, the plans, and as hereinafter provided.

### **B (Vacant)**

### **C Construction**

#### **C.1 Coordination with Steel Fabrication Contractors**

The steel fabrication was completed by the following fabricators under respective Projects ID and all structural steel for B-5-671, B-5-678, B-5-679 and B-5-681 is prepared for delivery.

PDM Bridge of Eau Claire, Wisconsin	Projects 1133-11-71 and 1133-11-76
Canam Steel Corp. of Claremont, New Hampshire	Project 1133-11-77
Delong Inc. of Iowa	Project 1133-11-78

Provide written notice to the engineer three weeks prior to the date the fabricated materials are required onsite. Include quantity of material, time of day, unloading location, crew and equipment needed, and any other pertinent delivery details in the written request to the engineer. The engineer will provide written notice to the steel fabrication contractor a minimum of two weeks in advance of a requested delivery date. Multiple deliveries are expected.

In addition to the engineer, coordinate, in writing, with the representative of the fabricator, Nick Bennett of HNTB (or appointed representative), and Michael King of the department (or appointed representative).



The bearing manufacturer is required to furnish technical assistance to the contractor and the engineer. The manufacturer is required to have its technical representative present for the placement of the first bearing. At the option of the engineer or contractor of this contract, the technical representative may be required to be present for the placement of any number of additional bearings.

Provide written notice to the engineer three weeks prior to the installation of the first bearing or as subsequent technical assistance is required from the bearing manufacturer. Additionally, coordinate, in writing, with the bearing manufacturer, representative of the fabricator, Nick Bennett of HNTB (or appointed representative), and Michael King of the department (or appointed representative).

## **C.2 Coordination with RR**

Girder erection over the Wisconsin Central Ltd (d.b.a. Canadian National) will be arranged by the contractor and agreed by the railroad. Contact railway representatives per paragraph A.3 of standard spec 5.3 "Railroad Insurance and Coordination" of the special provisions. Due to train volumes, night or weekend work may be necessary. The department will not consider additional compensation for extra work associated with the railway coordination and schedule.

Additionally, highway improvements that require work within the railroad right-of-way must follow article titled "Railroad Insurance and Coordination" of this specification as well as any requirements of the FDM Chapter 17.

## **C.3 Erection Procedures**

Before any steelwork is erected submit the proposed method and sequence of erection for approval by the engineer.

Address all requirements for erection of the structural steel into the final designed configuration and satisfy all written comments made by the engineer prior to the start of erection.

Include in the erection plan at a minimum the following information:

1. Plan of the work area showing permanent support structures, roads, railroad tracks, waterways, overhead and underground utilities, location of restricted areas, and other information pertinent to erection.
2. Traffic control and signage for public.
3. Safety procedures.
4. Erection sequence for all members noting any temporary support conditions, such as holding crane positions, temporary supports, and false-work. Member reference marks, when reflected on the erection plan, should match those on shop detail drawings.
5. Primary member delivery location and orientation.
6. Location of each crane for each primary member pick, showing radius and crane support (barges, mats, and pads).
7. Capacity chart for each crane configuration and boom length used in the work.

8. Center of gravity locations for primary members.
9. Detail, weight, capacity, and arrangement of all rigging for primary member picks.
10. Lifting weight of primary member picks, including all rigging and pre-attached elements.
11. Details of temporary lifting devices to be bolted or welded to permanent members, including method and time (shop or field) of attachment, capacity, a method, time and responsibility for removal.
12. Bolted splice assembly requirements.
13. Lifting/handling procedure for any primary member that has a lifted length divided by width (L/b) greater than 85.
14. Blocking details for bridge bearings.
15. Design calculations indicating the load capacity and verifying the stability of temporary supports for structure and crane for each pick and release.
16. Calculations substantiating structural adequacy and stability of girders for each step of bridge assembly.
17. Calculations verifying adequate capacity of contractor-fabricated rigging such as lift beams, welded lugs, spreader beams, and beam clamps. Submit manufacturers' certification or catalog cuts for pre-engineered devices.
18. Proposed details and associated design computations for any temporary shoring of existing bridges that will be occupied by cranes. If the construction loads exceed the structural capacity of any structure within the project limits, provide stamped and signed structure shoring plan, copies of analyses, and associated calculations performed by a professional engineer (PE) registered in the state of Wisconsin to the engineer and to the department's bureau of structures. Do not begin construction operations or move a heavy load across a structure without the engineer's written authorization.

As directed by the engineer, inspect all structures within the project limits which carried equipment for the purposes of girder erection prior to opening to traffic. Complete all bridge inspections by a bridge inspector certified by the State of Wisconsin. Prior to any bridge inspection, contact Northeast Region Bridge Maintenance section (920) 492-7161 to coordinate the inspection. As directed by the engineer, repair damage to the structure caused by construction activities to the initial pre-loaded condition.

At all times, plan and conduct the erection of steelwork ensuring safe working conditions and methods.

#### **C.4 Material Storage at Jobsite**

The structural steel and bearings were prefabricated and a two coat polysiloxane paint system applied under Project 1133-11-71, 1133-11-76, 1133-11-77 and 1133-11-78. Inspect the structural steel when delivered to the job site to determine the extent of damage, if any, to the paint system. Note any such damage and bring it to the attention of the engineer and fabrication contractor. The fabrication contractor is responsible for repairs to the painted surfaces that have been damaged during previous storage or

shipping of the structural steel. The contractor for this contract is responsible for cleaning the girders from de-icing salts, mud and other debris. The girders must be washed and cleaned from any unwanted substances and prepared for final inspection.

Store the steel on pallets or blocking at the job site or by other means approved by the engineer, so that the steel does not directly rest on the ground and so that the various components do not fall or rest on each other. Support all members to prevent permanent distortion or damage. Prior to lifting and assembly, clear steel of any foreign material that may have become attached.

Store fasteners and machine-finished parts inside covered structures or otherwise protect them from the weather. Fasteners removed from storage should be installed by the end of the work shift. Return unused fasteners to storage at the end of a work shift or otherwise protect them from the weather.

Submit details of all proposed job site storage to the engineer. The engineer will approve the details before the steel is shipped.

### **C.5 Bearings and Anchorage**

Coordinate final dimensions and details of the bearing assemblies with the bearing manufacturer. No additional payment will be made as a result of any changes in the bearing assemblies supplied and as shown on the contract plans.

Do not disassemble or otherwise alter the bearing assemblies.

Do not over-rotate bearing assemblies during steel erection.

At the time of installation of the Expansion Bearing Assemblies, clean the stainless steel sliding face of the upper element and the TFE sliding face of the lower element ensuring that it is free of all dust, dirt, moisture or any other foreign matter.

Survey the foundations for line and level prior to erection. Document all substructure locations, existing anchor rod locations, bearing seat elevations, and other pertinent information. Document and report any discrepancies between the survey findings and the plans to the engineer

The engineer will facilitate coordination to resolve any discrepancies prior to commencing steel erection. Do not commence steel erection without the engineer's approval.

Place bearing devices on properly finished bridge seat bearing areas. Notify the engineer if seats are not level or at incorrect elevations and propose corrective actions.

When setting bearings, make appropriate corrections for ambient temperature and/or anticipated rotation due to dead load deflection of the supported member. Position high load, multi-rotational bearings such that the initial position, including corrections for

temperature and dead load rotation, is within manufacturer's requirements. Notify the engineer if anchor bolt locations do not permit proper positioning, and propose corrective actions.

In addition to the dimensional tolerances in AASHTO/AWS D1.5 Bridge Welding Code for steel bearing contact areas, members shall seat on bearing devices with no final gaps exceeding 1/16 inch.

Supply and install all necessary packing pieces or shims that are required to set the steelwork to line and level on the prepared foundations. Provide packs, shims and other supporting devices that are flat, of adequate strength and rigidity and not larger than necessary. Locate packs, shims, and other supporting devices to facilitate their removal after grouting. Prepare bearing plates prior to erection.

### **C.6 Lifting and Assembly**

Lift, position, and assemble all members in accordance to the procedures outlined in C.3.

Install lifting devices, including welded lugs and bolted assemblies using existing bolt holes.

Stabilize girders with falsework, temporary bracing, and/or holding cranes until a sufficient number of adjacent girders are erected with diaphragms and/or cross frames connected to provide the necessary lateral stability and to make the structure self-supporting.

Detail falsework and temporary supports to ensure that the temporary elevation of supported steel accommodates the deflections expected to occur as the structure is completed.

Pins are normally used to align holes for bolted field connections. Field reaming to facilitate fit-up will only be allowed with the engineer's prior approval. Immediately report any abnormal distortion of the member or the holes during the alignment process to the engineer.

For air-splice connections of steel box girders, as well as connections of diaphragms or cross frames designed to braced curved steel box girders, fill at least 50% of the holes in each of the flange plate and web plate splices prior to crane release. The 50% may be either erection bolts in a snug tight condition, permanent bolts in a snug tight condition or full-size erection pins, but at least half shall be bolts, and sufficient pins shall be used near outside corners of splice plates and at member ends near splice plate edges to ensure alignment. Uniformly distribute the filled holes.

Permanent bolts may be used as erection bolts, provided they are installed in accordance to Section C.7 and provided they are not tensioned beyond the snug-tight condition prior to proceeding with final tightening after snug-tightening all bolts of a connection as

specified in standard spec 506.3.12. Install bolts and pins in accordance to erection procedures.

For all ground splices of steel box girders, in the no-load condition primary member splice connections shall have 100 percent of bolts installed and tensioned to at least the snug tightened condition prior to any lifting operation and sufficient pins shall be used near outside corners of splice plates and at member ends near splice plate edges to ensure alignment.

Replace pins with bolts prior to allowing traffic underneath splices and other connections.

For splices and field connections of steel plate girders, follow standard spec 506.3.29 (7).

Immediately report any abnormal member deformation or brace deflection after crane release or temporary support removal to the engineer for swift resolution. Do not proceed with further work affecting the area, except for restoring support or adding bracing, until the deformation/deflection is resolved.

Exercise extreme care while handling the steel during erection, and during subsequent construction of the bridge. Insulate the steel from the binding chains by softeners approved by the engineer. Pad all hooks and slings that are used to hoist the steel.

Align and level each part of the structure within the specified erection tolerances as is practicable after it has been erected. Do not make permanent connections between members until sufficient elements of the structure have been aligned, leveled, plumbed and temporary connected to ensure that members will not be displaced during subsequent erection or alignment of the remainder of the structure.

Leave all temporary bracing and/or restraints in position until erection is sufficiently advanced to allow its safe removal.

Address the structural implications where construction loadings may occur on an incomplete structure or element thereof. Provide additional supports and bracing as necessary to maintain the structural integrity of the incomplete structure. Provide the necessary calculations for the additional works, for the engineer's review.

### **C.7 Bolts**

No loose mill scale, dirt, metal shavings, or other foreign material that would preclude solid seating of the parts or frictional transfer of load is allowed on faying surfaces of bolted connections.

Install bolts in accordance to AASHTO Standard Specification for Highway Bridges Division II Article 11.5.6.4. During installation, regardless of the tightening method used, exercise particular care so that the snug tight condition as defined in Article 11.5.6.4 is achieved.

Prior to the start of bolt installation, perform the rotational-capacity test described in AASHTO Standard Specification for Highway Bridges Division II Article 11.5.6.4.2 on each rotational-capacity lot. Hardened steel washers are required as part of the test although they may not be required in the actual installation procedures.

A Skidmore-Wilhelm calibrator or an acceptable equivalent tension-measuring device shall be required at the job site during erection. Perform periodic testing (at least once each working day when the calibrated wrench method is used) to ensure compliance with the installation test procedures required in AASHTO Standard Specification for Highway Bridges Division II Article 11.5.6.4 for Turn-of-Nut Tightening, Calibrated Wrench Tightening, Installation of Alternate Design Bolts and Direct Tension Indicator Tightening. Use direct tension indications (DTI's) to test bolts that are too short for the Skidmore-Wilhelm Calibrator. The DTI's must be calibrated in the Skidmore-Wilhelm calibrator using longer bolts.

Install bolt, nut and washer (when required) combinations from the same rotational-capacity lot.

Fully tighten all bolts in the bridge by completion of steel erection.

Fully tighten bolts before exposure to the elements affects their rotational capacity test characteristics.

### **C.8 Field Welding**

Perform field welding and nondestructive testing in accordance to the AASHTO/AWS D1.5, Bridge Welding Code. Field welding on permanent material is not allowed, unless shown on the plans or approved by the engineer.

### **C.9 Inspection**

Erect the structural steel within the tolerances listed in the AISC code, unless otherwise specified herein or indicated on the design drawings. Ensure that specified tolerances are not exceeded during the erection of structures.

Verify the alignment, profile, and fastening of the erected steel conforms to the contract requirements.

The allowable deviation from theoretical horizontal alignment is (+/-) 1/8-inch x (total length along girder, in feet, between supports)/10. Erected horizontal alignment shall be measured under steel dead load at the centerline of the top flange or other location mutually acceptable to the engineer and contractor and shall not deviate from the theoretical horizontal alignment by more than the value computed above.

The allowable deviation from theoretical erected web position is (+/-) 1/8-inch x (web depth, in feet). Erected web position shall be measured under steel dead load and is the differential in horizontal displacement between the top and bottom of the web. The

erected web position shall not deviate from the theoretical erected web position by more than the value computed above.

The allowable deviation from theoretical vertical alignment is (+/-)  $\frac{1}{4}$ -inch x (total length, in feet, from nearest support)/10. Erected vertical alignment shall be measured under steel dead load at the centerline of the top flange or other location mutually acceptable to the engineer and contractor and shall not deviate from the theoretical erected vertical alignment by more than the value computed above. Maximum deviation is  $\frac{3}{4}$ -inch in cantilever sections or 1-1/2 inches between supports

Survey steel profile and alignment during steel erection and obtain verification by the engineer after completion. Surveys during erection must consider support conditions and anticipate deflections from subsequent steel placement or support release.

### **C.10 Repair**

Document damage due to handling, removal of erection aids, aligning members and other actions, uncorrected misfits at connections, and misalignments exceeding tolerances in erected members. Also document, as-received damage attributable to transport or fabrication.

Submit documentation to the engineer for review and propose a method of repair and basis for acceptance.

Submit repair procedures for damaged or misaligned steel in the form of sketches and/or written procedures as applicable. After the repairs are complete, provide as-built detailed drawings, NDT results, and procedures/materials used to the engineer for inclusion in the project file.

Repair shop welds that are unacceptable in accordance to D1.5. Responsibility for the cost of the repair and subsequent inspection shall be based on the cause.

Repair any damage to the shop coat occurring after the delivery by the fabricator and acceptance by the engineer.

### **D Measurement**

The department will measure Erecting Structural Steel (Structure) 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
SPV.0105.700	Erecting Structural Steel B-5-671	LS
SPV.0105.701	Erecting Structural Steel B-5-678	LS
SPV.0105.702	Erecting Structural Steel B-5-679	LS
SPV.0105.703	Erecting Structural Steel B-5-681	LS

Payment is full compensation for erecting the new structural steel; accepting the steel from the fabricators, cleaning the girders as necessary to remove de-icing salt or other debris prior to erection, placing the new bearings; and for properly storing all delivered steel.

**12.20 Field Painting Structural Steel B-5-671, Item SPV.0105.704; B-5-678, Item SPV.0105.705; B-5-679, Item SPV.0105.706 and B-5-681, Item SPV.0105.707.**

**A Description**

This special provision describes the steel surface preparation and field painting of the two-coat polysiloxane system for B-5-671, B-5-678, B-5-679 and B-5-681 in accordance to the pertinent parts of Section 517 of the standard specifications and as hereafter provided. Field paint all structural steel not shop painted under Project 1133-11-74 under this contract including field splices and connections. This special provision will also include cleaning and repainting of dings and scratches in the shop coat caused by work under this contract.

**A.1 Inspection**

Notify the engineer of any missing or broken bolts or nuts or of any cracks or flaws in the steel members while cleaning or painting.

**B Materials**

Furnish a coating system consisting of organic zinc rich epoxy prime coat and a finish coat of polysiloxane having a resin co-reacted or blended with acrylic, epoxy, or urethane resin or combination thereof supplied by the manufacturer of the zinc rich primer. The coatings shall not contain any isocyanates or polyisocyanates components. Furnish a complete coating system from the department's approved product list. The organic zinc rich epoxy primer application shall be in accordance to standard spec 517.2 and standard spec 517.3.

The finished color of the polysiloxane coating for all exterior structural steel including the bottom of the bottom flange, the outside surfaces of both webs of each box girder, the outside portions of both top flanges of each girder, all external diaphragms, cross frames, bracing and all other externally exposed steel shall match:

1. Sherwin Williams – Virtual Taupe (SW 7039)

The finished color of the polysiloxane coating for all interior structural steel including the top of the bottom flanges between the two webs of each box girder, the inside web surfaces of both webs of each box girder, the portions of the top flanges of each girder between the inside web surfaces, and all other steel members and elements between the two webs inside each girder including lateral bracing, interior diaphragms, cross frames and associated connecting elements and connectors shall match the Federal Standard No. 595B as follows:



## 2. White – #27925

Supply the engineer with product data sheets before any coating is applied. The product data sheets shall indicate the mixing and thinning directions, the recommended spray nozzles and pressures, the minimum drying time for shop or field applied coats. The manufacturer shall provide the recommended procedures for coating galvanized bolts, nuts and washers. Provide the range of application for temperature conditions and the procedures for re-coat.

Apply the coatings at the following dry film thicknesses:

Organic zinc rich epoxy primer	4 mils min
Polysiloxane finish coat	4 to 8 mils
Total paint system	8 mils minimum, 13 mils maximum

Measure all thicknesses in accordance to SPCC PA 2. Faying surfaces may be primed down to 2 mils dry film thickness.

Do not apply polysiloxane if the temperature of air or the steel is below 35° F. A mist coating of polysiloxane in accordance to the manufacturer's procedures is recommended to minimize bubbling.

Supply a sample of the finished epoxy coating system to the engineer for approval prior to ordering the paint.

Coordinate with the following steel fabrication contractors, to match the shop coat applied under the respective Project ID.

PDM Bridge of Eau Claire, Wisconsin	Projects 1133-11-71 and 1133-11-76
-------------------------------------	------------------------------------

Canam Steel Corp. of Claremont, New Hampshire	Project 1133-11-77
--	--------------------

Delong Inc. of Iowa	Project 1133-11-78
---------------------	--------------------

### **B.1 Equipment**

Provide system to protect the area from overspray and collect any waste during cleaning and painting operation as directed and to the satisfaction of the engineer.

### **C Construction**

Perform steel surface preparation and field painting as per standard spec 517.3 and as specified herein.

#### **C.1 Surface Preparation**

Designate the structural steel areas to be field painted with the engineer.

Upon delivery of the fabricated structural steel to the project site, the delivered steel is to be jointly visually inspected by the engineer, the erecting contractor and a representative of the steel fabrication contractor responsible for delivery to the project site. The fabrication contractor is responsible for making field repair of all damaged areas of the final coating system identified during this inspection.

Damage to shop painted surfaces as a result of construction operations under this contract, must be restored to the approval of the engineer.

Take special care during construction to minimize the number and size of touch-up spots. Follow the manufacturer's recommendations for damaged area repairs. The engineer must approve the field paint appearance prior to final acceptance.

Complete and inspect all field splices and structural steel connections prior to field painting.

Prior to applying the polysiloxane field coating, clean all primed surfaces and/or areas to be re-coated with light water blast and prepare surfaces as per manufacturer's recommendations. Prior to painting, all surface cleaning and application procedures shall be approved by the engineer.

On the interior of box girders, the paint on the top of the bottom flange shall be uniformly dusted with silica sand or other grit material acceptable to the engineer, to create a non-slip walking surface within the interior of the box girders. The silica sand or other approved grit material shall be uniformly applied on the wet film surface of the 1st interior coat. Blow off any loose, non-adhered sand or grit prior to application of the second interior coat.

Do not perform cleaning and painting on days of high winds. Prevailing winds in excess of 15 mph (25 km/hr) shall be considered high winds.

In accordance to SSPC SP-2 or SP-3, clean all areas of rust and loose paint on the surface and edges of steel by wire brushing, grinding or other mechanical means. Sound paint does not need to be removed. If the engineer allows, use metal brushes, scrapers, chisels, hammers, power tools, or other effective means to remove rust, scale, and dirt. Do not excessively scar the metal.

Remove all abrasive and paint residue from steel surfaces by vacuuming. 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.

If waste material is considered hazardous, store in hazardous waste containers provided by the department. Lock and secure all waste containers at the end of each work day. Cover the container(s) at all times except when adding or removing waste material. Store

the containers in an accessible and secured area, not located in a storm water runoff course, flood plain or exposed to standing water. Transportation and disposal of such waste material will be the responsibility of the department. If waste is not considered hazardous, transport and dispose of the waste as per state and local guidelines.

Prior to final acceptance, completely clean and free from spent abrasive and other waste materials resulting from the contractor's operation the bridge deck surfaces, gutter lines, drains, curbs, bridge seats, pier caps, slope paving, roadway below, and all structural members and assemblies.

## **C.2 Inspection**

Furnish, erect and move scaffolding and other appropriate equipment to permit the inspector the opportunity to closely observe all affected surfaces. The scaffolding, with appropriate safety devices, shall meet the approval of the engineer.

## **D Measurement**

The department will measure Field Painting Structural Steel (Structure) 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
SPV.0105.704	Field Painting Structural Steel B-5-671	LS
SPV.0105.705	Field Painting Structural Steel B-5-678	LS
SPV.0105.706	Field Painting Structural Steel B-5-679	LS
SPV.0105.707	Field Painting Structural Steel B-5-681	LS

Payment is full compensation for spot cleaning, painting, and for furnishing all labor, tools, equipment and incidentals necessary to complete the work. Field cleaning and painting of areas of new steel damaged by work conducted under Project 1133-03-73 will not be measured for payment but will also be performed in accordance to the requirements of this section.

## **12.21 Architectural Surface Treatment, Item SPV.0165.700.**

### **A Description**

This special provision describes constructing a concrete masonry architectural surface treatment on the exposed concrete surfaces of cast in place structures, mechanically stabilized earth retaining walls and precast wall panels as detailed in the plans, and as hereinafter provided.

### **B Materials**

Use reusable form liners that are made of highway strength urethane or lightweight one time use elastomeric foam form liners that attach easily to the forming system, and do not compress more than 1/4-inch when poured at a rate of 10 vertical feet/hour.

Formliner shall have a “used brick” running bond pattern with individual “brick” dimensions of 2 ¼ inches to 2 3/8 inches by 7 5/8 inches to 8 inches. Maximum relief of the brick formliner shall be 1/2”.

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 Form Liner**

Supply new form liner or reusable form liner with a used brick pattern. If reusable form liner is used, 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**

Attach liner securely to forms in accordance to manufacturer's recommendations to maintain a continuous running bond pattern, and coordinate wall ties with form liner and form manufacturer, e.g., diameter, size, and frequency where applicable.

### **C.4 Test Panel**

Prepare and deliver to the USH 41 field office (1940 Mason Street, Green Bay, WI 54303), a 4 foot by 4 foot concrete test panel utilizing the running bond brick form liner so the engineer will be able to evaluate the adequacy of the product and the forming methods to yield the desired results.

The engineer shall inspect condition of the Brick test panel and its dimensional quality. All voids and irregularities shall be repaired using the same methods as on the final structures. The engineer will evaluate the test panel for definition and consistency. If the test panel is accepted the workmanship becomes the standard for the balance of the contractors work and incorporation into the final structures.

If the test panel is not accepted, the contractor shall prepare another test panel and repeat the process, using either a different product or different methods. This procedure shall be repeated until the test panel is accepted by the engineer.

### **C.5 Surface Finishing**

Grind or fill pouring blemishes.

## **D Measurement**

The department will measure Architectural Surface Treatment 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.0165.700	Architectural Surface Treatment	SF

Payment is full compensation for creating and providing formliners; for forming and pouring a test panel on site; producing the proposed architectural surface treatment; finishing and protecting the surface treatment; and for properly disposing of surplus material and test panel.

## 12.22 Staining Concrete, Item SPV.0165.701.

## A Description

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

## B Materials

### B.1 Mortar

On pertinent surfaces, use mortar for sack rubbing the concrete surfaces as given in standard spec 502.3.7.5 or use of the following products:

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

The mortar shall contain one of the following Acrylic Bonding Admixtures mixed and applied as given by the manufacturer:

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 pigments 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 Surfer, smooth by TK Products  
 Tri-Sheen Acrylic by TK Products  
 \*TK-1450 Urethane Anti-Graffiti Primer by TK Products  
 TK-5272 Tri-Sheen Pigmented Stain  
 Safe-Cure and Seal EPX by Chem Masters  
 H + C Shield Plus Ultra by Sherwin Williams  
 B-97 Series Concrete Sealer by Sherwin Williams  
 B-97-200 Series Concrete Stain by Sherwin Williams  
 (\*Natural Look)

## **C Construction**

Furnish, prepare, apply, cure and store all materials according to product manufacture directions specified 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.1 Preparation of Concrete Surfaces**

On pertinent surfaces, provide a sack rubbed finish as given in standard spec 502.3.7.5 using mortar as indicated above, on concrete surfaces with open voids or honeycombing. Fill all voids larger than 3/4" diameter and finish to match surface pattern.

Prior to staining, clean all concrete surfaces to be stained to ensure that the surface is free of all laitance, dirt, dust, grease efflorescence, and any foreign material in order to accept the stain according to product requirements. At a minimum, the cleaning should consist of a 3000 psi water blast. Hold the nozzle of the water blaster approximately 6" 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.2 Staining Concrete Surfaces**

Apply the stain in strict conformance with product manufacture requirements.

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

The final color of the concrete following application of the stain system shall match the Sherwin Williams Color system. Sherwin Williams Color designation is for color only; all colors shall be a flat (lusterless) finish.

Base Color	Basket Beige – SW 6143
Accent Color 1	Virtual Taupe – SW 7039
Accent Color 2	Roycroft Copper Red – SW 2839
Accent Color 3	Rookwood Terra Cotta – SW 2803
Accent Color 4	Cajun Red – SW 0008
Accent Color 5	Meadow Lark – SW 7522
Accent Color 6	Black - SW 6258

Do not begin the staining the structure until adjacent 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.3 Test Areas**

Prior to applying the stain to the structure, test applications shall be required on sample panels measuring 4-foot by 4-foot, and constructed to demonstrate workmanship in the use of the form liner reveals, protrusions and lettering on the structures. 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 stones produced by the form liner if applicable. Do not apply the stain to the structure until the department approves the test panels. Deliver test panels to the USH 41 field office at 1940 Mason Street, Green Bay, WI 54303.

### **C.4 Surfaces to be Coated**

Apply the concrete stain to the surfaces as shown on the plan.

### **D Measurement**

The department will measure Staining Concrete 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.0165.701	Staining Concrete	SF

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

## **12.23 Staining Concrete Brick, Item SPV.0165.702.**

### **A Description**

Furnish and apply a single coat concrete stain to the concrete surfaces of structures and retaining walls that have the running brick pattern as detailed in the plans, and as hereinafter provided.

### **B Materials**

#### **B.1 Concrete Stain**

Use concrete stain manufactured for use on exterior concrete surfaces.. Use the following products, or equal as approved by the department, as part of the finish system:

Tri-Sheen Acrylic by TK Products  
TK-5272 Tri-Sheen Pigmented Stain  
B-97-200 Series Concrete Stain by Sherwin Williams  
(\*Natural Look)

## **C Construction**

Furnish, prepare, apply, cure and store all materials according to product manufacture directions specified 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.1 Preparation of Concrete Surfaces**

Surfaces shall have the base color already applied before staining of the "brick areas can be completed. If the "brick" surface has not been coated with the base color do not apply the stain to the "brick" areas.

Prior to staining the "brick" areas, make sure all areas stained with the base color are clean and dry.

### **C.2 Staining Concrete Surfaces**

Apply the stain in strict conformance with product manufacture requirements.

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

The final color of the concrete following application of the stain system shall match the Sherwin Williams Color system. Sherwin Williams Color designation is for color only; all colors shall be a flat (lusterless) finish.

Accent Color 3	Rookwood Terra Cotta – SW 2803
Accent Color 4	Cajun Red – SW 0008
Accent Color 5	Meadow Lark – SW 7522

Brick surfaces shall be stained in a randomly mixed color arrangement Stain 70% of the "brick" surface with Accent Color 3, 15% with Accent Color 4 and 15% with Accent Color 5. Leave all previously stained recessed "mortar" joints as the Base Color (Basket Beige).

Do not begin the staining the structure until adjacent 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.3 Test Areas**

Prior to applying the stain to the structure, test applications shall be required on sample panels measuring 4 foot by 4 foot to demonstrate stain application and color mix. Test panels shall be delivered to the USH 41 field office (1940 Mason Street, Green Bay, WI 54303). 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. Do not apply the stain to the structure until the department approves the test panels.



#### **C.4 Surfaces to be Coated**

Apply the concrete stain to the “brick” formed surfaces as shown on the plan.

#### **D Measurement**

The department will measure Staining Concrete Brick 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.0165.702	Staining Concrete Brick	SF

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

### **12.24 Longitudinal Grooving Bridge Deck, Item SPV.0165.703.**

#### **A Description**

Provide longitudinal deck grooves parallel to the centerline of the roadway prior to opening the bridge to traffic as directed by the engineer.

#### **B Materials**

The grooving machine shall contain blades mounted on a multi-blade arbor on a self-propelled machine built for grooving hardened concrete surfaces.

The grooving machine shall have a depth control device that detects variations in the deck surface and adjusts the cutting head height to maintain a specified depth of groove.

The grooving machine shall have a guide device to control multi-pass alignment.

#### **C Construction**

Perform longitudinal grooving operation in a manner to preclude any damage to the concrete deck surface.

Longitudinal grooving operation shall result in a uniformly grooved deck surface.

Cut grooves continuously across the deck width to within 18 inches of the barrier rail, curb line, or median divider. If metal floor drains extend more than 18 inches from the barrier rail, curb line, or median divider, all grooves on the bridge deck surface are to end within 6 inches of the floor drain perimeter.

At skewed metal edged expansion joints in the bridge deck surface, all grooves on the bridge deck surface are to end within 6 inches of the joint leaving no ungrooved surface adjacent to each side of the joint greater than 6 inches in width on the deck side of the expansion joints.

Produce grooves that are continuous across construction joints or other joints in the concrete deck surface less than 1/2-inch wide.

Grooves shall be 1/8-inch wide and 3/16-inch deep. The longitudinal groove shall be spaced at 3/4 inches center-to-center. Tolerance for groove width shall be +1/16 inch to -0 inch. Tolerance for groove depth shall be  $\pm 1/16$  inch. Tolerance for groove spacing shall be  $\pm 1/16$  inch.

Collect, remove and dispose of solid material residue and liquid waste resulting from grooving operations by vacuuming in a manner satisfactory to the engineer.

#### **D Measurement**

The department will not measure Longitudinal Grooving Bridge Deck. The department will use pay plan quantity according to the Pay Plan Quantity article.

#### **E Payment**

The department will pay for plan quantities according to the Pay Plan Quantity article at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0165.703	Longitudinal Grooving Bridge Deck	SF

Payment is full compensation for providing the required machinery and operators; and for grooving, for collecting, removing and properly disposing of all waste materials.

### **12.25 Polymer Overlay, Item SPV.0180.700.**

#### **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 total thickness of the overlay system shall be 3/8".

#### **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 <sup>A</sup>	15 - 45 minutes @ 75° F	ASTM C881
Viscosity <sup>A</sup>	7 - 70 poises	ASTM D2393, Brookfield RVT, Spindle No. 3, 20 rpm
Shore D Hardness <sup>B</sup>	60-75	ASTM D2240
Absorption <sup>B</sup>	1% maximum at 24 hr	ASTM D570
Tensile Elongation <sup>B</sup>	30% - 70% @ 7 days	ASTM D638
Tensile Strength <sup>B</sup>	>2000 psi @ 7 days	ASTM D638
Flexural Strength <sup>B</sup>	>4500 psi @ 7 days	ASTM D790
Chloride Permeability <sup>B</sup>	<100 coulombs @ 28 days	AASHTO T277

<sup>A</sup> Uncured, mixed epoxy binder

<sup>B</sup> Cured, mixed epoxy 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	≤0.2%	ASTM C566
Hardness	≥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

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:

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

<sup>A</sup> Based on samples cured or aged and tested at 75°F

<sup>B</sup> 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 five 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 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.

Just prior to overlay placement, clean all dust, debris, and concrete fines from the deck surface including vertical faces of curbs and barrier walls up to a height of 1 inch above the overlay 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.

Cover the bridge deck drains and bridge expansion joints to prevent materials from adhering and entering.

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.

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

## **C.3 Application of the Overlay**

Perform the handling and mixing of the epoxy 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:

- a. Ambient air temperature is below 50°F;
- b. Deck temperature is below 50°F;
- c. 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;
- d. Rain is forecasted during the minimum curing periods listed under C.5 ;
- e. Materials component temperatures below 50°F;
- f. Concrete age is less than 90 days unless approved by the engineer.

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 epoxy and aggregate. Each of the two courses shall consist of a layer of epoxy covered with a layer of aggregate in sufficient quantity to completely cover the epoxy. Apply the epoxy 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 epoxy 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 epoxy overlay in two separate courses in accordance to the manufacturer's instructions, but not less than the following rate of application.

<b>Course</b>	<b>Minimum Epoxy Rate <sup>A</sup> (GAL/100 SF)</b>	<b>Aggregate <sup>B</sup> (LBS/SY)</b>
1	2.5	10+
2	5.0	14+

<sup>A</sup> The minimum total applications rate is 7.5 GAL/100 SF.

<sup>B</sup> 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:

	<b>Average temperature of deck, epoxy and aggregate components in °F</b>					
<b>Course</b>	<b>60-64</b>	<b>65-69</b>	<b>70-74</b>	<b>75-79</b>	<b>80-84</b>	<b>85+</b>
1	4 hrs.	3 hrs.	2.5 hrs	2 hrs	1.5 hrs.	1 hr.
2 *	6.5 hrs.	5 hrs.	4 hrs.	3 hrs.	3 hrs.	3 hrs.

\* Cure course 2 for 8 hours if the air temperature drops below 60° F during the curing period.

### **D Measurement**

The department will measure Polymer Overlay in area by square yards, 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.0180.700	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.

## **13. Retaining Walls, Ground Support.**

### **13.1 Wall Wire Faced Mechanically Stabilized Earth, Item 532.0700.S.**

#### **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.

#### **B Materials**

##### **B.1 Proprietary Mechanically Stabilized Earth Wire Faced Wall Systems**

The department specifies approved wire-faced mechanically stabilized earth wall products on the department's approved product list.

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 name of the companies supplying pre-approved material shall be furnished within 25 days after the award of contract. The department maintains a list of pre-approved systems of retaining walls. To be eligible for use on this project, a system requiring pre-approval must have been pre-approved and added to that list prior to the bid opening date.

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 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 design/shop plans shall be prepared on reproducible sheets 11 inch x 17 inch, including borders. Each sheet shall have a title block in the lower right corner. The title block shall include the project identification number and structure number. Design calculations and notes shall be on 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 and calculations shall be signed, sealed and dated by a professional engineer licensed in the State of Wisconsin.

The design of the Mechanically Stabilized Earth Wire Faced Wall shall be in compliance with the latest AASHTO LRFD Bridge Design Specification including interim specifications, and standard engineering design procedures as determined by the department.

The design life for permanent wall applications shall be 75 years. All steel components of permanent walls shall be galvanized in accordance to ASTM A-123. A fine metallic screen and geotextile filter fabric shall be used at the front face of the MSE wall to retain the fines of the soil mass. The fine metallic screen may be made of stainless steel or galvanized steel per AASHTO M-111. The fine metallic screen should have an approximate opening of ¼" and be made of 0.025" diameter (23 gauge) wire. The fine metallic screen shall be placed between the MSE wall wire facing and the geotextile fabric. The maximum allowable stress in the reduced section of wire-faced walls after sacrificial steel has been removed at the end of the design life is 0.47.  $F_y$ , where  $F_y$  is the



yield strength of the soil reinforcement. The minimum embedment of the MSE wire faced wall shall be 1 foot 6 inches, or as given in the plan, or as stated in AASHTO 11.10.2.2, whichever is greater. Frost depth shall not be considered. The overall vertical tolerance of the wall and the horizontal alignment tolerance shall not exceed 2 inches per 10 feet for permanent installations. For systems with separate components for soil reinforcement and wall panels, the force in the soil reinforcement at the face of the panel shall not exceed 0.5 of the connection strength failure load as determined by tests. For systems with connecting pins and without failure load tests, connecting pins shall be designed for both shear and bending moment and tension forces if applicable based on a load factor of 1.69.

The design of the MSE Wire Faced Wall shall consider the internal stability of the wall mass, including reinforcement pullout resistance. The design shall be in compliance with the current AASHTO LRFD specifications for Mechanically Stabilized Earth Walls, except that the 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. Design the walls for the heights shown on the plans, and include the effects of highway surcharge loading. If a traffic rail or parapet is detailed within 3 feet of the top of the wall, the soil reinforcement at the top of the wall shall be designed for an additional horizontal traffic load as given in AASHTO. If the wall is installed in front of a bridge abutment, it shall also be designed to resist the applied abutment/bridge lateral forces. 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 extend 3 feet beyond the theoretical failure plane in all cases.

The design of the MSE Wire Faced Wall shall consider the presence of the deadmen and anchor blocks, rods, couplers, and clevises that connect to the prestressed precast concrete wall panels in front of the MSE wall. These items are designed to resist a minimum horizontal suction force of 20 psf of the exposed face of the prestressed precast concrete wall panel. The MSE wall shall be designed to resist these additional horizontal forces from the deadmen. The deadmen anchorages are designed with sufficient capacity to fully perform if one connection per panel fails.

The design of the MSE Wire Faced Wall shall include design of soil reinforcement and anchorages to abutment within the reinforced zone if so shown in the plan.

### **B.3 Wall System Components**

#### **B.3.1 Welded Wire Fabric**

Provide welded wire fabric that is used to fabricate 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. Any geotextiles used in the construction of the wall and

exposed to the sun for more than 60 days shall be resistant to ultraviolet radiation or covered and protected from the sun.

### **B.3.2 Backfill**

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 or other potentially corrosive material.

Provide material that conforms to the following gradation requirements.

<b>Sieve Size</b>	<b>Percentage by Weight Passing</b>
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.

In addition, backfill material shall meet the following requirements.

<b>Test</b>	<b>Method</b>	<b>Value</b>
pH	AASHTO T-289	4.5 – 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.
Angle of Internal Friction	AASHTO T-236	30 degrees min.

Prior to placement of the backfill, obtain and furnish to the engineer a certified report of test results (less than 6 months old) that the backfill material complies with the requirements of this specification. Tests will be performed by a certified independent laboratory. Additional certified report of tests (except Angle of Internal Friction test) is required for every 2000 cubic yards of backfill used per wall. In addition, when backfill characteristics and/or sources change, a certified report of all tests will be provided for the new backfill material.

## **C Construction**

### **C.1 Methods**

All excavation and preparation of the foundation for the reinforcing fabric shall be in accordance to standard spec 206. Excavate as necessary to install the reinforcing straps, wall fill and facing. 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 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 standard spec 207.3.6. For walls with a maximum height greater than 6 feet, compact the backfill to 95.0% of maximum density as determined by AASHTO T-99, Method C. Perform compaction testing on the backfill. When performing nuclear testing, use a nuclear gauge from the department's approved list, ensure that the operator is a HTCP certified Nuclear Density Technician I, and conform to CMM 8.15 for testing and gauge monitoring methods. Conduct testing at a minimum frequency of 1 test per 2-foot layer per 200 feet of wall, or major portion thereof. A minimum of one test for every 2-foot layer is required. Test sites shall be selected using ASTM Method D3665. Deliver documentation of all compaction testing results to the engineer at the time of testing. The cost of compaction testing shall be considered incidental to the cost of the wall.

Extend the wire face, backing mat or retention fabric under the coping or moment slab to seal off the cavity between the wire face and the Prestressed Precast Concrete Wall Panels. Provide means to seal off the ends of the cavity space.

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 top of the most recently placed and compacted layer of MSE backfill.

## **C.2 Geotechnical Information**

Geotechnical data to be used in the design of the wall is given on the wall plan. The allowable soil bearing capacity is given on the plan. After completing the excavation of the entire reinforced zone, the department's Regional Soils Engineer shall inspect the site and determine if the foundation is adequate for the intended loads. Allow the Regional Soils Engineer two working days to perform the inspection.

## **D Measurement**

The department will measure Wall Wire Faced Mechanically Stabilized Earth in area by the square foot of face on a vertical plane between the finished grade in front of the wall shown on the plan, and a line indicating the top of wall including wall cap or copings as required and shown on the plans. Unless ordered by the engineer, wall area constructed above or below these lines 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
532.0700.S	Wall Wire Faced Mechanically Stabilized Earth	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; providing backfill, backfilling, and compacting, performing compaction testing; performing material testing, providing for the installation of the

deadmen anchor system; soil reinforcement behind the bridge abutment, provide for the coordination and access of others for their work in the area. 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.

## **13.2 Helical Tieback Anchors, Item SPV.0060.850.**

### **A Description**

This special provision describes providing, installing, and testing helical tieback anchors for temporary walls TW-05-001 and TW-05-002 in accordance to the plans, applicable portions of the standard specifications, the department-approved submittals, and as hereinafter provided.

### **A.1 References**

ASTM A 29 – Steel Bars, Carbon and Alloy, Hot-Wrought and Cold Finished.

ASTM A 36 – Standard Specification for Structural Steel.

ASTM A193/A193M – Alloy-Steel and Stainless Steel Bolting Materials for High Temperature Service.

ASTM A320/A320M Alloy-Steel Bolting Materials for Low Temperature Service.

ASTM A 325 – Standard Specification for High Strength Bolts and for Structural Steel Joints.

ASTM A500 – Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes.

ASTM A656 – Hot-Rolled Structural Steel, High-Strength Low-Alloy Plate with Improved Formability.

ASTM A958 – Standard Specification for Steel Castings, Carbon, and Alloy, with Tensile Requirements, Chemical Requirements Similar to Wrought Grades.

ASTM A1018 – Sheet and Strip, Heavy Thickness Coils, Hot Rolled, Carbon, Structural, High-Strength Low-Alloy, Columbium or Vanadium, and High-Strength Low-Alloy with Improved Formability.

AWS D1.1-90 – Structural Welding Code – Steel.

Post-Tensioning Institute – *Recommendations for Prestressed Rock and Soil Anchors*, Third Edition, Copyright 1996 by the Post-Tensioning Institute

## **B Materials**

Submit a list of all proposed materials to be included in the helical tieback anchor construction.

### **B.1 Central Steel Shaft**

Use a square shaft for the central steel shaft, consisting of lead sections, helical extensions, and plain extensions.

1. Use Hot rolled Round-Cornered-Square (RCS) solid steel bars meeting the dimensional and workmanship requirements of ASTM A29 required for the size as shown on the plans. Use High Strength Low Alloy (HSLA), low to medium carbon steel grade with improved strength due to fine grain size, for the bar. Use minimum yield strength of 90 ksi.

### **B.2 Helix Bearing Plate**

Use hot rolled carbon steel sheet, strip, or plate formed on matching metal dies to true helical shape and uniform pitch for the helix bearing plate. Conform to the following ASTM specifications for the bearing plate material:

1. RCS 2 inch material per ASTM A656 or A1018 with minimum yield strength of 80 ksi. Plate thickness is 3/8 inch.

### **B.3 Bolts**

Conform to the following ASTM specifications for the size and type of bolts used to connect the central steel shaft sections together:

RCS 2 inch material: 1 1/8" inch diameter bolt per ASTM A193, Grade B7.

### **B.4 Couplings**

For type RCS 2 inch material, form the coupling as an integral part of the plain and helical extension material as hot upset forged sockets.

### **B.5 Thread Bar**

Provide a threaded stud adapter, or a combination of pre-stressing steel tendon and ductile iron or forged steel adapter for helical tieback anchor thread bars, both of which are attached to the previously installed central steel shaft via an integrally forged socket or cast steel socket and coupling bolt. Use a continuous 150 ksi thread steel bar of specified diameter and length conforming to ASTM A722 requirements.

### **B.6 Anchorage**

Provide a steel bearing plate with a threaded anchor nut for stressing anchorages. Develop 95 percent of the guaranteed ultimate tensile strength of the thread bar for anchorage devices.

1. Design anchor nuts, bevel washers, and other threadable hardware to comply with the load carrying requirements of the anchorage.
2. Fabricate the bearing from steel conforming to ASTM A36 or A572 specifications.

## **B.7 Submittals**

Electronically submit signed, sealed and dated design and shop drawings for the helical tieback anchor components and anchorage details, by a professional engineer, registered in the State of Wisconsin and knowledgeable of the specific site conditions and requirements, to the engineer and Structures Design Section. This includes helical tieback anchor lead/starter and extension section identification (manufacturer's catalog numbers), a detailed description of the construction procedures and a list of the major equipment to be used.

Include in the shop drawing submittal copies of calibration reports for each torque indicator or torque motor, and all load test equipment to be used on the project. Perform the calibration tests within 45 working days of the date submitted. Do not proceed with helical tieback anchor installation and testing until the engineer has received the calibration reports. Include, at a minimum, the following information in the calibration reports:

1. Name of project and contractor
2. Name of testing agency
3. Identification (serial number) of device calibrated
4. Description of calibrated testing equipment
5. Date of calibration
6. Calibration data

Provide the engineer, copies of helical tieback anchor installation records within 24 hours after each installation is completed. Submit formal copies on a weekly basis. Include, at a minimum, the following information in the installation records:

1. Name of project and contractor.
2. Name of contractor's supervisor during installation.
3. Date and time of installation.
4. Name and model of installation equipment.
5. Type of torque indicator used.
6. Location of helical anchor by assigned identification number.
7. Elevation of anchorage.
8. Actual helical tieback anchor type and configuration – including lead/starter section (number and size of helix plates), number and type of extension sections (manufacturer's SKU number).
9. Helical tieback anchor installation duration and observations.
10. Total length of installed helical anchor.
11. Inclination of helical anchor.
12. Installation torque at one-foot intervals for the final 10 feet.
13. Comments pertaining to interruptions, obstructions, or other relevant information.
14. Rated load capacities.

Provide the engineer, copies of helical tieback anchor test reports within 24 hours after each installation is completed. Submit formal copies within a reasonable amount of time following test completion. Include, at the minimum, the following information in the test reports:

1. Name of project and contractor.
2. Name of contractor's supervisor during installation.
3. Name of third party test agency, if required.
4. Date, time, and duration of test.
5. Location of helical anchor by assigned identification number.
6. Type of test (performance or proof).
7. Description of calibrated testing equipment and test set-up.
8. Actual helical tieback anchor type and configuration – including lead/starter section, number and type of extension sections (manufacturer's SKU numbers).
9. Steps and duration of each load increment.
10. Cumulative anchor-head movement at each load step.
11. Comments pertaining to test procedure, equipment adjustments, or other relevant information.
12. Signed by third party test agency representative, registered professional engineer, or as required by local jurisdiction.

## **C Construction**

Install all helical tieback anchors in the presence of the engineer unless the engineer informs the contractor otherwise. Provide the engineer the right of access to any and all field installation records and test reports.

### **C.1 Site Conditions**

Prior to commencing helical anchor installation, inspect the work of all other trades and verify that all said work is completed to the point where helical tieback anchors may commence without restriction.

Verify that all helical tieback anchors may be installed in accordance to all pertinent codes and regulations regarding such items as underground obstructions, right-of-way limitations, utilities, etc.

In the event of a discrepancy, notify the engineer. Do not proceed with helical tieback anchor installation in areas of discrepancies until said discrepancies have been resolved.

### **C.2 Installation Equipment**

Use rotary type, hydraulic power driven torque motor with clockwise and counter-clockwise rotation capabilities for installation equipment. Continuous adjustment to revolutions per minute (RPM's) during installation is required for the torque motor. Percussion drilling equipment is not permitted. Torque capacity 15% greater than the torsional strength rating of the central steel shaft to be installed is required for the torque motor.

Use equipment capable of applying adequate down pressure (crowd) and torque simultaneously to suit project soil conditions and load requirements. Use equipment capable of continuous position adjustment to maintain proper helical anchor alignment.

### **C.3 Installation Tooling**

Use installation tooling consisting of a Kelly bar adapter (KBA) and RCS drive tool used in accordance to the manufacturers written installation instructions.

Use a torque indicator during helical tieback anchor installation. The torque indicator can be an integral part of the installation equipment or externally mounted in-line with the installation tooling.

1. Capable of providing continuous measurement of applied torque throughout the installation.
2. Capable of torque measurements in increments of at least 500 ft-lb.
3. Calibrated prior to pre-production testing or start of work. Calibrate torque indicators which are an integral part of the installation equipment on-site. Calibrate torque indicators which are mounted in-line with the installation tooling either on-site or at an appropriately equipped test facility. Calibrate indicators that measure torque as a function of hydraulic pressure at normal operating temperatures.
4. Re-calibrate, if in the opinion of the engineer and/or contractor, reasonable doubt exists as to the accuracy of the torque measurements.

### **C.4 Installation Procedures**

#### **C.4.1 Central Shaft**

Install the helical tieback anchor to be consistent with the geotechnical, logistical, environmental, and load carrying conditions of the project.

Position the lead section at the location as shown on the plans. The lead section may be started perpendicular to the wall face to assist initial advancement into the soil. After initial penetration, establish the required inclination angle. Engage the helical tieback anchor sections and advance into the soil in a smooth, continuous manner at a rate of rotation of 5 to 20 RPM's. Provide extension sections to obtain the required minimum overall length and installation torque as shown on the plans. Connect sections together using coupling bolt and nut torqued to 40 ft-lb.

Apply sufficient down pressure to uniformly advance the helical tieback anchor sections approximately 3 inches per revolution. Adjust the rate of rotation and magnitude of down pressure for different soil conditions and depths.

#### **C.4.2 Thread Bar**

After the termination criteria as detailed in hereinafter has been met, connect the central steel shaft to the anchorage via the threaded stud adapter or via the combination of pre-stressing steel tendon and adapter.



## **C.5 Termination Criteria**

Do not exceed the torsional strength rating of the central steel shaft as measured during the installation.

Satisfy the minimum installation torque and minimum free-length criteria as shown on the plans prior to terminating the helical tieback anchor installation. In the event any helical anchor fails these production quality control criteria, the following pre-qualified remedies are authorized:

1. The following options will be allowed to the contractor if the torsional strength rating of the central steel shaft and/or installation equipment has been reached prior to achieving the minimum free-length required:
  - a. Terminate the installation at the depth obtained subject to the review and acceptance of the engineer, or
  - b. Remove the existing helical tieback anchor and install a new one with fewer and/or smaller diameter helix plates. Obtain approval from engineer for the new helix configuration prior to installation. If re-installing in the same location, terminate the top-most helix of the new helical tieback anchor at least (3) three feet beyond the terminating depth of the original anchor without exceeding any applicable maximum embedment length requirements, or
  - c. Replace the existing helical tieback anchor with one having a shaft with a higher torque strength rating. Obtain approval from the engineer for the new shaft size/type prior to installation. If re-installing in the same location, terminate the top-most helix of the new helical tieback anchor at least (3) three feet beyond the terminating depth of the original anchor without exceeding any applicable maximum embedment length requirements.
  - d. Do not re-use helical tieback anchor shaft material that has been permanently twisted during a previous installation.
2. The following options will be allowed to the contractor if the minimum installation torque as shown on the working drawings is not achieved at the minimum overall length:
  - a. Install the helical tieback anchor deeper using additional extension sections until the minimum installation torque criterion is met, provided that, if a maximum length constraint is applicable, continued installation does not exceed said maximum length constraint, or
  - b. Remove the existing helical tieback anchor and install a new one with additional and/or larger diameter helix plates. Obtain approval from engineer for the new helix configuration prior to installation. If re-installing in the same location, terminate the top-most helix of the new helical tieback anchor at least three feet beyond the terminating depth of the original anchor provided that, if a maximum length constraint is applicable, continued installation does not exceed said maximum length constraint, or

- c. De-rate the load capacity of the helical tieback anchor and install additional helical anchors as necessary. Obtain approval from the engineer for the de-rated capacity and additional anchor location prior to installation.
- 3. The following options will be allowed to the contractor if the minimum installation torque as shown on the working drawings is not achieved before reaching a specified maximum embedment length:
  - a. If allowed by the engineer, remove the existing helical tieback anchor and reinstall at a position at least three times the diameter of the largest helix away from the initial location. Original embedment length and installation torque criteria must be met. Repositioning may require the installation of additional helical tieback anchors with design loads adjusted for spacing changes, or
  - b. Demonstrate acceptable helical tieback anchor performance through proof testing, or
  - c. De-rate the load capacity of the helical tieback anchor and install additional helical anchors as necessary. Obtain approval from the engineer for the de-rated capacity and additional anchor location prior to installation.

If the helical tieback anchor is refused or deflected by a subsurface obstruction, terminate the installation and remove the anchor. Remove the obstruction, if feasible, and reinstall the helical tieback anchor. If the obstruction can't be removed, install the helical tieback anchor at an adjacent location, subject to review and acceptance of the engineer.

If the torsional strength rating of the central steel shaft and/or installation equipment has been reached prior to proper positioning of the last plain extension section relative to the anchorage, the contractor may remove the last plain extension and replace it with a shorter length extension. If it is not feasible to remove the last plain extension, the contractor may cut said extension to the correct length and field drill a hole in the cut-off shaft. Do not reverse (back-out) the helical anchor to facilitate extension removal.

Use the average torque for the last three feet of penetration as the basis of comparison with the minimum installation torque as shown on the plans. Define the average torque as the average of the last three readings recorded at one-foot intervals.

## **C.6 Helical Tieback Anchor Load Tests**

### **C.6.1 Load Test Equipment**

Position the hydraulic jack at the beginning of the test to avoid the unloading and repositioning of the jack during the test. Use a jacking system capable of applying a tension load not less than 85 percent of the guaranteed ultimate tension capacity of the thread bar. Graduate the pressure gauge in 100 psi increments or less. Use a stroke of the jack not less than the theoretical elastic elongation of the total helical anchor length at the maximum test load.

Use load test equipment capable of increasing or decreasing the applied load incrementally. Allow for small adjustments for the incremental control, which may be necessary to maintain the applied load for a sustained period.

Design the reaction system (or retaining structure itself) so as to minimize its movement under load and to prevent bending of the thread bar. If the reaction system is the retaining structure, check said structure and connections to determine if they have sufficient strength and capacity to distribute the test loads to the ground. Test loads are normally higher than the design loads on the structure. Apply the direction of the load collinear with the helical anchor at all times.

Use a dial gauge to measure anchor movement. Use a dial gauge having an accuracy of at least  $\pm 0.001$ -in. and a minimum travel sufficient to measure all anchor movements without requiring resetting the gauge. Position the dial gauge so its stem is coaxial with the axis of the anchor. The stem may rest on a smooth plate located at the end of the anchor. Position said plate perpendicular to the axis of the anchor. Support the dial gauge by a reference apparatus to provide an independent fixed reference point. Use reference apparatus independent of the reaction system and not affected by any movement of the reaction system.

Re-calibrate the load test equipment, if in the opinion of the engineer and/or contractor, reasonable doubt exists as to the accuracy of the load or deflection measurements.

### **C.6.2 Testing Program**

Use an anchor testing program consisting of two parts, namely, performance tests and proof tests. The testing procedures are as described hereinafter.

Helical tieback anchors will be selected by the engineer to be performance tested within each wall area or tier. Test one anchor per tier for each of the two temporary walls in accordance to the performance test procedures. These anchors are to be installed, tested, and approved by the engineer prior to the installation of production anchors within that area or tier. Use all anchors, which are performance tested, as production anchors and incorporated into the retention structure. Upon completion and approval of the performance tests, the installation of production anchors may proceed.

Perform proof tests on all production helical tieback anchors which are not performance tested. Ensure that all proof tests results are approved by the engineer prior to completion.

### **C.6.3 Performance Test Procedures**

Performance test 2 percent of the helical tieback anchors or a minimum of 2 anchors per temporary wall, whichever is greater, in accordance to the following procedures.

1. The helical anchors which are performance tested may be completely unloaded prior to adjusting to the lock-off load, if so warranted by the construction sequence. Final loading to the lock-off load does not require further movement readings.

2. Performance test helical tieback anchors by incrementally loading and unloading the anchor in accordance to the following schedule. Raise the load from one increment to another immediately after recording the anchor movement. Measure the anchor movement and record to the nearest 0.001 inches with respect to an independent fixed reference point at the alignment load and at each increment load. Monitor the load with a pressure gauge. At load increments other than the maximum test load, hold the load just long enough to obtain and record the movement reading.

PERFORMANCE TEST SCHEDULE				
CYCLICAL LOAD INCREMENTS (%DL/100)				
AL 0.25DL	AL 0.25DL	AL 0.25DL	AL 0.25DL	AL 0.25DL
	0.50DL*	0.50DL 0.75DL*	0.50DL 0.75DL 1.00DL*	0.50DL 0.75DL 1.00DL 1.25DL* Reduce to lock-off load

\* - See paragraph 4 below

# - Except as noted in paragraph 1 above

3. AL = Alignment Load (10% - 15% DL); DL = Design (Working) Load
4. Hold the 1.25DL load increment for 10 minutes. Commence the ten minute observation period as soon as the 1.25DL load is applied to the anchor. Record movements at 0.5, 1, 2, 3, 4, 5, 6, and 10 minutes. If the anchor movement between the 1 minute and 10 minute readings exceeds 0.05 inches, maintain the 1.25 DL test load for an additional 20 minutes. Record movements at 15, 20, 25, and 30 minutes. If the acceptance criteria given in the first paragraph under Acceptance Criteria hereinafter are not satisfied, continue the anchor test for an additional 30 minutes. Record movements at 45 and 60 minutes. If the acceptance criteria are not satisfied after this extended observation period, exercise one of the options as referenced in the second paragraph under Acceptance Criteria hereinafter.
5. Plot the helical anchor movement versus load for each load increment marked with an asterisk (\*) in the performance test schedule and plot the residual movement at each alignment load versus the highest previously applied load.
6. Throughout the 1.25DL observation period, hold the load constant by adjusting the hydraulic pressure. Care must be taken so as not to exceed the 1.25DL test load.

#### C.6.4 Proof Test Procedures

Proof test all anchors which are not performance tested.

1. Anchors which are proof tested may be completely unloaded prior to adjusting to the lock-off load, if so warranted by the construction sequence. Final loading to the lock-off load does not require further movement readings.
2. Perform the proof test by incrementally loading the helical anchor in accordance to the following schedule. Raise the load from one increment to another after an observation period. Measure the anchor movement and record to the nearest 0.001 inches with respect to an independent fixed reference point at the alignment load and at each increment load. Monitor the load with a pressure gauge. At load increments other than the maximum test load, hold the load for a period not to exceed 2 minutes. Begin the two minute observation period when the pump begins to load the anchor to the next load increment. Take movement readings at the end of the two minute observation period.

PROOF TEST SCHEDULE	
LOAD TEST SCHEDULE (%DL/100)	OBSERVATION PERIOD (MIN)
AL	0.0
0.25DL	2.0
0.50DL	2.0
0.75DL	2.0
1.00DL	2.0
1.25DL	5.0
Reduce to lock-off load#	

- see paragraph 3 below

# - except as noted in paragraph 1 above

AL = Alignment Load (10% - 15% DL)

DL = Design (Working) Load

3. Maintain the 1.25DL test load for 5 minutes. Commence this five minute observation period as soon as the 1.25DL is applied to the anchor. Record movement readings at 0.5, 1, 2, 3, 4, and 5 minutes. If the movement between the 0.5 and 5 minute reading exceeds 0.05 inches, maintain the 1.25DL test load for an additional 5 minutes. Record movement readings at 6 and 10 minutes. If the acceptance criteria given in first paragraph under Acceptance Criteria hereinafter are not satisfied, continue the anchor test for an additional 20 minutes. Record movement readings at 15, 20, 25, and 30 minutes. If the acceptance criteria are not satisfied after this extended observation period, exercise one of the options as referenced in the second paragraph under Acceptance Criteria hereinafter.
4. Plot the helical anchor movement vs. load for each load increment in the proof test.
5. Throughout the 1.25DL observation period, hold the load constant by adjusting the hydraulic pressure. Care must be taken so as not to exceed the 1.25DL test load.

### **C.6.5 Acceptance Criteria**

Do not exceed 0.10 inches of net movement for the performance and proof tests during the final log cycle of time (examples, 3-min. to 30-min. for performance tests; 1-min. to 10-min. for proof tests).

If the above criteria are exceeded, continue the test for an extended period of time as defined in #3 under Performance Test Criteria and as defined under #3 under Proof Test Procedures. If the final log cycle of time movement at the end of the extended observation period exceeds 0.10 then the following options are allowed to the contractor:

1. Extend the observation period for an additional 60 minutes for the performance test with movement readings taken at 80, 90, 100, and 120 minutes. Extend the observation period for an additional 30 minutes if the proof test is involved with movement readings taken at 45 and 60 minutes. Do not exceed 0.10 inches for the net movement during the final log cycle of time.
2. Install the helical anchor deeper so as to increase its average installation torque, provided that the maximum torque capacity of the anchor and the maximum length constraint are not exceeded. Proof test this anchor.
3. Remove the helical anchor and reinstall an anchor with larger diameter and/or additional helices. If this anchor is reinstalled at the same location, then penetrate the last helix of this reinstalled anchor at least 5'-0 beyond the length of the original anchor, provided the maximum length constraint is not exceeded. Proof test this anchor.
4. Reduce the design load of the helical anchor. Performance test this anchor at the reduced design load. This option will require one or two additional anchors be installed adjacent to this reduced design load anchor. The number of additional anchors to be installed is a function of the reduced design load. Install adjacent anchor(s) at least three diameters, based on the largest helix, away from the reduced design load anchor. Adjust design loads on adjacent anchor(s) accordingly based on the revised horizontal spacing.

### **D Measurement**

The department will measure Helical Tieback Anchors as each individual helical tieback anchor, 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.0060.850	Helical Tieback Anchors	Each

Payment is full compensation for preparing and providing all submittals; and for furnishing and installing helical tieback anchors.

### **13.3 Fence Decorative Wall, Item SPV.0090.850.**

#### **A Description**

This special provision describes work consisting of fabricating, galvanizing, painting, delivering and installing decorative fencing on top of retaining walls.

#### **B Materials**

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

Provide materials meeting the requirements as shown on the plans and the applicable sections of the standard specifications as follows:

- Structural Steel: Standard spec 506.2.2
- Steel Mesh: Standard spec 505.2.5
- Painting: Standard spec 517.2 and 517.3

Prior to fabrication, blast clean steel per SSPC-SP 6 and galvanize steel according to ASTM A 123. All bolts, nuts and washers shall be supplied as factory galvanized according to ASTM A 153. Repair zinc coating damaged during fabrication as specified in standard spec 635.3.5. Grind the welded joints to a smooth finish where shown in the plans.

Steel preparation includes the chamfering of sharp edges. Flatten all sharp edges by a single pass of a grinder or suitable device along the sharp edge. Condition any thermal cut edges before blast cleaning by shallow grinding or other cleaning to remove any hardened surface layer. Remove all evident steel defects exposed in accordance to AASHTO M 160 prior to blast cleaning.

The fence fabric shall consist of 10 GA. 2 inch by 2 inch welded wire mesh galvanized to ASTM A 123 and then painted with a pre-approved tie and top coat as given in this special provision. The vertical wires of the mesh shall be placed on the inside (Pedestrian/Traffic side) face of the fence.

##### **B.2 Painting**

Clean all galvanizing surfaces per SSPC-SP1 to remove, chlorides, sulfates zinc salts, oil, dirt, organic matter and other contaminants. The cleaned surface should then be Brush Blast Cleaned per SSPC-SP7 to create a slight angular surface profile (1.0 – 1.5 mils suggested) for adhesion. Blasting should not fracture the galvanized finish or remove any dry film thickness.

After cleaning provide a tie coat from an approved coating system that is specifically intended to be used on a galvanized surface. The tie coat shall etch the galvanized rail and prepare the surface for the top coat. Apply a top coat matching the specified color. The tie and top coats should be of contrasting colors. Use a pre-approved top coat that is resistant to the effects of the sun, and is suitable for use in a marine environment. The various decorative fence components shall be painted with the tie and top coats before

final assembly of the fence panels. Care should be taken to not damage the painted surface during panel assembly or fence installation.

Use one of the qualified paint sources and products given below. An equivalent system may be used with the written approval of the engineer.

Producer	Coat	Products	Dry Film Minimum Thickness (mils)	Minimum Time Between Coats (hours)
Sherwin Williams 1051 Perimeter Drive, Suite 710 Schaumburg, IL 60173 847.330.1562	Tie	Recoatable Epoxy Primer B67-5 Series/B67V5	2.0 to 4.0	6
	Top	Acrolon 218 HS Polyurethane , B65-650	2.0 to 4.0	NA
Carboline 350 Hanley Industrial St. Louis, MO 63144 314.644.1000	Tie	Rustbond Penetrating Sealer FC	1	36
	Top	Carboline 133 LH	4	NA
Wasser Corporation 4118 B Place NW Suite B Auburn, WA 98001	Tie	MC-Ferrox B 100	3.0 to 5.0	8
	Top	MC-Luster 100	2.0 to 4.0	NA

## B.2 Color

Provide a finished color for the coating system for decorative fencing matching Federal Color 27038, semi-gloss black.

## C Construction

Provide shop drawings in accordance to the requirements of standard spec 506.3.2. Shop drawings shall contain material sizes and types, weld sizes and locations, and all necessary details, dimensions, and information to allow fabrication of the fence in conformance with the requirements of the contract. Do not begin fabrication prior to shop drawing review and acceptance.

Contractor shall provide a full sized painted 6 foot by 10 foot test panel for the fence. The test panel shall be ten feet long. The test panel shall be delivered to the USH 41 field office (1940 Mason Street, Green Bay, WI 54303).within 60 days of the award of the contract. Unload and set up a test panel in an area designated by the engineer. Do not begin fabrication of fences prior to the test panel acceptance.



During construction and at the time of delivery the engineer will inspect the frame components. The engineer will accept the product after the delivery is unloaded on the site. After the product is unloaded, the installation contractor shall signify in writing that the fence was received in acceptable condition per the engineer's inspection. Any damage to the fence panels after the acceptable delivery will be the responsibility of the installation contractor.

Complete all welding in accordance to the applicable requirements of standard spec 506. No field welding, field cutting, or drilling will be permitted without the approval of the engineer.

Take special care during construction to minimize the number and size of touch-up spots. Follow the manufacturer's recommendations for damaged area repairs. The engineer will approve the field paint appearance prior to final acceptance.

Provide the engineer with the name, address, and phone number of a representative of the fence fabricator for future coordination.

During handling, protect finish coating from damage. If damaged during handling the fencing may be rejected by the engineer or engineer may direct fabricator that the finish shall be repaired in accordance to the manufacturer's recommendations.

#### **D Measurement**

The department will measure Fence Decorative Wall 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
SPV.0090.850	Fence Decorative Wall	LF

Payment is full compensation for fabricating painting, galvanizing and delivering test panel to site; fabricating, furnishing, delivering and unloading fence panels, lighting access panels, posts; installing fence posts and panels and hardware; and for preparing shop drawings, painting, galvanizing metal fence components.

### **13.4 Prestressed Precast Concrete Wall Panel, Item SPV.165.850.**

#### **A Description**

This special provision describes constructing precast prestressed concrete wall panels with heights and patterns as shown on the plans including product design, fabrication, transportation, erection, anchorage and other related items.

These specifications provide for prestressing concrete panels by the pretensioning method. In this method, stress the reinforcing tendons initially, then place and cure the concrete and release the stress from the anchorages to the concrete after developing specified concrete strength.

Design shall be in accordance to the AASHTO Standard Specification for Highway Bridges and applicable codes. The design life of the precast concrete wall panels and all panel components shall be 75 years.

## **B Materials**

### **B.1 General**

Furnish materials conforming to the following:

Masonry Anchors.....	standard spec 502
Coated High Strength Bar Steel Reinforcement .....	standard spec 505
Pretensioning Reinforcement.....	standard spec 503
Welded Steel Wire Fabric for Concrete Reinforcement .....	standard spec 505
Structural Steel and Miscellaneous Metals .....	standard spec 506
Elastomeric Bearing Pads .....	standard spec 506

Galvanize or furnish stainless steel materials for all hardware incorporated into the finished structures. (Not including reinforcement bars or pretensioning reinforcement.)

### **B.2 Concrete**

Furnish concrete as specified in standard spec 501 and standard spec 716.

Ensure concrete attains a minimum 28-day compressive strength of 5000 pounds per square inch. Base all tests on 6 inch by 12-inch cylinders, or 4 inch by 8-inch cylinders, provided the engineer develops and approves a correlation factor. Mold concrete cylinders in suitable steel or plastic molds. Cure concrete cylinders according to AASHTO T 23, except cure the cylinders with the member until release strength is obtained, then cure the cylinders according to AASHTO T 23.

Make and test the cylinders and make available to the engineer all information relating to the making and testing of cylinders. Notify the engineer immediately if concrete cylinder compressive strengths are less than the required 28-day strength. Keep neatly documented records of all cylinder testing on the day of the test and make them available to the engineer. Provide copies of the tests to the engineer by contract completion.

Furnish precast prestressed concrete panels cast from air entrained concrete. Use type I, IS, I(SM), IP, II, or III cement. The contractor may replace up to 30 percent of type I, II, or III portland cement with an equal weight of fly ash conforming to standard spec 501.2.6 or slag conforming to standard spec 501.2.7. Use only one source and replacement rate for work under a single bid item. Use a department-approved air entraining admixture conforming to standard spec 501.2.2 for air entrained concrete. Use only size No. 1 coarse aggregate conforming to standard spec 501.2.5.4.

Determine proportions for the mix within the following limitations:

Water cement ratio .....	not greater than 0.45
Cement content, pounds per cubic yard of concrete .....	610 minimum
Air content of concrete, percent maximum.....	3.5-6.0
Slump of mixed concrete, maximum .....	4 inches

If the mix does not contain a high range water reducer admixture, use a department-approved set retarding admixture as specified in 501.2.3.2 at the recommended rate if the ambient air temperature is 70 degrees F (21 degrees C) or higher. The contractor may use it at their option if the ambient air temperature is less than 70 degrees F (21 degrees C).

Do not add more admixtures or water after mixing is complete.

Use admixtures that do not have significant chlorides or chlorides added during manufacture.

Use admixtures that are compatible with all ingredients of the concrete mixture.

### **B.3 Pretensioning Reinforcement**

Use high tensile strength, 7-wire strands conforming to ASTM A 416, grade 270.

### **B.4 Plant Certification**

Obtain all precast prestressed concrete wall panels from fabrication plants that comply with the department's plant certification program for precast prestressed concrete, unless the engineer agrees to accept these items according to the alternate procedures set forth in the department's plant certification program.

### **B.5 Lifting Devices**

The type, number and locations of lifting devices and the method of handling the architectural precast panels is determined by the fabricator and approved by the engineer. Do not locate lifting devices in the surface of the panel facing toward the road.

### **B.6 Accessories and Inserts**

Materials:

- Shims: High-density plastic or galvanized steel, 1/8-inch thick, smooth both sides
- Carbon steel plate: ASTM A 283
- Welded headed studs: AWS D1.1 – Type B
- Bolts, nuts, rods, washers: subsection 506.2
- Joint Material: Closed cell 100% virgin chloroprene (neoprene) filler meeting Division II Section 18 of the AASHTO Specifications for Highway Bridges.
- Inserts: Galvanized with minimum 12 Gage steel conforming to ASTM A1011 SS GR 33 or ASTM A653 GR 33 A. Inserts anchors to have 1 1/2-inch minimum cover.

Zinc coated fabrications: Conform to ASTM 385 for fabricating zinc coated work.

## **C Construction**

### **C.1 Design Requirements**

Design panels and components to withstand initial handling, transportation, and erection stress limits; dead loads; wind load of 40 pounds per square foot; suction load of 20 pounds per square foot; structural backfill in cavity to 42 inches above finished grade and in front of abutments as shown in the plans; thermal stresses; and other loads specified. In addition to the above loads also design inserts and connection assemblies for the loads indicated on the plans and a horizontal force equal to at least 20% of the dead weight of the panel.

Provide a minimum prestress of 250 psi after losses and minimum temperature and shrinkage reinforcement as required by AASHTO Standard Specifications for Highways Article 8.20.

### **C.2 Submittals**

Erection drawings shall conform to the contract plans and consist of member piece marks and completely dimensioned size and shape of each member; plans and/or elevations locating and defining all products furnished by manufacturer; sections and details showing connections, cast-in items and their relation to the structure; relationship to adjacent material including footings and copings; joints between members and structure; description of all loose, cast-in and field hardware; field installed anchor location drawings; erection sequences, when required to satisfy stability, and handling requirements; and all dead, live and other applicable loads used in the design.

Production drawings shall conform to the contract plans and consist of elevation view of each member; sections and details to indicate quantities and position of reinforcing steel, anchors, inserts, etc.; handling devices; dimensions and finishes; prestress for strand; concrete strengths; estimated cambers; and methods for storage and transportation.

Submit on request design calculations performed by a registered engineer licensed in the State of Wisconsin experienced in the design of precast prestressed architectural concrete.

Design modifications necessary to meet performance criteria and field coordination. Variations in details or materials shall not adversely affect the appearance, durability, or strength of units. Maintain general design concept without altering profiles and alignment.

Submit on request reports on materials, compressive strength tests on concrete and water absorption tests on units.

Submit to the engineer, for acceptance and placing on file before commencing, one set of the submittals that the contractor has checked. In addition, provide two sets to the region office (Danielle Block, (920) 492-2212) and one set to the Bureau of Structures for acceptance and inspection purposes. Only after acceptance by the region may fabrication commence of panels begin. The engineer may refuse prints of submittals that are not

clear and legible. If the engineer requests, submit one additional copy of submittals for review. After acceptance, furnish as many copies of submittals as required.

The submittals become a part of the contract, provided any differences between sections on production drawings and sections the plans show are made only if the engineer approves and if the substitution is made at no additional expense to the department.

After initial submittal and acceptance, make no deviation from the production drawings or changes to them without the engineer's further review and acceptance.

The engineer's review of submittals means only a review of the character and sufficiency of the details and does not relieve the contractor from responsibility in regard to errors or omissions on those drawings.

### **C.3 Sample Panel**

Produce one standard sample panel for acceptance of color and texture. Before any final panels are produced the 4 x 4 foot sample panel shall be reviewed and accepted by the US 41 team. (Danielle Block, (920) 492-2212) If the panel is not acceptable, a second panel shall be produced and submitted for acceptance. Sample panel to be the standard of quality for precast panel work after acceptance. Test panels shall be delivered to the USH 41 field office (1940 Mason Street, Green Bay, WI 54303) for checking purposes during production of project panels.

### **C.4 Stressing Procedure**

Stressing procedure shall be in accordance to standard spec 503.3.1. Ensure all the strands of a pretensioned member are free from kinks or twists before starting tensioning operations. Ensure no strand unwinds more than one turn after starting tensioning operations.

Perform transfer of prestress to concrete after the concrete develops the minimum required strength for transfer determined by the test cylinders.

### **C.5 Placing and Fastening Steel**

Placing and fastening steel shall be in accordance to standard spec 503.3.1.1. Place all steel units in the position the plans show and hold firmly during concrete placing and setting as specified in standard spec 505.3.

Ensure that all prestressing steel is free of dirt, grease, wax, scale, rust, oil, or other foreign material that may prevent bonding between the steel and the concrete.

### **C.6 Placing Concrete**

Handle and place the concrete as specified in standard spec 502.

### **C.7 Tolerances**

Cast architectural precast concrete panels to plan dimensions within the following applicable tolerances:

Overall height of panel measured at the face exposed to view .....	$\pm 3/16$ -inch per 10 ft.
Overall width of panel measured at the face exposed to view .....	$\pm 3/16$ -inch per 10 ft.
Total thickness .....	$\pm 1/4$ -inch
Structural thickness .....	$\pm 1/4$ -inch
Variation from square or designated skew .....	$\pm 1/2$ -inch
Local smoothness, unconcealed surfaces .....	$\pm 1/4$ -inch per 10 ft.
Bowing .....	$\pm \text{Length}/360$ , to a maximum of 1-inch
Warp (from adjacent corner) .....	$\pm 1/16$ -inch per ft.
Location of inserts .....	$\pm 1/2$ -inch
Tipping and flushness of inserts .....	$\pm 1/4$ -inch
Position of handling devices .....	$\pm 3$ -inch
Reinforcing steel:	
Where position has structural implications or affects concrete cover .....	$\pm 1/4$ -inch
Otherwise .....	$\pm 1/2$ -inch
Location of strand:	
Perpendicular to panel .....	$\pm 1/4$ -inch
Parallel to panel .....	$\pm 1$ -inch
Dimensions of architectural features and rustications .....	$\pm 1/4$ -inch

## C.8 Curing

Cure concrete in accordance to standard spec 503.3.2.2.

## C.9 Surface Finish

Provide architectural surface treatment, brick pattern, as detailed in the plans. Provide a rubbed surface finish on the remaining exposed surfaces of prestressed concrete panels as specified in standard spec 502.3.7.3 before shipping from the plant. Exposed face to match approved mockup panel. Use rigid molds to maintain panels within specified tolerances conforming to shape, lines, and dimensions shown on the production drawings. Construct molds to withstand vibration method selected.

Coat bottom of panels with bitumastic after cutting strands flush. Do not coat top of panels.

## C.10 Erection

Erect panels without damage to shape or finish. Replace or repair damaged panels. Do not drill or form holes through the precast prestressed wall facing panels to erect panels. An alternate method of anchoring/attaching the precast prestressed concrete wall panels may be submitted to the engineer for review and possible acceptance.

Place precast concrete wall panels so that their final position is vertical. Ensure that the vertical joint openings between panels are uniform and that decorative patterns between panels are aligned.

When panels require adjustment beyond design or tolerance criteria, discontinue affected work; advise engineer.

Verify structure, footings, anchors blocks, rods, couplers, clevises, and other anchor devices are ready to receive panels. Verify that wall panel footings are placed at the proper horizontal and vertical alignments and are ready to receive wall panels. Place elastomeric pad and shims behind panels to ensure proper horizontal alignment. Set panels on elastomeric bearing pads and shims and install base angles at ends of panels. Place a 2 foot wide layer of Geotextile Fabric Type DF over the joint between the tilt up panel and the panel footing as shown on the plans. Shim vertical joints to get proper opening. Install and compress neoprene joint filler in the lap joints between panels. Fasten top of panels to deadman anchor block assemblies at MSE walls, as shown on the plans.

Touch-up scratched or damaged galvanized surfaces.

### **C.11 Erection Tolerances**

Plan location from wall reference line .....	± ½-inch
Plan location from wall alignment.....	± ½-inch
Top elevation from nominal top elevation.....	± 1.4-inch
Support elevation from nominal elevation:	
Maximum low .....	½-inch
Maximum high.....	¼-inch
Plumb in any 10 ft. of panel height.....	± ¼-inch
Maximum offset of matching edges and decorative patterns .....	± ¼-inch
Maximum offset of matching faces .....	± ¼-inch
Joint width (governs over joint taper).....	± ¼-inch
Joint taper maximum.....	± 3/8-inch
Joint taper over 10 ft. length .....	± ¼-inch
Differential bowing or camber as erected between adjacent members of the same design.....	± ¼-inch

### **C.12 Adjusting**

Adjust panels so joint dimensions are within tolerances.

### **D Measurement**

The department will not measure Prestressed Precast Concrete Wall Panel. The department will pay plan quantity in accordance to the Pay Plan Quantity article. Any modifications to the contract quantity caused by corrections or revisions of the original contract plan, which have been approved by the engineer, will be measured by the square foot on a vertical plane between a line at the finished grade in front of the panel and a line indicating the top of wall including wall cap or coping as shown on the plans. Unless ordered by the engineer, panel area below or above these lines will not be measured for payment.

## **E Payment**

The department will pay for plan quantities in accordance to Pay Plan Quantity article at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0165.850	Prestressed Precast Concrete Wall Panel	SF

Payment is full compensation for preparing the design drawings and calculations, production drawings, and coordination; for providing concrete and reinforcement steel for the cast-in-place concrete footings and copings, prestressed precast wall panels, including all concrete, grout, mortar, reinforcement steel, tie bars, bearing pads, geotextile fabric Type DF, excavation, shims, masonry anchors, filler, anchor plates, angles, slotted inserts and other embedded metal; for casting and curing concrete; for jacking and prestressing; and for furnishing all handling, hauling and erecting. Deadmen, anchor blocks, rods, couplers and clevises shall be produced and supplied to the job site under this item. (Installing deadmen within the reinforced earth mass will be covered under the MSE Wall bid item) Parapets, railings, abutment bodies and other items above the wall panel cap or coping will be paid for separately. Architectural Surface Treatment will be paid for separately.

## **13.5 Temporary Shoring Left In Place, Item SPV.0165.851.**

### **A Description**

This special provision describes furnishing and installing or constructing Temporary Shoring that will remain in place at the locations shown on the plan, maintaining the shoring as needed during the contract, and in accordance to the shoring design.

### **B Materials**

#### **B.1 Shoring Design**

The locations of required Temporary Shoring Left In Place will be shown on the contract plans. Provide a shoring design for each required shoring location. The adequacy of each shoring design shall be verified by a professional engineer registered in the State of Wisconsin and be knowledgeable of the specific site conditions and requirements. Submit to the engineer for documentation one copy of each shoring design that is signed and sealed by the same professional engineer verifying the design two weeks prior to installation.

### **C Construction**

Construct or install the Temporary Shoring Left In Place at a required location in accordance to the design developed for that location.

Maintain temporary shoring left in place during the life of the contract. Upon completion of the contract, leave the shoring in place. Backfill any space that is excavated, but not occupied by the new permanent construction, in accordance to standard spec 206.3.13.



## **D Measurement**

The department will measure Temporary Shoring Left In Place by the square foot, acceptably completed at locations the plans show, measured as the area of exposed face in the plane of the shoring from the ground line in front of the shoring to a maximum of 1 foot above the retained grade. Shoring used for staged construction in multiple configurations without removal and reinstallation will be measured once based on the configuration with the largest area of exposed face.

## **E Payment**

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0165.851	Temporary Shoring Left In Place	SF

Payment is full compensation for providing a verified design of the shoring; providing a copy of the design; furnishing and hauling materials to each location; installing or constructing the shoring; maintaining the shoring as needed during the contract; and for backfilling upon completion as specified.

Shoring not required by the plans and installed for the convenience of the contractor's operations shall be considered incidental to work under the contract and will not be measured and paid for under this item.

## **13.6 Temporary Wall Wire Faced Mechanically Stabilized Earth, Item SPV.0165.852.**

### **A Description**

This special provision describes designing, furnishing materials and erecting a temporary earth retention system in accordance to the lines, dimension, elevations and details as shown on the plans and provided in the contract.

### **B Materials**

#### **B.1 Proprietary Mechanically Stabilized Earth Wire Faced Wall Systems**

The department specifies approved temporary wire faced mechanically stabilized earth wall products on the department's approved product list.

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 Development Section. The name of the companies supplying pre-approved material shall be furnished within 25 days after the award of contract. The department maintains a list of pre-approved systems of retaining walls. To be eligible for use on this project, a system requiring pre-approval must have been pre-approved and added to that list prior to the bid opening date.

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 Bridge Manual. Information and assistance with the pre-approval process can be obtained by contacting the Structures Development Section in Room 601 of the Hill Farms State Transportation Building in Madison or by calling (608) 266-8494.

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.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 design/shop plans shall be prepared on reproducible sheets 11 inch x 17 inch, including borders. Each sheet shall have a title block in the lower right corner. The title block shall include the project identification number and structure number. Design calculations and notes shall be on 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 and calculations shall be signed, sealed and dated by a professional engineer licensed in the State of Wisconsin.

The design of the Mechanically Stabilized Earth Wire Faced Wall shall be in compliance with the latest AASHTO LRFD Bridge Design Specification including interim specifications, and standard engineering design procedures as determined by the department.

The design life shall be a minimum of three years. A fine metallic screen or geotextile filter fabric shall be used at the front face of the wall to retain the fines of the soil mass. The minimum embedment of the MSE wire faced wall shall be 1 foot 6 inches, or as

given in the plan, or as stated in AASHTO 11.10.2.2, whichever is greater. Frost depth shall not be considered. The overall vertical tolerance of the wall and the horizontal alignment tolerance shall not exceed 3 inches per 10 feet. For systems with separate components for soil reinforcement and wall panels, the force in the soil reinforcement at the face of the panel shall not exceed 0.5 of the connection strength failure load as determined by tests.

The design of the MSE Wire Faced Wall shall consider the internal stability of the wall mass, including reinforcement pullout resistance. The design shall be in compliance with the current AASHTO specifications for Mechanically Stabilized Earth Walls, except that the maximum value of the angle of internal friction of the wall backfill material used for design shall be assumed to be 30 degrees without certified test values. Design the walls for the heights shown on the plans, and include the effects of highway surcharge loading. If a traffic rail or parapet is detailed within 3 feet of the top of the wall, the soil reinforcement at the top of the wall shall be designed for an additional horizontal traffic load as given in AASHTO. 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 6 feet. The soil reinforcement shall extend 3 feet beyond the theoretical failure plane in all cases.

### **B.3 Wall System Components**

#### **B.3.1 Welded Wire Fabric**

Provide welded wire fabric that is used to fabricate 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. Any geotextiles used in the construction of the wall and finally exposed to the sun shall be resistant to ultraviolet radiation for the life of the wall.

#### **B.3.2 Backfill**

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 or other potentially corrosive material.

Provide material that conforms to the following gradation requirements.

<b>Sieve Size</b>	<b>Percentage by Weight Passing</b>
1 inches	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.

In addition, backfill material shall meet the following requirements.

Test	Method	Value
pH	AASHTO T-289	4.5 – 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.
Angle of Internal Friction	AASHTO T-236	30 degrees min.

Prior to placement of the backfill, obtain and furnish to the engineer certified test results that the backfill material complies with the requirements of this specification. Tests will be performed by a certified independent lab.

## **C Construction**

### **C.1 Methods**

All excavation and preparation of the foundation for the reinforcing fabric 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 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 standard spec 207.3.6. For walls with a maximum height greater than 6 feet, compact the backfill to 95% of maximum density as determined by AASHTO T-99, Method C or D. Perform compaction testing. When performing nuclear testing, use a nuclear gauge from the department's approved list, ensure that the operator is a HTCP certified Nuclear Density Technician I, and conform to CMM 8.15 for testing and gauge monitoring methods. Conduct testing at a minimum frequency of 1 test per 2-foot layer per 200 feet of wall, or major portion thereof. Deliver documentation of all compaction testing results to the engineer at the time of testing. The cost of compaction testing shall be considered incidental to the cost of the wall.

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 top of the most recently placed and compacted layer of MSE backfill.

### **C.2 Geotechnical Information**

Geotechnical data to be used in the design of the wall is given on the wall plan. The allowable soil bearing capacity is given on the plan. After completion of excavation, the department's Regional Soils Engineer shall inspect the site and shall determine if the foundation is adequate for the intended loads. Allow the Regional Soils Engineer two working days to perform the inspection.

### **C.3 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:

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.3.2 Quality Control Personnel**

Perform the quality control sampling, testing, and documentation required under this provision using HTCP certified technicians. Have a grading technician certified under HTCP at level I present at the each grading site during all wall backfill placement, compaction, and nuclear testing activities. Have a nuclear density technician certified under HTCP at level I 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. Perform the quality control sampling, testing, and documentation required under this provision using HTCP certified technicians. Have a grading technician certified under HTCP at level I present at the site during all wall backfill operations, compaction, and nuclear testing activities. Have a nuclear density technician certified under HTCP at level I, or ACT certified technician, perform field density and field moisture content testing. Conform to CMM 8.15 for testing and gauge monitoring methods. The QC technician must retain a split sample for the region and deliver it to the region laboratory within 72 hours. Conduct testing at a minimum frequency of 1 test per 50 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 and 5-point Proctor test every 750 cubic yards of fill and provide the region a split sample within 72 hours 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**

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**

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.3.4 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.

The department will conduct QV tests at the minimum frequency of 30% of the required contractor density and gradation tests.

The department will sample randomly, at locations independent of the contractor's QC work, collecting one sample at each QV location. The department will split each QV sample, testing half for QV, and retaining the remaining half for 10 business days.

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.

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.

#### **C.3.5.3 Independent Assurance (IA)**

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.

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**

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.

Production test results, and results from other process control testing, may be considered when resolving a dispute.

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.

#### **D Measurement**

The department will measure Temporary Wall Wire Faced Mechanically Stabilized Earth in area, acceptably completed, by the square foot of face on a vertical plane between a line 3 foot 6 inches below the finished grade in front of the wall shown on the plan and a line indicating the top of wall including wall cap or copings as required and shown on the plans. Unless ordered by the engineer, wall area constructed above or below these lines 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
SPV.0165.852	Temporary Wall Wire Faced Mechanically Stabilized Earth	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; providing backfill, backfilling, and 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.

### **13.7 Piling Steel Sheet Temporary, Item SPV.0165.855.**

#### **A Description**

This special provision describes furnishing, installing and removing temporary steel sheet piling with walers for walls TW-05-001 and TW-05-002 as shown on the plans to facilitate construction of Piers 15 and 20 for Structure B-05-678 in accordance to standard spec 512 and as hereinafter provided.

#### **B Materials**

Furnish temporary steel sheet piling with a section modulus equal to 30.2 cubic inches per foot or greater. The contractor may employ previously used steel sheet piling in good condition, subject to approval of the engineer, in lieu of new material.



### **C Construction**

Install temporary steel sheet piling as specified on the plans.

Excavate and grade as necessary to enable installation of the sheet piling, walers and helical tieback anchors.

Remove temporary sheet piling systems when no longer needed for construction of bridge piers. Ensure pier foundations are not damaged during removal. Backfill temporary sheeting before removal to ensure integrity of adjacent active roadways is not compromised.

### **D Measurement**

The department will measure Piling Steel Sheet Temporary by the square foot acceptably completed for temporary walls TW-5-001 and TW-5-002. The measured area will be computed as a projected vertical plane based on the bottom and top elevations of the sheet piling shown on the plans and on the horizontal limits for each wall shown. The department will make no allowance for overlap of sheeting.

### **E Payment**

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0165.855	Piling Steel Sheet Temporary	SF

Payment is full compensation for furnishing and installing the sheeting and all related materials including walers and connecting hardware; and for removing the sheeting afterwards. Excavation required for this bid item will not be paid separately but considered included with lump sum price of bid item "Excavation for Structures Bridges B-5-678". Furnishing and installing of helical tieback anchors for temporary sheeting systems will be paid for separately.

## **14. Drainage and Erosion Control.**

### **14.1 Erosion Control.**

*Supplement standard spec 107.20 as follows:*

Perform construction operations in a timely and diligent manner, continuing all construction operations methodically from the initial topsoil stripping operation through the subsequent grading and finishing to minimize the period of exposure to erosion.

Immediately re-topsoil graded areas, as designated by the engineer, after grading is completed within those areas. Seed, fertilize, and mulch or erosion mat all topsoiled areas within five working days after placement of topsoil.

Restore as much disturbed area as possible or as directed by the engineer with topsoil, seeding, fertilizer, and mulching or erosion mat at the end of each construction season to minimize erosion due to spring melt. As directed by the engineer, stabilize areas that cannot be restored with permanent measures at the end of each construction season with the soil stabilizer item provided in the plan.

Prepare an Erosion Control Implementation Plan (ECIP) amendment detailing an over-winter erosion control plan for 2012/2013. Present this ECIP amendment at a pre-winter shut down meeting with DNR and department staff prior to October 15.

## **14.2 Temporary Ditch Checks.**

Complete work in accordance to standard spec 628 and as herein provided. Erosion bales will not be allowed for construction of temporary ditch checks.

*Delete standard spec 628.3.14(2) and replace it with the following:*

- (2) Construct temporary ditch checks using a manufactured alternative from the PAL. Place temporary ditch checks across ditches at locations the plans show or as the engineer directs immediately after shaping the ditches or slopes. Excavate upstream sumps as the engineer directs.

*Delete standard spec 628.4.17 and replace it with the following:*

- (1) The department will measure Temporary Ditch Checks by the linear foot acceptably completed.

## **14.3 Erosion Control Implementation Plan (ECIP).**

Before submittal of the ECIP arrange a pre-ECIP meeting with the department to go over proposed staging and environmental restrictions before submittal of the ECIP.

Detail all temporary wetland impacts including acres of these impacts to ensure compliance with all environmental restrictions.

Detail each construction phase per year; include plans for staging large fills and detailed plans for placing temporary and permanent erosion control items to provide for winterization of the project.

Detail all construction entrance locations and erosion control techniques to minimize sediment movement out of the project site.

## **14.4 Erosion Control Structures.**

Within seven calendar days after the commencement of work on the bridge superstructure, place all permanent erosion control devices, including riprap, erosion mat, ditch checks, seed, fertilizer, mulch, soil stabilizer, or any other item required by the

contract or deemed necessary by the engineer. These devices shall be in place in the area under the bridge and on both sides of the roadway, from the waterway to a point 100-feet behind the backwall of the abutment. Within said limits, place these devices to a height equivalent to the calculated water elevation resulting from a storm that occurs on the average of once every two years (Q2) as shown on the plan, or as directed by the engineer. Prior to initial construction operations, place turbidity barriers, silt screens, and other temporary erosion control measures as shown on the plans, and remove them after the permanent erosion control devices are in place unless directed otherwise by the engineer.

In the event that construction activity does not disturb the existing ground below the Q2 elevation, the above timing requirements for permanent erosion control shall be waived.  
107-070 (20030820)

#### **14.5 Surface Drain Pipe Corrugated Metal Slotted, 18-Inch, Item 521.2005.S.001.**

##### **A Description**

This special provision describes furnishing and installing slotted corrugated metal pipe surface drain as shown on the plans, in accordance to standard spec 521, and as hereinafter provided.

##### **B Materials**

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

##### **C Construction**

Prior to backfilling, plug the upper end of the slotted drain as shown on the plans or as approved by the engineer.

Prior to backfill operations adjacent to the slotted area of the slotted corrugated metal pipe surface drain pipe, install timber blocks in the slots in accordance to the details as shown on the plans. Remove any material entering the pipe at no expense to the department.

Keep the timber blocks in place until final clean up operations are completed; at which time, remove the timber blocks.

Exercise care to avoid damage to the slotted corrugated metal pipe surface drain pipe. If any section of pipe is damaged or is unsatisfactory as determined by the engineer, replace the drain pipe at no expense to the department.

##### **D Measurement**

The department will measure Surface Drain Pipe Corrugated Metal Slotted (Size) in place by the linear foot, 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
521.2005.S.001	Surface Drain Pipe Corrugated Metal Slotted 18-Inch	LF

Payment is full compensation for furnishing all materials; hauling and placing the pipe, including bands; making connections to existing inlets; furnishing concrete masonry, end plug or cap; and for cleaning out and restoring site of work.

521-005 (20120615)

**14.6 Removal of Erosion Control Between Lifts of Staged Embankment.**

The following erosion control items, placed on a lower lift of fill embankment, shall be removed before placing over top the next fill lift: erosion mat, sod, riprap and geotextile fabric, silt fence, erosion bales, ditch checks, rock bags, tracking pads, and mulch. Seeding or soil stabilizer can remain between successive lifts of fill embankment.

**14.7 Notice to Contractor – Riprap Light, Medium and Heavy.**

All Riprap Light, Medium, and Heavy, placed under the contract, north of Duck Creek only, shall be washed and free of fines and sediment prior to being installed. All costs associated with washing riprap shall be incidental to the riprap items.

**14.8 Sedimentation Basin, Item SPV.0060.150.****A Description**

Design, supply and maintain a sedimentation basin used to de-water the culvert pipes or stormwater ponds.

**B (Vacant)****C Construction**

Design a sedimentation basin that is able to filter the contaminated water prior to discharging it back into the lake or adjacent drainage way. Wisconsin DNR has technical standard guidelines for sedimentation basin design. Maintain the sedimentation basin at regular intervals or as directed by the engineer.

**D Measurement**

The department will measure Sedimentation Basin as each individual basin, 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.0060.150	Sedimentation Basin	Each

Payment is full compensation for design and approval; furnishing and maintaining each basin; for any polymers required to achieve performance standards; and for removal of the basin.

#### **14.9 Street Sweeping, Item SPV.0075.150.**

##### **A Description**

Remove small dirt and dust particles from the roadway using a street sweeper periodically during the project as directed by the engineer.

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

##### **C Construction**

Provide a self-contained mechanical or air conveyance street sweeper and dispose the accumulated material.

##### **D Measurement**

The department will measure Street Sweeping by the hour that the street sweeper is on the project picking up and removing debris from the roadway, 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.0075.150	Street Sweeping	HRS

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

#### **14.10 Temporary Slope Drain to Remain, Item SPV.0180.150.**

##### **A Description**

Install, maintain, and leave in place asphaltic material for a slope drain to manage runoff from bridge decks prior to installation of surface drains, storm sewer, and pavement on the bridge approaches or permanent slope stabilization.

##### **B Materials**

Construct with any of the plant mixed asphaltic pavement or surface course mixtures contained in Part 4 Pavements of WisDOT's Standard Specifications.

##### **C Construction**

Construct temporary slope drain to remain in accordance to the details shown in the plan and as required to fit the conditions of each location. Maintain the temporary slope drain at regular intervals or as directed by the engineer. At a minimum maintain temporary slope

drains at bridges without finished approaches or permanent drainage structures until downstream fill slopes are stabilized to prevent runoff scour. Maintenance of the temporary slope drains shall continue until contract work is completed under project 1133-11-74.

**D Measurement**

The department will measure Temporary Slope Drain to Remain by the square yard installed, 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.0180.150	Temporary Slope Drain to Remain	SY

Payment is full compensation for furnishing, installing and maintaining asphaltic materials.

**15. Miscellaneous Concrete.**

**15.1 Concrete Curb and Gutter and Barrier, Cold Weather Covering, Plastic 1 Layer, Item SPV.0090.004; Plastic 2 Layers, Item SPV.0090.005.**

**A Description**

Place protective covering in accordance to standard spec 415.3.13, the plans, standard detail drawings, and as hereinafter provided.

**B Materials**

Furnish materials that meet the requirements specified in standard spec 415.3.13.2.

**C (Vacant)**

**D Measurement**

The department will measure Concrete Curb and Gutter and Barrier, Cold Weather Covering, Plastic 1 Layer and Concrete Curb and Gutter and Barrier, Cold Weather Covering, Plastic 2 Layers by the linear foot, 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.0090.004	Concrete Curb and Gutter and Barrier, Cold Weather Covering, Plastic 1 Layer	LF
SPV.0090.005	Concrete Curb and Gutter and Barrier, Cold Weather Covering, Plastic 2 Layers	LF

Payment is full compensation for supplying the plastic, hay, material sufficient to weight down the insulating materials to withstand wind; and for placing, removing, replacing and disposing of all covering materials as required during normal concreting operations. Heating of water, aggregates, or both, if deemed necessary by the contractor to maintain placement temperature, is incidental to this item.

## **16. Signing and Marking.**

### **16.1 Removing Pavement Marking.**

Perform this work in accordance to standard spec 646.3.4 and as hereinafter provided.

Pavement Markings required to be removed on permanent pavement (pavement that will remain at the completion of the contract) will be blasted off the pavement. Grinding the markings off the pavement will not be allowed.

### **16.2 Blue Specific Information Signs.**

*Supplement standard spec 638.3.4 with the following:*

Do not remove or move blue specific information signs or their associated posts. Specific information signs are signs with logos that identify commercial entities providing gas, food, lodging, camping, or attractions. A separate contractor, Derse, Inc., is responsible for these signs. Contact Mark Rognsvoog of the Derse Company at (800) 345-5772 a minimum of 14 calendar days in advance to coordinate removing, moving, or re-installation of these signs.

The contractor is responsible for damage done to these signs due to contractor operations.

### **16.3 Sign Supports Shorten Structural Steel, Item 635.9010.S.**

#### **A Description**

Remove, shorten, and re-install structural steel sign supports according to standard spec 635, as shown on the plans, and as hereinafter provided.

#### **B Materials**

Furnish and use materials that are according to standard spec 635.

#### **C Construction**

Remove existing Type I sign from structural steel sign supports. Place Type I sign in a secure location while work is being performed. Remove the structural steel sign supports from their foundations. Shorten the structural steel sign supports to the length specified in the plans by cutting perpendicular to the length of the support. Remove burrs from cut edges. Clean cut areas and repair damaged zinc coating according to standard spec 635.3.4. Re-install structural steel sign supports on bases and replace base bolts to the torques specified on the A3-1 sign plate. Install or re-install Type I sign on structural steel sign supports.

**D Measurement**

The department will measure Shorten Structural Steel Sign Supports as each individual sign support, 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
635.9010.S	Sign Supports Shorten Structural Steel	Each

Payment is full compensation for removing the existing Type I sign and existing structural steel sign support; cutting, cleaning, and repairing damaged zinc coating; re-installing structural steel sign supports and Type I signs; and furnishing and installing new base connection bolts and aluminum extrusion connecting hardware. Replacement of any sign panel hardware broken during the course of this work is incidental to this item.  
635-005 (20090901)

**16.4 Sign Blanks Left in Place, Item SPV.0165.950.****A Description**

This special provision describes installing and removing temporary sign blanks for sign structures designated in the plans.

Sign Blanks Left in Place shall not be removed and become the property of the department upon completion of the project.

**B Materials**

The contractor shall provide blank signs of a material suitable to endure weathering for the period of use.

**C Construction**

Sign blanks shall be attached to a minimum of one-fourth the truss length near its center. The blanks are to project an equal distance beyond the top and bottom chord members. The minimum sign blank dimensions are indicated on the sign structure plans. The minimum vertical clearance as indicated on the structure plans must be maintained.

**D Measurement**

The department will measure Sign Blanks Left in Place 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.0165.950	Sign Blanks Left in Place	SF



Payment is full compensation for furnishing, installing, and maintaining sign blanks; and for leaving the sign blanks in place.

**17. Lighting/Electrical (Not Used).**

**18. Intelligent Transportation Systems (ITS).**

**18.1 Furnish and Install Microwave Based Traffic Sensor, Item SPV.0060.450.**

**A Description**

Work under this item shall consist of furnishing and installing a microwave based sensor that shall detect trucks, vehicles, motor cycles and bicycles and send a signal representative of a loop type detector in a presence mode to a traffic controller device. The sensor shall be easily installed and shall be easy to set up as shown on the plans and as hereinafter provided.

**B General**

The microwave based sensor that shall detect trucks, vehicles, motor cycles and bicycles and send a signal representative of a loop type detector in a presence mode to a traffic controller device. The sensor shall be capable of stop bar presence detection of vehicles. The sensor shall be easily installed with minimum effort and shall be easy to set up and program. The sensor shall operate in the field under harsh environments and shall be immune to the effects of weather (rain, snow, fog), sun rays, night problems and head light glare. It shall not be necessary to mount any hardware in the road way, or above the roadway. The sensor shall be immune to all privacy issues. The microwave based sensor shall be the Intersector detector by MS SEDCO.

**C Construction**

The sensor shall be mounted on the side of a pole at a height from 14 to 19 feet for optimal performance. When mounted on the side of the pole a maximum 30 degree offset from the traffic direction shall be allowed to provide for optimal operation. Mounting hardware shall be supplied with each sensor to allow the device to be attached to a pole with standard stainless steel strapping bands.

The Interface board shall communicate with the controller cabinet. The interface boards shall meet the requirements of CALTRANS 170/2070 222 and 224 modules with respect to size and form.

Interface cards to be installed by WisDOT into the TS2 cabinet. Deliver interface cards to the NE Region office located at 944 Vanderperren Way, Green Bay, Wisconsin.

**D Measurement**

The department will measure Furnish and Install Microwave Based Traffic Sensor as each individual detector, acceptably completed.

**E Payment**

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.450	Furnish and Install Microwave Based Traffic Sensor	Each

Payment for Furnish and Install Microwave Based Traffic Sensor is full compensation for furnishing and installing all equipment and incidentals necessary to complete the work.

**19. Miscellaneous/Incidental Construction.****19.1 Fence Safety, Item 616.0700.S.****A Description**

This special provision describes furnishing and installing a plastic fence at locations shown on the plans and as hereinafter provided.

**B Materials**

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

**C Construction**

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 Fence Safety by the linear foot 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
616.0700.S.	Fence Safety	LF

Payment is full compensation for furnishing and installing fence and posts; maintaining the fence and posts in satisfactory condition; and for removing and disposing of fence and posts at project completion.

616-030 (20070510)

**19.2 Mudjacking, Item SPV.0035.005.****A Description**

This special provision describes the furnishing, boring, drilling, pumping cementitious grout slurry and appurtenances for filling the void between the bottom of the existing concrete slab and the subgrade as shown on plans and directed by the engineer and as hereinafter provided.

**B Materials**

Furnish grout slurry that has a minimum compressive strength of 100 psi within 24 hours and 200 psi within 28 days. Provide a mix design to the engineer for approval.

Repair all holes drilled for injection pumping with an aggregate mixture to match existing surface as best as possible. Holes will be patched utilizing a mixture of Portland Type 1A Cement and mason sand in a 2 to 1 proportion.

**C Construction**

Drill holes spaced as necessary to uniformly to assure complete communication of slurry between holes by whatever means convenient to him, however exercise caution to prevent cracking of concrete slab in which the hole is being drilled. The hole size to be a maximum of 2 inches in diameter.

Place forms adjacent to concrete slab to contain slurry under the slab as necessary.

At completion of work, patch grouting holes. Holes to be cleaned the full depth of the slab by removing excess slurry and wire brushing exposed sidewalls. Prior to placement of the Portland Cement, dampen the surface around the holes. Do not clean and patch holes until the slurry has been allowed to stabilize.

Thoroughly scrape and sweep slab surface at the completion of work. Surrounding grassed area adjacent to the slab to be left in a clean, non-debrised condition.

**D Measurement**

The department will measure Mudjacking by the cubic 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
SPV.0035.005	Mudjacking	CY

Payment is full compensation for drilling and patching holes, and for pumping grout.

**19.3 Section Survey Monuments, Reconstruct Project, Item SPV.0060.008.****A Description**

This work shall consist of restoring existing section survey monuments for reconstruct projects.

**B Materials**

Brown County will supply a stainless steel survey nail with washer for section survey monumentation on pavements. The survey contact person from Brown County is Pat Ford, phone number is (920) 448-4493.

**C Construction**

Perform all section survey monument work under the direction of a land surveyor registered under s. 443.06 Wisconsin Statutes and in accordance to the details in the plan. The surveyor shall follow all rules in accordance to the Wisconsin Administrative Code A-E-7.

Locate the section survey monument and verify the distance to the existing landmark reference monuments using existing tie sheets obtained from Brown County prior to beginning construction operations.

Reestablish the section survey monuments from the tie information. Set the section survey nail 0.05 foot below the finished road surface. For survey nails set in concrete pavements, bore a hole as needed and set the survey nail in epoxy or mastic at depth stated above.

Produce an updated tie sheet of the reference monuments and section survey monument. Provide a copy of the updated tie sheet stamped by a registered land surveyor and accepted by: Brown County, the engineer, and WisDOT NE Region Survey Department.

Conduct construction operations as to not disturb any section survey monument or landmark reference monuments that are to remain. Landmark reference monument maintenance to replace missing reference monuments shall be considered extra work.

#### **D Measurement**

The department will measure Section Survey Monuments, Reconstruct Project by each individual unit, and the quantity to be paid shall be the number of individual section survey monuments constructed 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.0060.008	Section Survey Monuments, Reconstruct Project	Each

Payment for Section Survey Monuments, Reconstruct Project is full compensation for initial verification, restoring monuments to its initial location, generating new tie sheets, and providing new tie sheets.

### **19.4 Cover Plates Temporary Special, Item SPV.0060.009.**

#### **A Description**

Furnish and install a steel plate to cover and support construction and traffic loadings at existing field inlets. Cover the portion of existing field inlets where proposed grading covers the existing grate. Cover plates will remain in place after completion of this project. This work shall be in accordance to the pertinent provisions of standard spec 611, as shown on the plans, and as hereinafter provided.

#### **B Materials**

Provide a 0.5-inch minimum thickness steel plate that extends to the outside edge of the existing masonry.

#### **C Construction**

Clean out all soil, debris, other accumulated matter, and materials deposited or lodged due to the contractor's operations from the structure prior to placing the cover plate on the structure. Place cover plate over portion of existing field inlet which is below the proposed ditch flow line elevation. Do not extend covers above the proposed flow line to prevent flow bypass of the inlet.

#### **D Measurement**

The department will measure Cover Plates Temporary Special 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.0060.009	Cover Plates Temporary Special	Each

Payment is full compensation for cleaning out; and for furnishing and installing the cover plate.

## **19.5 Survey Project 1133-11-74, Item SPV.0105.007.**

### **A Description**

Perform work according to standard spec 105.6 and standard spec 650.

Standard spec 105.6 and standard spec 650 are modified to define the requirements for construction staking for this contract.

*Replace standard spec 105.6.2 with the following:*

The department will not perform any construction staking for this contract. The contractor shall perform all survey required to layout and construct the work under this contract, subject to engineer's approval.

The survey includes establishing horizontal and vertical position for all aspects of construction including but not limited to storm sewer, subgrade, base, curb, gutter, curb and gutter, pipe culverts, structure layout, pavement, barriers (temporary and permanent), electrical installations, supplemental control, slope stakes, ponds, ITS, FTMS, ramp gates, parking lots, utilities, landscaping elements, irrigation system layout, installation of community sensitive design elements, traffic control items, fencing, etc.

The department may choose to perform quality assurance survey during construction. This quality assurance survey does not relieve the contractor of the responsibility for furnishing all survey work required under this contract.

*Delete standard spec 650.1.*

### **B (Vacant)**

### **C Construction**

Survey required under this item shall be in accordance to all pertinent requirements of standard spec 650 and shall include all other miscellaneous survey required to layout and construct all work under this contract.

### **D Measurement**

The department will measure Survey Project 1133-11-74 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.0105.007	Survey Project 1133-11-74	LS

Payment is full compensation for performing all survey work required to layout and construct all work under this contract.

## **19.6 Water for Seeded Areas, Item SPV.0120.001.**

### **A Description**

This special provision describes furnishing, hauling and applying water to seeded areas along the realigned Beaver Dam creek as directed by the engineer, and as hereinafter provided.

### **B Materials**

Provide water that is free from impurities or substances that might injure the seed or plants.

### **C Construction**

If rainfall is not sufficient, keep all seeded areas thoroughly moist by watering or sprinkling. Water for 30 days after seed placement or as the engineer directs. Apply water in a manner to preclude washing or erosion. The topsoil shall not be left un-watered for more than 3 days during this 30-day period unless the engineer determines that it is excessively wet and does not require watering. The equivalent of one inch of rainfall per week shall be considered the minimum.

### **D Measurement**

The department will measure Water for Seeded Areas by volume by the thousand gallon units (MGAL), acceptably completed. The department will determine volume by engineer-approved meters or from tanks of known capacity.

### **E Payment**

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0120.001	Water for Seeded Areas	MGAL

Payment is full compensation for furnishing, hauling, and applying the water.





---

**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 12 (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 7 (number) TrANS Apprentice(s) be utilized on this contract.

- 3) The maximum duration of reimbursement is two years as a TrANS graduate plus time in apprentice status.
- 4) If a TrANS program is not available in the contractor's area and another training program is utilized, payment of On-the-Job Training hours may be approved by the Wisconsin Department of Transportation (WisDOT) if the training program meets the established acceptance criteria. Only On-the-Job Training Hours accumulated after WisDOT approval will be reimbursed as specified under Items ASP.1T0G and ASP.1T0A. For more information, contact the Disadvantaged Business Enterprise Office at the phone numbers listed above.
- 5) WisDOT reserves the right to deny payments under items ASP.1T0G and ASP.1T0A if the contractor either fails to provide training or there is evidence of a lack of good faith in meeting the requirements of this training special provision.

## ***I. RATIONALE AND SPECIAL NOTE***

The \$5.00 per hour now being paid for TrANS placements is intended to cover the duration of two years to allow for reaching entry-level laborer status. An additional incentive, the \$5.00 rate, would promote movement into the underutilized skilled trades' apprenticeships and applies until the individual completes their apprenticeship. These incentives benefit TrANS candidates by giving them a better opportunity to enter a skilled trade; benefits contractors who will be assisted in meeting their EEO profiles and goals; and benefits the public who will see the program reinforce larger public-private employment reform in Wisconsin. The pool of TrANS graduates was created for the purpose of addressing underutilization in the skilled trades, an objective that is further reinforced by a parallel retention pilot program, known as the Companywide Reporting. *Whether or not reimbursement is involved, the WisDOT reassures contractors who are in the Companywide Program that TrANS placements still contribute toward fulfilling the new hire goal of 50% women and minorities.* Based on data administered by United States Department of Labor (US DOL), the highway skilled trades remain underutilized for women statewide (less than 6.9%); and for minorities in all counties (% varies by county).

***NOTE:*** *Unless using other advancement strategies, contractors are encouraged to use some or all of this monetary incentive to offset the cut in hourly wages an individual may incur when entering an apprenticeship if the full general laborer hourly rate has been previously paid. No special accounting measures are required.*

## ***II. IMPLEMENTATION***

The implementation of ASP 1 is intended to cover only the amount of time it takes for underutilization to be resolved across the trades. This will be measured annually at the county and/or state levels using data administered by WisDWD in relation to goals set by the USDOL-

OFCCP. With appropriate state and federal approvals, we may also do some measurement at the company level.

It is the contractor's responsibility to note on their Certified Payrolls if their employee is a TrANS graduate or a TrANS apprentice. The District EEO Coordinators utilize the information on the Certified Payrolls to track the hours accumulated by TrANS Graduates and TrANS apprentices on WisDOT contracts. Payment under this ASP 1 is made based on the hours recorded off of the Certified Payrolls. Tracking may eventually include improved linkages with the WisDWD apprentice database, information from company and committee level sources.

TrANS is nondiscriminatory by regulation, and is a tool for optional use by contractors to address the underutilization of women and minorities as laborers and apprentices in our industry's skilled trades.

#### **IV. TRANS TRAINING**

As part of the contractor's equal employment opportunity affirmative action program, training shall be provided to employees enrolled in apprenticeship and on-the-job training programs as follows:

The contractor shall provide on-the-job training aimed at developing full journey workers in the type of trade or job classifications involved. In the event the contractor subcontracts a portion of the contract work, the contractor shall determine how many, if any, of the trainees are to be trained by the subcontractor provided, however, that the contractor shall retain the primary responsibility for meeting the training requirements imposed by this special provision. The contractor shall also insure that this training special provision is made applicable to such subcontract.

Training and upgrading of minorities and women toward journey workers status is a primary objective of this training special provision. Accordingly, the contractor shall make every effort to enroll minority trainees and women (e.g., by conducting systematic and direct recruitment through public and private sources likely to yield minority trainees and women trainees); to the extent such persons are available within a reasonable area of recruitment. The contractor will be given an opportunity and will be responsible for demonstrating the steps that they have taken in pursuance thereof, prior to determination as to whether the contractor is in compliance with this training special provision. This training commitment is not intended, and shall not be used, to discriminate against any applicant for training, whether a member of a minority group or not.

No employee shall be employed as a trainee in any classification in which they have successfully completed a training course leading to journey workers status or in which they have been employed as a journey worker. The contractor should satisfy this requirement by including appropriate questions in the employee application or by other suitable means. Regardless of the method used, the contractor's records should document the findings in each case.

#### **V. APPRENTICESHIP TRAINING**

The Federal Highway Administration's (FHWA) policy is to require full use of all available training and skill improvement opportunities to assure increased participation of minority groups, disadvantaged persons and women in all phases of the highway construction industry. The FHWA On-the-Job Training (OJT) Program requires the State transportation agencies (STAs) to establish apprenticeships and training programs targeted to move women, minorities, and disadvantaged individuals into journey-level positions to ensure that a competent workforce is available to meet highway construction hiring needs, and to address the historical underrepresentation of members of these groups in highway construction skilled crafts.

The OJT Supportive Services (OJT/SS) Program was established in Title 23 Code of Federal Regulations (CFR), Part 230) to supplement the OJT program and support STA training programs by providing services to highway construction contractors and assistance to highway construction apprentices and trainees. The primary objectives of OJT/SS are:

- (1) To increase the overall effectiveness of the State highway agencies' approved training programs.
- (2) To seek other ways to increase the training opportunities for women, minorities, and disadvantaged individuals.

The STAs are responsible for establishing procedures, subject to the availability of Surface Transportation and Bridge Funds under 23 U.S.C. §140(b) (Nondiscrimination), for the provision of supportive services with respect to training programs approved under 23 CFR, Part 230(a) (Equal Employment Opportunity on Federal and Federal-aid Construction Contracts – including Supportive Services).

The contractor and subcontractor shall maintain records to demonstrate compliance with these apprenticeship requirements. Reasonable exemptions and modifications to and from any or all of these requirements will be determined by the Wisconsin Department of Transportation-Civil Rights Office. A request for an exemption or modification, with justification, shall be made in writing, addressed to WisDOT Civil Rights Office, 4802 Sheboygan Avenue, P.O. Box 7965, Rm. 451, Madison, WI 53707.

### ADDITIONAL SPECIAL PROVISION 3 DISADVANTAGED BUSINESS ENTERPRISE PROGRAM

#### 1. Description

##### General

- a. The disadvantaged business enterprise (DBE) requirements of 49 CFR Part 26 apply to this contract. The department's DBE goal is shown on the cover of the bidding proposal. The contractor can meet the specified contract DBE goal by procuring services or materials from a DBE or by subcontracting work to a DBE. The department calculates the DBE participation as the dollar value of DBE participation included in the bid expressed as a percentage of the total contract bid amount.
- b. Under the contract, the contractor agrees to provide the assistance to participating DBE's in the following areas:
  - i. Produce accurate and complete quotes.
  - ii. Understand highway plans applicable to their work.
  - iii. Understand specifications and contract requirements applicable to their work.
  - iv. Understand contracting reporting requirements.
- c. The department encourages the contractor to assist and develop DBE firms to become fully knowledgeable contractors to successfully perform on its contracts.
- d. For information on the disadvantaged business program, visit the department's Civil Rights and Compliance Section website at:

<http://www.dot.wisconsin.gov/business/engrserv/dbe-main.htm>

#### 2. Definitions

- a. Interpret these terms, used throughout this additional special provision, as follows:
  - i. **Bid Percentage:** The DBE percentage indicated in the bidding proposal at the time of bid.
  - ii. **DBE:** A disadvantaged business enterprise (DBE) certified as a DBE by the department and included on the department's list of certified DBE's who are determined to be ready, willing and able.
  - iii. **DBE goal:** The amount of DBE participation expected in the contract as shown on the cover of the Highway Work Proposal.
  - iv. **Discretionary Goal:** A contractor assigned DBE goal, typically abbreviated as "Disc" on the cover of the Highway Work Proposal, which is enforced as committed.
  - v. **Manufacturer:** A firm that operates or maintains a factory or establishment that produces, on the premises, the materials, supplies, articles, or equipment required under the contract.
  - vi. **Supplier:** A firm that owns, operates, or maintains a store, warehouse, or other establishment in which the materials, supplies, articles or equipment required under the contract are bought, kept in stock, and regularly sold or leased to the public.
  - vii. **Voluntary Achievement:** The amount of DBE participation achieved and reported in the contract in excess of the assigned goal.

#### 3. DBE Percentage Required at Bid Submission

Indicate the bid percentage (i.e. 0% through 100%) of DBE participation on the completed bidding proposal, including projects with discretionary goals. For electronic submittals, show the percentage in the miscellaneous data folder, Item 3, DBE Percent. For paper submittals, show the percentage on the sheet included after the schedule of items. By submission of the bid, the bidder contractually commits to DBE participation at or above the bid percentage, or certifies that they have utilized

comprehensive good faith efforts to solicit and utilize DBE firms to meet the DBE participation requirements of this contract proposal, and that the bid percentage is reflective of these good faith efforts. If the bidder does not indicate the bid percentage of DBE participation on the completed bidding proposal, the department will consider the bid irregular and may reject the bid.

#### **4. Department's DBE Evaluation Process**

##### **a. Documentation Submittal**

Within 10 business days after the notification of contract award, the contractor is to identify, by name, the DBE firms whose utilization is intended to satisfy this provision, the items of work of the DBE subcontract or supply agreement and the dollar value of those items of work by completing the Commitment to Subcontract to DBE Form [DT1506] and all necessary attachment A forms, as well as, Good Faith Waiver Form [DT1202] and supporting documentation as necessary. If the contractor fails to furnish the required forms within the specified time, the department may cancel the award. Delay in fulfilling this requirement is not a cause for extension of the contract time and shall not be used as a tool to delay execution.

##### **i. Bidder Meets DBE Goal**

If the bidder indicates that the contract DBE goal is met, after award and before execution, the department will evaluate the Commitment to Subcontract to DBE Form DT1506 and attachment A(s) to verify the actual DBE percentage achieved. If the DBE commitment is verified, the contract is eligible for execution with respect to the DBE commitment.

##### **ii. Bidder Does Not Meet DBE Goal**

- (1) If the bidder indicates a bid percentage on the Commitment to Subcontract to DBE Form [DT1506] that does not meet the contract DBE goal, the bidder must submit a Good Faith Waiver Form [DT1202] and supporting documentation. After award and before execution, the department will evaluate the bidder's DBE commitment and consider the bidder's good faith waiver request.
- (2) The department will review the bidder's good faith waiver request and notify the bidder of one of the following:
  - a. If the department grants a good faith waiver, the bid is eligible for contract execution with respect to DBE commitment.
  - b. If the department rejects the good faith waiver request, the department may declare the bid ineligible for execution. The department will provide a written explanation of why the good faith waiver request was rejected. The bidder may appeal the department's rejection as allowed under 7 a. & b.

#### **5. Department's Criteria for Good Faith Effort**

The Code of Federal Regulations {CFR}, 49 CFR Part 26-Appendix A, is the guiding regulation concerning good faith efforts. However, the federal regulations do not define "good faith" but states that bidder must actively and aggressively attempt to meet the goal. The federal regulations are general and do not include every factor or effort that can be considered. As a result, each state must establish its own processes and consider the factors established in its own process when making a determination of good faith.

- a. The department will only grant a good faith waiver if the bidder has made the effort, given the relevant circumstances under the contract that a bidder actively and aggressively seeking to meet the goal would make. The department will evaluate the bidder's good faith effort to determine whether a good faith waiver will be granted. The bidder must demonstrate, on the DT1202 that they have aggressively solicited DBE participation in an attempt to meet the contract DBE goal and attaining the stated DBE goal is not feasible.

- b. The department, in conjunction with industry stakeholders, has developed the following guidance for contractor good faith effort. The guidance and the attached appendices provide a framework for the actions required by all parties in the processing and evaluation of bidder's total efforts to achieve the project specific DBE goal prior to the bid letting date.
- c. Prime Contractors should:
  - i. Document all efforts and decisions made toward achieving the DBE goal on the contract. The bidder should use the Civil Rights & Compliance System [CRCS] and related WisDOT-approved DBE outreach tools, including the Bid Express Small Business Network, to foster DBE participation on all applicable contracts.
  - ii. Request quotes by identifying potential items to subcontract and solicit. Prime contractors are strongly encouraged to include in their initial contacts a single page including a detailed list of items for which they are accepting quotes, by project, within a letting. *See attached sample entitled "Sample Contractor Solicitation Letter" in Appendix A.* Prime contractors should also indicate a willingness to accept quotes in areas they are planning to perform themselves, **as required by federal rules**. In some cases, it might be appropriate to use DBE's to do work in a prime contractor's area of specialization.
    - (1) Solicit quotes through all reasonable and available means from certified DBE firms who match 'possible items to subcontract' and send copies to DBESS office, highlighting areas in which you are seeking quotes. Email is acceptable.
    - (2) SBN is the preferred outreach tool. <https://www.bidx.com/wi/main>. Other acceptable means include postal mail, email, fax, phone call.
      - a. Primes must ask DBE firms for a response in their solicitations. *See Sample Contractors Solicitation Letter* in Appendix. This letter can be included as an attachment to the SBN sub-quote request.
      - b. Solicit quotes at least 10 calendar days prior to the letting date {ideally two Fridays before the letting} to allow DBE firms sufficient time to respond. Prime contractors should contact DBE firms early, asking them if they need help in putting together a quote, or helping to arrange for equipment needs, or solve other problems.
    - (3) Second solicitation should take place within 5 days
      - a. An email solicitation is highly recommended for this second solicitation
    - (4) Upon request, provide interested DBE firms with adequate information about plans, specifications and the requirements of the contract by letter, information session, email, phone call and/or referral.
    - (5) When potential exists, advise interested DBE firms on how to obtain bonding, line of credit or insurance as may be requested.
    - (6) Document DBE firm's interest in quoting by taking appropriate steps to follow up initial solicitation with:
      - a. Email to all prospective DBE firms in relevant work areas
      - b. Phone call log to DBE firms who express interest via written response or call.
      - c. Fax/letter confirmation
      - d. Copy of the DBE quotes
      - e. Signed copy of Bid Express SBN Record of Subcontractor Outreach Effort.
- d. Evaluate DBE quotes as documentation is critical if the prime does not utilize the DBE firm's quote for any reason.
  - i. Evaluate DBE firm's capability to perform 'possible items to subcontract' using legitimate reasons, including but not limited to, **a discussion with the DBE firm** regarding its

- capabilities prior to the bid letting. If lack of capacity is your reason for not utilizing the DBE quote, you are required to contact the DBE directly regarding their ability to perform the work indicated in the UCP directory as their work area [NAICS code]; only the work area and/or NAICS code listed in the UCP directory will be counted for DBE credit. Documentation of the conversation is required.
- ii. In striving to meet a DBE conscious contract goal, prime contractors are expected to use DBE quotes that are responsive and reasonable. This includes DBE quotes that are not the low quote.
  - iii. **Special Circumstance:** Evaluation of DBE quotes with tied bid items. "Tied quotes are the condition in which a subcontractor submits quotes including multiple areas of expertise across multiple work areas noting that the items and price are tied. Typically this type of quoting represents a cost saving to the prime but is not clearly stated as a discount; tied quotes are usually presented as 'all or none' quote to the prime." When non-DBE subcontractors submit tied bid items in their quotes to the prime, the DBE firms' quote may seem not competitive. In such a case, the following steps are taken in comparing the relevant quotes. These are qualitative examples.
    - (1) Compare bid items common to both quotes, noting the reasonableness in the price comparison.
    - (2) Review quotes from other firms for the bid items not quoted by the DBE firm to see if combining both can provide the same competitive advantage that the tied bid items offered.
- e. After notification of contract award, submit '**Commitment to Subcontract**' form within the time period specified in the contract.
    - i. Provide the following information along with department form DT1202:
      - (1) The names, addresses, e-mail addresses, telephone numbers of DBE's contacted. The dates of both initial and follow-up contact. A printed copy of SBN solicitation is acceptable.
      - (2) A description of information provided to the DBE's regarding the plans, specifications, and estimated quantities for portions of the work to be performed by that DBE.
      - (3) Photocopies or electronic copies of all written solicitations to DBE's.
      - (4) Documentation of each quote received from a DBE and, if rejected, the reason for that rejection.
      - (5) Bidder attendance at any pre-solicitation or pre-bid meetings the department held to inform DBE's of participation opportunities available on the project.
  - f. The department's DBE Support Services Office is available by phone, email or in writing to request assistance in meeting the DBE goal:

DBE Support Services Office  
6150 Fond du Lac Ave.  
Milwaukee, WI 53218  
Phone: 414-438-4583 / 608-266-6961  
Fax: 414-438-5392  
E-mail: [DOTDBESupportServices@dot.wi.gov](mailto:DOTDBESupportServices@dot.wi.gov)

## 6. Bidder's Appeal Process

- a. A bidder can appeal the department's decision to deny the bidder's good faith waiver request. The bidder must provide written documentation refuting the specific reasons for rejection as stated in the department's rejection notice. The bidder may meet in person with the department if so



requested. Failure to appeal within 7 calendar days after receiving the department's written notice of rejection of a good faith waiver request under constitutes a forfeiture of the bidder's right of appeal. If the bidder does not appeal, the department may declare the bid ineligible for execution.

- b. The department will appoint a representative, who did not participate in the original determination, to assess the bidder's appeal. The department will issue a written decision within 7 calendar days after the bidder presents all written and oral testimony. In that written decision, the department will explain the basis for finding that the bidder did or did not meet the contract DBE goal or make an adequate good faith effort to meet the contract DBE goal. The department's decision is final. If the department finds that the bidder did not meet the contract DBE goal or did not make adequate efforts to meet the DBE goal, the department may declare the bid ineligible for execution.

## **7. Department's Criteria for DBE Participation**

### **Department's DBE List**

- a. The department maintains a DBE list on the department's website at <http://app.mylcm.com/wisdot/Reports/WisDotUCPDirectory.aspx>
- b. The DBE office is also available to assist at 414-438-4583 or 608-266-6961.

## **8. Counting DBE Participation**

### **Assessing DBE Work**

- a. The department will only count the DBE usage towards the contract DBE goal if the DBE firm is certified as a DBE by one of the unified certification program agencies. If a firm becomes DBE certified before entering into a subcontract, the department may consider that DBE usage towards the contract goal. The department only counts the value of the work a DBE actually performs towards the DBE goal. The department assesses the DBE work as follows:
- b. The department counts work performed by the DBE's own resources. The department includes the cost of materials and supplies the DBE obtains for the work. The department also includes the cost of equipment the DBE leases for the work. The department will not include the cost of materials, supplies, or equipment the DBE purchases or leases from the prime contractor or its affiliate, except the department will count non-project specific leases the DBE has in place before the work is advertised.
- c. The department counts fees and commissions the DBE charges for providing a bona fide professional, technical, consultant, or managerial services. The department also counts fees and commissions the DBE charges for providing bonds or insurance. The department will only count costs the engineer deems reasonable based on experience or prevailing market rates.
- d. If a DBE subcontracts work, the department counts the value of the subcontracted work only if the DBE's subcontractor is also a DBE.
- e. The contractor shall maintain records and may be required to furnish periodic reports documenting its performance under this item.
- f. It is the prime contractor's responsibility to determine the DBE's ability to perform the work with the use of the UCP directory.

## **9. Commercially Useful Function**

- a. The department counts expenditures of a DBE toward the DBE goal only if the DBE is performing a commercially useful function on that contract.
- b. A DBE is performing a commercially useful function if the following conditions are met:
- c. For contract work, the DBE is responsible for executing a distinct portion of the contract work and it is carrying out its responsibilities by actually performing, managing, and supervising that work.
- d. For materials and supplies, the DBE is responsible for negotiating price, determining quality and quantity, ordering, and paying for those materials and supplies.

**10. Trucking**

All bidders are expected to adhere to the department's current trucking policy posted on the HCCI website at

<http://www.dot.wisconsin.gov/business/engrserv/docs/dbe-trucking-notice.pdf>

**11. Manufacturers and Suppliers**

The department counts material and supplies a DBE provides under the contract. The department will give full credit toward the DBE goal if the DBE is a manufacturer of those materials or supplies. The department will give 60 percent credit toward the DBE goal if the DBE is merely a supplier of those materials or supplies. It is the bidder's responsibility to find out if the DBE is considered a supplier or a manufacturer before listing them on Commitment to Subcontract to DBE form DT1506.

**12. DBE Prime**

If the prime contractor is a DBE, the department will only count the work the contractor performs with its own forces, the work DBE subcontractors perform, and the work DBE suppliers or manufacturers perform.

**13. Joint Venture**

If a DBE performs as a participant in a joint venture, the department will only count that portion of the total dollar value of the contract equal to that portion of the work that the DBE performs with its own forces.

**14. Mentor Protégé**

- a. If a DBE performs as a participant in a mentor protégé agreement, the department will credit the portion of the work performed by the DBE protégé firm
- b. On every other project that the mentor protégé team identifies itself on.
- c. For no more than one half of the total contracted DBE goal on any WisDOT project.

**15. DBE Replacement**

In the event a Prime Contractor needs to replace a DBE firm originally listed on the approved DBE Commitment Form DT1506, the Prime Contractor must comply with the department's DBE Replacement Policy located on the DBE page on the following web site:

<http://www.dot.wisconsin.gov/business/engrserv/docs/policyreplacingdbe.pdf>

**16. Changes to the approved DBE Commitment Form DT1506**

If there are any changes to the approved Commitment to Subcontract to DBE Form DT1506, the prime contractor must submit a revised DBE Commitment Form DT1506 and relevant attachment A(s) to the DBE Programs Office within 5 business days.

**17. Contract Modifications**

When additional opportunity is available by contract modifications, the Prime Contractor shall utilize DBE Subcontractors, that were committed to equal work items, in the original contract.

**18. Payment**

Costs for conforming to this Additional Special Provision (ASP) and any associated DBE requirements are incidental to the contract.

**APPENDIX A**  
**Sample Contractor Solicitation Letter Page 1**  
*This sample is provided as a guide not a requirement*

---

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](mailto:Joe@joetheplumber.com)  
Fax: (000) 123- 4657

## Sample Contractor Solicitation Letter Page 2

*This sample is provided as a guide not a requirement*

### REQUEST FOR QUOTATION

Prime's Name: \_\_\_\_\_

Letting Date: \_\_\_\_\_

Project ID: \_\_\_\_\_

**Please check all that apply**

- ☐ Yes, we will be quoting on the projects and items listed below
- ☐ No, we are not interested in quoting on the letting or its items referenced below
- ☐ Please take our name off your monthly DBE contact list
- ☐ We have questions about quoting this letting. Please have some one contact me at this number

**Prime Contractor 's Contact Person**

Phone: _____
Fax: _____
Email: _____
_____

**DBE Contractor Contact Person**

Phone _____
Fax _____
Email _____
_____

**Please circle the jobs and items you will be quoting below**

Proposal No.	1	2	3	4	5	6	7
County							

**WORK DESCRIPTION:**

Clear and Grub	X		X	X		X	X
Dump Truck Hauling	X		X	X		X	X
Curb & Gutter/Sidewalk, Etc.	X		X	X		X	X
Erosion Control Items	X		X	X		X	X
Signs and Posts/Markers	X		X	X		X	X
Traffic Control		X	X	X		X	X
Electrical Work/Traffic Signals		X	X	X		X	
Pavement Marking		X	X	X	X	X	X
Sawing Pavement		X	X	X	X	X	X
QMP, Base	X	X		X	X	X	X
Pipe Underdrain	X			X			
Beam Guard				X	X	X	X
Concrete Staining							X
Trees/Shrubs	X						X

Again please make every effort to have your quotes into our office by time deadline prior to the letting date.

We prefer quotes be sent via SBN but prime's preferred alternative's are acceptable.

If there are further questions please direct them to the prime contractor's contact person at phone number.

## **APPENDIX B BEST PRACTICES FOR PRIME CONTRACTOR & DBE SUBCONTRACTOR GOOD FAITH EFFORT**

*This list is not a set of requirements; it is a list of potential strategies*

### **Primes**

- Prime contractor open houses inviting DBE firms to see the bid “war room” or providing technical assistance
- Participate in speed networking and mosaic exercises as arranged by DBE office
- Host information sessions not directly associated with a bid letting;
- Participate in a formal mentor protégé or joint venture with a DBE firm
- Participate in WisDOT advisory committees i.e. TRANSAC, or Mega Project committee meetings
- Facilitate a small group DBE ‘training session’ Clarifying how your firm prepares for bid letting, evaluates subcontractors, preferred qualifications and communication methods
- Encourage subcontractors to solicit and highlight DBE participation in their quotes to you
- Quality of communication, not quantity creates the best results. Contractors should do as thorough a job as possible in communicating with DBE firms before the bid and provide any assistance requested to assure best possible bid.

### **DBE**

- DBE firms should contact primes as soon as possible with questions regarding their quotes or bid; seven days prior is optimal.
- Continually check for contract addendums on the HCCI website through the Thursday prior to letting to stay abreast of changes.
- Review the status of contracts on the HCCI website reviewing the ‘apparent low bidder’ list, and bid tabs at a minimum.
- Prepare a portfolio or list of related projects and prime and supplier references; be sure to note transportation-related projects of similar size and scope, firm expertise and staffing.
- Participate in DBE office assessment programs
- Participate on advisory and mega-project committees
- Sign up to receive the DBE Contracting Update
- Consider membership in relevant industry or contractor organizations
- Active participation is a must. Quote as many projects as you can reasonably work on; quoting the primes and bidding as a prime with the department are the only ways to get work.

## APPENDIX C

### Types of Efforts considered in determining GFE

*This list represents concepts being assessed; analysis requires additional steps*

1. Whether the contractor attended any pre-solicitation or pre-bid meetings that were scheduled by WisDOT to inform DBEs of contracting and subcontracting opportunities;
2. Whether the contractor provided written notice to a reasonable number of specific DBEs that their interest in the contract was being solicited, in sufficient time to allow the DBEs to participate effectively;
3. Whether the contractor followed up initial solicitations of interest by contacting DBEs to determine if the DBEs were interested; returned the phone calls of interested DBE firms.
4. Whether the contractor selected portions of the work to be performed by DBEs in order to increase the likelihood of meeting the DBE goal;
5. Whether the contractor provided interested DBEs with adequate information about the plans, specifications and requirements of the contract;
6. Whether the contractor negotiated in good faith with interested DBEs, not rejected DBEs as unqualified without sound reasons based on a thorough investigation of their capabilities;
7. Whether the contractor made efforts to assist interested DBEs in being more competitive.
8. Whether the contractor effectively used the services of available minority community organizations: minority contractors groups, local, state, and Federal minority business assistance offices, and other organizations that provide assistance to small businesses and DBE firms.
9. Whether Prime used CRCS to identify DBE who specialize in relevant work areas.
10. Whether the contractor used available resources including contacting the DBE office, using WisDOT's website
11. Whether the contractor returned calls of firms expressing interest in a timely manner.

**APPENDIX D**  
**Good Faith Effort Evaluation Guidance**  
*Excerpt from Appendix A of 49 CFR Part 26*

**APPENDIX A TO PART 26 -- GUIDANCE CONCERNING GOOD FAITH EFFORTS**

- I. When, as a recipient, you establish a contract goal on a DOT assisted contract, a bidder must, in order to be responsible and/or responsive, make good faith efforts to meet the goal. The bidder can meet this requirement in either of two ways. First, the bidder can meet the goal, documenting commitments for participation by DBE firms sufficient for this purpose. Second, even if it doesn't meet the goal, the bidder can document adequate good faith efforts. This means that the bidder must show that it took all necessary and reasonable steps to achieve a DBE goal or other requirement of this part which, by their scope, intensity, and appropriateness to the objective, could reasonably be expected to obtain sufficient DBE participation, even if they were not fully successful.
- II. In any situation in which you have established a contract goal, part 26 requires you to use the good faith efforts mechanism of this part. As a recipient, it is up to you to make a fair and reasonable judgment whether a bidder that did not meet the goal made adequate good faith efforts. It is important for you to consider the quality, quantity, and intensity of the different kinds of efforts that the bidder has made. The efforts employed by the bidder should be those that one could reasonably expect a bidder to take if the bidder were actively and aggressively trying to obtain DBE participation sufficient to meet the DBE contract goal. Mere pro forma efforts are not good faith efforts to meet the DBE contract requirements. We emphasize, however, that your determination concerning the sufficiency of the firm's good faith efforts is a judgment call: meeting quantitative formulas is not required.
- III. The Department also strongly cautions you against requiring that a bidder meet a contract goal (i.e., obtain a specified amount of DBE participation) in order to be awarded a contract, even though the bidder makes an adequate good faith efforts showing. This rule specifically prohibits you from ignoring bona fide good faith efforts.
- IV. The following is a list of types of actions which you should consider as part of the bidder's good faith efforts to obtain DBE participation. It is not intended to be a mandatory checklist, nor is it intended to be exclusive or exhaustive. Other factors or types of efforts may be relevant in appropriate cases.
  - A. Soliciting through all reasonable and available means (e.g. attendance at pre-bid meetings, advertising and/or written notices) the interest of all certified DBEs who have the capability to perform the work of the contract. The bidder must solicit this interest within sufficient time to allow the DBEs to respond to the solicitation. The bidder must determine with certainty if the DBEs are interested by taking appropriate steps to follow up initial solicitations.
  - B. Selecting portions of the work to be performed by DBEs in order to increase the likelihood that the DBE goals will be achieved. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate DBE participation, even when the prime contractor might otherwise prefer to perform these work items with its own forces.
  - C. Providing interested DBEs with adequate information about the plans, specifications, and requirements of the contract in a timely manner to assist them in responding to a solicitation.

- D.
    - (1) Negotiating in good faith with interested DBEs. It is the bidder's responsibility to make a portion of the work available to DBE subcontractors and suppliers and to select those portions of the work or material needs consistent with the available DBE subcontractors and suppliers, so as to facilitate DBE participation. Evidence of such negotiation includes the names, addresses, and telephone numbers of DBEs that were considered; a description of the information provided regarding the plans and specifications for the work selected for subcontracting; and evidence as to why additional agreements could not be reached for DBEs to perform the work.
    - (2) A bidder using good business judgment would consider a number of factors in negotiating with subcontractors, including DBE subcontractors, and would take a firm's price and capabilities as well as contract goals into consideration. However, the fact that there may be some additional costs involved in finding and using DBEs is not in itself sufficient reason for a bidder's failure to meet the contract DBE goal, as long as such costs are reasonable. Also, the ability or desire of a prime contractor to perform the work of a contract with its own organization does not relieve the bidder of the responsibility to make good faith efforts. Prime contractors are not, however, required to accept higher quotes from DBEs if the price difference is excessive or unreasonable.
  - E. Not rejecting DBEs as being unqualified without sound reasons based on a thorough investigation of their capabilities. The contractor's standing within its industry, membership in specific groups, organizations, or associations and political or social affiliations (for example union vs. non-union employee status) are not legitimate causes for the rejection or non solicitation of bids in the contractor's efforts to meet the project goal.
  - F. Making efforts to assist interested DBEs in obtaining bonding, lines of credit, or insurance as required by the recipient or contractor.
  - G. Making efforts to assist interested DBEs in obtaining necessary equipment, supplies, materials, or related assistance or services.
  - H. Effectively using the services of available minority/women community organizations; minority/women contractors' groups; local, state, and Federal minority/women business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and placement of DBEs.
- V. In determining whether a bidder has made good faith efforts, you may take into account the performance of other bidders in meeting the contract. For example, when the apparent successful bidder fails to meet the contract goal, but others meet it, you may reasonably raise the question of whether, with additional reasonable efforts, the apparent successful bidder could have met the goal. If the apparent successful bidder fails to meet the goal, but meets or exceeds the average DBE participation obtained by other bidders, you may view this, in conjunction with other factors, as evidence of the apparent successful bidder having made good faith efforts.



## Appendix E

### Small Business Network [SBN] Overview

The Small Business Network is a part of the Bid Express® service that was created to ensure that prime bidders have a centralized online location to find subs - including small and disadvantaged business enterprises (DBEs). It is available for prime bidders to use as part of their Basic Service subscription. Within the Small Business Network, **Prime Contractors** can:

1. Easily select proposals, work types and items:
  - a. After adding applicable work types, select items that you wish to quote. Enter the sub-quote quantities and add comments, if desired. Adding or removing items and work types can be done quickly. If needed, you can save the sub-quote for completion at a later time.
2. Create sub-quotes for the subcontracting community:
  - a. Create sub-quotes with ease using the intuitive sub-quote creator. In seven short steps, you can rapidly create a custom sub-quote directed to all subcontractors that bid on the applicable work types. Steps include: provide contact information and sub-quote expiration date, select letting and proposal, add work types and items, specify terms and conditions, upload attachments, and select vendors.
  - b. Create a sub-quote to send to subcontractors or suppliers that lists the items in a proposal that you want quoted
  - c. Create an unlimited number of sub-quotes for items you want quoted, and optionally mark them as a DBE-preferred request
  - d. Add attachments to sub-quotes
3. View sub-quote requests & responses:
  - a. After logging into the Bid Express service, you can quickly review all of your sub-quote requests and all unsolicited sub-quote requests from subcontractors. To simplify the Small Business Network home screen, sub-quote requests can be hidden with one click if they are not applicable.
  - b. View or receive unsolicited sub-quotes that subcontractors have posted, complete with terms, conditions and pricing
4. View Record of Subcontractor Outreach Effort:
  - a. For each sub-quote produced, a *Record of Subcontractor Outreach Effort* is generated that shows the response statistics for a particular sub-quote. If accepted by the letting agency, this report may serve as proof of a “Good Faith” effort in reaching out to the DBE community.
  - b. Easily locate pre-qualified and certified small and disadvantaged businesses
  - c. Advertise to small and disadvantaged businesses more efficiently and cost effectively
  - d. Document your interactions with subs/DBEs by producing an Outreach Report (may be accepted as proof of DBE outreach at the discretion of each agency)

The Small Business Network is a part of the Bid Express® service that was created to ensure that small businesses have a centralized area to access information about upcoming projects. It can help small businesses learn more about opportunities, compete more effectively, network with other contractors and subcontractors, and win more jobs.

1. View and reply to sub-quote requests from primes:
  - a. After logging into the Bid Express service, you can quickly review all incoming sub-quote requests and all unsolicited sub-quotes created by your company. Receive notifications by selected work type. To simplify on the Small Business Network home screen, sub-quote requests can be filtered by work types relevant to your interests, or hidden with one click if they are not applicable.
2. Select items when responding to sub-quote requests from primes:
  - a. You have the freedom to choose and price any number of items when responding to a sub-quote request. Quantities can be modified, and per-item comments are also available.
  - b. View requests for sub-quotes for work that primes have posted for projects they are bidding, add your pricing, terms, and conditions, and submit completed sub-quotes to the requesting primes
  - c. Add attachments to a sub-quote
3. Create and send unsolicited sub-quotes to specific contractors:
  - a. Create unsolicited sub-quotes with ease using the intuitive sub-quote creator. In eight short steps, you can rapidly create a custom sub-quote directed at any number of specific vendors of your choosing. Steps include: provide contact information and sub-quote expiration date, select letting and proposal, add work types and items, specify terms and conditions, upload attachments, and select vendors.
4. Easily select and price items for unsolicited sub-quotes:
  - a. After adding applicable work types, select items that you wish to quote. The extended price calculates automatically, cutting out costly calculation errors. Comments can be provided on an per-item basis as well.
  - b. Create an unsolicited sub-quote that lists the items from a proposal that you want to quote, include pricing, terms and conditions, and send it to selected prime/plan holder
  - c. Add attachments to a sub-quote
  - d. Add unsolicited work items to sub-quotes that you are responding to
5. Easy Access to Valuable Information
  - a. Receive a confirmation that your sub-quote was opened by a prime
  - b. View Bid Tab Analysis data from past bids, including the high, average and low prices of items.
  - c. View important notices and publications from DOT targeted to small and disadvantaged businesses
6. Accessing Small Business Network for WisDOT contracting opportunities
  - a. If you are a contractor not yet subscribing to the Bid Express service, go to **www.bidx.com** and select “Order Bid Express.” The Small Business Network is a part of the Bid Express Basic Service.
  - b. DBE firms can request a Bid Express Small Business Network Account at no cost by calling 414-438-4588

**ADDITIONAL SPECIAL PROVISION 4**

**Payment to First-Tier Subcontractors**

Within 10 calendar days of receiving a progress payment for work completed by a subcontractor, pay the subcontractor for that work. The prime contractor may withhold payment to a subcontractor if, within 10 calendar days of receipt of that progress payment, the prime contractor provides written notification to the subcontractor and the department documenting the reasons for withholding payment.

The prime contractor may also withhold retainage from payments due subcontractors. Reduce the total amount retained from all first-tier subcontractors to no more than the department retains within 10 calendar days of the department releasing retainage.

**Payment to Lower-Tier Subcontractors**

Ensure that subcontracting agreements at all tiers provide prompt payment and release of retainage rights to lower-tier subcontractors that parallel those granted first-tier subcontractors in this provision.



**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
SPV.0035.003	Roadway Embankment	CY	0.23

**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:

$$FA = \left( \frac{CFI}{BFI} - 1 \right) \times Q \times BFI$$

(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 2013 edition of the standard specifications:*

---

#### 104.4 Requests for Information

*Replace paragraph one with the following effective with the July 2013 letting:*

- (1) Either the department or the contractor may request information that the other party must provide in order for the requesting party to fulfill its contract obligations. The requesting party shall submit requests for information (RFI) on department form DT2502 either in hard copy or via email. RFI must conform to the following:
    - Be of reasonable scope.
    - Explain why a response is necessary to fulfill contract obligations.
    - Provide a requested response time, which must be reasonable in relation to its scope.
- 

#### 106.1 General

*Replace the entire text with the following effective with the July 2013 letting:*

##### 106.1.1 Materials

- (1) Provide materials conforming to the contract. Use new products and materials for items permanently incorporated into the work unless the contract specifies or allows otherwise. Use materials the contract specifies unless the engineer authorizes substitutes under 108.8. Monitor construction operations to identify potential nonconforming materials and prevent their incorporation into the work.
- (2) All materials are subject to the engineer's approval before incorporation into the work. The engineer may inspect or test all materials at any time during their preparation, storage, and use. Notify the engineer of the proposed source of materials before delivering those materials to the project site. If the engineer requests, provide samples of material and access to facilities that the engineer needs to assess the acceptability of all materials. The department will, on request, share with the contractor available information on a source or material. The department will maintain a web-based list of approved aggregate sources. Aggregate producers must provide test results as required in the department policy for aggregate source approval to have their source approved and to keep that approval over time.
- (3) For fabricated components, the materials and the fabricator are subject to the department's approval before delivery of those components to the project site. The engineer may require the contractor to obtain components from another department-approved source if the department determines a fabricator's product does not conform to the contract.
- (4) Do not incorporate materials into the work until the engineer approves those materials. However, the contractor may request permission to incorporate materials not already approved. The engineer will grant this permission only if the contractor can provide convincing evidence that the engineer will subsequently find those materials conforming. Incorporation of materials before approval is at the contractor's risk and permission to do so does not imply that the department will subsequently approve those materials.
- (5) Except as required under the contract, ensure that products incorporated into the work, either temporarily or permanently, do not display advertising or messages not directly related to the manufacturer, properties, or function of those products; or advertising or messages in violation of state statutes

##### 106.1.2 Designated Materials Person

- (1) Designate one person, either a member of the contractor's own organization or acting as an agent for the contractor responsible for the following:
  - Communicating contract sampling and testing requirements to subcontractors at all tiers.
  - Reporting out-of-specification test results to the department as soon as the information is available.

- Providing certified reports of test or analysis and manufacturers' certificates of compliance from subcontractors at all tiers and maintaining certification records as specified in 106.3.3.2.
  - (2) Ensure that the contractor-designated materials person submits materials information required under the contract to a person the engineer designates. Ensure that the contractor-designated materials person communicates with their department counterpart weekly.
- 

**106.3.4.3.1 General**

*Replace paragraph two with the following effective with the November 2012 letting:*

- (2) Required sampling and testing methodologies and documentation are specified in CMM chapter 8.
  - (3) If disputed, approval of materials and components, as well as acceptance of the work incorporating those materials or components, is subject to review under the QMP dispute resolution process.
- 

**107.17.3 Railroad Insurance Requirements**

*Replace the entire text with the following effective with the August 2012 letting:*

- (1) If required by the special provisions, provide or arrange for a subcontractor to provide railroad protective liability insurance in addition to the types and limits of insurance required in 107.26. Keep railroad protective liability insurance coverage in force until completing all work, under or incidental to the contract, on the railroad right of way or premises of the railroad and until the department has accepted the work as specified in 105.11.2.4.
- (2) Provide railroad protective liability insurance coverage written as specified in 23 CFR part 646 subpart A. Provide a separate policy for each railroad owning tracks on the project. Ensure that the railroad protective liability insurance policies provide the following minimum limits of coverage:
  - 1. Coverage A, bodily injury liability and property damage liability; \$2 million per occurrence.
  - 2. Coverage B, physical damage to property liability; \$2 million per occurrence.
  - 3. An annual aggregate amount of \$6 million that shall apply separately to each policy renewal or extension.
- (3) Obtain coverage from insurance companies licensed to do business in Wisconsin that have an A.M. Best rating of A- or better. The cost of providing the required insurance coverage and limits is incidental to the contract. The department will make no additional or special payment for providing insurance.
- (4) Submit the following to each railroad owning tracks on the project as evidence of that railroad's respective coverage:
  - 1. A certificate of insurance for the types and limits of insurance specified in 107.26.
  - 2. The railroad protective liability insurance policy or other acceptable documentation to the railroad company.
- (5) Submit the following to the region as evidence of the required coverage:
  - 1. A copy of the letter to the railroad company transmitting the submittal documents specified in 107.17.3(4).
  - 2. A certificate of insurance for the required railroad protective liability coverages.
- (6) Do not begin work on the right of way or premises of the railroad company until the region receives the submittals specified in 107.17.3(5) and notification from the railroad company that the contractor has provided sufficient insurance information to begin work.
- (7) Notify the railroad and the region immediately upon cancellation or initiating cancellation, whichever is earlier, or any material change in coverage. Cease operations within 50 feet of the railroad right of way immediately if insurance is cancelled or reduced. Do not resume operations until the required coverage is in force.



**460.2.8.3.1.4 Department Verification Testing Requirements**

*Replace paragraph four with the following effective with the December 2012 letting:*

- (4) The department will randomly test each design mixture at the following minimum frequency:
- FOR TONNAGES TOTALING:
- Less than 501 tons ..... no tests required
- From 501 to 5,000 tons..... one test
- More than 5,000 tons..... add one test for each additional 5,000-ton increment

**501.2.1 Portland Cement**

*Replace paragraph one with the following effective with the March 2013 letting:*

- (1) Use cement conforming to ASTM specifications as follows:
- Type I portland cement; ASTM C150.
  - Type II portland cement; ASTM C150.
  - Type III portland cement; ASTM C150, for high early strength.
  - Type IP portland-pozzolan cement; ASTM C595, except maximum loss on ignition is 2.0 percent.
  - Type IS portland blast-furnace slag cement; ASTM C595.
  - Type IL portland-limestone cement; ASTM C595, except maximum nominal limestone content is 10 percent with no individual test result exceeding 12.0 percent.

**501.2.5.5 Sampling and Testing**

*Replace the entire text with the following effective with the January 2013 letting:*

- (1) Sample and test aggregates for concrete according to the following:
- |  |                           |
|--|---------------------------|
| Sampling aggregates .....  | AASHTO T2                 |
| Lightweight pieces in aggregate .....                                | AASHTO T113               |
| Material finer than No. 200 sieve .....                              | AASHTO T11                |
| Unit weight of aggregate .....                                       | AASHTO T19                |
| Organic impurities in sands .....                                    | AASHTO T21                |
| Sieve analysis of aggregates .....                                   | AASHTO T27                |
| Effect of organic impurities in fine aggregate .....                 | AASHTO T71                |
| Los Angeles abrasion of coarse aggregate .....                       | AASHTO T96                |
| Freeze-thaw soundness of coarse aggregate.....                       | AASHTO T103               |
| Sodium sulfate soundness of aggregates .....                         | AASHTO T104               |
| Specific gravity and absorption of fine aggregate .....              | AASHTO T84                |
| Specific gravity and absorption of coarse aggregate .....            | AASHTO T85                |
| Flat & elongated pieces based on a 3:1 ratio.....                    | ASTM D4791 <sup>[1]</sup> |
| Sampling fresh concrete .....  | AASHTO R60                |
| Making and curing concrete compressive strength test specimens ..... | AASHTO T23                |
| Compressive strength of molded concrete cylinders .....              | AASHTO T22                |

<sup>[1]</sup> As modified in CMM 8-60.

**501.2.6 Fly Ash**

*Replace paragraph three with the following effective with the March 2013 letting:*

- (3) Test fly ash using a recognized laboratory, as defined in 501.2.2(1), starting at least 30 days before its proposed use, and continuing at ASTM-required frequencies as the work progresses. The manufacturer shall test the chemical and physical properties listed in tables 1 and 2 of ASTM C618 at the frequencies and by the test methods prescribed in ASTM C311.

---

**501.3.1.1.1 Air-Entrained Concrete**

*Replace paragraph one with the following effective with the March 2013 letting:*

- (1) Prepare air-entrained concrete with type I, IL, II, IS, or IP cement and sufficient air-entraining admixture to produce concrete with the air content specified in 501.3.2.4.
- 

**501.3.1.3.2 Special Restrictions**

*Replace paragraph one with the following effective with the July 2013 letting:*

- (1) If using coarse aggregate composed primarily of igneous or metamorphic materials, provide concrete for concrete pavement, approach slabs, barrier, surface drains, driveways, alleys, sidewalks, curb, gutter, and curb & gutter as follows:

**Grade A, A-FA, A-S, and A-T :** If using type II portland cement, or if using Type IL blended cement where the base portland cement meets Type II chemical requirements.

**Grade A-IS and A-IP :** If using type I/II blended portland cement.

**Grade A-S2 :** If placing by a slip-formed process and using type II portland cement.

**Grade C, C-FA, C-S, C-IS, and C-IP :** If using types I or III portland cement.

---

**503.2.2 Concrete**

*Replace paragraph five with the following effective with the March 2013 letting:*

- (5) Furnish prestressed concrete members cast from air-entrained concrete, except I-type girders may use non-air-entrained concrete. Use type I, IL, IS, , IP, II, or III cement. The contractor may replace up to 30 percent of type I, IL, II, or III cement with an equal weight of fly ash, slag, or a combination of fly ash and slag, except for prestressed box girders and slabs, the contractor shall replace 20-30 percent of the cement with fly ash, slag, or a combination of fly ash and slag. Ensure that fly ash conforms to 501.2.6 and slag conforms to 501.2.7. Use only one source and replacement rate for work under a single bid item. Use a department-approved air-entraining admixture conforming to 501.2.2 for air-entrained concrete. Use only size No. 1 coarse aggregate conforming to 501.2.5.4.
- 

**506.3.22 Shop Inspection**

*Replace paragraph one with the following effective with the July 2010 letting:*

- (1) The engineer or an independent inspection agency under department contract may inspect all structural steel and miscellaneous metals furnished. The department will provide the contractor with monthly consultant inspection invoices and identify any quality deficiencies at the fabrication facility.
- 

**506.5 Payment**

*Add paragraph nine as follows effective with the June 2010 letting:*

- (9) The department will limit costs for inspections conducted under 506.3.2 to \$0.05 per pound of material and deduct costs in excess of that amount from payment due the contractor. The department will determine costs for in-house inspections based on hourly rates for department staff plus overhead and use invoiced costs for contracted-out inspections. The department will administer deductions for the contractor's share of the total inspection cost under the Excess Costs For Fabrication Shop Inspection administrative item.
- 

**507.2.2.1 General**

*Replace paragraph four with the following effective with the December 2012 letting:*

- (4) Ensure that there are no unsound knots or knot holes. Also ensure that there are no tight knots of a diameter exceeding one-quarter of the greater dimension at the point where they occur. Measure a knot by taking its diameter at right angles to the length of the timber. Ensure that the sum of sizes of all

knots in any one-foot length does not exceed 2 times the size of the largest allowed single knot. The engineer will treat cluster knots as if they were a single knot. A cluster knot is 2 or more knots grouped together, with the fibers of the wood deflected around the entire unit.

---

#### **512.3.1 Driving and Cutting Off**

*Replace the entire text with the following effective with the December 2012 letting:*

##### **512.3.1.1 General**

- (1) Coordinate driving operations to prevent damage or displacement of concrete in substructure units or damage to adjacent facilities due to vibrations.
- (2) Drive sheeting with a variation of 1/4 inch or less per foot from the vertical or from the batter the plans show. Ensure that the sheetpiles are within 6 inches of the plan position after driving. Do not damage sheetpiles attempting to correct for misalignment.
- (3) Remove and replace, or otherwise correct, sheetpiles the engineer deems unacceptable under 105.3. Submit details of planned corrections to the engineer for review and approval before initiating any corrective actions.
- (4) Drive sheetpiles to or beyond the required tip elevation the plans show.

##### **512.3.1.2 Driving System**

- (1) Furnish a sheetpile driving system capable of driving the sheetpiles to the required minimum tip elevation the plans show.
- (2) The engineer may order the contractor to remove a pile driving system component from service if it causes insufficient energy transfer or damages the sheetpiles. Do not return a component to service until the engineer determines that it has been satisfactorily repaired or adjusted.
- (3) Drive sheetpiles with diesel, air, steam, gravity, hydraulic, or vibratory hammers.

##### **512.3.1.3 Cut-Offs**

- (1) Cut off sheetpiles at the elevations the plans show or as the engineer directs. Pile cut-offs become the property of the contractor. Dispose of cut-offs not incorporated into the work.
- 

#### **518.2.1 General**

*Replace paragraph one with the following effective with the March 2013 letting:*

- (1) Furnish portland cement and water as specified in 501.2. Unless the engineer allows an alternate, use either type I, IL, IS, or IP cement.
- 

#### **526.3.3 Temporary Structures**

*Replace paragraphs two through four with the following effective with the January 2013 letting:*

- (2) Inspect temporary structures conforming to the National Bridge Inspection Standards (NBIS) and the department's structure inspection manual before opening to traffic. Perform additional inspections, as the department's structure inspection manual requires, based on structure type and time in service. Submit inspection reports on department form DT2007 to the engineer and electronic copies to the department's bureau of structures maintenance section. Ensure that a department-certified active team leader, listed online in the department's highway structures information system (HSIS), performs the inspections.
- (3) Maintain temporary structures and approaches in place until no longer needed. Unless the engineer directs otherwise, completely remove and dispose of as specified in 203.3.4. Contractor-furnished materials remain the contractor's property upon removal.

**614.2.5 Wood Posts and Offset Blocks**

*Retitle and replace the entire text with the following effective with the July 2012 letting:*

**614.2.5 Posts and Offset Blocks****614.2.5.1 Wood Posts and Offset Blocks**

- (1) Furnish sawed posts and offset blocks of one of the following species:
 

Douglas fir	Southern pine	Ponderosa pine	Jack pine	White pine
Red pine	Western hemlock	Western larch	Hem-fir	Oak
- (2) Ensure that posts are the size the plans show and conform to the nominal and minimum dimensions tabulated in 507.2.2.3. The contractor does not have to surface the posts. Provide posts of the net length the plans show after setting and cut off.
- (3) Use stress graded posts rated at 1200 psi  $f_b$  or higher. Determine the stress grade rating for douglas fir, western larch, and southern pine as specified in 507.2.2.4.
- (4) For hem-fir, hemlock, red pine, white pine, jack pine, ponderosa pine, and oak conform to the following:

**TABLE 614-1 PROPERTIES FOR WOOD POSTS AND BLOCKS**

SPECIES			WESTERN HEMLOCK, HEM-FIR, RED PINE, WHITE PINE, JACK PINE, PONDEROSA PINE		OAK	
MAXIMUM SLOPE OF GRAIN			1 in 15		1 in 12	
NOMINAL WIDTH OF FACE			6"	8"	6"	8"
SHAKES, CHECKS, AND SPLITS	GREEN		1"	1 3/8"	2 3/8"	3 1/8"
	SEASONED		1 1/2"	2"	2 5/8"	3 1/2"
MAXIMUM WANE			1"	1 3/8"	1 1/8"	1 5/8"
MAXIMUM ALLOWABLE KNOTS	NARROW FACE	MIDDLE 1/3 OF LENGTH	1 3/8"	1 5/8"	2 1/8"	2 3/8"
		END <sup>[1]</sup>	2 3/4"	3 1/4"	4 1/4"	4 3/4"
		SUM IN MIDDLE 1/2 OF LENGTH <sup>[2]</sup>	11"	13"	17"	19
	WIDE FACE	EDGE KNOT N MIDDLE 1/3 OF LENGTH	1 3/8"	1 5/8"		
		EDGE KNOT AT END <sup>[1]</sup>	2 3/4" 7	3 1/4"		
		CENTERLINE	1 3/8"	1 7/8"	2 1/4"	2 7/8"
		SUM IN MIDDLE 1/2 OF LENGTH	5 1/2"	7 1/2"	9"	11 1/2"

<sup>[1]</sup> But do not exceed the maximum allowable knot on the centerline of the wide face of the same piece.

<sup>[2]</sup> But do not exceed 4 times the maximum allowable knot on the centerline of the wide face of the same piece.

- (5) Pressure treat posts and offset blocks as specified in 507.2.2.6. Use one of the oil-soluble preservatives or chromated copper arsenate conforming to 507.2.3. Use the same material for offset blocks and posts and treat material used in each continuous installation with the same type of preservative.

**614.2.5.2 Steel Posts**

- (1) Furnish steel posts conforming to AASHTO M270 Grade 36 and galvanized according to AASTHO M111.

**614.2.5.3 Plastic Offset Blocks**

- (1) Furnish plastic offset blocks from the department's approved products list.

**614.3.1 General**

Replace the entire text with the following effective with the July 2012 letting:

- (1) Paint the ends of cut-off galvanized posts, rail, bolts, cut or drilled surfaces of galvanized components, and areas of damaged zinc coating with 2 coats of zinc dust/zinc oxide paint. Clean the damaged and adjacent areas thoroughly before applying paint.
- (2) Apply 2 coats of wood preservative to cut surfaces of wood components. Use the same preservative originally used to treat that component or use a 2-percent solution of copper naphthenate conforming to AWWA Standard P8 or P36.

**614.3.2.1 Installing Posts**

Replace paragraph four with the following effective with the July 2012 letting:

- (4) Cut post tops to the finished elevation the plans show.

**628.2.13 Rock Bags**

Replace paragraph one with the following effective with the November 2012 letting:

- (1) Furnish rock bags made of a porous, ultraviolet resistant, high-density polyethylene or geotextile fabric that will retain 70% of its original strength after 500 hours of exposure according to ASTM D4355 and a minimum in-place filled size of 18-inches long by 12-inches wide by 6-inches high. Ensure that the fabric conforms to the following:

TEST REQUIREMENT	METHOD	VALUE
Minimum Tensile	ASTM D4632	
Machine direction		70 lb minimum
Cross direction		40 lb minimum
Elongation	ASTM D4632	
Machine direction		20% minimum
Cross direction		10 % min
Puncture	ASTM 4833	65 lbs minimum
Minimum Apparent Opening		0.0234 inches (No. 30 sieve)
Maximum Apparent Opening		0.0787 inches (No. 10 sieve)

**639.2.1 General**

Replace paragraph two with the following effective with the March 2013 letting:

- (2) For grout use fine aggregate conforming to 501.2.5.3 and type I, IL, IS, or IP cement.

**649.3.1 General**

Replace paragraphs three and four with the following effective with the March 2013 letting:

- (3) For pavements open to all traffic, apply centerline and no-passing barrier line markings as follows:
- On intermediate pavement layers, including milled surfaces, on the same day the pavement is placed or milled.
  - On the upper layer of pavement, on the same day the pavement is placed unless the contractor applies permanent marking on the same day the pavement is placed.

If weather conditions preclude same-day application, apply as soon as weather allows. Do not resume next-day construction operations until these markings are completed unless the engineer allows otherwise.

- (4) If required to apply no passing zone temporary pavement marking, reference the beginning and end of all existing no-passing barrier lines. Apply temporary no-passing barrier lines at those existing locations. If the contract contains the Locating No-Passing Zones bid item, relocate permanent no-passing zones as specified in section 648.
- 

#### **701.4.2 Verification Testing**

Replace paragraph two with the following effective with the December 2012 letting:

- (2) The department will sample randomly at locations independent of the contractor's QC tests and use separate equipment and laboratories. The department will conduct a minimum of one verification test for each 5 contractor QC tests unless specific QMP provisions specify otherwise.
- 

#### **715.2.3.1 Pavements**

Replace paragraph two with the following effective with the March 2013 letting:

- (2) Provide a minimum cement content of 565 pounds per cubic yard, except if using type I, IL, or III cement in a mix where the geologic composition of the coarse aggregate is primarily igneous or metamorphic materials, provide a minimum cement content of 660 pounds per cubic yard.
- 

#### **715.3.1.3 Department Verification Testing**

Replace paragraph one with the following effective with the December 2012 letting:

- (1) The department will perform verification testing as specified in 701.4.2 except as follows:
- Air content, slump, and temperature: a minimum of 1 verification test per lot.
  - Compressive strength: a minimum of 1 verification test per lot.
- 

## **Errata**

---

Make the following corrections to the 2013 edition of the standard specifications:

---

#### **102.12 Public Opening of Proposals**

Correct 102.12(1) errata by changing htm to shtm in the web link.

- (1) The department will publicly open proposals at the time and place indicated in the notice to contractors. The department will post the total bid for each proposal on the Bid Express web site beginning at 9:30 AM except as specified in 102.8. If a proposal has no total bid shown, the department will not post the bid. After verification for accuracy under 103.1, the department will post bid totals on the department's HCCI web site.

<http://roadwaystandards.dot.wi.gov/hcci/bid-letting/index.shtm>

---

#### **107.22 Contractor's Responsibility for Utility Facilities, Property, and Services**

Correct errata by eliminating references to the department. Costs are determined by statute.

- (3) If the contractor damages or interrupts service, the contractor shall notify the utility promptly. Coordinate and cooperate with the utility in the repair of the facility. Determine who is responsible for repair costs according to Wisconsin statutes 66.0831 and 182.0175(2).

---

**204.3.2.2 Removing Items**

Correct errata by changing the reference from 490.3.2 to 490.3.

- (5) Under the Removing Asphaltic Surface Milling bid item, remove and dispose of existing asphaltic pavement or surfacing by milling at the location and to the depth the plans show. Mill the asphaltic pavement or surfacing as specified for milling salvaged asphaltic pavement in 490.3.
- 

**501.2.9 Concrete Curing Materials**

Correct errata by changing AASHTO M171 to ASTM C171.

- (4) Furnish polyethylene-coated burlap conforming to ASTM C171 for white burlap-polyethylene sheets.
- 

**506.2.6.5.2 Pad Construction**

Correct errata by changing ASTM A570 to ASTM A1011.

- (4) For the internal steel plates use rolled mild steel conforming to ASTM A36, or ASTM A1011 grade
- 

**512.3.3 Painting**

Correct errata by changing 511.3.5 to 550.3.11.3.

- (1) Paint permanent steel sheet piling as specified for painting steel piling in 550.3.11.3.
- 

**513.2.2.8 Toggle Bolts**

Correct errata by changing ASTM A570 to ASTM A1011.

- (1) Use toggle bolts made of steel, conforming to the plans. Make the assembly from the material specified below:
- |                           |  |
|---------------------------|--|
| Toggle bolt and pin ..... | Cold finished steel heat-treated Brinell 311-363 ASTM A354.        |
| Toggle washer .....       | Hot rolled steel ASTM A1011. Manufacturer's standard washer.       |
| Spacer nut .....          | Grade 1213, ASTM A108. Cold finished steel heat-treated ASTM A325. |
- 

**614.2.1 General**

Correct errata by changing the discontinued AASHTO M298 to ASTM B695.

- (4) Furnish steel nuts conforming to ASTM A563, washers conforming to ASTM F436, grade 1, and bolts conforming to ASTM A307. Ensure that the nuts, washers, and bolts are either hot-dip coated according to AASHTO M232 class C or mechanically coated according to ASTM B695 class 50.
- 

**643.3.1 General**

Correct errata by eliminating the word "continuously".

- (6) Review all traffic signs and control devices furnished and erected for location, position, visibility, adequacy, and manner of use under specific job conditions immediately after each setup and at least once every 24 hours and more frequently as necessary, to ensure all the signs and control devices are in compliance with this section. Review the signs and devices from the same direction that approaching traffic views them.
- 

**660.2.1 General**

Correct errata by changing section 511 to 550.

- (1) Furnish materials conforming to the following:
- |                        |             |
|------------------------|-------------|
| Concrete .....         | section 501 |
| Concrete bridges ..... | section 502 |
| Luminaires .....       | section 659 |

Steel piling .....	section 550
Steel reinforcement.....	section 505

**660.3.2.3 Pile Type Foundations**

Correct errata by changing section 511 to 550.

- (1) Drive piles as specified in for steel piling in section 550.

**701.3 Contractor Testing**

Correct errata by updating AASHTO T141 to AASHTO R60 and changing AASHTO T309 to ASTM C1064.

- (1) Perform contract required QC tests for samples randomly located according to CMM 8-30. Also perform other tests as necessary to control production and construction processes, and additional testing enumerated in the contractor's quality control plan or that the engineer directs. Use test methods as follows:

**TABLE 701-2 TESTING STANDARDS**

TEST	TEST STANDARD
Washed P 200 analysis	AASHTO T11 <sup>[1]</sup>
Sieve analysis of fine and coarse aggregate	AASHTO T27 <sup>[1]</sup>
Aggregate moisture	AASHTO T255 <sup>[1]</sup>
Sampling freshly mixed concrete	AASHTO R60
Air content of fresh concrete	AASHTO T152 <sup>[2]</sup>
Concrete slump	AASHTO T119 <sup>[2]</sup>
Concrete temperature	ASTM C1064
Concrete compressive strength	AASHTO T22
Making and curing concrete cylinders	AASHTO T23
Standard moist curing for concrete cylinders	AASHTO M201

<sup>[1]</sup> As modified in CMM 8-60.

<sup>[2]</sup> As modified in CMM 8-70.



**ADDITIONAL SPECIAL PROVISION 7**

- A. Reporting 1<sup>st</sup> Tier and DBE Payments During Construction
1. Comply with reporting requirements specified in the department's Civil Rights Compliance, Contractor's User Manual, Sublets and Payments.
  2. Report payments to all DBE firms within 10 calendar days of receipt of a progress payment by the department or a contractor for work performed, materials furnished, or materials stockpiled by a DBE firm. Report the payment as specified in A(1) for all work satisfactorily performed and for all materials furnished or stockpiled.
  3. Report payments to all first tier subcontractor relationships within 10 calendar days of receipt of a progress payment by the department for work performed. Report the payment as specified in A(1) for all work satisfactorily performed.
  4. All tiers shall report payments as necessary to comply with the DBE payment requirement as specified in A(2).
  5. Require all first tier relationships, DBE firms and all other tier relationships necessary to comply with the DBE payment requirement in receipt of a progress payment by contractor to acknowledge receipt of payment as specified in A(1), (2), (3) and (4).
  6. All agreements made by a contractor shall include the provisions in A(1), (2), (3), (4) and (5), and shall be binding on all first tier subcontractor relationships and all contractors and subcontractors utilizing DBE firms on the project.
- B. Costs for conforming to this special provision are incidental to the contract.



**US 41Corridor**  
**EEO/AA Requirements for Contractors and Subcontractors**  
**(OFFICE OF FEDERAL CONTRACT COMPLIANCE PROGRAMS,**  
**US DEPARTMENT OF LABOR)**

1. Prime Contractor(s) and subcontractors awarded a construction contract in excess of \$10,000 at any tier for construction work under the contract shall comply with the requirements of Executive Order 11246 as amended, Section 503 of The Rehabilitation Act of 1973 as amended and the Vietnam Era Veterans' Readjustment Assistance Act of 1974 as amended (38 U.S.C. 4212).
2. The contractor shall provide written notification to the District Director, Office of Federal Contract Compliance Programs (OFCCP), U.S. Dept. of Labor/ESA, 310 West Wisconsin Avenue, Suite 1115, Milwaukee, WI 53202 - phone: (414) 297-3822, fax: (414) 297-4038, within 10 working days of the award of any construction contract (subcontract) in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. This notification shall include name, address and telephone number of the subcontractor, employer identification number (EIN), dollar amount of the contract, and the estimated starting and completion date. This notification provision applies to 2<sup>nd</sup> and 3<sup>rd</sup> tier subcontractors, etc. as well as the prime contractor.
3. The prime contractor and each subcontractor are required to complete a monthly Utilization Report. The report will include the total number of work hours broken out by construction trade and classification (supervisor, journey or apprentice), race and gender. The report will also include the number of employees within each trade and classification by race and gender. These reports will be entered into the Civil Rights Compliance System (CRCS) in accordance with WisDOT requirements. However, if USDOL is denied access to the CRCS, the contractor will be notified by USDOL. The contractor will then submit directly to USDOL at the address above, the Utilization Report and number of employees as described earlier in this paragraph.
4. The prime contractor and each subcontractor are to provide a list of employees who worked on this project by name, race, sex, trade, classification (foreman/supervisor, journey, apprentice, trainee), if the person was a TRANS grad, and date of hire into the prime or subcontractor's workforce. This will be sent to the U. S. Department of Labor, OFCCP when the last work hours are reported for the project by each contractor.
5. The Prime Contractor is required to appoint an EEO/Affirmative Action (EEO/AA) Manager for the project. Each subcontractor is required to appoint an EEO/AA Project Coordinator. The EEO/AA Manager shall have overall responsibility for the

monitoring of EEO/AA compliance by the prime contractor and by all subcontractors working on this project (for all construction work originated by the Prime Contractor).

6. The prime contractor shall establish a **Special Project Affirmative Action Oversight Committee (SPAAOC)** comprised of OFCCP, and other representatives from state/local Civil Rights Enforcement/Development Agencies, labor unions, community constituents representing minority and female groups and other government and non-government agencies as needed. The first meeting will be held as soon as possible prior to the start of the project. Thereafter, the SPAAOC shall meet periodically throughout the course of the contract to discuss EEO/AA issues.
7. A designated EEO representative of each contractor on the project must attend a technical assistance seminar sponsored by OFCCP to understand their obligations under Executive Order 11246 as amended, Section 503 of The Rehabilitation Act of 1973 as amended and the Vietnam Era Veterans' Readjustment Assistance Act of 1974 as amended (38 U.S.C. 4212). If the contractor's EEO representative has attended an OFCCP technical assistance seminar during the previous 12 calendar months, they will be exempt from this requirement.
8. The EEO/AA goals (good faith effort) for this contract are:

Nation wide:	6.9% for Females of total work hours by trade
Brown County:	1.3% for Minorities of total work hours by trade
Winnebago County:	0.9% for Minorities of total work hours by trade

**ADDITIONAL SPECIAL PROVISION 9**  
**Electronic Certified Payroll Submittal**

(1) Use the department's Civil Rights Compliance System (CRCS) to submit certified payrolls electronically. Details are available online through the department's highway construction contractor information (HCCI) site on the Labor, Wages, and EEO Information page at: <http://roadwaystandards.dot.wi.gov/hcci/labor-wages-eeo/index.shtm>

(2) Ensure that all tiers of subcontractors, as well as all trucking firms, submit their weekly certified payrolls electronically through CRCS. These payrolls are due within seven calendar days following the close of the payroll period. Every firm providing physical labor towards completing the project is a subcontractor under this special provision.

(3) Upon receipt of contract execution, promptly make all affected firms aware of the requirements under this special provision and arrange for them to receive CRCS training as they are about to begin payrolls. The department will provide training either in a classroom setting at one of our regional offices or by telephone. Contact Tess Mulrooney at 608-267-4489 to schedule the training.

(4) The department will reject all paper submittals of forms DT-1816 and DT-1929 for information required under this special provision. All costs for conforming to this special provision are incidental to the contract.

(5) Firms wishing to export payroll data from their computer system into CRCS should have their payroll coordinator send several sample electronic files to Tess two months before a payroll needs to be submitted. Not every contractor's payroll system is capable of producing export files. For details, see pages 17-22 of the CRCS System Background Information manual available online on the Labor, Wages, and EEO Information page at: <http://roadwaystandards.dot.wi.gov/hcci/labor-wages-eeo/crc-basic-info.pdf>

## REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS

- I. General
- II. Nondiscrimination
- III. Nonsegregated Facilities
- IV. Davis-Bacon and Related Act Provisions
- V. Contract Work Hours and Safety Standards Act Provisions
- VI. Subletting or Assigning the Contract
- VII. Safety: Accident Prevention
- VIII. False Statements Concerning Highway Projects
- IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
- X. Compliance with Governmentwide Suspension and Debarment Requirements
- XI. Certification Regarding Use of Contract Funds for Lobbying

### ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

### I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

### II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding \$10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

**1. Equal Employment Opportunity:** Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under

this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

**2. EEO Officer:** The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

**3. Dissemination of Policy:** All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

**4. Recruitment:** When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

**5. Personnel Actions:** Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

**6. Training and Promotion:**

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are

applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

**7. Unions:** If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

**8. Reasonable Accommodation for Applicants / Employees with Disabilities:** The contractor must be familiar

with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

**9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment:** The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

#### **10. Assurance Required by 49 CFR 26.13(b):**

a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

b. The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the contracting agency deems appropriate.

**11. Records and Reports:** The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on [Form FHWA-1391](#). The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor



will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

### III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

### IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding \$2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

#### 1. Minimum wages

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions

of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b. (1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is utilized in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or

will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program. Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

## **2. Withholding**

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

## **3. Payrolls and basic records**

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-

Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b. (1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency..

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

#### **4. Apprentices and trainees**

##### **a. Apprentices (programs of the USDOL).**

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly

rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

##### **b. Trainees (programs of the USDOL).**

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

**5. Compliance with Copeland Act requirements.** The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

**6. Subcontracts.** The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

**7. Contract termination: debarment.** A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

**8. Compliance with Davis-Bacon and Related Act requirements.** All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

**9. Disputes concerning labor standards.** Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

**10. Certification of eligibility.**

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

**V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT**

The following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

**1. Overtime requirements.** No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

**2. Violation; liability for unpaid wages; liquidated damages.** In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.

**3. Withholding for unpaid wages and liquidated damages.** The FHWA or the contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.

**4. Subcontracts.** The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.



## VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term "perform work with its own organization" refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

(1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;

(2) the prime contractor remains responsible for the quality of the work of the leased employees;

(3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and

(4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is

evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

## VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

## VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

## **IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.

2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

## **X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION**

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200.

### **1. Instructions for Certification – First Tier Participants:**

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this

covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

\* \* \* \* \*

## **2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:**

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

## **2. Instructions for Certification - Lower Tier Participants:**

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which

this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the

department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

\* \* \* \* \*

**Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:**

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

\* \* \* \* \*

**XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 (49 CFR 20).

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.



**ATTACHMENT A - EMPLOYMENT AND MATERIALS  
PREFERENCE FOR APPALACHIAN DEVELOPMENT  
HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS  
ROAD CONTRACTS**

This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

SEPTEMBER 2002

**NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE  
EQUAL EMPLOYMENT OPPORTUNITY (EXECUTIVE ORDER 11246)**

1. The Offeror's or Bidder's attention is called to the "Employment Practices" and "Equal Opportunity Clause" set forth in the Required Contract Provisions, FHWA 1273.
2. The goals and timetables for minority and female participation expressed in percentage terms for the contractor's aggregate work force in each trade, on all construction work in the covered area, are as follows:

**Goals for Minority Participation for Each Trade:**

<u>County</u>	<u>%</u>	<u>County</u>	<u>%</u>	<u>County</u>	<u>%</u>
Adams	1.7	Iowa	1.7	Polk	2.2
Ashland	1.2	Iron	1.2	Portage	0.6
Barron	0.6	Jackson	0.6	Price	0.6
Bayfield	1.2	Jefferson	7.0	Racine	8.4
Brown	1.3	Juneau	0.6	Richland	1.7
Buffalo	0.6	Kenosha	3.0	Rock	3.1
Burnett	2.2	Kewaunee	1.0	Rusk	0.6
Calumet	0.9	La Crosse	0.9	St. Croix	2.9
Chippewa	0.5	Lafayette	0.5	Sauk	1.7
Clark	0.6	Langlade	0.6	Sawyer	0.6
Columbia	1.7	Lincoln	0.6	Shawano	1.0
Crawford	0.5	Manitowoc	1.0	Sheboygan	7.0
Dane	2.2	Marathon	0.6	Taylor	0.6
Dodge	7.0	Marinette	1.0	Trempealeau	0.6
Door	1.0	Marquette	1.7	Vernon	0.6
Douglas	1.0	Menominee	1.0	Vilas	0.6
Dunn	0.6	Milwaukee	8.0	Walworth	7.0
Eau Claire	0.5	Monroe	0.6	Washburn	0.6
Florence	1.0	Oconto	1.0	Washington	8.0
Fond du Lac	1.0	Oneida	0.6	Waukesha	8.0
Forest	1.0	Outagamie	0.9	Waupaca	1.0
Grant	0.5	Ozaukee	8.0	Waushara	1.0
Green	1.7	Pepin	0.6	Winnebago	0.9
Green Lake	1.0	Pierce	2.2	Wood	0.6

**Goals for female participation for each trade: 6.9%**

These goals are applicable to all the contractor's construction work, (whether or not it is federal or federally assisted), performed in the covered area. If the contractor performs construction work in the geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and nonfederally involved construction.

The contractor's compliance with the Executive Order and the Regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from contractor to contractor or from project to project for the sole purpose of meeting the contractor's goals shall be a violation of the contract, the Executive Order and the Regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within ten (10) working days of award of any construction subcontract in excess of \$10,000.00 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor, employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed.

As referred to in this section, the Director means:

Director  
Office of Federal Contract Compliance Programs  
Ruess Federal Plaza  
310 W. Wisconsin Ave., Suite 1115  
Milwaukee, WI 53202

The "Employer Identification Number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941.

4. As used in this notice, and in the contract resulting from solicitation, the "covered area" is the county(ies) in Wisconsin to which this proposal applies.

**APRIL 2013**

**ADDITIONAL FEDERAL-AID PROVISIONS**

**NOTICE TO ALL BIDDERS**

To report bid rigging activities call:

**1-800-424-9071**

The U.S. Department of Transportation (DOT) operates the above toll-free "hotline" Monday through Friday, 8:00 a.m. to 5:00 p.m., Eastern Time. Anyone with knowledge of possible bid rigging, bidding collusion, or other fraudulent activities should use the "hotline" to report such activities.

The "hotline" is part of the DOT's continuing effort to identify and investigate highway construction contract fraud and abuse and is operated under the direction of the DOT Inspector General. All information will be treated confidentially and caller anonymity will be respected.

**APRIL 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 2-28.4 to ensure compliance with this "Buy America" provision.

<http://roadwaystandards.dot.wi.gov/standards/cmm/cm-02-28.pdf#cm2-28.4>

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/hidden/ws4567.doc>

**Effective with September 2004 Letting**

**WISCONSIN DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS AND TRANSPORTATION FACILITIES**

**SUPPLEMENTAL REQUIRED CONTRACT PROVISIONS**

- I. Wage Rates, Hours of labor and payment of Wages
- II. Payroll Requirements
- III. Postings at the Site of the Work
- IV. Affidavits
- V. Wage Rate Redistribution
- VI. Additional Classifications

**I. WAGE RATES, HOURS OF LABOR AND PAYMENT OF WAGES**

The schedule of "Minimum Wage Rates" attached hereto and made a part hereof furnishes the prevailing wage rates that have been determined pursuant to Section 103.50 of the Wisconsin Statutes. These wage rates are the minimum required to be paid to the various laborers, workers, mechanics and truck drivers employed by contractors and subcontractors on the construction work embraced by the contract and subject to prevailing hours and wages under Section 103.50, Stats. If necessary to employ laborers, workers, mechanics or truck drivers whose classification is not listed on the schedule, they shall be paid at rates conformable to those listed for similar classifications. Apprentices shall be paid at rates not less than those prescribed in their state indenture contracts.

While the wage rates shown are the minimum rates required by the contract to be paid during its life, this is not a representation that labor can be obtained at these rates. It is the responsibility of bidders to inform themselves as to the local labor conditions and prospective changes or adjustments of wage rates. No increase in the contract price shall be allowed or authorized on account of the payment of wage rates in excess of those listed herein.

Pursuant to Section 103.50 of the Wisconsin Statutes, the prevailing hours of labor have been determined to be up to 10 hours per day and 40 hours per calendar week Monday through Friday. If any laborer, worker, mechanic or truck driver is permitted or required to work more than the prevailing number of hours per day or per calendar week on this contract, they shall be paid for all hours in excess of the prevailing hours at a rate of at least one and one-half (1 1/2) times their hourly rate of pay. All work on Saturday, Sunday and the following holidays is to be paid at time and a half: (1) January 1, (2) the last Monday in May, (3) July 4, (4) the first Monday in September, (5) the fourth Thursday in November, (6) December 25, (7) the day before if January 1, July 4 or December 25 falls on a Saturday and (8) the day following if January 1, July 4 or December 25 falls on a Sunday.

All laborers, workers, mechanics and truck drivers shall be paid unconditionally not less often than once a week. Persons who own and operate their own trucks must receive the prevailing truck driver rate for the applicable type of truck (i.e. 2 axle, 3 or more axle, articulated, eculid or dumptor) he or she operates, plus an agreed upon amount for the use of his or her truck. Every owner-operator MUST be paid separately for their driving and for the use of their truck.

For those projects subject to the requirements of the Davis-Bacon Act, the Secretary of Labor will also have determined "Minimum Wage Rates" for work to be performed under the contract. These rates are, for all or most of the labor, worker, mechanic or truck driver classifications, identical to those established under Section 103.50 of the Wisconsin Statutes. In the event the rates are not identical, the higher of the two rates will govern.

## **II. PAYROLL REQUIREMENTS**

All contractors and subcontractors must submit weekly Certified Payrolls and Compliance Statement verifying that all laborers, workers, mechanics and truck drivers working on the project have been paid the prevailing wage rates for all work performed under the contract required by Section 103.50 of the Wisconsin Statutes.

## **III. POSTINGS AT THE SITE OF THE WORK**

In addition to the required postings furnished by the Department, the contractor shall post the following in at least one conspicuous place at the site of work:

- a. "NOTICE TO EMPLOYEES," which provides information required to be posted by the provisions of Section 103.50 of the Wisconsin Statutes.
- b. A copy of the State of Wisconsin Minimum Wages Rates. (Four pages.)
- c. A copy of the contractor's Equal Employment Opportunity Policy.
- d. On any project involving federal aid, in addition to the furnished postings, the contractor shall post a copy of the "Davis-Bacon Act, Minimum Wage Rates". (Three pages.)

## **IV. WAGE RATE REDISTRIBUTION**

The amount specified as the hourly basic rate of pay and the amount(s) specified as the fringe benefit contribution(s), for all classes of laborers, workers, mechanics or truck drivers may be redistributed, when necessary, to conform to those specified in any applicable collective bargaining agreement, provided that both parties to such agreement

request and receive the approval for any such redistribution from both the Department of Transportation and the Department of Workforce Development prior to the implementation of such redistribution.

## **V. ADDITIONAL CLASSIFICATIONS**

Any unlisted laborer or mechanic classification that is needed to perform work on this project, and is not included within the scope of any of the classifications listed in the application prevailing wage rate determination, may be added after award only if all of the following criteria have been met:

1. The affected employer(s) must make a written request to WisDOT Central Office to utilize the unlisted classification on this project.
2. The request must indicate the scope of the work to be performed by the unlisted classification and must indicate the proposed wage/fringe benefit package that the unlisted classification is to receive.
3. The work to be performed by the unlisted classification must not be performed by a classification that is included in the applicable prevailing wage rate determination.
4. The unlisted classification must be commonly employed in the area where the project is located.
5. The proposed wage/fringe benefit package must bear a reasonable relationship to those set forth in the applicable prevailing wage rate determination.
6. The request should be made prior to the actual performance of the work by the unlisted classification.
7. DWD must approve the use of the unlisted classification and the proposed wage/fringe benefit package. USDOL also must approve the use of the unlisted classification and the proposed wage/fringe benefit package on federal aid projects.
8. WisDOT and DWD may amend the proposed wage/fringe benefit package, as deemed necessary, and may set forth specific employment ratios and scope of work requirements in the approval document.

The approved wage/fringe benefit package shall be paid to all laborers, workers, mechanics or truck drivers performing work within the scope of that performed by the unlisted classification, from the first day on which such work is performed. In the event that work is performed by the unlisted classification prior to approval, the wage/fringe benefit package to be paid for such work must be in conformance with the wage/fringe



benefit package approved for such work. Under this arrangement a retroactive adjustment in wages and/or fringe benefits may be required to be made to the affected laborers, workers, mechanics or truck drivers by the affected employer(s).

**ANNUAL PREVAILING WAGE RATE DETERMINATION  
FOR ALL STATE HIGHWAY PROJECTS  
BROWN 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, 2013

**CLASSIFICATION:** Contractors are required to call the Department of Workforce Development if there are any questions regarding the proper trade or classification to be used for any worker on a public works project.

**OVERTIME:** Time and one-half must be paid for all hours worked over 10 hours per day and 40 hours per calendar week and for all hours worked on Saturday, Sunday and the following six (6) holidays: January 1; the last Monday in May; July 4; the 1st Monday in September; the 4th Thursday in November; December 25; the day before if January 1, July 4 or December 25 falls on a Saturday; the day following if January 1, July 4 or December 25 falls on a Sunday.

**FUTURE INCREASE:** If indicated for a specific trade or occupation, the full amount of such increase MUST be added to the "TOTAL" indicated for such trade or occupation on the date(s) such increase(s) becomes effective.

**PREMIUM PAY:** If indicated for a specific trade or occupation, the full amount of such pay MUST be added to the "HOURLY BASIC RATE OF PAY" indicated for such trade or occupation, whenever such pay is applicable.

**SUBJOURNEY:** Wage rates may be available for some of the classifications indicated below. Any employer that desires to use any subjourney classification on a project MUST request the applicable wage rate from the Department of Workforce Development PRIOR to the date such classification is used on such project. Form ERD-10880 is available for this purpose and can be obtained by writing to the Department of Workforce Development, Equal Rights Division, P.O. Box 8928, Madison, WI 53708.

<u>TRADE OR OCCUPATION</u>	<u>HOURLY BASIC RATE OF PAY</u>	<u>HOURLY FRINGE BENEFITS</u>	<u>TOTAL</u>
	\$	\$	\$
Bricklayer, Blocklayer or Stonemason	35.58	19.20	54.78
Carpenter	30.16	15.31	45.47
Cement Finisher	31.52	16.60	48.12
Future Increase(s): Add \$1.87 on 6/1/13; Add \$1.87 on 6/1/14; Add \$1.87 on 6/1/15; Add \$1.75 on 6/1/16.			
Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add \$1.40/hr when the Wisconsin Department of Transportation or responsible governing agency requires that work be performed at night under artificial illumination with traffic control and the work is completed after sunset and before sunrise.			
Electrician	28.01	16.49	44.50
Fence Erector	28.00	4.50	32.50
Ironworker	28.03	21.97	50.00
Line Constructor (Electrical)	31.29	15.34	46.63
Painter	23.62	9.07	32.69
Pavement Marking Operator	24.10	16.85	40.95
Piledriver	30.66	15.31	45.97
Roofer or Waterproofing	20.93	5.48	26.41
Teledata Technician or Installer	21.26	11.75	33.01
Tuckpointer, Caulker or Cleaner	23.41	14.51	37.92
Underwater Diver (Except on Great Lakes)	37.45	19.45	56.90
Heavy Equipment Operator - ELECTRICAL LINE CONSTRUCTION ONLY	33.35	14.21	47.56
Light Equipment Operator - ELECTRICAL LINE CONSTRUCTION ONLY	35.50	15.09	50.59
Heavy Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY	25.94	13.57	39.51
Light Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY	24.08	12.96	37.04
Groundman - ELECTRICAL LINE CONSTRUCTION ONLY	21.75	11.90	33.65

<u>TRADE OR OCCUPATION</u>	<u>HOURLY BASIC RATE OF PAY</u>	<u>HOURLY FRINGE BENEFITS</u>	<u>TOTAL</u>
	\$	\$	\$
<b>TRUCK DRIVERS</b>			
Single Axle or Two Axle	33.22	18.90	52.12
Three or More Axle	23.31	17.13	40.44
Future Increase(s): Add \$1.85/hr on 6/1/2013. Premium Pay: DOT PREMIUM: Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day.			
Articulated, Euclid, Dumptor, Off Road Material Hauler	27.77	19.90	47.67
Future Increase(s): Add \$2/hr on 6/1/13; Add \$1.75/hr on 6/1/14. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add \$1.25/hr night work premium. See DOT's website for details about the applicability of this night work premium at: <a href="http://roadwaystandards.dot.wi.gov/hcci/labor-wages-eeo/index.shtm">http://roadwaystandards.dot.wi.gov/hcci/labor-wages-eeo/index.shtm</a> .			
Pavement Marking Vehicle	23.99	14.70	38.69
Shadow or Pilot Vehicle	33.22	18.90	52.12
Truck Mechanic	22.50	16.19	38.69
<b>LABORERS</b>			
General Laborer	28.07	13.90	41.97
Future Increase(s): Add \$1.70/hr on 6/1/2013; 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	30.06	0.00	30.06
Landscaper	28.07	13.90	41.97
Future Increase(s): Add \$1.70/hr on 6/1/13; Add \$1.60/hr on 6/1/14. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add \$1.25/hr for work on projects involving temporary traffic control setup, for lane and shoulder closures, when work under artificial illumination conditions is necessary as required by the project provisions (including prep time prior to and/or cleanup after such time period).			
Flagperson or Traffic Control Person	24.70	13.90	38.60
Future Increase(s): Add \$1.70/hr on 6/1/2013; Add \$1.60/hr on 6/1/2014. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add \$1.25/hr when the Wisconsin Department of Transportation or responsible governing agency requires that work be performed at night under artificial illumination with traffic control and the work is completed after sunset and before sunrise.			
Fiber Optic Laborer (Outside, Other Than Concrete Encased)	17.81	12.22	30.03
Railroad Track Laborer	23.41	15.14	38.55

<u>TRADE OR OCCUPATION</u>	<u>HOURLY BASIC RATE OF PAY</u>	<u>HOURLY FRINGE BENEFITS</u>	<u>TOTAL</u>
	\$	\$	\$
<b>HEAVY EQUIPMENT OPERATORS</b>			
Crane, Tower Crane, Pedestal Tower or Derrick, With Boom, Leads &/or Jib Lengths Measuring 176 Ft or Over; Crane, Tower Crane, Pedestal Tower or Derrick, With or Without Attachments, With a Lifting Capacity of Over 100 Tons, Self-Erecting Tower Crane With a Lifting Capacity Of Over 4,000 Lbs., Crane With Boom Dollies; Traveling Crane (Bridge Type). Future Increase(s): Add \$2/hr on 6/1/13; Add \$1.75/hr on 6/1/14. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add \$1.25/hr night work premium. See DOT's website for details about the applicability of this night work premium at: <a href="http://roadwaystandards.dot.wi.gov/hcci/labor-wages-eeo/index.shtm">http://roadwaystandards.dot.wi.gov/hcci/labor-wages-eeo/index.shtm</a> .	35.22	19.90	55.12
Backhoe (Track Type) Having a Mfr.'s Rated Capacity of 130,000 Lbs. or Over; Caisson Rig; Crane, Tower Crane, Portable Tower, Pedestal Tower or Derrick, With Boom, Leads &/or Jib Lengths Measuring 175 Ft or Under; Crane, Tower Crane, Portable Tower, Pedestal Tower or Derrick, With or Without Attachments, With a Lifting Capacity of 100 Tons or Under, Self-Erecting Tower Crane With A Lifting Capacity Of 4,000 Lbs., & Under; Dredge (NOT Performing Work on the Great Lakes); Licensed Boat Pilot (NOT Performing Work on the Great Lakes); Pile Driver. Future Increase(s): Add \$2/hr on 6/1/13; Add \$1.75/hr on 6/1/14. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add \$1.25/hr night work premium. See DOT's website for details about the applicability of this night work premium at: <a href="http://roadwaystandards.dot.wi.gov/hcci/labor-wages-eeo/index.shtm">http://roadwaystandards.dot.wi.gov/hcci/labor-wages-eeo/index.shtm</a> .	34.72	19.90	54.62
Air Track, Rotary or Percussion Drilling Machine &/or Hammers, Blaster; Asphalt Heater, Planer & Scarifier; Asphalt Milling Machine; Asphalt Screed; Automatic Subgrader (Concrete); Backhoe (Track Type) Having a Mfr.'s Rated Capacity of Under 130,000 Lbs., Backhoe (Mini, 15,000 Lbs. & Under); Bituminous (Asphalt) Plant & Paver, Screed; Boatmen (NOT Performing Work on the Great Lakes); Boring Machine (Directional, Horizontal or Vertical); Bridge (Bidwell) Paver; Bulldozer or Endloader; Concrete Batch Plant, Batch Hopper; Concrete Breaker (Large, Auto, Vibratory/Sonic, Manual or Remote); Concrete Bump Cutter, Grinder, Planing or Grooving Machine; Concrete Conveyor System; Concrete Laser/Screed; Concrete Paver (Slipform); Concrete Pump, Concrete Conveyor (Rotec or Bidwell Type); Concrete Slipform Placer Curb & Gutter Machine; Concrete Spreader & Distributor; Crane (Carry Deck, Mini) or Truck Mounted Hydraulic Crane (10 Tons or Under); Crane With a Lifting Capacity of 25 Tons or Under; Forestry Equipment, Timbco, Tree Shear, Tub Grinder, Processor; Gradall (Cruz-Aire Type); Grader or Motor Patrol; Grout Pump; Hydro-Blaster (10,000 PSI or Over); Loading Machine (Conveyor); Material or Stack Hoist; Mechanic or Welder; Milling Machine; Post Hole Digger or Driver; Roller (Over 5 Ton); Scraper (Self Propelled or Tractor Drawn) 5 cu yds or More Capacity; Shoulder Widener; Sideboom; Skid Rig; Stabilizing or Concrete Mixer (Self-Propelled or 14S or Over); Straddle Carrier or Travel Lift; Tractor (Scraper, Dozer, Pusher, Loader); Tractor or Truck Mounted Hydraulic Backhoe; Trencher (Wheel Type or Chain Type); Tube Finisher; Tugger (NOT Performing Work on the Great Lakes); Winches & A- Frames. Future Increase(s): Add \$2/hr on 6/1/13; Add \$1.75/hr on 6/1/14.	34.22	19.90	54.12

<b><u>TRADE OR OCCUPATION</u></b>	<b><u>HOURLY BASIC RATE OF PAY</u></b>	<b><u>HOURLY FRINGE BENEFITS</u></b>	<b><u>TOTAL</u></b>
	<b><u>\$</u></b>	<b><u>\$</u></b>	<b><u>\$</u></b>
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 night work premium. See DOT's website for details about the applicability of this night work premium at: <a href="http://roadwaystandards.dot.wi.gov/hcci/labor-wages-eeo/index.shtm">http://roadwaystandards.dot.wi.gov/hcci/labor-wages-eeo/index.shtm</a> .			
Belting, Burlap, Texturing Machine; Broom or Sweeper; Compactor (Self-Propelled or Tractor Mounted, Towed & Light Equipment); Concrete Finishing Machine (Road Type); Environmental Burner; Farm or Industrial Type Tractor; Fireman (Asphalt Plant, Pile Driver & Derrick NOT Performing Work on the Great Lakes); Forklift; Greaser; Hoist (Tugger, Automatic); Jeep Digger; Joint Sawyer (Multiple Blade); Launch (NOT Performing Work on the Great Lakes); Lift Slab Machine; Mechanical Float; Mulcher; Power Subgrader; Robotic Tool Carrier (With or Without Attachments); Roller (Rubber Tire, 5 Ton or Under); Self Propelled Chip Spreader; Shouldering Machine; Skid Steer Loader (With or Without Attachments); Telehandler; Tining or Curing Machine.	33.96	19.90	53.86
Future Increase(s): Add \$2/hr on 6/1/13; Add \$1.75/hr on 6/1/14. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add \$1.25/hr night work premium. See DOT's website for details about the applicability of this night work premium at: <a href="http://roadwaystandards.dot.wi.gov/hcci/labor-wages-eeo/index.shtm">http://roadwaystandards.dot.wi.gov/hcci/labor-wages-eeo/index.shtm</a> .			
Air Compressor (&/or 400 CFM or Over); Air, Electric or Hydraulic Jacking System; Augers (Vertical & Horizontal); Automatic Belt Conveyor & Surge Bin; Boiler (Temporary Heat); Concrete Proportioning Plant; Crusher, Screening or Wash Plant; Generator (&/or 150 KW or Over); Heaters (Mechanical); High Pressure Utility Locating Machine (Daylighting Machine); Mudjack; Oilier; Prestress Machine; Pug Mill; Pump (3 Inch or Over) or Well Points; Rock, Stone Breaker; Screed (Milling Machine); Stump Chipper; Tank Car Heaters; Vibratory Hammer or Extractor, Power Pack.	33.67	19.90	53.57
Future Increase(s): Add \$2/hr on 6/1/13; Add \$1.75/hr on 6/1/14. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add \$1.25/hr night work premium. See DOT's website for details about the applicability of this night work premium at: <a href="http://roadwaystandards.dot.wi.gov/hcci/labor-wages-eeo/index.shtm">http://roadwaystandards.dot.wi.gov/hcci/labor-wages-eeo/index.shtm</a> .			
Fiber Optic Cable Equipment.	25.74	15.85	41.59
Work Performed on the Great Lakes Including Diver; Wet Tender or Hydraulic Dredge Engineer.	37.45	19.45	56.90
Work Performed on the Great Lakes Including 70 Ton & Over Tug Operator; Assistant Hydraulic Dredge Engineer; Crane or Backhoe Operator; Hydraulic Dredge Leverman or Diver's Tender; Mechanic or Welder.	37.45	19.45	56.90
Work Performed on the Great Lakes Including Deck Equipment Operator or Machineryman (Maintains Cranes Over 50 Tons or Backhoes 115,000 Lbs. or More); Tug, Launch or Loader, Dozer or Like Equipment When Operated on a Barge, Breakwater Wall, Slip, Dock or Scow, Deck Machinery.	27.75	19.15	46.90
Work Performed on the Great Lakes Including Deck Equipment Operator, Machineryman or Fireman (Operates 4 Units or More or Maintains Cranes 50 Tons or Under or Backhoes 115,000 Lbs. or Under); Deck Hand, Deck Engineer or Assistant Tug Operator; Off Road Trucks-Great Lakes ONLY.	27.75	19.15	46.90

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

STATE: Wisconsin

GENERAL DECISION NUMBER: WI130010

DESCRIPTION OF WORK: Highways and Airport Runway and Taxiway Construction

DATE: June 7, 2013

LABORERS CLASSIFICATION:		Basic Hourly Rates	Fringe Benefits			Basic Hourly Rates	Fringe Benefits
				<u>Truck Drivers:</u>			
Group 1:	General Laborer; Tree Trimmer; Conduit Layer; Demolition and Wrecking Laborer; Guard Rail, Fence and Bridge Builder; Landscaper, Multiplate Culvert Assembler; Stone Handler; Bituminous Worker (Shoveler, Loader, Utility Man); Batch Truck Dumper; or Cement Handler; Bituminous Worker; (Dumper, Ironer, Smoother, Tamper); Concrete Handler .....	\$26.92 .....	13.45	1 & 2 Axles .....	23.16 .....	17.13	
Group 2:	Air Tool Operator; Joint Sawyer and Filler (Pavement); Vibrator or Tamper Operator (Mechanical Hand Operated); .....	27.02 .....	13.45	Three or More Axles; Euclids, Dumptor & Articulated, Truck Mechanic.....	23.31 .....	17.13	
Group 3:	Bituminous Worker (Raker and Luteman); Formsetter (Curb, Sidewalk, and Pavement); Strike Off man.....	27.07 .....	13.45				
Group 4:	Line and Grade Specialist .....	27.27 .....	13.45				
Group 5:	Blaster and Powderman .....	27.12 .....	13.45				
Group 6:	Flagperson; Traffic Control.....	23.55 .....	13.45				

Notes: Welders receive rate prescribed for craft performing operation to which welding is incidental. Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29 CFR, 5.5(a)(1)(ii)). Includes Modification #0, dated January 4, 2013; Modification #1 dated February 1, 2013; Modification #2 dated June 7, 2013.

CLASSES OF LABORER AND MECHANICS

Bricklayer .....	30.77 .....	16.62
Carpenter .....	30.48 .....	15.80
Millwright .....	32.11 .....	15.80
Piledriverman .....	30.98 .....	15.80
Ironworker .....	28.23 .....	22.72
Cement Mason/Concrete Finisher .....	31.52 .....	16.30
Electrician .....	See Page 3	
Line Construction		
Lineman.....	38.25 .....	18.00
Heavy Equipment Operator .....	34.43 .....	16.71
Equipment Operator.....	30.60 .....	15.41
Heavy Groundman Driver.....	26.78 .....	14.11
Light Groundman Driver .....	24.86 .....	13.45
Groundsman.....	21.04 .....	12.16
Painters .....	23.37 .....	11.52
Well Drilling:		
Well Driller.....	16.52 .....	3.70

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

STATE: Wisconsin

GENERAL DECISION NUMBER: WI130010

DESCRIPTION OF WORK: Highways and Airport Runway and Taxiway Construction

DATE: June 7, 2013

<u>POWER EQUIPMENT OPERATORS CLASSIFICATION:</u>	<u>Basic Hourly Rates</u>	<u>Fringe Benefits</u>	<u>POWER EQUIPMENT OPERATORS CLASSIFICATION: (Continued)</u>	<u>Basic Hourly Rates</u>	<u>Fringe Benefits</u>
Group 1: Cranes, tower cranes and derricks, with or without attachments, with a lifting capacity of over 100 tons or cranes, tower cranes and derricks with boom, leads and/or jib lengths measuring 176 feet or longer .....	\$36.72	\$20.05	(scraper, dozer, pusher, loader); scraper - rubber tired (single or twin engine); endloader hydraulic backhoe (tractor-type); trenching machine; skid rigs; tractor, side boom (heavy); drilling or boring machine (mechanical heavy); roller (over 5 tons); percussion or rotary drilling machine; air track; blaster; loading machine (conveyor); tugger; boatmen; winches and A-frames; post driver; material hoist operator. ....	\$35.72	\$20.05
Group 2: Cranes, tower cranes and derricks, with or without attachments, with a lifting capacity of 100 tons or less or cranes, tower cranes and derricks with boom, leads and/or jib lengths measuring 175 feet or less, and backhoes (excavators) having a manufacturer's rated capacity of 3 cu. yds. and over, caisson rigs, pile driver, dredge operator, dredge engineer. ....	\$36.22	\$20.05	Group 4: Greaser, roller steel (5 tons or less); roller (pneumatic tired) - self-propelled; tractor (mounted or towed compactors and light equipment); shouldering machine; self-propelled chip spreader; concrete spreader; finishing machine; mechanical float; curing machine; power subgrader; joint saw (multiple blade) belting machine; burlap machine; texturing machine; tractor, endloader (rubber tired) - light; jeep digger; fork lift; mulcher; launch operator; fireman; environmental burner. ....	\$35.46	\$20.05
Group 3: Mechanic or welder - heavy duty equipment, cranes with a lifting capacity of 25 tons or less, concrete breaker (manual or remote); vibrator/sonic concrete breaker; concrete laser screed; concrete slipform paver; concrete batch plant operator; concrete pavement spreader - heavy duty (rubber tired); concrete spreader and distributor, automatic subgrader (concrete); concrete grinder and planing machine; concrete slipform curb and gutter machine; slipform concrete placer; tube finisher; hydro blaster (10,000 psi and over); bridge paver; concrete conveyor system; concrete pump; stabilizing mixer (self propelled); shoulder widener; asphalt plant engineer; bituminous paver; bump cutter and grooving machine; milling machine; screed (bituminous paver); asphalt heater, planer and scarifier; backhoes (excavators) having a manufacturers rated capacity of under 3 cu. yds.; grader or motor patrol; tractor			Group 5: Air compressor; power pack; vibratory hammer and extractor; heavy equipment, leadman; tank car heaters; stump chipper; curb machine operator; concrete proportioning plants generators; mudjack operator; rock breaker; crusher or screening plant; screed (milling machine); automatic belt conveyor and surge bin; pug mill operator; oiler; pump (over 3 inches); drilling machine helper. ....	\$35.17	\$20.05
			Group 6: Off - road material hauler with or without ejector.....	\$29.27	\$20.05
			Premium Pay: EPA Level "A" protection - \$3.00 per hour EPA Level "B" protection - \$2.00 per hour EPA Level "C" protection - \$1.00 per hours		

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

STATE: Wisconsin

GENERAL DECISION NUMBER: WI130010

DESCRIPTION OF WORK: Highways and Airport Runway and Taxiway Construction

DATE: June 7, 2013

LABORERS CLASSIFICATION:

Rates

Benefits

			Area 4 -	BROWN, DOOR, KEWAUNEE, MANITOWOC (except Schleswig), MARINETTE (Wausauke and area south thereof), OCONTO, MENOMINEE (East of a line 6 miles West of the West boundary of Oconto County), SHAWANO (except area North of Townships of Aniwa and Hutchins) COUNTIES.
Electricians				
Area 1 .....	\$27.80	16.52		
Area 2:				
Electricians.....	29.13	17.92	Area 5 -	ADAMS, CLARK (Colby, Freemont, Lynn, Mayville, Sherman, Sherwood, Unity), FOREST, JUNEAU, LANGLADE, LINCOLN, MARATHON, MARINETTE (Area North of the town of Wausauke), MENOMINEE (Area West of a line 6 miles West of the West boundary of Oconto County), ONEIDA, PORTAGE, SHAWANO (Area North of the townships of Aniwa and Hutchins), VILAS AND WOOD COUNTIES
Area 3:				
Electrical contracts under \$130,000 .....	26.24	16.85		
Electrical contracts over \$130,000 .....	29.41	16.97		
Area 4: .....	28.10	17.24	Area 6 -	KENOSHA COUNTY
Area 5 .....	28.61	16.60		
Area 6 .....	35.25	19.30	Area 8 -	DODGE, (Emmet Township only), GREEN, JEFFERSON, LAFAYETTE, RACINE (Burlington township), ROCK and WALWORTH COUNTIES
Area 8				
Electricians.....	30.00	17.76	Area 9 -	COLUMBIA, DANE, DODGE, (area west of Hwy. 26, except Chester & Emmet Townships), GREEN LAKE (except townships of Berlin, Seneca and St. Marie), IOWA, MARQUETTE (except townships of Neshkoka, Crystal Lake, Newton and Springfield), and SAUK COUNTIES
Area 9:				
Electricians.....	32.94	18.71	Area 10 -	CALUMET (Township of New Holstein), DODGE (East of Hwy. 26 including Chester Township), FOND DU LAC, MANITOWOC (Schleswig), and SHEBOYGAN COUNTIES
Area 10 .....	28.97	19.55	Area 11 -	DOUGLAS COUNTY
Area 11 .....	31.91	23.60	Area 12 -	RACINE (except Burlington township) COUNTY
Area 12 .....	32.87	19.23	Area 13 -	MILWAUKEE, OZAUKEE, WASHINGTON and WAUKESHA COUNTIES
Area 13 .....	32.20	21.64	Area 14 -	Statewide.
Teledata System Installer			Area 15 -	DODGE (East of Hwy 26 including Chester Twp, excluding Emmet Twp), FOND DU LAC (Except Waupun), MILWAUKEE, OZAUKEE, MANITOWOC (Schleswig), WASHINGTON, AND WAUKESHA COUNTIES.
Area 14				
Installer/Technician .....	21.89	11.83		
Sound & Communications				
Area 15				
Installer .....	16.47	14.84		
Technician .....	24.75	16.04		
Area 1 -	CALUMET (except township of New Holstein), GREEN LAKE (N. part, including Townships of Berlin, St. Marie and Seneca), MARQUETTE (N. part, including Townships of Crystal Lake, Neshkoro, Newton & Springfield), OUTAGAMIE, WAUPACA, WAUSHARA and WINNEBAGO COUNTIES.			
Area 2 -	ASHLAND, BARRON, BAYFIELD, BUFFALO, BURNETT, CHIPPEWA, CLARK (except Mayville, Colby, Unity, Sherman, Fremont, Lynn and Sherwood), CRAWFORD, DUNN, EAU CLAIRE, GRANT, IRON, JACKSON, LA CROSSE, MONROE, PEPIN, PIERCE, POLK, PRICE, RICHLAND, RUSK, ST. CROIX, SAWYER, TAYLOR, TREMPLEAU, VERNON and WASHBURN COUNTIES			
Area 3 -	FLORENCE (townships of Aurora, Commonwealth, Fern, Florence and Homestead), MARINETTE (Niagara township)			



**FEBRUARY 1999**

**NOTICE TO BIDDERS  
WAGE RATE DECISION**

The wage rate decision of the Secretary of Labor which has been incorporated in these advertised specifications is incomplete in that the classifications may be omitted from the Secretary of Labor's decision.

Since the bidder is responsible, independently, for ascertaining area practice with respect to the necessity, or lack of necessity, for the use of these classifications in the prosecution of the work contemplated by this project, no inference may be drawn from the omission of these classifications concerning prevailing area practices relative to their use. Further, this omission will not, per se, be construed as establishing any governmental liability for increased labor cost if it is subsequently determined that such classifications are required.

There may be omissions and/or errors in the federal wage rates. The bidder is responsible for evaluating and determining the correct applicable rate. The higher of state or federal rate will apply.



## SCHEDULE OF ITEMS

REVISED:

CONTRACT:  
20130813013PROJECT(S):  
1133-11-74FEDERAL ID(S):  
WISC 2013382

CONTRACTOR : \_\_\_\_\_

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS

## SECTION 0001 CONTRACT ITEMS

0010	201.0115 CLEARING	10.000	ACRE	.	.	.
0020	201.0120 CLEARING	1,250.000	ID	.	.	.
0030	201.0215 GRUBBING	8.300	ACRE	.	.	.
0040	201.0220 GRUBBING	1,250.000	ID	.	.	.
0050	203.0100 REMOVING SMALL PIPE CULVERTS	8.000	EACH	.	.	.
0060	204.0100 REMOVING PAVEMENT **P**	11,550.000	SY	.	.	.
0070	204.0110 REMOVING ASPHALTIC SURFACE **P**	200.000	SY	.	.	.
0080	204.0115 REMOVING ASPHALTIC SURFACE BUTT JOINTS **P**	25.000	SY	.	.	.
0090	204.0120 REMOVING ASPHALTIC SURFACE MILLING **P**	1,350.000	SY	.	.	.
0100	204.0150 REMOVING CURB & GUTTER **P**	1,300.000	LF	.	.	.

## SCHEDULE OF ITEMS

REVISED:

CONTRACT:  
20130813013PROJECT(S):  
1133-11-74FEDERAL ID(S):  
WISC 2013382

CONTRACTOR : \_\_\_\_\_

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0110	204.0155 REMOVING CONCRETE SIDEWALK ***	650.000 SY	.		.	
0120	204.0170 REMOVING FENCE ***	13,115.000 LF	.		.	
0130	204.0180 REMOVING DELINEATORS AND MARKERS	70.000 EACH	.		.	
0140	204.0190 REMOVING SURFACE DRAINS	1.000 EACH	.		.	
0150	204.0195 REMOVING CONCRETE BASES	9.000 EACH	.		.	
0160	204.0215 REMOVING CATCH BASINS	1.000 EACH	.		.	
0170	204.0220 REMOVING INLETS	4.000 EACH	.		.	
0180	204.0245 REMOVING STORM SEWER (SIZE) 01. 12-INCH ***	455.000 LF	.		.	
0190	204.0245 REMOVING STORM SEWER (SIZE) 02. 18-INCH ***	720.000 LF	.		.	
0200	204.0260 ABANDONING INLETS ***	7.000 EACH	.		.	
0210	204.0270 ABANDONING CULVERT PIPES	3.000 EACH	.		.	

## SCHEDULE OF ITEMS

REVISED:

CONTRACT:  
20130813013PROJECT(S):  
1133-11-74FEDERAL ID(S):  
WISC 2013382

CONTRACTOR : \_\_\_\_\_

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0220	205.0100 EXCAVATION COMMON	57,135.000 CY	.		.	
0230	205.0400 EXCAVATION MARSH	103,203.000 CY	.		.	
0240	206.1000 EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 01. B-5-671	LUMP	LUMP		.	
0250	206.1000 EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 02. B-5-677	LUMP	LUMP		.	
0260	206.1000 EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 03. B-5-678	LUMP	LUMP		.	
0270	206.1000 EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 04. B-5-679	LUMP	LUMP		.	
0280	206.1000 EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 05. B-5-681	LUMP	LUMP		.	
0290	206.5000 COFFERDAMS (STRUCTURE) 01. B-05-681	LUMP	LUMP		.	
0300	206.6000.S TEMPORARY SHORING	12,480.000 SF	.		.	
0310	209.0100 BACKFILL GRANULAR	93.000 CY	.		.	

## SCHEDULE OF ITEMS

REVISED:

CONTRACT:  
20130813013PROJECT(S):  
1133-11-74FEDERAL ID(S):  
WISC 2013382

CONTRACTOR : \_\_\_\_\_

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0320	210.0100 BACKFILL STRUCTURE **P**	11,872.000 CY	.		.	
0330	213.0100 FINISHING ROADWAY (PROJECT) 01. 1133-11-74	1.000 EACH	.		.	
0340	305.0110 BASE AGGREGATE DENSE 3/4-INCH	1,760.000 TON	.		.	
0350	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH	24,140.000 TON	.		.	
0360	311.0110 BREAKER RUN	34,810.000 TON	.		.	
0370	312.0110 SELECT CRUSHED MATERIAL	115.000 TON	.		.	
0380	416.0610 DRILLED TIE BARS	146.000 EACH	.		.	
0390	416.1010 CONCRETE SURFACE DRAINS **P**	3.000 CY	.		.	
0400	455.0105 ASPHALTIC MATERIAL PG58-28	429.000 TON	.		.	
0410	455.0605 TACK COAT	290.000 GAL	.		.	
0420	460.1101 HMA PAVEMENT TYPE E-1	780.000 TON	.		.	

## SCHEDULE OF ITEMS

REVISED:

CONTRACT:  
20130813013PROJECT(S):  
1133-11-74FEDERAL ID(S):  
WISC 2013382

CONTRACTOR : \_\_\_\_\_

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS   CTS	BID AMOUNT DOLLARS   CTS
0430	460.1110 HMA PAVEMENT TYPE E-10	6,790.000 TON	.	.
0440	460.2000 INCENTIVE DENSITY HMA PAVEMENT	4,420.000 DOL	1.000000	4420.00
0450	465.0315 ASPHALTIC FLUMES **P**	151.000 SY	.	.
0460	465.0400 ASPHALTIC SHOULDER RUMBLE STRIP **P**	7,540.000 LF	.	.
0470	502.3100 EXPANSION DEVICE (STRUCTURE) 01. B-5-678 **P**	LUMP	LUMP	.
0480	502.3100 EXPANSION DEVICE (STRUCTURE) 02. B-5-681 **P**	LUMP	LUMP	.
0490	502.3110.S EXPANSION DEVICE MODULAR (STRUCTURE) 09. B-5-671	LUMP	LUMP	.
0500	502.3110.S EXPANSION DEVICE MODULAR (STRUCTURE) 10. B-5-678	LUMP	LUMP	.
0510	502.3110.S EXPANSION DEVICE MODULAR (STRUCTURE) 11. B-5-679	LUMP	LUMP	.
0520	502.3110.S EXPANSION DEVICE MODULAR (STRUCTURE) 12. B-5-681	LUMP	LUMP	.

## SCHEDULE OF ITEMS

REVISED:

CONTRACT:  
20130813013PROJECT(S):  
1133-11-74FEDERAL ID(S):  
WISC 2013382

CONTRACTOR : \_\_\_\_\_

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0530	502.3200 PROTECTIVE SURFACE TREATMENT ***P**	65,808.000 SY	.		.	
0540	503.0172 PRESTRESSED GIRDER TYPE I 72W-INCH ***P**	8,531.000 LF	.		.	
0550	504.0500 CONCRETE MASONRY RETAINING WALLS ***P**	1,059.000 CY	.		.	
0560	505.0405 BAR STEEL REINFORCEMENT HS BRIDGES	538,141.000 LB	.		.	
0570	505.0605 BAR STEEL REINFORCEMENT HS COATED BRIDGES	7,304,577 LB	.		.	
0580	505.0615 BAR STEEL REINFORCEMENT HS COATED RETAINING WALLS	117,820.000 LB	.		.	
0590	506.0105 STRUCTURAL STEEL CARBON	363.000 LB	.		.	
0600	506.2605 BEARING PADS ELASTOMERIC NON-LAMINATED ***P**	52.000 EACH	.		.	
0610	506.3025 WELDED STUD SHEAR CONNECTORS 7/8X8-INCH ***P**	154,398.000 EACH	.		.	
0620	506.4000 STEEL DIAPHRAGMS (STRUCTURE) 01. B-5-678 ***P**	20.000 EACH	.		.	
0630	506.4000 STEEL DIAPHRAGMS (STRUCTURE) 02. B-5-677 ***P**	28.000 EACH	.		.	



## SCHEDULE OF ITEMS

REVISED:

CONTRACT:  
20130813013PROJECT(S):  
1133-11-74FEDERAL ID(S):  
WISC 2013382

CONTRACTOR : \_\_\_\_\_

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0640	506.6000 BEARING ASSEMBLIES EXPANSION (STRUCTURE) 01. B-5-678 **P**	80.000 EACH	.		.	
0650	514.0445 FLOOR DRAINS TYPE GC	38.000 EACH	.		.	
0660	514.0460 FLOOR DRAINS TYPE H	12.000 EACH	.		.	
0670	516.0500 RUBBERIZED MEMBRANE WATERPROOFING **P**	275.000 SY	.		.	
0680	520.7000 CLEANING CULVERT PIPES	4.000 EACH	.		.	
0690	520.8000 CONCRETE COLLARS FOR PIPE	6.000 EACH	.		.	
0700	521.0118 CULVERT PIPE CORRUGATED STEEL 18-INCH	27.000 LF	.		.	
0710	521.1018 APRON ENDWALLS FOR CULVERT PIPE STEEL 18-INCH	2.000 EACH	.		.	
0720	521.1618 APRON ENDWALLS FOR CULVERT PIPE SLOPED SIDE DRAINS STEEL 18-INCH 10 TO 1	3.000 EACH	.		.	
0730	521.2005.S SURFACE DRAIN PIPE CORRUGATED METAL SLOTTED (INCH) 001. 18-INCH	720.000 LF	.		.	

## SCHEDULE OF ITEMS

REVISED:

CONTRACT:  
20130813013PROJECT(S):  
1133-11-74FEDERAL ID(S):  
WISC 2013382

CONTRACTOR : \_\_\_\_\_

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0740	522.0118 CULVERT PIPE REINFORCED CONCRETE CLASS III 18-INCH	798.000 LF	.		.	
0750	522.0124 CULVERT PIPE REINFORCED CONCRETE CLASS III 24-INCH	104.000 LF	.		.	
0760	522.1012 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 12-INCH	1.000 EACH	.		.	
0770	522.1018 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 18-INCH	36.000 EACH	.		.	
0780	522.1024 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 24-INCH	10.000 EACH	.		.	
0790	523.0419 CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-IV 19X30-INCH	136.000 LF	.		.	
0800	523.0514 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL 14X23-INCH	1.000 EACH	.		.	
0810	523.0519 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL 19X30-INCH	4.000 EACH	.		.	
0820	532.0700.S WALL WIRE FACED MECHANICALLY STABILIZED EARTH	20,098.000 SF	.		.	

## SCHEDULE OF ITEMS

REVISED:

CONTRACT:  
20130813013PROJECT(S):  
1133-11-74FEDERAL ID(S):  
WISC 2013382

CONTRACTOR : \_\_\_\_\_

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0830	550.0500 PILE POINTS	77.000				
	EACH		.		.	
0840	550.1120 PILING STEEL HP 12-INCH X 53 LB	9,775.000				
	LF		.		.	
0850	550.1140 PILING STEEL HP 14-INCH X 73 LB	113,292.000				
	LF		.		.	
0860	601.0409 CONCRETE CURB & GUTTER 30-INCH TYPE A **P**	438.000				
	LF		.		.	
0870	601.0411 CONCRETE CURB & GUTTER 30-INCH TYPE D **P**	1,050.000				
	LF		.		.	
0880	602.0410 CONCRETE SIDEWALK 5-INCH **P**	1,405.000				
	SF		.		.	
0890	602.0515 CURB RAMP DETECTABLE WARNING FIELD NATURAL PATINA	16.000				
	SF		.		.	
0900	603.8000 CONCRETE BARRIER TEMPORARY PRECAST DELIVERED	25,188.000				
	LF		.		.	
0910	603.8125 CONCRETE BARRIER TEMPORARY PRECAST INSTALLED	28,950.000				
	LF		.		.	
0920	604.0400 SLOPE PAVING CONCRETE **P**	34.000				
	SY		.		.	
0930	604.0600 SLOPE PAVING SELECT CRUSHED MATERIAL **P**	2,868.000				
	SY		.		.	

## SCHEDULE OF ITEMS

REVISED:

CONTRACT:  
20130813013PROJECT(S):  
1133-11-74FEDERAL ID(S):  
WISC 2013382

CONTRACTOR : \_\_\_\_\_

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0940	606.0100 RIPRAP LIGHT	590.000				
		CY	.		.	
0950	606.0200 RIPRAP MEDIUM	15.000				
		CY	.		.	
0960	606.0300 RIPRAP HEAVY	459.000				
		CY	.		.	
0970	608.0312 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 12-INCH	56.000				
		LF	.		.	
0980	608.0318 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 18-INCH	1,038.000				
		LF	.		.	
0990	608.0324 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 24-INCH	162.000				
		LF	.		.	
1000	608.0336 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 36-INCH	16.000				
		LF	.		.	
1010	608.0418 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 18-INCH	221.000				
		LF	.		.	
1020	610.0114 STORM SEWER PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-III 14X23-INCH	142.000				
		LF	.		.	
1030	611.0530 MANHOLE COVERS TYPE J	1.000				
		EACH	.		.	

## SCHEDULE OF ITEMS

REVISED:

CONTRACT:  
20130813013PROJECT(S):  
1133-11-74FEDERAL ID(S):  
WISC 2013382

CONTRACTOR : \_\_\_\_\_

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
1040	611.0606 INLET COVERS TYPE B	2.000 EACH	.		.	
1050	611.0612 INLET COVERS TYPE C	2.000 EACH	.		.	
1060	611.0624 INLET COVERS TYPE H	5.000 EACH	.		.	
1070	611.0642 INLET COVERS TYPE MS	4.000 EACH	.		.	
1080	611.2005 MANHOLES 5-FT DIAMETER	1.000 EACH	.		.	
1090	611.2055 MANHOLES 5X5-FT	1.000 EACH	.		.	
1100	611.3004 INLETS 4-FT DIAMETER	5.000 EACH	.		.	
1110	611.3230 INLETS 2X3-FT	3.000 EACH	.		.	
1120	611.3901 INLETS MEDIAN 1 GRATE	4.000 EACH	.		.	
1130	611.8110 ADJUSTING MANHOLE COVERS	1.000 EACH	.		.	
1140	612.0206 PIPE UNDERDRAIN UNPERFORATED 6-INCH	259.000 LF	.		.	

## SCHEDULE OF ITEMS

REVISED:

CONTRACT:  
20130813013PROJECT(S):  
1133-11-74FEDERAL ID(S):  
WISC 2013382

CONTRACTOR : \_\_\_\_\_

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
1150	612.0406 PIPE UNDERDRAIN WRAPPED 6-INCH	4,962.000 LF	.		.	
1160	614.0150 ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	4.000 EACH	.		.	
1170	614.0305 STEEL PLATE BEAM GUARD CLASS A **P**	318.500 LF	.		.	
1180	614.0370 STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL	2.000 EACH	.		.	
1190	614.0905 CRASH CUSHIONS TEMPORARY	11.000 EACH	.		.	
1200	614.0920 SALVAGED RAIL	3,257.000 LF	.		.	
1210	614.0925 SALVAGED GUARDRAIL END TREATMENTS	7.000 EACH	.		.	
1220	614.1000 MGS GUARDRAIL TEMPORARY	225.000 LF	.		.	
1230	614.1100 MGS GUARDRAIL TEMPORARY THRIE BEAM TRANSITION	39.500 LF	.		.	
1240	614.1200 MGS GUARDRAIL TEMPORARY TRANSITION EAT	1.000 EACH	.		.	
1250	614.2300 MGS GUARDRAIL 3	3,390.000 LF	.		.	

## SCHEDULE OF ITEMS

REVISED:

CONTRACT:  
20130813013PROJECT(S):  
1133-11-74FEDERAL ID(S):  
WISC 2013382

CONTRACTOR : \_\_\_\_\_

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
1260	614.2320 MGS GUARDRAIL 3 QS	110.000 LF	.		.	
1270	614.2330 MGS GUARDRAIL 3 K	312.500 LF	.		.	
1280	614.2500 MGS THRIE BEAM TRANSITION	395.000 LF	.		.	
1290	614.2610 MGS GUARDRAIL TERMINAL EAT	5.000 EACH	.		.	
1300	614.2620 MGS GUARDRAIL TERMINAL TYPE 2	4.000 EACH	.		.	
1310	616.0100 FENCE WOVEN WIRE (HEIGHT) 01. 4-FT	3,665.000 LF	.		.	
1320	616.0700.S FENCE SAFETY	1,000.000 LF	.		.	
1330	618.0100 MAINTENANCE AND REPAIR OF HAUL ROADS (PROJECT) 01. 1133-11-74	1.000 EACH	.		.	
1340	619.1000 MOBILIZATION	1.000 EACH	.		.	
1350	620.0300 CONCRETE MEDIAN SLOPED NOSE **P**	210.000 SF	.		.	
1360	621.0100 LANDMARK REFERENCE MONUMENTS	19.000 EACH	.		.	

## SCHEDULE OF ITEMS

REVISED:

CONTRACT:  
20130813013PROJECT(S):  
1133-11-74FEDERAL ID(S):  
WISC 2013382

CONTRACTOR : \_\_\_\_\_

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
1370	623.0200 DUST CONTROL SURFACE TREATMENT	5,000.000 SY	.		.	
1380	624.0100 WATER	1,080.000 MGAL	.		.	
1390	625.0500 SALVAGED TOPSOIL	110,000.000 SY	.		.	
1400	627.0200 MULCHING	103,000.000 SY	.		.	
1410	628.1104 EROSION BALES	290.000 EACH	.		.	
1420	628.1504 SILT FENCE	28,500.000 LF	.		.	
1430	628.1520 SILT FENCE MAINTENANCE	28,500.000 LF	.		.	
1440	628.1905 MOBILIZATIONS EROSION CONTROL	20.000 EACH	.		.	
1450	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL	20.000 EACH	.		.	
1460	628.2004 EROSION MAT CLASS I TYPE B	66,800.000 SY	.		.	
1470	628.2006 EROSION MAT URBAN CLASS I TYPE A	8,650.000 SY	.		.	



## SCHEDULE OF ITEMS

REVISED:

CONTRACT:  
20130813013PROJECT(S):  
1133-11-74FEDERAL ID(S):  
WISC 2013382

CONTRACTOR : \_\_\_\_\_

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
1480	628.2023 EROSION MAT CLASS II TYPE B	17,100.000 SY	.		.	
1490	628.6005 TURBIDITY BARRIERS	690.000 SY	.		.	
1500	628.6510 SOIL STABILIZER TYPE B	15.700 ACRE	.		.	
1510	628.7005 INLET PROTECTION TYPE A	17.000 EACH	.		.	
1520	628.7010 INLET PROTECTION TYPE B	9.000 EACH	.		.	
1530	628.7015 INLET PROTECTION TYPE C	14.000 EACH	.		.	
1540	628.7020 INLET PROTECTION TYPE D	6.000 EACH	.		.	
1550	628.7504 TEMPORARY DITCH CHECKS	690.000 LF	.		.	
1560	628.7555 CULVERT PIPE CHECKS	45.000 EACH	.		.	
1570	628.7560 TRACKING PADS	13.000 EACH	.		.	
1580	628.7570 ROCK BAGS	530.000 EACH	.		.	

## SCHEDULE OF ITEMS

REVISED:

CONTRACT:  
20130813013PROJECT(S):  
1133-11-74FEDERAL ID(S):  
WISC 2013382

CONTRACTOR : \_\_\_\_\_

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
1590	629.0210 FERTILIZER TYPE B	85.000 CWT	.		.	
1600	630.0120 SEEDING MIXTURE NO. 20	3,600.000 LB	.		.	
1610	630.0140 SEEDING MIXTURE NO. 40	100.000 LB	.		.	
1620	630.0160 SEEDING MIXTURE NO. 60	650.000 LB	.		.	
1630	630.0200 SEEDING TEMPORARY	1,850.000 LB	.		.	
1640	633.0100 DELINEATOR POSTS STEEL	90.000 EACH	.		.	
1650	633.0500 DELINEATOR REFLECTORS	100.000 EACH	.		.	
1660	633.5200 MARKERS CULVERT END	60.000 EACH	.		.	
1670	634.0612 POSTS WOOD 4X6-INCH X 12-FT	4.000 EACH	.		.	
1680	634.0614 POSTS WOOD 4X6-INCH X 14-FT	14.000 EACH	.		.	
1690	634.0616 POSTS WOOD 4X6-INCH X 16-FT	14.000 EACH	.		.	

## SCHEDULE OF ITEMS

REVISED:

CONTRACT:  
20130813013PROJECT(S):  
1133-11-74FEDERAL ID(S):  
WISC 2013382

CONTRACTOR : \_\_\_\_\_

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
1700	634.0810 POSTS TUBULAR STEEL 2X2-INCH X 10-FT	9.000 EACH	.		.	
1710	635.9010.S SIGN SUPPORTS SHORTEN STRUCTURAL STEEL	2.000 EACH	.		.	
1720	636.0100 SIGN SUPPORTS CONCRETE MASONRY **P**	2.000 CY	.		.	
1730	636.0500 SIGN SUPPORTS STEEL REINFORCEMENT	124.000 LB	.		.	
1740	637.0202 SIGNS REFLECTIVE TYPE II	437.560 SF	.		.	
1750	637.0402 SIGNS REFLECTIVE FOLDING TYPE II	25.000 SF	.		.	
1760	638.2101 MOVING SIGNS TYPE I	1.000 EACH	.		.	
1770	638.2102 MOVING SIGNS TYPE II	47.000 EACH	.		.	
1780	638.2602 REMOVING SIGNS TYPE II	14.000 EACH	.		.	
1790	638.3000 REMOVING SMALL SIGN SUPPORTS	15.000 EACH	.		.	
1800	638.4000 MOVING SMALL SIGN SUPPORTS	41.000 EACH	.		.	

## SCHEDULE OF ITEMS

REVISED:

CONTRACT:  
20130813013PROJECT(S):  
1133-11-74FEDERAL ID(S):  
WISC 2013382

CONTRACTOR :

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS   CTS	BID AMOUNT DOLLARS   CTS
1810	638.4100 MOVING STRUCTURAL STEEL SIGN SUPPORTS	2.000 EACH	.	.
1820	641.8100 OVERHEAD SIGN SUPPORT (STRUCTURE) 01. S-5-284	LUMP	LUMP	.
1830	641.8100 OVERHEAD SIGN SUPPORT (STRUCTURE) 02. S-5-286	LUMP	LUMP	.
1840	642.5401 FIELD OFFICE TYPE D 01. OFFICE 1	1.000 EACH	.	.
1850	642.5401 FIELD OFFICE TYPE D 02. OFFICE 2	1.000 EACH	.	.
1860	643.0200 TRAFFIC CONTROL SURVEILLANCE AND MAINTENANCE (PROJECT) 01. 1133-11-74	606.000 DAY	.	.
1870	643.0300 TRAFFIC CONTROL DRUMS	265,000.000 DAY	.	.
1880	643.0410 TRAFFIC CONTROL BARRICADES TYPE II	3,500.000 DAY	.	.
1890	643.0420 TRAFFIC CONTROL BARRICADES TYPE III	30,000.000 DAY	.	.
1900	643.0453 TRAFFIC CONTROL BARRICADES PERMANENT TYPE III	13.000 EACH	.	.

## SCHEDULE OF ITEMS

REVISED:

CONTRACT:  
20130813013PROJECT(S):  
1133-11-74FEDERAL ID(S):  
WISC 2013382

CONTRACTOR : \_\_\_\_\_

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
1910	643.0500 TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER POSTS	40.000 EACH	.		.	
1920	643.0600 TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER BASES	30.000 EACH	.		.	
1930	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A	50,000.000 DAY	.		.	
1940	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C	15,000.000 DAY	.		.	
1950	643.0800 TRAFFIC CONTROL ARROW BOARDS	1,000.000 DAY	.		.	
1960	643.0900 TRAFFIC CONTROL SIGNS	60,000.000 DAY	.		.	
1970	643.0910 TRAFFIC CONTROL COVERING SIGNS TYPE I	8.000 EACH	.		.	
1980	643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II	35.000 EACH	.		.	
1990	643.1000 TRAFFIC CONTROL SIGNS FIXED MESSAGE	1,799.000 SF	.		.	
2000	643.1050 TRAFFIC CONTROL SIGNS PCMS	1,000.000 DAY	.		.	
2010	643.2000 TRAFFIC CONTROL DETOUR (PROJECT) 01. 1133-11-74	1.000 EACH	.		.	

## SCHEDULE OF ITEMS

REVISED:

CONTRACT:  
20130813013PROJECT(S):  
1133-11-74FEDERAL ID(S):  
WISC 2013382

CONTRACTOR : \_\_\_\_\_

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
2020	643.3000 TRAFFIC CONTROL DETOUR SIGNS	7,590.000 DAY	.		.	
2030	645.0115 GEOTEXTILE FABRIC TYPE ES	23,878.000 SY	.		.	
2040	645.0120 GEOTEXTILE FABRIC TYPE HR	6,040.000 SY	.		.	
2050	645.0130 GEOTEXTILE FABRIC TYPE R	2,150.000 SY	.		.	
2060	646.0106 PAVEMENT MARKING EPOXY 4-INCH	83,040.000 LF	.		.	
2070	646.0126 PAVEMENT MARKING EPOXY 8-INCH	640.000 LF	.		.	
2080	646.0600 REMOVING PAVEMENT MARKINGS	13,875.000 LF	.		.	
2090	647.0166 PAVEMENT MARKING ARROWS EPOXY TYPE 2	2.000 EACH	.		.	
2100	647.0176 PAVEMENT MARKING ARROWS EPOXY TYPE 3	1.000 EACH	.		.	
2110	647.0356 PAVEMENT MARKING WORDS EPOXY	2.000 EACH	.		.	
2120	647.0456 PAVEMENT MARKING CURB EPOXY	65.000 LF	.		.	

## SCHEDULE OF ITEMS

REVISED:

CONTRACT:  
20130813013PROJECT(S):  
1133-11-74FEDERAL ID(S):  
WISC 2013382

CONTRACTOR : \_\_\_\_\_

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
2130	647.0576 PAVEMENT MARKING STOP LINE EPOXY 24-INCH	131.000 LF	.		.	
2140	647.0606 PAVEMENT MARKING ISLAND NOSE EPOXY	2.000 EACH	.		.	
2150	647.0746 PAVEMENT MARKING DIAGONAL EPOXY 24-INCH	300.000 LF	.		.	
2160	647.0766 PAVEMENT MARKING CROSSWALK EPOXY 6-INCH	140.000 LF	.		.	
2170	649.0100 TEMPORARY PAVEMENT MARKING 4-INCH	10,900.000 LF	.		.	
2180	649.0400 TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH	6,500.000 LF	.		.	
2190	649.0701 TEMPORARY PAVEMENT MARKING 8-INCH	5,450.000 LF	.		.	
2200	649.0801 TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH	55.000 LF	.		.	
2210	649.1800 TEMPORARY PAVEMENT MARKING ARROWS REMOVABLE TAPE	5.000 EACH	.		.	
2220	649.2000 TEMPORARY PAVEMENT MARKING WORDS REMOVABLE TAPE	1.000 EACH	.		.	
2230	649.2100 TEMPORARY RAISED PAVEMENT MARKERS	385.000 EACH	.		.	

## SCHEDULE OF ITEMS

REVISED:

CONTRACT:  
20130813013PROJECT(S):  
1133-11-74FEDERAL ID(S):  
WISC 2013382

CONTRACTOR : \_\_\_\_\_

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
2240	652.0125 CONDUIT RIGID METALLIC 2-INCH ***	518.000 LF	.		.	
2250	652.0135 CONDUIT RIGID METALLIC 3-INCH ***	28,632.000 LF	.		.	
2260	652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH ***	11,916.000 LF	.		.	
2270	652.0235 CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH ***	388.000 LF	.		.	
2280	652.0240 CONDUIT RIGID NONMETALLIC SCHEDULE 40 4-INCH ***	260.000 LF	.		.	
2290	652.0615 CONDUIT SPECIAL 3-INCH ***	290.000 LF	.		.	
2300	653.0140 PULL BOXES STEEL 24X42-INCH	8.000 EACH	.		.	
2310	653.0222 JUNCTION BOXES 18X12X6-INCH	69.000 EACH	.		.	
2320	653.0905 REMOVING PULL BOXES	11.000 EACH	.		.	
2330	654.0101 CONCRETE BASES TYPE 1	4.000 EACH	.		.	
2340	654.0102 CONCRETE BASES TYPE 2	5.000 EACH	.		.	



## SCHEDULE OF ITEMS

REVISED:

CONTRACT:  
20130813013PROJECT(S):  
1133-11-74FEDERAL ID(S):  
WISC 2013382

CONTRACTOR : \_\_\_\_\_

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
2350	654.0217 CONCRETE CONTROL CABINET BASES TYPE 9 SPECIAL	2.000 EACH	.		.	
2360	655.0230 CABLE TRAFFIC SIGNAL 5-14 AWG	1,110.000 LF	.		.	
2370	655.0240 CABLE TRAFFIC SIGNAL 7-14 AWG	235.000 LF	.		.	
2380	655.0260 CABLE TRAFFIC SIGNAL 12-14 AWG	520.000 LF	.		.	
2390	655.0305 CABLE TYPE UF 2-12 AWG GROUNDED	541.000 LF	.		.	
2400	655.0515 ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG	2,515.000 LF	.		.	
2410	655.0610 ELECTRICAL WIRE LIGHTING 12 AWG	585.000 LF	.		.	
2420	655.0620 ELECTRICAL WIRE LIGHTING 8 AWG **P**	166,278.000 LF	.		.	
2430	655.0635 ELECTRICAL WIRE LIGHTING 2 AWG **P**	52,160.000 LF	.		.	
2440	656.0200 ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 01. USH 41 NB & USH 141	LUMP	LUMP		.	

## SCHEDULE OF ITEMS

REVISED:

CONTRACT:  
20130813013PROJECT(S):  
1133-11-74FEDERAL ID(S):  
WISC 2013382

CONTRACTOR : \_\_\_\_\_

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
2450	656.0200 ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 02. USH 41 SB & USH 141	LUMP	LUMP			.
2460	657.0100 PEDESTAL BASES	5.000 EACH	.		.	
2470	657.0255 TRANSFORMER BASES BREAKAWAY 11 1/2-INCH BOLT CIRCLE	4.000 EACH	.		.	
2480	657.0310 POLES TYPE 3	3.000 EACH	.		.	
2490	657.0315 POLES TYPE 4	1.000 EACH	.		.	
2500	657.0420 TRAFFIC SIGNAL STANDARDS ALUMINUM 13-FT	2.000 EACH	.		.	
2510	657.0425 TRAFFIC SIGNAL STANDARDS ALUMINUM 15-FT	2.000 EACH	.		.	
2520	657.0430 TRAFFIC SIGNAL STANDARDS ALUMINUM 10-FT	1.000 EACH	.		.	
2530	657.0590 TROMBONE ARMS 20-FT	2.000 EACH	.		.	
2540	657.0595 TROMBONE ARMS 25-FT	1.000 EACH	.		.	

## SCHEDULE OF ITEMS

REVISED:

CONTRACT:  
20130813013PROJECT(S):  
1133-11-74FEDERAL ID(S):  
WISC 2013382

CONTRACTOR : \_\_\_\_\_

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
2550	657.0709 LUMINAIRE ARMS TRUSS TYPE 4-INCH CLAMP 12-FT	5.000 EACH	.		.	
2560	657.6005.S ANCHOR ASSEMBLIES LIGHT POLES ON STRUCTURES	59.000 EACH	.		.	
2570	658.0110 TRAFFIC SIGNAL FACE 3-12 INCH VERTICAL	6.000 EACH	.		.	
2580	658.0115 TRAFFIC SIGNAL FACE 4-12 INCH VERTICAL	2.000 EACH	.		.	
2590	658.0155 TRAFFIC SIGNAL FACE 3-12 INCH HORIZONTAL	3.000 EACH	.		.	
2600	658.0215 BACKPLATES SIGNAL FACE 3 SECTION 12-INCH	9.000 EACH	.		.	
2610	658.0220 BACKPLATES SIGNAL FACE 4 SECTION 12-INCH	2.000 EACH	.		.	
2620	658.0416 PEDESTRIAN SIGNAL FACE 16-INCH	2.000 EACH	.		.	
2630	658.0500 PEDESTRIAN PUSH BUTTONS	2.000 EACH	.		.	
2640	658.0600 LED MODULES 12-INCH RED BALL	9.000 EACH	.		.	
2650	658.0605 LED MODULES 12-INCH YELLOW BALL	9.000 EACH	.		.	

## SCHEDULE OF ITEMS

REVISED:

CONTRACT:  
20130813013PROJECT(S):  
1133-11-74FEDERAL ID(S):  
WISC 2013382

CONTRACTOR : \_\_\_\_\_

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
2660	658.0610 LED MODULES 12-INCH GREEN BALL	8.000 EACH	.		.	
2670	658.0615 LED MODULES 12-INCH RED ARROW	2.000 EACH	.		.	
2680	658.0620 LED MODULES 12-INCH YELLOW ARROW	4.000 EACH	.		.	
2690	658.0625 LED MODULES 12-INCH GREEN ARROW	3.000 EACH	.		.	
2700	658.0635 LED MODULES PEDESTRIAN COUNTDOWN TIMER 16-INCH	2.000 EACH	.		.	
2710	658.5069 SIGNAL MOUNTING HARDWARE (LOCATION) 01. USH 41 NB RAMPS & USH 141 (VELP AVENUE) (T-1370)	LUMP	LUMP		.	
2720	659.0125 LUMINAIRES UTILITY HPS 250 WATTS	5.000 EACH	.		.	
2730	674.0200 CABLE MICROWAVE DETECTOR	631.000 LF	.		.	
2740	690.0150 SAWING ASPHALT	9,553.000 LF	.		.	
2750	690.0250 SAWING CONCRETE	7,620.000 LF	.		.	

## SCHEDULE OF ITEMS

REVISED:

CONTRACT:  
20130813013PROJECT(S):  
1133-11-74FEDERAL ID(S):  
WISC 2013382

CONTRACTOR :

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
2760	715.0502 INCENTIVE STRENGTH CONCRETE STRUCTURES	6,855.000 DOL	1.00000		6855.00	
2770	ASP.1T0A ON-THE-JOB TRAINING APPRENTICE AT \$5.00/HR	2,100.000 HRS	5.00000		10500.00	
2780	ASP.1T0G ON-THE-JOB TRAINING GRADUATE AT \$5. 00/HR	5,760.000 HRS	5.00000		28800.00	
2790	SPV.0035 SPECIAL 002. RUBBISH PILE EXCAVATION	7,500.000 CY	.		.	
2800	SPV.0035 SPECIAL 003. ROADWAY EMBANKMENT	526,682.000 CY	.		.	
2810	SPV.0035 SPECIAL 004. DRAINAGE BLANKET	41,912.000 CY	.		.	
2820	SPV.0035 SPECIAL 005. MUDJACKING	5.000 CY	.		.	
2830	SPV.0035 SPECIAL 700. HIGH PERFORMANCE CONCRETE (HPC) MASONRY STRUCTURES **P**	38,846.000 CY	.		.	
2840	SPV.0060 SPECIAL 001. CPM BASELINE SCHEDULE	1.000 EACH	.		.	
2850	SPV.0060 SPECIAL 002. CPM SCHEDULE MONTHLY UPDATES	20.000 EACH	.		.	
2860	SPV.0060 SPECIAL 003. REMOVING FIELD ENTRANCE	2.000 EACH	.		.	

## SCHEDULE OF ITEMS

REVISED:

CONTRACT:  
20130813013PROJECT(S):  
1133-11-74FEDERAL ID(S):  
WISC 2013382

CONTRACTOR : \_\_\_\_\_

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
2870	SPV.0060 SPECIAL 004. REMOVING BUILDING PARCEL 16	1.000 EACH	.		.	
2880	SPV.0060 SPECIAL 005. VIBRATING WIRE PIEZOMETER INSTRUMENTATION SYSTEM, DELIVERED	32.000 EACH	.		.	
2890	SPV.0060 SPECIAL 006. SETTLEMENT GAUGES	21.000 EACH	.		.	
2900	SPV.0060 SPECIAL 008. SECTION SURVEY MONUMENTS, RECONSTRUCT PROJECT	1.000 EACH	.		.	
2910	SPV.0060 SPECIAL 009. COVER PLATES TEMPORARY SPECIAL	4.000 EACH	.		.	
2920	SPV.0060 SPECIAL 150. SEDIMENTATION BASIN	15.000 EACH	.		.	
2930	SPV.0060 SPECIAL 200. CRASH CUSHION TEMPORARY LEFT IN PLACE	11.000 EACH	.		.	
2940	SPV.0060 SPECIAL 201. TEMPORARY THRIE BEAM CONNECTION LEFT IN PLACE	1.000 EACH	.		.	
2950	SPV.0060 SPECIAL 203. CRASH CUSHIONS EXTRA WIDE TEMPORARY LEFT IN PLACE	1.000 EACH	.		.	
2960	SPV.0060 SPECIAL 204. TRAFFIC CONTROL SIGNS MODIFIED	2.000 EACH	.		.	

## SCHEDULE OF ITEMS

REVISED:

CONTRACT:  
20130813013PROJECT(S):  
1133-11-74FEDERAL ID(S):  
WISC 2013382

CONTRACTOR : \_\_\_\_\_

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
2970	SPV.0060 SPECIAL 350. GROUND FAULT CIRCUIT INTERRUPTER (GFCI) RECEPTACLES	160.000 EACH	.		.	
2980	SPV.0060 SPECIAL 351. VAPOR PROOF L.E.D. LIGHT FIXTURE	382.000 EACH	.		.	
2990	SPV.0060 SPECIAL 352. JUNCTION BOXES STAINLESS STEEL 27X18X8-INCH	388.000 EACH	.		.	
3000	SPV.0060 SPECIAL 353. JUNCTION BOXES STAINLESS STEEL 27X24X12-INCH	24.000 EACH	.		.	
3010	SPV.0060 SPECIAL 450. FURNISH AND INSTALL MICROWAVE BASED TRAFFIC SENSOR	3.000 EACH	.		.	
3020	SPV.0060 SPECIAL 700. STANDPIPE SYSTEM	1.000 EACH	.		.	
3030	SPV.0060 SPECIAL 701. PILE DYNAMIC ANALYZER (PDA) TESTING	229.000 EACH	.		.	
3040	SPV.0060 SPECIAL 702. PILE DYNAMIC ANALYZER (PDA) RESTRIKES	229.000 EACH	.		.	
3050	SPV.0060 SPECIAL 703. ANCHOR BOLT ASSEMBLY OVERHEAD SIGN SUPPORTS	4.000 EACH	.		.	
3060	SPV.0060 SPECIAL 850. HELICAL TIEBACK ANCHORS	78.000 EACH	.		.	

## SCHEDULE OF ITEMS

REVISED:

CONTRACT:  
20130813013PROJECT(S):  
1133-11-74FEDERAL ID(S):  
WISC 2013382

CONTRACTOR : \_\_\_\_\_

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
3070	SPV.0075 SPECIAL 150. STREET SWEEPING	500.000 HRS	.		.	
3080	SPV.0075 SPECIAL 200. TRUCK MOUNTED ATTENUATOR WITH OPERATOR	100.000 HRS	.		.	
3090	SPV.0075 SPECIAL 201. TRUCK MOUNTED ATTENUATOR WITHOUT OPERATOR	100.000 HRS	.		.	
3100	SPV.0085 SPECIAL 700. BAR STEEL REINFORCEMENT HS STAINLESS BRIDGES	9,072.000 LB	.		.	
3110	SPV.0090 SPECIAL 001. STRIP DRAINS	471,950.000 LF	.		.	
3120	SPV.0090 SPECIAL 002. PRE-BORED STRIP DRAINS	259,650.000 LF	.		.	
3130	SPV.0090 SPECIAL 004. CONCRETE CURB & GUTTER & BARRIER, COLD WEATHER COVERING, PLASTIC 1 LAYER	1,630.000 LF	.		.	
3140	SPV.0090 SPECIAL 005. CONCRETE CURB & GUTTER & BARRIER, COLD WEATHER COVERING, PLASTIC 2 LAYERS	186.000 LF	.		.	
3150	SPV.0090 SPECIAL 200. CONCRETE BARRIER TEMPORARY PRECAST ANCHORING	4,050.000 LF	.		.	



## SCHEDULE OF ITEMS

REVISED:

CONTRACT:  
20130813013PROJECT(S):  
1133-11-74FEDERAL ID(S):  
WISC 2013382

CONTRACTOR : \_\_\_\_\_

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
3160	SPV.0090 SPECIAL 201. CONCRETE BARRIER TEMPORARY PRECAST LEFT IN PLACE	13,500.000 LF	.		.	
3170	SPV.0090 SPECIAL 202. GLARE SCREENS TEMPORARY	1,550.000 LF	.		.	
3180	SPV.0090 SPECIAL 350. CONDUIT RIGID METALLIC PVC COATED 4-INCH **P**	150.000 LF	.		.	
3190	SPV.0090 SPECIAL 700. DRIVING PILING STEEL STATE FURNISHED HP 14-INCH X 89 LB	3,650.000 LF	.		.	
3200	SPV.0090 SPECIAL 702. DOWNSPOUT RTRP 6-INCH **P**	2,595.000 LF	.		.	
3210	SPV.0090 SPECIAL 850. FENCE DECORATIVE WALL	93.000 LF	.		.	
3220	SPV.0105 SPECIAL 001. SITE CLEARANCE PARCEL NO. 16	LUMP	LUMP		.	
3230	SPV.0105 SPECIAL 002. GRADING, SHAPING, AND FINISHING PARCEL NO. 16	LUMP	LUMP		.	
3240	SPV.0105 SPECIAL 003. REMOVING SAND BARREL ARRAY AND CONCRETE PAD: STA 1188+90 NIH LT	LUMP	LUMP		.	
3250	SPV.0105 SPECIAL 004. GEOTECHNICAL INSTRUMENTATION	LUMP	LUMP		.	

## SCHEDULE OF ITEMS

REVISED:

CONTRACT:  
20130813013PROJECT(S):  
1133-11-74FEDERAL ID(S):  
WISC 2013382

CONTRACTOR : \_\_\_\_\_

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
3260	SPV.0105 SPECIAL 005. TEMPORARY HAUL ROAD ACCESS FOR STRUCTURE CONSTRUCTION	LUMP	LUMP			.
3270	SPV.0105 SPECIAL 006. TEMPORARY CREEK ACCESS FOR STRUCTURE B-05-681	LUMP	LUMP			.
3280	SPV.0105 SPECIAL 007. SURVEY PROJECT 1133-11-74	LUMP	LUMP			.
3290	SPV.0105 SPECIAL 008. MAINTENANCE ROAD EXCAVATION MR1	LUMP	LUMP			.
3300	SPV.0105 SPECIAL 009. MAINTENANCE ROAD EXCAVATION MR2	LUMP	LUMP			.
3310	SPV.0105 SPECIAL 010. MAINTENANCE ROAD EXCAVATION MR3	LUMP	LUMP			.
3320	SPV.0105 SPECIAL 011. MAINTENANCE ROAD EXCAVATION MR4	LUMP	LUMP			.
3330	SPV.0105 SPECIAL 012. MAINTENANCE ROAD EXCAVATION MR5	LUMP	LUMP			.
3340	SPV.0105 SPECIAL 200. TRAFFIC CONTROL FOR DUCK CREEK RECREATIONAL VEHICLES	LUMP	LUMP			.
3350	SPV.0105 SPECIAL 350. ELECTRICAL SERVICE INSTALLATION B-5-671	LUMP	LUMP			.

## SCHEDULE OF ITEMS

REVISED:

CONTRACT:  
20130813013PROJECT(S):  
1133-11-74FEDERAL ID(S):  
WISC 2013382

CONTRACTOR : \_\_\_\_\_

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
3360	SPV.0105 SPECIAL 351. ELECTRICAL SERVICE INSTALLATION B-5-678	LUMP	LUMP			.
3370	SPV.0105 SPECIAL 352. ELECTRICAL SERVICE INSTALLATION B-5-679	LUMP	LUMP			.
3380	SPV.0105 SPECIAL 450. REMOVING TRAFFIC SIGNALS (USH 41 NB & USH 141)	LUMP	LUMP			.
3390	SPV.0105 SPECIAL 700. ERECTING STRUCTURAL STEEL B-5-671	LUMP	LUMP			.
3400	SPV.0105 SPECIAL 701. ERECTING STRUCTURAL STEEL B-5-678	LUMP	LUMP			.
3410	SPV.0105 SPECIAL 702. ERECTING STRUCTURAL STEEL B-5-679	LUMP	LUMP			.
3420	SPV.0105 SPECIAL 703. ERECTING STRUCTURAL STEEL B-5-681	LUMP	LUMP			.
3430	SPV.0105 SPECIAL 704. FIELD PAINTING STRUCTURAL STEEL B-5-671	LUMP	LUMP			.
3440	SPV.0105 SPECIAL 705. FIELD PAINTING STRUCTURAL STEEL B-5-678	LUMP	LUMP			.
3450	SPV.0105 SPECIAL 706. FIELD PAINTING STRUCTURAL STEEL B-5-679	LUMP	LUMP			.
3460	SPV.0105 SPECIAL 707. FIELD PAINTING STRUCTURAL STEEL B-5-681	LUMP	LUMP			.

## SCHEDULE OF ITEMS

REVISED:

CONTRACT:  
20130813013PROJECT(S):  
1133-11-74FEDERAL ID(S):  
WISC 2013382

CONTRACTOR : \_\_\_\_\_

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
3470	SPV.0120 SPECIAL 001. WATER FOR SEEDED AREAS	50.000 MGAL	.		.	
3480	SPV.0165 SPECIAL 700. ARCHITECTURAL SURFACE TREATMENT	51,409.000 SF	.		.	
3490	SPV.0165 SPECIAL 701. STAINING CONCRETE	294,344.000 SF	.		.	
3500	SPV.0165 SPECIAL 702. STAINING CONCRETE BRICK	43,964.000 SF	.		.	
3510	SPV.0165 SPECIAL 703. LONGITUDINAL GROOVING BRIDGE DECK **P**	154,776.000 SF	.		.	
3520	SPV.0165 SPECIAL 850. PRESTRESSED PRECAST CONCRETE WALL PANEL **P**	20,098.000 SF	.		.	
3530	SPV.0165 SPECIAL 851. TEMPORARY SHORING LEFT IN PLACE	1,890.000 SF	.		.	
3540	SPV.0165 SPECIAL 852. TEMPORARY WALL WIRE FACED MECHANICALLY STABILIZED EARTH	2,770.000 SF	.		.	
3550	SPV.0165 SPECIAL 855. PILING STEEL SHEET TEMPORARY	12,815.000 SF	.		.	
3560	SPV.0165 SPECIAL 950. SIGN BLANKS LEFT IN PLACE	90.000 SF	.		.	

## SCHEDULE OF ITEMS

REVISED:

CONTRACT:  
20130813013PROJECT(S):  
1133-11-74FEDERAL ID(S):  
WISC 2013382

CONTRACTOR : \_\_\_\_\_

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
3570	SPV.0180 SPECIAL 001. GEOGRID REINFORCEMENT	1,600.000 SY	.		.	
3580	SPV.0180 SPECIAL 150. TEMPORARY SLOPE DRAIN TO REMAIN	230.000 SY	.		.	
3590	SPV.0180 SPECIAL 700. POLYMER OVERLAY	40,248.000 SY	.		.	
3600	SPV.0195 SPECIAL 001. BASE AGGREGATE DENSE 3/4-INCH SPECIAL	7,040.000 TON	.		.	
3610	SPV.0195 SPECIAL 002. BREAKER RUN SPECIAL	14,250.000 TON	.		.	
	SECTION 0001 TOTAL				.	
	TOTAL BID				.	



**PLEASE ATTACH SCHEDULE OF ITEMS HERE**