

HIGHWAY WORK PROPOSAL

Wisconsin Department of Transportation
DT1502 01/2020 s.66.0901(7) Wis. Stats

Proposal Number: **005**

<u>STATE ID</u>	<u>FEDERAL ID</u>	<u>PROJECT DESCRIPTION</u>	<u>HIGHWAY</u>	<u>COUNTY</u>
1130-65-71	WISC 2026379	Appleton - De Pere, I-41 Mainline, Meade St-Ballard Rd	IH 041	Outagamie
1130-65-72	WISC 2026380	Appleton - De Pere, I-41 Mainline, Ballard Rd-French Rd	IH 041	Outagamie
1130-65-73	WISC 2026381	Appleton - De Pere, I-41 Mainline, French Rd-Holland Rd	IH 041	Outagamie
1130-65-74	WISC 2026382	Appleton - De Pere, STH 441 Mainline, Northland - I-41	STH 441	Outagamie
1130-65-78	WISC 2026383	Appleton - De Pere, STH 441 Intchg Fill & Structures	STH 441	Outagamie

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 Date: July 14, 2026 Time (Local Time): 11:00 am	Firm Name, Address, City, State, Zip Code
Contract Completion Time August 30, 2029	SAMPLE NOT FOR BIDDING PURPOSES
Assigned Disadvantaged Business Enterprise Goal 0%	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)

(Bidder Signature)

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

(Print or Type Bidder Name)

(Date Commission Expires)

(Bidder Title)

Notary Seal

Type of Work: Removals, Milling, Grading, Aggregate, Concrete Pavement, Asphalt Pavement, Structure Replacement, Structure Rehabilitation, Culvert Pipe, Sign Structure, Curb and Gutter, Concrete Sidewalk, Storm Sewer, Beam Guard, Erosion Control, Permanent Signing, Traffic Control, Pavement Marking, Lighting, Traffic Signals, ITS, Sanitary, Water, Retaining Wall, Restoration.	For Department Use Only
Notice of Award Dated	Date Guaranty Returned

**PLEASE ATTACH
PROPOSAL GUARANTY HERE**

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:

<https://wisconsin.gov/Pages/doing-bus/contractors/hcci/bid-let.aspx>

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 PM local time on the Thursday before the letting. Check the department's web site after 5:00 PM 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 PM local time on the Thursday before the letting to ensure that the latest schedule of items Expedite file (*.ebs or *.00x) is used to submit the final bid.

- (4) Interested parties can subscribe to the Bid Express™ on-line bidding exchange by following the instructions provided at the www.bidx.com web site or by contacting:

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

- (5) The department will address equipment and process failures, if the bidder can demonstrate that those failures were beyond their control.
- (6) Contractors are responsible for checking on the issuance of addenda and for obtaining the addenda. Notice of issuance of addenda is posted on the department's web site at:

<https://wisconsin.gov/Pages/doing-bus/contractors/hcci/bid-let.aspx>

or by calling the department at (608) 266-1631. Addenda can ONLY be obtained from the department's web site listed above or by picking up the addenda at the Bureau of Highway Construction, 4th floor, 4822 Madison Yards Way, Madison, WI, during regular business hours.

- (7) Addenda posted after 5:00 PM on the Thursday before the letting will be emailed to the eligible bidders for that proposal. All eligible bidders shall acknowledge receipt of the addenda whether they are bidding on the proposal or not. Not acknowledging receipt may jeopardize the awarding of the project.

B. Submitting Electronic Bids**B.1 On the Internet**

- (1) Do the following before submitting the bid:
 4. Have a properly executed annual bid bond on file with the department.
 5. 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:
<https://wisconsindot.gov/Pages/doing-bus/contractors/hcci/bid-let.aspx>
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 envelope 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 ExpediteTM generated schedule of items is not the same on each page.
 2. The check code printed on the printout of the ExpediteTM 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.

B 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)

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]

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.

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SPECIAL PROVISIONS

1. Administrative.

1.1 General.

Perform the work under this construction contract for the following projects:

1130-65-71 Appleton – De Pere I-41 Mainline Meade St – Ballard Rd IH 41 Outagamie County	1130-65-72 Appleton – De Pere I-41 Mainline Ballard Rd – French Rd IH 41 Outagamie County	1130-65-73 Appleton – De Pere I-41 Mainline French Rd – Holland Rd IH 41 Outagamie County
1130-65-74 Appleton – De Pere STH 441 Mainline, Northland - I-41 STH 441 Outagamie County	1130-65-78 Appleton – De Pere STH 441 Intchg Fill & Structures STH 441 Outagamie County	

Perform the work 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, 2025 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 (20260101)

1.2 Scope of Work.

The work under this contract shall consist of removals, common excavation, base aggregate, select crushed material, concrete pavement, guardrail, bridge structures, culverts, retaining walls, sign structures, noise walls, FTMS, erosion control, storm sewer, lighting, pavement marking, permanent signing, traffic control, finishing items and all incidental items necessary to complete the work as shown on the plans and included in the proposal and contract.

Bridges:

B-44-127, B-44-128, B-44-326, B-44-327

Noise walls:

N-44-0017

Retaining walls:

R-44-0070, R-44-0071, R-44-0042, R-44-0045, R-44-0047

Sign structures:

S-44-0365, S-44-0366, S-44-0368, S-44-0372, S-44-0374, S-44-0376, S-44-0378, S-44-0407, S-44-0379, S-44-0380, S-44-0405, S-44-0406, S-44-0408, S-44-0375, S-44-0377, S-44-0409

Box culverts:

C-44-0146, C-44-0147

104-005 (20090901)

1.3 Other Contracts.

Modifications to the traffic control plan may be required by the engineer to be safe and consistent with the adjacent work by others. It is expected that routine maintenance by the town and county personnel may be required at certain times concurrently with the work being done under this contract.

The following contracts are anticipated to be under construction within the time period of this contract, unless otherwise indicated:

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.

IH 41, Project 1130-64-73/77; Appleton – De Pere, I-41 Mainline, Lynndale – Meade, Richmond St (WIS 47) Interchange in Outagamie County. Work under this contract is anticipated to begin in April 2026 and be completed by June 2028. Limits of construction for the 1130-64-73 project will overlap with this project.

WIS 441, Project 1009-33-41; NE Region Deck Sealing – Proposed work will be completed during Fiscal Year 2026 in Brown Outagamie, Winnebago, Calumet and Fond du Lac Counties. Proposed work consists of furnishing and applying a protective surface treatment reseal or methacrylate flood seal to bridge on WIS 41. Work on this contract is anticipated to begin in June 2026. Coordinate activities with project 1009-33-41.

IH 41, Project 1130-66-71; Appleton – De Pere, Holland Road – CTH N in Outagamie County. Work under this contract is anticipated to begin in April 2027 and be completed by November 2029. Limits of construction for the 1130-66-71 project will overlap with this project.

IH 41, Project 1130-65-81; French Road Overpass, B-44-0329. Work under this contract is expected to begin April 2026 and be completed by September 2026.

1.4 Railroad Insurance and Coordination - Wisconsin Central Ltd (CN).

A. Description

Comply with standard spec 107.17 for all work affecting Wisconsin Central Ltd (CN) 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 and Its Parents (CN).

Notify evidence of the required coverage, and duration to Suzanne Crueger, Senior Officer, Public Works, 1625 Depot Street, Stevens Point, WI 55481; Telephone (715) 572-7803; E-mail: suzanne.crueger@cn.ca

Also send a copy to the following: NE Region Railroad Coordinator; 944 Vanderperren Way, Green Bay, WI 54304; Telephone (920) 492-7713; E-mail: DOTDTSNERRailroadCoordination@dot.wi.gov.

Include the following information on the insurance document:

- Project ID: 1130-65-74
- Project Location: Appleton, WI
- Route Name: IH 41 Outagamie
- Crossing ID: 693817C
- Railroad Subdivision: Fox River
- Railroad Milepost: 217.200
- Work Performed on or within 50' of RR ROW: Traffic control on bridge over CN's line.

A.2 Train Operation

Approximately 4 through freight trains operate daily at up to 49 mph. There are no switch trains.

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

Construction Contact

Suzanne Crueger, Senior Officer, Public Works, 1625 Depot Street, Stevens Point, WI 55481; Telephone (715) 572-7803; E-mail: suzanne.crueger@cn.ca for consultation on railroad requirements during construction.

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.

Flagging Contact

Submit by US Mail a "Request for Flagging Services and Cable Location" form with prepayment to: Flagging-US, 17641 South Ashland Avenue, Homewood, IL 60430; Flagging_US@CN.CA.

The form can be obtained at: <https://www.cn.ca/en/safety/utility-installations/>

Requests for flagging and cable locates can take up to five business days after the railroad receives the paperwork. Reference the Wisconsin Milepost and Subdivision located in A.1. Advise Wisconsin Central Ltd (CN) that the flagging services are to be billed at the rate for a public highway project.

Cable Locate Contact

In addition to contacting Diggers Hotline, follow the procedure listed under Flagging Contact.

Wisconsin Central Ltd (CN) will only locate railroad owned facilities buried in the railroad right-of-way. The railroad does not locate any other utilities.

cc: WisDOT Region Railroad Coordinator referenced in A.1 on all written correspondence with the railroads.

A.4 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.

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.5 Temporary Grade Crossing

If a temporary grade crossing is desired, submit a written request to the railroad representative named in A.3 at least 40 days 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.

B Railroad Flagging

Arrange with the railroad for the flagging of trains and safety of railroad operations if clearances specified in subsection 107.17.1 are not maintained during construction operations. 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

2. *Replace paragraph (1,3 and 4) of standard spec 107.17.1 with the following:*

- (1) Coordinate with the railroad for all work performed within 25 feet of the track centerline including equipment or extensions of equipment that can fall within 25 feet of the track centerline or adjacent facilities or when working on railroad right-of-way. Include the following on all submittals and other written communications with the railroad:
 - WisDOT crossing number.
 - Railroad milepost.
 - Railroad subdivision.
- (3) Perform all work within 25 feet of the track centerline including equipment or extensions of equipment that can fall within 25 feet of the track centerline or adjacent facilities or when working on railroad right-of-way in a way that does not interfere with the safe and uninterrupted operation of railroad traffic. Maintain clearances during construction as follows:
 1. Do not operate equipment closer than 25 feet horizontally from a track centerline or 22 feet vertically above the top of a rail, except under the protection of railroad flaggers.
 2. Do not store materials or equipment closer than 25 feet horizontally from a track centerline.

3. Provide an obstruction-free work zone adjacent to a track extending 12 feet or more horizontally on both sides of the track centerline. Keep this work zone free of construction debris.
4. Unless the railroad's chief engineering officer approves otherwise in writing, maintain minimum clearances from falsework, forms, shoring, and other temporary fixed objects as follows:

- 4.1 Provide 12 feet, plus 1.5 inches per degree of track curvature, measured horizontally from the track centerline.

- 4.2 Provide 21 feet, plus compensation for super-elevated track, measured vertically above the top of the highest rail.

- (4) Comply with the railroad's rules and regulations when work is within 25 feet of the track centerline including equipment or extensions of equipment that can fall within 25 feet of the track centerline or adjacent facilities or when working 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 40 business days before starting work near a track. Provide the specific time planned to start the operations.

C.2 Rates - Wisconsin Central Ltd and Sault Ste. Marie Bridge Company (CN)

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

- \$1,500 daily rate (including wages, labor surcharges, meals, lodging, vehicle and mileage expenses) for a 10-hour day (this includes 2 hours of overtime hours to set/remove flags) flagging day at the job site;
- \$1,800 daily rate (including wages, labor surcharges, meals, lodging, vehicle and mileage expenses) for a 10-hour day (this includes 2 hours of overtime hours to set/remove flags) flagging day at the job site on Saturdays, Sundays or holidays;
- \$175 per hour overtime rate for all time worked before or after the 10-hour flagging day.

The railroad will require prepayment for flagging. Any time worked before or after the 10-hour flagging day 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

The department will pay for the department's portion of flagging reimbursement as specified in section C of this provision under the following item:

ITEM NUMBER	DESCRIPTION	UNIT
801.0117	Railroad Flagging Reimbursement	DOL

The reimbursement payment, as shown on the Schedule of Items, is solely for department accounting purposes. Actual flagging costs will vary based on the contractor's means and methods.

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

2.1 Notice to Contractor, Project Storage and Staging Areas.

Add the following to standard specs 106.4(2) and 107.9:

To accommodate staged construction of the department planned contracts for the IH 41 corridor expansion project, 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. Include in the request the anticipated date for occupying the area, the anticipated date for vacating the area, and a proposed restoration plan for the area. The planned project storage and staging areas shall be submitted to the engineer for review and approval a minimum of 14 calendar days prior to the anticipated implementation. Review by the engineer does not constitute approval.

2.2 Notice to Contractor, Containment System.

Provide a rigid containment system throughout bridge construction over live traffic lanes and pedestrian facilities capable of protecting underlying facilities and vehicles from falling construction debris. Design, detail, install, and maintain the containment system to catch construction debris between exterior girders without extending below the bottom of the girders at the containment system's maximum deflection. The containment system is not intended to be a secondary falsework/formwork system. Put the containment system in place before beginning construction operations that may generate debris over live traffic or active pedestrian facilities. Operations may include, but are not limited to: full or partial deck removals, falsework installation, deck repairs, and deck pours. This containment system is not required if construction operations are performed when the facilities below are under full closure. This containment system does not replace any requirements under standard spec 203. Include details of the proposed containment system in the falsework submittal per standard spec 502.3.2. The containment system is incidental to the bridge construction items.

stp-502-015 (20250701)

2.3 Notice to Contractor, Safety and Personnel Identification Program.

All workers shall wear OSHA and ANSI compliant safety head protection, safety glasses, safety-toe protective footwear, and safety vest at all times while within the project footprint. All workers shall wear OSHA and ANSI compliant safety pants within the right of way of a roadway with a posted speed limit of 50 mph or greater unless separated from traffic by positive protection (e.g., temporary concrete barrier). From dusk to dawn, all workers shall wear OSHA and ANSI compliant safety pants.

The prime contractor shall provide a copy of their current Company Safety Plans to the department 7 days prior to the preconstruction meeting. All workers shall comply with the Safety Plans of their employer.

All contractor personnel will be required to register in the program prior to performing work. Valid photo identification which includes unexpired driver's license, government issued identification cards, military identification, passport, or other identification approved by the department will be required to register. All personnel registered will be issued a hard hat sticker with an identification number by the department. Stickers shall be placed in a visible location on the hard hat. Register at the IH 41 corridor field office during normal business hours.

Noncompliance with this contract provision may result in removal of contractor personnel from the project or suspension of work according to standard spec 108.6 applicable under the contract.

ner41-108 (05072024)

2.4 Notice to Contractor, Right of Way Fencing.

Maintain existing right-of-way fencing, as shown in plans, until construction operations require removal, or as directed by the engineer. Notify the department 7 calendar days in advance of existing fence removal. Do not remove any existing fence without prior approval from the engineer.

Provide temporary connections between existing and proposed fencing as needed to maintain continuous right-of-way fencing at all times. Fencing quantities have been included in the contract for this purpose.

Submit a fence staging plan to the engineer detailing existing fence removal, proposed fence placement, and temporary fence use. Temporary fencing use to be kept to a minimum. Staging of installation shall provide adequate measures to protect the general public.

Maintain all existing freeway right-of-way fencing or temporary fencing disturbed by operations.

ner41-616 (07092024)

2.5 Notice to Contractor, Potential Borrow Sources.

The department has been notified by the Outagamie County Landfill for potential borrow sources that may be in the vicinity of the project. The contact for Outagamie County Landfill is:

Brian Van Straten, Director
Outagamie County
Recycling and Solid Waste Department
Office Phone: 920.832.1521
Email: brian.vanstraten@outagamie.org

Any materials incorporated into the project work will be required to meet the applicable portions of the standard specifications. Negotiate with the site owner for access to the site and acquisition of the materials.

Coordinate with the site owner for any existing data may be available for the potential borrow sources such as boring data collected and soil analyses completed.

ner41-106 (10032024)

2.6 Notice to Contractor, Geotechnical Exploration Information.

Information relative to subsurface exploration, borings, soundings, water levels, elevations, or profiles is available for review at the department's Region office. Contact Timothy Verhagen, 920-492-7162, timothy.verhagen@dot.wi.gov to request this information.

- Geotechnical Site Investigation Report: B-44-128, B-44-0326, B-44-0327
- Geotechnical Site Investigation Report C-44-146, C-44-147
- Geotechnical Site Investigation Report N-44-147
- Geotechnical Site Investigation Report R-44-0042, R-44-0045, R-44-0047, R-44-0070, R-44-0071
- Geotechnical Site Investigation Report OSS Non-Standard Foundations 09/01/2025
- Geotechnical Site Investigation Report OSS Standard Foundations 08/01/2024

Review the available information to determine if it is of use. Whether or not the listed geotechnical information is used, the work shall still be carried out in accordance with the plans and specifications.

ner41-106 (20240917)

2.7 Notice to Contractor, Electronic Load Tickets.

Replace standard spec 109.1.4.3 (1) with the following:

(1) Submit an electronic ticket for each load of material for the following bid items:

- 415.0090 Concrete Pavement 9-inch
- 415.0100 Concrete Pavement 10-inch
- 415.0410 Concrete Pavement Approach Slab
- 502.0100 Concrete Masonry Bridges
- 504.0500 Concrete Masonry Retaining Walls
- SPV.0035.1000 HPC Masonry Structures
- SPV.0180.0100 Concrete Pavement 10 ½-inch Special

Include the information as specified in 109.1.4.2 on each electronic ticket. If there is a failure in the electronic ticket system, provide a printed ticket for each load of material as a substitute for electronic tickets.

stp-107-230 (20250108)

2.8 Notice to Contractor, Potential Fly Ash Disposal.

The department has been notified by the Outagamie County Landfill for potential fly ash disposal site that may be in the vicinity of the project. The contact for Outagamie County Landfill is:

Brian Van Straten, Director
Outagamie County
Recycling and Solid Waste Department

Office Phone: 920.832.1521
Email: brian.vanstraten@outagamie.org

Negotiate with the site owner for access to the site and disposal of the materials.

ner41- (20260128)

2.9 Work By Others.

Wisconsin Department of Transportation Northeast Region Electrical Unit, (920) 366-7521 will perform the following work at the intersection of STH 441 SB & CTH OO:

- Terminate all electrical wire in the signal control cabinet
- Bag Signal Head 3 prior to start of Stage 1
- Remove pull box rims and covers from PB7 and PB8

2.10 Field Facilities.

The department will provide primary field facilities for this project located at 3600 Commerce Court, Appleton, WI 54911.

The contractor is required to schedule and attend all meetings at the department provided field office facility. Formal meetings, unless otherwise specified, will not be scheduled at any offsite locations other than the field facility provided by the department.

ner41-105 (12052023)

3. Prosecution and Progress.

3.1 Prosecution and Progress.

Begin work within 10 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.

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.

Stockpile excess fill material in upland areas an adequate distance away from wetlands, storm sewer inlets, floodplains and the waterways. Provide erosion control devices for stockpiled soil to avoid erosion and nuisance dust emissions.

Anticipate cold weather and early spring concrete paving and ancillary concrete work (curb, median barrier, etc.). Plan to heat aggregates and water for mixes and that the heating of the aggregate and water is considered incidental to those concrete items. There will be no adverse weather delay for cold weather construction.

See the Traffic article for allowable time periods and Lane Rental Fee Assessment article for assessments charged for closures outside the allowable time periods:

- IH 41 will be allowed to be closed for 4 nights to complete the removal of the STH 441 structures.
- IH 41 will be allowed to be closed for 2 nights for girder placement of B-44-326.
- IH 41 will be allowed to be closed for 2 nights for girder placement of B-44-327.
- French Road will be allowed to be closed for 2 nights for girder placement of B-44-327.
- Structure B-44-326 will be allowed to be closed for 2 nights to complete the polymer overlay during Stage 7.

IH 41 will be allowed to be closed for 6 nights for drainage installations.

On the north side of IH 41, from station 911+00 'SB' to station 923+00 'SB', complete grading, restoration of waterway, and permanent access road crossing by October 15, 2026.

On the north side of IH 41, from station 923+00 'SB' to station 959+99.97 'SB', complete grading and restoration of waterway and ditch by October 15, 2026.

01 Interim Completion and Liquidated Damages – NB 41 to SB 441 Ramp 120 calendar days

The NB 41 to SB 441 Ramp may be closed for 120 consecutive calendar days during Stages 2A - 2B. Complete the work necessary to reopen the NB 41 to SB 441 ramp to traffic within 120 calendar days after closure. Do not reopen to traffic until all work shown in Stages 2A – 2B is completed.

If the contractor fails to complete the work necessary to reopen to traffic within 120 calendar day, the department will assess the contractor \$6,000 in interim liquidated damages for each calendar day the contract work remains incomplete. 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.

02 Interim Completion and Liquidated Damages – CTH E Northbound Entrance Ramp 120 calendar days

The CTH E NB Entrance Ramp may be closed for 120 consecutive calendar days during Stages 2A - 2B. Complete the work necessary to reopen the CTH E NB Entrance Ramp to traffic within 120 calendar days after closure. Do not reopen to traffic until all work shown in Stages 2A – 2B is completed.

If the contractor fails to complete the work necessary to reopen to traffic within 120 calendar day, the department will assess the contractor \$5,000 in interim liquidated damages for each calendar day the contract work remains incomplete. 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.

03 Interim Completion and Liquidated Damages – CTH OO Southbound Exit Ramp 120 calendar days

The CTH OO SB Exit Ramp may be closed for 120 consecutive calendar days during Stages 2A - 2B. Complete the work necessary to reopen the CTH OO SB Exit Ramp to traffic within 120 calendar days after closure. Do not reopen to traffic until all work shown in Stages 2A – 2B is completed.

If the contractor fails to complete the work necessary to reopen to traffic within 120 calendar day, the department will assess the contractor \$3,500 in interim liquidated damages for each calendar day the contract work remains incomplete. 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.

04 Interim Completion and Liquidated Damages – NB 441 to SB 41 Ramp 365 calendar days

The NB 441 to SB 41 Ramp may be closed for 365 consecutive calendar days during Stages 3A, WS2, and 4A. Complete the work necessary to reopen the NB 441 to SB 41 Ramp to traffic within 365 calendar days after closure. Do not reopen to traffic until all work shown in Stages 3A and 4A is completed.

If the contractor fails to complete the work necessary to reopen to traffic within 365 calendar day, the department will assess the contractor \$6,000 in interim liquidated damages for each calendar day the contract work remains incomplete. 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.

05 Interim Completion and Liquidated Damages – CTH OO Northbound Entrance Ramp 90 calendar days

The CTH OO NB Entrance Ramp may be closed for 90 consecutive calendar days during Stage 4B - 5A. Complete the work necessary to reopen the CTH OO NB Entrance Ramp to traffic within 90 calendar days after closure. Do not reopen to traffic until all work shown in Stages 4B-5A is completed.

If the contractor fails to complete the work necessary to reopen to traffic within 90 calendar days, the department will assess the contractor \$2,000 in interim liquidated damages for each calendar day the contract work remains incomplete. 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.

06 Interim Completion and Liquidated Damages – CTH E Southbound Entrance Ramp 60 calendar days

The CTH E SB Entrance Ramp may be closed for 60 consecutive calendar days during Stage 4B. Complete the work necessary to reopen the CTH E SB Entrance Ramp to traffic within 60 calendar days after closure. Do not reopen to traffic until all work shown in Stages 4B is completed.

If the contractor fails to complete the work necessary to reopen to traffic within 60 calendar day, the department will assess the contractor \$3,250 in interim liquidated damages for each calendar day the contract work remains incomplete. 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.

07 Interim Completion and Liquidated Damages – SB 41 to SB 441 Ramp 120 calendar days

The SB 41 to SB 441 Ramp may be closed for 120 consecutive calendar days during Stage 4A. Complete the work necessary to reopen the SB 41 to SB 441 Ramp to traffic within 120 calendar days after closure. Do not reopen to traffic until all work shown in Stages 4A is completed.

If the contractor fails to complete the work necessary to reopen to traffic within 120 calendar day, the department will assess the contractor \$6,000 in interim liquidated damages for each calendar day the contract work remains incomplete. 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.

08 Interim Completion and Liquidated Damages – NB 441 to NB 41 Ramp 60 calendar days

The NB 441 to NB 41 Ramp may be closed for 60 consecutive calendar days during Stage 6A. Complete the work necessary to reopen the NB 441 to NB 41 Ramp to traffic within 60 calendar days after closure. Do not reopen to traffic until all work shown in Stages 6A is completed.

If the contractor fails to complete the work necessary to reopen to traffic within 60 calendar days, the department will assess the contractor \$6,000 in interim liquidated damages for each calendar day the contract work remains incomplete. 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.

09 Interim Completion and Liquidated Damages – CTH E Northbound Exit Ramp 60 calendar days

The CTH E NB Exit Ramp may be closed for 60 consecutive calendar days during Stage 6A. Complete the work necessary to reopen the CTH E NB Exit Ramp to traffic within 60 calendar days after closure. Do not reopen to traffic until all work shown in Stages 6A is completed.

If the contractor fails to complete the work necessary to reopen to traffic within 60 calendar days, the department will assess the contractor \$4,000 in interim liquidated damages for each calendar day the contract work remains incomplete. 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.

10 Interim Completion and Liquidated Damages – Winter Configuration and Shutdown: November 13, 2026

If the contractor fails to complete all work necessary to shift traffic to their respective locations as shown in the Winter Shutdown typical sections (2026/2027) open to traffic by November 13, 2026, the department will assess the contractor \$10,000 in interim liquidated damages for each calendar day the contract work remains incomplete beyond 12:01 AM on November 14, 2026. An entire calendar day will be charged for any period of time within the calendar day that the road remains closed beyond 12:01 AM.

11 Interim Completion and Liquidated Damages – Winter Configuration and Shutdown: November 15, 2027

If the contractor fails to complete all work necessary to shift traffic to their respective locations as shown in the Winter Shutdown typical sections (2027/2028) open to traffic by November 15, 2027, the department will assess the contractor \$10,000 in interim liquidated damages for each calendar day the contract work remains incomplete beyond 12:01 AM on November 16, 2027. An entire calendar day will be charged for any period of time within the calendar day that the road remains closed beyond 12:01 AM.

12 Interim Completion and Liquidated Damages – Winter Configuration and Shutdown: November 17, 2028

If the contractor fails to complete all work necessary to shift traffic to their respective locations as shown in the Winter Shutdown typical sections (2028/2029) open to traffic by November 17, 2028, the department will assess the contractor \$10,000 in interim liquidated damages for each calendar day the contract work remains incomplete beyond 12:01 AM on November 18, 2028. An entire calendar day will be charged for any period of time within the calendar day that the road remains closed beyond 12:01 AM.

Construction Overview

This information is included to assist the contractor and its subcontractors; do not interpret this information as a demonstration of specified means and methods. Coordinate the schedule of operations for the construction staging as shown in the plans and as noted in these special provisions. Do not move operations ahead within the proposed construction staging unless modifications to the staging and schedule are approved in writing by the engineer. Staging modifications shall address traffic and construction.

STAGE 1 CONSTRUCTION:

1130-65-71

IH 41

- Construct cross culverts.
- Construct South End wall of Pre-Cast Box Culverts C-44-0146.

1130-65-72

IH 41

- Construct 41 NB temporary widening and EBS in the median
- Construct Cross Culverts and Storm Sewer Crossings of IH 41.

1130-65-73

IH 41

- Construct Cross Culverts and Storm Sewer Crossings of IH 41.
- Construct South End wall of Pre-Cast Box Culverts C-44-0147.
- Construct ditch along IH 41 SB from French Rd to Holland Rd.

1130-65-74 & 1130-65-78

STH 441

- Construct temporary widening.
- Construct Cross Culverts and Storm Sewer Crossings of STH 441.
- Construct Bridge B-44-0128 Piers.
- Begin construction of Bridge B-44-0326 Piers.
- Begin construction of Bridge B-44-0327 Piers and Abutment.

Ramp SE (STH 441 NB - 41 NB)

- Construct temporary widening.

Ramp WS (IH 41 NB - STH 441 SB)

- Construct temporary widening.

Existing 41 SB - 441 SB RAMP

- Construct temporary widening.

Existing 441 NB – 41 SB RAMP

- Construct temporary widening connection.

CTH OO

- Construct left turn lane and median pavement.

STAGE W1 CONSTRUCTION:

1130-65-71

IH 41

- No construction to occur on IH 41 NB or SB. Work shall not resume unless approved by the engineer.

1130-65-72

IH 41

- No construction to occur on IH 41 NB or SB other than Pier and Abutment work for Bridges B-44-0326 and B-44-0327 during dates approved by the engineer. Mainline work shall not resume unless approved by the engineer.

1130-65-73

IH 41

- No construction to occur on IH 41 NB or SB other than Pier and Abutment work for Bridge B-44-0327 during dates approved by the engineer. Mainline work shall not resume unless approved by the engineer.

1130-65-74 & 1130-65-78

STH 441

- Continue construction of Bridge B-44-0326 Piers and Abutments.
- Continue construction of Bridge B-44-0327 Piers and Abutments.
- Begin construction of Retaining Wall R-44-0045.

STAGE 2A & 2A-1 CONSTRUCTION:

1130-65-71

IH 41

- On IH 41 NB construct temporary widening and ESB in the median.
- Continue construction of Pre-Cast Box Culvert C-44-0146 in Stage 2A-1.

1130-65-72

IH 41

- On IH 41 NB continue construction of temporary widening and EBS in the median.
- Construct Proposed CD lanes between CTH E and STH 441 Ramps.
- Construct interim Pond A.

1130-65-73

IH 41

- On IH 41 NB Construct Temporary Widening EBS, and crossover in the median.
- Continue construction of Pre-Cast Box Culverts C-44-0147 in Stage 2A-1.
- Begin construction of Pond D.

1130-65-74 & 1130-65-78

STH 441

- Continue construction of Bridge B-44-0128.
- Continue construction of Bridge B-44-0326.
- Continue construction of Bridge B-44-0327.
- Continue construction of Retaining Wall R-44-0045.
- Begin construction of Retaining Wall R-44-0047.
- Begin construction of STH 441 SB and Ramps WS, ES, and SW.
- Complete Ramp NTD for use in future staging.

STAGE 2B & 2B-1 CONSTRUCTION:

1130-65-71

IH 41

- On IH 41 NB construct temporary widening on the outside shoulder.
- Continue Construction of Pre-Cast Box Culvert C-44-0146 in Stage 2B-1.

1130-65-72

IH 41

- Construct temporary connections from Proposed CD Lane to IH 41 NB.
- Complete Construction of Proposed CD Lanes between CTH E and STH 441 Ramps.
- Continue Construction of Interim Pond A.

1130-65-73

IH 41

- On IH 41 NB construct temporary widening on the outside shoulder.
- Continue Construction of Pre-Cast Box Culvert C-44-0146 in Stage 2B-1.
- Continue Construction of Pond D.

1130-65-74 & 1130-65-78

STH 441

- Complete construction of Bridge B-44-0128.
- Continue construction of Bridge B-44-0326.
- Continue construction of Bridge B-44-0327.
- Continue construction of Retaining Walls R-44-0045 and R-44-0047.
- Continue construction of STH 441 SB and Ramps WS, ES, SW, and NTD. Prioritize Ramps WS and NTD work as shown in the plans.

STAGE 3A & 3A-1 CONSTRUCTION:

1130-65-71

IH 41

- Construct IH 41 SB Outside Lanes East of Ramp EC.
- Construct Median EBS and Interim Median Ditch.

1130-65-72

IH 41

- Construct IH 41 SB Outside Lanes and ED/EDE Lanes.
- Construct Storm Sewer Trunk Line, EBS, and Interim Ditch in the Median.
- Begin Construction of Pond BC.
- Construct Temporary Pavement Transitions between Existing and Proposed Pavements at Stations 900'SB'+00 and 911'SB'+00 prior to winter configuration.

1130-65-73

IH 41

- Construct IH 41 SB Outside Lanes.
- Construct Storm Sewer Trunk Line, EBS, and Interim Ditch in the Median.
- Complete Construction of Pre-Cast Box Culvert C-44-0147.
- Complete Construction of Pond D.
- Construct Median Crossover.

1130-65-74 & 1130-65-78

STH 441

- Continue Construction of Bridge B-44-0326.
- Continue Construction of Bridge B-44-0327.
- Construct Retaining Wall R-44-0042.
- Complete Construction of Retaining Walls R-44-0045 and R-44-0047.
- Continue Construction of STH 441 SB and Ramps ES and SW.
- Construct Temporary Ramp SE.

STAGE W2 CONSTRUCTION:

1130-65-71

IH 41

- No Construction to occur on IH 41 NB or SB. Work shall not resume unless approved by the engineer.

1130-65-72

IH 41

- No Construction to occur on IH 41 NB or SB other than work on Bridges B-44-0326 and B-44-0327 during dates approved by the engineer. Mainline work shall not resume unless approved by the engineer.

1130-65-73

IH 41

- No Construction to occur on IH 41 NB or SB other than work on Bridges B-44-0326 and B-44-0327 during dates approved by the engineer. Mainline work shall not resume unless approved by the engineer.

1130-65-74 & 1130-65-78

STH 441

- No Construction to occur on STH 441 NB or SB other than work on Bridges B-44-0326 and B-44-0327 during dates approved by the engineer. Mainline work shall not resume unless approved by the engineer.

STAGE 4A CONSTRUCTION:

1130-65-71

IH 41

- Construct IH 41 SB Outside Lanes.
- Construct Storm Sewer Trunk Line, EBS, and Interim Ditch in the Median.
- Complete Construction of Pre-Cast Box Culvert C-44-0146.
- Construct Retaining Wall R-44-0070.

1130-65-72

IH 41

- Complete Construction of IH 41 SB Lanes and ED/EDE Lanes.
- Construct Pond A.
- Complete Storm Sewer Trunk Line, EBS, and Interim Ditch in the Median.

1130-65-73

IH 41

- No Construction.

1130-65-74 & 1130-65-78

STH 441

- Construct STH 441 NB Lanes at Connection to Ramp SE and Bridge B-44-0326.

STAGE 4B CONSTRUCTION:

1130-65-71

IH 41

- Continue Construction of IH 41 SB Outside Lanes.
- Continue Construction of Storm Sewer Trunk Line, EBS, and Interim Ditch in the Median.
- Complete Construction of Pre-Cast Box Culvert C-44-0146.
- Complete Retaining Wall R-44-0070.

1130-65-72

IH 41

- Construct IH 41 SB Inside Lanes.
- Construct Interim Median Ditch.
- Construct IH 41 NB Lanes.
- Complete Barrier Wall on EDE Lanes.

1130-65-73

IH 41

- Construct IH 41 SB Inside Lanes.
- Construct Interim Median Ditch.

1130-65-74 & 1130-65-78

STH 441

- Complete Construction of Bridge B-44-0327.
- Construct STH 441 NB Lanes.
- Construct Ramp NTA.

STAGE 5A CONSTRUCTION:

1130-65-71

IH 41

- Complete IH 41 SB Inside Lanes.
- Complete Interim Median Ditch.

1130-65-72

IH 41

- Complete IH 41 SB Inside Lanes.
- Complete Interim Median Ditch.
- Complete IH 41 NB Lanes.

1130-65-73

IH 41

- Complete IH 41 SB Inside Lanes.
- Complete Interim Median Ditch.

1130-65-74 & 1130-65-78

STH 441

- Complete Construction of STH 441 NB Lanes.
- Complete Construction of Ramp NTA.

STAGE 5B CONSTRUCTION:

1130-65-71

IH 41

- Complete IH 41 SB Inside Lanes.
- Complete Interim Median Ditch.

1130-65-72

IH 41

- Complete IH 41 SB Inside Lanes.
- Complete Interim Median Ditch.
- Complete IH 41 NB Lanes.

1130-65-73

IH 41

- Complete IH 41 SB Inside Lanes.
- Complete Interim Median Ditch.

1130-65-74 & 1130-65-78

STH 441

- Construct Permanent Barrier Wall in the Median.

STAGE 5C

CONSTRUCTION:

1130-65-71

IH 41

- Complete IH 41 SB Inside Lanes.
- Complete Interim Median Ditch.

1130-65-72

IH 41

- Complete IH 41 SB Inside Lanes.
- Complete Interim Median Ditch.
- Complete IH 41 NB Lanes

1130-65-73

IH 41

- Complete IH 41 SB Inside Lanes.
- Complete Interim Median Ditch.

1130-65-74 & 1130-65-78

STH 441

- Construct Barrier Wall gaps between Ramp NTDD and STH 441 SB.
- Construct STH 441 SB Shoulder and Barrier Wall South of Structure B-44-0128.

STAGE W3 CONSTRUCTION:

1130-65-71

IH 41

- No Construction to occur on IH 41 NB or SB. Work shall not resume unless approved by the engineer.

1130-65-72

IH 41

- No Construction to occur on IH 41 NB or SB during dates approved by the engineer. Work shall not resume unless approved by the engineer.

1130-65-73

IH 41

- No Construction to occur on IH 41 NB or SB during dates approved by the engineer. Work shall not resume unless approved by the engineer.

1130-65-74 & 1130-65-78

STH 441

- No Construction.

STAGE 6A CONSTRUCTION:

1130-65-71

IH 41

- Construct IH 41 NB Lanes.
- Construct Noise Wall N-44-0017.
- Construct Retaining Wall R-44-0071.
- Construct Temporary Crossover for Ramp EB.

1130-65-72

IH 41

- Construct IH 41 NB Lanes.

1130-65-73

IH 41

- Construct IH 41 NB Lanes.
- Construct Temporary Crossover from Ramp SE to IH 41 NB Traffic Lanes.
- Prioritize Ramp SE Pavement and Connection.

1130-65-74 & 1130-65-78

STH 441

- No Construction.

STAGE 6B CONSTRUCTION:

1130-65-71

IH 41

- Complete Construction of IH 41 NB Lanes.
- Complete Construction of Retaining Wall R-44-0071.
- Complete Construction of Noise Wall N-44-0017.

1130-65-72

IH 41

- Complete Construction of IH 41 NB Lanes.

1130-65-73

IH 41

- Complete Construction of IH 41 NB Lanes.

1130-65-74 & 1130-65-78

STH 441

- No Construction.

STAGE 7A CONSTRUCTION:

1130-65-71

IH 41

- Construct Permanent Barrier Wall in the Median.

1130-65-72

IH 41

- Construct Permanent Barrier Wall in the Median.

1130-65-73

IH 41

- Construct Permanent Barrier Wall in the Median.

1130-65-74 & 1130-65-78

STH 441

- No Construction.

STAGE 7B CONSTRUCTION:

1130-65-71

IH 41

- Polymer Overlay B-44-324 and B-44-325 (Ballard Road)

1130-65-72

IH 41

- Construct Permanent Barrier Wall between IH 41 NB and the CD Lanes.

1130-65-73

IH 41

- Polymer Overlays B-44-329 (French Road)

1130-65-74 & 1130-65-78

STH 441

- Polymer Overlays B-44-326 and B-44-327 (441 flyover structures)

3.2 Notice to Contractor - New or Revised Temporary Construction Access to IH 41 and STH 441.

The use of any construction access point(s) to IH 41 through right of way which are not shown in the plans is prohibited without the prior written approval from FHWA and the department. To obtain written approval for temporary access to IH 41 during construction, an Interstate Access Justification Report (IAJR) shall be submitted to the engineer. Requirements of the IAJR for access during construction includes the following:

Plan Details:

- The location, dimensions, grades, and slopes for any new/revised temporary construction access point(s) to IH 41.
- Traffic control measures that are required to manage this access change.
- Traffic control measures that are required to secure/close any new construction access points when not in use.
- Erosion control measures required to manage this change, including the location(s) of any tracking pad(s).

Written summary of proposed temporary construction access change including:

- Timeframe to construct, duration in place, and time to remove.
- Cost of proposed temporary access including grading, traffic control, erosion control, and all other items and incidentals to implement and remove the access.
- Benefits in implementing the change (i.e., cost or time savings, ease of construction, increased safety to workers, and the traveling public).
- Signed Construction Permit, Right of Entry, or similar documentation if temporary access crosses private property.

The Work Zone Access Report shall be provided to the engineer a minimum of 14 calendar days prior to the anticipated implementation of the new/revised temporary construction access through the right of way. The request will be reviewed, and if warranted, concurred with by the designated department staff. Following department concurrence, the Work Zone Access Report will be forwarded to FHWA for review and processing. A submittal does not guarantee approval.

ner41-100 (08122024)

3.3 Notice to Contractor, New or Revised Ingress/Egress Access.

The use of any construction ingress and egress access point(s) which are not shown in the plans is prohibited without the prior written approval from the engineer. To obtain written approval for new or revised ingress and egress construction access, a Work Zone Access Request shall be submitted to the engineer. Contact the engineer to obtain a copy of the Work Zone Access Request. Requirements of the Work Zone Access request for access during construction includes, but is not limited to, the following:

Plan Details:

- The location, dimensions, grades, and slopes for any new/revised ingress and egress access point(s).
- Traffic control measures that are required to manage the ingress and egress change.
- Traffic control measures that are required to secure/close any new or revised ingress and egress access points when not in use.
- Erosion control measures required to manage this change, including the location(s) of any tracking pad(s).

Written summary of proposed temporary construction access change including:

- Timeframe to construct, duration in place, and time to remove.
- Cost of proposed temporary access including grading, traffic control, erosion control, and all other items and incidentals to implement and remove the access.
- Benefits in implementing the change (i.e., cost or time savings, ease of construction, increased safety to workers, and the traveling public).

The Work Zone Access Request shall be provided to the engineer a minimum of 14 calendar days prior to the anticipated implementation of the new/revised temporary construction access to IH 41 through the right of way. The request will be reviewed, and if warranted, concurred with by the designated department staff. A submittal does not guarantee approval.

ner41-100 (08122024)

3.4 Notice to Contractor, Roadway Maintenance During Construction.

Add the following to standard spec 104.6.1:

Assist with maintenance of existing roadways and bridges, including work to maintain the existing freeway and local streets during construction and accommodating local repair forces within the work zones. The department will pay for necessary work and materials at the contract unit prices of the bid items used or as extra work if the necessary bid items are not included in the contract.

ner41-100 (03182024)

3.5 Baseline CPM Progress Schedule, Item SPV.0060.0105; CPM Progress Schedule and Accepted Revisions, Item SPV.0060.0110.

Replace standard spec 108.4 with the following:

108.4 Critical Path Method Progress Schedule

108.4.1 Definitions

The department defines terms used in standard spec 108.4 as follows:

Activity: An administrative or construction task performed during the course of the project with a defined duration and scheduled (or actual) start and finish dates.

Critical Path: The longest continuous chain of activities through the CPM schedule that establishes the minimum overall project duration.

Construction Activity: Construction activities are discrete work activities performed by the contractor, subcontractors, utilities, or third parties within the project limits.

CPM Progress Schedule: A Critical Path Method (CPM) Progress Schedule is a network of logically related activities. The CPM schedule calculates when activities can be performed and establishes the critical or longest continuous path or paths of activities through the 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”.

Preliminary Construction Schedule (PCS): The department’s schedule for the contract work, developed during design, and provided to the contractor for informational purposes only.

Float: Float, as used herein, is the total float of an activity; i.e., it is the amount of time between the date when an activity can start (the early start), and the date when an activity must start (the late start). In cases where the total float of an activity has a different value when calculated based on the finish dates, the lower (more critical) value will govern.

Forecast Completion Date: The completion date predicted by the latest accepted CPM Update, which may be earlier or later than the contract completion date, depending on progress.

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.

Initial Work Plan: The initial work plan is a time-scaled CPM schedule showing detailed activities for the first 90 calendar days of work and summary level activities for the remainder of the project.

Intermediate Milestone Date: A contractually required date for the completion of a portion of the work, so that a subsequent portion of the work or stage of traffic phasing may proceed.

Master Project Schedule: The department’s schedule for the contract work, developed during design, and provided to the contractor for informational purposes only.

Work Breakdown Structure (WBS): A framework for organizing the activities that make up a project by breaking the project into successively greater detail by level. A WBS organizes the project work. It does not address the sequencing and scheduling of project activities.

108.4.2 Department’s Preliminary Construction Schedule

The department’s Preliminary Construction 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 Construction Schedule is ease of identification of work availability during each Stage/Phase and the logical relationship between the Stages/Phases. The Preliminary Construction Schedule reflects one possible approach to completing the work, consistent with the traffic phasing requirements and the interim/final completion date(s) contained in the contract. The logic contained in the Preliminary Construction Schedule is not intended to alter or supplement contract requirements for the phasing of the work, but to reflect those requirements. Any reliance on the department’s Preliminary Construction Schedule is at the sole risk of the contractor.

108.4.3 Contractor’s Scheduling Responsibilities

Prepare and submit a CPM progress schedule that accurately reflects the plan for the performance of the work, based on the physical requirements of the Work, and Traffic Phasing requirements. The CPM schedule is the contractor’s committed plan to complete all work within the completion deadlines. The contractor assumes full responsibility for the prosecution of the work as shown. Schedule the Work in the manner required to achieve the completion date and intermediate milestone dates specified in the Prosecution and Progress Special Provision.

Use the latest version of Primavera Project Planner (P6), by Primavera Systems, Inc., Bala Cynwyd, PA to prepare the Initial Work Plan, Baseline CPM Progress Schedule, and Monthly CPM Updates.

Designate a Project Scheduler who will be responsible for scheduling the Work and submit for approval a professional resume describing a minimum of three years of scheduling experience on urban, interstate-highway reconstruction work of similar size and complexity, including recent experience with P6.

108.4.4 Submittals

108.4.4.1 Initial Work Plan

At least 10 business days before the preconstruction meeting, submit an Initial Work Plan (IWP) schedule consisting of the following:

1. 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 28 calendar days (20 business days), unless the engineer accepts requested exceptions.
2. 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 28 calendar days (20 business days). Allow 21 calendar days (15 business days) for department review of submittals.
3. Do not actualize any tasks.
4. Schedule all intermediate milestones in the proper sequence and input as either a "Start On or After" or "Finish On or Before" date. Do not use other constraint types, within the software, without prior approval by the engineer. Do not apply date constraints on any work tasks without prior approval by the engineer. Provide predecessors and successors for each intermediate milestone as necessary to model each Stage of the Work. Unless the engineer accepts a requested exception, the schedule should encompass all the time in the contract period between the starting date and the specified completion date.
5. Provide summary activities for the balance of the project. Summary activities may have durations greater than 28 calendar days (20 business days).
6. Submit the IWP Schedule, including the P6 native data file (XER) and an electronic file (PDF). Submit the P6 native data file (XER) and an electronic file (PDF) to the project engineer and the following DOT email boxes; DOTDTSNERI41@dot.wi.gov
7. The engineer will accept the contractor's Initial Work Plan or provide comments within ten business days after receipt of the Initial Work Plan. Within five business days of receiving the IWP Schedule, the department will schedule a workshop for the contractor to present the IWP Schedule and to answer questions raised during the department's review. Address comments and resubmit the Initial Work Plan as necessary. Do not begin work until the engineer accepts the Initial Work Plan. The department will use the initial work plan to monitor the progress of the work until the Baseline CPM Progress Schedule is accepted.
8. If the baseline acceptance extends more than a month into construction, submit an updated version of the Initial Work Plan on a monthly basis until the engineer accepts the Baseline CPM Progress 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 Baseline CPM Progress Schedule

Within ten business days of receiving an approved IWP, as required by the contract, submit a Baseline CPM Progress Schedule and written narrative consisting of the following:

1. Develop the Baseline CPM schedule. The Baseline CPM is the contractor's committed plan to complete the Work within the time frames required to achieve the contract completion date and Intermediate milestone dates. The department will use the schedule to monitor the progress of the work. Include the following:
 - 1.1 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 28 calendar days (20 business days), unless the engineer accepts requested exceptions.
 - 1.2 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 28 calendar days (20 business days). Allow 21 calendar days (15 business days) for department review of submittals.
 - 1.3 Provide activities as necessary to depict third party work related to the contract.
 - 1.4 Make allowance for specified work restrictions, non-working days, time constraints, calendars, and weather; and reflect involvement and reviews by the department, and coordination with adjacent contractors, utility owners, and other third parties.
 - 1.5 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. Do not use Start-to-Finish relationships. Do not use Finish-to-Start relationships with a lag unless the engineer accepts requested exceptions.
- 1.6 Schedule activities shall include a clear and legible description. The use of abbreviations shall be limited. Descriptions shall include an action verb describing the work performed, a basic description of the materials used, and, where applicable, a general location of the work.
 - 1.7 Schedule all intermediate milestones in the proper sequence and input as either a "Start On or After" or "Finish On or Before" date. Do not use other constraint types, within the software, without prior approval by the engineer. Do not apply date constraints on any work tasks without prior approval by the engineer. Provide predecessors and successors for each intermediate milestone as necessary to model each Stage of the Work. Unless the engineer accepts a requested exception, the schedule should encompass all the time in the contract period between the starting date and the specified completion date.
 - 1.8 Develop and submit an anticipated cash-flow curve for the project within the P6 application, based on the Baseline CPM schedule by assigning cost values to stage or substage summary tasks that total the value of the contract. An example will be provided by the department of a previously accepted cash-flow diagram (created in p6). The example will provide resource type and details required.
 - 1.9 Provide budgeted quantities consistent with the bid quantities on selective construction tasks within the CPM schedule. The engineer will provide a summarized list of generalized quantities required on construction activities. Quantities are to be added to the activity name description only.
 - 1.10 Do not actualize any tasks.
 2. Provide an electronic PDF of the CPM schedule depicting the CPM network. Organize the logic diagram by grouping related activities using the WBS that matches the work requirements as laid out in the prosecution and progress.
 3. Provide a written narrative with the baseline CPM 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:
 - 3.1 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.
 - 3.2 Use of constraints.
 - 3.3 Use of calendars.
 - 3.4 Estimated number of adverse weather days on a monthly-basis.
 - 3.5 Scheduling of permit and environmental constraints, and coordination of the schedule with other contractors, utilities, and public entities.
 4. Submit the Baseline CPM Narrative and schedule including the P6 native data file (XER) and an electronic file (PDF). Submit the P6 native data file (XER), an electronic file (PDF), and written narrative (PDF) to the project engineer and the following DOT email boxes; DOTDTSNERI41@dot.wi.gov.

Within ten business days of receiving the Baseline CPM, the engineer will provide comments. And accept or reject the Baseline CPM based solely on whether the schedule is complete as specified in this section and meets the requirements of the contract. The engineer's acceptance of the schedule does not modify the contract and does not relieve the contractor from meeting the contract requirements. The Baseline CPM schedule may, but not limited to, be rejected for one of the following reasons

- Does not meet the requirements as laid out in these special provisions
- Out of sequence work
- Missing significant work
- Quantity differences significant enough impacting critical path or near critical path work

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

108.4.4.3 Monthly CPM Updates

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

1. Actual start dates, completion percentages, and remaining durations for activities started but not completed, and actual finish dates for completed activities.
2. 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.
3. Include a narrative report that includes a brief description of monthly progress, changes to the critical path from the previous update, sources of delay, potential problems, work planned for the next 30 calendar days, and changes to the CPM schedule. Changes to the logic of the CPM schedule include the addition or deletion of activities and changes to activity descriptions, original durations, relationships, constraints,

calendars, or previously recorded actual dates. Justify changes to the CPM schedule in the narrative by describing associated changes in the planned methods or manner of performing the work or changes in the work itself.

4. Submit each CPM Schedule update, including the P6 native data file (XER) and an electronic file (PDF). Submit the P6 native data file (XER), the electronic file (PDF), responses to the DOT review comments, and the progress schedule update narrative to the project engineer and the following DOT email boxes; DOTDTSNERI41@dot.wi.gov.
5. Within ten business days of receiving each CPM Update, the engineer will provide comments and schedule a meeting as necessary to address comments raised in the engineer's review. Address the engineer's comments as described in the comment review spreadsheet.

108.4.4.4 Three-Week Look-Ahead Schedules

Submit Three-Week Look-Ahead Schedules on a weekly basis after notice to proceed (NTP). The schedule can be hand drawn or generated by computer. With each Three-Week Look-Ahead include:

1. Activities underway and as-built dates for the past week.
2. Planned work for the upcoming two-week period.
3. The activities of the Three-Week Look-Ahead schedule shall include the activities underway and critical RFIs and submittals, based on the CPM schedule. The Three-Week Look-Ahead may also include details on other activities not individually represented in the CPM schedule.
4. 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 schedule.

108.4.4.5 Weekly Production Data

Provide estimated and actual weekly production rates for items of work on a weekly basis as follows:

1. Provide data on the following items by area or station:
 - 1.1 Retaining Walls—SF per week
 - a. MSE Walls
 - 1.2 Bridge Construction
 - a. Foundation Pile—Each per week
 - b. Foundation/Substructure Concrete—CY per week
 - c. Structural Steel Girders—Each per week
 - d. Prestressed Concrete Girders—Each per week
 - e. Deck Formwork—SF per week
 - 1.3 Roadway Excavation—CY per week
 - 1.4 Roadway Structural Section
 - a. Grading/Subgrade Preparation—SY per week
 - b. Base Material Placement—Ton per week
 - c. Base Material Subgrade Preparation—SY per week
 - d. Asphalt Pavement—Ton per week
 - e. Concrete Pavement—SY per week
2. For each item, indicate the actual daily production for the past week and the anticipated weekly production for the next week.
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

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.

108.4.6 CPM Progress Schedule Revisions

Revision by the contractor—If necessary due to changes in the Work or project conditions and authorized by the engineer, the contractor may submit a CPM Progress Schedule Revision, although the next CPM Update is not yet due. Prepare the CPM Revision in the same format as required for CPM Updates, including justification for changes to the schedule. The process for comment and acceptance of a CPM

Revision will be the same as for CPM Updates. If the CPM Revision is accepted, prepare the next monthly update based on the revised CPM. If the CPM Revision is rejected, prepare the next monthly update based on the previous month's update.

Engineer's Right to Request Revisions - The engineer will monitor the progress of the work and may request revisions to the CPM schedule. Revise the schedule as requested by the engineer, and submit a CPM Progress Schedule Revision within ten business days of the request. The process for comment and acceptance of a CPM Revision will be the same as for CPM Updates. The engineer may request that the contractor revise the CPM schedule for one or more of the following reasons:

1. The forecast completion date is scheduled to occur more than 14 calendar days after the contract completion date.
2. An intermediate milestone is scheduled to occur more than 14 calendar days after the date required by the contract.
3. The engineer determines that the progress of the work differs significantly from the current schedule.
4. 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.

108.4.7 Documentation Required for Time Extension Requests

To request a time extension to an intermediate milestone date or the contract completion date associated with changes to the work, provide a narrative detailing the work added or deleted and the other activities affected, based on the latest accepted CPM Update. For added work, submit a proposed fragment of activities to be added or revised in the CPM schedule, indicating how the fragment is to be tied to the CPM schedule.

To request a time extension to an intermediate milestone date or the contract completion date associated with delays to the work, provide a narrative detailing the affected activities and the cause of the delay, based on the latest accepted CPM Update. Requests for time extensions due to delays should meet the following criteria:

1. For requests to extend the contract completion date, include a description of how the delay affected the project's critical path, based on the latest accepted CPM Update.
2. For requests to extend an intermediate milestone date, include a description of how the delay affected the controlling (longest) path to the milestone, based on the latest accepted CPM Update.
3. The department and the contractor agree that float is not for the exclusive use or financial benefit of either party. Either party has the full use of the float on a first come basis until it is depleted.

108.4.8 Payment for CPM Progress Schedule

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.0060.0105	Baseline CPM Progress Schedule	EACH
SPV.0060.0110	CPM Progress Schedule and Accepted Revisions	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 Baseline CPM schedule. The department will retain ten percent of each estimate until the department accepts the Baseline CPM 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 Baseline CPM schedule after the department accepts the schedule. Thereafter, the department will pay the contract unit price for each monthly CPM Update, acceptably completed. The department will pay the contract unit price for CPM Revisions, if the department accepts the revision. The department will not pay for proposed revisions that are not accepted.

3.6 Lane Rental Fee Assessment.

A General

This special provision describes lane rental fee assessments.

The contract designates some lane, ramp, and full closures to perform the work. The contractor will not incur a Lane Rental Fee Assessment for closing lanes or ramps during the allowable closure times. The contractor will incur a Lane Rental Fee Assessment for each lane closure or ramp closure outside of the allowable closure times. If a lane or ramp is obstructed at any time due to contractor operations, it is considered a closure. The purpose of lane rental is to enforce compliance of closure restrictions and discourage unnecessary closures.

Submit the dates of the proposed lane, ramp, and roadway restrictions to the engineer as part of the progress schedule.

Coordinate lane, ramp, and roadway closures with any concurrent operations on adjacent roadways within 3 miles of the project. If other projects are in the vicinity of this project, coordinate lane closures to run concurrent with lane closures on adjacent projects when possible. When lane closures on adjacent projects extend into the limits of this project, Lane Rental Fee Assessments will only occur if the closure facilitates work under this contract.

B Lane Rental Fee Assessment

The Lane Rental Fee Assessment incurred for each lane closure, each ramp closure, and each full closure of a roadway, per direction of travel, is as follows:

- \$3,000 initial infraction plus **Lane Rental Assessment Rate** per lane, per direction of travel, per hour broken into 15-minute increments as shown below:

Highway	County	Lane Rental Assessment Rate (\$/hour)
IH 41 Mainline and Ramps	Outagamie	\$3,000
STH 441 Mainline and Ramps	Outagamie	\$3,000
STH 441 System Interchange Ramps	Outagamie	\$3,000

The Lane Rental Fee Assessment represents a portion of the cost of the interference and inconvenience to the road users for each closure. All lane, roadway, or ramp closure event increments 15 minutes and less will be assessed as a 15-minute increment.

The engineer, or designated representative, will be the sole authority in determining time period length for the Lane Rental Fee Assessment.

Lane Rental Fee Assessments will not be assessed for closures due to crashes, accidents or emergencies not initiated by the contractor.

The initial infraction is applied per event and will be added to the separate lane rental assessment calculated per 15-minute increment (\$/hour).

The department will assess Lane Rental Fee Assessment by the dollar under the administrative item Failing to Open Road to Traffic. The total dollar amount of Lane Rental Fee Assessment will be computed by multiplying the Lane Rental Assessment Rate by the number of 15-minute increments of each lane closure event as described above plus the initial infraction.

Lane Rental Fee Assessment will be in effect from the time of the Notice to Proceed until the department issues final acceptance. If interim completion time or contract time expires before the completion of specified work in the contract, additional liquidated damages will be assessed according to standard spec 108.11 or as specified within this contract.

ner41-643 (102825)

3.7 Nighttime Work Lighting-Stationary.

A. Description

This special provision describes furnishing portable lighting as necessary to complete nighttime work. Nighttime operations consist of work specifically scheduled to occur after sunset and before sunrise.

B. (Vacant)

C. Construction

C.1 General

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

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

1. Layout, including location of portable lighting – lateral placement, height, and spacing. Clearly show on the layout the location of all lights necessary for every aspect of work to be done at night.
2. Specifications, brochures, and technical data of all lighting equipment to be used.
3. The details on how the luminaires will be attached.
4. Electrical power source information.
5. Details on the louvers, shields, or methods to be employed to reduce glare.
6. Lighting calculations. Provide illumination with average to minimum uniformity ratio of 5:1 or less throughout the work area.
7. Detail information on any other auxiliary equipment.

C.2 Portable Lighting

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

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

C.3 Light Level and Uniformity

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

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

C.4 Glare Control

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

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

1. Aim tower-mounted luminaires, either parallel or perpendicular to the roadway, so as to minimize light aimed toward approaching traffic.
2. Aim all luminaires such that the center of beam axis is no greater than 60 degrees above vertical (straight down).

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

C.5 Continuous Operation

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

D. (Vacant)

E. Payment

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

4. Meetings.

4.1 Non-Mandatory Pre-Bid Meeting.

Add the following to standard spec 102.3.1:

Prospective bidders are invited to attend a pre-bid meeting Tuesday June 23, 2026, from 2:00 PM to 3:00 PM. Ballard and Northland Rooms. 3600 Commerce Court, Appleton, WI 54911

No meeting minutes will be prepared. Issues discovered at the meeting which may impact the contract will be handled by addendum.

ner41-102 (12052023)

4.2 Partnering Meetings Monthly.

A Description

The department will implement mandatory monthly leadership partnering meetings. Unless the department and contractor agree otherwise, the contractor, project design engineers, and department field personnel shall meet monthly from project start until the contractor accepts the tentative final estimate. The contractor and department field personnel may mutually agree to invite other attendees.

The department will develop all meeting agendas and compile all meeting notes to be shared with the meeting attendees.

This meeting is intended to facilitate a cooperative team environment that defines roles and responsibilities, determines common goals and objectives, and provides a platform to build trust and accountability. Meeting topics may include:

- Issue and risk management
- Dispute resolution procedures
- Safety
- Public outreach
- Traffic management
- Cost reducing incentives
- Claim resolution
- Scheduling issues
- Quality control

All cost associated with these meetings are incidental to the contract work.

ner41-103 (12052023)

4.3 Coordination with Businesses and Residents.

Participate in department-sponsored public involvement meetings as directed by the engineer. Ensure that representatives of subcontractors responsible for activities to be discussed at the public involvement meeting are also available to participate in the meeting if directed by the engineer.

The department will schedule meetings as necessary and will notify the contractor seven days prior to the meeting date of the time and location of the meeting such that the contractor can make appropriate accommodations to attend the meeting.

Anticipated meetings include, but are not limited to:

- Quarterly basis
- Before each traffic shift
- Access changes
- Long-term closures
- As directed by the engineer

ner41-105 (12052023)

4.4 Traffic Meetings and Traffic Control Scheduling.

Every Tuesday by 10 PM and at least 12-hours prior to the weekly progress, 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, closure type, speed reductions, width reductions, closure 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. The closure schedule submittal does not guarantee approval. Requested closures will be discussed in the weekly progress meetings, including any coordination between projects.

The Prime contractor and traffic control contractor are required to attend traffic control meetings as scheduled by the engineer. 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.

ner41-105 (08222024)

5. Traffic and Restrictions to Work.

5.1 Traffic.

General

Maintain emergency vehicle access at all times.

Prior to any traffic control being placed, provide the engineer, Wisconsin State Patrol and Outagamie County Highway Maintenance with the name and telephone number of a local person responsible for the emergency maintenance of traffic control. Contact the IH 41 Traffic Management Engineer, Susan Paulus, at (414) 460-3409 for the individuals at the Wisconsin State Patrol and Outagamie County Highway Maintenance.

After written notice to proceed, and prior to Final Acceptance of the work, assist with maintenance of existing roadways and bridges as specified in section 104.6.1 of the standard specifications. This assistance may include performance of work covered under pay items or accommodating local repair forces within the work zones. Maintain all newly constructed work as specified in 104.6.1 of the standard specifications. Various pay items may be required to maintain the existing freeway and local streets during construction.

Freeway Service Team (FST)

The department has contracted with a private towing vendor to patrol parts of IH 41 during weekdays, holidays and special events. To improve safety and minimize delay, contact 911 immediately for breakdowns or incidents in or near the construction work zone. The FST will be dispatched directly to the scene to aid the vehicles that need to be removed.

Freeway Traffic Control Meeting

The contractor shall conduct a traffic control meeting before:

1. Initial traffic control set up.
2. Intermediate traffic switches.
3. Full freeway closures.
4. Reopening of the highway to traffic.
5. Closures involving multiple projects or over-lapping project limits.

Notify the IH 41 Traffic Management Engineer, Susan Paulus, at (414) 460-3409 seven business days before setting up the meeting.

Traffic Operations During Construction

Traffic shifts shown in a given stage may occur at different times during that stage depending on the controlling elements for a given traffic movement as approved by the engineer. Short term closures that impact long term detour routes should be coordinated with Susan Paulus in advance of the short term closure. The department anticipates that the schedule of major freeway traffic shifts and roadway openings and closings for each stage shall be as follows, unless approved by the engineer:

Stage 1 TRAFFIC:1130-65-71IH 41

- IH 41 NB and SB traffic to remain on existing lanes.
- Off peak lane closures are allowed on both IH 41 NB and SB.

1130-65-72IH 41

- IH 41 NB and SB traffic to remain on existing lanes.
- Off peak lane closures are allowed on both IH 41 NB and SB.

CTH E

- Traffic to remain on existing lanes.
- Ramps to remain open during peak hours.

1130-65-73

IH 41

- IH 41 NB and SB traffic to remain on existing lanes.
- Off peak lane closures are allowed on both IH 41 NB and SB.

1130-65-74 & 1130-65-78

STH 441

- STH 441 NB and SB traffic to remain on existing lanes.
- Off peak lane closures are allowed on both STH 441 NB and SB.
- On and off ramps to CTH OO are to remain open during peak hours.

Ramp SE (STH 441 NB - IH 41 NB)

- To remain open on existing lanes.

Ramp WS (IH 41 NB - STH 441 SB)

- To remain open on existing lanes.
- Off peak ramp closures are allowed.

Existing STH 441 NB - IH 41 SB RAMP

- To remain open on existing lanes.
- Off peak ramp closures are allowed.

Existing IH 41 SB - STH 441 SB RAMP

- To remain open on existing lanes.
- Off peak ramp closures are allowed.

CTH OO

- EB and WB traffic shifted on to shoulders.
- Left turn lanes to both STH 441 NB and SB shifted into existing inside through lane in a combined through/left lane.

STAGE W1 TRAFFIC:1130-65-71

IH 41

- IH 41 NB and SB traffic to remain on existing lanes.

1130-65-72

IH 41

- IH 41 NB and SB traffic to remain on existing lanes.

CTH E

- Traffic to remain on existing lanes and all ramps are to remain open.

1130-65-73

IH 41

- IH 41 NB and SB traffic to remain on existing lanes.

1130-65-74 & 1130-65-78

STH 441

- STH 441 NB traffic to remain on existing lanes.
- STH 441 SB traffic shifted onto temporary pavement.

Ramp SE (STH 441 NB - IH 41 NB)

- Traffic on existing lanes.

Ramp WS (IH 41 NB - STH 441 SB)

- Traffic shifted onto temporary pavement.

Existing STH 441 NB - IH 41 SB RAMP

- Traffic on existing lanes.

Existing IH 41 SB - STH 441 SB RAMP

- Traffic on existing lane north of IH 41.
- Traffic shifted onto temporary pavement south of IH 41.

CTH OO

- EB and WB on existing lanes.

STAGE 2A & 2A-1 TRAFFIC:

1130-65-71

IH 41

- IH 41 NB and SB traffic to remain on existing lanes in Stage 2A. IH 41 NB shifts onto temporary pavement in Stage 2A-1.
- Off peak lane closures are allowed on both IH 41 NB and SB.

1130-65-72

IH 41

- IH 41 SB traffic to remain on existing lanes.
- IH 41 NB Traffic shifted to temporary pavement in the median.
- Off peak lane closures are allowed on both IH 41 NB and SB.

CTH E

- Traffic to remain on existing lanes.

- Ramp EA closed.

1130-65-73

IH 41

- IH 41 NB and SB traffic to remain on existing lanes in Stage 2A. IH 41 NB shifts onto temporary pavement in Stage 2A-1.
- Off peak lane closures are allowed on both IH 41 NB and SB.

1130-65-74 & 1130-65-78

STH 441

- STH 441 NB reduced to one lane. Traffic to remain on existing pavement.
- STH 441 SB reduced to one lane and crossed over to STH 441 NB inside lane

Ramp SE (STH 441 NB - IH 41 NB)

- To remain open on existing ramp.

Ramp WS (IH 41 NB - STH 441 SB)

- Ramp closed.

Existing STH 441 NB - IH 41 SB Ramp

- Reduced to one lane. Traffic to remain on existing lane.

Existing IH 41 SB - STH 441 SB Ramp

- Traffic to cross over on to STH 441 NB-IH 41 SB ramp. A single lane will be open to traffic.

Existing STH 441 NB - CTH OO Ramp

- Ramp to remain open to traffic.

Ramp NTD (STH 441 SB-CTH OO)

- Ramp closed.

CTH OO

- EB and WB open on existing lanes.
- Off-peak lane closures allowed on CTH OO WB.

STAGE 2B & 2B-1 TRAFFIC:

1130-65-71

IH 41

- IH 41 SB traffic to remain on existing lanes.
- IH 41 NB traffic on temporary widening in median in Stage 2B and shifts to outside temporary widening in Stage 2B-1.
- Off peak lane closures are allowed on both IH NB and SB.

1130-65-72

IH 41

- IH 41 SB traffic to remain on existing lanes.
- IH 41 NB traffic shifted to temporary pavement in the median.
- Off peak lane closures are allowed on both IH 41 NB and SB.

CTH E

- Traffic to remain on existing lanes.

- Ramp EA closed.

1130-65-73

IH 41

- IH 41 SB traffic to remain on existing lanes.
- IH 41 NB traffic on temporary widening in median in Stage 2B and shifts to outside temporary widening in Stage 2B-1.
- Off peak lane closures are allowed on both IH 41 NB and SB.

1130-65-74 & 1130-65-78

STH 441

- Traffic pattern on STH 441 NB and SB unchanged from Stage 2A.

Ramp SE (STH 441 NB - IH 41 NB)

- Traffic pattern unchanged from Stage 2A

Ramp WS (IH 41 NB - STH 441 SB)

- Ramp closed.

Existing STH 441 NB - IH 41 SB Ramp

- Traffic pattern unchanged from Stage 2A.

Existing IH 41 SB - STH 441 SB Ramp

- Traffic pattern unchanged from Stage 2A.

CTH OO

- EB and WB traffic on existing lanes.
- Two thru lanes open in each direction.
- Left turn lanes open.

STAGE 3A & 3A-1 TRAFFIC:

1130-65-71

IH 41

- IH 41 SB shifted to IH 41 NB on Temporary Pavement.
- IH 41 NB shifted to outside Existing Lane and Temporary Pavement.

1130-65-72

IH 41

- IH 41 SB shifted to IH 41 NB on Temporary Pavement.
- IH 41 NB shifted to CD Lanes between CTH E and STH 441 Ramps.

CTH E

- Traffic to remain on Existing Lanes.
- Ramp ED to remain open and on Existing Ramp in Stage 3a. Shift Traffic onto Completed Proposed Pavement in Stage 3a-1
- Ramp EC Traffic to use Temporary Ramp to access IH 41 SB.

1130-65-73

IH 41

- IH 41 SB shifted to IH 41 NB on Temporary Pavement.

- IH 41 NB shifted to Outside Existing Lane and Temporary Pavement.
- Traffic to access IH 41 SB - STH 441 SB Ramp via Temporary Ramp.

1130-65-74 & 1130-65-78

STH 441

- STH 441 SB crossed over to STH 441 SB completed Proposed Pavement on Temporary Crossover South of IH 41.
- Traffic pattern on STH 441 NB unchanged from Stage 2A.

Ramp SE (STH 441 NB - IH 41 NB)

- Traffic pattern unchanged from Stage 2A.
- Off peak ramp closures allowed.

Ramp WS (IH 41 NB - STH 441 SB)

- One Lane open to traffic on New Pavement.

Existing STH 441 NB - IH 41 SB Ramp

- Ramp closed.

Existing IH 41 SB - STH 441 SB Ramp

- Traffic pattern unchanged from Stage 2A.
- Off peak ramp closure allowed to construct IH 41 SB Temporary Pavement Transition between Existing and Proposed Pavements.

Ramp NTD (STH 441 SB - CTH OO)

- Ramp open in Temporary Traffic Configuration.

CTH OO

- Traffic pattern unchanged from Stage 2B.

STAGE W2 TRAFFIC:

1130-65-71

IH 41

- IH 41 NB and SB Traffic on Existing Lanes.

1130-65-72

IH 41

- IH 41 SB on Completed Proposed Outside Lanes. Traffic on Existing Lanes between approx. STA 900'SB'+00 to STA 911'SB'+00.
- IH 41 NB shifted towards the median on Temporary and Existing Pavements.
- Proposed completed IH 41 NB CD Lanes in Operation in Temporary Configuration.

1130-65-73

IH 41

- IH 41 NB and SB Traffic on Existing Lanes.

1130-65-74 & 1130-65-78

STH 441

- STH 441 SB on Completed Proposed Pavement.
- STH 441 NB on Existing Lanes.

Ramp SE (STH 441 NB - IH 41 NB)

- Traffic on Existing and Completed Proposed Pavements.

Ramp WS (IH 41 NB - STH 441 SB)

- Open on Completed Proposed Ramp.

Ramp SW (STH 441 NB - IH 41 SB)

- Ramp Closed.

Ramp ES (IH 41 SB - STH 441 SB)

- Traffic Pattern Unchanged from Stage 3A.

STAGE 4A TRAFFIC:

1130-65-71

IH 41

- IH 41 SB shifted to IH 41 NB on Temporary Pavement.
- IH 41 NB shifted to Outside Existing Lane and Temporary Pavement.

1130-65-72

IH 41

- IH 41 SB shifted to IH 41 NB on Temporary Pavement.
- IH 41 NB shifted to CD Lanes between CTH E and STH 441 Ramps.

CTH E

- Traffic to remain on Existing Lanes.
- Ramp ED to remain open via Temporary Ramp Crossover.
- Ramp EC Traffic to use Temporary Ramp to access IH 41 SB.

1130-65-73

IH 41

- IH 41 SB shifted to IH 41 NB on Temporary Pavement.
- IH 41 NB shifted to Outside Existing Lane and Temporary Pavement.

1130-65-74 & 1130-65-78

STH 441

- STH 441 SB on Completed Proposed Lanes.
- STH 441 NB Reduced to one Existing Lane. STH 441 NB closed North of Ramp SE.

Ramp SE (STH 441 NB - IH 41 NB)

- Traffic on Temporary Ramp.

Ramp WS (IH 41 NB - STH 441 SB)

- One Lane Open to Traffic on New Pavement.

Existing STH 441 NB - IH 41 SB Ramp

- Ramp Closed.

Existing IH 41 SB - STH 441 SB Ramp

- Ramp Closed.

Ramp NTD (STH 441 SB - CTH OO)

- Ramp Open in Temporary Traffic Configuration.

CTH OO

- EB and WB Open on Existing Lanes.

STAGE 4B TRAFFIC:

1130-65-71

IH 41

- IH 41 SB Shifted to IH 41 NB on Temporary Pavement.
- IH 41 NB Shifted to Outside Existing Lane and Temporary Pavement.

1130-65-72

IH 41

- IH 41 SB on Completed Proposed Outside Lanes.
- IH 41 SB Crosses Over to IH 41 NB East of CTH E.
- IH 41 NB Shifted to CD Lanes between CTH E and STH 441 Ramps.

CTH E

- Traffic to Remain on Existing Lanes.
- Ramp EC Closed.
- Off Peak Closure of Ramp ED Allowed.

1130-65-73

IH 41

- IH 41 SB Crossed Over from IH 41 NB to completed IH 41 SB Proposed Outside Lanes West of Holland Rd.
- IH 41 NB shifted to Outside Existing Lane and Temporary Pavement.

1130-65-74 & 1130-65-78

STH 441

- STH 441 SB on Completed Proposed Lanes.
- STH 441 NB Crosses Over to STH 441 SB Completed Proposed Lanes South of STH OO and then Crosses Back to Completed Proposed STH 441 NB Lanes North of Ramp SE.

Ramp SE (STH 441 NB - IH 41 NB)

- Open to traffic.
- Traffic to Access Ramp from STH 441 NB Lane by Temporary Ramp Crossover.

Ramp WS (IH 41 NB - STH 441 SB)

- Open to One Lane of Traffic on Completed Proposed Ramp.

Ramp SW (STH 441 NB - IH 41 SB)

- Traffic on Completed Proposed Ramp.

Ramp ES (IH 41 SB - STH 441 SB)

- Ramp Closed at Beginning of Stage. Once Bridge B-44-0327 Completed, Open Ramp to Traffic.

CTH OO

- EB and WB Open on Existing Lanes.

- NB on ramp closed.
- Off Peak Lane Closures of WB Allowed.

STAGE 5A TRAFFIC:

1130-65-71

IH 41

- IH 41 SB on Completed Outside Lanes.
- IH 41 NB Traffic Pattern unchanged from Stage 4B.

1130-65-72

IH 41

- IH 41 SB on Completed Outside Lanes.
- IH 41 NB Traffic Pattern unchanged from Stage 4B.

CTH E

- Traffic to remain on Existing Lanes.
- All Ramps Open.

1130-65-73

IH 41

- IH 41 SB on Completed Outside Lanes.
- IH 41 NB Traffic Pattern unchanged from Stage 4B.

1130-65-74 & 1130-65-78

STH 441

- STH 441 NB and SB Traffic Pattern Unchanged from Stage 4B.

Ramp SE (STH 441 NB - IH 41 NB)

- Traffic Pattern Unchanged from Stage 4B.

Ramp WS (IH 41 NB - STH 441 SB)

- Traffic Pattern Unchanged from Stage 4B.

Ramp SW (STH 441 NB - IH 41 SB)

- Traffic Pattern Unchanged from Stage 4B.

Ramp ES (IH 41 SB - STH 441 SB)

- Traffic on Completed Proposed Ramp.

CTH OO

- EB and WB traffic on existing lanes.
- Two thru lanes open in each direction.
- Left turn lanes open.

STAGE 5B TRAFFIC:

1130-65-71

IH 41

- Traffic Pattern Unchanged from Stage 5A.

1130-65-72

IH 41

- Traffic Pattern Unchanged from Stage 5A.

CTH E

- Traffic to Remain on Existing Lanes.
- All Ramps Open.

1130-65-73

IH 41

- Traffic Pattern Unchanged from Stage 5A.

1130-65-74 & 1130-65-78

STH 441

- STH 441 NB Reduced to One Lane on Completed Proposed Pavement.
- STH 441 SB Reduced to One Lane on Completed Proposed Pavement.
- Off Peak Lane Closures on STH 441 SB & NB Allowed.
- Off Peak Ramp Closures Allowed.

Ramp SE (STH 441 NB - IH 41 NB)

- Traffic on Completed Proposed Ramp.

Ramp WS (IH 41 NB - STH 441 SB)

- Traffic Pattern Unchanged from Stage 5A.

Ramp SW (STH 441 NB - IH 41 SB)

- Traffic Pattern Unchanged from Stage 5A.

Ramp ES (IH 41 SB - STH 441 SB)

- Traffic Pattern Unchanged from Stage 5A.

CTH OO

- EB and WB traffic on existing lanes.
- Two thru lanes open in each direction.
- Left turn lanes open.

STAGE 5C TRAFFIC:

1130-65-71

IH 41

- Traffic Pattern Unchanged from Stage 5A.

1130-65-72

IH 41

- Traffic Pattern Unchanged from Stage 5A.

CTH E

- Traffic to Remain on Existing Lanes.
- All Ramps Open.

1130-65-73

IH 41

- Traffic Pattern Unchanged from Stage 5A.

1130-65-74 & 1130-65-78

STH 441

- STH 441 NB and SB on Completed Proposed Pavement.
- Off Peak Closures Allowed on STH 441 SB.

Ramp SE (STH 441 NB - IH 41 NB)

- Traffic Pattern Unchanged from Stage 5B.

Ramp WS (IH 41 NB - STH 441 SB)

- Traffic on Completed Proposed Ramp.

Ramp SW (STH 441 NB - IH 41 SB)

- Traffic on Completed Proposed Ramp.

Ramp ES (IH 41 SB - STH 441 SB)

- Traffic on Completed Proposed Ramp.

CTH OO

- Traffic Pattern Unchanged from Stage 5B.
- Off Peak Ramp Closures Allowed on CTH OO - STH 441 SB Ramp.

STAGE W3 TRAFFIC:

1130-65-71

IH 41

- IH 41 SB on Completed Lanes.
- IH 41 NB shifted to Outside Existing Lane and Temporary Pavement.

1130-65-72

IH 41

- IH 41 SB on Completed Lanes.
- IH 41 NB shifted on to Completed Proposed Pavement.
- Proposed Completed IH 41 NB CD Lanes in Operation in Temporary Configuration.

1130-65-73

IH 41

- IH 41 SB on Completed Lanes.
- IH 41 NB shifted to Outside Existing Lane and Temporary Pavement.

1130-65-74 & 1130-65-78

STH 441

- STH 441 NB and SB on Completed Proposed Pavement.

Ramp SE (STH 441 NB - IH 41 NB)

- Traffic on Completed Proposed Ramp.

Ramp WS (IH 41 NB - STH 441 SB)

- Traffic on Completed Proposed Ramp.

Ramp SW (STH 441 NB - IH 41 SB)

- Traffic on Completed Proposed Ramp.

Ramp ES (IH 41 SB - STH 441 SB)

- Traffic on Completed Proposed Ramp.

STAGE 6A

TRAFFIC:

1130-65-71

IH 41

- IH 41 SB shifted to Completed Proposed Outside Lanes.
- IH 41 NB shifted to Completed IH 41 SB Inside Lanes.

1130-65-72

IH 41

- IH 41 SB shifted to Completed Proposed Outside Lanes.
- IH 41 NB shifted to Completed IH 41 SB Inside Lanes.
- Traffic from IH 41 NB to STH 441 SB Ramp to cross over Completed IH 41 NB lanes to Ramp WS.
- Traffic from Ramp EA to cross over Completed IH 41 NB lanes to access IH 41 NB Traffic Lanes.

CTH E

- Traffic to remain on Existing Lanes.
- Ramp EB Closed.

1130-65-73

IH 41

- IH 41 SB shifted to Completed Proposed Outside Lanes.
- IH 41 NB shifted to Completed Inside IH 41 SB Lanes.

1130-65-74 & 1130-65-78

STH 441

- STH 441 NB and SB Traffic in Final Configuration.

Ramp SE (STH 441 NB - IH 41 NB)

- Ramp Closed.

Ramp WS (IH 41 NB - STH 441 SB)

- Traffic on Completed Proposed Ramp.

Ramp SW (STH 441 NB - IH 41 SB)

- Traffic on Completed Proposed Ramp.

Ramp ES (IH 41 SB - STH 441 SB)

- Traffic on Completed Proposed Ramp.

STAGE 6B TRAFFIC:

1130-65-71

IH 41

- IH 41 SB and NB Traffic Patterns unchanged from Stage 6A.

1130-65-72

IH 41

- IH 41 SB and NB Traffic Patterns unchanged from Stage 6A.

CTH E

- Traffic to Remain on Existing Lanes.
- All Ramps Open. Traffic to Access Ramp EB via Temporary Crossover.

1130-65-73

IH 41

- IH 41 SB and NB Traffic Patterns unchanged from Stage 6A.

1130-65-74 & 1130-65-78

STH 441

- STH 441 NB and SB Traffic in Final Configuration.

Ramp SE (STH 441 NB - IH 41 NB)

- Traffic on Completed Proposed Ramp. Traffic to Access IH 41 NB Traffic Lanes via Temporary Crossover.

Ramp WS (IH 41 NB - STH 441 SB)

- Traffic on Completed Proposed Ramp.

Ramp SW (STH 441 NB - IH 41 SB)

- Traffic on Completed Proposed Ramp.

Ramp ES (IH 41 SB - STH 441 SB)

- Traffic on Completed Proposed Ramp.

STAGE 7A TRAFFIC:

1130-65-71

IH 41

- IH 41 SB Traffic Pattern unchanged from Stage 6B.
- IH 41 NB on Completed Proposed Outside Lanes.
- Off Peak Lane Closures are Allowed on IH 41 NB.

1130-65-72

IH 41

- IH 41 SB Traffic Pattern unchanged from Stage 6B.
- IH 41 NB on Completed Proposed Outside Lanes.
- Off Peak Lane Closures are Allowed on IH 41 NB.

CTH E

- Traffic to Remain on Existing Lanes.
- All Ramps Open.

1130-65-73

IH 41

- IH 41 SB Traffic Pattern unchanged from Stage 6B.
- IH 41 NB on Completed Proposed Outside Lanes.
- Off Peak Lane Closures are Allowed on IH 41 NB.

1130-65-74 & 1130-65-78

STH 441

- STH 441 NB and SB Traffic in Final Configuration.

Ramp SE (STH 441 NB - IH 41 NB)

- Traffic on Completed Proposed Ramp.

Ramp WS (IH 41 NB - STH 441 SB)

- Traffic on Completed Proposed Ramp.

Ramp SW (STH 441 NB - IH 41 SB)

- Traffic on Completed Proposed Ramp.

Ramp ES (IH 41 SB - STH 441 SB)

- Traffic on Completed Proposed Ramp.

STAGE 7B TRAFFIC:

1130-65-71

IH 41

- IH 41 SB Traffic in Final Configuration.
- IH 41 NB on Completed Proposed Outside Lanes.
- Off Peak Lane Closures are allowed on IH 41 NB.

1130-65-72

IH 41

- IH 41 SB Traffic in Final Configuration.
- IH 41 NB on Completed Proposed Outside Lanes.
- Off Peak Lane Closures are allowed on IH 41 NB.

CTH E

- Traffic to Remain on Existing Lanes.
- All Ramps Open during Peak Hours.
- Off Peak Closure of Ramp EA & WS Allowed.

1130-65-73

IH 41

- IH 41 SB Traffic in Final Configuration.
- IH 41 NB Traffic in Final Configuration.

1130-65-74 & 1130-65-78

STH 441

- STH 441 NB and SB Traffic in Final Configuration.

Ramp SE (STH 441 NB - IH 41 NB)

- Traffic on Completed Proposed Ramp.

Ramp WS (IH 41 NB - STH 441 SB)

- Traffic on Completed Proposed Ramp.
- Off Peak Ramp Closure Allowed.

Ramp SW (STH 441 NB - IH 41 SB)

- Traffic on Completed Proposed Ramp.

Ramp ES (IH 41 SB - STH 441 SB)

- Traffic on Completed Proposed Ramp.

Ramp NTD (IH 41 SB - CTH OO)

- Traffic on Completed Proposed Ramp.

Freeway and Service Ramp Work Restrictions

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 entrance and exit ramps may be closed for construction operations during identified lane closure hours or engineer approved timeframes. Coordinate ramp closures with work being performed under separate contracts.

Freeway/Expressway Lane Requirements																										
Limits:	Northbound IH 41: STH 125 to CTH N																									
	AM													PM												
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	2	2	1	1	1	1	
Fridays	1	1	1	1	1	2	2	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	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	
Sundays	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	
Legend																										
1	Off-Peak hours: Provide at least one through freeway lane open in each direction of travel																									
2	Peak hours: Open all IH 41 lanes to travel																									

Freeway/Expressway Lane Requirements																									
Limits:	Southbound IH 41: STH 125 to CTH N																								
	AM												PM												
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	2	2	1	1	1	1
Fridays	1	1	1	1	1	2	2	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	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1
Sundays	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1
Legend																									
1	Off-peak hours: Provide at least one through freeway lane open in each direction of travel																								
2	Peak hours: Open all IH 41 lanes to travel																								

Freeway/Expressway Lane Requirements																									
Limits :	Northbound and Southbound STH 441: STH 96 to IH 41																								
	AM													PM											
From Hour to Hour	1 2	1	2	3	4	5	6	7	8	9	1 0	1 1	1 2	1	2	3	4	5	6	7	8	9	1 0	1 1	1 2
Daily	1	1	1	1	1	1	1	2	2	2	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 STH 441 lanes to travel																								

Full Freeway Closure Hours

IH 41 (NB and SB)

11:00 PM – 4:30 AM

Sunday PM to Monday AM,
Monday PM to Tuesday AM,
Tuesday PM to Wednesday AM,
Wednesday PM to Thursday AM and
Thursday PM to Friday AM

11:00 PM – 6:00 AM

Friday PM to Saturday AM and
Saturday PM to Sunday AM

No lane, ramp or shoulder closures will be permitted during special events or over holiday weekends listed under the Holiday and Special Event Work Restrictions article.

Shoulders may be closed if required by the work operation, but the right and left shoulder may not be closed in the same area at the same time without the approval of the engineer.

Full Freeway Closure

Full closure and detouring of freeway roads will be restricted to Full Freeway and Service Ramp Closure/Hours unless otherwise specified. IH 41 full closure must happen in one direction at a time, except for steel girder erection on bridges B-44-336 and B-44-327. Only one direction of the freeway may be closed at a time unless otherwise approved by the engineer. The freeway may be closed to facilitate the erection of overhead sign support trusses, the removal/demolition of structures, erection of girders, deck pours, drainage crossings, performing work related to major traffic shifts or other work approved by the engineer. Provide signed detour routes, as shown in the plans, fully open and free of construction during all full roadway and service ramp closures.

Submit requests for closures 14 calendar days prior to the planned closure events. Notify State Patrol 7 calendar days prior to closures.

CTH OO Closures

Lane closures are allowed in stages 2A and 5A for paving ramp connections on CTH OO during the following times:

Westbound: 8am-3pm & 6pm-7am

Eastbound: 12am-2pm & 6pm-12am

Times are subject to change if concurrent with any long-term or off-peak ramp closures.

Full closures: 11pm – 4:30am

French Road Closures

Full closures: 11pm – 4:30am

Rolling Closures

IH 41 may and service ramps may be closed for periods not to exceed 20 minutes between the hours of 10:00 PM to the following morning at 4:00 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.

Short-term freeway mainline and service ramp rolling closures may be allowed for a maximum of 15 minutes for the removal and erection of sign structures, equipment moves across the road, or other required work as determined by the engineer.

The department has contracted with the Wisconsin State Patrol to assist with traffic control operations by setting up rolling roadblocks for these closures.

Coordinate with the IH 41 Traffic Management Engineer, Susan Paulus, at (414) 460-3409, on these road closures and provide 72 hours prior notice to the engineer.

Wisconsin Lane Closure System Advanced Notification

Provide the following advance notification to the engineer for incorporation into the Wisconsin Lane Closure System (LCS).

TABLE 108-1 CLOSURE TYPE AND REQUIRED MINIMUM ADVANCE NOTIFICATION

Closure type with height, weight, or width restrictions (available width, all lanes in one direction < 16 feet)	MINIMUM NOTIFICATION
Lane and shoulder closures	7 calendar days
Full roadway closures	7 calendar days
Ramp closures	7 calendar days
Detours	7 calendar days
Closure type without height, weight, or width restrictions (available width, all lanes in one direction ≥ 16 feet)	MINIMUM NOTIFICATION
Shoulder Closures	3 calendar days
Lane closures	3 business days

Ramp closures	3 business days
Modifying all closure types	3 business days

Discuss LCS completion dates and provide changes in the schedule to the engineer at weekly project meetings in order to manage closures nearing their completion date.

Portable Changeable Message Signs (PCMS)

After coordinating with department construction field staff, obtain approval of the proposed message from the IH 41 Traffic Management Engineer, Susan Paulus, at (414) 460-3409 at least 3 business days before deploying or changing a message on a PCMS board.

The following are requirements for deploying PCMS boards:

- 7 days in advance of a full freeway closure.
- 7 days advance of a system ramp closure.
- 3 days advance of a service ramp closure.
- 7 days following a major traffic switch in the direction affected.
- Long-term daytime contractor access points on IH 41.
 - Use PCMS board for first 7 days for each acceleration/deceleration lane is used.
 - Fixed signage used after first 7 days has expired.
- 7 days in advance of a local road closure

Temporary Work Zone Clear Zone Working Restrictions

The temporary work zone clear zone for this project is 18-feet from the edge of traveled way. If auxiliary lanes are present, clear zone is from the outside edge of the auxiliary lane.

Do not perform work in the median at any time unless protected by concrete barrier temporary precast in both directions except as allowed during lane closure periods.

Do not perform work within the clear zone unless protected by concrete barrier temporary precast or a lane closure during the allowed closure periods.

Replace standard spec 104.6.1.2.3 with the following:

If the roadway remains open to through traffic during construction and a drop-off greater than 2-inches occurs within the 18' clear zone, eliminate the drop-off prior to completing that day's work. Unless the special provisions specify otherwise, provide aggregate shoulder material compacted to a temporary 3:1 or flatter cross slope from the surface of the pavement edge.

Replace standard spec 104.6.1.2.4 (1) with the following:

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.

Replace standard spec 104.6.1.2.4 (2) with the following:

Bridge abutments, parapets, pier columns, concrete barrier blunt ends and sign bridge foundations are to remain protected at all times during construction. Removal of existing guardrail shall be done concurrently with, or after, the placement of the concrete barrier temporary precast or concrete barrier temporary precast left in place. It may be necessary to remove existing guardrail in several phase to maintain protection. Coordinate the removal of existing guardrail with the installation of temporary concrete barrier.

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.

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.

Protection of Bridge Pier Columns

Bridge pier columns are to remain protected at all times throughout construction if they are in the clear zone. 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 beam guard shall be done concurrently with the temporary concrete barrier removal.

Private Driveways

Maintain access at all times to all driveways located along IH 41 frontage roads, and all the other side roads within the project limits unless otherwise noted in the plans. Notify the property occupant 5 days in advance of the driveway reconstruction to verify closure or staged driveway construction methods.

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 5 business days due to roadway concrete paving.
- Close driveways for a maximum of 5 business days for grading and placement of base aggregate and concrete paving for each driveway.

IH 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.

Winter Maintenance

During winter months park equipment at a safe distance (a minimum of 30 feet from the edge of travel lane, equipment may be 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 IH 41.

Outagamie County, the City of Appleton and Village of Little Chute will perform snow removal operations for freeway and local roads that are open to through traffic during construction. Snow may be plowed from the traveled roadway into the work site by the maintaining authority. Remove any snow from the work site that may be required to continue work operations.

Provide for snow removal in those areas closed to through traffic as required to facilitate safe construction activities, changes in traffic control and to provide access to properties within the work area. Outagamie County, the City of Appleton or the Village of Little Chute 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 to Traffic Control.

Freight Width Restrictions

IH 41 is designated WisDOT Freight Network Route. During periods no lane closures are allowed, maintain a width restriction no less than 16 feet in each direction, except as indicated in the plans. Movement of OSOW freight is scheduled to occur during this construction project that will require a minimum of 16 feet of horizontal clearance, except as provided for in the plans.

Enter in the correct minimum width restriction in Wisconsin Lane Closure System.

Construction Access

All initial set up or changes to locations of work zone egress or ingress for construction vehicles must be approved by the engineer to ensure work zone traffic and traveling public safety. Factors such as, but not limited to, sight distance, roadway profiles, truck type, and truck frequency are considered. Submit to the engineer a Work Zone Access Request, including locations for freeway access into and out of the work zone for each stage and plans that include signage and parallel decelerations and acceleration lanes for each freeway access into and out of the work zones. Contact the engineer to obtain a copy of the Work

Zone Access Request. Submit a Work Zone Access Request 14 calendar days prior to each stage for review and approval by the engineer.

During the period when lane closures are allowed on IH 41, access into the work zones from IH 41 can be made from the closed lane, subject to the approval of the engineer. Construction traffic from the work zone entering IH 41 shall use an approved acceleration lane or run out of the closed lane. All construction traffic ingress and egress shall be designed using a 60-mph value for "S" following the Standard Detail Drawing Traffic Control Ingress/Egress without Barrier.

During the period when lane closures are not allowed on IH 41, access into and out of the work zones from IH 41 must be made with an engineer approved deceleration and acceleration lanes. All construction traffic ingress and egress shall be designed using a 60-mph value for "S" following the Standard Detail Drawing Traffic Control Ingress/Egress with Barrier. Final lengths will be determined by field conditions and approved by the engineer.

Access time periods and locations are subject to approval of the engineer for Stages 4B and 5 in the IH 41 median.

During periods when lane closures are not allowed, deceleration lanes cannot be placed within 1,500-feet of an interchange ramp that is opened to live traffic. Acceleration lanes cannot be placed within 1,500-feet of an interchange ramp that is opened to live traffic.

Construction traffic exiting or reentering the work zone must be within 10 mph of the posted speed.

Construction traffic cannot travel counter-directional adjacent to IH 41 mainline and ramp traffic except behind temporary concrete barrier.

Delivery of materials and equipment, such as but not limited to semi-trucks, lowboy semis, and delivery trucks, from IH 41 shall only occur during those hours identified as allowable lane closures.

Any approved access points can be closed at any time due to safety or noncompliance issues, as deemed necessary by the engineer.

General Access

U-Turns at existing maintenance crossovers or temporary crossovers between IH 41 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 IH 41 will not be allowed during snow and ice conditions, or any other adverse weather conditions, unless approved by the engineer.

If a 2-mile spacing between lane closures is not attainable, the upstream lane closure project/contractor shall extend that closure into the downstream closure.

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 shall only occur during those hours identified as allowable lane closures associated with the ramp area on IH 41.

5.2 Holiday and Special Event Restrictions.

Do not perform work on, nor haul materials of any kind along or across any portion of highway carrying IH 41 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 may impede the free flow of traffic.

These restrictions apply to the following special event periods:

- Lambeau Field events with anticipated attendance of 30,000 or more:
- IH 41 Northbound
- Begin – 5 hours prior to the posted start time of the event.
- End – At the posted start time of the event.
- IH 41 Southbound
- Begin – At the posted start time of the event.
- End -8 hours after the posted start time of the event

These restrictions apply to the following holidays:

- From noon Friday, September 4, 2026, to 6:00 AM Tuesday September 8, 2026, for Labor Day.

- From noon Friday, November 20, 2026, to 6:00 AM Monday, November 23, 2026, for deer hunting
- From noon Wednesday, November 25, 2026, to 6:00 AM Monday, November 30, 2026, for Thanksgiving
- From noon Wednesday, December 23, 2026, to 6:00 AM Monday, December 28, 2026, for Christmas
- From noon Thursday, December 31, 2026, to 6:00 AM Monday, January 4, 2027, for New Years
- From noon Friday, May 28, 2027, to 6:00 AM Tuesday, June 1, 2027, for Memorial Day
- From noon Friday, July 2, 2027, to 6:00 AM Monday, July 5, 2027, for July 4th
- From noon Friday, September 3, 2027, to 6:00 AM Tuesday, September 7, 2027, for Labor Day
- From noon Friday, November 19, 2027, to 6:00 AM Monday, November 22, 2027, for Deer Hunting
- From noon Wednesday, November 24, 2027, to 6:00 AM Monday, November 29, 2027, for Thanksgiving
- From noon Wednesday, December 23, 2027, to 6:00 AM Monday, December 29, 2027, for Christmas
- From noon Friday, December 31, 2027, to 6:00 AM Monday, January 3, 2028, for New Years
- From noon Friday, May 26, 2028, to 6:00 AM Tuesday, May 30, 2028, for Memorial Day
- From noon Monday, July 3, 2028, to 6:00 AM to Wednesday, July 5, 2028, for July 4th
- From noon Friday, September 1, 2028, to 6:00 AM Tuesday, September 5, 2028, for Labor Day
- From noon Friday, November 17, 2028, to 6:00 AM Monday, November 20, 2028, for Deer Hunting
- From noon Wednesday, November 22, 2028, to 6:00 AM Monday, November 27, 2028, for Thanksgiving
- From noon Friday, December 22, 2028, to 6:00 AM Tuesday, December 26, 2028, for Christmas
- From noon Friday, December 29, 2028, to 6:00 AM Tuesday, January 2, 2029, for New Years
- From noon Friday, May 25, 2029, to 6:00 AM Tuesday, May 29, 2029 for Memorial Day
- From noon Tuesday, July 3, 2029, to 6:00 AM Thursday, July 5, 2029, for July 4th
- From noon Friday, August 31, 2029, to 6:00 AM Tuesday, September 4, 2029, for Labor Day

During special events, do not haul materials of any kind along or across any portion of the following marked State Trunk Highway including:

- STH 441

During holidays, do not haul materials of any kind along or across any portion of the following marked State Trunk Highway including:

- STH 441
- STH 96
- STH 47
- STH 15
- STH 55

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

ner41-107 (11132025)

5.3 Public Convenience and Safety.

Replace standard spec 107.8 (4) with the following:

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

State of Wisconsin:

1. Wisconsin State Patrol: (920) 929-3700

Outagamie County:

Outagamie County

2. Highway Department: (920) 832-5673
3. Public Safety Communications: (920) 832-5000
4. Sheriff's Department: (920) 832-5605

City of Appleton

5. Department of Public Works: (920) 832-5580
6. Police Department: (920) 832-5500
7. Fire Department: (920) 832-5810
8. Appleton Area School District: (920) 852-5300
9. Valley Transit: (920) 832-5800

Village of Little Chute

10. Department of Public Works: (920) 423-3865
11. Fox Valley Metropolitan Police Department: (920) 788-7505
12. Fire Department: (920) 788-7399
13. Little Chute Fire Department (920) 788-7399
14. Little Chute Area School District: (920) 788-7605

The Outagamie 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.

ner41-107 (12052023)

5.4 Temporary Regulatory Speed Limit Reduction – IH 41 & STH 441.

A reduction of the posted regulatory speed is allowed to accommodate construction activities. The following speed reductions shall be used when the following parameters are met:

- 70 mph to 60 mph
 - Lanes are less than 12 feet.
 - Traffic is utilizing cross over.
 - Traffic is utilizing shoulders/temporary pavement.
- 70 mph to 55 mph
 - During allowable nighttime lane reductions and construction activities, vehicles, material storage are within 12' of live traffic without positive barrier wall protection.

During periods of no work activity when devices are pulled back and lanes re-opened, restore speed limit to previously posted speed.

During approved temporary regulatory speed limit reductions, install regulatory speed limit signs on the inside and outside shoulders of the roadway at the beginning of the reduced regulatory speed zone, after all locations where traffic may enter the highway segment or every 1/2 mile within the reduced regulatory speed zone. Signs shall be installed at the end of the temporary regulatory speed zone to designate the end of the temporary regulatory speed zone and inform drivers the posted regulatory speed limit reverts back to the original posted speed limit. To minimize possible confusion to the traveling public and to ensure appropriate speed enforcement, enhanced attention to placement and changing of speed limit signs is required. The begin and end limits of the temporary regulatory speed limit reduction shall be defined in the plans or as directed by the engineer. Speed reduction signing and advancing warning shall be shown in the plans.

No portion of sign text shall be visible when not in use, regardless if it is temporary or permanent regulatory speed limit sign.

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 and height criteria in the Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD).

ner41-643 (08272024)

5.5 Traffic Control.

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 ten (10) days prior to the preconstruction conference.

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.

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.

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.

Cover or remove and reinstall 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:

- Do not park or store any vehicle, piece of equipment, or construction materials on the right-of-way without approval of the engineer or as allowed elsewhere in these special provisions.
- All construction vehicles and equipment entering or leaving live traffic lanes shall yield to through traffic.
- 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.

ner41-643 (12052023)

5.6 Traffic Impact Response Time.

Provide a preferred method of notification and contact information for the contractor's responsible party (the person or persons in charge of coordinating and completing repair efforts) to the engineer at the pre-construction meeting. This person(s) shall be available 24 hours a day, 7 days a week, to respond to any event that impacts the free flow of traffic during non-working hours for the duration of this contract.

Notification is defined as the first phone call/voice message, text message, or email. Impacts to traffic may include, but are not limited to, temporary concrete barrier wall impacts, crash cushion impacts, water ponding on the travel lanes, or pavement deterioration. The contractor designated person needs to be able to promptly address the issues impacting traffic once notified by the engineer.

The contractor shall provide staff to the incident site within one hour of receiving a repair request from the responding agency, that is able to assess the situation, plan, and coordinate the repair operations. The contractor shall consult with the department's representative on potential repair or replacement options to restore the free flow of traffic. Staff and equipment deployed shall be capable of completing the needed repairs as quickly as possible once repair work is started.

If the contractor fails to be on-site of an incident with appropriate staff within one hour of receiving notification for a repair request, the department will assess the contractor a \$500 fee assessment for each 15-minute interval that the contractor is not present following the allotted one-hour response time. Increments of 15 minutes or less will be assessed as a 15-minute increment. The engineer, or designated representative, will be the sole authority in determining assessable 15-minute increments. Fee assessments will be assessed under the administrative item Failing to Open Road to Traffic.

ner41-643 (07082024)

5.7 Local Street Work Restrictions.

Existing trees, street light poles, hydrants and other utility poles are to remain in place during construction unless otherwise noted in the plan. Conduct an on-site visit prior to bidding to determine any special measures required for proper clearance between the trees, hydrants and poles and the paving equipment.

Keep sidewalks open unless otherwise shown on the plans, or to facilitate the removal of structures and erection of girders or as approved by the engineer. Maintain pedestrian access to adjacent properties, businesses, schools, and at bus stops or provide where necessary, as directed by the engineer. Protect pedestrians from falling debris at all times when sidewalks are open.

Provide adequate temporary sidewalk and bridging between the curb and right-of-way line over freshly paved concrete or other obstructions in the sidewalk area, as directed by the engineer.

Construct temporary sidewalk surfaces with a minimum of 2 inches of asphaltic surface temporary or salvaged millings and a minimum of 4-feet wide. Compact the surface of temporary sidewalks until smooth and capable of supporting a wheelchair. The separate payment for the construction of temporary sidewalks including materials, labor, removal and restoration, will not be made by the department but will be considered included in other bid items of work unless otherwise shown on the plans.

Inform property owners and tenants at least 48 hours prior to removing a driveway approach that serves that property. Schedule sidewalk and driveway approach removal and replacement so that the time lapse between removal and replacement is minimal.

Do not close residential approaches or remove from service without sufficient notice given to the occupants of the premises to remove their vehicles prior to driveway removal or closing of the driveway approach access. If necessary, make other access arrangements, agreed to in writing and signed by the contractor and the property owner serviced by the driveway. Obtain approval from the engineer prior to alternating construction sequencing.

ner41-643 (12052023)

5.8 Notice to Contractor, Coordination with Contract 1130-63-72.

Project 1130-63-72 will be responsible for maintaining a smart work zone for the IH 41 corridor. It is anticipated the contractor for the IH 41 Corridor Smart Work Zone project will begin work in April 2025. The primary components of the smart work zone will include Queue Warning Systems (QWS) and Portable Changeable Message Signs (PCMS). It is anticipated that the smart work zone equipment will be maintained at the following locations:

- IH 41 northbound and southbound,
- IH 41 exit ramps,
- STH 441 northbound (south of IH 41),
- STH 441 ramps between the Southern IH 41/USH 10/STH 441 Interchange and
- STH 172 Interchange in Green Bay.

The anticipated equipment installed as part of the project includes portable traffic sensors (PTS) spaced every 1-2 miles on IH 41 (northbound and southbound), on IH 41 and STH 441 exit ramps where excessive queueing is expected, flashing beacon signs (FBS) to alert traffic of unexpected queuing on IH 41 and STH 441 northbound and cellular PCMSs.

The Transportation Management Engineer will provide a map showing the existing locations of the PTSs, which may be installed on signposts, barricades, traffic control drums, or other existing or temporary structures, at the pre-construction meeting. If any PTSs are expected to be impacted by this project, provide notification to the Transportation Management Engineer within 72 hours of the pre-construction meeting.

QWS Deployment

All QWS components will be installed by Project 1130-63-72. Coordinate all IH 41 and STH 441 lane closures, long term ramp closures, and IH 41 and STH 441 stage changes with the Traffic Management Engineer, Susan Paulus at 414-460-3409. Provide the following advance notification to the Traffic Management Engineer.

- Short term (nighttime/off peak) lane closures on IH 41 and STH 441:
 - 72 hours before initial lane closure set up
 - 48 hours before a change in the lane closure location
- Long term exit ramp closures
- 7 days before initial ramp closure

- 72 hours before anticipated ramp opening
 - Traffic Control Stage Change on IH 41 and STH 441
- 7 days before the expected stage change.
- 72 hours before any sub-stage change (including changed locations of staged exit ramps)

Anticipate additional coordination when work zones between multiple construction contracts overlap.

PCMSs

Corridor cellular PCMSs will also be installed as part of Project 1130-63-72. PCMSs will provide advanced notice of both IH 41 mainline and exit ramp queuing, STH 441 northbound queuing, and for incident notifications. The locations of the corridor PCMSs will be provided by the Transportation Management Engineer at the pre-construction meeting. Any changes to their locations will be provided at weekly progress meetings. The corridor PCMSs will be available to this contract for advanced notice of full closures and full closure implementation. Notify the Transportation Management Engineer 10 days in advance of all IH 41 and STH 441 full closures to determine what messages can be placed on the corridor PCMSs and what PCMSs will need to be provided under this contract.

Meetings

Participate in the Traffic Control Meetings scheduled by the engineer to coordinate the corridor QWSs and PCMSs with Project 1130-63-72. Coordinate the removal and installation of PTSs and FBSs on IH 41, STH 441, and exit ramps to ensure the locations do not impact construction activities and that the devices are not blocked or impacted by construction traffic within the work area.

- 5.9 Temporary Overhead Sign Structure (S-01-0001-TEMP), Item SPV.0060.0502;
 Temporary Overhead Sign Structure (S-01-0002-TEMP), Item SPV.0060.0504;
 Temporary Overhead Sign Structure (S-01-0003-TEMP), Item SPV.0060.0520;
 Temporary Overhead Sign Structure (S-01-0004-TEMP), Item SPV.0060.0530;
 Relocating Temporary Overhead Sign Structure (S-01-0003-TEMP), Item SPV.0060.0540;
 Relocating Temporary Overhead Sign Structure (S-01-0004-TEMP), Item SPV.0060.0550;
 Transporting S-01-0001-TEMP to Project, Item SPV.0060.0560;
 Transporting S-01-0002-TEMP to Project, Item SPV.0060.0570;
 Transporting S-01-0003-TEMP to Project, Item SPV.0060.0580;
 Transporting S-01-0004-TEMP to Project, Item SPV.0060.0590;
 Transporting S-01-0001-TEMP to Department, Item SPV.0060.0601;
 Transporting S-01-0002-TEMP to Department, Item SPV.0060.0610;
 Transporting S-01-0003-TEMP to Department, Item SPV.0060.0620;
 Transporting S-01-0004-TEMP to Department, Item SPV.0060.0630.**

A Description

This special provision describes transporting, installing, maintaining, relocating, and removing state-owned Temporary Overhead Sign Structure as shown in the plans.

B Materials

State owned temporary sign structure including sign structure base, columns, and truss members are provided as shown in the plans.

Inspect the state-owned temporary overhead sign structure prior to pick up. Notify the engineer of any defects prior to loading.

Provide anchor rods, nuts, bolts, washers and all necessary mounting equipment per standard specification 531.2.2.

Test galvanized high strength bolts according to DT2322.

Follow standard specification 305 for Base Aggregate Dense 1 ¼-Inch.

C Construction

C.1 General

Store bolts/nuts/washer assemblies in closed containers in a protected shelter to protect them from dirt and moisture until used. Maintain fastener system components as nearly as possible in the as manufactured condition until installed. Remove from storage only as needed and promptly return unused components to storage.

Field verify existing conditions. Verify the clearance of the signs as shown in the plans at the final location of the temporary overhead sign structure. Follow standard specification 305 Base Aggregate Dense 1 ¼-Inch to construct leveling pad a minimum of 6" thick. Increase the thickness of the leveling pad to meet the required vertical clearances as shown in the plan. Place concrete foundation units on prepared leveling pad.

Install high strength bolts according to standard specification 532.3.6. Bolts attaching to the sleeve of the top column should be snug fit only.

Inspect all elements prior to installation. Erect column and chord members according to standard specification 532. Connect chord members on the ground prior to placement on columns.

Provide new F1554 grade 55 threaded rods, high strength bolts, nuts, and washers as shown in the plans. Test new high strength bolts using DT2321 DT2322.

Inspect connected elements of the temporary overhead sign structure prior to placing the chord on the columns. Anchor columns to the foundation blocks and bolt chord members together. Inspect according to standard specification 532.3.8. Inspect structure each time it is erected over traffic.

Remove, transport, and store the temporary overhead sign structure components as directed by the engineer to an alternate site on the project for reinstallation as shown in the plans. If the structure is to be used at the same location at a different time within the same contract, the chord members may be left bolted together and the columns left anchored to the foundation blocks and stored on a site as directed by the engineer.

Store steel components so they are not lying on the ground. Place steel components on sufficient cribbing to keep them straight and clear of the ground.

C.2 Transporting Temporary Overhead Sign Supports

Care must be taken when transporting, loading, and unloading temporary overhead sign structures. Damage caused due to contractor negligence during the transport, loading, unloading, or storage will result in the full replacement of the state-owned temporary overhead sign structure and state-owned components.

Pick up and return temporary overhead sign structures S-01-0001-TEMP and S-01-0002-TEMP to:

WisDOT CO Sign Shop
3609 Pierstorff St
Madison, WI 53704

Coordinate pick up and drop off with: John Eldridge 608-246-3207 (Jonathan.eldridge@dot.wi.gov), 7 days prior to anticipated pick up/drop off.

Pick up and return temporary overhead sign structures S-01-0003-TEMP and S-01-0004-TEMP to:

Wisconsin Department of Transportation – NE Region
944 Vanderperren Way
Green Bay, WI 54304

Coordinate return drop-off with: Eric Sikorski at 920-492-4161 (eric.sikorski@dot.wi.gov), 7 days prior to anticipated drop off.

C.3 Relocating Temporary Overhead Sign Structures

Relocate temporary overhead sign structures as shown in the plans. Relocation includes the removal of the leveling pad and return the site to a condition at least equal to the condition existing prior to installation.

Relocation includes:

- Hauling, storing, and relocating temporary overhead sign structure
- Installation of required leveling pad
- Placement of foundation units on prepared leveling pad

- Verification of overhead clearance as shown in the plans
- Re-assembly of temporary overhead sign structure

D Measurement

The department will measure Temporary Overhead Sign Structure as each individual 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.0060.0502	Temporary Overhead Sign Structure (S-01-0001-TEMP)	EACH
SPV.0060.0504	Temporary Overhead Sign Structure (S-01-0002-TEMP)	EACH
SPV.0060.0520	Temporary Overhead Sign Structure (S-01-0003-TEMP)	EACH
SPV.0060.0530	Temporary Overhead Sign Structure (S-01-0004-TEMP)	EACH
SPV.0060.0540	Relocating Temporary Overhead Sign Structure (S-01-0003-TEMP)	EACH
SPV.0060.0550	Relocating Temporary Overhead Sign Structure (S-01-0004-TEMP)	EACH
SPV.0060.0560	Transporting S-01-0001-TEMP to Project	EACH
SPV.0060.0570	Transporting S-01-0002-TEMP to Project	EACH
SPV.0060.0580	Transporting S-01-0003-TEMP to Project	EACH
SPV.0060.0590	Transporting S-01-0004-TEMP to Project	EACH
SPV.0060.0601	Transporting S-01-0001-TEMP to Department	EACH
SPV.0060.0610	Transporting S-01-0002-TEMP to Department	EACH
SPV.0060.0620	Transporting S-01-0003-TEMP to Department	EACH
SPV.0060.0630	Transporting S-01-0004-TEMP to Department	EACH

Payment for Temporary Overhead Sign Structure is full compensation for furnishing all materials, equipment, and miscellaneous items required for handling, erecting, inspecting, removing, storing, maintaining during the project. Payment also includes the installation of the leveling pad and all required grading and landscaping to restore to existing condition.

Payment for Relocating Temporary Overhead Sign Structure is full compensation for loading, unloading, and transporting the structure within the project limits. Relocating is full compensation for furnishing all materials and miscellaneous items required for handling, erecting, inspecting, removing, storing, maintaining during the project. Payment also includes the installation of the leveling pad and all required grading and landscaping to restore to existing condition.

Payment for transporting the temporary overhead sign structure to/from the designated WisDOT site prior to and after removal and no longer in use for the project, and for coordinating the pickup/drop off with the people listed.

ner41-532 (20260518)

6. Utilities.

6.1 Utilities.

This contract comes under the provision of Administrative Rule Trans 220.

The utility work plan includes additional detailed information regarding the location of known discontinued, relocated, or removed utility facilities. These can be requested from the department during the bid preparation process, or from the project engineer after the contract has been awarded and executed.

Some of the utility work described below is dependent on prior work being performed by the contractor at a specific site. In such situations, provide the engineer and the affected utility a good faith notice of when the utility is to start work at the site. Provide this notice 14 to 16 calendar days in advance of when the prior work will be completed, and the site will be available to the utility. Follow-up with a confirmation notice to the engineer and the utility not less than 3 working days before the site will be ready for the utility to begin its work.

1130-65-71

Any utility facility locations (stations, offsets, elevations, depths) listed in this article are approximate.

AT&T Wisconsin (COMLN) No conflicts anticipated.

City of Appleton (SEWR) has underground sanitary sewer main crossing IH-41 at Station 801'NB'+25. Contact City of Appleton prior to excavating within 10 feet of the sanitary sewer main to provide a watchdog onsite at the following locations during construction:

- Station 801'NB'+25, 47 feet right
- Station 801'NB'+25, 33 feet left
- Station 801'SB'+25, 52 feet left

City of Appleton (WATR) No conflicts anticipated.

Spectrum (COMLN) has underground communication lines along Ramp EB from Station 843'EB'+19 to Station 845'EB'+87 right. Spectrum will discontinue these facilities in place and relocate to an easement outside the proposed right of way prior to construction under work plan approval for Project 1130-65-76.

TDS Metrocom LLC (COMLN) has underground communication lines crossing IH-41 at Station 799'NB'+15. TDS Metrocom LLC will discontinue these facilities in place and relocate to Station 799'NB'+00 prior to construction under work plan approval for Project 1130-64-73.

TDS Metrocom LLC has underground communication lines from Station 802'NB'+29 to Station 835'NB'+03 right that will remain in place. TDS Metrocom LLC does not anticipate any conflicts with these facilities.

TDS Metrocom LLC has underground communication lines from Station 835'NB'+03 to Station 839'NB'+66 right. TDS Metrocom LLC will discontinue these facilities in place and relocate 1 foot inside the proposed right of way prior to construction.

TDS Metrocom LLC has underground communication lines from Station 839'NB'+66 to Station 848'NB'+40 right. TDS Metrocom LLC will discontinue these facilities in place and relocate 1 foot inside the proposed right of way prior to construction under work plan approval for Project 1130-65-76.

TDS Metrocom LLC has underground communication lines from Station 792'SB'+00 to Station 852'SB'+00 left. TDS Metrocom LLC will remove these facilities prior to construction.

We Energies (GSPTR) has underground gas main crossing IH-41 at Station 801'NB'+10. We Energies will discontinue this facility in place and relocate crossing IH-41 to Station 800'NB'+83 prior to construction.

We Energies (ELCTY) No conflicts anticipated.

Windstream KDL, LLC (COMLN) has underground communication lines crossing IH-41 at Station 801'NB'+41. Windstream KDL, LLC will discontinue these facilities in place and relocate crossing IH-41 to Station 802'NB'+20 prior to construction.

1130-65-72

Any utility facility locations (stations, offsets, elevations, depths) listed in this article are approximate.

AT&T Wisconsin (COMLN) has underground communication lines crossing IH-41 at Station 853'NB'+50. AT&T Wisconsin will discontinue these facilities in place and relocate to Station 852'NB'+15 prior to construction under work plan approval for Project 1130-65-76.

AT&T Wisconsin has underground communication lines from Station 530'EDE'+50 to Station 535'EDE'+50 left. AT&T Wisconsin will discontinue these facilities in place and relocate outside the proposed right of way prior to construction under work plan approval for Project 1130-65-78.

City of Appleton (SEWR) has underground sanitary sewer main crossing IH-41 at Station 853'NB'+28 that will remain in place. Adjust manholes to match the new finished pavement elevation. Perform this work in accordance with the requirements of Adjusting Sanitary Sewer Manholes at the following locations during construction:

- Station 853'NB'+28, 100 feet left
- Station 853'NB'+28, 46 feet right

City of Appleton has underground sanitary sewer main crossing IH-41 at Station 883'NB'+80 that will remain in place. Adjust manholes to match the new finished pavement elevation. Perform this work in accordance with the requirements of Adjusting Sanitary Sewer Manholes at Station 883'NB'+61, 104 feet right during construction.

City of Appleton has underground sanitary sewer main along Ramp EDE from Station 527'EDE'+80 to Station 530'EDE'+61 left. City of Appleton will discontinue these facilities in place and relocate prior to construction. City of Appleton will remove and rebuild manhole 48-115 from Station 527'EDE'+80, 18 feet left to Station 527'EDE'+85, 30 left and will fill and discontinue manhole 48-116 at Station 530'EDE'+61, 3 feet left and rebuild at Station 530'EDE'+62, 27 feet left prior to construction.

City of Appleton (WATR) has underground water main from Station 1865'CD'+86 to Station 1883'CD'+30 right. The City of Appleton will discontinue these facilities in place and relocate 10-14 feet inside the proposed right of way prior to construction.

City of Appleton has underground water main crossing IH-41 at Station 873'NB'+43. City of Appleton does not anticipate any conflicts with these facilities.

City of Appleton has (2) valve boxes and (1) hydrant at Station 873'SB'+44, 108 feet left. Contact City of Appleton prior to excavating within 10 feet of the hydrant so City of Appleton can adjust valve boxes and hydrant during construction. Valve box adjustments will require 1 working day each and hydrant adjustment will require 2 working days to complete.

City of Appleton has underground water main crossing IH-41 at Station 883'NB'+62. City of Appleton does not anticipate any conflicts with these facilities.

City of Appleton has underground water main from Station 527'EDE'+56 right to Station 530'EDE'+40 left. The City of Appleton will discontinue these facilities in place and relocate 10 feet inside the proposed right of way prior to construction.

Level 3 Communications LLC (COMLN) has underground communication lines crossing IH-41 at Station 855'SB'+50. Level 3 Communications LLC will discontinue these facilities in place and relocate to Station 855'SB'+83 prior to construction under work plan approval for Project 1130-65-76.

Net Lec LLC (COMLN) No conflicts anticipated.

Spectrum (COMLN) No conflicts anticipated.

TDS Metrocom LLC (COMLN) has underground communication lines from Station 852'SB'+00 to Station 863'SB'+00 left that will remain in place. TDS Metrocom LLC does not anticipate any conflicts with these facilities.

TDS Metrocom LLC has underground communication lines crossing IH-41 at Station 863'SB'+00 that will remain in place. TDS Metrocom LLC does not anticipate any conflicts with these facilities.

TDS Metrocom LLC has underground communication lines from Station 853'SB'+00 to Station 873'SB'+00 left that will remain in place. TDS Metrocom LLC does not anticipate any conflicts with these facilities.

TDS Metrocom LLC has underground communication lines from Station 863'EA'+50 to Station 865'EA'+91 right that will remain in place. TDS Metrocom LLC does not anticipate any conflicts with these facilities.

TDS Metrocom LLC has underground communication lines from Station 865'EA'+91 to Station 898'NB'+58 right. TDS Metrocom LLC will discontinue these facilities in place and relocate 3-6 feet inside the proposed right of way prior to construction.

TDS Metrocom LLC has underground communication lines from Station 228'SET'+07 to Station 920'NB'+00 right. TDS Metrocom LLC will discontinue these facilities in place and relocate 5 feet inside the proposed right of way prior to construction under work plan approval for Project 1130-65-73.

US Signal Company LLC (COMLN) has overhead communication lines crossing IH-41 at Station 911'NB'+45. US Signal Company LLC will remove these overhead facilities and relocate underground to Station 911'NB'+65 and Station 911'NB'+73 prior to construction under work plan approval for Project 1130-65-81.

We Energies (GSPTR) No conflicts anticipated.

We Energies (ELCTY) has overhead electric lines crossing IH-41 at Station 852'SB'+50. We Energies will remove these facilities prior to construction.

We Energies has underground electric line from Station 856'SB'+00 to Station 873'SB'+00 right. We Energies does not anticipate any conflict with these facilities.

We Energies has underground electric lines from Station 877'SB'+36 to Station 879'SB'+88 left.

We Energies will discontinue these facilities prior to construction.

We Energies will contact WisDOT when cable is de-energized from transformer at Station 879'SB'+88, 76 feet left so Automatic Traffic Recorder Site #441218 can be removed prior to construction.

We Energies has electric lines from Station 878'SB'+00 to Station 884'SB'+00 right. We Energies does not anticipate any conflicts with these facilities.

We Energies has underground electric lines from Station 887'SB'+00 to Station 890'SB'+00 left. We Energies does not anticipate any conflicts with these facilities.

We Energies has overhead electric lines crossing IH-41 at Station 911'SB'+00. We Energies will remove these overhead facilities and relocate underground to Station 911'NB'+65 and Station 911'NB'+73 prior to construction under work plan approval for Project 1130-65-81.

We Energies has overhead electric lines from Station 911'SB'+00 to Station 934'SB'+00 left. We Energies does not anticipate any conflicts with these facilities.

1130-65-73

Any utility facility locations (stations, offsets, elevations, depths) listed in this article are approximate.

ANR Pipeline Co (GSPTR) No conflicts anticipated.

AT&T Wisconsin (COMLN) No conflicts anticipated.

ATC Management, Inc. (COMLN) No conflicts anticipated.

ATC Management, Inc. (ELCTT) No conflicts anticipated.

TDS Metrocom LLC (COMLN) has underground communication lines from Station 228'SET'+07 (same as Station 914'NB'+66) to Station 920'NB'+00 right. TDS Metrocom LLC will discontinue these facilities in place and relocate 5 feet inside the proposed right of way prior to construction. (NOTE: these facilities are within the 1130-65-72 Project limits but are being relocated under work plan approval for Project 1130-65-73).

TDS Metrocom LLC has underground communication lines from Station 920'NB'+00 to Station 930'NB'+65 right. TDS Metrocom LLC will discontinue these facilities in place and relocate 5-14 feet inside the proposed right of way prior to construction.

TDS Metrocom LLC has underground communication lines from Station 930'NB'+65 to Station 958'NB'+00 right that will remain in place. TDS Metrocom LLC does not anticipate any conflicts with these facilities.

We Energies (ELCTY) has overhead electric lines and poles from Station 913'SB'+22 to Station 938'SB'+05 left. We Energies will remove these overhead lines and poles from Station 913'SB'+22 to Station 938'SB'+05 left prior to construction.

1130-65-74

Any utility facility locations (stations, offsets, elevations, depths) listed in this article are approximate.

City of Appleton (SEWR) No conflicts anticipated.

Net Lec LLC (COMLN) No conflicts anticipated.

TDS Metrocom LLC (COMLN) No conflicts anticipated.

We Energies (ELCTY) has underground electric lines from Station 697'NTDD'+13 to Station 707'NTDD'+00 left. We Energies will discontinue these facilities in place and relocate to an easement outside of proposed right of way prior to construction under work plan approval for Project 1130-65-78.

We Energies has underground electric lines crossing Ramp WS at Station 126'WS'+75. We Energies will

discontinue these facilities in place and relocate to Station 126'WS'+88 prior to construction under work plan approval for Project 1130-65-78.

We Energies has underground electric lines crossing Ramp SW at Station 404'SW'+14. We Energies will discontinue these facilities in place and relocate to Station 404'SW'+27 prior to construction under work plan approval for Project 1130-65-78.

1130-65-78

Any utility facility locations (stations, offsets, elevations, depths) listed in this article are approximate.

AT&T Wisconsin (COMLN) has underground communication lines from Station 530'EDE'+70 to Station 535'EDE'+00 right that will be discontinued in place and relocated jointly with We Energies (ELCTY) to an easement outside the proposed right of way prior to construction. AT&T Wisconsin will remove existing pedestals and place new pedestals at Station 530'EDE'+70, 65 feet left and Station 535'EDE'+00, 65 feet left prior to construction.

City of Appleton (SEWR) No conflicts anticipated.

City of Appleton (WATR) No conflicts anticipated.

TDS Metrocom LLC (COMLN) has underground communication lines from Station 138'WS'+78 to 143'WS'+89 left that will remain in place. TDS Metrocom LLC does not anticipate any conflicts with these facilities.

TDS Metrocom LLC has underground communication lines from Station 143'WS'+89 to Station 150'WS'+70 left that will remain in place. TDS Metrocom LLC does not anticipate any conflicts with these facilities.

TDS Metrocom LLC has underground communication lines from Station 817'NTD'+72 to Station 829'NTD'+32 left that will remain in place. TDS Metrocom LLC does not anticipate any conflicts with these facilities.

TDS Metrocom LLC will relocate an existing handhole 12 feet west from Station 817'NTD'+72, 66 feet left to Station 817'NTD'+72, 78 feet left prior to construction.

TDS Metrocom LLC will relocate existing underground communication lines from Station 817'NTD'+72, 66 feet left to Station 817'NTD'+72, 78 feet left prior to construction.

TDS Metrocom LLC has underground communication lines crossing Ramp NTD at Station 817'NTD'+80 that will remain in place. TDS Metrocom LLC does not anticipate any conflicts with these facilities.

TDS Metrocom LLC has underground communication lines crossing Ramp ES at Station 321'ES'+50 that will remain in place. TDS Metrocom LLC does not anticipate any conflicts with these facilities.

US Signal Company LLC (COMLN) has overhead communication lines crossing Ramp ES at Station 342'ES'+30. US Signal Company LLC will remove these overhead facilities and relocate jointly with We Energies (ELCTY) underground crossing Ramp ES at Station 342'ES'+68 prior to construction under work plan approval for Project 1130-65-81.

We Energies (ELCTY) has underground electric lines from Station 530'EDE'+70 to Station 535'EDE'+00 right that will be discontinued in place and relocated to an easement outside the proposed right of way prior to construction.

We Energies has underground electric lines crossing Ramp NTD at Station 814'NTD'+32 and Ramp ES at Station 318'ES'+08. We Energies will discontinue these facilities in place and relocate crossing Ramp NTD at Station 814'NTD'+40 and Ramp ES at Station 318'ES'+18 at prior to construction.

We Energies has underground electric lines from Station 810'NTD'+03 to Station 811'NTD'+07 left. We Energies will discontinue these facilities in place and relocate to an easement outside of right of way prior to construction.

We Energies has underground electric lines from Station 707'NTDD'+00 to Station 713'NTDD'+26 left. We Energies will discontinue these facilities in place and relocate to an easement outside of right of way prior to construction.

We Energies has overhead electric lines crossing Ramp ES at Station 342'ES'+30. We Energies will remove these overhead facilities and relocate underground crossing Ramp ES at Station 342'ES'+57 and Station 342'ES'+68 prior to construction under work plan approval for Project 1130-65-81.

6.2 Adjusting Sanitary Manhole Covers, Item SPV.0060.0150.

A Description

This special provision describes adjusting sanitary manhole covers

B Materials

Use materials conforming to standard spec 611.2.

C Construction

Use construction methods conforming to standard spec 611.3 and as follows:

Remove and reinstall existing chimney seals, as necessary to adjust manhole cover.

D Measurement

The department will measure Adjusting Sanitary Manhole Covers by each unit, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.0150	Adjusting Sanitary Manhole Covers	EACH

Payment is full compensation for providing all required materials, exclusive of frames, grates, or lids; and for removing, reinstalling and adjusting the covers, including removing and reinstalling the existing chimney seal.

ner-900-005 (20190718)

6.3 ANR Pipeline Protection, Item SPV.0060.0600.

A Description

This special provision describes protecting existing ANR pipeline.

B Materials

Provide controlled low strength backfill that consists of a designed cementitious mixture of natural or processed materials. Allowable materials include natural sand, natural gravel, produced sand, foundry sand, produced gravel, fly ash, Portland cement, and other broken or fragmented mineral materials. The design mixture shall be self-leveling and shall be free of shrinkage after hardening. Design the mixture to reach a state of hardening such that it can support foot traffic in no more than 24 hours. Provide a mixture that also meets the following requirements.

Test	Method	Value
Flow (inch)	ASTM D-6103	9 min
Compressive	ASTM D-6024	20-40& 14 days
Strength		40-80 @ 28 days
		80-120 @ 90 days

C Construction

Place material at the locations and to the lines and grade as shown on the plan. Proportion and mix materials to produce a product of consistent texture and follow characteristics. The engineer may reject any materials exhibiting a substantial change in properties, appearance, or composition.

If the official Weather Bureau forecast for the construction site predicts temperatures at or below freezing within the next 24 hours after placement of material, protect the placed materials from freezing during that time period. If the temperature is not forecast to rise above 40° F for 72 hours after placement, the engineer may require protection from freezing for up to 72 hours.

No material shall be allowed to enter any stream, lake, or sewer system. Contractor to use caution around pipeline to ensure no damage is done to the existing pipeline.

D Measurement

The department will measure ANR Pipeline Protection by each protection, 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.0060.0600	ANR Pipeline Protection	EACH

Payment is full compensation for designing the mix, supplying the materials, preparing the proportioned mix, hauling to construction site, placing material, protecting it from freezing, and all work required to complete as shown on the plans.

7. Environmental.

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

The department has received written verification of coverage under the Section 404 Transportation Regional General Permit from the U.S. Army Corps of Engineers. 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 Scott Ebel at (920) 492-5676.

If the contractor requires work outside the proposed slope intercepts, based on their method of operation to construct the project, it is the contractor's responsibility to determine whether a U.S. Army Corps of Engineers Section 404 permit modification is required. If a Section 404 permit modification is necessary, obtain the permit modification prior to beginning construction operations requiring the permit. No time extensions as discussed in standard spec 108.10 will be granted for the time required to apply for and obtain the permit modification. The contractor must be aware that the U.S. Army Corps of Engineers may not grant the permit modification request.

stp-107-054 (20230629)

7.2 Information to Bidders, WPDES General Construction Storm Water Discharge Permit.

The calculated land disturbance for the project site is 157.8 acres.

The department has obtained permit coverage through the Wisconsin Department of Natural Resources to discharge storm water associated with land disturbing construction activities under this contract. Conform to all permit requirements for the project.

This permit is the Wisconsin Pollutant Discharge Elimination System, Transportation Construction General Permit, (WPDES Permit No. WI-S066796-2). The permit can be found at:

<https://widnr.widen.net/s/s5mwp2gd7s/finalsignedwisdotcsgp>

A "Certificate of Permit Coverage" is available from the regional office by contacting Tim Verhagen at 920-492-7162. Post the "Certificate of Permit Coverage" in a conspicuous place at the construction site.

Permit coverage for additional land disturbing construction activities related to contractor means and methods will be considered as part of the ECIP review and approval process. Coverage under the TCGP for additional land disturbance areas will be considered if the areas meet all of the following:

- Must meet the permit's applicability criteria.
- Must be for the exclusive use of a WisDOT project.
- Land disturbance first commences after the ECIP approval, and the areas are fully restored to meet the final stabilization criteria of the permit upon completion of the work.

The contractor is responsible for obtaining any permits for areas that are not approved by the department for coverage under the TCGP.

7.3 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 before 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. Guidelines from the Wisconsin Department of Natural Resources for disinfection are available at:

<http://dnr.wi.gov/topic/invasives/disinfection.html>

Use the following inspection and removal procedures:

1. Before 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 before leaving the area or invested waters; and
4. Disinfect your boat, equipment and gear by either:
 - 4.1. Washing with ~212 F water (steam clean), or
 - 4.2. Drying thoroughly for five days after cleaning with soap and water and/or high-pressure water, or
 - 4.3. 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.

stp-107-055 (20230629)

7.4 Environmental Protection, By-Pass Pumping.

Add the following to standard spec 107.18:

If by-pass pumping is required, the means and methods proposed to be used during construction shall be submitted for approval as part of the Erosion Control Implementation Plan for each location it is required. The submittal shall include how the intake will be managed to not cause an increase in the background level turbidity during pumping; equipment pumping rate capabilities; discharge energy dissipation; and erosion controls. For by-pass pumping that will extend beyond one working day, the submittal should also include how the work zone will be managed and protected should the pump fail; be shut down due to unacceptable water quality; or storm water flows exceed the pumping rate of equipment. After setup of the approved by-pass pumping operation, the contractor shall demonstrate that the means and methods will pump the water at an acceptable water quality before starting work that necessitates the by-pass pumping. The cost of all work and materials associated with by-pass pumping is incidental to the bid items the work is associated with. Erosion control devices beyond the discharge energy dissipation point will be paid for at the contract unit prices for the items that are included in the plan.

ner-107-035 (20180212)

7.5 Environmental Protection, Dewatering.

Add the following to standard spec 107.18:

If dewatering is required, treat the water to remove suspended sediments by filtration, settlement or other appropriate best management practice before discharge. The means and methods proposed to be used during construction shall be submitted for approval as part of the Erosion Control Implementation Plan for dewatering at each location it is required. The submittal shall also include the details of how the intake will be managed to not cause an increase in the background level turbidity before treatment and any additional erosion controls necessary to prevent sediments from reaching the project limits or wetlands and waterways. Guidance on dewatering can be found on the Wisconsin Department of Natural Resources website located in the Storm Water Construction Technical Standards, Dewatering Code #1061, "Dewatering". This document can be found at the WisDNR website:

http://dnr.wi.gov/topic/stormwater/standards/const_standards.html

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

ner-107-040 (20180212)

7.6 Environmental Protection, Migratory Birds.

No evidence of swallow or other migratory bird nests have been observed on or under the following structures(s) during the preconstruction inspection. However, if nesting is later observed prior to or during construction, the contractor shall implement avoidance/deterrent measures when feasible, as directed by the engineer. Measures may include removal of unoccupied or partially constructed nests by scraping or pressure washing. The engineer will determine if the avoidance/deterrent measures cannot be reasonably implemented.

The nesting season for swallows and other birds is from April 15 to August 31. All active nests (when eggs or young are present) of migratory birds are protected from purposeful take under the federal Migratory Bird Treaty Act. Prior to any activity that may result in active nest take, the engineer will contact the WisDOT region environmental coordinator to complete coordination with the U.S. Fish and Wildlife Service (USFWS). The engineer will complete any required follow up notification to USFWS for FAST Act compliance.

- B-44-128 – STH 441 SB at CTH OO
- B-44-129 – STH 441 NB to IH 41 SB
- B-44-130 – IH 41 SB to STH 441 SB

7.7 Environmental Protection, Northern Long Eared Bat.

Northern long-eared bats (NLEB) have the potential to inhabit the project limits because they roost in trees, bridges and culverts. Roosts may not have been observed on this project, but conditions to support the species exist. The species and all active roosts are protected by the federal Endangered Species Act. If an individual bat or active roost is encountered during construction operations, stop work, and notify the engineer and the WisDOT Region Environmental Coordinator (REC).

Ensure all operators, employees, and subcontractors working in areas of known or presumed bat habitat are aware of environmental commitments and avoidance and minimization measures (AMMs) to protect both bats and their habitat.

Avoidance and Minimization Measures (AMMs) for Northern Long Eared Bat (NLEB) and Tri Colored Bat (TCB) include:

General AMM

1. Ensure all operators, employees, and contractors working in areas of known or presumed bat habitat are aware of all FHWA and the department environmental commitments, including all applicable AMMs.

Lighting AMM

1. Direct temporary lighting away from suitable habitat during the active season.

Tree Removal AMM

1. Apply time of year restrictions for tree removal, November 1 to March 31 of the calendar year.
2. Ensure tree removal is limited to that specified in the plans. Clearing limits shall be marked in the field by the engineer (e.g., install bright colored flagging/fencing prior to any tree clearing to ensure contractors stay within clearing limits).

Bridge AMM

1. If bridge assessment or P/A surveys suggest presence of a small number of bats (<5 – not a colony), and work is conducted during the active season, the following types of bridge work can generally be conducted with the presence of bats:
 - a. Above deck work where construction equipment or materials do not extend to the underside of deck where bats may be located (e.g., materials that may drip down to underside of deck) and does not include percussives (vibration) or noise levels above general traffic (e.g., road line painting, wing-wall work). Below deck work that is conducted away from roosting bats and does not involve percussives or noise level above general traffic (e.g., wing-wall work, some abutment, beam end, scour, or pier repair).
 - b. Any other bridge repair, retrofit, maintenance, and/or rehabilitation (which may include activities with percussives) conducted in the evening while the bats are feeding, starting one hour after sunset, and ending one hour before daylight excluding the hours between 10 p.m. and midnight and keep the lighting localized to the work operation.

Reasonable and Prudent Measures (RPMs) the following RPMs are necessary and appropriate to minimize impacts of incidental take of bats:

1. The department will ensure that all of the AMMs are implemented.
 - a. Notify contractors and construction staff of conservation measures and ensure compliance with these measures.
 - b. Bridge/culvert surveys for bats will be conducted by the department a minimum of 24 months before construction activities begin. Construction activities should not begin until after appropriate agencies have been notified of survey results (if not already on-site during the survey).
 - c. Only individuals with authorization to capture bats will capture and handle bats.
 - d. If any AMMs cannot be implemented or require modification, contact the engineer and REC for further discussion before proceeding with work.
2. The contractor will ensure that appropriate agencies are notified of construction initiation and completion dates, as well as any unforeseen circumstances.
 - a. Notify WisDOT REC Rachel Weber via email (rachel.weber@wi.dot.gov) or current REC when construction is expected to begin.
 - b. Provide contact information for WisDOT REC Rachel Weber or current REC to appropriate on-site staff so the department can immediately notify agencies of any unforeseen or emergency circumstances or request clarification regarding conservation measures or terms and conditions.
 - c. Notify WisDOT Regional Environmental Coordinator Rachel Weber via email (rachel.weber@wi.dot.gov) or current REC when construction is complete.
3. Should a dead or injured bat be found during project activities; all contractors will ensure that construction activities cease immediately and that the engineer is notified.
 - a. Cease all construction activities if a dead or injured bat is found during project activities and immediately notify the engineer and WisDOT REC Rachel Weber via email (rachel.weber@wi.dot.gov) or current REC.
 - b. Contractors should be aware that if dead or injured bats are found additional conservation measures to prevent additional injury or mortality throughout the remaining project activities may be required on a project specific basis.

ner-41-107 (09262024)

7.8 Environmental Protection, Phragmites.

Add the following to standard spec 107.18:

(7) Phragmites, an invasive species plant, is known to exist within the project limits and in areas that ground disturbance or excavation work is shown in the plans. All soils containing plant or root fragments within the roadway construction limits that will be excavated or salvaged as part of the work within the contract shall be used as fill per standard spec. 205.3.12, replaced in its original location as salvaged topsoil, hauled to locations designated for disposal as shown in the contract or wasted at a select site as approved by the engineer.

(8) All waste sites are subject to review and approval by the department and shall be suitable to the waste of material containing invasive species to control their spread in compliance with NR 40. Waste sites suitable for invasive species would prevent growth and spread of the plant by burying or other control practices. The contractor shall submit his methods for managing phragmites infested soil on this project for approval as part of the Erosion Control Implementation Plan.

(9) Known Locations of invasives are shown in the plans as a construction detail, but other locations may exist within the project limits. Notify the engineer of any addition areas of phragmites that are identified. The limits of all previously and newly identified locations of phragmites are to be verified by the engineer in the field prior to any soil disturbance taking place.

(10) Prior to moving equipment out of the infested area clean soils, seeds, plant, or invertebrates from exterior surfaces. Use most effective method that is practical by the following means: brush, broom, or other hand tools; high pressure air, steam cleaning; or portable wash station that contains runoff from

washing equipment. Do not clean equipment, vehicles, or trailers in or near waterways as it may promote the spread of invasive species downstream.

7.9 Construction Over or Adjacent to Navigable Waters.

The waterway along SB IH 41 crossing under French Road and continuing east along SB IH 41 to Holland Road is classified as a state navigable waterway under standard spec 107.19.

The waterway crossing STH 441 south of CTH OO is classified as a state navigable waterway under standard spec 107.19.

The waterway between Meade Street and Ballard Road is classified as a state navigable waterway under standard spec 107.19.

stp-107-060 (20171130)

7.10 Notice to Contractor, Temporary Stream Crossings.

The contractor may install temporary culvert crossings within the navigable stream to construct B-05-0327, located along SB IH 41 from French Road and continuing east along SB IH-41 to Holland Road. Each crossing design must only be a width of one piece of bridge construction equipment and minimize stream disturbance. Each crossing must be located within the proposed stream grading limits shown in the plan. Each temporary culvert must be a minimum diameter of 24 inches. A continuous culvert over the entire construction site is not allowed. Temporary culverts may be in place during the fish spawning period if the culverts are installed prior to and removed after the fish spawning period dates. Temporary culverts can only be in place during one fish spawning period for the entirety of this contract.

Submit the temporary crossing design and plans for approval as part of the Erosion Control Implementation Plan. The temporary crossings must be designed to protect the rip rap slopes and streambed from damage. Install clean rip rap and geotextile fabric around the culvert ends for erosion control. After removal of the crossings, clean the rip rap slopes and streambed of dirt and debris, and shape embankment slopes to plan grades. The cost of the materials, installation, maintenance, and removal of the temporary culvert crossings is incidental to the project. Any temporary erosion control items will be paid for by the respective bid items in the contract.

7.11 Notice to Contractor, Fish Spawning.

There shall be no instream disturbance of ditch along SB IH 41 under French Road and continuing east along SB IH-41 to Holland Road as a result of construction activity under or for this contract, from March 1 to May 15 both dates inclusive, in order to avoid adverse impacts to fish species during the spawning period.

There shall be no instream disturbance of ditch at the crossings located at station 815+33 and station 827+94 (along the waterway between Meade Street and Ballard Road) as a result of construction activity under or for this contract, from March 1 to May 15 both dates inclusive, in order to avoid adverse impacts to fish species during the spawning period.

There shall be no instream disturbance of ditch crossing STH 441 south of CTH OO as a result of construction activity under or for this contract, from March 1 to May 31 both dates inclusive, in order to avoid adverse impacts to fish species during the spawning period.

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 request, and final approval by the engineer. The approval will include all conditions to the request as mutually agreed upon by WisDOT and DNR.

7.12 Excavation, Hauling, and Reuse of Low-Level Contaminated Material, Item SPV. 0035.2000.

A Description

A.1 General

This special provision describes excavating, hauling, and reusing fly ash within the project limits or at a WDNR approved off site location. The closest DNR approved landfills are:

Outagamie County Solid Waste & Recycling
1919 Holland Road (Gate #3)

Appleton, WI 54911
(920) 832-5004

Brown County South Landfill (Stock - Holland Site)
Lamers & Clancy Road
Holland, WI
(920) 492-4950

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

A.2 Notice to the Contractor – Clay Cover and Fly Ash Locations

The department has identified that existing fly ash cells (contaminated material) encapsulated in an associated clay cover are present and will be disturbed at the following locations as shown on the plans:

1. **Ramp WS and NTD (1130-65-74):** Station 132 +25'WS' to 144+00'WS' from construction limits on the left to construction limits on the right.
2. **Ramp SE (1130-65-78):** Station 209+ 60'SE' to 216+00'SE' from construction limits on the left to construction limits on the right.
3. **Ramp ES (1130-65-78):** Station 323+75'ES' to 334+40'ES' from construction limits on left to the construction limits on the right.
4. **Ramp WS and SW (1130-65-74):** Station 92+00'WS' to 100+90'WS' from construction limits on the left to construction limits on the right.

If contaminated soils, contaminated groundwater, and/or underground storage tanks (USTs) are encountered at these locations or elsewhere on the project, terminate excavation activities in the area and notify the engineer.

Groundwater monitoring wells may be present within the construction limits. If encountered, protect all groundwater monitoring wells to maintain their integrity. Adjust wells that do not conflict with utilities, structures, curb and gutter, etc. to be flush with the final grade. For wells that conflict with the previously mentioned items, notify the environmental consultant, and coordinate with the environmental consultant the abandonment or adjustment of the wells by others. The environmental consultant will provide maps indicating the locations of all known monitoring wells, if requested by the contractor.

Coordinate with the environmental consultant to ensure that the environmental consultant is present to abandon and/or document the location of groundwater monitoring wells during excavation activities.

If dewatering is required at the above location, conduct the dewatering in accordance with Section C below.

A.3 Reuse of Fly Ash

Contaminated material excavated from the locations listed in A.2 is characterized as Low-Level Contaminated Material and shall be reused as fill at the following locations meeting placement criteria of NR 538.12, and as shown on plans:

1. **Area 1:** Station 537'EDE'+00 - 538'EDE'+50 within project limits, estimated 3,500 cubic yards
2. **Area 2:** Station 893'SB'+25 - 897'SB'+75 within project limits, estimated 7,500 cubic yards
3. **Area 3:** Station 545'EDE'+00 - 547'EDE'+50 within project limits, estimated 7,000 cubic yards
4. **Area 4:** Station 912'SB'+75 - 916'SB'+25 within project limits, estimated 7,500 cubic yards
5. **Area 5:** Station 334'ES'+25 - 335'ES'+75 within project limits, estimated 2,500 cubic yards
6. **Area 6:** Station 420'SW'+00 - 421'SW'+75 within project limits, estimated: 3,500 cubic yards

Low-level contaminated material from the locations specified in A.2 that cannot be reused in the specified reuse locations must be hauled off-site and disposed of according to Section C below.

A.4 Excavation Management Plan Approval

The excavation management plan for this project has been designed to minimize the off-site disposal of impacted material. The excavation management plan, including these special provisions, has been developed in cooperation with the WDNR. For further information regarding previous investigation and remediation activities in these areas contact:

Name: Rachel Leonard
Address: 944 Van Der Perren Way, Green Bay, WI 54304
Phone: (920) 492-3510
E-mail: rachel.leonard@dot.wi.gov

A.5 Coordination

Coordinate work under this contract with the environmental consultant:

Consultant: TRC Environmental Corporation
Contact: Dan Haak, P.E.
Address: 999 Fourier Drive, Suite 101, Madison, WI 53717
Phone: (608) 826-3628
Fax: (608) 826-3941
E-mail: dhaak@trccompanies.com

The role of the environmental consultant will be limited to:

1. Determining the location and limits of low-level contaminated material be excavated and reused as fill based on fly ash analytical results from previous investigations, visual observations, and field screening of fly ash that is excavated;
2. Documenting that activities associated with management of low-level contaminated material are in conformance with the low-level contaminated material management methods for this project as specified herein; and
3. Obtaining the necessary approvals for reuse of low-level contaminated material from the WDNR.

Provide at least a 14-calendar day notice of the preconstruction conference date to the environmental consultant. At the preconstruction conference, provide a schedule for all excavation activities in the areas specified above to the environmental consultant. Also notify the environmental consultant at least 3 calendar days before beginning excavation activities in each fly ash location.

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

The environmental consultant will be responsible for obtaining the necessary approvals for reuse of the excavated low-level contaminated material from the WDNR. Do not transport fly ash offsite without prior approval from the environmental consultant.

B (Vacant)

C Construction

Add the following to standard spec 205.3:

Control operations in the impacted areas to minimize the quantity of low-level contaminated material excavated and hauled for reuse at the designated reuse location.

The environmental consultant will periodically evaluate materials excavated from the areas specified above. The environmental consultant will evaluate excavated fly ash based on field screening results, visual observations, and fly ash analytical results from previous environmental investigations. Assist the environmental consultant in collecting fly ash samples for evaluation using excavation equipment. The sampling frequency shall be a maximum of one sample for every 20 cubic yards excavated.

Directly load and haul fly ash designated by the environmental consultant for reuse. Use loading and hauling practices that are appropriate to prevent any spills or releases of fly ash during transit. Prior to transport, sufficiently dewater fly ash designated for on-site reuse so as not to contain free liquids.

If the environmental consultant determines the material can be beneficially re-used on-site, the material can be placed at a maximum of 4 feet thick under highway pavements, behind retaining walls, or in other consultant approved areas of the project with 2-foot thick low permeable clay soil cover, including 4 inches of topsoil and grass cover as per NR 538.10. Any area where low-level contaminated material is used as an embankment and not covered by pavement or road shoulder material, it should be sloped to prevent ponding of water as well.

Groundwater may be present within the construction limits. A minimum separation distance of three feet between the fly ash and groundwater table at the time of material placement is required as per NR 538.12. Water generated during dewatering operations (if necessary) is expected to be permitted to discharge to the surface except in the contaminated locations.

Control operations in the contaminated locations to minimize the quantity of contaminated water managed. Minimize the amount of open trenches, and construct diversion berms and implement other controls to minimize the infiltration of surface water into excavations in areas of known contamination. Maintain surface water controls until construction of utilities in the areas of contamination are complete. Allow contaminated water encountered, but not requiring removal as a standard course of construction, to remain in-place and do not manage in accordance with this special provision.

If surface water infiltrates excavations and dewatering is required, water may be discharged to the surface if the water meets the requirements of the project dewatering permit and the applicable requirements of the Wisconsin Pollution Discharge Elimination System (WPDES) for contaminated groundwater from remedial action operations. This includes, but is not limited to, pretreatment of water in order to meet WPDES discharge requirements. Perform all necessary monitoring to document compliance with WPDES requirements. Furnish, install, operate, maintain, disassemble, and remove treatment equipment necessary to comply with WPDES requirements.

Ensure continuous dewatering and excavation safety at all times. Provide, operate, and maintain adequate pumping equipment, and drainage and disposal facilities. Notify the engineer of any dewatering activities, and obtain any permits necessary to discharge water. Provide copies of such permits to the engineer. Meet any requirements and pay any costs for obtaining and complying with such permit use. Follow all applicable legislative statutes, judiciary decisions, and regulations of the State of Wisconsin.

The environmental consultant may periodically evaluate water removed from the contaminated locations. Assist the environmental consultant in collecting water samples.

Water generated from dewatering activities within the contaminated locations may exceed the surface water discharge limits for compounds specified in the Wisconsin DNR's "General Permit to Discharge under the Wisconsin Pollutant Discharge Elimination System" for "Contaminated Groundwater from Remedial Action Operations" (WPDES Permit No. WI-0046566-5), Table 3.1.

If dewatering of groundwater is required in the contaminated locations, water shall be either containerized for disposal, treated, and discharged to surface, or upon approval of the municipality, discharged to the sanitary sewer. Pump contaminated water that exceeds surface water discharge limits, as determined by the environmental consultant, into either temporary holding tanks, a treatment system provided by the contractor, or upon approval of the municipality, discharged to the sanitary sewer, as necessary to complete construction. The contractor will coordinate holding tank mobilizations, waste characterization sampling of accumulated water, and transportation/disposal of contaminated water. The cost for holding tank mobilization, transportation, and contaminated water disposal shall be paid by the contractor. Management of contaminated groundwater shall be incidental to this item.

D Measurement

The department will measure Excavation, Hauling, and Reuse of Low-Level Contaminated Material 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. 0035.2000	Excavation, Hauling, and Reuse of Low-Level Contaminated Material	CY

Payment is full compensation for excavating, segregating, loading, hauling, and placing of low-level petroleum- and metal- contaminated soil; obtaining solid waste collection and transportation service operating licenses; assisting in the collection of samples for field evaluation; dewatering of soils prior to transport, if necessary.

8. Clear, Demolition and Removal.

8.1 Clearing and Grubbing.

Add to standard spec 201.3:

The contractor is prohibited from open burning of weeds, brush, logs, limbs, stumps, roots, lumber and debris from clearing and grubbing or from demolition.

Dispose of stumps, roots, brush, waste logs and limbs, timber tops and debris resulting from clearing and grubbing or occurring within clearing and grubbing limits by chipping and removing from the highway right of way.

ner-201-005 (20190717)

8.2 Ground Water Monitoring Well.

Others have constructed groundwater monitoring wells along the corridor, these wells have been abandoned prior to construction.

If ground water monitoring wells or portions of a ground water monitoring well are encountered during construction, notify the project engineer. Any work encountered with verified ground water monitoring wells is incidental to the project.

ner-41-210 (20240917)

8.3 Removing Sign, Item 204.9060.S.0004.

A Description

This special provision describes removing signs, sign supports, and concrete footing, including piles and the electrical supply. These materials become the contractor's property, unless otherwise specified. Dispose of these materials off of the right-of-way.

B Materials (Vacant)

C Construction (Vacant)

D Measurement

The department will measure Removing Sign by each, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
204.9060.S.0004	Removing Sign	EACH

Payment is full compensation for removing and disposing all signs, sign support, concrete footing, piles, electrical supply and any miscellaneous materials.

8.4 Animal Carcass Removal, Item SPV.0075.5000.

A Description

This special provision describes removal and relocation of animal carcasses encountered within the work zone.

B Materials

Provide appropriate personal protective equipment for the removal of animal carcasses from the roadway.

C Construction

Collect animal carcasses from live lanes of traffic and shoulders as directed by the engineer. Complete animal carcass removal utilizing lane closures or mobile operations per SDD "Traffic Control, Short Duration Mobile Operations", during off peak hours as shown in the Freeway Lane Requirements. Remove animal carcasses within two (2) calendar days of notification by the engineer.

Provide adequate equipment to secure the animal carcasses to the vehicle or trailer to prevent animal carcass and animal residue from falling off.

Prepare a location map to relocate the carcasses to the nearest interchange outside the limits of any work zone with vegetated ramp shoulder slopes at least 300 feet from the mainline gore, for approval by the engineer. Place animal carcasses on the outside shoulder, outside the aggregate and within vegetation to obscure visibility from the traveling public, for pick up and disposal by others. Notify the engineer of the number and location of the carcasses to be picked up.

Notify the engineer prior to start and upon completion of the removal operations.

D Measurement

The department will measure Animal Carcass Removal by the hour that the contractor is actively picking up from the roadway, relocating, and dropping off the carcasses.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT

Payment is full compensation for mobilization; traffic control, materials, equipment, loading, unloading, and delivery of animal carcasses to an engineer approved location; and submitting hourly invoices. The cost for lane closures and mobile operations, SDD "Traffic Control, Short Duration Mobile Operations", including vehicles and traffic control shall be incidental to the Animal Carcass Removal bid item. The department shall make no payment for time to set up and removal of traffic control and is considered incidental to the Animal Carcass Removal bid item.

ner41-643 (06302025)

9. Earthwork.

9.1 Embankment Construction, Benching.

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 18-inch depth bench into the existing embankment every 3 feet of vertical fill height.

ner-207-005 (20171213)

9.2 Roadway Embankment, Item SPV.0035.0100.

A Description

This special provision describes providing embankments and the materials needed to construct embankments. Conform to standard spec 207 and 208 and as below.

Material to construct embankments is incidental to this bid item, including Borrow.

B Materials

Furnish materials in accordance to standard spec 207.2.

If Borrow material is used conform to standard spec 208.2.

C Construction

Conform to standard spec 207.3.

If Borrow material is used conform to standard spec 208.3.

D Measurement

The department will measure Roadway Embankment by the cubic yard, acceptably completed in its final position, using the method of average end areas, with no correction for curvature. The department will determine the end areas from preconstruction cross-sections of the area being covered by the proposed embankment and from cross-sections of the completed work. The department will not make allowances for shrinkage, subsidence, lateral movement of the material, or for material in excess of that required for work the plans show or the engineer orders.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0035.0100	Roadway Embankment	CY

Payment is full compensation for placing material to construct embankments which includes hauling, placing, forming, compacting, shaping, sloping, trimming, finishing, maintaining embankments and other incidental work required under standard spec 207 and 208.

Payment includes clearing, grubbing, excavating, disposing of surplus and unsuitable material and spreading salvaged material for covering the surfaces of excavated areas within the borrow sites.

The department will not pay separately for removing and disposing of rock, stone and boulders that the engineer rejects under 207.3.11.

Borrow is incidental to this work.

The department will pay separately for Select Borrow under the bid item 208.1100.

ner-207-015 (20190402)

9.3 Preparing the Foundation.

Add the following to standard spec 211.3.1:

Plan construction activities such that the earth subgrade is covered by the roadway base in a timely manner upon completion of preparation of the subgrade or as the engineer directs. Remove any excess water from the subgrade as a result of rainfall events or natural drainage.

ner-211-005 (20171213)

9.4 Notice to Contractor – Clay Cover and Fly Ash Excavation.

The department completed testing for soil and groundwater contamination for locations within this project where excavation is required. A clay encased cell of fly ash is present at the following location:

South end of Ramp SET/SE.

The existing fly ash cell and associated clay cover are expected to be in the excavation limits necessary to construct Ramp SET/SE. Control construction operations in the area of the fly ash cell to ensure that work does not extend beyond the excavation limits for the various work items indicated in the plan.

Unless directed by the engineer, do not excavate beyond the theoretical limits of excavation shown in the plans. Excavation of fly ash material beyond the theoretical limits will be considered incidental to the bid items associated with the re-use and disposal of fly ash.

If the existing fly ash cell or associated clay cover is encountered during work at Ramp SET/SE, immediately cease excavation activities in the area and notify the engineer. Do not resume construction activities in that area until the engineer coordinates with the department's soils engineer and environmental consultant.

10. Bases, Subbases and Pavement.

10.1 Notice to Contractor – Concrete Pavement Material Placement.

Spread concrete uniformly across the subgrade or subbase as close as possible to its final position prior to the concrete mix reaching the concrete paving machine.

10.2 Concrete Pavement Bond Breaker.

Add the following to standard spec 415:

415.3.3 Preparing the Foundation

Place 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. Place the polyethylene sheets with overlap joints of at least 6 inches.

415.5.1 General

- (7) Payment for polyethylene sheets is considered incidental to the Concrete Pavement bid items or Concrete Pavement Special bid items included in the contract.

ner41-415 (02202024)

10.3 Hot Mix Asphalt Pavement.

Delete subsection 460.3.3.3 of the standard spec.

10.4 Asphaltic Surface.

Supplement subsection 465.2 of the standard spec as follows:

Under the Asphaltic Surface and Asphaltic Surface Temporary bid items furnish asphaltic mixture meeting the requirements as shown in the plans.

10.5 Cold Patch, Item 495.1000.S.

A Description

This special provision describes furnishing cold patch and filling potholes and other voids in existing pavement surfaces as the engineer directs.

B Materials

Furnish a mixture of course aggregate, natural sand, and MC-250 bituminous material designed to have a workability range of 15-100° F without heating. Ensure that the mixture:

- Adheres to wet surfaces.
- Resists damage from water, salt, and deicing products.
- Requires no mixing or special handling before use.
- Supports traffic immediately after placement and compaction.

Conform to the following gradation:

SIEVE SIZE PERCENT PASSING (by weight)

½-inch (12.5 mm) 100

3/8-inch (9.5 mm) 90 – 100

No. 4 (4.75 mm) 90 max

No. 8 (2.38 mm) 20 – 65

No. 200 (0.074 mm) 2 – 10

Bitumen 4.8 – 5.4

The department will accept cold patch based primarily on the engineer's visual inspection. The department may also test for gradation.

C Construction

Stockpile cold patch on site on a smooth, firm, well-drained area cleared of vegetation and foreign material. Cover the stockpile and ensure that it is easily accessible. Replenish the stockpile throughout the project duration but limit the size at any given time to 10 tons on site unless the engineer approves otherwise. Dispose of unused material at project completion unless the engineer directs otherwise.

Place cold patch by hand. Remove ponded water and loose debris before placement. Compact flush with a tamper, roller, or vehicle tire after placement.

Refill patched areas as necessary to maintain a flush pavement surface until project completion.

D Measurement

The department will measure Cold Patch by the ton acceptably stockpiled on site.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
495.1000.S	Cold Patch	TON

Payment for Cold Patch is full compensation for providing and maintaining patches; for furnishing and replenishing stockpiled material on-site; and for disposing of excess material at project completion.

stp-495-010 (20160607)

10.6 Lightweight Foamed Concrete Fill Grade 1, Item SPV.0035.4020; Lightweight Foamed Concrete Fill Grade 2, Item SPV.0035.4030.

A Description

A.1 General

This special provision describes designing, providing and placing Lightweight Foamed Concrete Fill, hereafter referred to as LFCF material, for backfill and embankments at locations designated on the plans.

A.2 Terms

Whenever in this article the following terms are used, the intent and meaning shall be interpreted as follows:

LFCF Manufacturer – The manufacturer of the foam agent used to make LFCF.

LFCF Installer – The subcontractor responsible for batching, and mixing the LFCF onsite, and placing the LFCF in accordance to the contract documents.

Contractor – General contractor as defined in the standard specifications.

B Materials

B.1 General

Furnish materials meeting the following requirements:

Portland Cement and Portland Pozzolan Cement	501.2.1
Water	501.2.4
Air Entraining Admixtures	501.2.2
Water Reducing Admixtures	501.2.3
Set Retarding Admixtures	501.2.3
Curing Materials	502.2.6
Fly Ash	501.2.6
Damp Proofing	516.2.1

Pozzolans and admixtures (for accelerating, water reducing, retaining, improving the bond, etc.) may only be used if specifically designated and approved by the LFCF manufacturer.

B.2 LFCF Material Specifications

The foaming agent from the selected manufacturer will produce a Lightweight Foamed Concrete Fill Material, complying with the specifications in Table 1 below.

Table 1 – LFCF Material Requirements

Property	Grade 1 (Fill Below Top 3 Feet of LFCF)	Grade 2 (Fill Within Top 3 Feet LFCF)	Test Method
Cast Density (after pumping)	36.0 - 40.0 pcf	44.0 - 50.0 pcf	ASTM C 796
Maximum Dry Density	34.0 pcf	46.0 pcf	ASTM C 796
Minimum Dry Density	30.0 pcf	40.0 pcf	ASTM C 796
Unconfined Compressive Strength	20 psi minimum at 24 hours curing 70 psi minimum at 28 days curing	25 psi minimum at 24 hours curing 120 psi minimum at 28 days curing	ASTM C 495
Freeze-Thaw Resistance – minimum cycles @ relative E = N/N ≥ 70% per ASTM C666* as modified below	NA	Relative Young's Modulus, E ≥ 70% at 100 cycles.	ASTM C 666* Procedure A as modified below
Coefficient of permeability	1 x 10 ⁻⁵ cm/sec 2.0 psi	1 x 10 ⁻⁵ cm/sec 2.0 psi	ASTM D 5084

B.3 Modifications to ASTM C 666

The ASTM C666 modifications are as follows:

1. The temperature of the center of the specimens does not have to rise from 3°F to 37°F in less than 50% of the thaw cycle. Also, the temperature of the center of specimen does not have to drop from 37°F to 3°F in less than 50% of the freeze cycle.

2. The freeze-thaw cycle does not have to be completed within the 4-hour maximum time limit. A complete freeze-thaw cycle for the 30 pcf material (3°F to 37°F and 37°F to 3°F including the requirement that it be completed in 50% of the time period) is estimated to last approximately 10 hours.

C Construction

C.1 Submittals

C.1.1 LFCF Placement Plan

Submit a LFCF quality control and placement plan. Place the abutment backfill and embankment in accordance to the information provided in the submitted, accepted plan. No later than two weeks prior to LFCF placement, submit the plan to the engineer for review and comment. Do not begin LFCF production before the plan has been reviewed and accepted by the engineer. The submitted plan shall provide, as a minimum, the following elements:

1. An organizational chart including names, telephone numbers, current certifications and/or titles, and roles and responsibilities of all those involved with the quality control program.
2. The process of communication by which quality control information will be disseminated to the appropriate persons, including materials suppliers. This shall include a list of recipients, the communication means that will be used, action time frames, and report formats.
3. Materials list of items proposed to be provided under this section.
4. Specifications, catalog cuts, and other engineering data needed to demonstrate compliance with the specified requirements.
5. Proof of LFCF installer's compliance with the requirements in section C2, to include a list of projects with completion date, owner's name and phone number, and contact person.
6. Mix designs for the LFCF, prepared by the LFCF manufacturer or installer, showing compliance with the specified properties.
7. Certification of batch, mixing and placing equipment by the LFCF installer meeting the requirements of section C.3 hereinafter.
8. Written documentation that LFCF installer is certified by and approved by the foam agent manufacturer.
9. LFCF curing procedures.

C.1.2 Trial Batch Design and Testing

At least two weeks prior to placement, prepare a trial batch and submit trial batch testing results showing that the proposed LFCF material properties comply with the requirements of this specification. The accepted trial batch mix design and tested properties will become the standard of the material furnished under this contract.

C.1.3 Quality Assurance Samples

At least two weeks prior to placing, submit 10 each 3-inch diameter by 6-inch-high cylinder samples of the as designed and tested LFCF to the department. Cover specimens after casting to prevent loss of moisture. Do not oven dry specimens. At the department's option, the samples may be tested for strength and density in accordance to the requirements of ASTM 495 and ASTM C796 to verify the submitted test results and validate the contractor's testing procedures and quality of the furnished product.

C.2 Personnel Requirements

The Lightweight Foamed Concrete Fill installer, hereafter referred to as the LFCF installer, shall be certified by the manufacturer of the foaming agent and regularly engaged in the production and placement of the Lightweight Foamed Concrete Fill (LFCF). This shall include the completion of lightweight foamed concrete fills having a minimum of 10,000 total cubic yards in the past 5 years. Furthermore, the material shall have been successfully applied on at least three LFCF projects, consisting of mass fills for Federal and State highways, which have performed satisfactorily for at least five years.

The LFCF installer shall be certified and approved in writing by the foam agent manufacturer. The installer's foreman shall have a minimum of 2 years experience in this work and shall have worked on at least one of the three successful LFCF projects.

The LFCF installer shall use adequate numbers of skilled workers who are thoroughly trained and experienced in the necessary crafts and who are familiar with the specified requirements and the methods needed for proper performance of the work noted in this specification.

The foam agent manufacturer's representative (LFCF Manufacturer) shall be experienced in the placement of LFCF and shall be on site full-time during placement.

C.3 Equipment Requirements

The specialized batching, mixing, and placing equipment shall be automated and certified for this purpose by the manufacturer of the LFCF material. Bulk cement shall be weighed on a scale which operates within a tolerance of one half of one percent (0.5%) per batch. Foam shall be added and mixed at the site using the aforementioned equipment. Transit mixers and volumetric batching mixers are not acceptable.

C.4 Required Contractor Testing

Conduct acceptance testing and provide test results to the engineer prior to and during the installation of the LFCF.

C.4.1 Cast Density of Field Installed LFCF

Test cast density in accordance to ASTM C 796

1. Prior to placement of the initial batch, the installer shall check the density and adjust the mix as required to obtain the manufacturer's specified cast density at point of placement.
2. At hourly intervals during placement, monitor the density and adjust as necessary to maintain the specified cast density.

C.4.2 Strength Testing

Conduct strength testing in accordance to ASTM C 796 except do not oven dry the test specimens.

1. Furnish a sufficient quantity of molded and cured cylinders measuring 3-inches in diameter by 6-inches high for required strength tests. Provide molds, and a similar curing environment of the LFCF being tested. Prepare cylinders in accordance to ASTM C1064.
2. Provide certified strength test results to the engineer for acceptance. At a minimum, conduct one set of three strength tests at 1-, 2-, and 28-day intervals for each 500 cubic yards of LFCF placed and a minimum of three sets of three cylinders each per day..

C.5 Laboratory Requirements

Perform the LFCF compressive strength testing at a department qualified laboratory. Information on the Wisconsin Laboratory Qualification Program may be obtained from the Quality Management Section, Wisconsin department of Transportation, Bureau of Highway Construction, Truax Center, 3502 Kinsman Blvd., Madison, WI, 53704; telephone (608) 266-3246; or on the internet at: www.dot.state.wi.us. If approved by the department, the compressive testing may also be conducted at the LFCF manufacturer's facility with test results reported as noted.

C.6 Placement

LFCF shall be a homogeneous mixture and all materials shall be approved prior to use.

Prepare the areas to be filled in accordance with standard spec 206.3.8. Remove standing water in the test areas prior to placement of the LFCF. Ensure the LFCF remains above the water table at all times during construction.

Prepare subgrade for LFCF fill in accordance to standard spec 211.

Protect material before, during and after installation, and protect the work and materials of other trades. In the event of damage, immediately make replacements and repairs to the acceptance of the engineer at no additional cost to the department.

If the LFCF must be placed in freezing susceptible conditions, consult the manufacturer as to what precautions are necessary to assure installation of an acceptable LFCF. Do not place LFCF at a temperature of less than 32 degrees Fahrenheit, nor when freezing conditions are expected in less than 24 hours, unless precautions are taken to maintain temperatures above freezing. Do not place LFCF on frozen ground or material.

Cure LFCF in accordance with the accepted placement plan.

Proportion, mix, and place LFCF only using equipment approved by the manufacturer as indicated in the accepted LFCF placement plan. Once mixed, convey the LFCF concrete promptly to the location of placement without excessive handling.

Place LFCF in lifts not exceeding 48-inches in depth unless greater depths are allowed on the plans.

Scarify each lift before placing the next lift. Scarify each lift to a minimum depth of inch using a hand rake or other suitable means. When LFCF is used as backfill within MSE wall anchor zones, take special care when scarifying to not disturb the alignment of or physically damage the MSE wall reinforcing strips/mesh. Reinforcing strips should not be placed within horizontal cold-formed joints to avoid possible reduction in pullout resistance. Scarify after sufficient curing time such that foot traffic will not excessively damage the lift surface (no greater than ¼ inch indentation). Remove any loose debris or material as a result of the scarification process by blowing or other suitable means before placing the next LFCF lift.

Allow a minimum of one day (12 hours provided the previous lift has gained sufficient strength to support the next lift and with approval by the Engineer) between subsequent lifts. Prior to verification of the minimum specified compressive strength by testing, additional lifts may be placed after the one day minimum at the contractor's risk. Any material that does not meet the minimum specified strength within 28 days shall be removed and replaced by the contractor at no additional cost.

Move the discharge hose(s) sufficiently to ensure level filling through the specified fill area. Uneven filling is not permitted.

Limit the area of placement to the volume that can be placed within one hour, up to the maximum 4 foot lift height. Stagger placements such that the vertical joints are at least 10 feet apart except at designated vertical slip joints.

Where indicated on the plans, form a vertical slip joint across the entire width of LFCF embankments. The slip joint shall consist of a cold-formed joint in the LFCF, created by placing the LFCF on one side of the joint against a vertical rigid form. After removal of the form, place the LFCF on the opposite side of the joint against the previously placed LFCF with a suitable bond breaker between the placements. Bond breaker shall be plastic sheeting, geotextile fabric, or other means acceptable to the engineer.

The discharge hose length shall not exceed 1500 feet in length.

Place LFCF to the limits and grades shown in the plans with top of the LFCF within ± 0.1 foot of the elevations shown on the plans. Slope the top of the LFCF as indicated on the plans to provide drainage and prevent the ponding of water on the top of the LFCF. If not achieved at the time of placement, the top slope can be achieved by cutting, grinding or excavating the cured LFCF using methods approved by the engineer provided this is done in such a manner to leave a reasonably smooth, free draining surface without damaging the integrity of the underlying LFCF that remains.

Paving machines, heavy construction equipment or other unusual loading of the LFCF shall not be permitted until it has attained the specified 28-day compressive strength, and the loading is approved by the engineer.

Sawing or ripping of the LFCF for utilities, underdrain or other conflicts will be by methods approved by the engineer. Backfill such cuts and excavations into the LFCF to the original top of LFCF elevation using the same grade of LFCF material that was removed.

C.7 Damp Proofing

Apply damp proofing conforming to standard spec 516 to the final horizontal and vertical surfaces of the LFCF material at locations designated on the plans.

C.8 Acceptance

Rectify any LFCF material rejected by the engineer that does not meet the minimum required material properties or is not installed in accordance with this article. Corrective measures are subject to the approval of the engineer. Accepted corrected measures will be performed by the contractor at no additional cost to the department or extension of contract time. This includes removal and replacement of rejected LFCF material not meeting the minimum material requirements or installed in accordance with this article.

D Measurement

The department will measure Lightweight Foamed Concrete Fill Grade 1 and Lightweight Foamed Concrete Fill Grade 2, by the cubic yard of LFCF material acceptably placed within the limits shown on the plans in accordance with this specification. LFCF material placed outside the limits shown on the plans will not be measured for payment unless authorized in advance of placement by the engineer.

When indicated on the plans, LFCF placed as backfill within the anchor zone of Mechanically Stabilized Earth (MSE) retaining walls in lieu of granular backfill, will not be measured separately for payment, and will be included in the cost of item Wall Concrete Panel Mechanically Stabilized Earth.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0035.4020	Lightweight Foamed Concrete Fill Grade 1	CY
SPV.0035.4030	Lightweight Foamed Concrete Fill Grade 2	CY

Payment is full compensation for preparation of written submittals; material testing; coordination and scheduling of LFCF placement; onsite LFCF Manufacturer representative, specialized equipment to mix, transport and place LFCF; providing and erecting forms; bond breakers; and for groundwater control and temporary shoring.

The department will pay separately for Dampproofing in accordance to standard spec 516

10.7 Incentive IRI Ride PCC Surfaces, Item SPV.0055.0100.

A Description

Follow standard specification 740 QMP Ride for asphalt pavement riding surfaces.

Replace standard specification 740 QMP Ride with the following for concrete pavement riding surfaces .

- (1) This special provision describes profiling requirements with a non-contact profiler, locating areas of localized roughness and determining the International Roughness Index (IRI) for each wheel path.

B Pre-Project Requirements

- (1) The Profiler APL is located at: <https://wisconsindot.gov/pages/doing-bus/eng-consultants/cnslt-rsrces/tools/appr-prod/default.aspx>
- (2) Re-certify profiler if changes or repairs are made to the device that affect data collection or analysis, including repairs made to the profiler components or software.

B.1 Material Conformance

- (1) Use profiler equipment that conforms to the following:

Table 1: Profiler Conformance

Equipment Name	Conformance
Inertial Profiler	AASHTO M328
Annual Certification of Profiler (Standard Practice for Certification of Inertial Profiling Systems)	AASHTO R56
Daily Calibration of Profiler	AASHTO R57

B.2 Contractor Requirement

- (1) Furnish profiler equipment from the current APL at the time of project testing.
- (2) Enter the equipment-specific department-approved filter settings and parameters given in the approved profilers list at: <https://wisconsindot.gov/Pages/doing-bus/eng-consultants/cnslt-rsrces/gmp/default.aspx>

B.3 Department Requirement

- (1) The Department will certify all profilers conforming to Table 1: Profiler Conformance.

C Project Requirements

C.1 Material Conformance

Table 2: Category Definition

Category Name	Description
PCC	Concrete pavements

Table 3: Profile Segment Conformance

Profile	ProVAL Analysis	Length	Category
IRI	Smoothness Assurance - Fixed Interval (IRI)	500 feet (1 segment)	PCC
Localized Roughness	Smoothness Assurance – Short Continuous (IRI)	25 feet	PCC & Posted Vehicle Speed > 45 mph

C.2 Contractor Testing

- (1) Measure smoothness with an inertial profiler to determine the International Roughness Index (IRI) for each wheel path of each driving lane.
- (2) Perform, record and submit a daily calibration according to AASHTO R57 to the engineer, prior to data collection.
- (3) Profile final riding surfaces greater than 1500 feet in continuous length, including bridge decks, bridge approaches, intersections, railroad crossings, and pavement gaps. Profile final riding surfaces that are full width, and typically carry moving vehicles. Include the following:
 1. Auxiliary lanes.
 2. System interchanges that carry traffic from one freeway to another via ramps or connectors.
 3. Mainline pavement on county, state, or U.S. highway crossroads reconstructed under the contract.
 4. Include bridges and bridge approaches in profile runs but exclude them from segment IRI calculations.
- (4) Follow Table 4 for list of exclusions:

Table 4: Exclusions

Pavement	Excluded Areas From IRI Smoothness Only	Excluded Areas From Smoothness And Localized Roughness
PCC	1. Pavement with a posted vehicle speed less than 45 mph 2. Service interchange entrance ramps, exit ramps, loop ramps and turn lanes 3. Acceleration and deceleration lanes less than 1,500 feet in length 4. Intersections constructed under traffic; begin and end exclusion 100 feet from the Intersection radius	1. Pavement with a posted vehicle speed less than or equal to 35 mph 2. Turn lanes and crossovers 3. Side roads 4. 150 feet before stop signs at an Intersection 5. 150 feet within points of curvature of a roundabout 6. Bridge decks, approach panels 7. Pavements within 25 feet of bridges or bridge approaches not constructed under the contract or 25 feet from terminal headers tying into existing pavement. 8. Doweled Shoulders less than 10 feet in width

		9. Un-doweled Shoulders
		10. Headers adjacent to colored concrete

C.2.1 Quality Control Plan

- (1) Prepare a project-specific written quality control (QC) plan and submit to the engineer no later than 10 business days before paving. Update QC plans with changes as they become effective.
- (2) Ensure the QC plan conforms to Standard Specification 701.1.2.2 with the following modifications:

Replace 701.1.2.2(2) with the following:

Ensure that quality control plans include the following elements:

1. *Organizational chart including names, telephone numbers, current certifications with expiration dates, and roles and responsibilities of quality control personnel.*
 2. *Process for disseminating quality control and corrective action information to appropriate persons. Include a list of recipients, the communication means used, and the action time frames.*
 3. *Initial and routing equipment checks and documentation.*
 4. *Frequency of contractor quality control testing.*
 5. *Process control testing the contractor intends to perform, and associated control charts or other documentation the contractor will make available to the department.*
 6. *The methods and timing used for monitoring and testing ride quality throughout the placement process/work. Also indicate the approximate timing of testing in relation to the work.*
 7. *Segment locations of each profile run used for testing.*
 8. *Traffic control plan*
 9. *Describe how concrete will be transferred from the truck to the paver. Provide details regarding how the method of placement will lead to a smooth ride.*
 10. *If using of a Dowel Bar Inserter, describe how the Dowel Bar Inserter will not have a negative impact on smoothness of ride.*
- (3) Deviations from this plan must be submitted to the engineer in writing for approval no later than 10 business days before paving.

C.2.2 Testing

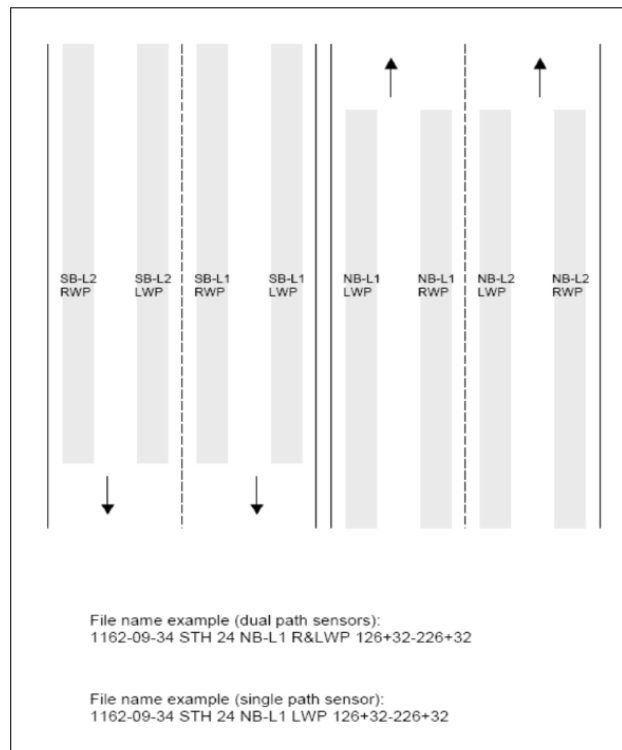
- (1) Have an HTCP-certified profiler operator operate the equipment, collect the required data, and analyze the results using the methods taught in the HTCP profiling course. Ensure that an HTCP-certified profiler supervises data entry.
- (2) Unless the engineer and contractor mutually agree otherwise, arrange to have a calibrated profiler available when paving the final riding surface.
- (3) Verify profiler equipment calibration daily using AASHTO R57. Notify the engineer before verifying the calibration. Arrange to have the engineer observe the calibration verification and profiler operation. Maintain records of calibration verification activities; provide those records to the engineer upon request.
- (4) Operate profilers within the manufacturer's recommended speed tolerances. Perform profile runs in the direction of travel. Measure the longitudinal profile of each wheel track of each lane. The center of each wheel tracks are 6.0 feet apart and centered in the travel lane.
- (5) Coordinate with the engineer at least 24 hours before making profile runs for acceptance, unless the engineer approves otherwise. The department may require profiling to accommodate staged construction or if corrective action is required.
- (6) Mark the beginning and ending points for each profile run; ensure markings remain for a minimum of 10 business days after reporting profile data. Measure the profiles of each standard and partial segment. Define segments starting at a project terminus and running contiguously along the mainline to the other project terminus. Define segments one wheel path wide and distinguished by length as follows:

1. Standard segments are 500 feet long.
2. Partial segments are less than 500 feet long.
- (7) Treat partial segments as independent segments.
- (8) Ensure sufficient or per manufacturer's specification run-in and run-out length to maintain a constant speed during data collection.

C.2.3 Naming Protocol for Profile Runs

- (1) Figure 1 provides the recommended protocol for naming profile runs.

Figure 1: Naming Protocol



C.2.4 Documentation/Analysis

- (1) After profiling, compute the segment IRI for each segment and analyze areas of localized roughness using the ProVAL software.
- (2) Prepare the ProVAL ride quality module reports showing the segment IRI for each segment and areas of localized roughness. Generate the ride quality module reports in ProVAL conforming to Table 6.
- (3) Prior to leaving the project site, provide the engineer with a copy of the raw .ppf.
- (4) Within five business days after completing profile acceptance runs, unless the engineer and contractor mutually agree to a different timeline, upload the unedited .ppf files, the electronic ProVAL project file (.pvp) containing the edited .ppf files for each profiler run and ride quality module reports, as PDF files.
- (5) Notify the engineer when MRS submittal is complete and profiler acceptance run data and ride quality module reports are available.

C.2.5 Corrective Action and Re-Profiling

- (1) Field-locate the areas of localized roughness before the engineer's assessment for corrective action. Document the reasons for areas excluded.
- (2) Recommend corrective action to the engineer.
- (3) Correct the ride as the engineer directs in writing, including re-profiling entire segment, including areas of corrected segments and areas of localized roughness as follows:

- **Excessive Segment IRI:** Re-profile entire segment to verify that the final segment IRI meets the correction limits in Table 6 and there are no areas of localized roughness. Upload within 5 business days a revised ProVAL ride quality module report for the corrected areas. Segments failing these criteria after correction are nonconforming work under 105.3.
- **Localized Roughness:** Re-profile entire segment to verify that the localized roughness is less than the conformance listed in Table 6. Upload within 5 business days a revised ProVAL ride quality module report for corrected areas.

C.3 Department Requirements

C.3.1 Testing Oversight

- (1) The engineer may request ride information if there appears to be a ride-related problem during construction of the pavement.
 - Verify that the profiler and operator are certified, the device has been properly calibrated and daily calibration verification has been performed.
 - The engineer will verify that the operator is HTCP certified, the profiler equipment is on the APL and will review the calibration records for the profiler.

C.3.2 Corrective Action for PCC

- (1) All pavement is subject to straight-edging and engineer-directed corrective actions.
- (2) The engineer will not direct corrective action or assess a disincentive for area(s) of localized roughness without independent identification of that area as determined by physically riding the pavement.
- (3) Before directing corrective action, the engineer will assess whether a repair will help or hurt the long-term performance.
- (4) The engineer will assess each wheel path for areas of localized roughness within 5 business days of being notified that ProVAL reports are uploaded. For each area that exceeds the conformance in Table 6, the engineer will direct the contractor to correct the area to minimize the effect on the ride.
- (5) If an individual segment IRI exceeds the conformance in Table 6 PCC pavement after correction for localized roughness, the engineer may require the contractor to correct that segment's final surface according to the conformance requirements in Table 6, using whichever method the engineer approves in Table 5.

Table 5: Corrective Action Options

Category	Corrective Action Optional Methods
PCC	1. Diamond grinding of the non-conforming wheel path of the riding surface including adjustment of the paved shoulders at no additional cost to the department. ¹ 2. Remove and replace the full lane width of the riding surface at no additional cost to the department.

¹ Conforming to 420.3.1 through 420.3.4

Table 6: After Grinding Profile Conformance

Profile	ProVAL Analysis	Length	Category	Threshold
IRI	Smoothness Assurance - Fixed Interval (IRI)	500 feet (1 segment)	PCC	<=65 in/mile
Localized Roughness	Smoothness Assurance – Short Continuous (IRI)	25 feet	PCC and a posted vehicle speed of >45 mph	<175 inches/mile
			Ramps, Loops, concrete Intersections constructed under	<200 inches/mile

			traffic, or any paving with a posted vehicle speed ≤ 45 mph	

C.3.3 Department Testing

- (1) The department reserves the right to conduct QV testing to validate the quality of the product on any segment at any time. The department will notify the contractor before testing so the contractor can observe the QV testing.
- (2) After completing QV profile runs, the department will review the profiling data with the contractor directly on-site and will identify any areas of immediate concern. The department will analyze the data and provide the test results to the contractor unless the contractor and engineer mutually agree otherwise.

C.4 Dispute Resolution

- (1) The engineer and contractor will jointly investigate any testing discrepancies. If the QC and QV profiles differ by more than the allowable tolerances of AASHTO R54-14 (2022) (Table 2 in R54-14), engineer may request to resolve a testing discrepancy. If the contractor does not respond to an engineer request to resolve a testing discrepancy, the engineer may suspend production until action is taken. QV profiles will be used for payment when the discrepancy is not resolved.

D Measurement

- (1) The department will measure Incentive IRI Ride PCC Surfaces PCC Riding Surfaces by the dollar, calculated as specified below.

E Payment

E.1 General

- (1) Costs for furnishing and operating the profiler, documenting profile results, and correcting the final surface are incidental to the contract. The department will pay separately for engineer-directed corrective action performed in excluded areas.

E.2 Pay Adjustment

The department will pay incentive for ride as follows:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0055.0100	Incentive IRI Ride PCC Surfaces	DOL

- (2) Incentive payment may be more or less than the amount the schedule of item shows.
- (3) The department will adjust pay as follows for work placed under the contract:
 - Based on the initial segment IRI for that segment.
 - The department will not pay incentives as specified in Table 7 for segments that require corrective action.

E.2.1 Pay Adjustment – IRI

- (1) IRI Ride incentives and disincentives are based on the initial IRI of each segment.
- (2) The department will adjust pay for 500-foot long standard segments nominally one wheel path wide using equations according to Table 7.
- (3) Contractor may perform corrective work to ≤ 65 inches/mile in lieu of disincentives if both the engineer and contractor agree.
- (4) The department will not pay incentives on corrective action work. No disincentives will apply after corrective work has reached ≤ 65 inches/mile.

Table 7: Pay Adjustment For IRI

Category	Initial IRI (in/mile)	Pay Adjustment (dollars/segment)
PCC	<50	1,000
	≥ 50 to ≤ 80	4,062.5 - (62.5 x IRI)

	>80	Corrective Work to ≤ 65 inches/mile

- (5) The department will prorate the pay adjustment for non-standard segments based on their length.

E.2.2 Pay Adjustment – Localized Roughness

- (1) The department will adjust pay for Localized Roughness according to Table 8.

Table 8: Pay Adjustment For Localized Roughness (LR)

Category	Length of LR Segment (Feet)	LR Pay Reduction	
		25' continuous IRI (inches/mile)	Corrective Work or Deduction per linear 1.0'
PCC and a posted vehicle speed of >45 mph	25	≥ 175 to <200	Corrective Work unless both the engineer and contractor agree to a monetary deduction of \$25.00 per linear foot
		≥ 200	Corrective work to <175
PCC: Ramps, Loops, Intersections constructed under traffic, or any paving with a posted vehicle speed ≤ 45 mph	25	<200	Acceptable
		≥ 200	\$25.00 per linear foot

10.8 HMA Longitudinal Joint Repair, Item SPV.0090.0100.

A Description

This special provision describes providing longitudinal joint repairs in HMA pavements. Conform to standard spec 204, 315, 455, and 460, and as follows.

B Materials

Furnish asphaltic surface per standard spec 465 as specified for type 4 MT 58-28 S under standard spec 460.2

Provide tack coat conforming to standard spec 455.2.5.

C Construction

C.1 General

Conform to standard spec 315.3.1 for placement of the HMA pavement.

Work to repair longitudinal joints shall begin and be completed during the same engineer approved off-peak lane closure period.

Mill an area 2 feet wide and at least 2 inches deep along existing joint lines as shown in the plans; the engineer will determine the final repair length. Ensure any loose asphalt is removed prior to paving.

Clean the existing milled surface before placing tack coat. Dispose of removed pavement and other waste materials outside of the project limits unless the engineer allows otherwise.

D Measurement

The department will measure HMA Longitudinal Joint Repair 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.0090.0100	HMA Longitudinal Joint Repair	LF

Payment is full compensation for providing the joint repair including removing the existing asphaltic surface; for tack coat and asphaltic pavement mixture.

The department will pay for any additional traffic control measures, if required, under the respective traffic control items in the contract.

10.9 Concrete Pavement 10 ½-Inch Special, Item SPV.0180.0100.

A Description

This special provision describes specialized material and construction requirements for high performance concrete used in mainline pavement and shoulders. Conform to standard specs 415, 501, 710, 715 as modified in this special provision.

B Materials

415.2.1 Concrete

Replace 415.2.1(1) with the following:

Furnish grade A concrete conforming to 501 except develop a concrete mixture to follow 501.3.2.3 and as modified for class I pavement concrete in 715. Provide QMP for class I pavement concrete as specified in 715.

415.2.2 Reinforcement

Supplement standard spec 415.2.2 with the following:

Furnish High Performance Dowel Bars according to 505.2.6.2.4

501.2.7.3 Coarse Aggregates

501.2.7.3.1 General

Replace 501.2.7.3.1 with the following:

501.2.7.3.1 General

Provide coarse aggregates from a department-approved source. Use an approved source listed on the APL or follow the source approval process specified in standard spec 106.3.4.2. In addition to the requirements of standard spec 106.3.4.2, perform tests for LA wear, sodium sulfate soundness, freeze-thaw soundness and lightweight pieces at least once per calendar year when producing coarse aggregates for use in high-performance concrete mixes.

Use clean, hard, durable crushed stone with 100 percent fractured surfaces and free of excess flat and elongated pieces, lightweight particles, frozen lumps, vegetation, deleterious substances or adherent coatings considered injurious.

Use virgin aggregates only.

Contact the engineer a minimum of 6 weeks prior to paving to collect a sample of the aggregates proposed for the project. The engineer will obtain the sample or observe the contractor obtaining the sample. The sampler must be HTCP certified to sample aggregates.

The department test results will be used for aggregate acceptance.

The department will randomly sample coarse aggregate for lightweight pieces testing at least once per 10,000 cubic yards during placement of concrete pavement.

501.2.7.3.2 Physical Properties

Replace 501.2.7.3.2 paragraph one with the following:

Furnish coarse aggregates approved for use in concrete pavement and conforming to the following:

Table 501-2 Physical Properties

Aggregate Quality Test	Test Method	Maximum Percent by Weight
LA Wear (100 and 500 revolutions) ^[1]	AASHTO T96 WTM	35
Sodium Sulfate Soundness (R-4, 5 cycles) ^[1]	AASHTO T104 WTM	6

Freeze-Thaw Soundness ^[1]	AASHTO T103 WTM	10
Lightweight Pieces ^{[1] [2]}	AASHTO T113 WTM	See Table 501-3

Coarse aggregate sizes No. 1 and No. 2 as defined in 501.2.7.4.2 will be tested individually and the results weighted by the blend percentage listed in the mix design.

Material having a bulk specific gravity (saturated surface-dry basis) of less than 2.45. Determine the percentage of lightweight pieces in the sample retained on the 3/8-inch sieve by the weight of the total sample.

501.2.7.3.3 Deleterious Substances

Replace 501.2.7.3.3 paragraph one with the following:

Ensure aggregates are free of excess flat & elongated particles, lightweight pieces, frozen lumps, vegetation, deleterious substances, or adherent coatings considered injurious. Do not exceed the maximum limits of deleterious substances specified in table 501-3.

Table 501-3 Deleterious Substances

Substance	Maximum Percent by Weight
Shale	1.0
Coal	1.0
Clay lumps	0.3
Soft fragments	5.0
Any combination of shale, coal, clay lumps, and soft fragments	5.0
Flat or elongated pieces based on a 3:1 ratio ^[1]	15.0
Materials passing the No. 200 sieve	1.5
Lightweight pieces	2.0

According to ASTM D4791 WTM

501.2.7.3.4 Alkali Silica Reactivity Testing and Mitigation Requirements

Replace 501.2.7.3.4 paragraph two and paragraph three with the following:

- (2) The department will reject the aggregate if the ASTM C1260 test indicates a 14-day expansion of 0.15 percent or greater.
- (3) The department may waive additional testing if the initial test is passing.

710.5.5 Strength

Replace 710.5.5 paragraph one with the following:

- (1) Cast all 6-inch x 6-inch x 21-inch beams in a set from the same sample. Do not cast more than one set of specimens from a single truckload of concrete. Mark each specimen to identify the lot and subplot or location on the project it represents.

715.2 Materials

715.2.1 General

Replace 715.2.1 paragraph four with the following:

- (4) The regional materials engineer must review and approve the submitted mix design within 7 business days of receiving the mix design submittal and complete Project Staff Review section of mix design certification within DT2220 or DT2221.

715.3 Testing and Acceptance

715.3.1 Class I Concrete Testing

715.1.1.1 General

Replace 715.3.1.1 paragraph one with the following:

- (1) Provide slump, air content, concrete temperature, and strength test results as specified in 710.5. Provide a battery of QC tests, consisting of results for each specified property, using a single sample randomly located within each subplot. Cast 3 specimens for strength evaluation.

Replace 715.3.1.1.1 paragraph one with the following:

- (1) Cast 3 beams for flexural strength acceptance testing at 28 days.

715.3.1.3 Department Verification Testing

Replace 715.3.1.3 paragraph one with the following:

- (1) The department will perform verification testing once for each 5 contractor QC tests with additional testing as required to obtain at least 1 verification test per lot for air content, slump, temperature, and strength.

715.3.2 Strength Evaluation

715.3.2.1 General

Replace 715.3.2.1 paragraph one with the following:

- (1) The department will make pay adjustments for strength on a lot-by-lot basis using the flexural strength of contractor QC beams.

715.5.1 General

Replace 715.5.1 with the following:

The department will pay incentive for strength under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
715.0715	Incentive Flexural Strength Concrete Pavement	DOL

Incentive payment may be more or less than the amount the schedule of items shows.

The department will administer disincentives for strength under the Disincentive Flexural Strength Concrete Pavement administrative item.

The department will adjust pay for each lot using PWL of the 28-day subplot average strengths for that lot. The department will measure PWL relative to strength lower specification limits as follows:

- Flexural strength of 650 psi for pavements

The department will not pay a strength incentive for concrete that is nonconforming in another specified property, for ancillary concrete accepted based on tests of class I concrete, or for high early strength concrete unless placed in pavement gaps as allowed under 715.3.1.2.2.

Submit strength results to the department electronically using the MRS software. The department will validate contractor data before determining pay adjustments.

All coring and testing costs under 715.3.2.2 including filling core holes and providing traffic control during coring are incidental to the contract.

715.5.2 Pavements

Delete section 715.5.2.1.

C Construction

C.1 Jointing

C.1.1 General

Add the following to standard spec 415.3.7.1:

Treat sawed surfaces of transverse joints and longitudinal joints to a depth of 1-inch or greater into the joint on each sawed face with a silane. Furnish a silane from the department's Concrete Protective Surface Treatments approved products list. Conform to the manufacturer's recommendations for use of the product.

The contractor shall perform a field trial under the department's observation to demonstrate the application method for the silane treatment of the joint. The field trial can be done with bricks or cinder blocks and shall be constructed in a way that represents a sawed concrete joint. The field trial must show the proposed application method can consistently treat the surfaces of the joint to a depth of 1-inch or greater into the joint.

Clean the saw cut by water blast and air to thoroughly remove cutting residue prior to application of the silane treatment.

C.2 Curing Concrete

C.1.2 General

501.3.2.4.3.3 Extended Delivery Time

Delete 501.3.2.4.3.3 paragraph one.

501.3.5 Ready-Mixed Concrete

Replace 501.3.5.1 paragraph one with the following:

- (1) Use central-mixed concrete as defined in standard spec 501.3.5.1(2) for all work performed under this special provision.

501.3.5.2 Delivery

Replace 501.3.5.2(3) with the following:

- (3) Deliver and completely discharge the concrete within the following limits, beginning when adding water to the cement, or when adding cement to the aggregates.

Delivered in Agitating Vehicles:

- 60 minutes if the concrete temperature is 60 F or higher at placement, and the contractor does not use a department-approved retarder.
- 90 minutes if the concrete temperature is less than 60 F at placement.
- 90 minutes if the concrete temperature is 60 F or higher at placement, and the contractor uses a department-approved retarder.

Delivered in Non-Agitating Vehicles:

- 30 minutes if the concrete temperature is 85 F or higher at placement, and the contractor does not use a department-approved retarder.
- 45 minutes if the concrete temperature is 60 F to less than 85 F at placement, and the contractor does not use a department-approved retarder.
- 60 minutes if the concrete temperature is less than 60 F at placement.
- 60 minutes if the concrete temperature is 60 F or higher at placement, and the contractor uses a department-approved retarder

501.3.8.2 Hot Weather Concreting

Replace all of 501.3.8.2.1 with the following:

501.3.8.2.1 General

The contractor is responsible for the quality of concrete placed in hot weather. Submit a written temperature control plan at or before the pre-pour meeting. In that plan, outline the actions 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.

If the concrete temperature at the point of placement exceeds 90 F, do not place concrete for items covered in this special provision.

If the air temperature exceeds 80 F, ensure that the base material is in a moist condition during concrete placement. Water the base, as required, not less than 6 hours before placing the concrete. If the base material subsequently dries, moisten it by sprinkling water just before placing the concrete. Sprinkle the water to avoid forming pools.

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.

D Measurement

The department will measure Concrete Pavement 10 1/2-Inch Special by area in square yards acceptably completed in accordance with standard spec 415.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0180.0100	Concrete Pavement 10 1/2-Inch Special	SY

The department will pay separately for Incentive Strength Concrete Pavement.

ner41-616 (01272025)

11. Bridges.

11.1 Notice to Contractor, Notification of Demolition and/or Renovation No Asbestos Found.

John Roelke, License Number All-119523, inspected Structures B-44-0128, B-44-0129, B-44-0130 for asbestos on 12/16/2020. No Regulated Asbestos Containing Material (RACM) was found on this structure. A copy of the inspection report is included with the bid package or available from Tim Verhagen, (920) 362-1267, Timothy.Verhagen@dot.wi.gov.

According to NR447 and DHS159, ensure that DNR or DHS receives a completed Notification of Demolition and/or Renovation (DNR Form 4500-113 (R 03/20), or subsequent revision) via U.S. mail, hand-delivery, or using the online notification system at least 10 working days before beginning any construction or demolition. Pay all associated fees. Provide a copy of the completed 4500-113 form to Tim Verhagen, (920) 362-1267, Timothy.Verhagen@dot.wi.gov and via e-mail to dothazmatunit@dot.wi.gov or via U.S. mail to DOT BTS-ESS attn: Hazardous Materials Specialist, 5 South S.513.12, PO Box 7965, Madison, WI 53707-7965. In addition, comply with all local or municipal asbestos requirements.

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

- Site Name: Structure B-44-0128, STH 441 SB over CTH OO
- Site Address: 441714, 882122, Town of Grand Chute
- Ownership Information: WisDOT Northeast Region, 944 Vanderperren Way, Green Bay, WI, 54304
- Contact: Tim Verhagen
- Phone: (920) 362-1267
- Age: 33 years old. This structure was constructed in 1993.
- Area: 7,742 SF of deck

- Site Name: Structure B-44-0129, STH 441 NB to IH 41 SB over IH 41
- Site Address: 441751, 882120, Town of Grand Chute
- Ownership Information: WisDOT Northeast Region, 944 Vanderperren Way, Green Bay, WI, 54304
- Contact: Tim Verhagen
- Phone: (920) 362-1267
- Age: 33 years old. This structure was constructed in 1993.
- Area: 9,332 SF of deck

- Site Name: Structure B-44-0130, IH 41 SB to STH 441 SB over IH 41
- Site Address: 441754, 882122, Town of Grand Chute
- Ownership Information: WisDOT Northeast Region, 944 Vanderperren Way, Green Bay, WI, 54304
- Contact: Tim Verhagen
- Phone: (920) 362-1267
- Age: 33 years old. This structure was constructed in 1995.
- Area: 9,572 SF of deck

11.2 Ice Hot Weather Concreting, Item 501.1000.S.

Conform to standard spec 501.3.8.2 except the department will pay for ice at the contract unit price under the Ice Hot Weather Concreting bid item. This special provision only applies to work done under the following contract bid items:

Concrete Masonry Bridges	Concrete Masonry Retaining Walls
Concrete Masonry Bridges HES	Concrete Masonry Retaining Walls HES
Concrete Masonry Culverts	Concrete Masonry Endwalls
Concrete Masonry Culverts HES	Concrete Masonry Overlay Decks
Concrete Barrier Single-Faced 32-Inch	Concrete Barrier (type)
Concrete Barrier Double-Faced 32-Inch	Concrete Barrier Fixed Object Protection (type)
Concrete Barrier Transition Section 32-Inch	Concrete Barrier Transition (type)

Replace standard spec 501.4 and 501.5 with the following:

501.4 Measurement

- (1) The department will measure Ice Hot Weather Concreting by the pound acceptably completed, measured only if the conditions prescribed in standard spec 501.3.8.2 are met.

501.5 Payment

- (1) The department will pay for the measured quantity at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
501.1000.S	Ice Hot Weather Concreting	LB

- (2) Payment for Ice Hot Weather Concreting is full compensation for ice used to cool concrete placed in hot weather as specified in standard spec 501.3.8.2.
- (3) The department will not pay directly for the concrete specified under this section. Concrete is incidental to the various bid items using it. Payment under those bid items includes providing all materials, including aggregates and associated aggregate source testing, cement, fly ash, slag, and admixtures; and for preparing, transporting, storing, protecting and curing concrete.
- (4) If required to remove and replace any concrete damaged by lack of proper protection. Perform this work at no expense to the department.

stp-501-010 (20210708)

11.3 Expansion Device Modular, Item 502.3111.S.

A Description

This special provision describes furnishing and installing shop-fabricated waterproof modular expansion devices as the plans show conforming to standard spec 502 as modified in this special provision. Ensure that modular expansion joint devices seal the deck surface, curbs, gutters, and parapet walls as the plans indicate. Leaking or seeping of water through the joint will be cause for rejection of modular expansion devices.

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 the standard spec, 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 Approved Fabricators

Furnish components for the Modular Expansion Device System from an approved fabricator selected from the department's approved product list of Fabricated Bridge Components – Expansion Devices.

To be eligible for this project, modular expansion devices from other manufacturers must be pre-approved before the bid closing date. Applications for pre-approval may be submitted at any time. Prepare the application according to the department requirements. If needed, obtain information and assistance with the pre-approval process from the Structures Maintenance Section in the Bureau of Structures, by sending an email to the following address: DOTDLStructuresFabrication@dot.wi.gov

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 accepted 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 F3125. 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 A240 alloy 304, 2B 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:

Property Requirements	Value	Test Method
Tensile Strength, min	2000 psi	ASTM D412
Elongation @ Break, min	250%	ASTM D412
Hardness, Type A, Durometer	60± 5 pts	ASTM D2240
Compression Set, 70 Hrs @ 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 & 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 1 1/2 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 3/4 inch. The pin (or rod) that passes through these anchor plates and the spring placed between them, shall have a cotter (or hitch) pin at each end to keep these components in their proper position.

B.6 Transverse Center Beams

Transverse center beams shall be at least of 4 1/2 inches in height and have a minimum vertical web thickness of 3/4 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 3/4 inch.

The connections between the transverse center beams and support bars shall be a full penetration weld according to the plan details. 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 1/2 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 the plans show.

B.8 Structural Steel Surfaces

Galvanize after fabrication, according 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, Adiprene, nylon, or Teflon.

Galvanize all bolts, nuts and washers conforming to ASTM A153 supplemented by ASTM F2329.

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 according 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 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. Repair areas of damaged galvanization with two coats of zinc dust/zinc oxide paint. Clean damaged and adjacent areas by sanding, scraping, chipping, or wire brushing before painting. 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. Submit shop drawings to the engineer conforming to standard spec 105.2 with electronic submittal to the fabrication library under standard spec [105.2.2](#). Department review does not relieve the contractor from responsibility for errors or omissions on shop drawings.

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

Install according to the plan details, the manufacturer's and supplier's approved shop drawings, and as the engineer directs. 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 according 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 before the date of installation.

D Measurement

The department will measure Expansion Device Modular by the linear foot, acceptably completed, measured from outermost extent of the expansion device not including turn-ups.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
502.3111.S	Expansion Device Modular	LF

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 blackout not otherwise covered for payment, and barrier railing plates.

stp-502-021 (20210708)

11.4 Bar Steel Reinforcement HS Stainless Structures, Item 505.0800.S.

A. Description

This special provision describes furnishing and placing stainless steel reinforcing bars and associated stainless steel bar couplers.

Conform to standard spec 505 as modified in this special provision.

B. Materials

B.1 General

Furnish stainless steel reinforcing bars conforming to ASTM A955 and to one of the following Unified Numbering System (UNS) designations: S31653, S31803, S32205, or S32304. Supply grade 60 bars, all of the same UNS designation. Conform to the chemical composition specified for the given UNS designation in ASTM A276 table 1.

Supply bars that are free of dirt, mill scale, oil, and debris by pickling to a bright or uniform light finish. The department may reject bars displaying rust/oxidation, questionable blemishes, or lack of a bright or uniform pickled surface.

Furnish chairs or continuous supports made of stainless steel or recycled plastic to support high-strength stainless bar steel reinforcement subject to the plastic chair restriction stated in standard spec 505.3.4(1).

Furnish couplers made from one of the UNS alloys allowed for bar steel.

Furnish tie wire made from one of the UNS alloys allowed for bar steel or from an engineer-approved plastic or nonmetallic material. Ensure that stainless steel tie wire is dead soft annealed.

B.2 Fabrication

Before fabrication, supply test results from an independent testing agency certifying that the reinforcement meets the requirements of Annex A1 of ASTM A955.

Bend bars conforming to standard spec 505.3.2 and according to ASTM A955. Bend and cut bars using equipment thoroughly cleaned or otherwise modified to prevent contamination from carbon steel or other contaminants. Use tools dedicated solely to working with stainless steel.

B.3 Control of Material

Identify reinforcement bars delivered to the project site with tags bearing the identification symbols used in the plans. Include the UNS designation, heat treat condition, heat number, grade corresponding to minimum yield strength level, and sufficient documentation to track each bar bundle to a mill test report.

Provide samples for department testing and acceptance according to CMM 8-50 Exhibit 1 requirements for concrete masonry reinforcement for uncoated bar steel.

Provide mill test reports for the project that do the following:

1. Verify that sampling and testing procedures and test results conform to ASTM A955, ASTM A276 table 1, and these contract requirements.
2. Include a chemical analysis with the UNS designation, heat lot identification, and the source of the metal.
3. Include tensile strength, yield strength, and elongation tests results conforming to ASTM A955 for each size furnished.
4. Certify that the bars have been pickled to a bright or uniform light finish.

C. Construction

C.1 General

Ship, handle, store, and place the stainless-steel reinforcing as follows:

1. Separate from regular reinforcement during shipping. Pad points of contact with steel chains or banding, or secure with non-metallic straps.
2. Store on wooden cribbing separated from regular reinforcement. Cover with tarpaulins if stored outside.
3. Handle with non-metallic slings.
4. Do not flame cut or weld. Protect from contamination when cutting, grinding, or welding other steel products above or near the stainless-steel during construction.
5. Place on plastic or stainless-steel bar chairs. If placing stainless steel chairs on steel beams, use chairs with plastic-coated feet.
6. Tie with stainless steel wire or an engineer-approved plastic or nonmetallic material.

Do not tie stainless steel reinforcing bars to, or allow contact with, uncoated reinforcing bars or galvanized steel. Maintain at least 1 inch clearance between stainless steel bars or dowels and uncoated or galvanized steel. Where 1 inch clearance is not possible, sleeve bars with a continuous polyethylene or nylon tube at least 1/8-inch-thick extending at least 1 inch in each direction and bind with nylon or polypropylene cable ties. Sleeves are not required between stainless steel bars and shear studs. Stainless steel bars can be in direct contact with undamaged epoxy-coated bars.

Cut flush with the top flange or remove uncoated fasteners, anchors, lifting loops, or other protrusions into a bridge deck before casting the deck on prestressed concrete beams.

C.2 Splices

Splice as the plans show. Provide stainless steel couplers conforming to the minimum capacity, certification, proof testing, and written approval requirements of standard spec 550.3.3.4. The contractor may substitute stainless steel couplers for lap splices the plans show if the engineer approves in writing.

If increasing or altering the number or type of bar splices the plans show, provide revised plan sheets to the engineer showing the reinforcement layout, type, length, and location of revised bar splices and revised bar lengths. Obtain engineer approval for the location of new lap splices or substitution of mechanical bar couplers before fabrication. Ensure that new lap splices are at least as long as those the plans show.

D. Measurement

The department will measure Bar Steel Reinforcement HS Stainless Structures by the pound, acceptably completed, computed from the nominal weights of corresponding sizes for carbon steel deformed bars in AASHTO M31 regardless of stainless-steel alloy provided. The department will not measure extra material used if the contractor alters the reinforcement layout as allowed under C.2, extra material for splices or couplers the plans do not show, or the weight of devices used to support or fasten the steel in position.

The department will measure the Bar Couplers Stainless bid items as each individual coupler, 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
505.0800.S	Bar Steel Reinforcement HS Stainless Structures	LB

Payment for Bar Steel Reinforcement HS Stainless Structures is full compensation for furnishing and placing stainless steel reinforcing bars, including supports. Where the plans specify bar couplers, the department will pay for the length of bars as detailed with no deduction or increase for installation of the coupler.

Payment for the Bar Couplers Stainless bid items is full compensation for providing couplers; including bar steel that is part of the coupler and not detailed in the plan; for threading reinforcing bars; for installing and coating the splice; and for supplying and testing 3 couplers.

stp-505-005 (20190618)

11.5 Polymer Overlay, Item 509.5100.S.

A Description

This special provision describes providing two layers of a two-component polymer overlay system to the bridge decks the plans show.

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

Furnish a polymer resin base and hardener composed of two-component, 100 percent solids, 100 percent reactive, thermosetting compound with the following properties:

Property	Requirements	Test Method
Gel Time ^[1]	15 - 45 minutes @ 73° to 75° F	ASTM C881
Viscosity ^[1]	7 - 70 poises	ASTM D2393, Brookfield RVT, Spindle No. 3, 20 rpm
Shore D Hardness ^[2]	60-75	ASTM D2240
Absorption ^[2]	1% maximum at 24 hr	ASTM D570
Tensile Elongation ^[2]	30% - 70% @ 7 days	ASTM D638
Tensile Strength ^[2]	2000 to 5000 psi @ 7 days	ASTM D638
Chloride Permeability ^[2]	<100 coulombs @ 28 days	AASHTO T277

^[1] Uncured, mixed polymer binder

^[2] Cured, mixed polymer binder

Ensure that the polymer resin when mixed with aggregate has the following properties:

Property	Requirement^[1]	Test Method
Minimum Compressive Strength	1,000 psi @ 8 hrs 5,000 psi @ 24 hrs	ASTM C579 Method B, Modified ^[2]
Thermal Compatibility	No Delaminations	ASTM C884
Minimum Pull-off Strength	250 psi @ 24 hrs	ASTM C1583

^[1] Based on samples cured or aged and tested at 75°F

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

B.3 Aggregates

Furnish natural or synthetic aggregate that is non-polishing; clean; free of surface moisture; fractured or angular in shape; free from silt, clay, asphalt, or other organic materials; and conform to the following:

Aggregate Properties

Property	Requirement	Test Method
Moisture Content ^[1]	1/2 of the measured aggregate absorption, %	ASTM C566
Hardness	≥6.5	Mohs Scale
Fractured Faces	100% with at least 1 fractured face & 80% with at least 2 fractured faces of material retained on No.16	ASTM D5821
Absorption	≤1%	ASTM C128

^[1] Sampled and tested by the department before placement.

Gradation

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

B.4 Approval of Bridge Deck Polymer Overlay System

A minimum of 20 working days before application, submit product data sheets and specifications from the manufacturer, and a certified report of test or analysis from an independent laboratory to the engineer for approval. The department will sample and test the aggregates for gradation and moisture content before placement. If requested, supply the department with samples of the polymer for the purpose of acceptance testing.

B.4.1 Product Data Sheets and Specifications

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.

B.4.2 Certified Report of Test or Analysis

Conform to the following:

Polymer Binder: Submit a certified report of test or analysis from an independent laboratory dated less than 3 years before the date of the project letting showing the polymer binder meets the requirements of section B.2.

Aggregates: Submit a certified report of test or analysis from an independent laboratory dated less than 6 months before the date of the project letting showing the aggregates meet the requirements of section B.3.

C Construction

C.1 General

Ensure that the overlay system is 1/4 inch thick or thicker.

Conform to the following:

Field Review: Conduct a field review of the existing deck to identify any possible surface preparation and material compatibility issues.

Pre-Installation Meeting: Conduct a pre-installation meeting with the manufacturer's representative and the engineer before construction. Discuss the field review findings, verification testing of the surface preparation and 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. Supply for the engineer's use for the duration of the project, a Concrete Surface Profile (CSP) chip set of 10 from the International Concrete Repair Institute (ICRI).

Manufacturer's Representative: An experienced 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. This requirement may be reduced at the engineer's discretion.

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

C.2 Deck Preparation

C.2.1 Deck Repair

Remove all asphaltic patches and unsound or disintegrated areas of the concrete decks as the plans show, or as the engineer directs. Work performed to remove and repair the concrete deck will be paid for under other items.

Use deck patching products that are compatible with the overlay system. Patching materials with magnesium phosphate shall not be used. Place patches after surface is prepared via shot blasting and cleaning as described in Section C.2.2 of this specification. Portland cement concrete patches shall be used for joint repairs and full depth deck repairs with a plan area larger than 4 sf, unless approved otherwise by the Structures Design Section. If rapid-set concrete is used, place patches per the manufacturer's recommendation. If Portland cement concrete is used, place patches per standard spec 509.3.9.1.

Deck patching shall be filled and properly finished prior to overlay placement. Do not place overlay less than 1 hour, or per the manufacturer's recommendation, after placing rapid-set concrete patches in the repair areas. Do not place overlay less than 28 days after placing Portland cement concrete patches in the repair areas.

C.2.2 Surface Preparation

Determine an acceptable shotblasting machine operation (size of shot, flow of shot, forward speed, and/or number of passes) that provides a surface profile meeting CSP 5 (medium-heavy shotblast) according to the ICRI Technical Guideline No. 310.2. If the engineer requires additional verification of the surface preparation, test the tensile bond strength according to ASTM C1593. 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 1/4 inches or more is greater than 50 percent 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 before the application of the overlay system.

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

Before shot blasting, remove pavement markings within the treatment area using an approved mechanical or blasting method.

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

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

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

C.2.3 Transitional Area

If the plans show, create a transitional area approaching transverse expansion joints and ends of the deck using an approved mechanical or blasting method. Remove 1/4 inch to 5/16 inch of concrete adjacent to the joint or end of deck and taper a distance of 3 feet.

If the plans show, create a transitional area on the approach pavement. Prep and place the first lift 3 feet beyond the end of the deck the same width as the deck. Prep and place the second lift 6 feet beyond the end of the deck the same width as the deck.

C.3 Overlay Application

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

1. Ambient air temperature is below 50 F or above 100 F.
2. Deck temperature is below 50 F.
3. Moisture content in the deck exceeds 4.5 percent when measured by an electronic moisture meter or shows visible moisture after 2 hours when measured in accordance with ASTM D4263.
4. Rain is forecasted during the minimum curing periods listed under C.5.
5. Materials component temperatures below 65 F or above 99 F.
6. Concrete deck age is less than 28 days.
7. The deck temperature exceeds 100 F.
8. If the gel time is 10 minutes or less at the predicted high air temperature for the day.

After the deck has been shotblasted or during the overlay curing period, only necessary surface preparation and overlay application equipment will be allowed on the deck. Provide appropriate protective measures to prevent contamination from equipment allowed on the deck during preparation and application operations. Begin overlay placement as soon as possible after surface preparation operations.

The polymer overlay shall consist of a two-course application of polymer and aggregate. Each of the two courses shall consist of a layer of polymer covered with a layer of aggregate in sufficient quantity to completely cover the polymer. Apply the polymer and aggregate according to the manufacturer's requirements. Apply the overlay using equipment designed for this purpose. The application machine shall feature positive displacement volumetric metering and be capable of storing and mixing the polymer resins at the proper mix ratio. Disperse the aggregate using a method that provides a uniform, consistent coverage of aggregate and minimizes aggregate rolling or bouncing into final position. First course applications that do not receive enough aggregate before the polymer gels shall be removed and replaced. A second course applied with insufficient aggregate may be left in place, but will require additional applications before opening to traffic.

After completion of each course, cure the overlay according to the manufacturer's instructions. Follow the minimum cure times listed under C.5 or as prescribed by the manufacturer. Remove the excess aggregate from the surface treatment by sweeping, blowing, or vacuuming without tearing or damaging the surface; the material may be re-used if approved by the engineer and manufacturer. Apply all courses of the overlay system before opening the area to traffic. Do not allow equipment or 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. Before applying the second layer, broom and blow off the first layer with compressed air to remove all loose excess aggregate.

Before opening to traffic, clean expansion joints and joint seals of all debris and polymer. A minimum of 3 days following opening to traffic, remove loosened aggregates from the deck, expansion joints, and approach pavement.

C.4 Application Rates

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

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

^[1] The minimum total applications rate is 7.5 GAL/100 SF.

^[2] Application of aggregate shall be of sufficient quantity to completely cover the polymer.

C.5 Minimum Curing Periods

As a minimum, cure the coating as follows:

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

If faster cure times are desired and achievable, submit to the engineer a certified test report from an independent laboratory showing the material is able to reach a compressive strength of 1000 psi as tested per ASTM C 579 Method B within the temperature ranges and cure times for which the product is proposed to be placed. Establish ambient air, material, and substrate temperatures from the manufacturer for field applications. Field applications will not be allowed below the documented temperatures.

C.6 Repair of Polymer Overlay

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

D Measurement

The department will measure Polymer Overlay by the square yard, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
509.5100.S	Polymer Overlay	SY

Payment is full compensation for preparing the surface; for tensile bond testing; for creating the transitional area; for providing the overlay; for cleanup; and for sweeping/vacuuming and disposing of excess materials.

The department will pay separately for deck repairs.

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- 11.6 Concrete Staining B-44-0127, 517.1010.S.0127;
Concrete Staining B-44-0128, 517.1010.S.0128;
Concrete Staining B-44-326, 517.1010.S.0001;
Concrete Staining B-44-327, 517.1010.S.0002;
Concrete Staining R-44-042, 517.1010.S.0003,
Concrete Staining R-44-0045, 517.1010.S.0004;
Concrete Staining R-44-0047, 517.1010.S.0005;
Concrete Staining R-44-0070, 517.1010.S.0070;
Concrete Staining R-44-0071, 517.1010.S.0071.**

A Description

This special provision describes providing a two coat concrete stain on the exposed concrete surfaces of structures as the plans show.

B Materials

B.1 Mortar

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

Preblended, Packaged Type II Cement:

Tri-Mix by TK Products

ThoroSeal Pearl Gray by Thoro Products

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

Acrylic Bonding Admixture:

TK-225 by TK Products

Achro 60 by Thoro Products

Achro Set by Master Builders

B.2 Concrete Stain

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

Tri-Sheen Concrete Surfer, Smooth by TK Products

Tri-Sheen Acrylic by TK Products

TK-1450 Natural Look Urethane Anti-Graffiti Primers by TK Products

Safe-Cure & Seal EPX by Chem Masters

H&C Concrete Stain Solid Color Water Based by Sherwin-Williams

C Construction

C.1 General

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

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

C.2 Preparation of Concrete Surfaces

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

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

C.3 Staining Concrete Surfaces

Apply the concrete stain according to the manufacturer's recommendations.

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

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

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

C.4 Test Areas

Before applying stain to the structure, apply the stain to sample panels measuring a minimum of 48 inches x 48 inches and constructed to demonstrate workmanship in the use of the form liner specified on the structure if applicable. Match or exceed the stain manufacturer's minimum recommended curing time of the concrete or 28 days, whichever is greater, before staining. Prepare the concrete surfaces of the sample panels and apply stain using the same materials and in the same manner as proposed for the

structure, including staining of the joints between the stones produced by the form liner if applicable. Do not apply stain to the structure until the department approves the test panels.

C.5 Surfaces to be Coated.

Apply concrete stain to the surfaces according to the plan.

D Measurement

The department will measure Concrete Staining B-44-329 in area by the square foot of surface, acceptably prepared and stained.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
517.1010.S.0127	Concrete Staining B-44-0127	SF
517.1010.S.0128	Concrete Staining B-44-0128	SF
517.1010.S.0001	Concrete Staining B-44-326	SF
517.1010.S.0002	Concrete Staining B-44-327	SF
517.1010.S.0003	Concrete Staining R-44-042	SF
517.1010.S.0004	Concrete Staining R-44-0045	SF
517.1010.S.0005	Concrete Staining R-44-0047	SF
517.1010.S.0070	Concrete Staining R-44-0070	SF
517.1010.S.0071	Concrete Staining R-44-0071	SF

Payment is full compensation for furnishing and applying the two coat system; for preparing the concrete surface; and for preparing the sample panels.

stp-517-110 (20140630)

11.7 HPC Masonry Structures, Item SPV.0035.1000.

A Description

This special provision describes specialized material and construction requirements for high-performance concrete used in bridge structures. Conform to standard spec 501, 502, and 509, as modified in this special provision. Conform to standard spec 715 for QMP Concrete Pavement, Cast-in-Place Barrier, and Structures.

B Materials

501.2.7.3 Coarse Aggregates

501.2.7.3.1 General

Replace the entire text of 501.2.7.3.1 with the following:

- (1) Provide coarse aggregates from a department-approved source. Use an approved source listed on the APL or follow the source approval process specified in standard spec 106.3.4.2. In addition to the requirements of standard spec 106.3.4.2, perform tests for LA wear, sodium sulfate soundness, freeze-thaw soundness and lightweight pieces at least once per calendar year when producing coarse aggregates for use in high-performance concrete mixes.
- (2) Use clean, hard, durable crushed limestone or crushed gravel free of excess flat and elongated pieces, lightweight particles, frozen lumps, vegetation, deleterious substances or adherent coatings considered injurious.
- (3) Use virgin aggregates only.
- (4) Contact the engineer a minimum of 6 weeks prior to paving to collect a sample of the aggregates proposed for the project. The engineer will obtain the sample or observe the contractor obtaining the sample. The sampler must be AGGTEC-I HTCP certified to sample aggregates.
- (5) Department test results will be used for aggregate acceptance.

- (6) The department will randomly sample coarse aggregate for lightweight pieces testing at least once per 10,000 cubic yards during placement of concrete masonry structures.

501.2.7.3.2 Physical Properties

Replace 501.2.7.3.2) paragraph one with the following:

- (1) Furnish coarse aggregates approved for use in concrete masonry structures and conforming to the following:

Aggregate Quality Test	Test Method	Maximum Percent by Weight
LA Wear (100 and 500 revolutions) ^[1]	WTM T96	30
Sodium Sulfate Soundness (R-4, 5 cycles) ^[1]	WTM T104	6
Freeze-Thaw Soundness ^[1]	WTM T103	12
Lightweight Pieces ^{[1] [2]}	WTM T113	2.0

^[1] Coarse aggregate sizes used in the Portland Cement Concrete mixture design (DT2221 Concrete Mixture Design – Optimized Aggregate Gradation) will be tested individually and the results weighted by the blend percentage listed in the mix design. Do not consider fine aggregate percentage as part of the weighted result.

^[2] Material having a bulk specific gravity (saturated surface-dry basis) of less than 2.45. Determine the percentage of lightweight pieces in the sample retained on the 3/8-inch sieve by the weight of the total sample.

501.2.7.3.3 Deleterious Substances

Replace 501.2.7.3.3 paragraph one with the following:

- (1) Furnish aggregates that conform to the following:

Deleterious Substance	Test Method	Maximum Percent by Weight
Coal, clay lumps, shale, and other deleterious substance	Visual	3.0
Flat or elongated pieces based on a 3:1 ratio ^[1]	WTM D4791	15.0
Materials passing the No. 200 sieve	WTM T11	1.5

501.2.8 Concrete Curing Materials

Replace entire text with the following:

- (1) Furnish burlap conforming to AASHTO M 182, class 1, 2, 3 or 4.

710.5 Sampling and Testing

Supplement 710.5 with the following:

710.5.8 Chloride Penetration Resistance

- (1) For each new or changed mix design, measure chloride penetration resistance according to AASHTO T277 at a frequency of 1 test per 3 months (quarterly) of production.
- (2) Strip permeability samples from molds and wet cure according to AASHTO T277 Accelerated Moist Curing. Upon completion of the curing process, obtain one sample from each cylinder and test according to AASHTO T277.
- (3) Provide concrete mixtures that meet the chloride penetration maximum resistance limit of 1500 coulombs based on AASHTO T277. Quarterly chloride resistance test results exceeding 1500 coulombs, the department will require adjustment of the concrete mix going forward to improve the chloride penetration resistance.

715.2 Materials

715.2.1 General

Replace 715.2.1 paragraph four with the following:

- (4) The regional materials engineer must review and approve the submitted mix design within 7 business days of receiving the mix design submittal and complete Project Staff Review section of mix design certification within DT2220 or DT2221.

715.2.2 Class I Concrete Mixes

715.2.2.2 Structures

Supplement 715.2.2.2 with the following:

- (5) Provide a mix design using optimized aggregate gradation and a cementitious content within the range of 470 to 540 pounds per cubic yard. For all superstructure and substructure concrete, unless the engineer approves otherwise in writing, concrete mixtures must use an IL, IP, IS, or IT blended cement.
- (6) In addition to the standard spec mix design laboratory trial batching for structures, include the results of the following tests:
1. WTM T119 Slump of Hydraulic Cement Concrete.
 2. AASHTO T277 Rapid Determination of the Chloride Permeability of Concrete, using the modified curing procedure according to 710.5.8 in this special provision.
- (7) Provide concrete with a 28-day compressive strength that equals or exceeds the following:
- Contract specified f'_c .
 - 4000 psi, if the contract does not specify f'_c .
- (8) Provide concrete with a maximum chloride penetration resistance of 1500 coulombs at 28-days.

C. Construction

501.3.2.4.3.3 Extended Delivery Time

Delete 501.3.2.4.3.3 paragraph one.

501.3.5 Ready-Mixed Concrete

501.3.5.1 General

Replace 501.3.5.1 paragraph one with the following:

- (1) Use central-mixed concrete as defined in standard spec 501.3.5.1(2) for all work performed under this special provision.

501.3.5.2 Delivery

Replace 501.3.5.2 paragraph three with the following:

- (3) Deliver and completely discharge all 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) Provide concrete with a 2-inch to 4-inch slump
- (2) Perform slump tests for concrete according to WTM T119.

501.3.8.2 Hot Weather Concreting

501.3.8.2.1 General

Replace the entire text with the following:

- (1) The contractor is responsible for the quality of concrete placed in hot weather. Submit a written temperature control plan at or before the pre-pour meeting. In that plan, outline the actions 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) The department will pay \$0.75 per pound for the quantity of ice required to reach a target concrete temperature of 75 F if the following conditions are met:
1. The un-iced concrete temperature exceeds 80 F.
 2. The contractor has performed the actions outlined in the contractor's accepted temperature control plan.
 3. The contractor elects to use ice.
- (4) 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.

501.3.8.2.2 Bridge Decks

Replace the entire text with the following:

- (1) Do not place concrete for bridge decks when the 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 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. If the engineer accepts an evaporation control plan calling for ice, the department will pay \$0.75 per pound for that ice. 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 before 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 525](#), figure 1 or using a computerized equivalent. 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 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 engineer's discretion, the contractor may be allowed to implement immediate corrective action and complete the pour.

502.3.5.4 Superstructures

Delete 502.3.5.4 paragraph five.

502.3.7.8 Floors

Replace 502.3.7.8 paragraph five with the following:

- (5) Set the rails or tracks that the finish machine rides on, to the required elevation; and ensure they adjust to allow for settlement under load. Support the rails or tracks outside the limits of the finished riding surface. Do not support rails or tracks on the tops of girders, or within the finished riding surface, without the engineer's written permission.

Delete 502.3.7.8 paragraph thirteen, fourteen, and fifteen. Add the following to 501.3.7.8:

- (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) Keep hand finishing to a minimum. Hand finishing the edge of deck is acceptable. Equip the finishing machine 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 within a timeframe acceptable to the engineer 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 Curing

502.3.8.1 General

Replace 502.3.8.1 paragraph 1 with the following:

- (1) Maintain adequate moisture throughout the concrete mass to support hydration for at least 14 days.

502.3.8.2 Curing Requirements

502.3.8.2.1 General

Replace entire text of 502.3.8.2.1 with the following:

- (1) Wet-cure the concrete for bridge decks, structural approach slabs, sidewalks on bridges and raised medians on bridges 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 to minimize marking of the fresh concrete. Keep the first layer of burlap/cotton continuously wet until the bridge deck or overlay is sufficiently hard to apply a second layer of wetted burlap/cotton. Immediately after applying the second layer of burlap/cotton, continue to keep the deck wet 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 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, structural approach slab, bridge mounted sidewalk or bridge mounted raised median pour. Keep the fogging system set up and operational during 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 501.2.8.
- (2) Secure coverings along all edges to prevent moisture loss.

502.3.13 Concrete Crack and Surface Sealing

Supplement 502.3.13.2 with the following:

- (6) **Treat all traffic bearing horizontal surfaces and surrounding areas with silane sealer found on the department's Concrete Protective Surface Treatments approved products list. Conform to the manufacturer's recommendations for use of the product. All surface preparation work shall be completed and approved by the Engineer.**

502.3.9 Cold Weather Protection

502.3.9.6 Bridge Decks

Replace the entire text of 502.3.9.6 with the following:

- (1) Protect concrete in bridge decks as specified for structural masonry, and except for parapets and similar pours, according to the following requirements:
1. Do not place concrete for bridge decks or other superstructure elements when the national weather service forecast for the construction area predicts temperatures to fall below 32 F within 24 hours, unless the engineer specifically allows or requires in writing.
 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.

D (Vacant)

E Payment

502.5.1 General

Replace 502.5.1 paragraph one with the following:

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0035.1000	HPC Masonry Structures	CY

11.8 Concrete Masonry Bridges Special, Item SPV.0035.1010.

A Description

This special provision describes specialized concrete material to be used for pier footings at locations shown on the plans.

B Materials

501.2.4 Cementitious Material

Portland cement furnished in accordance with section 501.2.4.1 shall be limited to Type IP, Type IS or Type IT to provide moderate sulfate resistance.

C (Vacant)

D Measurement

The department will measure Concrete Masonry Bridges Special by the cubic yard acceptably completed, based on the dimensions the plans show or, if the engineer revises the plan, on revised plan dimensions.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0035.1010	Concrete Masonry Bridges Special	CY

Payment for Concrete Masonry Bridges Special is full compensation for providing forms and falsework; for placing, finishing, curing, protecting, and heating concrete; for measuring concrete opening strength, including fabricating and testing cylinders, and evaluating maturity.

11.9 Pile Dynamic Analyzer (PDA) Testing, Item SPV.0600.1000; Pile Dynamic Analyzer (PDA) Restrikes, Item SPV.0060.1010; CAsE Pile Wave Analysis Program (CAPWAP) Evaluation, Item SPV.0060.1020.

A Description

The items consist of providing Pile Dynamic Analyzer (PDA) load testing and analyses/evaluation, 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 contractor after PDA testing and evaluation is completed at each substructure unit. PDA restrikes will be completed as described in this special provision, or as directed by the engineer.

The piles and pile driving will be paid for under standard specification 550. This applies to both piles installed using the PDA criteria and for production piles installed using the criteria developed by the contractor 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. Submit to the engineer the name and qualifications of the person(s) completing this work. Provide documentation that the person(s) completing this work have successfully completed at least 5 PDA testing projects within the last 3 years, and that these identified projects are of a scope and complexity similar to that anticipated for this project. Persons without this minimum experience will not be allowed to complete work on this project. Also submit documentation of experience with PDA equipment manufactured by Pile Dynamics, Inc. and the CAsE Pile Wave Analysis Program (CAPWAP). All dynamic monitoring shall be performed using a PDA (Model PAK, PAX, or PAL). Furnish all equipment necessary for the dynamic monitoring such as sensors, cables, or wireless transmitters, etc. The equipment shall conform to the requirements of ASTM D4945. A person with a minimum of 4 years of experience and who has achieved a minimum of Advanced Level on the Foundation QA Examination for Providers of PDA Testing Services, shall be in

charge of PDA operations and of data interpretation. They shall be present on site, or by remote connection, at the time of all PDA testing.

B (Vacant)

C Construction

C.1 Test Locations

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.

C.2 Driving Sequence

Perform PDA testing on the first piles installed in each substructure unit. 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 the final driving criteria for that substructure unit has been determined in writing and accepted by the engineer.

C.3 Pile Driving

Drive PDA Test Piles to penetration depths and/or penetration resistances as directed by the engineer. Drive PDA Test Piles using the same methods and equipment that have been accepted for driving the production piles.

Drive PDA Test Piles to one of the following lengths:

- If the required plan driving resistance is achieved at a pile length less than plan length, stop driving the pile. 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 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 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.

In all cases, the required plan driving resistance will be shown either through end of initial drive data or from restrike data, as defined above.

C.4 Scheduling

Provide a written schedule to the engineer showing all required PDA Test Pile activities for the following week. Submit this schedule a minimum of 2 working days prior to the first day included in the schedule.

Multiple concurrent PDA testing and/or analyses will be allowed. Any delays to the contractors schedule due to coordination or untimeliness of PDA testing or evaluation/analyses will not be grounds for extension of contract time.

C.5 Installation Testing

Perform dynamic measurements following procedures set forth in ASTM D4945 during the driving of piles designated as PDA Test Piles.

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. With the PDA testing equipment attached, drive the pile and monitor using the PDA equipment.

C.6 Restrike Tests

Perform restrike tests on all PDA test piles as part of the initial dynamic pile load testing program as described in section C5. See restrike criteria given in section C3.

Wait a minimum of 12 hours and a maximum of 72 hours or a time period as directed by the engineer, after initial pile installation is complete; then, restrike each PDA 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.

C.7 CAPWAP Evaluation and Drive Criteria

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. Submit the required driving resistance and the driving criteria for the production piles determined by dynamic pile testing to the engineer for acceptance for the production pile installation. Electronically submit the driving criteria and a report with the results of the CAPWAP evaluation to the engineer.

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 each unit in accordance to the established criteria for that unit.

Driving production piles shall continue until the required driving resistance is achieved for 30 consecutive hammer blows. Mark penetration per 10 consecutive hammer blows.

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.

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.

The department will measure Pile Dynamic Analyzer (PDA) restrikes as each individual unit, acceptably completed, in which one unit includes all of the restrike and testing effort required on an individual pile when it is restruck.

The department will measure CAsE Pile Wave Analysis Program (CAPWAP) Evaluation as each individual unit, acceptably completed, in which one unit includes all analyses and effort required to provide drive criteria for installation of production piles in one substructure unit.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.1000	Pile Dynamic Analyzer (PDA) Testing	EACH
SPV.0060.1010	Pile Dynamic Analyzer (PDA) Restrikes	EACH
SPV.0060.1020	CAsE Pile Wave Analysis Program (CAPWAP) Evaluation	EACH

Payment for Pile Dynamic Analyzer (PDA) Testing is full compensation for facilitating the initial dynamic pile load test on a given pile, including possible multiple sensor installations.

Payment for Pile Dynamic Analyzer (PDA) Restrikes is full compensation for facilitating and performing one restrike test on a pile, including the sensor installation, mobilization of equipment, hammer warm-up, and pile restriking.

Payment for CAsE Pile Wave Analysis Program (CAPWAP) Evaluation is full compensation for providing the personnel, software and equipment to evaluate the results of the monitoring for each substructure unit for the purpose of establishing production pile driving criteria, and the electronic submittal of the driving criteria and report with the results of the CAPWAP evaluation.

11.10 Precast Concrete Wingwalls (C-44-146), Item SPV.0060.0900; Precast Concrete Wingwalls (C-44-147), Item SPV.0060.0901.

A Description

This special provision describes furnishing and installing precast wingwalls of the size the plans show.

B Materials

B.1 General

The design life of the wingwalls and wingwall components shall be 75 years minimum. Furnish materials and fabricate in accordance with the lines, dimension, elevations and details as shown on the plans and provided in the contract.

Furnish material conforming to standard spec section 504. Provide a design that meets or exceeds the requirements shown on current Standards 36.05 and 36.06. The most current standards can be obtained on the Bureau of Structures' website:

<https://wisconsindot.gov/Pages/doing-bus/eng-consultants/cnslt-rsrcs/strct/bridge-manual-standards.aspx>

The minimum specified compressive strength for cast-in-place concrete shall be 3,500 psi and 4,000 psi for precast elements. Precast elements may use up to 6000 psi for design purposes.

Clear cover on all reinforcement shall be 2" unless shown or noted otherwise.

All exposed corners shall be beveled 3/4-inch on the sides or tool edged with a 1/2-inch minimum radius edger.

B.2 Design Requirements

It is the responsibility of the contractor to submit a design and supporting documentation as required by this special provision, for review and acceptance by the department, to show the proposed design is in compliance with the design specifications. The submittal shall include the following items for review: detailed plans and shop drawings, complete design calculations, explanatory notes, supporting materials, and specifications. The detailed plans and shop drawings shall include all details, dimensions, and cross-sections necessary to construct the structure. Submit shop drawings to the engineer conforming to 105.2 with electronic submittal to the fabrication library under 105.2.2. Department review does not relieve the contractor from responsibility for errors or omissions on shop drawings. Submit no later than 60 days from the date of notification to proceed with the project.

It is the responsibility of the contractor to meet or exceed the excavation, foundation preparation, and backfill requirements as the plans show and as approved by the engineer.

The design shall be in compliance with the current American Association of State Highway and Transportation Officials LRFD (AASHTO LRFD) Bridge Design Specifications, Chapter 14 of the WisDOT LRFD Bridge Manual, and standard engineering design procedures as determined by the Department.

Crack control shall be checked per LRFD 5.6.7 using the Class 2 exposure factor. The calculated tensile stress in the steel reinforcement at the service limit state shall not exceed 0.60fy.

Design and construct the walls in accordance to the lines, grades, heights and dimensions shown on the plans, as herein specified.

Walls shall be designed for a minimum live load surcharge of 100 psf in accordance with Chapter 14 of the WisDOT LRFD Bridge Manual or as shown on the plans.

B.3 System Components

Provide 6-inch minimum of bedding material conforming to standard spec section 210 (Type B). Backfill substitutions and revisions shall be approved by the engineer.

The apron shall be connected to the bottom slab of the culvert barrel with a minimum of #5 bars at 12-inch maximum spacing.

Use galvanized or epoxy-coated steel, stainless steel, or nonmetallic materials for all hardware incorporated into the finished structure.

Precast concrete elements may be cast-in-place at the option of the contractor.

C Construction

The precast elements shall be provided with suitable lifting devices for handling and placement of the elements.

Handle, store and erect all precast elements in a way that prevents cracking or other damage to the precast element. The department may reject damaged precast elements, as directed by the engineer and at no cost to the department. Minor damage may be repaired by the contractor, as directed by the engineer and at no cost to the department.

Clean dirt and deleterious substances from the surfaces and joints.

Cover the rear face of the joint between the precast box culvert units and wingwalls with a minimum 12-inch wide strip of rubberized membrane waterproofing.

Precast cut off walls may be field spliced by extending the reinforcing steel from both segments to be slipped 1'-6" into the splice zone, lapping the steel +/- 1'-6" and field pouring a section of the cut off wall 1'-6" long.

Joints shall be tight as practicable between adjacent sections and sealed per the supplier's recommendations.

After installing the precast elements, seal handling holes and joint tie holes with an engineer-approved non-shrink grout. Holes shall be finished flush on the inside of the box. Precast concrete plugs may be secured with Portland cement mortar or other approved adhesive.

Apron shall be poured and cured prior to backfilling walls.

D Measurements

The department will measure Precast Concrete Wingwalls (Structure), as a single complete unit of work for each structure, acceptably completed. Each unit shall consist of all wingwalls required for one box culvert.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.0900	Precast Concrete Wingwalls (C-44-146)	EACH
SPV.0060.0901	Precast Concrete Wingwalls (C-44-147)	EACH

Payment is full compensation for furnishing, hauling and placing the wingwalls, including joint ties, and mastic.

When contract plans specify cast-in-place concrete wingwalls and the contractor elects to use precast concrete wingwalls, payment for the complete precast concrete wingwall system shall be based on the quantities and prices bid for the complete cast-in-place culvert system. Items required for both the cast-in-place culvert system and the precast concrete box culvert system shall be paid based on the plan quantities and prices bid for the complete cast-in-place culvert system. Additional items required for the precast system shall be incidental.

11.11 Post-Tensioning Integral Pier Cap, Item SPV.0085.1000.

A Description

The work under this section shall consist of furnishing, installing, post-tensioning, and grouting of post-tensioning tendons in accordance to the details shown on the plans and standard spec 503.

Post-tensioned concrete members consist of the furnishing, installing, stressing, and grouting of prestressing tendons. In this process prestressing steel, which may be strands, wires, or bars, is installed through preformed voids or ducts in the concrete, is stressed up to a predetermined load, and is anchored directly against the hardened concrete, initially imparting stresses through end bearing. Grout is then injected into the ducts to completely fill all remaining voids and to seal the permanently stressed tendons.

A.1 Terms Used

Post-Tensioning: The application of a compressive force to the concrete by stressing tendons or bars after the concrete has been cast and cured. The force in the stressed tendons or bars is transferred to the concrete by means of anchorages.

Post-Tensioning Scheme or Layout: The pattern, size, and locations of post-tensioning tendons provided by the designer on the Contract Plans.

Post-Tensioning System: A proprietary system where the necessary hardware (anchorages, wedges, strands, bars, couplers, etc.) is supplied by a particular manufacturer or manufacturers of post-tensioning components.

Tendon: A high strength steel member made up of a number of strands, wires or bars.

Strand: An assembly of several high strength steel wires wound together. Strands usually have six outer wires helically wound around a single straight wire of a similar diameter.

Wire: A single, small diameter, high strength steel member and normally the basic component of strand, although some proprietary post-tensioning systems are made up of individual or groups of single wires.

Bar: Post-tensioning bars are high strength steel bars, normally available from 0.625 to 2.5 inches (15 mm to 64 mm) dia. and usually threaded with very coarse thread.

Coupling: The means by which the prestressing force may be transmitted from one partial-length prestressing tendon to another.

Anchorage: An assembly of various hardware components, which secure a tendon at its ends after it has been stressed and imparts the tendon force into the concrete. **Anchor Plate:** That part of the anchorage, which bears directly on the concrete and through, which the tendon force is transmitted.

Wedges: A small conically shaped steel component placed around a strand to grip and secure it by wedge action in a tapered hole through a wedge plate.

Wedge Plate: A circular steel component of the anchorage containing a number of tapered holes through which the strands pass and are secured by conical wedges.

Set (Also Anchor Set or Wedge Set): Set is the total movement of a point on the strand just behind the anchoring wedges during load transfer from the jack to the permanent anchorages. Set movement is the sum of slippage of the wedges with respect to the anchorage head and the elastic deformation of the anchor components. For bars, set is the total movement of a point on the bar just behind the anchor nut at transfer, and is the sum of slippage of the bar and the elastic deformation of the anchorage components.

Anticipated Set: Anticipated set is that set which was assumed to occur in the design calculation of the post-tensioning forces immediately after load transfer.

Grout: A mixture of cementitious materials and water, with or without mineral additives, admixtures or fine aggregate, proportioned to produce a material that can be pumped without segregation of the constituents; injected into the duct to fill the space around the tendon.

Vent: Tubing or duct, which can be used for the injection of grout to allow air, water, grout and bleed water from the duct.

Duct: Material forming a conduit to accommodate the tendon installation and provide an annular space for the grout which protects the steel.

A.2 Alternate Post-Tensioning Designs

Alternate designs using a post-tensioning scheme other than that shown on the Plans may

be submitted by the contractor for the engineer's approval provided that the proposed alternate scheme fulfills the following requirements:

- The prestress system is a type described in Section A.3.
- The net compressive stress in the concrete after all losses is at least as large as that provided by the scheme shown on the Plans.
- The distribution of individual tendons at each cross section generally conforms to the distribution shown on the plans.
- The ultimate strength of the structure with the proposed post-tensioning scheme meets the requirements of Section 5 of the AASHTO LRFD Bridge Design Specifications, current Edition including all Interim Specifications; and shall be equivalent to the ultimate strength provided by the original design.
- Stresses in the concrete and prestressing steel at all sections and at all stages of construction meet the requirements of the Design Criteria noted on the plans.
- All provisions of the Design Criteria noted on the Plans shall be satisfied.
- The contractor fully redesigns and details, as required, the elements where the alternate post-tensioning scheme is proposed to be used.
- The contractor submits complete Shop Drawings including post-tensioning scheme and system, reinforcing steel, and concrete cover; and design calculations (including short and long term prestress losses) for the engineer's approval. These drawings and calculations shall be certified by a registered professional engineer in the State of Wisconsin who can show experience with the proposed alternate scheme to the satisfaction of the engineer.
- Any alternate post-tensioning scheme or system approved by the engineer, which results in a change in quantity from that shown on the Plans, shall be paid based on the quantity actually used and accepted or the plan quantity, whichever is less, at the unit bid price.

A.3 Shop Drawings

Prepare shop drawings for the post-tensioning system. Prepare in accordance with standard spec 105.2 and the following.

Submit checked detailed Shop Drawings, which include, but are not limited to, the following:

- A complete description of all details covering each of the post-tensioning systems to be used for permanent tendons.
- Designation of the specific post-tensioning steel, anchorage devices, sheathing material, and accessory items to be used.
- Size and type of ducts for all post-tensioning tendons and their horizontal and vertical profiles shall be clearly detailed. Duct supports and grout tubes and vents shall be shown including size, type and location.
- The details of the anchorage systems.
- A table giving jacking sequence, jacking forces and initial elongation, and estimates of anchor sets of the tendons at each stage of erection for all post-tensioning.
- Parameters to be used to calculate the typical tendon force such as expected friction coefficients, anchor set, and post-tensioning relaxation curves.
- Details and a complete description of the post-tensioning system to be used.
- Prestressing details shall include method, sequence, and procedure of prestressing, securing tendons, release procedures and equipment.
- Certified copies of reports covering tests performed on post-tensioning steel and anchorages devices as required by Section B.2.2 of this Specification.

Information regarding the grout mix design, the method of mixing and placing the grout and the type and capacity of equipment to be used.

B Materials

Furnish material that is according to the following specifications.

B.1 Prestressing Material

B.1.1 Prestressing Steel

The proper use of strand, bars and wires is predicated upon the use of suitable accessory materials. Details for the use of these materials shall be furnished by the manufacturer in connection with shop and working drawing submittals.

Strand: Unless otherwise noted on the Plans, strand shall be uncoated, Grade 270 (1860 MPa), low relaxation 7-wire strand conforming to the requirements of AASHTO M 203.

Bar: Unless otherwise noted on the Plans, bar shall be uncoated, Grade 150 (1035 MPa), high strength, coarse thread bar conforming to the requirements of AASHTO M 275.

B.1.2 Prestress Anchorages

All prestressing steel shall be secured at the ends by anchoring devices meeting the approval of the engineer. The anchoring devices shall effectively distribute tendon forces to the concrete and shall satisfy the anchor efficiency test and acceptance test in accordance to Article 10.3.2 of AASHTO LRFD Construction Specifications current edition and latest interim. The anchorages shall develop at least 95 percent of the minimum specified ultimate tensile strength of the prestressing steel, tested in an unbonded state without exceeding the anticipated set. Certified copies of test results for the anchorage system of each different anchor type or size shall be supplied to the engineer at no additional cost. The anchorage shall be so arranged that the prestressing force in the tendon may be verified prior to the removal of the stressing equipment.

For single plate anchors the design shall conform to the following requirements (A and B):

- The concrete bearing stress shall not exceed the allowables specified in Section 5.10.9.3 "Design Of the General Zone" of AASHTO LRFD Bridge Design Specifications current edition and interims. Calculations shall be furnished to the engineer for each bearing type and/or size of anchor device supplied.
- The bending stresses in the plates or assemblies induced by the pull of the prestressing steel shall not exceed the yield point of the material or cause visible distortion of the anchorage plate when 95 percent of the ultimate strength of the tendon is applied. Certified test reports from an approved independent testing laboratory, verifying compliance with this requirement, shall be provided to the engineer for each type and/or size of anchoring device.

Alternatively, multi-plane anchorage devices which do not meet with the above requirements (A and B) may be accepted based upon previously approved usage by the department, or on the basis of new or previous tests performed in accordance to and meeting the requirements of the 1999 AASHTO Guide

Specifications for the Design and Construction of Segmental Concrete Bridges, Division II, Section 4.2 "Special Anchorage Devices", all at no cost to the department. Also, in such cases, any additional confinement reinforcement or modifications to existing reinforcement required for satisfactory performance of the anchorage devices shall be incorporated in the structure at no additional cost. Certified test reports from an approved independent testing laboratory, verifying compliance with this requirement, shall be provided to the engineer for each type and/or size of anchoring device.

The contractor's use of an anchorage design using two part wedges shall be immediately discontinued if these wedges show any sign of slippage, or if they fail to grip the tendon without exceeding the anticipated set. The contractor shall be required to furnish and use acceptable three part wedges for anchoring post-tensioning strands if two part wedges are rejected at no additional cost to the department.

B.1.3 Bar Couplers

For permanent applications, the use and location of bar couplers shall be subject to approval by the engineer. Where bars are extended by the use of couplers, the assembled units shall develop at least 95 percent of the manufacturer's minimum specified ultimate tensile strength of the bar, tested in an unbonded state without exceeding the anticipated set.

B.1.4 Ducts

Unless specifically noted on the Plans or otherwise approved by the engineer, ducts for post-tensioning shall conform to the requirements of this specification.

Ducts embedded in the concrete for prestressing steel shall be high density virgin polyethylene. Ferrous metal ducts are not permitted. Embedded ducts shall be corrugated.

Ducts, pipes, and all connections shall be capable of withstanding the pressure required for pre-grouting air pressure test and for flushing the ducts in the event of an aborted grouting operation.

B.1.4.1 Size of Ducts

Ducts for multi-strand, multi-bar, or multi-wire tendons shall have an inside area at least 2.5 times the net area of the tendon. Ducts for single strand, single bar, or single wire tendons shall have an inside diameter at least 3/8 inch (10 mm) larger than the nominal diameter of the strand, bar, or wire.

B.1.4.2 Ferrous Metal Ducts

Do not use Ferrous Metal Ducts.

B.1.4.3 Epoxy Coated Metal Ducts

Do not use Epoxy Coated Metal Ducts.

B.1.4.4 Polyethylene (P.E.) Ducts and Pipes

Ducts and pipes shall be sufficiently rigid to withstand placement of concrete, grouting, and construction loads without damage or excessive deformation, and shall be watertight. Corrugated ducts shall be in accordance to ASTM Designation D 3350 with a cell classification PE345433C. Rigid smooth walled polyethylene pipes shall be in accordance to ASTM Designation D 1248, Type III, Grade 34, Cat.5.

Plastic material used shall not react with concrete, shall not enhance corrosion of prestressing steel, and shall be free of water soluble chloride.

Smooth pipes shall not be used in locations embedded in the concrete.

B.1.4.5 Steel Pipes

Where called for on the Plans, steel pipes shall conform to ASTM A-53, Grade B Schedule 40. The steel pipes shall be galvanized.

B.1.5 Grout Vents, Injection and Ejection Pipes

Vents shall be 3/4 inch (20 mm) minimum diameter suitable plastic pipe. Plastic components shall not react with the concrete or enhance corrosion of the prestressing steel. Plastic components shall be free of water soluble chlorides.

Grout injection pipes shall be fitted with positive mechanical shut-off valves. Vents and ejection pipes shall be fitted with valves or other devices capable of withstanding the grout pumping pressures.

B.1.6 Grout

Grouts shall be prebagged in plastic lined or coated bags. Stamp grout bags with date of manufacture, lot number and mixing instructions. Any change of materials or material sources requires retesting and certification of the conformance of the grout with the physical properties requirements. A copy of the Quality Control Data Sheet for each lot number and shipment sent to the job site shall be provided to the contractor by the grout supplier and furnished to the engineer.

Materials with a total time from manufacture to usage in excess of six months shall be retested and certified by the supplier before use or shall be removed and replaced.

Manufacturers of post-tensioning grout seeking evaluation of their product shall submit material to the WisDOT Materials Laboratory for testing and shall provide certified test reports from an audited and independent Cement and Concrete Reference Laboratory (CCRL) which shows the material meets all the requirements specified herein.

The material shall be mixed in accordance to the manufacturer's recommendations. Grouts shall achieve a non-bleeding characteristic.

Grouts shall contain no aluminum powder.

The water content shall be the minimum necessary for proper placement, and shall not exceed a water-cement ration of 0.35.

Grouts and temporary corrosion protection methods shall not involve toxic substance. Grout shall meet or exceed the specified physical properties stated herein as determined by the following standard and modified ASTM test methods:

Property	Test Value	Test Method
Total Chloride Ions	Max. 0.08% by weight of cementitious material	ASTM C 1152
Fine Aggregate (if utilized)	Max Size <= No. 50 Sieve (300 micron)	ASTM C 33
Volume Change @ 28 days	0.0% Shrinkage @ 24 hours <=0.3% Expansion @ 28 days	ASTM C 1090 *
Expansion	<= 2.0% for up to 3 hours	ASTM C 940
Compressive Strength @ 28 days (Average of 3 cubes)	>= 5,000 psi (34.5 Mpa)	ASTM C 942
Initial Set of Grout	Min. 3 hours Max. 12 hours	ASTM C 953
Fluidity Test ** Efflux Time from Flow		
(a) Immediately after mixing	Min. 11 sec. Max. 30 sec.	ASTM C 939 ASTM C 939 ***
	or Min. 9 sec. Max. 20 sec.	ASTM C 939 ***

Property	Test Value	Test Method
(b) 30 minutes after mixing with remixing for 30 sec.	Max. 30 sec.	ASTM C 939
	Or Max. 30 sec.	ASTM C 939 ***
Bleeding @ 4 hours	Max. 0% Max. 2% at 43.5 psi (300 kPa)	ASTM C 940 **** Schupack *****
Permeability @ 28 days	Max. 2500 coulombs at 30 V for 6 hours	ASTM C 1202

* Modify ASTM C 1090 to include verification at both 24 hours and 28 days.

** Adjustments to flow rates will be achieved by strict compliance with the manufacturer's recommendations.

*** Grout fluidity shall meet either the standard ASTM C 939 flow cone test or the modified test described herein. Modify the ASTM C 939 test by filling the cone to the top instead of the standard level. The efflux time is the time to fill a one quart (one liter) container placed directly under the flow cone.

**** Modify ASTM C 940 to conform with the wick induced bleed test described below.

- Condition dry ingredients, mixing water, prestressing strand and test apparatus overnight at 70 to 75°F (21 to 24°C).
- Insert 0.21 gal (800 ml) of mixed conditioned grout with conditioned water into the 0.26 gal (1,000 ml) graduated cylinder. Mark the level of the top of the grout.
- Wrap the strand with 2 inch (50.8 mm) wide duct or electrical tape at each end prior to cutting to avoid splaying of the wires when it is cut. Degrease (with acetone or hexane solvent) and wire brush to remove any surface rust on the strand before temperature conditioning. Insert completely a 20 inch (508 mm) length of conditioned, cleaned, AASHTO M203, Grade 270 (1860 MPa), seven wire strand (1/2 inch (13 mm) diameter) into the 0.26 gal (1,000 ml) graduated cylinder (possibly using a centralizer). Mark the level of the top of the grout.
- Store the mixed grout at the temperature range listed above in (a).
- Measure the level of the bleed water every 15 minutes for the first hour and hourly afterward for four hours.
- Calculate the bleed water, if any, at the end of the four hour test period and the resulting expansion per the procedures outlined in ASTM C 940, with the quantity of bleed water expressed as a percent of the initial grout volume. Note if the bleed water remains above or below the top of the grout.

***** Schupack Pressure Bleed Test Using the Gelman Filtration Funnel

- Grouts shall be mixed in accordance to ASTM C938, "Practice for Proportioning Grout Mixtures for Preplaced-Aggregate Concrete.
- Fill the filtration funnel hand tight, while keeping funnel in upright position.
- Place funnel in frame.
- Connect air supply (air pressure at 0 psi (0 kPa)).
- Allow grout to rest in funnel for 10 minutes.
- Increase pressure to 43.5 psi (300 kPa).
- Hold at specified pressure for 5 minutes and record bleed volume to the nearest 0.00005 gal (0.2 ml) at the end of hold time.
- Bleed volume shall be reported as a percentage of the sample volume:
- % bleed = [bleed (gal) x 100] / 0.053 gal
- (% bleed = [bleed (ml) x 100] / 200 ml)

If a loss of pressure occurs prior to completion of step (h), the test is considered to have failed for the given pressure level.

B.2 Testing

Testing shall conform to the applicable ASTM Specifications for the prestressing material used. All material samples for testing shall be furnished by the contractor at no cost to the department. Job site or site referred to herein shall be considered the location where the prestressing steel is to be installed whether at the bridge site or a remote casting yard.

B.2.1 Testing of Prestressing Steel and Components

Certified mill reports on the prestressing steel used shall be submitted to the engineer for each lot of post-tensioning steel, and shall show the ultimate strength, modulus of elasticity, and percent elongation at rupture. These reports are required for strand as well as bars.

Two certified test reports as required in Section B.1.2 are required for each anchor type and size. This is required for both strand and bar anchors. The first report verifies that the anchor can support 95 percent of the ultimate force for that tendon in a unbonded state. The second submission depends on the anchor type. If the anchor is a single plate anchor, then calculations are required to verify the anchor satisfies the bearing stresses defined in Section B.1.2. If the anchor is a multi-plate type, then certified test reports are required showing the anchor satisfied the "Special Anchorage Devices" in Section B.1.2.

B.2.2 Lots and Identification

A lot is that parcel of components as described herein. All bars, anchorage assemblies, and couplers of each size from each mill heat of steel, and all strand from each manufactured reel to be shipped to the site shall be assigned an individual lot number and shall be tagged in such a manner that each such lot can be accurately identified at the job site. Records shall be submitted to the engineer identifying assigned lot numbers with the heat, coil, or reel of material represented. All unidentified prestressing steel, anchorage assemblies or bar couplers received at the site will be rejected. Loss of positive identification of these items at any time will also be cause for rejection.

B.2.3 Release of Materials

The release of any material by the engineer shall not preclude subsequent rejection if the material is damaged in transit or later damaged or found to be defective.

B.2.4 Testing by the Contractor

B.2.4.1 In-Place Friction Test

This test is intended to demonstrate that the friction characteristics, losses, and resulting tendon forces are in agreement with the design assumptions. This test is only required if authorized by the engineer in order to resolve discrepancies between actual and theoretical elongations in excess of 7 percent. The test procedure shall consist of stressing the tendon at an anchor assembly with a load cell at the dead end. The test specimen shall be tensioned to 80 percent of ultimate tendon strength in eight equal increments and detensioned in eight equal decrements. For each increment and decrement, the gauge pressure, elongations, and load cell force shall be recorded. Account shall be taken of any wedge seating in both the live end (i.e., back of jack) and the dead end (i.e., back of load cell) and of any friction within the anchorages, wedge plates, and jack as a result of slight deviations of the strands through these assemblies. For long tendons requiring multiple jack pulls with intermediate temporary anchoring, care shall be taken to keep an accurate account of the elongation at the jacking end allowing for intermediate wedge seating and slip of the jacks' wedges.

The test shall be conducted using the lubricants required, if any, to meet the expected friction coefficient.

If, for the contractor's expected friction coefficients, the elongations fall outside the plus or minus 7 percent range, the contractor shall investigate the reason and make revisions to their post-tensioning operations such that the final tendon forces are in agreement with the Plans.

In reconciling theoretical and actual elongations, the value of the expected friction and wobble coefficients shall not be varied by more than plus or minus 10 percent. Significant shortfall in elongations is indicative of poor duct alignments and/or obstructions which the contractor shall correct or compensate for in a manner to be proposed by the contractor and reviewed and approved by the engineer, at no additional cost to the department.

If, during the course of routine stressing operations, there are irreconcilable differences between forces and elongations, or other difficulties, the engineer reserves the right to require additional in place friction tests.

The apparatus and methods used to perform the test shall be proposed by the contractor and shall be subject to the approval of the engineer. Furthermore, this test shall be conducted by the contractor in the presence of the engineer.

Correction or adjustment of elongations as a consequence of the results of the friction test are the responsibility of the originator of the stressing and elongation calculations.

B.2.5 Tests Reports Required

Two test reports of the In Place Friction Test shall be submitted to the engineer within two weeks after the test has been performed. Revisions to the theoretical elongations shall be submitted to the engineer for approval.

B.2.6 Payment for Testing

Testing by the contractor will not be paid for separately but shall be incidental to the price paid for the post-tensioning.

C Construction

C.1 Protection of Prestressing Steel. C.1.1 Shipping, Handling, and Storage

Protect all prestressing steel against physical damage and corrosion at all times from manufacturer to final grouting or encasing in the concrete. Prestressing steel that has sustained physical damage at any time shall be rejected. Any reel that is found to contain broken wires shall be carefully inspected during use and lengths of strand containing broken wires shall be removed and discarded. The wire shall be bright and uniformly colored, having no foreign matter or pitting on its surface.

Package prestressing steel in containers or shipping forms for protection of the steel against physical damage and corrosion during shipping and storage. A corrosion inhibitor, which prevents rust or other results of corrosion, shall be placed in the package or form, or shall be incorporated in a corrosion inhibitor carrier type packaging material, or when permitted by the engineer, may be applied directly to the steel. The corrosion inhibitor shall have no deleterious effect on the steel or the concrete or bond strength of steel to concrete. Inhibitor carrier type packaging material shall conform to the provisions of Federal Specification MIL-P-3420. Packaging or forms damaged by any cause shall be immediately replaced or restored to the original condition.

The shipping package or form shall be clearly marked with a statement that the package contains high-strength prestressing steel, the care to be used in handling, and the type, kind, and amount of corrosion inhibitor used, including the date when placed, safety orders, and instructions for use. Low relaxation (stabilized) strand shall be specifically designated per requirements of AASHTO M 203. All such strand not so designated shall be rejected.

C.1.2 During Installation in the Structure

When acceptable prestressing steel for post-tensioning is installed in the ducts after completion of concrete curing and if stressing and grouting are completed within twenty calendar days after the installation of the prestressing steel, rust which may form during these twenty days will not be cause for rejection of the steel. Post-tensioning steel installed, tensioned, and grouted in this manner, all within twenty calendar days, will not require the use of a corrosion inhibitor in the duct following installation of the prestressing steel.

For post-tensioning steel installed in ducts prior to concrete placement, the above time shall be reckoned from the day of first installation in the ducts.

Post-tensioning steel installed as above but not grouted within twenty calendar days shall have an approved water soluble oil corrosion inhibitor (emulsified rust passivator) applied in the ducts and shall be subject to all the requirements in this Section pertaining to corrosion protection and rejection because of rust. Immediately prior to grouting, the water soluble oil shall be thoroughly flushed from the ducts with water, and the ducts and tendons shall then be thoroughly dried by air blown into the ducts.

Within 30 calendar days after installation of the post-tensioning steel, ducts shall be grouted in accordance to these Specifications. Except when approved by the engineer in writing, failure to grout

tendons within the 30 calendar days specified shall result in stoppage of the affected work and no invoices shall be processed for payment of that affected work.

C.2 Fabrication of Post-tensioning Ducts and Anchorages in the Final Structure.

All post-tensioning anchorages, ducts, vent pipes, miscellaneous hardware, reinforcing bars, and other embedments shall be accurately and securely fastened at the locations shown on the Plans, on the approved Shop or Working Drawings, or as otherwise approved by the engineer.

C.2.1 Ducts

Ducts shall be accurately aligned and positioned at the locations shown on the Plans, according to the approved Shop or Working Drawings, or as otherwise approved by the engineer. All internal ducts shall be securely fastened in position at regular intervals not exceeding three feet to prevent movement, displacement, or damage from concrete placement and consolidation operations. The method and spacing of duct supports shall be shown on appropriate Shop Drawings.

All alignments, including curves and straight portions, shall be smooth and continuous with no lips, kinks, or dents. All ducts shall be carefully checked and repaired as necessary before the placing of any concrete commences. The tolerance on the location of the ducts for the tendons shall be as specified below.

After installation in the forms, all ends of ducts, connections to anchorages, splices, vents, and the like shall at all times be sealed to prevent the entry of water and debris.

C.2.2 Splices and Joints

At splices and joints, and connections to anchorages, ducts shall be smoothly aligned and secured with no lips or kinks. They shall be joined in a manner, which positively prevents the entrance of cement paste and water from the concrete or unwanted leakage of grout during subsequent grouting operations.

C.2.3 Grout Vents, Injection and Ejection Pipes

All ducts or anchorage assemblies for permanent post-tensioning shall be provided with pipes or other suitable connections at each end for the injection of grout after prestressing. Vents shall be placed in the following locations:

- At the anchorage area of the tendon,
- At the high points of the duct, when the vertical distance between the highest point and lowest point is more than 20 inches (500 mm)
- A vent shall be placed at or near the lowest point of a tendon
- Outlets shall be placed at all low points, and shall be free draining
- At major changes in the cross-section of the duct, such as couplers and anchorages. In addition, one grout vent shall be placed approximately 3 feet (1 m) downstream from the high point vent.

The contractor may use additional injection and vent pipes only when shown on the approved shop drawings.

All connections to ducts shall be made with plastic structural fasteners. Waterproof tape shall be used at all connections to include vent and grouting pipes. Vents shall be mortar tight, taped as necessary, and shall provide means for injection of grout through the vents and for sealing the vents.

Grout injection pipes shall be fitted with positive mechanical shut-off valves. Vents and ejection pipes shall be fitted with valves, caps, or other devices capable of withstanding the grout pumping pressures.

All grout caps used must be installed to prevent entrapment of air or water voids and must provide 100 percent coverage of all tendons.

C.2.4 Tolerances

Post-tensioning ducts shall be positioned within the tolerances given below:

Table of Duct Position Tolerances		
Tolerances in	Vertical position	Lateral position

Longitudinal Tendons in Integral Bent Cap	$\pm 1/4$ (± 6)	$\pm 1/2$ (± 12)

Entrance and exit angles of tendon paths at anchorages and/or at faces of concrete shall be within 3 degrees (5 percent) of desired angle measured in any direction.

Angle changes at duct joints shall not be greater than 3 degrees (5 percent) in any direction.

Anchorage shall be located within $\pm 1/4$ inches (± 6 mm) of desired position laterally and ± 1 inch (± 25 mm) along the tendon except that minimum cover requirements to ends of cut off tendons and anchor components must be maintained.

Anchorage confinement reinforcement in the form of spirals, multiple U shaped bars or links, shall be positioned to start within $1/2$ inches (12 mm) of the back of the main anchor plate, providing the anchorage is to be encased or sealed later in the construction, and shall be properly centered around the duct. In the event of conflicts between the reinforcement and post-tensioning duct, in general, the position of the post-tensioning duct shall prevail and the reinforcement shall be adjusted locally to the approval of the engineer.

C.3 Placing Concrete

C.3.1 Precautions

The contractor shall exercise great care when placing and consolidating concrete so as not to displace or damage any of the post-tensioning ducts, anchorage assemblies, splices and connections, reinforcement, or other embedments.

C.3.2 Proving of Post-Tensioning Ducts

Upon completion of concrete placement, the contractor shall verify that the post-tensioning ducts are free and clear of any obstructions or damage and will be able to accept the intended post-tensioning tendons. If the ducts are found to be deformed such that the tendons cannot be placed, the member shall be rejected unless a workable repair can be made to clear the duct, all to the satisfaction of the engineer.

C.3.3 Problems and Remedies

If the ducts or any part of the work is found to be deficient, it will be rejected. No remedial or repair work will be permitted without the approval of the engineer. Any remedial work will be completed at no additional cost to the department.

C.4 Installing Tendons.

Post-tensioning strands may be pushed or pulled through the ducts to make up a tendon.

Pushing shall be done with care so as to avoid snagging on any lips or joints in the ducts. The contractor shall take precautions by rounding off the end of the strand or fitting it with a smooth protective cap for this purpose.

Alternatively, strands may be assembled into the tendon, which then may be pulled through the duct together using a special steel wire sock ("Chinese finger") or other device attached to the end. Also, the ends of the strands may be welded together for this purpose. If so, then the end of the bundle must be rounded for smooth passage and the entire welded end together with at least 30 inches (750 mm) of tendon beyond the end of the last weld shall be cut off and wasted. Cutting shall be done with an abrasive saw or similar. Flame cutting shall not be allowed.

In accordance to these Specifications, the time requirements for corrosion protection shall commence from the time the strands were first placed in the ducts and not from the time of concrete placement.

C.5 Post-Tensioning Operations.

Post-tensioning forces shall not be applied until the concrete has attained the specified compressive strength as determined by cylinder tests.

The stressing of post-tensioning tendons shall be under the immediate supervision of a qualified representative of the post-tensioning specialty contractor, who shall exercise rigid control of the operations as necessary for full compliance with all requirements. As a minimum, the representative shall be present at the beginning of each different type of post-tensioning operation. If the representative determines that the contractor's crew is thoroughly familiar with one type of operation, he/she may deliver a signed statement of competence for the crew to the engineer. In such case, the presence of the

representative shall not be required again until a different type of post-tensioning operation occurs. The statement shall list the names of the contractor's crew and crew leader. The stressing operations shall be overseen by the contractor's crew leader, who shall demonstrate competence in supervising the stressing operations and performing elongation measurements and calculations, and shall preferably be an engineer. No stressing operations shall be performed without direct supervision of the representative or the contractor's approved crew leader.

C.5.1 Stressing Tendons

All post-tensioning steel shall be tensioned by means of hydraulic jacks so that the post-tensioning force shall not be less than that required by the Plans, approved Shop Drawings, or as otherwise approved by the engineer. Monostrand jacks shall not be utilized for stressing tendons unless approved by the engineer.

The maximum temporary stress (jacking stress) in the post-tensioning steel shall not exceed 80 percent of its specified minimum ultimate tensile strength. Tendons shall not be overstressed to achieve the expected elongation.

The post-tensioning steel shall be anchored at initial stresses that will result in the long term retention of permanent stresses or forces of not less than those shown on the Plans or the approved Shop Drawings. Unless otherwise approved by the engineer, the initial stress after anchor set shall not exceed 70 percent of the specified ultimate tensile strength of the post-tensioning steel.

Permanent stress and permanent force are the stress and force remaining in the post-tensioning steel after all losses, including long term creep and shrinkage of concrete, elastic shortening of concrete, relaxation of steel, losses in the post-tensioning steel from the sequence of stressing, friction and unintentional wobble of the ducts, anchor set, friction in the anchorages, and all other losses peculiar to the post-tensioning system.

C.5.2 Stressing Sequence

The Plans show the sequence, the phase and the end from which tendons must be stressed. The contractor shall not modify the stressing sequence shown on the Plans without approval from the engineer.

C.5.3 Stressing Equipment

Equipment for tensioning the tendons shall be furnished by the manufacturer of the post-tensioning system (tendons, hardware, anchorages, etc.).

C.5.4 Stressing Jacks and Gauges

Each jack used to stress tendons shall be equipped with a pressure gauge for determining the jacking pressure. The pressure gauge shall have an accurately reading dial at least 6 inches (150 mm) in diameter.

Each jack and its gauge shall be calibrated as a unit, with the cylinder extension in the approximate position it will be in at the final jacking force. Calibration shall be done when the jack is connected to the equipment (pumps and gauges) in the identical configuration to be used on the job site, e.g. with the same length hydraulic lines. Initial calibration of the jacks and gauges shall be performed by an independent laboratory using a proven load cell. For each jack and gauge unit used on the project, certified calibration charts shall be furnished by the contractor from the independent laboratory prior to stressing the first tendon.

Certified calibration shall be made at the start of the work and at every six months thereafter, or as requested by the engineer. At the option of the contractor, calibrations subsequent to the initial calibration with a load cell may be accomplished by the use of a master gauge. The master gauge shall be supplied by the contractor in a protective waterproof container capable of protecting the calibration of the master gauge during shipment to a laboratory. The contractor shall provide a quick-attach coupler next to the permanent gauge in the hydraulic lines, which enables the quick and easy installation of the master gauge to verify the permanent gauge readings. The master gauge shall be calibrated by and shall remain in the possession of the engineer for the duration of the project.

Any repair of the jacks, such as replacing seals or changing the length of the hydraulic lines, is cause for recalibration of the jacks using a load cell.

No extra compensation shall be allowed for the initial or subsequent calibrations, or for the use and required calibrations of the master gauge.

C.5.6 Elongations and Agreement with Forces

The post-tensioning operation shall be so conducted that the forces being applied to the tendon and the elongation of the post-tensioning tendon can be measured at all times. Elongations shall be measured to the nearest 1/16 inch (2 mm).

For the required tendon force, the observed elongation shall agree within seven percent of the theoretical elongation, or the entire operation shall be checked and the source of error determined and remedied to the satisfaction of the engineer before proceeding further. The tendon shall not be overstressed to achieve the theoretical elongation.

In the event that agreement between the observed and theoretical elongations at the required force falls outside the acceptable tolerances, the engineer may, at their discretion and without additional compensation to the contractor, require "In Place Friction Test" in accordance to Section B.2.1.

C.5.7 Friction

The Contract Plans were prepared based on the assumed friction and wobble coefficients and anchor set noted on the Plans. The contractor shall submit calculations and show a typical tendon force diagram, after friction, wobble, and anchor set losses, on the Shop Drawings based upon the expected actual coefficients and values for the post-tensioning system to be used. These coefficients and values shall be given on the Shop Drawings.

If, in the opinion of the engineer, the actual friction significantly varies from the expected friction, the contractor shall revise their post-tensioning operation such that the final tendon force is in agreement with the Plans.

When friction must be reduced, water soluble oil or graphite may be used as a lubricant subject to the approval of the engineer. Lubricants shall be flushed from the duct as soon as possible after stressing is completed by use of water pressure. These ducts shall be flushed again just prior to the grouting operations. Each time ducts are flushed, they shall be immediately blown dry with oil free air.

C.5.8 Wire Failures in Post-Tensioning Tendons

Multi-strand post-tensioning tendons having wires, which failed by breaking or slippage during stressing, may be accepted provided the following conditions are met:

- The completed structure shall have a final post-tensioning force of at least 98 percent of the design total post-tensioning force.
- Any single tendon shall have no more than a five percent reduction in cross-sectional area of post-tensioning steel due to wire failure.

As an exception, any of the above conditions may be waived as approved by the engineer when conditions permit the contractor to propose acceptable alternative means of restoring the post-tensioning force lost due to wire failure.

C.5.9 Cutting of Post-Tensioning Steel

Post-tensioning steel shall be cut by an abrasive saw within ¾ to 1½ inches (20 to 40 mm) away from the anchoring device. Flame cutting of post-tensioning steel is not allowed.

C.5.10 Record of Stressing Operations

The contractor shall keep a record of the following post-tensioning operations for each tendon installed:

- Project name, number.
- Contractor and/or subcontractor.
- Tendon location, size, and type.
- Date tendon was first installed in ducts.
- Reel number for strands and heat number for bars.
- Assumed and actual cross-sectional area.
- Assumed and actual Modulus of elasticity.
- Date Stressed.
- Jack and Gauge serial numbers per stressing operation.
- Required jacking force.
- Gauge pressures.
- Elongations (anticipated and actual).
- Anchor sets (anticipated and actual).
- Stressing sequence.
- Stressing mode (one end/ two ends/ simultaneous).

- Witnesses to stressing operation (Contractor and inspector).
- Date grouted, days from stressing to grouting, grouting pressure applied, and injection end.

Any other relevant information shall also be recorded. The contractor shall provide the engineer with a complete copy of all stressing and grouting operations.

C.6 Grouting Operations

Within 30 calendar days after installation of the post-tensioning steel, ducts shall be grouted in accordance to these Specifications. Except when approved by the engineer in writing, failure to grout tendons within the 30 calendar days specified shall result in stoppage of the affected work and no invoices shall be processed for payment of that affected work.

After stressing and prior to grouting, tendons shall be protected against corrosion or harmful effects of debris by temporarily plugging or sealing all openings and vents until the tendon is grouted.

When stressing has been completed and the stressed tendons have been accepted by the engineer, the annular space between the tendons and the duct shall be grouted.

Grouting operations shall be supervised, inspected and documented by qualified technician(s) and/or engineer(s) who have received training and certification under the ASBI Grout Certification Program.

C.6.1 Equipment

The grouting equipment shall include a colloidal grout mixer capable of continuous mechanical mixing, and shall produce a grout free of lumps and undispersed cement. The equipment shall be able to pump mixed grout in a manner, which will comply with all the provisions specified herein. Accessory equipment, which will provide for accurate solid and liquid measures, shall be provided to batch all materials.

Grout pumps shall be positive displacement type and shall be able to produce an outlet pressure of at least 150 psi (1035 kPa). Pumps shall have seals adequate to prevent oil, air, or other foreign substances entering into the grout and to prevent loss of grout or water. A pressure gauge having a full scale reading of no more than 300 psi (2070 kPa) shall be placed at some point in the grout line between the pumping outlet and the duct inlet. The grouting equipment shall contain a screen having clear openings of 1/8 inches (3 mm) maximum size to screen the grout prior to its introduction into the grout pump. If grout with an additive is used, a screen opening of 0.20 inches (5 mm) is satisfactory.

This screen shall be easily accessible for inspection and cleaning. The grouting equipment shall utilize a gravity feed to the pump inlet from a hopper attached to and directly over it. The hopper must be kept at least partially full at all times during the pumping operation to prevent air from being drawn into the post-tensioning duct. Under normal conditions, the grout equipment shall be capable of continuously grouting the longest tendon on the project in not more than 20 minutes.

C.6.2 Mixing

Mix the grout in accordance to the manufacturer's instructions to obtain a homogenous mixture. Perform a fluidity test on the mixed grout, in accordance to standard spec 603.19.1.5-1.6, prior to beginning the injection process. Obtain target flow rates as a function of mixer type used and ambient temperature from the grout manufacturer. Do not begin the grouting process until the proper grout properties have been obtained.

Batches shall be placed within 30 minutes of mixing.

C.6.3 Grout Injection

All grout vents and high point vent openings shall be open when grouting starts. Injection and ejection vents shall be provided with positive shut-offs. Grout shall be allowed to flow from the first vent after the injection vent until any residual flushing water or entrapped air has been removed, at which time the vent shall be closed. Remaining vents shall be closed in sequence in the same manner except that at intermediate crests, outlet placed a short distance downstream of the crest shall be closed before their associated crest outlet. Grout shall be injected from the near the lowest end of a tendon in uphill direction.

The pumping pressure at the injection vent shall not exceed 250 psi (1725 kPa); however, normal operations shall be performed at approximately 75 psi (520 kPa). If the actual grouting pressure exceeds the maximum allowed, the injection vent shall be closed and the grout shall be injected at the next vent, which has been, or is ready to be, closed as long as a one way flow is maintained. Grout shall not be injected into a succeeding vent from which grout has not yet flowed. If this procedure is used, then the vent, which is to be used for injection, shall be fitted with a positive shut-off. When one-way flow of grout

cannot be maintained as outlined above, the grout shall be immediately flushed out of the duct with water.

Grout shall be pumped through the duct and continuously wasted at the ejection vent until no visible slugs of water or air are ejected. To ensure that the tendon remains filled with grout, the ejection and injection vents shall be closed in sequence, respectively, under pressure when the tendon duct is completely filled with grout. The positive shut-offs at the injection and ejection vents shall not be removed or opened until the grout has set.

C.6.4 Temperature Restrictions

In temperatures below 32°F (0°C), ducts shall be kept free of water to avoid damage due to freezing. The temperature of the concrete shall be 36°F (2°C) or higher from the time of grouting until job cured 2 inch (50 mm) cubes of grout reach a minimum compressive

strength of 800 psi (5500 kPa). Grout shall not be above 90°F (32°C) during mixing or pumping. If necessary, the mixing water shall be cooled.

C.6.5 Finishing

Valves, caps, and vent pipes shall not be removed or opened until the grout has set. The ends of steel vents shall be removed at least 1 inch (25 mm) below the concrete surface after the grout has set. Ends of plastic vents shall be removed to the surface of the concrete after the grout has set. All miscellaneous material used for sealing grout caps shall be removed prior to carrying out further work to protect end anchorages or filling in concrete anchorage blockouts and the like. Miscellaneous materials include paper, tie wire, duct tape, etc.

C.6.6 Protection of End Anchorages for Tendons

Within 54 hours after grouting is completed, exposed end anchorages, strands, and other metal accessories shall be cleaned of rust, misplaced mortar, grout, and other such materials. Immediately following the cleaning operation, a heavy unbroken coating of an epoxy bonding compound shall be applied to all such dry metal surfaces. Epoxy bonding compound shall conform to AASHTO M 235, Class III.

Tight fitting forms shall be installed and held in place securely against the previously placed concrete. After application of the epoxy bonding agent, the void between the form and the anchorage shall be filled with a non-shrink grout mix to protect the anchorage. This non-shrink grout may be Embeco, Chem-Comp, Five Star, or approved equal. The non-shrink grout shall be placed within the "tack time" period of the epoxy bonding agent/compound.

Only non-chloride bearing non-shrink grout mixes shall be used for anchorage protection. After grout patches have been finished and cured, two heavy brush coats of bituminous protective coating material conforming with AASHTO M 115 shall be applied to the grout patch in a manner and thickness recommended by the manufacturer.

C.6.7 Inspection of Grouted Anchorages

Physical probing and inspection of anchorages shall be conducted during the construction

of the first cantilever and the first span to ensure that there are no bleed water or subsidence voids. All cantilever (top deck) tendons anchoring at three joint locations representing the shortest, the medium, and the longest tendons at the first cantilever shall be inspected at 48 hours after grouting. All continuity tendons anchoring in the first span being completed shall be inspected at 48 hours after grouting. Subsequent spot inspections of one cantilever tendon and one continuity tendon per span may be conducted if directed by the engineer. Any voids discovered should be filled immediately with the approved grout. The presence and recurrence of significant voids or bleed water shall be investigated and remedial measures proposed for the engineer's acceptance. The engineer may suspend further work until the cause and remedial measures is submitted to their satisfaction. The contractor shall advise the engineer the time at which the probings and inspections are to take place in order that the engineer's representative may witness the process and results.

D Measurement

The department will measure Post-Tensioning Integral Pier Cap by the pound, acceptably completed. The quantity of post-tensioning tendons to be paid for under this Section shall be the computed weight, in pounds, of permanent post-tensioning steel tendons entered into the completed structure and accepted. Measurement shall be the theoretical plan length measured from anchor plate bearing face to anchor plate bearing face with no allowance made for waste or extension past the anchor plate faces. No

measurement will be made for temporary post-tensioning, which shall be considered incidental to the item "Post Tensioning Integral Pier Cap."

For quantity determination the following unit weights shall be used:

Prestressing System	Weight per Unit Length
0.50 inch (12.70 mm) diameter seven wire strand	0.521 plf (0.775 kg/m)
0.60 inch (15.24 mm) diameter seven wire strand	0.740 plf (1.102 kg/m)
1.00 inch (26 mm) high strength deformed bar	3.010 plf (4.480 kg/m)
1.25 inch (32 mm) high strength deformed bar	4.395 plf (6.540 kg/m)
1.42 inch (36 mm) high strength deformed bar	5.564 plf (8.280 kg/m)

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0085.1000	Post-Tensioning Integral Pier Cap	LB

Payment shall be full compensation for furnishing, installing, stressing, grouting all post-tensioning tendons, and probing and inspecting grouted anchorages. Payment shall also include anchorage assemblies and post-tensioning system hardware which is not embedded in concrete, external ducts, grout and grouting, all testing, anchorage protection systems. This payment shall also include lubricants in the tendon ducts for friction control and flushing the lubricant from the tendon ducts after stressing. No separate measurement and payment will be made for anchorage components, local anchorage zone reinforcement supplied as an integral part of a proprietary anchorage system, nor ducts for similar post-tensioning system hardware. Anchorage components, ducts, and similar items of post-tensioning system hardware, which are embedded within precast components or cast-in-place concrete, shall be deemed to be included in the cost of the precast components or cast-in-place concrete.

In the event that the contractor constructs the structure with an accepted alternate not detailed on the Plans, the payment shall be based on the unit price bid extended by either the quantities shown on the Plans or the actual quantities used and accepted, whichever is less.

11.12 Abutment Anchorage, Item SPV.0090.0800.

A Description

This special provision describes designing, furnishing materials and erecting abutment anchorage according to the lines, dimension, elevations and details as shown on the plans and provided in the contract. The design life of the abutment anchorage shall be 100 years minimum.

This special provision describes the quality management program (QMP) for abutment anchorage. 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 abutment anchorage, which meets all the requirements of this provision.

This special provision describes contractor quality control (QC) sampling and testing for LFCF cast density and compressive strength, documenting those results, and documenting related production and placement process changes. This special provision also describes department quality verification (QV), independent assurance (IA), and dispute resolution.

Chapter 8 of the department's construction and materials manual (CMM) provides additional detailed guidance for QMP work and describes sampling and testing procedures. The contractor may obtain the CMM from the department's web site at:

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

B Materials

B.1 Proprietary Wall Systems

The supplied abutment anchorage must be from the department's approved list of Concrete Panel Mechanically Stabilized Earth Wall systems (Concrete Panel MSE Walls). Proprietary wall systems must conform to the requirements of this specification and be pre-approved for use by the department's Bureau of Structures. The department maintains a list of pre-approved proprietary wall systems. The name of the pre-approved proprietary wall system selected shall be furnished to the engineer within 25 days after the award of contract.

To be eligible for use on this project, a system must have been pre-approved by the Bureau of Structures 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 and be prepared according to the requirements of Chapter 14 of the department's LRFD Bridge Manual. Information and assistance with the pre-approval process can be obtained by contacting the Bureau of Structures, Structures Maintenance Section at the following email address: DOTDLStructuresFabrication@dot.wi.gov.

B.2 Design Requirements

It is the responsibility of the contractor to submit a design and supporting documentation as required by this special provision, for review and acceptance by the department, to show the proposed abutment anchorage design is in compliance with the design specifications. The submittal shall include the following items for review: detailed plans and shop drawings, complete design calculations, explanatory notes, supporting materials, and specifications. The detailed plans and shop drawings shall include all details, dimensions, quantities and cross-sections necessary to construct the abutment anchorage. Submit shop drawings to the engineer conforming to standard spec 105.2 with electronic submittal to the fabrication library under standard spec 105.2.2. Certify that shop drawings conform to quality control standards by submitting department form DT2329 with each set of shop drawings. Department review does not relieve the contractor from responsibility for errors or omissions on shop drawings. Submit no later than 60 days from the date of notification to proceed with the project and a minimum of 30 days prior to the date proposed to begin abutment anchorage construction.

The plans and shop drawings shall be prepared on reproducible sheets 11 inch x 17 inch, including borders. Each sheet shall have a title block in the lower right corner. The title block shall include the WisDOT project identification number and structure number. Design calculations and notes shall be on 8 ½ inch x 11 inch sheets, and shall contain the project identification number, name or designation of the wall, date of preparation, initials of designer and checker, and page number at the top of the page. All plans, shop drawings, and calculations shall be signed, sealed and dated by a professional engineer licensed in the State of Wisconsin.

The design of the abutment anchorage shall be in compliance with the current American Association of State Highway and Transportation Officials LRFD (AASHTO LRFD) Bridge Design Specifications with latest interim specifications for Mechanically Stabilized Earth Walls, the department's current Standard Specifications for Highway and Structure Construction (standard spec), Chapter 14 of the department's LRFD Bridge Manual and standard engineering design procedures as determined by the department. Loads, load combinations, load and resistance factors shall be as specified in AASHTO LRFD Section 11. The associated resistance factors shall be defined according to Table 11.5.7-1 in AASHTO LRFD.

Design and construct the abutment anchorage according to the lines, grades, heights and dimensions shown on the plans, as herein specified, and as directed by the engineer. Where walls or wall sections intersect with an included angle of 130 degrees or less, a vertical corner element separate from the standard panel face shall abut and interact with the opposing standard panels. The corner element shall have ground reinforcement connected specifically to that panel and shall be designed to preclude lateral spread of the intersecting panels. The abutment anchorage shall be designed to resist the applied abutment/bridge lateral forces specified on the plans.

Abutment anchorage parallel to supporting highway traffic shall be designed for the effects of highway surcharge loading equivalent of 2 feet soil surcharge weight or 240 psf. The design shall also consider the traffic barrier impact where applicable. Abutment anchorage that does not carry highway traffic shall be designed for a live load surcharge of 100 psf according to Chapter 14 of the WisDOT LRFD Bridge Manual or as stated on the plans.

Use LFCF as MSE backfill within the limits shown on the plans. The design of the wall and reinforced backfill zone behind this wall is to be based on an equivalent backfill area of assumed granular backfill with a maximum angle of internal friction of 40 degrees and a unit weight density equal to the unit weight density of the LFCF backfill. All design and geometric requirements specified by AASHTO and hereinafter for MSE

walls with granular backfill, including minimum length of MSE reinforcement will apply to this wall backfilled with LFCF material in lieu of the granular backfill.

An external stability check at critical wall stations showing Capacity Demand Ratios (CDR) for sliding, eccentricity, and bearing checks is performed by the department and are provided on the wall plan for the wall adjacent to the abutment.

The design of the abutment anchorage by the contractor shall consider the internal and compound stability of the wall mass according to AASHTO LRFD 11.10.6. The internal stability shall include soil reinforcement pullout, soil reinforcement rupture, and panel-reinforcement connection failure at each soil reinforcement level. The design shall be performed using the Simplified Method or Coherent Gravity Method. Calculations for factored stresses and resistances shall be based upon assumed conditions at the end of the design life. Compound stability shall be computed for the applicable strength limits. Sample analyses and hand calculations shall be submitted to verify the output of any software program used. The design calculations and notes shall clearly indicate the Capacity to Demand Ratios (CDR) for all internal and external stabilities as defined in AASHTO LRFD.

The minimum length of soil reinforcement measured from the back face of the abutment shall be equal to 0.7 of the wall height or as shown on the wall plan for the wall adjacent to the abutment. In no case shall this length be less than 8 feet. The soil reinforcement length shall be the same from the bottom to the top of the wall. All soil reinforcement layers shall be connected to the abutment. The soil reinforcement shall extend a minimum of 3.0 feet beyond the theoretical failure plane in all cases. The maximum vertical spacing of soil reinforcement layers shall be 31 inches. The uppermost layer of the reinforcement shall be located between 6 inches and 18 inches below the bottom of an overlying slab, footing or top of the abutment. The upper layers of the soil reinforcement shall also be checked to verify that they have sufficient tensile resistance against traffic barrier impact where applicable.

All soil reinforcement required for the reinforced soil zone shall be connected to the abutment. The reinforcement and the reinforcement/abutment connection strength shall be designed to resist maximum factored reinforcement loads according to AASHTO LRFD Section 11.10.6. Abutment connection strength shall be defined as the resistance factor times the failure load, or the load at 0.5 inch deformation times 0.9, whichever is less. The nominal long term design strength in steel reinforcement and connections shall be based upon assumed conditions at the end of the design life.

Soil reinforcement shall be prefabricated into single or multiple elements before galvanizing. Soil reinforcement shall be fabricated or designed to avoid piling, drainage structures or other obstacles in the fill without field modifications. Unless approved by the Bureau of Structures cutting or altering of the basic structural section of either the strip or grid at the site is prohibited, a minimum clearance of 3" shall be maintained between any obstruction and reinforcement, and splicing reinforcement is not allowed.

B.3 Abutment Anchorage System Components

Materials furnished for abutment anchorage system components under this contract shall conform to the requirements of this specification. All documentation related to material and components of the abutment anchorage systems specified in this subsection shall be submitted to the engineer.

B.3.1 Backfill

Furnish and place backfill for the abutment anchorage as shown on the plans and as hereinafter provided. Place backfill in a zone extending horizontally from the back face of the abutment to 1 foot minimum beyond the end of the reinforcement and extending vertically from the bottom of abutment to a minimum of 3 inches above the final reinforcement layer.

B.3.1.1 LFCF Backfill

Provide LFCF material meeting the requirements specified in SPV Article Lightweight Foamed Concrete Fill Grade 1 and Lightweight Foamed Concrete Fill Grade 2 included in the contract.

B.3.2 Soil Reinforcement

All steel portions of the abutment anchorage system exposed to earth shall be galvanized. All soil reinforcement and attachment devices shall be carefully inspected to ensure they are true size and free from defects that may impair the strength and durability. Soil reinforcement shall be galvanized or aluminized Type 2. Galvanized soil reinforcement shall be according to AASHTO M 111 or ASTM A641. Aluminized soil reinforcement shall be according to ASTM A463 Aluminized Type 2-100, SS, Grade 50, Class 2. Design of galvanized soil reinforcement shall be according to Section 11.10.6.4.2 of the current AASHTO LRFD Specifications. The design life of steel soil reinforcements shall comply with AASHTO LRFD. Aluminized soil reinforcement shall be limited 16 years of steel protection. Aluminized steel shall

only be used on soil reinforcement elements and shall not be used on abutment connections or any other steel portion of the abutment anchorage system. Steel soil reinforcement shall be prefabricated into single or multiple elements before galvanizing.

C Construction

C.1 Excavation and Backfill

Excavation and preparation of the foundation for the abutment anchorage shall be according to standard spec 206. The volume of excavation covered is limited to the width of the reinforced mass and to the elevation of the bottom of the abutment unless shown or noted otherwise on the plan. At the end of each working day, provide good temporary drainage such that the backfill shall not become contaminated with run-off soil or water if it should rain. Do not stockpile or store materials or large equipment within 10 feet of the back of the abutment.

Place backfill materials in the areas as indicated on the plans, as detailed in this specification, and in accordance to the requirement specified in SPV Article Lightweight Foamed Concrete Fill Grade 1 and Lightweight Foamed Concrete Fill Grade 2 included in the contract..

Conduct backfilling operations in such a manner as to prevent damage or misalignment of the abutment, soil reinforcement, or other wall components. At no expense to the department, correct any such damage or misalignment as directed by the engineer. A field representative of the wall supplier shall be available during abutment anchorage construction to provide technical assistance to the contractor and the engineer.

For embedment in LFCF backfill, place MSE reinforcement that will become embedded in the next lift of LFCF prior to placing the LFCF lift. Provide temporary supports to hold the MSE reinforcement a minimum of 4" above the previously placed LFCF backfill so that the MSE reinforcement becomes fully encapsulated in the subsequent LFCF lift placement. Provide adequate supports to hold the MSE reinforcement in an approximate horizontal position with no kinks, sharp bends or abrupt changes in direction in the reinforcement. Do not lay the MSE reinforcement directly on the top of the prior LFCF placement or otherwise locate the MSE reinforcement along cold joints between LFCF placements.

Do not operate tracked or wheeled equipment on the backfill within 3 feet from the back of the abutment. The engineer may order the removal of any large or heavy equipment that may cause damage to the abutment.

C.3 Abutment Anchorage Components

C.3.1 General

For embedment in LFCF backfill, place MSE reinforcement that will become embedded in the next lift of LFCF prior to placing the LFCF lift. Provide temporary supports to hold the MSE reinforcement a minimum of 4" above the previously placed LFCF backfill so that the MSE reinforcement becomes fully encapsulated in the subsequent LFCF lift placement. Provide adequate supports to hold the MSE reinforcement in an approximate horizontal position with no kinks, sharp bends or abrupt changes in direction in the reinforcement. Do not lay the MSE reinforcement directly on the top of the prior LFCF placement or otherwise locate the MSE reinforcement along cold joints between LFCF placements.

Bending of MSE reinforcement that result in a kink in the reinforcement shall not be allowed. If skewing of the reinforcement is required due to obstructions in the reinforced fill, the maximum skew angle shall not exceed 15 degrees from the normal position unless a greater angle is shown on the plans. The adequacy of the skewed reinforcement in such a case shall be addressed by supporting calculations.

C.3.2 Steel Layers

Place the steel reinforcement full width in one piece as shown on the plans. No splicing will be allowed. Maintain elements in position during backfilling.

C.4 Quality Management Program

C.4.1 Quality Control Plan

Submit a comprehensive written quality control plan to the engineer at or before the pre-construction meeting. Do not perform abutment anchorage 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.
8. A proposed sequencing plan of abutment anchorage construction operations and random test locations.

C.4.2 Quality Control Personnel

Perform the quality control sampling, testing, and documentation required under this provision using HTCP certified technicians. Have a HTCP Grading Technician I (GRADINGTEC-I); or Assistant Certified Technician, Grading (ACT-GRADING); or Aggregate Technician I (AGGTEC-I); or Assistant Certified Technician, Aggregate (ACT-AGG) present at each grading site during all abutment anchorage backfill placement, compaction, and nuclear testing activities. Have a HTCP Nuclear Density Technician I (NUCDENSITYTEC-I) or Assistant Certified Technician, Nuclear Density Gauge Operator (ACT-NUC) perform field density and field moisture content testing.

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

C.4.3 Equipment

Furnish the necessary equipment and supplies for performing quality control testing. Ensure that all testing equipment conforms to the equipment specifications applicable to the required testing methods. The engineer may inspect the measuring and testing devices to confirm both calibration and condition. Calibrate all testing equipment according to the CMM and maintain a calibration record at the laboratory.

Furnish nuclear gauges from the department's approved product list at:

<https://wisconsindot.gov/Pages/doing-bus/eng-consultants/cnslt-rsrcs/tools/appr-prod/default.aspx>

Ensure that the nuclear gauge manufacturer or an approved calibration service calibrates the gauge the same calendar year it is used on the project. Retain a copy of the calibration certificate with the gauge.

Conform to ASTM D6938 and CMM 8-15 for density testing and gauge monitoring methods. Perform nuclear gauge measurements using gamma radiation in the backscatter or direct transmission position. Perform each test for 4 minutes of nuclear gauge count time.

Split each Proctor sample and identify so as to provide comparison with the department's test results. Unless the engineer directs otherwise, retain the QC split samples for 14 calendar days and promptly deliver the department's split samples to the department.

C.4.4 Documentation

Document all observations, inspection records, and process adjustments daily. Submit test results to the department's project materials coordinator on the same day they become available.

Use forms provided in CMM Chapter 8. Note other information in a permanent field record and as a part of process control documentation enumerated in the contractor's quality control plan. Enter QC data and backfill material certified report results into the applicable materials reporting system (MRS) software within 5 business days after results are available.

Submit final testing records and other documentation to the engineer electronically within 10 business days after all contract-required information becomes available. The engineer may allow submission of scanned copies of hand-written documentation.

C.4.5 Quality Control (QC) Testing

C.4.5.1 LFCF Backfill

C.4.5.1.1 Cast Density of Field Installed LFCF

Test cast density in accordance to ASTM C 796

Prior to placement of the initial batch, the installer shall check the density and adjust the mix as required to obtain the manufacturer's specified cast density at point of placement.

At hourly intervals during placement, monitor the density and adjust as necessary to maintain the specified cast density.

C.4.5.1.2 Strength Testing

Conduct strength testing in accordance to ASTM C 796 except do not oven dry the test specimens.

Furnish a sufficient quantity of molded and cured cylinders measuring 3-inches in diameter by 6-inches high for required strength tests. Provide molds, and a similar curing environment of the LFCF being tested. Prepare cylinders in accordance to ASTM C1064.

Provide certified strength test results to the engineer for acceptance. At a minimum, conduct a set of three strength tests at 1, 2, and 28 day intervals for each 500 cubic yards of LFCF placed and a minimum of two sets of four cylinders each per day.

Perform the compressive strength testing at a department qualified laboratory meeting the requirements of C.5 in SPV Article Lightweight Foamed Concrete Fill Grade 1 and Lightweight Foamed Concrete Fill Grade 2 included in the contract.

C.4.6 Department Testing

C.4.6.1 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.4.6.2 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.4.2 for contractor testing personnel for each test result being verified. The department will notify the contractor before sampling so the contractor can observe QV sampling.

The department will conduct QV tests at the minimum frequency of 30% of the required contractor density, Proctor and gradation tests.

The department will obtain LFCF material for cast density and compressive strength tests at random intervals independent of the contractor's QC work.

The department will conduct cast density and compressive strength 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 the cast density, compressive strength or gradation test results are nonconforming, standard spec 106.5 will apply.

C.4.6.3 Independent Assurance (IA)

Independent 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.4.6.4.

C.4.6.4 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.

C.5 Geotechnical Information

Geotechnical data to be used in the design of the abutment anchorage is given on the wall plan for the wall adjacent to the abutment, available on the WisDOT Bureau of Structures Highway Structures Information (HSI) website. After completing excavation of the entire reinforced soil zone, notify the department and allow the Regional Soils Engineer two working days to review the foundation.

D Measurement

The department will measure Abutment Anchorage by the linear foot, acceptably completed, measured as the length of the abutment requiring anchorage.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.0800	Abutment Anchorage	LF

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 abutment anchorage components to produce a functional anchorage system; constructing the retaining system and providing temporary drainage; providing and placing LFCF, developing/completing/documenting the quality management program, and performing cast density and compressive strength testing.

The department will pay separately for abutment body/backwall and structural approach slab.

11.13 Piling Wrapping, Item SPV.0090.1010.

A Description

This special provision describes furnishing and installing pile wrap in the reinforced earth zone of mechanically stabilized earth (MSE) retaining walls, in fill areas under abutments, and other locations shown on the plans.

B Materials

B.2 Pile Wrap

Provide a pile wrap that completely encases the perimeter of the pile and separates the pile from the surrounding soil. The provided pile wrap product shall be specifically intended to reduce or eliminate down drag loads on driven piles. Submit proposed pile wrap product data sheets and installation requirements to the engineer for acceptance.

C Construction

Install the pile wrap on the top portion of the piles that will be in the MSE soil reinforced zone, fill areas under abutments, or other limits shown on the plans prior placing backfill around the piles. Install the pile

wrap and place backfill around the wrapped pile per the pile wrap manufacturer's installation requirements and recommendations.

D Measurement

The department will measure Piling Wrap 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.0090.1010	Piling Wrap	LF

Payment for is full compensation for furnishing and installing the pile wrap.

11.14 Piling CIP Concrete 14x0.50-Inch Special, Item SPV.0090.1020.

A Description

This special provision describes specialized concrete material to be used to fill concrete pipe piles at locations shown on the plans.

B Materials

550.2.2 Cast in Place Concrete Piles

Portland cement furnished in accordance with section 501.2.4.1 shall be limited to Type IP, Type IS or Type IT to provide moderate sulfate resistance.

C (Vacant)

D Measurement

The department will measure Piling CIP Concrete 14x0.50-Inch Special 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.0090.1020	Piling CIP Concrete 14x0.50-Inch Special	LF

Payment is full compensation for providing piles; for driving piles; for cutting off piles; for re-driving heaved up piles; for concrete; and for excavating material within the footing perimeter heaved up by the driving operations.

11.15 Precast Concrete Box Culvert, 9 FT x 5 FT, Item SPV.0090.0910.

A Description

This special provision describes furnishing and installing precast concrete box culverts of the size and length the plans show.

B Materials

B.1 General

The design life of the components shall be 75 years minimum. Furnish materials and fabricate in accordance with the lines, dimension, elevations and details as shown on the plans and provided in the contract.

Furnish materials and fabricate Precast Concrete Box Culvert according to ASTM C1577, except that the concrete mixture shall contain not less than 565 pounds of Portland cement, blended cement, or Portland cement plus pozzolanic admixture per cubic yard. Steel reinforcement shall conform to Standard Specification 505. Provide a design that meets or exceeds the requirements shown on current Standards 36.05 and 36.06. The most current standards can be obtained on the Bureau of Structures' website:

<https://wisconsindot.gov/Pages/doing-bus/eng-consultants/cnslt-rsrcs/strct/bridge-manual-standards.aspx>

For standard designs covered by ASTM C1577, provide slab thicknesses, wall thicknesses, areas of reinforcement, material properties, and other details per ASTM C1577.

For special designs not covered by ASTM C1577, follow Table X1.1 in ASTM C1577 for design criteria, except that the concrete minimum specified compressive strength may use up to 6000 psi for design purposes. For special designs using ASTM A1064 welded wire reinforcement, the minimum yield strength shall not exceed 70 ksi (Grade 70) for design purposes.

B.2 Design Requirements

It is the responsibility of the contractor to submit a design and supporting documentation as required by this special provision, for review and acceptance by the department, to show the proposed design is in compliance with the design specifications. The submittal shall include the following items for review: detailed plans and shop drawings, complete design calculations as necessary, explanatory notes, supporting materials, and specifications. The detailed plans and shop drawings shall include all details, dimensions, and cross-sections necessary to construct the structure. Submit shop drawings to the engineer conforming to 105.2 with electronic submittal to the fabrication library under 105.2.2. Department review does not relieve the contractor from responsibility for errors or omissions on shop drawings. Submit no later than 60 days from the date of notification to proceed with the project.

It is the responsibility of the contractor to meet or exceed the excavation, foundation preparation, and backfill requirements as the plans show and as approved by the engineer.

Provide standard designs according to ASTM C1577 and with the current American Association of State Highway and Transportation Officials LRFD (AASHTO LRFD) Bridge Design Specifications. Standard designs which satisfy the standard shapes, reinforcement, and detailing of ASTM C1577 do not require a design computation submittal. Shop drawing submittal is required.

For special designs, that do not satisfy the standard shapes, reinforcement, or detailing according to ASTM C1577, the contractor shall provide a special design according to the criteria provided in Appendix X1 of ASTM C1577, AASHTO LRFD, and within this special provision. A design computation submittal and a shop drawing submittal are required.

A special design is required for the following applications:

- Shapes or material properties not covered by ASTM C1577.
- Spans greater than 12-ft. Spans greater than 15-ft are prohibited, unless approved otherwise.
- Skew > 30 degrees and design fills less than or equal to 5-ft.

Shop drawings shall include, but not be limited to, the following information:

- Box culvert barrel data table (rise, span, top slab thickness, bottom slab thickness, side wall thickness, and provided reinforcement)
- Design loads
- Material properties
- All details necessary to construct the structure. This includes, but is not limited to, joint details, joint ties, and joint tie locations.

The minimum barrel length of typical box sections shall be 4-ft. The minimum barrel length of a skewed box end section, measured on the shortest wall, shall be 3-ft.

Skewed box sections shall use joint ties to connect the last two box sections at each end of the culvert. Provide joint ties at other locations, as noted on the contract plans.

B.3 System Components

B.3.1 General

Provide 6-inch minimum of backfill structural material conforming to standard spec section 210 (Type B) on the sides and top of the culvert, unless specified otherwise on the plans.

Use galvanized or epoxy-coated steel, stainless steel, or nonmetallic materials for all hardware incorporated into the finished structure.

Provide manufacturer recommended preformed flexible joint sealant compatible with the joint design. Joint sealant shall be a butyl rubber sealant in conformance to ASTM C990 section 6.2.

When multi-cells are used, a 6-inch nominal space shall be left between adjacent sections. After the precast cells are in place and backfill has been placed to midheight of the precast concrete box sections on each side, the space between the cells shall be filled from top of bedding to top of top slab with Grade 'B' Concrete conforming to standard spec 501. Plan joint ties shall not be omitted in the gap.

B.3.2 Box Culvert Sections

The spacing center to center of the circumferential wires shall not be less than 2-inch nor more than 4-inches. The spacing center to center of the longitudinal wires shall not be more than 8-inches. Provide 0.03 sq. in./ft minimum longitudinal reinforcement at each face in slabs and walls.

B.3.3 Foundation

Provide 6-inch minimum of bedding material conforming to standard spec section 210 (Type B). See contract plans for site-specific foundation requirements. Backfill substitutions and revisions shall be approved by the engineer.

C Construction

The precast elements shall be provided with suitable lifting devices for handling and placement of the elements.

Lay precast concrete box culvert sections with the groove end of each section upstream and the spigot end extended full length into the adjacent downstream section of box.

Handle, store and erect all precast elements in a way that prevents cracking or other damage to the precast element. The department may reject damaged precast elements, as directed by the engineer and at no cost to the department. Minor damage may be repaired by the contractor, as directed by the engineer and at no cost to the department.

Clean dirt and deleterious substances from the surfaces and joints.

Seal all four sides of the box culvert joints with preformed mastic joint sealant installed in accordance with applicable requirements of ASTM C990 and manufacturer's instructions.

Joints shall be tight as practicable and limited to a 3/4-inch maximum allowable gap at any point between adjacent sections.

Concrete box section joints shall be covered with an external wrap of Geotextile Type DF, Schedule A conforming to Standard Spec 645.2.2.4 centered over the joint. Geotextile length shall be adequate for coverage of culvert top and sides plus a 24-inch minimum overlap. Secure geotextile wraps by applying adhesive to the culvert or geotextile or as approved by the engineer. Prevent displacement of the geotextile during backfilling operations.

After installing the precast elements, seal handling holes and joint tie holes with an engineer-approved non-shrink grout. Holes shall be finished flush on the inside of the box. Precast concrete plugs may be secured with Portland cement mortar or other approved adhesive.

D Measurements

The department will measure Precast Concrete Box Culvert, 8 FT x 5 FT, completed according to the contract and accepted, in length by the linear foot in place. The box culvert will be measured on the centerline of the box along the flow line.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.0910	Precast Concrete Box Culvert, 9 FT x 5 FT	LF

Payment is full compensation for furnishing, hauling and placing the box, including joint ties, and mastic.

When contract plans specify a cast-in-place concrete box culvert and the contractor elects to use a precast concrete box culvert, payment for the complete precast concrete box culvert system shall be based on the quantities and prices bid for the complete cast-in-place culvert system. Items required for both the cast-in-place culvert system and the precast concrete box culvert system shall be paid based on the plan quantities and prices bid for the complete cast-in-place culvert system. Additional items required for the precast system shall be incidental.

11.16 Pipe Underdrain 6-Inch Special, Item SPV.0090.2000.

A Description

This special provision describes providing necessary subsurface drainage by constructing trenches, placing the required geotextile fabric, installing the designated pipes or drainage devices, connecting the underdrain to receiving structures, providing cored connection holes, back-plastering and or mortaring connections to storm sewer structures (both on the external and internal sides of the receiving structure), providing and installing PVC or HDPE fittings, and caps or plugs ,for excavating, plowing, backfilling the trenches with the specified backfill material in accordance to standard spec 310, 612 and 645, salvaging; disposing of surplus material; and restoring the work site as shown on the plans and details, and as hereinafter provided.

B Materials

B.1 Pipe Underdrain

Utilize Pipe Underdrain conforming to standard spec 612.

B.2. Mortar

Utilize mortar conforming to standard spec 519.

B.3 Base Aggregate

Use only base aggregate open graded conforming to standard spec 310.2.

B.4 Geotextile Fabric

Utilize geotextile fabric consisting of Type DF Schedule A and conforming to standard spec 645.2.4. Completely wrap the installation trench with geotextile fabric.

C (Vacant)

D Measurement

The department will measure Pipe Underdrain (Size) Special by the linear foot, acceptably completed. The department will measure along the centerline of the pipe, center to center of junctions and fittings.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.2000	Pipe Underdrain 6-Inch Special	LF

Payment is full compensation for providing, handling, and placing all materials, including pipe, base aggregate open graded, geotextile fabric Type DF Schedule A, providing cored connections, making all necessary connections to the receiving structures, performing back-plastering and or mortaring of underdrain connections to storm sewer structures, providing and installing all fittings, and caps or plugs; for furnishing all excavating, plowing, and re-compacting, salvaging; disposing of surplus material; and restoring the work site

11.17 Longitudinal Grooving Bridge Deck, Item SPV.0165.1000.

A Description

This special provision describes providing longitudinal deck grooves parallel to the centerline of the roadway prior to opening the bridge to traffic as directed by the engineer.

B Materials

Use a grooving machine containing blades mounted on a multi-blade arbor on a self-propelled machine built for grooving hardened concrete surfaces.

Use a grooving machine with a depth control device that detects variations in the deck surface and adjusts the cutting head height to maintain a specified depth of groove.

Equip the grooving machine with a guide device to control multi-pass alignment.

C Construction

Groove the pavement longitudinally without damaging the concrete deck surface.

Complete a longitudinal grooving operation that results 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, end all grooves on the bridge deck surface 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.

Construct longitudinal grooves with the following criteria:

Width (in)	Depth (in)	Spacing C-C (in)	Width Tolerance (in)	Depth Tolerance (in)	Spacing Tolerance (in)
1/8	3/16	3/4	0 to 1/16	± 1/16	± 1/16

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 measure Longitudinal Grooving Bridge Deck 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.0165.1000	Longitudinal Grooving Bridge Deck	SF

Payment full compensation for providing the required machinery and operators; for grooving, for collecting, removing, and properly disposing of all waste materials.

11.18 Wall Concrete Panel Mechanically Stabilized Earth (R-44-42), Item SPV.0165.0042.

A Description

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

This special provision describes the quality management program (QMP) for Mechanically Stabilized Earth (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.

B Materials

B.1 Proprietary Wall Systems

The supplied wall system must be from the department's approved list of Concrete Panel Mechanically Stabilized Earth Wall systems. Proprietary wall systems must conform to the requirements of this specification and be pre-approved for use by the department's Bureau of Structures. The department maintains a list of pre-approved proprietary wall systems. The name of the pre-approved proprietary wall system selected shall be furnished to the engineer within 25 days after the award of contract.

To be eligible for use on this project, a system must have been pre-approved by the Bureau of Structures 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 and be prepared in accordance with the requirements of Chapter 14 of the department's LRFD Bridge Manual. Information and assistance with the pre-approval process can be obtained by contacting the Bureau of Structures, Structures Maintenance Section at the following email address: DOTDLStructuresFabrication@dot.wi.gov.

To be eligible to provide wall facing panels for this project, a precast concrete manufacturing plant must be pre-approved by the Bureau of Technical Services under standard specification 106.3.3.3.1 prior to the

bid closing date. Information and assistance with the pre-approval process can be obtained by contacting the Bureau of Technical Services at the following email address: DOTProductSubmittal@wisconsin.gov.

B.2 Design Requirements

It is the responsibility of the contractor to submit a design and supporting documentation as required by this special provision, for review and acceptance by the department, to show the proposed wall design is in compliance with the design specifications. The submittal shall include the following items for review: detailed plans and shop drawings, complete design calculations, explanatory notes, supporting materials, and specifications. The detailed plans and shop drawings shall include all details, dimensions, quantities and cross-sections necessary to construct the walls. Submit shop drawings to the engineer conforming to 105.2 with electronic submittal to the fabrication library under 105.2.2. Certify that shop drawings conform to quality control standards by submitting department form [DT2329](#) with each set of shop drawings. Department review does not relieve the contractor from responsibility for errors or omissions on shop drawings. Submit no later than 60 days from the date of notification to proceed with the project and a minimum of 30 days prior to the date proposed to begin wall construction.

The plans and shop drawings shall be prepared on reproducible sheets 11 inch x 17 inch, including borders. Each sheet shall have a title block in the lower right corner. The title block shall include the WisDOT project identification number and structure number. Design calculations and notes shall be on 8 ½ inch x 11 inch sheets, and shall contain the project identification number, name or designation of the wall, date of preparation, initials of designer and checker, and page number at the top of the page. All plans, shop drawings, and calculations shall be signed, sealed and dated by a professional engineer licensed in the State of Wisconsin.

The design of the wall shall be in compliance with the current American Association of State Highway and Transportation Officials LRFD (AASHTO LRFD) Bridge Design Specifications with latest interim specifications for Mechanically Stabilized Earth Walls, WisDOT's current Standard Specifications for Highway and Structure Construction (standard spec), Chapter 14 of the WisDOT LRFD Bridge Manual and standard engineering design procedures as determined by the Department. Loads, load combinations, load and resistance factors shall be as specified in AASHTO LRFD Section 11. The associated resistance factors shall be defined in accordance with Table 11.5.7-1 in AASHTO LRFD.

Design and construct the walls in accordance with the lines, grades, heights and dimensions shown on the plans, as herein specified, and as directed by the engineer. Where walls or wall sections intersect with an included angle of 130 degrees or less, a vertical corner element separate from the standard panel face shall abut and interact with the opposing standard panels. The corner element shall have ground reinforcement connected specifically to that panel and shall be designed to preclude lateral spread of the intersecting panels. If the wall is installed in front of a bridge abutment or wing, it shall also be designed to resist the applied abutment/bridge lateral forces specified on the plans.

Walls parallel to supporting highway traffic shall be designed for the effects of highway surcharge loading equivalent of 2 feet soil surcharge weight or 240 psf. The design shall also consider the traffic barrier impact where applicable. Walls that do not carry highway traffic shall be designed for a live load surcharge of 100 psf in accordance with Chapter 14 of the WisDOT LRFD Bridge Manual or as stated on the plans.

A maximum value of the angle of internal friction of the wall backfill material used for design shall be assumed to be 30 degrees without a certified report of tests. If a certified report of tests yields an angle of internal friction greater than 30 degrees, the larger test value may be used for design, up to a maximum value of 36 degrees.

An external stability check at critical wall stations showing Capacity Demand Ratios (CDR) for sliding, eccentricity, and bearing checks is performed by the department and are provided on the wall plans.

The design of the wall by the Contractor shall consider the internal and compound stability of the wall mass in accordance with AASHTO LRFD 11.10.6. The internal stability shall include soil reinforcement pullout, soil reinforcement rupture, and panel-reinforcement connection failure at each soil reinforcement level. The design shall be performed using the Simplified Method or Coherent Gravity Method. Calculations for factored stresses and resistances shall be based upon assumed conditions at the end of the design life. The value of the pullout resistance factor, F^* , used in design calculations shall be obtained from the AASHTO LRFD Figure 11.10.6.3.2-2 as appropriate to the proposed reinforcement type. Compound stability shall be computed for the applicable strength limits. Sample analyses and hand calculations shall be submitted to verify the output of any software program used. The design calculations and notes shall clearly indicate the Capacity to Demand Ratios (CDR) for all internal and external stabilities as defined in AASHTO LRFD.

The wall facing shall be designed in accordance with AASHTO LRFD 11.10.2.3. The facing panels shall also be designed to resist compaction stresses that occur during the wall erection. The minimum thickness of the facing panel shall be 5.5 inches. The surface area of a standard single panel cannot exceed 60 square feet. The maximum height of a standard panel shall be 5 feet. The top and bottom panels may exceed 5 foot in height based on site topography subject to the approval by the Structures Design Section. The design of the steel reinforcement within the panels shall be based on one-way bending action. Design the wall panels and joints between panels to accommodate a maximum differential settlement of 1 foot over a 100-foot length with $\frac{3}{4}$ -inch joint widths, unless the plans indicate other maximum differential settlement requirements.

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 length shall be the same from the bottom to the top of the wall. All soil reinforcement layers shall be connected to facings. The soil reinforcement shall extend a minimum of 3.0 feet beyond the theoretical failure plane in all cases. The maximum vertical spacing of soil reinforcement layers shall be 31 inches. The uppermost layer of the reinforcement shall be located between 6 inches and 18 inches below the bottom of an overlying slab, footing or top of the wall. The upper layers of the soil reinforcement shall also be checked to verify that they have sufficient tensile resistance against traffic barrier impact where applicable.

All soil reinforcement required for the reinforced soil zone shall be connected to the face panels. The reinforcement and the reinforcement/facing connection strength shall be designed to resist maximum factored reinforcement loads in accordance with AASHTO LRFD Section 11.10.6. Facing connection strength shall be defined as the resistance factor times the failure load, or the load at 0.5 inch deformation times 0.9, whichever is less. The nominal long term design strength in steel reinforcement and connections shall be based upon assumed conditions at the end of the design life.

Soil reinforcement shall be prefabricated into single or multiple elements before galvanizing. Soil reinforcement shall be fabricated or designed to avoid piling, drainage structures or other obstacles in the fill without field modifications. Unless approved by the Bureau of Structures cutting or altering of the basic structural section of either the strip or grid at the site is prohibited, a minimum clearance of 3" shall be maintained between any obstruction and reinforcement, and splicing reinforcement is not allowed.

The minimum embedment of the wall shall be 1 foot 6 inches below finished grade, or as given on the plans. All walls shall be provided with a concrete leveling pad. Minimum wall embedment does not include the leveling pad depth. Step the leveling pad to follow the general slope of the ground line. Frost depth shall not be considered in designing the wall for depth of leveling pad.

Wall facing units shall be installed on a leveling pad.

B.3 Wall System Components

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

B.3.1 Wall Facing

Wall facing shall consist of modular precast concrete face panels produced by a wet cast process. The concrete panels shall have a minimum strength of 4000 psi at 28 days. The concrete for the panels shall be air entrained, with an air content of 6% +/- 1.5%. All materials for the concrete mixture for the panels shall meet the requirements of standard spec 501. The panel edges shall be configured so as to conceal the joints. The detail shall be a shiplap, tongue and groove or other detail adequate to prevent vandalism or ultraviolet light damage to the backside of the wall joint covering. Joint widths between panels shall be uniform and $\frac{3}{4}$ -inch, unless noted otherwise on the plans. Use full wall height slip joints at points of differential settlement when detailed on the plan. Horizontal joints must be provided with a compressible bearing material to prevent concrete to concrete contact. Panels shall be reinforced using coated high-strength bar steel or welded steel wire fabric conforming to standard spec 505. Welded steel wire fabric shall be epoxy-coated in accordance with ASTM A884 or galvanized in accordance with AASHTO M 111 or ASTM A641. Panel dowels for cast-in-place copings shall be coated high-strength bar steel conforming to standard spec 505. Unless approved by the Bureau of Structures, adhesive anchors are prohibited.

For reinforced cast-in-place concrete cap or coping, use poured Grade A concrete conforming to standard spec 501 as modified in standard spec 716. Provide QMP for cast-in-place cap and coping concrete as

specified in standard spec 716, Class II Concrete. Use coated high-strength bar steel conforming to standard spec 505.

Provide a minimum of two bearing pads per panel. The allowable bearing stress shall not exceed 900 psi. The bearing pads shall be preformed EPDM rubber conforming to ASTM D2000, Grade 2, Type A, Class A with a Durometer Hardness of 80 +/-5, or high-density polyethylene pads with a minimum density of 0.034 lb/in³ in accordance with ASTM D1505.

An 18-inch wide geotextile shall be used on the backface of the wall panels to cover all panel joints. The geotextile shall meet the physical requirements stated in standard spec 645.2.4 for Geotextile, Type DF, Schedule B, except that the grab tensile strength shall be a minimum of 180 pounds in both the machine and cross-machine directions. The geotextile shall be attached with a standard construction adhesive suitable for use on concrete surfaces and cold temperatures. The adhesive shall be applied to the panels, not to the geotextile.

B.3.2 Leveling Pad

Provide an unreinforced cast-in-place concrete leveling pad. Use Grade A concrete conforming to standard spec 501 as modified in standard spec 716. Provide QMP for leveling pad concrete as specified in standard spec 716, Class III Concrete.

The minimum width of the leveling pad shall be 12-inches. The minimum thickness of the leveling pad shall be 6-inches.

B.3.3 Backfill

Furnish and place backfill for the wall as shown on the plans and as hereinafter provided.

Place backfill in a zone extending horizontally from the back face of the wall facing to 1 foot minimum beyond the end of the reinforcement and extending vertically from the top of the leveling pad to a minimum of 3 inches above the final reinforcement layer.

Use natural sand or a mixture of sand with gravel, crushed gravel or crushed stone. Do not use foundry sand, bottom ash, blast furnace slag, crushed/recycled concrete, crushed/milled asphaltic concrete or other potentially corrosive material.

Provide material conforming to the following gradation requirements as per AASHTO T27.

Sieve Size	% by Weight Passing
1 inch	100
No. 40	0 - 60
No. 200	0 - 15

The material shall have a liquid limit not greater than 25, as per AASHTO T89, and a plasticity index not greater than 6, as per AASHTO T90. Provide the percent by weight, passing the #4 sieve.

In addition, backfill material shall meet the following requirements.

Test	Method	Value	
		(Galvanized)	(Aluminized Type 2)
pH	AASHTO T-289	5.0-10.0	5.0 – 9.0
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.	1500 ohm-cm min.
Organic Content	AASHTO T-267	1.0% max.	
Angle of Internal Friction	AASHTO T-236 ^[1]	30 degrees min. (At 95.0% of maximum density and optimum moisture, per AASHTO T99, or as modified by C.2.)	

[1] If the amount of P-4 material is greater than 60%, use AASHTO 236 with a standard-size shear box. Test results of this method may allow the use of larger angles of internal friction, up to the maximum allowed by this specification.

If the amount of P-4 material is less than or equal to 60%, two options are available to determine the angle of internal friction. The first method is to perform a fractured faces count, per ASTM D5821, on the R-4 material. If more than 90% of the material is fractured on one face and more than 50% is fractured on two faces, the material meets the specifications and the angle of internal friction can be assumed to be 30 degrees. The second method allows testing all P-1" material, as per AASHTO T-236, with a large

shear box. Test results of this second method may allow the use of larger angles of internal friction, up to the maximum allowed by this specification.

Prior to placement of the backfill, obtain and furnish to the engineer a certified report of test results that the backfill material complies with the requirements of this specification. Specify the method used to determine the angle of internal friction. This certified report of test shall be less than 6 months old. Tests will be performed by a certified independent laboratory. In addition, when backfill characteristics and/or sources change, provide a certified report of tests for the new backfill material. Additional certified report of tests are also required. These additional backfill tests may be completed at the time of material production or material placement, with concurrence of the engineer. If this additional testing is completed at the time of material production, complete testing for every 2000 cubic yards of backfill or portion thereof. If this additional testing is completed at the time of material placement, complete testing for every 2000 cubic yards of backfill, or portion thereof, used per wall. For the additional required testing for every 2000 cubic yards of backfill placement, if the characteristic of the backfill and/or the source has not changed then Angle of Internal Friction tests are not included in the additional required testing. All certified reports of test results shall be less than 6 months old and performed by a certified independent laboratory.

B.3.4 Soil Reinforcement

All steel portions of the wall system exposed to earth shall be galvanized. All soil reinforcement and attachment devices shall be carefully inspected to ensure they are true size and free from defects that may impair the strength and durability. Soil reinforcement shall be galvanized or aluminized Type 2. Galvanized soil reinforcement shall be in accordance with AASHTO M 111 or ASTM A641. Aluminized soil reinforcement shall be in accordance with ASTM A463 Aluminized Type 2-100, SS, Grade 50, Class 2. Design of galvanized soil reinforcement shall be in accordance to Section 11.10.6.4.2 of the current AASHTO LRFD Specifications. The design life of steel soil reinforcements shall comply with AASHTO LRFD. Aluminized soil reinforcement shall be limited 16 years of steel protection. Aluminized steel shall only be used on soil reinforcement elements and shall not be used on facing connections or any other steel portion of the wall system. Steel soil reinforcement shall be prefabricated into single or multiple elements before galvanizing.

C Construction

C.1 Excavation and Backfill

Excavation and preparation of the foundation for the MSE wall and the leveling pad shall be in accordance with standard spec 206. The volume of excavation covered is limited to the width of the reinforced mass and to the depth of the leveling pad unless shown or noted otherwise on the plan. At the end of each working day, provide good temporary drainage such that the backfill shall not become contaminated with run-off soil or water if it should rain. Do not stockpile or store materials or large equipment within 10 feet of the back of the wall.

Place backfill materials in the areas as indicated on the plans and as detailed in this specification. Backfill lifts shall be no more than 8-inches in depth, after compaction.

Conduct backfilling operations in such a manner as to prevent damage or misalignment of the wall panels, soil reinforcement, or other wall components. At no expense to the department, correct any such damage or misalignment as directed by the engineer. A field representative of the wall supplier shall be available during wall construction to provide technical assistance to the contractor and the engineer.

Place and compact the MSE backfill to the level of the next higher layer of MSE reinforcement before placing the MSE reinforcement or connecting it to the wall facing. Place and compact material beyond the reinforced soil zone to allow for proper compaction of material within the reinforced zone. The MSE reinforcement shall lay horizontally on top of the most recently placed and compacted layer of MSE backfill.

Do not operate tracked or wheeled equipment on the backfill within 3 feet from the back panels. The engineer may order the removal of any large or heavy equipment that may cause damage or misalignment of the panels.

C.2 Compaction

Compact all backfill behind the wall as specified in standard spec 207.3.6. Compact the backfill to 95.0% of maximum dry density as determined by AASHTO T-99 (modified to compute densities to the nearest 0.1 pcf).

Ensure adequate moisture is present in the backfill during placement and compaction to prevent segregation and to help achieve compaction.

Compaction of backfill within 3 feet of the back face of the wall should be accomplished using lightweight compaction devices. Use of heavy compaction equipment or vehicles should be avoided within 3 feet of the panels. Do not use sheepsfoot or padfoot rollers within the reinforced soil zone.

A minimum of 3 inches of backfill shall be placed over the MSE reinforcement prior to working above the reinforcement.

C.3 Wall Components

C.3.1 General

Erect panel facing and other associated elements according to the wall manufacturer's construction guide. Place and compact the MSE backfill to the level of the next higher layer of MSE reinforcement before placing the MSE reinforcement or connecting it to the wall facing.

The MSE reinforcement shall lay horizontally on the top of the most recently placed and compacted layer of MSE backfill. Bending of MSE reinforcement that result in a kink in the reinforcement shall not be allowed. If skewing of the reinforcement is required due to obstructions in the reinforced fill, the maximum skew angle shall not exceed 15 degrees from the normal position unless a greater angle is shown on the plans. The adequacy of the skewed reinforcement in such a case shall be addressed by supporting calculations.

C.3.2 Leveling Pad

Provide an unreinforced cast-in-place concrete leveling pad as shown on the plans. Vertical tolerances shall not exceed 3/4-inch when measured along a 10-foot straight edge. Allow concrete to set at least 12 hours prior to placing wall facing units.

The bottom row of wall facing units shall be horizontal and 100% of the unit surface shall bear on the leveling pad. Rubber or plastic shims may be used to level the wall facing units at the leveling pad. No more than 2 shims (each 3/16-inch thick) shall be used to level the wall facing.

C.3.3 Steel Layers

Place the steel reinforcement full width in one piece as shown on the plans. No splicing will be allowed. Maintain elements in position during backfilling.

C.3.4 Panel Tolerances

As backfill material is placed behind a panel, maintain the panel in its proper inclined position according to the supplier specifications and as approved by the engineer. The supplier shall specify the back batter so that the final position of the wall is vertical. Vertical tolerances and horizontal alignment tolerances shall not exceed 3/4-inch when measured along a 10-foot straight edge. The maximum allowable offset in any panel joint shall be 3/4-inch. The overall vertical tolerance of the wall (plumbness from top to bottom) shall not exceed 1/2-inch per 10 feet of wall height. Erect the precast face panels to ensure that they are located within 1 inch from the contract plan offset at any location to ensure proper wall location at the top of the wall. Provide a uniform joint width between all adjacent face panels to prevent direct concrete-to-concrete contact. Maintain this width by the use of bearing pads and/or alignment pins. The final joint width shall be within 1/4-inch of the design joint width. Failure to meet this tolerance shall cause the engineer to require the contractor to disassemble and re-erect the affected portions of the wall. In addition, imperfect molding, honeycombing, cracking or severe chipping of panels shall be cause of panel rejection.

C.4 Quality Management Program

C.4.1 Quality Control Plan

Submit a comprehensive written quality control plan to the engineer at or before the pre-construction meeting. Do not perform MSE wall construction work before the engineer reviews and accepts the plan. Construct the project as the plan provides.

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

1. An organizational chart with names, telephone numbers, current certifications and/or titles, and roles and responsibilities of QC personnel.

2. The process used to disseminate QC information and corrective action efforts to the appropriate persons. Include a list of recipients, the communication process that will be used, and action time frames.
3. A list of source locations, section and quarter descriptions, for all aggregate materials requiring QC testing.
4. Descriptions of stockpiling and hauling methods.
5. An outline for resolving a process control problem. Include responsible personnel, required documentation, and appropriate communication steps.
6. Location of the QC laboratory, retained sample storage, and other documentation.
7. A summary of the locations and calculated quantities to be tested under this provision.
8. A proposed sequencing plan of wall construction operations and random test locations.

C.4.2 Quality Control Personnel

Perform the quality control sampling, testing, and documentation required under this provision using HTCP certified technicians. Have a HTCP Grading Technician I (GRADINGTEC-I); or Assistant Certified Technician, Grading (ACT-GRADING); or Aggregate Technician I (AGGTEC-I); or Assistant Certified Technician, Aggregate (ACT-AGG) present at the grading site during all wall backfill placement, compaction, and nuclear testing activities. Have a HTCP Nuclear Density Technician I (NUCDENSITYTEC-I) or Assistant Certified Technician, Nuclear Density Gauge Operator (ACT-NUC) perform field density and field moisture content testing.

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

C.4.3 Equipment

Furnish the necessary equipment and supplies for performing quality control testing. Ensure that all testing equipment conforms to the equipment specifications applicable to the required testing methods. The engineer may inspect the measuring and testing devices to confirm both calibration and condition. Calibrate all testing equipment according to the CMM and maintain a calibration record at the laboratory.

Furnish nuclear gauges from the department's approved product list at:

<http://wisconsindot.gov/Pages/doing-bus/eng-consultants/cnslt-rsrcs/tools/appr-prod/default.aspx>

Ensure that the nuclear gauge manufacturer or an approved calibration service calibrates the gauge the same calendar year it is used on the project. Retain a copy of the calibration certificate with the gauge.

Conform to AASHTO T310 and CMM 8-15 for density testing and gauge monitoring methods.

Split each Proctor sample and identify so as to provide comparison with the department's test results. Unless the engineer directs otherwise, retain the QC split samples for 14 calendar days and promptly deliver the department's split samples to the department.

C.4.4 Documentation

Document all observations, inspection records, and process adjustments daily. Submit test results to the department's project materials coordinator on the same day they become available.

Use forms provided in CMM Chapter 8. Note other information in a permanent field record and as a part of process control documentation enumerated in the contractor's quality control plan. Enter QC data and backfill material certified report results into the applicable materials reporting system (MRS) software within 5 business days after results are available.

Submit final testing records and other documentation to the engineer electronically within 10 business days after all contract-required information becomes available. The engineer may allow submission of scanned copies of hand-written documentation.

C.4.5 Quality Control (QC) Testing

Perform compaction testing on the backfill. Conform to CMM 8-15 for testing and gauge monitoring methods. Conduct testing at a minimum frequency of 1 test per 150 cubic yards of backfill, or major portion thereof in each lift. 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 one gradation test every 750 cubic yards of fill and one 5-point Proctor test (or as modified in C.2) every 2,250 cubic yards of fill. Provide the region split samples of both within 72 hours of sampling, at the region laboratory. Test sites shall be selected using ASTM Method D3665. Provide Proctor test results to the engineer within 48 hours of sampling. Provide gradation test results to the engineer within 24 hours of sampling.

C.4.6 Department Testing

C.4.6.1 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.4.6.2 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.4.2 for contractor testing personnel for each test result being verified. The department will notify the contractor before sampling so the contractor can observe QV sampling.

The department will conduct QV tests at the minimum frequency of 30% of the required contractor density, Proctor and gradation tests.

The department will locate density tests and gradation samples randomly, at locations independent of the contractor's QC work. The department will split each Proctor and gradation QV sample, testing half for QV, and retaining the remaining half for 10 business days.

The department will conduct QV Proctor and gradation tests in a separate laboratory and with separate equipment from the contractor's QC tests. The department will use the same methods specified for QC testing.

The department will assess QV results by comparing to the appropriate specification limits. If QV test results conform to this special provision, the department will take no further action. If density QV test results are nonconforming, the area shall be reworked until the density requirements of this special provision are met. If the gradation test results are nonconforming, standard spec 106.5 will apply. Differing QC and QV nuclear density values of more than 1.5 pcf will be investigated and resolved. QV density tests will be based on the appropriate QC Proctor test results, unless the QV and QC Proctor result difference is greater than 3.0 pcf. Differing QC and QV Proctor values of more than 3.0 pcf will be investigated and resolved.

C.4.6.3 Independent Assurance (IA)

Independent 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.4.6.4.

C.4.6.4 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.

C.5 Geotechnical Information

Geotechnical data to be used in the design of the wall is given on the wall plan. After completing wall excavation of the entire reinforced soil zone, notify the department and allow the Regional Soils Engineer two working days to review the foundation.

D Measurement

The department will measure Wall Concrete Panel Mechanically Stabilized Earth by the square foot acceptably completed. The department will compute the measured quantity from the theoretical pay limits the contract plans show. The department will make no allowance for wall area constructed above or below the theoretical pay limits. All work beyond the theoretical pay limits is incidental to the cost of work. The department will make no allowance for as-built quantities.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0165.0042	Wall Concrete Panel Mechanically Stabilized Earth (R-44-42)	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 wall system including cap, copings, leveling pads, leveling pad steps, and shims; constructing the retaining system and providing temporary drainage; providing backfill, backfilling, compacting, developing/completing/documenting the quality management program, and performing compaction testing.

The department will pay separately for parapets, traffic barriers, railings, and other items above the wall cap or coping.

11.19 Wall Concrete Panel Mechanically Stabilized Earth LFCF R-44-42, Item SPV.0165.0142; Wall Concrete Panel Mechanically Stabilized Earth LFCF R-44-45, Item SPV.0165.0145; Wall Concrete Panel Mechanically Stabilized Earth LFCF R-44-47, Item SPV.0165.0147.

A Description

This special provision describes designing, furnishing materials and erecting a permanent earth retention system in accordance to the lines, dimension, elevations and details as shown on the plans and provided in the contract. The design life of the mechanically stabilized earth (MSE) wall and all wall components shall be 100 years minimum.

This special provision describes using Lightweight Foamed Concrete Fill (LFCF) for the MSE wall backfill in lieu of the engineered granular backfill typically specified for MSE walls. Place LFCF to the limits shown in the plans. Engineered granular backfill is required as designated and shown on the plans in the wall transition zones where the MSE wall backfill transitions from LFCF to conventional engineered granular backfill.

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 LFCF cast density and compressive strength and granular backfill density testing, documenting those results, and documenting related production and placement process changes. This special provision also describes department quality verification (QV), independent assurance (IA), and dispute resolution.

Chapter 8 of the department's construction and materials manual (CMM) provides additional detailed guidance for QMP work and describes sampling and testing procedures.

The contractor may obtain the CMM from the department's web site at:

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

B Materials

B.1 Proprietary Mechanically Stabilized Earth Concrete Panel Wall Systems

The supplied wall system must be from the department's approved list of Concrete Panel Mechanically Stabilized Earth Wall systems (Concrete Panel MSE Walls).

Proprietary wall systems may be used for this work but must conform to the requirements of this specification and be pre-approved for use by the department's Bureau of Structures, Structures Design Section. The department maintains a list of pre-approved Concrete Panel Mechanically Stabilized Earth Wall systems. To be eligible for use on this project, a system must have been pre-approved and added to that list prior to the bid opening date. The name of the pre-approved proprietary wall system selected shall be furnished to the engineer within 25 days after the award of contract. The location of the plant manufacturing the concrete panels shall be furnished to the engineer at least 14 days prior to the start of panel production.

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

B.2 Design Requirements

It is the responsibility of the contractor to supply a design and supporting documentation as required by this special provision, for review by the department, to show the proposed wall design is in compliance with the design specifications. Four copies of the following shall be submitted to the engineer for review and acceptance no later than 60 days from the date of notification to proceed with the project.

The plans and shop drawings shall be prepared on reproducible sheets 11-inch x 17 inch, including borders. Each sheet shall have a title block in the lower right corner. The title block shall include the project identification number and structure number. Design calculations and notes shall be on 8 ½ inch x 11-inch sheets, and shall contain the project identification number, name or designation of the wall, date of preparation, initials of designer and checker, and page number at the top of the page. All plans, shop drawings, and calculations shall be signed, sealed and dated by a professional engineer licensed in the State of Wisconsin.

The design of the Concrete Panel MSE wall shall be in compliance with the *AASHTO LRFD Bridge Design Specifications 9th Edition 2020*, (AASHTO LRFD) with latest interim specifications for Mechanically Stabilized Earth Walls, WisDOT's current *Standard Specifications for Highway and Structure Construction* (Standard Specifications), Chapter 14 of the WisDOT LRFD Bridge Manual and standard engineering design procedures as determined by the department. Loads, load combinations, load and resistance factors shall be as specified in AASHTO LRFD Section 11. The associated resistance factors shall be defined in accordance to Table 11.5.7-1 LRFD.

Design and construct the walls in accordance to the lines, grades, heights and dimensions shown on the plans, as herein specified, and as directed by the engineer. Where walls or wall sections intersect with an included angle of 130 degrees or less, a vertical corner element separate from the standard panel face shall abut and interact with the opposing standard panels. The corner element shall have ground reinforcement connected specifically to that panel and shall be designed to preclude lateral spread of the intersecting panels. If the wall is installed in front of a bridge abutment or wing, it shall also be designed to resist the applied abutment/bridge lateral forces specified on the contract plans.

Walls parallel to supporting highway traffic shall be designed for the effects of highway surcharge loading equivalent of 2 feet soil surcharge weight or 240 psf. The design shall also consider the traffic barrier impact where applicable. Walls that do not carry highway traffic shall be designed for a live load

surcharge of 100 psf in accordance to Chapter 14 of the WisDOT LRFD Bridge Manual or as stated on the plans.

Use LFCF as MSE backfill within the limits shown on the plans. The design of the wall and reinforced backfill zone behind this wall is to be based on an equivalent backfill area of assumed granular backfill with a maximum angle of internal friction of 40 degrees and a unit weight density equal to the unit weight density of the LFCF backfill. All design and geometric requirements specified by AASHTO and hereinafter for MSE walls with granular backfill, including minimum length of MSE reinforcement will apply to this wall backfilled with LFCF material in lieu of the granular backfill.

A maximum value of the angle of internal friction used for design for the wall granular backfill placed in the wall transition zones shall be assumed to be 30 degrees.

An external stability check at critical wall stations showing Capacity Demand Ratios (CDR) for sliding, eccentricity, and bearing checks is performed by the department and are provided on the wall plans.

The design of the Concrete Panel Mechanically Stabilized Earth wall by the contractor shall consider the internal and compound stability of the wall mass in accordance to AASHTO LRFD 11.10.6. The internal stability shall include soil reinforcement pullout, soil reinforcement rupture, and panel-reinforcement connection failure at each soil reinforcement level. The design shall be performed using the Simplified Method or Coherent Gravity Method. Calculations for factored stresses and resistances shall be based upon assumed conditions at the end of the design life. Compound stability shall be computed for the applicable strength limits.

Facing panels shall meet the design requirements of AASHTO LRFD 11.10.2.3. The Facing panels shall also be designed to resist fluid pressures due to LFCF placement and compaction stresses that occur during the wall erection. The minimum thickness of the Facing panel shall be 5.5 inches. The surface area of a standard single panel cannot exceed 60 square feet. The maximum height of a standard panel shall be 5 feet. The top and bottom panels may exceed 5 foot in height based on site topography subject to the approval by the Structures Design Section. The design of the steel reinforcement within the panels shall be based on one-way bending action. Design the wall panels and joints between panels to accommodate a maximum differential settlement of 1 foot over a 100-foot length, unless the plans indicate other.

The minimum length of soil reinforcement measured from the back face of the wall shall be equal to 0.7 times the wall height or as shown on the plan; whichever is greater. In no case shall this length be less than 8 feet. The soil reinforcement length shall be the same from the bottom to the top of the wall. The soil reinforcement shall extend a minimum of 3.0 feet beyond the theoretical failure plane in all cases. The maximum vertical spacing of soil reinforcement layers shall be 31 inches. The uppermost layer of the reinforcement shall be located between 6 inches and 18 inches below the bottom of an overlying slab, footing or top of the wall. The upper layers of the soil reinforcement shall also be checked to verify that they have sufficient tensile resistance against traffic barrier impact where applicable.

All soil reinforcement steel required for the reinforced soil zone shall be connected to the face panels. The reinforcement and the reinforcement/facing connection strength shall be designed to resist maximum factored reinforcement loads in accordance to AASHTO LRFD Section 11.10.6. Facing connection strength shall be defined as the resistance factor times the failure load, or the load at 0.5 inch deformation times 0.9, whichever is less. The nominal long term design strength in steel reinforcement and connections shall be based upon assumed conditions at the end of the design life.

Soil reinforcement shall be prefabricated into single or multiple elements before galvanizing. Soil reinforcement shall be fabricated or designed to avoid piling, drainage structures or other obstacles in the fill without field modifications. Cutting or altering of the basic structural section of either the strip or grid at the site is prohibited unless approved by the Structures Design Section. A minimum clearance of 3" shall be maintained between any obstruction and reinforcement unless otherwise approved by the Structures Design Section. Splicing steel reinforcement is not allowed, unless approved by the Structures Design Section.

MSE facing panels shall be installed on concrete leveling pads. The minimum cross section of the leveling pad shall be 6-inches deep by 1-foot wide. Potential depth of frost penetration at the wall location shall not be considered in designing the wall for depth of leveling pad.

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

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

B.3 Wall System Components

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

B.3.1 General

The walls shall have modular precast concrete face panels produced by a wet cast process and have cast-in-place concrete pads or footings. The concrete panels shall have a minimum strength of 4000 psi at 28 days. The concrete for the panels shall be air entrained, with an air content of 6% +/- 1.5%. All materials for the concrete mixture for the panels shall meet the requirements of standard spec 501. The panel edges shall be configured so as to conceal the joints. The detail shall be a shiplap, tongue and groove or other detail adequate to prevent vandalism or ultraviolet light damage to the backside of the wall joint covering. Joints between panels shall be no more than 0.75 inch. Use full wall height slip joints at points of differential settlement when detailed on the plan. Horizontal joints must be provided with a compressible bearing material to prevent concrete to concrete contact.

A minimum of two bearing pads shall be used per panel. The allowable bearing stress shall not exceed 900 psi. The bearing pads shall be preformed EPDM rubber conforming to ASTM D-2000, Grade 2, Type A, Class A with a minimum Durometer Hardness of 80, or high-density polyethylene pads with a minimum density of 0.034 lb/in³ in accordance to ASTM 1505.

An 18-inch-wide geotextile shall be used on the backface of the wall panels to cover all panel joints. The geotextile shall meet the physical requirements stated in standard spec 645.2.4 for Geotextile Fabric, Type DF, Schedule B, except that the grab tensile strength shall be a minimum of 180 pounds in both the machine and cross-machine directions. The geotextile shall be attached with a standard construction adhesive suitable for use on concrete surfaces and cold temperatures. The adhesive shall be applied to the panels, not to the geotextile.

All steel portions of the wall system exposed to earth or LFCF backfill shall be galvanized. All soil reinforcement and attachment devices shall be carefully inspected to ensure they are true size and free from defects that may impair the strength and durability.

For cast in place sections of cap and coping, use poured concrete masonry Grade A, A-FA, A-S, A-T, A-IS or A-IP concrete conforming to standard spec 501 as modified in standard spec 716. Provide QMP for cast in place cap and coping concrete as specified in standard spec 716, Class II Concrete.

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

The minimum embedment to the top of the leveling pad shall be 1 foot 6 inches or as given on the plan or given in AASHTO LRFD 11.10.2.2 whichever is greater. Step the leveling pad to follow the general slope of the ground line. The leveling pad's steps shall keep the bottom of the wall within one half the panel heights of the minimum embedment i.e. the minimum embedment plus up to one half the height of one panel. Additional embedment may be detailed by the contractor but will not be measured for payment.

B.3.2 Backfill

Furnish and place backfill for mechanically stabilized earth concrete panel walls as shown on the plans and as hereinafter provided.

B.3.2.1 LFCF Backfill

Furnish LFCF backfill for mechanically stabilized earth concrete panel walls LFCF as shown on the plans and as hereinafter provided. Provide LFCF material meeting the requirements specified in SPV Article Lightweight Foamed Concrete Fill Grade 1 and Lightweight Foamed Concrete Fill Grade 2 included in the contract.

C Construction

C.1 Excavation and Backfill

Excavation will encompass preparing the leveling pad foundation and the area below the reinforcing strips in accordance to standard spec 206. The volume of excavation covered is limited to the width of the reinforced mass and to the depth of the leveling pad unless shown or noted otherwise on the plan. At the end of each working day, provide good temporary drainage such that the backfill shall not become contaminated with run-off soil or water if it should rain. Do not stockpile or store materials or large equipment within 10 feet of the back of the wall.

C.2 Backfill

C.2.1 LFCF Backfill

Submit an LFCF placement plan, trial batch test results, and quality assurance samples per C.1 of the SPV Article Lightweight Foamed Concrete Fill Grade 1 and Lightweight Foamed Concrete Fill Grade 2 included in the contract. Place LFCF backfill in accordance to the requirement specified in SPV Article Lightweight Foamed Concrete Fill Grade 1 and Lightweight Foamed Concrete Fill Grade 2 included in the contract.

C.2.2 MSE Reinforcement

Bending of MSE reinforcement that result in a kink in the reinforcement shall not be allowed. If skewing of the reinforcement is required due to obstructions in the reinforced fill, the maximum skew angle shall not exceed 15 degrees from the normal position unless a greater angle is shown on the plans. The adequacy of the skewed reinforcement in such a case shall be addressed by supporting calculations.

For embedment in LFCF backfill, place MSE reinforcement that will become embedded in the next lift of LFCF prior to placing the LFCF lift. Provide temporary supports to hold the MSE reinforcement a minimum of 4" above the previously placed LFCF backfill so that the MSE reinforcement becomes fully encapsulated in the subsequent LFCF lift placement. Provide adequate supports to hold the MSE reinforcement in an approximate horizontal position with no kinks, sharp bends or abrupt changes in direction in the reinforcement. Do not lay the MSE reinforcement directly on the top of the prior LFCF placement or otherwise locate the MSE reinforcement along cold joints between LFCF placements.

For embedment of MSE reinforcements in granular backfill, place and compact the MSE backfill to the level of the next higher layer of MSE reinforcement before placing the MSE reinforcement or connecting it to the wall facing. The MSE reinforcement shall lay horizontally on the top of the most recently placed and compacted layer of MSE backfill.

C.3 Panel Tolerances

As backfill material is placed behind a panel, maintain the panel in its proper inclined position according to the supplier specifications and as approved by the engineer. The supplier shall specify the back batter so that the final position of the wall is vertical. Vertical tolerances and horizontal alignment tolerances shall not exceed $\frac{3}{4}$ -inch when measured along a 10-foot straight edge. The maximum allowable offset in any panel joint shall be $\frac{3}{4}$ -inch. The overall vertical tolerance of the wall (plumbness from top to bottom) shall not exceed $\frac{1}{2}$ -inch per 10 feet of wall height. Erect the precast face panels to ensure that they are located within 1 inch from the contract plan offset at any location to ensure proper wall location at the top of the wall. Provide a $\frac{3}{4}$ -inch joint separation between all adjacent face panels to prevent direct concrete-to-concrete contact. Maintain this gap by the use of bearing pads and/or alignment pins. Failure to meet this tolerance shall cause the engineer to require the contractor to disassemble and re-erect the affected portions of the wall. In addition, imperfect molding, honeycombing, cracking or severe chipping of panels shall be cause of panel rejection.

C.4 Quality Management Program

C.4.1 Quality Control Plan

Submit a comprehensive written quality control plan to the engineer at or before the pre-construction meeting. Do not perform MSE wall construction work before the engineer reviews and accepts the plan. Construct the project as the plan provides.

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

1. An organizational chart with names, telephone numbers, current certifications and/or titles, and roles and responsibilities of QC personnel.

2. The process used to disseminate QC information and corrective action efforts to the appropriate persons. Include a list of recipients, the communication process that will be used, and action time frames.
3. A list of source locations, section and quarter descriptions, for all aggregate materials requiring QC testing.
4. Descriptions of stockpiling and hauling methods.
5. An outline for resolving a process control problem. Include responsible personnel, required documentation, and appropriate communication steps.
6. Location of the QC laboratory retained sample storage, and other documentation.
7. A summary of the locations and calculated quantities to be tested under this provision.

C.4.2 Quality Control Personnel

Perform the quality control sampling, testing, and documentation required under this provision using HTCP certified technicians. Have a HTCP Level I Grading Technician, Level I Aggregate Technician, or Assistant Certified Aggregate Technician (ACT) present at each grading site during all wall backfill placement, compaction, and nuclear testing activities. Have a HTCP Level I Nuclear Density Technician or Assistant Certified Nuclear Density Technician (ACT) perform field density and field moisture content testing.

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

C.4.3 Equipment

Furnish the necessary equipment and supplies for performing quality control testing. Ensure that all testing equipment conforms to the equipment specifications applicable to the required testing methods. The engineer may inspect the measuring and testing devices to confirm both calibration and condition. Calibrate all testing equipment according to the CMM and maintain a calibration record at the laboratory.

Furnish nuclear gauges from the department's approved product list at <http://www.atwoodsystems.com/materials>. Ensure that the gauge manufacturer or an approved calibration service calibrates the gauge the same calendar year it is used on the project. Retain a copy of the calibration certificate with the gauge.

Conform to ASTM D 6938 and CMM 8.15 for density testing and gauge monitoring methods. Perform nuclear gauge measurements using gamma radiation in the backscatter or direct transmission position. Perform each test for 4 minutes of nuclear gauge count time.

Split each Proctor sample and identify so as to provide comparison with the department's test results. Unless the engineer directs otherwise, retain the QC split samples for 14 calendar days and promptly deliver the department's split samples to the department.

C.4.4 Quality Control (QC) Testing

C4.4.1 LFCF Backfill

C.4.4.1.1 Cast Density of Field Installed LFCF

Test cast density in accordance to ASTM C 796

Prior to placement of the initial batch, the installer shall check the density and adjust the mix as required to obtain the manufacturer's specified cast density at point of placement.

At hourly intervals during placement, monitor the density and adjust as necessary to maintain the specified cast density.

C.4.4.1.2 Strength Testing

Conduct strength testing in accordance to ASTM C 796 except do not oven dry the test specimens.

Furnish a sufficient quantity of molded and cured cylinders measuring 3-inches in diameter by 6-inches high for required strength tests. Provide molds, and a similar curing environment of the LFCF being tested. Prepare cylinders in accordance to ASTM C1064.

Provide certified strength test results to the engineer for acceptance. At a minimum, conduct a set of three strength tests at 1, 2, and 28 day intervals for each 500 cubic yards of LFCF placed and a minimum of two sets of four cylinders each per day.

3. Perform the compressive strength testing at a department qualified laboratory meeting the requirements of C.5 in SPV Article Lightweight Foamed Concrete Fill Grade 1 and Lightweight Foamed Concrete Fill Grade 2 included in the contract.

C.4.5 Department Testing

C.4.5.1 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.4.5.2 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.4.2 for contractor testing personnel for each test result being verified. The department will notify the contractor before sampling so the contractor can observe QV sampling.

The department will conduct QV tests at the minimum frequency of 30% of the required contractor cast density, compressive strength, density, Proctor and gradation tests.

The department will obtain LFCF material for cast density and compressive strength tests at random intervals independent of the contractor's QC work. For granular backfill the department will locate density tests and gradation samples randomly, at locations independent of the contractor's QC work. The department will split each Proctor and gradation QV sample, testing half for QV, and retaining the remaining half for 10 business days.

The department will conduct cast density, compressive strength, QV Proctor and gradation tests in a separate laboratory and with separate equipment from the contractor's QC tests. The department will use the same methods specified for QC testing.

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 cast density, compressive strength or gradation test results are nonconforming, standard spec 106.5 will apply. Differing QC and QV nuclear density values of more than 1.5 pcf will be investigated and resolved. QV density tests will be based on the appropriate QC Proctor test results, unless the QV and QC Proctor result difference is greater than 3.0 pcf. Differing QC and QV Proctor values of more than 3.0 pcf will be investigated and resolved. Differing QC and QV cast density and compressive strength test values of more than 4% will be investigated and resolved.

C.4.5.3 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.4.5.4.

C.4.5.4 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.

C.5 Dampproofing

Apply dampproofing conforming to standard spec 516 to the final horizontal and vertical surfaces of the LFCF material at locations designated on the plans.

C.6 Geotechnical Information

Geotechnical data to be used in the design of the wall is given on the wall plan. After completing wall excavation of the entire reinforced soil zone, notify the department and allow the Regional Geotechnical Engineer two working days to review the foundation.

D Measurement

The department will not measure Wall Concrete Panel Mechanically Stabilized Earth LFCF. The department will use the theoretical pay limits that plans show. No measurement of quantities shall be made in the field. Unless the engineer directs in writing, a change to the limits indicated on the contract plan, wall area constructed above or below these limits will not be measured for payment.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0165.0142	Wall Concrete Panel Mechanically Stabilized Earth LFCF R-44-42	SF
SPV.0165.0145	Wall Concrete Panel Mechanically Stabilized Earth LFCF R-44-45	SF
SPV.0165.0147	Wall Concrete Panel Mechanically Stabilized Earth LFCF R-44-47	SF

Payment is full compensation for supplying a design and shop drawings; preparing the site, including all necessary excavation and disposal of non-contaminated materials; supplying all necessary wall components to produce a functional system including cap and copings; constructing the retaining system including drainage system; providing and placing LFCF and granular backfill, compacting, developing/completing/documenting the quality management program, performing cast density, compressive strength and 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.

Dampproofing will be measured and paid for separately in accordance to standard spec 516.

11.20 Methacrylate Flood Seal, Item SPV.0180.0127.

A Description

This special provision describes surface preparation of bridge deck, furnishing and applying a protective methacrylate sealer and broadcast sand, and any incidentals necessary to complete the project as specified or as shown in plans or as authorized by the Engineer.

B Materials

The bridge deck sealer shall consist of a methacrylate sealant, sand to prefill cracks, and broadcast sand.

B.1 Methacrylate Sealant

The following methacrylate sealants are acceptable for use provided that the requirements of these specification are met:

Product	Manufacturer
MasterSeal 630 (formerly Degadeck Crack Sealer Plus)	BASF
T-78	Transpo Industries
KBP 204 P SEAL	Kwik Bond Polymers

or an approved equal

B.2 Fine Grade Sand

Provide fine grade sand for prefilling large cracks unable to be prefilled with sealant alone. Fine grade sand shall pass the No. 20 sieve and be retained on the No. 40 sieve.

Submit sand material data to the Engineer for review and address all written comments. Submit storage and use plan to the Engineer documenting procedures for maintaining dry sand and within gradation requirements above.

B.3 Broadcast Sand

Provide a commercial quality dry blast sand with an average absorption of no more than 1%. 95% of the sand shall pass the No. 8 sieve and at least 95% shall be retained on the No. 20 sieve.

C Construction

C.1 General

C.1.1 Pre-Installation Conference

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 with a copy of the recommended procedures and the manufacturer's instructions.

C.1.2 Contractor Personnel Requirements

Experienced personnel are required to be actively present during the seal application.

A technical representative from the sealer manufacturer must be present during first application. The need for manufacturer's representative may be waived if the contractor provides evidence and reference contacts for work involving at least 5 bridges treated with the same products and within the last two years. Contractor experience record in no way relieves the contractor from applying in accordance with this specification and as recommended by the manufacturer.

C.1.3 Material Storage and Safety Plan

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.

Safety Plan: Prior to arrival of the product on the job site, provide a product shipping, storage, and use safety plan to detail how the product will be delivered and stored on site in a manner that will not allow the constituent components to come in contact with each other in the event of a spill or container leakage. This plan must also include a description of the safety training workers applying the product have received regarding the product's use, and list any and all safety precautions which must be taken during application of the product.

C.2 Surface Preparation

C.2.1 General

Prepare the entire deck (or portion of the deck to be overlaid in one placement when staged construction is being employed) to ensure the concrete surface is dry, thoroughly clean, and free from dust or other loose material. Prepare concrete surfaces in accordance with these specifications dependent on whether the surfaces are of recently cast concrete (new construction) or of existing concrete.

Do not remove or damage striping or traffic markings in sound condition.

Do not perform surface preparation more than 24 hours prior to the application of the methacrylate sealer. The prepared surface shall not be exposed to vehicular or pedestrian traffic other than that required for sealer placement and approved by the Engineer. If the prepared surface is reopened to traffic prior to sealer placement, the surface shall be re-inspected for any contaminants and subsequently remove contaminants by use of abrasive blasting or shotblasting at no additional cost to the department.

The engineer may consider alternate surface preparation methods per the methacrylate sealer manufacturer's recommendations. The engineer must approve the final surface preparation and deck cleanliness prior to the contractor placing the methacrylate sealer. Prior to methacrylate sealer placement, cure concrete for a minimum of 21 days.

C.2.2 Surface Preparation for New Construction:

Remove substances such as dirt, oil, curing compound, paint, grease, slurry, laitance, and other foreign or potentially detrimental materials by water blasting, light sandblasting, wire brushing, or other methods acceptable to the Engineer, all in accordance with the penetrant sealer manufacturer's recommendations. Determine an acceptable method that removes substances without damaging the underlying substrate. Concrete removals shall not exceed 1/16 inch in depth.

C.2.3 Surface Preparation for Existing Concrete:

Remove substances such as dirt, oil, asphalt, rubber, paint, carbonation, grease, slurry, membranes, rust, weak surface mortar, laitance, and other foreign or potentially detrimental materials by abrasive blasting. Determine an acceptable shotblasting machine operation (size of shot, flow of shot, forward speed, and/or number of passes) that provides a surface profile meeting CSP 3 (light shotblast) according to the ICRI Technical Guideline No. 310.2. If the engineer requires additional verification of the surface preparation, test the tensile bond strength according to ASTM C1593. 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 1/4 inches or more is greater than 50 percent 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.

C.2.4 Concrete Surface Cleaning Operation:

Just prior to methacrylate sealer 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 2-in above the surface with compressed air. Use a direct 125 psi air blast, from a compressor unit with a minimum pressure of 365 ft³ / min., over the entire surface to remove all dust and debris paying special attention to carefully clean all deck cracks. Use a suitable oil trap between the air supply and nozzle. Use ASTM D4285 "Standard Test Method for Indicating Oil or Water in Compressed Air" to ensure the compressed air is oil and moisture free. The air stream must be free of oil and moisture. Any grease, oil, or other foreign matter that rests on or has absorbed into the concrete shall be removed completely.

Perform a visual inspection of the surface that is to receive the methacrylate sealer. Locate and mark all cracks greater than 0.024 inch. Unless directed otherwise on the plans, prefill all cracks greater than 0.024 inch with the same methacrylate sealer or a pre-promoted version of the sealer prior to the methacrylate sealer. Where sealant soaks-in/withdraws from top of crack, place fine grade sand in crack and reapply methacrylate sealant to seal to top of crack. When sealant has not retreated after gel time, the crack is considered prefilled. Do not fill crack with sand beyond top of concrete surface.

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

Provide shielding as necessary to prevent dust or debris from striking vehicular traffic.

Air dry a wet deck for a minimum of forty-eight (48) hours before applying the sealer. Dry time may be reduced to 24 hours if an approved ASTM D4263 moisture test reveals the concrete is dry. Do not apply sealer materials during wet weather conditions or if adverse weather conditions are anticipated within twelve (12) hours of the completion of sealer application. Do not mix or apply any of these products at temperatures lower or higher than those specified in their product literature. Apply the sealant at the coolest time of the day within these limitations. Application by spray methods will not be permitted during windy conditions, if the Engineer predicts unsatisfactory results.

The Engineer shall approve the prepared surface prior to applying the methacrylate sealer.

C.3 Application of the Sealer

Apply the sealer conforming to the manufacturer's instructions.

Apply an approved methacrylate to bridge deck or on surfaces as directed by the Engineer. At least 30 calendar days before the start of the work, provide the Engineer with the sealer Manufacturer's written instructions for application and use.

Do not thin or alter the methacrylate sealer unless specifically required in the Manufacturer's instructions.

Mix the sealer before and during its use as recommended by the Manufacturer. Distribute the sealant as a flood coat in a gravity-fed process by broom, roller, or with a spray bar near the surface so the spray pattern and coverage rates are reasonably uniform to the satisfaction of the Engineer. Apply the sealant at a minimum rate of 90 square feet/gallon.

Protect all expansion joints and prevent the crack sealant from contacting the strip seal glands. Protect all striping and traffic markings from marring, sealant application and reduction in reflective properties. Replace any striping and traffic markings that are marred by sealant.

Prior to completion of gel time of the flood seal and before broadcasting sand, broom uncured sealant in the direction of tining or deck grooves to promote maintenance of the deck texture for traction.

Broadcast sand to refusal into uncured resin to create traction and absorb sealant that is not penetrating into cracks. Broadcast approved sand into the wet, uncured resin no sooner than 10 minutes after applying resin but within gel time of product, unless directed otherwise by the Manufacturer. Apply approved sand at a minimum rate of 250 lbs. per 1000 square feet.

Allow the sealant to dry according to the Manufacturer's instructions. Do not allow vehicular traffic onto the treated areas until the sealer has dried and the treated surfaces provide safe skid resistance and traction. Remove non-adhered sand from bridge deck and joints by power sweeping the deck and vacuuming the joints. Traffic or equipment will be allowed on the sealed deck after the Engineer has determined:

1. The treated deck surface is tack-free and non-oily;
2. The sand cover adheres and resists brushing by hand;
3. Excess sand and absorbent material has been removed; and
4. No sealant material will be tracked beyond limits of treatment by traffic

D Measurement

The department will measure Methacrylate Flood Seal bid item in area by the square yard acceptably completed.

Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0180.0127	Methacrylate Flood Seal	SY

Payment for Methacrylate Flood Seal is full compensation for furnishing and applying the sealer to the bridge decks, as described above, including surface preparation, and all incidentals thereto. Cleanup of excess sand in joints and on bridge deck will not be paid for separately. Restoration of damaged or marred striping will be considered incidental to application requirements of Methacrylate Flood Seal. (20241028)

12. Drainage and Erosion Control.

12.1 Erosion Control.

Add to 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.

Re-topsoil finished graded areas within 24 hours, or as designated by the engineer. Seed, fertilize, and mulch or erosion mat all topsoiled areas within five working days after placement of topsoil.

At a minimum or as the engineer directs, for every 10 feet of fill placed or cut created, measured vertically, the contractor shall finish grade to the lines and sections the plans show and place permanent erosion control items including out to the slope intercepts. Permanent erosion control includes, but is not limited to, topsoil, mulch, matting, rip rap, and seeding. Do not construct the subsequent 10-foot fill or cut section until the previous 10-foot fill or cut section is restored.

Stockpile excess materials or spoils in upland areas away from wetlands, floodplains, waterways and other environmentally sensitive areas as approved by the engineer. Include stockpile locations as part of the ECIP submittal. Shape stockpiles and use directional tracking or other approved alternatives to minimize erosion during spring melt and runoff if stockpiles that will remain over the winter months. Immediately install silt fence protection around stockpiles. Install temporary seed within 7 calendar days on stockpiles.

12.2 Erosion Control Structures.

Within three calendar days after completing the excavation for a substructure unit, place riprap or other permanent erosion control items required by the contract or deemed necessary by the engineer around the unit at a minimum 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 the engineer directs.

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.

stp-107-070 (20191121)

12.3 Storm Sewer.

Supplement standard spec 608.2 with the following:

Two weeks prior to start of storm sewer construction, provide a shoring design and installation sequence for each location where shoring is to be used. Have a professional engineer, currently registered in the State of Wisconsin and knowledgeable of the specific site conditions and requirements, verify the adequacy of the design. Submit one electronic copy in portable document format 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.

Supplement standard spec 608.3.1.1 with the following:

- (10) Incorporate excavated material in the work to the extent practicable. Use materials with suitable engineering properties for embankment.
- (11) Dispose of surplus or unsuitable material as specified in standard spec 205.3.12.

Replace standard spec 608.5.2 with the following:

Payment for the Storm Sewer Pipe bid items is full compensation for providing all materials, including all special Y's, mitered sections, elbows and connections required; for all submittals; for excavating and wasting excess material, except rock excavation; for providing rubber gaskets and lubrication of rubber gaskets; mastic joint; for supporting utilities in storm sewer trench; for shoring design, providing a signed and sealed copy of the design; for installation, monitoring, and removal of shoring; for forming foundation; for laying pipe; for sealing joint seals, wraps and couplers; for concrete collars not required under 520.3.1(5) or 608.3.3(10); making connections to new or existing features, bedding material; for backfilling and granular backfill material; for QMP sampling, testing and documentation; for cleaning out; and absent the pertinent contract bid items, for restoring the work site.

ner41-608 (20240917)

12.4 Catch Basins, Manholes, and Inlets.

Add the following to standard spec 611.3.1:

Use a Grade "A" concrete for final adjustment of manhole cover. Provide a butyl rubber gasket or butyl rubber rope for joints of precast reinforced concrete manhole sections. Butyl Rubber gasket joint used for manholes conforms to 8.41.6 of the Standard Specification for Sewer and Water Construction in Wisconsin, latest Edition. Provide non-rocking covers for all drainage structures subject to traffic loading.

Prior to ordering drainage pipes and structures, verify related drainage information in the plan. Submit shop drawings for all drainage structures. For structures where WisDOT standard detail drawings are not

available, provide shop drawings prepared, verified and stamped by a professional engineer currently registered in the State of Wisconsin. Submit one electronic copy of shop drawings in portable document format for engineer's review two weeks before fabrication. Show clearly on shop drawings information for all pipe connections to the structure. The contractor is responsible for all errors of detailing and fabrication. The omission from the shop drawings of any pipe connection shall not relieve contractor of the responsibility of providing such materials, even though the shop drawings may have been reviewed and accepted by the engineer.

Add the following to standard spec 611.3.3:

Use monolithic concrete shimming as the plan shows for final adjustment of drainage structures located within the concrete pavement, concrete shoulders, concrete curb and gutter and concrete barrier wall.

Supplement standard spec 611.3.7 with the following:

Construct height adjustments of 4-inches or more with concrete grade rings. Never use grade rings less than 2-inches thick.

Replace standard spec 611.5.2 (1) with the following:

Payment for Catch Basins, Manholes, and Inlets bid items is full compensation for providing all submittals; materials, including all masonry, and concrete bricks, for Grade "A" concrete adjustments and monolithic concrete shimming; adjusting rings; conduit and sewer connections, steps, and other fittings; for providing and installing butyl rubber joints; for furnishing backfill, backfilling; all excavating, disposing of surplus material, and for cleaning out and restoring the work site; except that the department will pay for covers, including frames, grates and lids separately.

Cost of non-rocking covers for all drainage structures subject to traffic loading is incidental to new cover on proposed structure or reconstructing/adjusting manholes or inlets on existing structure.

ner41-611 (20240917)

12.5 Cover Plates Temporary, Item 611.8120.S.

A Description

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

B Materials

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

C (Vacant)

D Measurement

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

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
611.8120.S	Cover Plates Temporary	EACH

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

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

stp-611-006 (20151210)

12.6 Temporary Ditch Checks.

Complete work in accordance to section 628 of the standards spec and as herein provided. Erosion bales will not be allowed for construction of temporary ditch checks.

Delete subsection 628.3.14(2) of the standard spec and replace it with the following:

- (2) Construct temporary ditch checks per guidance provided in the Wisconsin Erosion Control Product Acceptability List ([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 subsection 628.4.17 of the standard specifications and replace it with the following:

- (1) The department will measure Temporary Ditch Checks by the linear foot, acceptably completed.
ner41-628 (20240917)

12.7 Inlet Covers Type VV-B.

Supplement 611.3.6.2 of the standard spec with the following:

- (2) Place a manufacturer recommended anti-seize compound on the bolt threads prior to installing.
- (3) Remove bolts as directed by the engineer.

Supplement 611.5.4 of the standard spec with the following:

- (2) Payment for Inlet Covers VV-B also includes full compensation for providing required materials, including bolts; for installing the bolts; and for removing and disposing of the bolts when no longer required.

12.8 Pond Clay Liner, Item 640.1303.S.

A Description

This special provision describes furnishing and installing clay liner in areas shown on the plans.

B Materials

For each source, prior to excavating and hauling the clay liner to the project, submit the results of the laboratory source screening tests described in Table 1. Laboratory test results of the clay must meet or exceed the requirements before placing material.

Submit source screening test results to the engineer for review two weeks prior to clay placement.

C Construction

C.1 Clay Liner

C.1.1 Dewatering

Maintain groundwater table at least 2 feet below the bottom of the liner during pond excavation and liner construction. Maintain groundwater below the pond to an elevation necessary to prevent the liner from heaving or being compromised until the water level within the pond is filled to the design normal water level.

Provide adequate methods for lowering the groundwater by means of pumping from wells, wellpoint systems, cutoffs, or any other measures necessary for the site conditions. Conduct site evaluation as necessary for dewatering system design. Design the system to prevent damage to existing structures or utilities that could be affected by lowering groundwater.

Submit a dewatering plan for review by the department at least four weeks prior to the start of pond excavation that describes: the method for dewatering the excavation; disposing of the water; removing the system; and a list of the equipment to be used, including standby equipment for emergency use. The plan shall provide for testing the adequacy of the system prior to the start of excavation and for monitoring dewatering system performance by installing piezometers or groundwater monitoring wells.

C.1.2 Subgrade

Compact the subgrade to the minimum density using standard spec 207.3.6.2 Standard Compaction, or as otherwise specified in the contract requirements.

Excavation below the planned liner subgrade to facilitate contractor operations or correct problems within the contractor's control is not compensable. Any excavation below the planned clay liner shall be prepared and backfilled according to 207.3.6.2.

C.1.3 Erosion Protection

Do not place the clay liner until after all adjacent site grading has been completed and only after silt fence has been installed completely around the area of clay liner placement.

C.1.4 Clay Placement

After the fine grading is complete, place and compact clay liner in compacted 6-inch lifts. Place each lift of clay liner in one continuous lift. See plans for clay liner construction limits. Measure the thickness of the clay as shown in the plans, perpendicular to the surface.

Notify the engineer at least three days before starting construction of clay liner.

Table 1

Reference	Number	Test Title	Requirements	Testing Frequency	
				Source Screening	Project Testing
MOTP ¹	WTM T99	Moisture –Density Relationships of Soils Using a 2.5-kg (5.5 lb) Rammer a 305 mm (12-in.) Drop (Standard Proctor)	NA	1/source	NA
AASHTO ²	T-11 Method B	Test for Materials Finer than 75- μ m (No. 200)	$P_{200}^4 \geq 50\%$	2/source	1/lift
MOTP	WTM T89	Determining the Liquid Limit of Soils	$LL^5 \geq 22\%$	2/source	1/lift
AASHTO	T-90	Determining the Plastic Limit and Plasticity Index of Soils	$PI^6 \geq 12\%$	2/source	1/lift
MOTP	WTM T310	In-Place Density and Moisture Content of Soils and Soil-Aggregates by nuclear Methods (Shallow Depth)	$DD^7 \geq 95\%$ of the MDD ⁸	NA	100'x100' Grid/lift
ASTM ³	D5084	Standard Test Methods for Measurement of Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter	$K^9 \leq 1 \times 10^{-7}$ cm/sec	1/source ¹⁰	1/site ¹¹

Notes:

1. MOTP = Wisconsin Manual of Test Procedures
2. AASHTO = American Association of State Highway and Transportation Officials
3. ASTM = American Society of Testing and Materials
4. P200 = Percent by weight passing the #200 sieve (%)
5. LL = Liquid Limit (%)
6. PI = Plasticity Index (%)
7. DD = Dry Density (pcf)
8. MDD = Maximum Dry Density (pcf) as determined by the Standard Proctor Test
9. K = Hydraulic Conductivity (cm/sec)
10. The sample for the test shall be remolded at a minimum dry density of 95% of the maximum dry density as determined by the Standard Proctor test and at a moisture content required to achieve the required hydraulic conductivity, but with a minimum moisture content at or above the optimum moisture content as determined in the Standard Proctor test.
11. An undisturbed sample from a thinned walled sampler (Shelby tube)

Compact the clay liner to a minimum of 95% Standard Proctor WTM T99 Maximum Dry Density with footed compaction equipment having feet at least as long as the loose lift height. As needed, clay shall be disked or otherwise mechanically processed before compaction to break up clods and allow moisture content adjustment. Clod size shall be no greater than 4 inches. All compaction equipment utilized shall have a minimum static weight of 30,000 pounds.

Provide all equipment necessary to adjust clay liner to the proper moisture content for compaction.

Make sufficient passes of the compaction equipment over each lift of clay to ensure complete remolding of the clay.

Do not proceed with placement of additional lifts until all required clay liner testing and documentation has been completed and submitted to the engineer for the previous lift. Submit test results for the final lift within 5 business days of completing the lift.

The minimum moisture content during clay liner placement shall be as defined by the testing performed in the source screening evaluation and shall not be drier than the optimum moisture content as determined by the Standard Proctor test.

If the in-place clay liner fails to meet the requirements of Table 1, then remove and replace or rework any portion of the clay liner not meeting the project requirements until project specifications are met. There shall be no compensation for removing, replacing and reworking clay not meeting the requirements in Table 1.

C.1.5 Project Testing and Acceptance

Perform all project testing at the frequency shown in Table 1. Project testing of in-place compacted liner material according to ASTM D5084 Standard Test Methods for Measurement of Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter will be done by the department. Record clay liner thickness on a 100 foot x 100 foot grid pattern.

Provide the following:

- Access for on-site testing, inspection, and documentation.
- Machinery required to grade/blade density test locations.
- Machinery required to collect undisturbed clay samples (i.e., with Shelby tubes).
- Replace and recompact clay material removed for testing purposes.

Perform sampling, testing, and documentation for project testing in Table 1, required under this provision using HTCP certified technicians according to Table 701-1 of the Standard Specifications. Have a HTCP Grading Technician I (GRADINGTEC-I); or Assistant Certified Technician, Grading (ACT-GRADING) present at each grading site during all clay liner placement, compaction, and sampling/testing activities. Have a HTCP Nuclear Density Technician I (NUCDENSITYTEC-I) or Assistant Certified Technician, Nuclear Density Gauge Operator (ACT-NUC) 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.

Perform all project testing with a department approved laboratory.

C.1.6 Department Testing

The department will perform the project testing for ASTM D5084 Standard Test Methods for Measurement of Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter.

D Measurement

The department will measure Pond Liner Clay in volume by the cubic 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
640.1303.S	Pond Liner Clay	CY

Payment is full compensation for designing, obtaining permits, providing, installing, operating, monitoring, and removing the dewatering system for areas of site where the clay liner is to be placed; for furnishing, placing and compacting the clay liner; and for performing all tests and providing test result submittals.

stp-640-016 (20210113)

12.9 Storm Sewer Plug, Item SPV.0060.0210.

A Description

Install a Storm Sewer Plug at locations specified in the plans

B Materials

Provide a precast reinforced concrete plug or an engineer approved alternative, conforming to the inside diameter of the corresponding pipe as shown on the plan.

All materials, if concrete, must conform to section 501 and section 611 of the standard specifications.

C Construction

Place a watertight plug in the end of the storm sewer pipe in a manner that seals the pipe but allows for future removal of plug without damaging the storm sewer pipe.

D Measurement

The department will measure Storm Sewer Plug 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.0060.0210	Storm Sewer Plug	EACH

Payment is full compensation for furnishing and installing all required materials; and removal in subsequent stage.

ner41-611 (20240917)

12.10 Reconnect Storm Sewer, Item SPV.0060.0215.

A Description

This special provision describes connecting proposed storm sewer pipe/structures to existing storm sewer pipe/structures or proposed pipe/structures.

B Materials

Furnish concrete for concrete collar conforming to standard spec 520.2.4.

Furnish storm sewer pipe in accordance to Section 608.2

C Construction

Remove existing concrete collars, pipe seals or end walls constructed under previous projects or in earlier stages of this project as necessary to reconnect storm sewer. Ensure that positive drainage is achieved when connecting proposed pipe to existing structures or storm sewer. Salvage any structurally sound pipe that requires removal if prior approval is granted by the engineer. Make all necessary connections using the appropriate coupling, concrete collar, or by means approved by the engineer.

D Measurement

The department will measure Reconnect Storm Sewer as each location as specified in the plans, 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.0060.0215	Reconnect Storm Sewer	EACH

Payment is full compensation for performing all work; removing seals, end walls and concrete collars; providing all materials; coring or sawing; and couplings, concrete collars. Any additional pipe or materials required to reconnect the storm sewer shall be considered incidental to this bid item.

ner41-608 (20240917)

12.11 Pond A Outlet Storm Sewer Structure, Item SPV.0060.0220; Pond BC Outlet Storm Sewer Structure, Item SPV.0060.0225.

A Description

This special provision describes furnishing and installing pond outlet Storm Sewer Structure according to the pertinent provisions of standard spec 611, as shown on the plans and as hereinafter provided. Furnish and install trash racks on the outlet Storm Sewer Structure. Furnish and install trash racks according to the pertinent provisions of standard spec 506 and 513, as shown on the plans and as hereinafter provided. Provide orifice holes and anti-seep collar as shown on the plan.

B Materials

Furnish manhole materials according to standard spec 611.

Furnish steel conforming to the requirements of standard spec 506.2.2.1. Furnish steel galvanized according to ASTM A123 and ASTM 1153 as applicable.

Trash racks shall be fabricated from structural steel shapes, flat bar and plates and shall be galvanized after fabrication. Shop drawings for the trash racks shall be submitted to the engineer for approval prior to fabricating the trash racks.

Furnish bolts, nuts and washers for the installation of the trash racks onto the Outlet Storm Sewer Structures. Bolts, nuts and washers according to standard spec 513.2.2.5.

C (Vacant)

D Measurement

The department will measure Pond Outlet (Pond A and Pond BC) Storm Sewer Structure 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.0060.0220	Pond A Outlet Storm Sewer Structure	EACH
SPV.0060.0225	Pond BC Outlet Storm Sewer Structure	EACH

Payment is full compensation for providing and placing all materials, including all masonry, steel and pipe connections, and other fittings; furnishing and installing trash racks; for providing orifice holes and anti-seep collars; for furnishing all excavating, backfilling, disposing of surplus material, and for cleaning out and restoring the work site.

12.12 Inlet Covers Type Y, Item SPV.0060.0230.

A Description

This special provision describes providing and installing Inlet Covers Type Y as shown on the plans. Conform to standard spec 611.

B (Vacant)

C (Vacant)

D Measurement

The department will measure Inlet Covers Type Y 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.0060.0230	Inlet Covers Type Y	EACH

Payment is full compensation for providing new covers, including frames, grates or lids, and other required materials and for installing and adjusting each cover.

12.13 Fastening Sewer Access Covers, Item SPV.0060.0205.

A Description

This special provision describes sealing and bolting sewer access covers.

B Materials

Furnish preformed butyl rubber-based sealant conforming to ASTM C990 Section 6.2. Size the preformed joint sealant to fill the joint to 50% of its annular volume when assembled. If provision of bolts is not included in the standard specifications or construction details associated with the casting, furnish bolts which meet casting manufacturer specifications for permanent fastening of lid.

C Construction

Open the sewer access cover, inspect the frame and grate, and remove material that will interfere with the sealant application from the cover and casting. Apply sealant in a continuous ring around the frame without stretching. Knead the ends together with no overlap.

Bolt the lid to the frame in accordance with the standard specifications and construction details associated with the casting. If the standard specifications and construction details do not include bolting instructions, bolt the lid to the frame in accordance with the manufacturer specifications or as instructed by the engineer.

Monitor performance during the project and maintain as needed for the duration of the project. After completion of the project, perform final maintenance of sealant and bolt the lid to the frame according to the instructions above.

D Measurement

The department will measure Fastening Sewer Access Covers as each individual cover 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.0060.0205	Fastening Sewer Access Covers	EACH

Payment is full compensation for furnishing and installing all required materials.

ner41-611 (20240917)

12.14 Sealing Storm Structure, Item SPV.0060.0240.

A Description

This special provision describes constructing a wall to fill and seal the void created in an existing storm sewer structure from removing an existing storm sewer pipe. The wall can be constructed of concrete, brick masonry, concrete brick, or block masonry.

B Materials

Furnish concrete conforming to standard spec 501. Furnish brick masonry, concrete brick, block masonry, or mortar conforming to standard spec 519.

C Construction

Construct concrete as specified in standard spec 501. Construct brick masonry, concrete brick, or block masonry as specified in standard spec 519.

Place concrete to conform to the inside diameter of the existing storm sewer structure in a manner that fills and seals to make watertight the void created from the removed pipe.

D Measurement

The department will measure Sealing Storm Structure as each individual sealed storm structure 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.0060.0240	Sealing Storm Structure	EACH

Payment is full compensation for providing all materials, including concrete; for furnishing, placing, finishing, protecting, and curing concrete blocks; for sawing as necessary; and for disposing of surplus material, and all incidentals necessary to complete the work.

ner41-501 (20240917)

12.15 Street Sweeping, Item SPV.0075.0100.

A. Description

This special provision describes removing small dirt and dust particles from the roadway using a street sweeper periodically during the project as the engineer directs.

B. Materials

Furnish a vacuum-type street sweeper equipped with a power broom, water spray system and a vacuum collection system.

Use vacuum equipment with a self-contained particulate collector capable of preventing discharge from the collection bin into the atmosphere.

Use a vacuum-type sweeper as the primary sweeper, except as specified in this special provision or approved by the engineer.

Use a vacuum, water spray system, or other engineer-approved method to clear debris from scuppers in existing concrete barrier walls.

C. Construction

Provide sweeping of pavement, sidewalk, driveways, curb lanes and gutters as directed by the engineer.

D. Measurement

The department will measure Street Sweeping by the hour that the street sweeper is on the project actively picking up and removing debris from the roadway.

E. Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0075.0100	Street Sweeping	HRS

Payment is full compensation for mobilization; sweeping, vacuuming and water spray; disposing of materials; and submitting the hourly meter tickets each day the sweeper is used.

12.16 Slotted Vane Drain Permanent, Item SPV.0090.0200.

A Description

This special provision describes providing slotted vane drain as the plans show conforming to standard spec 611, standard detail drawing "Slotted Vane Drain" and as modified in this special provision.

B (Vacant)

C Construction

Before encasing the pipe in concrete, cover the upper end of the slotted drain as the plans show, or as approved by the engineer.

Before construction operations adjacent to the slotted area of the slotted vane drain pipe, cover the slots on the top of the drain. Remove any material entering the pipe at the contractor's expense.

Exercise care to avoid damage to the slotted vane drainpipe. If any section of pipe is damaged or is unsatisfactory as determined by the engineer, replace the drainpipe at contractor's expense.

D Measurement

The department will measure Drain Slotted Vane Permanent by the linear foot, completed according 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.0090.0200	Slotted Vane Drain Permanent	LF

Payment is full compensation for furnishing all materials; hauling and placing the pipe; making connections to existing inlets; furnishing concrete masonry, end plug or cap; cleaning out and restoring site of work, removal and disposing of waste material, and all incidentals to complete the work.

12.17 Slotted Vane Drain Temporary, Item SPV.0090.0205.

A Description

This special provision describes providing and removing temporary slotted vane drain as the plans show conforming to standard spec 611 as modified in this special provision.

B (Vacant)

C Construction

Before encasing the pipe in concrete, cover the upper end of the slotted drain as the plans show, or as approved by the engineer.

Before construction operations adjacent to the slotted area of the slotted vane drain pipe, cover the slots on the top of the drain. Remove any material entering the pipe at the contractor's expense.

Exercise care to avoid damage to the slotted vane drainpipe. If any section of pipe is damaged or is unsatisfactory as determined by the engineer, replace the drainpipe at contractor's expense.

D Measurement

The department will measure Drain Slotted Vane Temporary by the linear foot, completed according 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.0090.0205	Slotted Vane Drain Temporary	LF

Payment is full compensation for furnishing all materials; hauling and placing the pipe; making connections to existing inlets; furnishing concrete masonry, end plug or cap; cleaning out and restoring site of work, removal and disposing of waste material.

12.18 Cured in Place Pipe Liner, 36-Inch, Item SPV.0090.0210.

A Description

This special provision describes providing furnishing and installing cured-in-place pipe (CIPP) liners for culvert or storm sewer.

B Materials

B.1 General

Provide a system that has a minimum of 500,000 feet or 1,000 lined sections of successful installations in the United States and that has been continuously available and in service for a minimum of 5 years.

Provide documentation of testing to confirm a minimum 50-year design life for the liner.

B.2 Flexible Tube

Furnish a flexible tube meeting the requirements of ASTM F1216 or ASTM F1743 consisting of one or more layers of flexible needled felt or an equivalent non-woven material, or a combination of non-woven and woven materials which are compatible with a resin impregnated curing process.

Construct the tube to; withstand installation pressures and curing temperatures, have sufficient strength to bridge missing pipe, stretch to fit irregular pipe sections, invert smoothly around bends, and be compatible with the chosen resin system.

Manufacture tube to a size that, once installed, will tightly fit the internal circumference and length of the original pipe as verified by the contractor. Make allowance for circumferential stretching during inversion. Fabricate seams in the tube stronger than the unseamed material. Do not utilize overlapped layers of felt in longitudinal seams that cause lumps in the final product. Form spirally formed and sewn joints for length as required. Do not form joints perpendicular to the long axis.

Mark the tube for distance at regular intervals along its entire length, not to exceed 5 feet. Include the manufacturers name or identifying symbol.

Coat the outside layer of the tube (before wetout) with an impermeable, flexible membrane that will contain the resin and facilitate monitoring of resin saturation during the resin impregnation (wetout) procedure.

B.3 Resin

Furnish a corrosion resistant polyester, vinyl ester, or epoxy and catalyst resin system that when properly cured within the tube creates a composite that meets the requirements of ASTM F1216, ASTM D5813, and ASTM F1743, the physical properties in this specification, and those requirements which are to be utilized in the design of the CIPP for the specific project.

Provide a resin and catalyst system that is compatible with the installation process, when cured will comply with the structural and chemical resistance requirements of this specification and can cure in the presence or absence of water. Provide quantities of liquid thermostating materials per the manufacturer's standards to provide lining thickness required.

The resin may contain fillers for viscosity control, fire retardance, air release, or extension of pot life. Viscosity can be controlled by adding thixotropic agents that do not interfere with visual inspection. The resin can contain pigments, dyes, or colors that do not interfere with visual inspection of the resin-impregnated pipe liner.

B.4 Structural Requirements

A minimum of 14 days prior to delivery of the liner materials, submit design calculations prepared by an engineer licensed in the State of Wisconsin that meet the requirements of the manufacturer and that are designed as per ASTM F1216, Appendix XI. For the fully deteriorated condition assume no bonding to the original pipe wall for the CIPP design. Verify the Long-Term Flexural Modulus used in design by independent testing and provide documentation to the Department. Do not exceed 50% of the short-term values for the Long-Term Modulus in design. CIPP thickness shall not be less than that which is computed from the design requirements in the table below, for resin systems with physical properties shown.

Follow the design equations outlined in ASTM F1216, Appendix X1 for cured-in-place-pipe liners (CIPP) installed by either the pulled-in-place or inversion method. Assume a partially deteriorated pipe condition.

CIPP Design Criteria and Minimum Physical Properties Design Variable Value

Culvert Inside Diameter 42-Inch

Soil Density: w 120 pcf

Live Load: W_s Follow AASHTO LRFD

Bridge Design Specifications (AASHTO, 2012) Article 3.6.1.2.6

Minimum Height of Water above Culvert Crown: H_w 1 Foot

Height of Soil above Culvert Crown: H 17 Feet

Culvert Deflection/Ovality: 2% minimum. To be verified by liner designer.

Enhancement Factor: 'K' 7

Modulus of Soil Reaction E_s Follow AASHTO LRFD Bridge Design Specifications

(AASHTO, 2012) Article 12.12.3.5.1

Long-term Modulus of Elasticity of CIPP Liner: E_L

125,000 psi minimum, 50% of initial value in ASTM F1216. Actual value per the manufacturer can be used. Provide supporting data verified by independent testing.

Factor of Safety: N 2

Flexural Stress 4,500 psi

Base the required structural CIPP wall thickness, at a minimum, on the physical properties listed in this section, under the liner thickness calculations noted above, and in accordance with the Design Equations in Appendix X1 of ASTM F1216.

B.5 Experience and Quality Control

Demonstrate a minimum of five years experience in the installation of cured in place liners by the installation contractor with at least 5 projects in that time totaling over 5,000 feet of installed liner.

Provide an experienced inspector or supervisor, who completed the NASSCO cured-in-place-pipe inspector training class or equivalent and has at least three years experience with cured in place pipe liner installation, to observe the installation of CIPP liner.

Furnish a detailed installation and quality control plan, to be discussed at the preconstruction meeting outlining measures to assure the quality requirements of the contract are met including but not limited to;

- Method of installation including curing methods and resin type.
- Resin/catalyst product names and mixing ratios

- Manufacturer's product literature, and application and installation requirements for materials used in the liner including:
 - i. Maximum, minimum and ideal installation temperatures.
 - ii. Minimum pressure required to hold tube tight to the host conduit and maximum pressure so not damage the tube.
 - iii. Curing times including heat sink effects o Maximum pulling forces as applicable
- Manufacturer's product certifications for materials used in the liner including documentation of testing to confirm a minimum 50-year design life for the liner, adherence to applicable ASTM standards and safety data sheets.
- Liner testing compliance.
- Resin to felt ratio by weight requirements.
- Proposed quality controls checks that will be performed and in place by the contractor.
- Product sampling, liner thickness compliance, and notification/resolution of observed liner defects and/or wrinkling observed by the contractor during post lining televising operations.
- Defined responsibilities, as assigned to specific contractor's personnel, for assuring that all the quality assurances are met.
- An outline of specific repair or replacement procedures for potential defects that may occur in the installed CIPP. Provide recommended repair/replacement procedures per the CIPP system manufacturer.
- An odor control plan that will show project specific odors will be minimized at the project site and surrounding area.

B.6 Quality and Inspection Report

Submit a report of the inspection and quality activities performed during and after lining. Complete the report in accordance with NASSCO PACP standards or engineer approved equal.

Provide pre and post lining video inspection files upon completion of the lining. Format files for viewing on a standard PC without additional media software. Perform video work in accordance with NASSCO PACP standards or engineer approved equal.

B.7 Wetout Tube

Provide a wetout tube that has a uniform thickness such that when compressed at installation pressures it will equal or exceed the minimum design CIPP wall thickness, is homogeneous across the entire wall thickness, and contains no intermediate or encapsulated elastomeric layers. Furnish a tube without material in the tube that may cause delamination in the cured CIPP and without dry or unsaturated layers.

B.8 Cured Liner Properties

B.8.1 Color

Provide a tube where the cured interior pipe surface after installation is a light reflective color so that a clear, detailed examination with closed circuit television inspection can be made.

B.8.2 Chemical Resistance

Provide a tube meeting the chemical resistance requirements of ASTM F1216, Appendix X2. Provide samples for testing of tube and resin similar to that proposed for actual construction. It is required that CIPP samples with and without plastic coating meets these chemical testing requirements.

B.8.3 Hydraulic Capacity

Maintain the overall hydraulic profile as large as possible with the CIPP having a minimum of the full flow capacity of the original pipe before rehabilitation. Calculated capacities may be derived using a commonly accepted roughness coefficient for the existing pipe material taking into consideration its age and condition. For this application assume a Manning's value of 0.013 for the existing pipe and 0.010 for the CIPP lined pipe.

B.9 Bypass Plan

Provide a plan of any proposed bypassing or water diversion operations. Size pump or bypass lines of adequate capacity to handle anticipated flows.

C Construction

C.1 General

The department will locate and designate all right of way areas open and accessible for the work and provide rights of access to these points. If a shoulder must be closed to traffic because of the work,

institute the actions necessary to do this upon concurrence of the Department for the mutually agreed time period.

Bypass pumping or flow division is the responsibility of the contractor. If dewatering/bypass operations are required from one pipe structure to another pipe structure or from the upstream to downstream end of a culvert and the bypass flow is not transporting sediments (sand, silt, and clay particles) from a tributary work site area, bypass pumping operations will be allowed provided that the department has been made aware of and approves operation. When pumping bypass flows, the discharge location will need to be

stable and not produce any erosion from the discharge velocity that would cause release of sediment downstream. If dewatering operations require pumping of water containing sediments (sand, silt, and clay particles), the discharge will not be allowed to leave the work site or discharge to a storm water conveyance system without sediment removal treatment. Refer to WDNR Technical Standards for Dewatering as applicable. https://dnr.wisconsin.gov/topic/Stormwaterstandards/const_standards.html.

C.2 Inspection of Pipeline

Inspect the interior of the pipeline carefully to determine the location of any conditions which may prevent proper installation of CIPP into the pipelines, note these so that these conditions can be corrected. Keep a digital video and suitable log for later reference by the Department.

C.3 Removal of Damaged Culvert

Remove or repair any portion of the existing culvert protruding beyond the interior of the culvert to prevent loss of hydraulic capacity or damage to the installed liner.

C.4 Surface Preparation/Cleaning

Thoroughly clean the interior of the culvert prior the insertion of the liner. High pressure water is the most common method. Utilize hand operated power tools or mechanical equipment where high pressure water does not remove deposits or debris. Properly dispose of all sediment removed from the cleaning process.

C.5 Repair Techniques & Material Installation

Fill any voids in the host pipe that cannot be bridged by a preliner prior to the installation of the CIPP liner. Small gaps and offsets in the pipe culvert joints can be bridged by the CIPP liner. Repair significant gaps and offsets and stop water infiltration that may impact CIPP curing.

C.6 Installation

C.6.1 Preparation of Liner

Designate location where uncured resin in original containers and unimpregnated liner will be vacuum impregnated prior to installation. Allow the engineer to inspect materials and “wet out” procedure.

C.6.2 Resin Impregnation

Impregnate liner tube with resin in a controlled environmental not more than 24 hours before proposed time of installation and store it out of direct sunlight at temperature less than 40 degrees F. Transport resin impregnated liner to site immediately prior to inversion in suitable lightproof container with temperature maintained below 40 degrees F.

Use a sufficient quantity of resin for tube impregnation to fill the volume of air voids in the tube with additional allowances for polymerization shrinkage and the loss of resin through cracks and irregularities in the original pipe wall. Use a vacuum impregnation process and rollers to thoroughly saturate the felt tube. Place the point of vacuum no further than 25 feet from the point of initial resin introduction to ensure thorough resin saturation throughout the length of the felt tube.

Place vacuum points no further than 75 feet from the leading edge of the resin after vacuum in the tube is established. The leading edge of the resin slug shall be as near to perpendicular as possible. Use a roller system to uniformly distribute the resin throughout the tube. When using an alternate method of resin

impregnation, the method must produce the same results. Any alternate resin impregnation method must be documented by the manufacturer and approved by the Department. Keep the wetted-out tube in a refrigerated truck until it is inserted.

Do not deliver or install a resin impregnated liner with signs of premature curing.

C.6.3 Liner Insertion

Install cured-in-place pipe in accordance with ASTM F1216 or ASTM F1743.

Position the wetout tube in the pipeline using either inversion or a pull-in method. If pulled into place, utilize a power winch and exercise care so as not to damage the tube as a result of pull-in friction. The tube should be pulled-in or inverted through an existing sewer access structure or via end of pipe and fully extend to the designated termination point.

If required, provide only lubricants that are non-toxic, have no detrimental impacts on the liner, and will not support the growth of bacteria.

Place thermocouples or similar temperature gauges inside the tube at the invert level of each end to monitor the temperature during the cure cycle.

C.7 Curing Liner

After inversion is complete, provide a heat source with suitable monitors to gauge temperature of incoming and outgoing water supply and provide water recirculation equipment capable of delivering hot water throughout section to uniformly raise water temperature above temperature required to effect cure of resin. Cure and cool by utilizing circulated hot and cold water respectively under hydrostatic pressure in accordance with the manufacturer's recommended cure schedule. Monitor temperature to verify that the curing recommendations from the manufacturer are achieved.

Hold liner tight against the host pipe during curing within the minimum and maximum range of pressures provided by the manufacturer.

Initial cure is completed when inspection of exposed portions of liner are hard and sound and remote temperature sensor indicates that temperature is of magnitude to realize an exotherm. Cure for the duration recommended by resin manufacturer. After initial cure is reached raise and maintain the temperature to the post cure temperature called for by the manufacturer. Consider the existing pipe material, the resin system, and ground conditions (temperature, moisture level, thermal conductivity of the soil).

Cool hardened liner to temperature below 100 degrees F before relieving static head in inversion standpipe. Cool down by introduction of cool water into inversion standpipe to replace water being drained from downstream end. Take care in release of static head so that vacuum will not be developed that could damage newly installed liner.

Once cured, the cured-in-place pipe should be continuous and tight fitting. Cut the pipe liner neatly and smoothly at each end of the host pipe to prevent snagging and collection of debris.

C.8 Quality Control and Testing

Prepare cured liner samples and test physical properties in accordance to ASTM F1216 or ASTM F1743, Section 8, using either method proposed. Test for conformance with the manufacturer's final CIPP design values and the CIPP Design Criteria requirement of this special provision including flexural properties listed. CIPP products in which the pipe wall is cured while not in direct contact with the pressurizing fluid (e.g., a removable bladder) must be tested by an alternative method approved by the Department.

Provide documentation of quality checks performed according to this part and as described in the project quality control plan.

C.9 Workmanship and Inspection

Inspect the cured-in-place pipe for a strong and uniform bond between layers. Test that any two layers can not be separated with a probe or point of a knife blade so that the layers separate cleanly or the probe or knife blade moves freely between the layers. Cut new samples from the work if separation of the layers occurs during testing of field samples. Any reoccurrence may cause rejection of the work.

Perform an initial visual inspection with the Department in accordance to ASTM F1743, Section 8.6. Perform final inspection with closed circuit television. Inspect to determine if the CIPP is formed tightly against the pipe sidewall, free of significant visual defects, deflection, holes, leaks and other defects. Inspect for tight seals at the manhole or endwall openings with no annular gaps. Repair areas with evidence of any obstruction, uncured spots, infiltration of groundwater, lifts or incomplete repair by relining or spot repair—replacement including street repair with no additional payment. Any excavation or restoration necessary is incidental with no additional payment.

Upon acceptance of the installation work and testing, restore the project area affected by the operations to its original condition.

C.10 Environmental Considerations

CIPP installations involve the use of chemicals and temperatures that could be harmful to aquatic life. As a result, the installation of a CIPP liner requires careful planning and execution to reduce the potential for environmental impacts, especially to the downstream receiving waters. Capture all process water used in the curing. Once cured, thoroughly rinse the liner and properly dispose of the rinse water. Transport the captured waters to a local wastewater treatment facility capable of treating the impacted water. Verify that the local wastewater facilities have the capabilities and capacity to handle the impacted water

D Measurement

The department will measure Cured in Place Pipe Liner, 36-Inch in place per linear foot.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.0210	Cured In Place Pipe Liner 36-Inch	LF

Payment is full compensation for furnishing all labor, tools, equipment, materials, reports and incidentals, including any required bypass pumping or flow diversion, cleaning of the host pipe, gap, void and offset repair in the host pipe, and disposal of curing and cleaning water necessary to complete the contract work according to the above stated specifications.

12.19 Jack and Bore Storm Sewer Pipe Reinforced Concrete Pipe Class V 36-Inch, Item SPV.0090.0215; Jack and Bore Storm Sewer Pipe Reinforced Concrete Pipe Class V 48-Inch, Item SPV.0090.0220.

A Description

This special provision describes installing the 36-inch/48-inch diameter precast reinforced concrete carrier pipe and steel casing pipe within the limits shown on the plan. The work under this item includes, but not limited to, boring and jacking a casing pipe; labor, equipment and materials; furnishing and installing the 36-inch/48-inch reinforced concrete carrier pipe; backfilling annular space between the casing pipe and carrier pipe; grouting; backfilling pits and restoration; sheeting and shoring; control, handling and disposal of ground and surface water; compressed air; lighting; and ventilation; and shall be in accordance to the construction details on the plans, standard spec 607 and standard spec 608, and as hereafter provided.

B Materials

Furnish a casing pipe of conforming to ASTM A-252 with minimum yield strength of 35,000 psi. Casing pipe to be placed by jacking methods shall be of sufficient thickness and axial strength to withstand the forces encountered during the jacking process. The casing pipe shall be sized to accommodate the largest outside diameter of the carrier pipe (including pipe bells) and allow for deflection of the casing pipe and installation of wood blocking or factory-fabricated spacers. The minimum thickness for the casing pipe shall be 9/16-inches and be in accordance to E-80 loading. The Casing pipe shall have a bituminous outside coating in accordance to AASHTO M190. The casing pipe field and shop welds shall conform to the American Welding Society (AWS) standard specifications. Field welds shall be complete penetration, single-bevel groove type joints. Welds shall be airtight and continuous for the entire circumference of the pipe and shall not increase the outside pipe diameter by more than 3/4-inch, nor there be intrusion of the weld metal into the bore of the casing.

The inside diameter of the casing pipe shall be no less than 2 inches greater than largest outside diameter of carrier pipe, joints or couplings.

Extend casing pipe to at least 30 feet each side (measured at right angles to) centerline of outside track.

Provide storm sewer pipe reinforced concrete pipe Class V 36-Inch/48-Inch carrier pipe conforming to Concrete D-Load Pipe ASTM C 655 specifications.

The storm sewer pipe reinforced concrete pipe Class V carrier pipe design shall be responsibility of the contractor and shall be designed by a Professional Engineer, registered in the State of Wisconsin, with knowledge of the specific site conditions and requirements. Submit one copy of the pipe design, signed and sealed, to the Engineer for incorporation into the permanent project record.

Furnish grout between the casing pipe and existing ground containing cement in accordance to ASTM C150, Type I or Type II; water in accordance to standard spec 501; and sand in accordance to ASTM C404, Size No. 1. The grout shall fill the voids between the casing pipe and the existing ground and have a minimum compressive strength of 100 psi, attained within 24 hours and sufficiently fluid to inject through lining and fill voids, with prompt setting to control grout flow.

Furnish grout for the annular space between the casing pipe and the carrier pipe consisting of 3 parts sand in accordance to ASTM C144 to 1 part cement in accordance to ASTM C150.

C Construction

Provide plans and calculations for tunneling or jacking storm sewer to the engineer for approval prior to construction of storm sewer. Do not work on the sewer until the engineer has approved the plans and calculations.

- Locate boring and jacking pits at a minimum of 30 feet from the centerline of track. No intermediate boring and jacking pits will be allowed.
- Provide complete installation to the limits at grades indicated on plans regardless of conditions encountered.
- Do not remove material from hole by washing or sluicing.
- If material above or adjoining boring hole is caving or being removed, stop work and modify installation method.
- Insert single carrier pipe into casing pipe using factory-fabricated spacers.
- Construct casing pipe so as to prevent leakage of any matter from the casing or conduit throughout its length.
- Provide spacers at each pipe joint and at the center of each pipe. Spacing shall not exceed 6 feet.
- Install casing with even bearing throughout its length and slope to one end.
- The spacers shall:
 - Allow for grade adjustments.
 - Prevent floating or buckling of the carrier pipe.
 - Provide a low friction coefficient so that the carrier pipe can be slid into place without splitting bells.
- After jacking is completed, the drill holes in the casing pipe at locations of ground loss and elsewhere where voids are suspected. Fill voids by pumping grout into voids. Fill voids to refusal, but not to exceed 50 psi.
- After jacking, grout annular space between the casing and carrier pipe.
- Restore the borehole pit to original condition.
- Remove all rubbish, excess materials, temporary structures and equipment.
- Seed all disturbed areas.

D Measurement

The department will measure Bore and Jack Storm Sewer Pipe Reinforced Concrete Class V – 36-Inch and Bore and Jack Storm Sewer Pipe Reinforced Concrete Class V – 48-Inch by the linear foot, acceptably completed, measured along the centerline of the pipe.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.0230	Jack and Bore Storm Sewer Pipe Reinforced Concrete Pipe Class V 36-Inch	LF
SPV.0090.0235	Jack and Bore Storm Sewer Pipe Reinforced Concrete Pipe Class V 48-Inch	LF

Payment is full compensation for boring and jacking the steel casing pipe; all surveying; all required excavation for work shaft; for sheeting and shoring; for control, handling and disposal of ground and surface water; for grouting; for compressed air; for lighting; for ventilation; for protection of existing utilities; for compaction and compaction testing; for backfilling pits and restoration; and for storm sewer pipe including pipe design, signed and sealed by a by a professional engineer registered in the State of Wisconsin.

13. Miscellaneous Concrete.

13.1 Concrete Gutter 48-Inch, Item SPV.0090.0154.

A. Description

This special provision describes constructing concrete curb and curb and gutter in accordance with the pertinent requirements of section 601 of the standard specifications and the construction details shown in the plans.

B. Materials

Furnish materials in accordance with the pertinent materials of section 601 of the standard specifications

C. Construction

Perform work in accordance with section 601 of the standard specifications.

D. Measurement

The department will measure concrete gutter 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.0090.0154	Concrete Gutter 48-Inch	LF

Payment shall be in accordance with section 601.5 of the standard specifications

**13.2 Concrete Barrier Type 42S Special, Item SPV.0090.0115;
Concrete Barrier Type S56 Special, Item SPV.0090.0120.**

Construct the concrete barrier in accordance to standard spec 603 and in accordance to the plan details.
ner 41-403 (08262024)

13.3 Protection of Concrete.

Add to standard spec 415.3.14:

The contractor shall provide for a minimum of one concrete finisher to remain on the project site after final finishing of all concrete surfaces until the concrete has hardened sufficiently to resist surface scarring caused by footprints, handprints, or any other type of imprint, malicious or otherwise. The finisher shall actively and continuously patrol on foot the newly placed concrete and repair any damage to the surface that might be sustained as described above.

The cost for providing the finisher(s), the necessary equipment, and materials is incidental to the contract.
ner-41-415 (20240917)

13.4 Sawing Concrete Barrier Single Faced, Item SPV.0060.0127.

A Description

This special provision describes sawing existing concrete barrier full-depth according to the pertinent requirements of standard spec 690, as shown in the plans and as hereinafter provided.

B (Vacant)

C Construction

This works includes vertical full depth sawing of the existing concrete barrier wall. Operations shall not compromise the integrity of the adjacent materials that are to remain in place.

D Measurement

The department will measure Sawing Concrete Barrier Single Faced as each unit, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.0127	Sawing Concrete Barrier Single Faced	EACH

Payment is full compensation for transverse full-depth sawing of concrete barrier wall.

**13.5 Concrete Barrier Transition Type M1, Item SPV.0060.0003;
Concrete Barrier Transition Type M2, Item SPV.0060.0004.**

A Description

This special provision describes constructing Concrete Barrier Transition (Type) according to standard spec 603 and as shown in the plans.

B (Vacant)

C (Vacant)

D Measurement

The department will measure Concrete Barrier Transition (Type) by each individual unit, acceptably placed according to the contract.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.003	Concrete Barrier Transition Type M1	EACH
SPV.0060.004	Concrete Barrier Transition Type M2	EACH

Payment is full compensation conforming to standard spec 603.5.

13.6 Concrete Barrier Transition, Item SPV.0060.0140.

A Description

This special provision describes construction Concrete Barrier Transition according to standard spec 603 and as shown in the plans.

B (Vacant)

C (Vacant)

D Measurement

The department will measure Concrete Barrier Transition 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.0060.0140	Concrete Barrier Transition	EACH

Payment is full compensation for construction Concrete Barrier Transition.

13.7 Concrete Barrier Transition, Item SPV.0060.0140.

Construct the concrete barrier retaining wall in accordance with standard spec 603 and the plans.

14. Lighting and Electrical.

14.1 General Requirements for Electrical Work.

General

Contact information for the Wisconsin Department of Transportation Northeast Region

- ITS – Kimberly Bradley, (920) 366-7521 kimberly.bradley@dot.wi.gov
- Traffic Signals – Kimberly Bradley, (920) 366-7521 kimberly.bradley@dot.wi.gov
- Lighting – Matthew Talcott, (920) 360-4749 matthew.talcott@dot.wi.gov

Notify the department's Northeast Region Electrical Unit at (920) 366-7521 at least three (3) weeks prior to beginning the electrical work.

Add the following to standard specification sections 651, 652, 653, 654, 655, 656, 657 and 659.

All the work necessary to comply with revisions to standards specifications mentioned herewith shall be incidental to associated pay items or to the project including coordination, materials, and labor. No additional payment shall be made to the Contractor.

Add the following to standard specification subsection 651.3.1:

Any circuit that the Contractor does not personally tag out at the disconnect shall be considered live and will be subject to being activated by another person with no notice to the Contractor. Make tagouts with manufactured tags and endorse them with the date and the name of the Contractor. Clear tagouts at the end of the workday. The Department does not employ a load dispatcher and has no intent to do so. Each electrical worker is responsible for their own protection from automatic switching and from switching by others.

Add the following to standard specification subsection 655.3.7(4):

Where two or more wire networks pass through a pull point, tag each circuit network (i.e. A/B/N and C/D/N) with approved all-weather tags.

Manufacturer's Warranty for LED luminaires: The manufacturer shall warrant to the Department that each complete luminaire (consisting of the housing, optical assembly, LED drivers, surge protection and wiring) will be free from defects in material and workmanship for ten (10) years from the date that the luminaire are put into service. Luminaires shall be installed within one year of manufacture.

If any luminaires fail to meet the above warranty, the Department shall provide the manufacturer with a written notice of any defect within thirty (30) days after discovery of the defect. The manufacturer shall provide all materials, luminaires, replacement component parts, labor, and all incidentals necessary to restore the luminaire to a fully operational, installed condition.

14.2 Electrical Meetings.

No later than 5 working days prior to starting any electrical installation construction activities, arrange and conduct an on-site electrical kickoff meeting between the contractor, engineer, region electrical unit, and electrical subcontractors to discuss the construction of the electrical elements of the project including traffic signals, roadway lighting systems, Intelligent Transportation Systems (ITS), and all other electrical facilities.

During the electrical kickoff meeting, the contractor may be requested to provide additional workplan information related to the electrical installation activities. Upon completion of the electrical kickoff meeting and acceptance of any additional requested workplan information, the contractor will be given authorization to proceed with electrical construction activities.

Arrange and conduct additional electrical progress meetings no later than 5 working days prior to energizing new systems, opening the roadway, and final inspection.

The contractor and electrical subcontractor are required to attend all electrical meetings. Electrical meetings are considered incidental to the electrical work.

14.3 Removing Anchor Bolt Cover Shrouds, Item 204.9060.S.0001

A Description

This special provision describes removing anchor bolt cover shrouds from existing concrete bases.

B (Vacant)

C Construction

Remove and dispose of anchor bolt cover shrouds from existing concrete bases, prior to installing light poles.

D Measurement

The department will measure Removing Anchor Bolt Cover Shrouds by each unit acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
204.9060.S.001	Removing Anchor Bolt Cover Shroud	EACH

Payment is full compensation for removing cover shrouds and disposing of all materials.

stp-204-025 (20230113)

14.4 Removing Street Light Assembly, Item 204.9060.S.0002.

A Description

This special provision describes removing existing street light assemblies and disposing or salvaging them to WisDOT NE Region.

B Materials

Transformer bases shall be salvaged by the contractor, for pick up by WisDOT NE Region as directed by the engineer in the field. The contractor shall be responsible for the disposal of poles, luminaire arms, luminaires, and internal wiring.

C Construction

Disconnect the lighting conductors at the transformer base and salvage the transformer base, from the lighting units in the locations shown in the plans and/or as designated by the Engineer. Poles, arms, luminaires, and electrical conductors pulled from the pole shall be properly disposed of.

Store salvaged lighting items on site, in a location designated by the Engineer, and protected from damage until ready for pick up by WisDOT NE Region. Contact the WisDOT NE Region Electrical Field Unit at (920) 366-7521 at least five (5) working days in advance of pickup.

Any damage to the salvaged materials resulting from the removal and salvaging operations shall be repaired or replaced in-kind at the Contractor's expense.

This item includes coordination and incidentals necessary to remove or have removed by others: street signs, and all accessories affixed to the lighting units.

D Measurement

The department will measure Removing Street Light Assembly as each individual lighting unit acceptably removed and salvaged.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
204.9060.S.0002	Removing Street Light Assembly	EACH

Payment is full compensation for removing, disassembling, and salvaging transformer bases and disposal of poles, luminaire arms, luminaires, internal pole wiring and miscellaneous accessories.

stp-204-025 (20230113)

14.5 Removing Lighting Control, Item 204.9060.S.0003.

A Description

This special provision describes removing existing lighting control cabinets, meter housing and salvaging them to WisDOT NE Region.

B Materials

Control cabinets and meter pedestals shall be salvaged by the contractor, for pick up by WisDOT NE Region as directed by the engineer in the field.

C Construction

Contact the WisDOT NE Region Electrical Field Unit at (920) 366-7521 fourteen (14) days prior to removing existing control cabinets.

Arrange with the utility for a disconnection of the existing electrical service lateral and removal of the meter. Removal of electrical services shall be paid for under a separate bid item.

Carefully remove and stockpile all equipment at a location approved by the engineer. Place all equipment on blocks so as not to be in direct contact with the ground. The cabinet shall be made available for NE Region to salvage. Properly dispose of any equipment that is not salvaged.

D Measurement

The department will measure Removing Lighting Control as each individual unit acceptably removed and salvaged.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
1130-65-71, 72, 73, 74, 78		175 of 205

Payment is full compensation for removing, disassembling, and salvaging lighting control cabinets, meter pedestal, miscellaneous accessories and disposal of miscellaneous components.

stp-204-025 (20230113)

14.6 Removing Electrical Conductors from Existing Conduit, Item 204.9090.S.0001; Removing or Abandoning Existing Conduit, Item 204.9090.S.0002.

A Description

This special provision describes removing or abandoning existing conduit and removing electrical conductors from existing conduit conforming to standard spec 204.

B (Vacant)

C (Construction)

Wires shall be removed from the existing underground conduits as shown on the plans and as directed by the engineer. The engineer shall verify the extent of the wiring removal prior to disconnecting luminaires or communication equipment. Any necessary splices or disconnections shall be done as part of this pay item. Removed wires shall become property of the contractor and shall be disposed of off the project site.

Conduit shall be removed as shown on the plans and as directed by the engineer. The engineer shall verify the extent of conduit removal prior to disconnecting luminaires. Any necessary stubs shall be capped and shall be incidental to this pay item. Removed conduit shall become property of the contractor and shall be disposed of off the project site.

D Measurement

The department will measure Removing Electrical Wires from Existing Conduit by linear feet of conduit from where wires shall be removed and disposed of, regardless of conductor quantity within conduit, acceptably completed. The vertical length and wire slack shall be incidental to this pay item.

The department will measure Removing or Abandoning Existing Conduit by linear feet of conduit, acceptably completed.

E Payment

ITEM NUMBER	DESCRIPTION	UNIT
204.9090.S.0001	Removing Electrical Conductors from Existing Conduit	LF
204.9090.S.0002	Removing or Abandoning Conduit	LF

stp-204-025 (20150630)

14.7 Conduit Rigid Nonmetallic Schedule 40 2-Inch, Item 652.0225, Conduit Rigid Nonmetallic Schedule 40 3-Inch, Item 652.0235, Conduit Rigid Nonmetallic Schedule 80 3-Inch, Item 652.0335.

Modify the following paragraph from standard spec 652.3.1.1 General:

(3) Install tracer wire in each conduit run that will receive future conductors as the conduit is laid. Unless the contract specifies wire or cable, install a 12 AWG. XLP insulated, green, stranded, copper, 600-volt AC, wire. Provide wire slack in pull boxes per WISDOT SDD 9B16. Tracer wire shall be continuously connected throughout the system and tied into the system ground at the nearest above ground access point. Tracer wire may be spliced below grade in pull boxes only using wet location gel filled wire nuts. Fasten tracer wire near the top of pull box. Tracer wire is the only conductor that will be allowed to be spliced below grade on this project.

14.8 Poles Aluminum.

Replace standard spec 657.2.1.1(6) and add 657.2.1.1(7):

(6) Furnish identification plaques in accordance with the plan numbering. Coordinate with the Northeast Region Electrical Unit for information to be included with pole plaques.

(7) Install PVC rodent screens according to the WisDOT qualified products list <https://wisconsindot.gov/Pages/doing-bus/eng-consultants/cnslt-rsrcs/tools/prods/misc.aspx> for all structure mounted light poles, FTMS camera poles, monotubes, or as directed by the Engineer in the field.

14.9 Luminaires Utility LED B, Item 659.1120.

Add the following to standard spec 659.2:

- (2) Furnish luminaires compatible with 480V operations.

14.10 Luminaires Utility LED C, Item 659.1125.

Add the following to standard spec 659.2:

- (2) Furnish luminaires compatible with 480V operations.

14.11 Lamp, Ballast, LED, Switch Disposal by Contractor, Item 659.5000.S.

A Description

This special provision describes the detachment and packaging of lamps, ballasts, LEDs, and mercury containing switches (e.g., overhead roadway lighting, underdeck bridge, wall packs, pedestrian signals, traffic control stop lights and warning flashers, fluorescent bulbs, and thermostats) removed under this contract for disposal as hazardous materials.

For Lamp, Ballast, LED, Switch Disposal by Contractor, coordinate removal from the work site by the department's hazardous waste disposal vendor. Disposal will be billed to the department by the hazardous waste disposal vendor.

B Materials

B.1 Disposal by Contractor

Items removed under this contract will be considered the property of the department for waste generator identification. The contractor is responsible for coordinating with the department's hazardous waste vendor for disposal:

<https://wisconsin.gov/Documents/doing-business/eng-consultants/cnslt-rsrcs/environment/hazwaste-contacts.pdf>

C Construction

C.1 Removal

Arrange for the de-energizing of luminaires after receiving approval from the engineer that the existing luminaires can be removed. Do not remove luminaires that cannot be replaced with proposed LED units and operational within the same workday. The new LED units need to be operational prior to sunset of the same workday.

Detach and remove luminaires and lamps from the existing traffic signal poles or respective structure. Avoid breaking fixtures whenever possible.

Lamps, ballasts, LED, and switches will become property of the department, and will be disposed of in an environmentally sound manner.

C.2 Packaging of Hazardous Materials

Provide a secure, level location removed from the travelled way for storage of the material for disposal.

Pack intact fixtures in the packaging of the new lamps used to replace them, or packaging affording the equivalent protection. Place in full, closed stackable cartons.

Pile cartons no more than four high if palletized and secure cartons with shrink wrap to prevent shifting or falling of the loads. Clearly mark each pallet with the words "Universal Waste Lamps" or "Universal Waste Ballasts", the date, and the number of fixtures on each pallet.

Pack broken fixtures into (min.) 6 mil thick plastic bags and place inside sturdy cardboard boxes or the equivalent. Mark the outer packaging with the term "Broken Fixtures/Lamps", the date and the number of broken fixtures clearly marked on the box.

The hazardous waste vendor will not accept fixtures improperly packaged. The vendor will reject any fixtures not removed as part of a contract pay item or otherwise required under this contract.

Pack ballasts and mercury containing switches in appropriate containers.

C.3 Disposal by Contractor

Complete the lamp and ballast inventory (<https://wisconsindot.gov/Documents/doing-bus/eng-consultants/cnslt-rsrcs/environment/dotlampballastinventory.dotx>) and contact the hazardous waste vendor to coordinate pickup and disposal at a location specified by the contractor. Consolidate all pallets and boxes from one project at a single location. Contact the hazardous waste vendor to set up an appointment for pickup. The hazardous waste vendor requires a minimum of one week advance notice to schedule pickup.

D Measurement

The department will measure Lamp, Ballast, LED, Switch Disposal by Contractor as each individual unit removed and received by the hazardous waste vendor, properly packaged and acceptably completed, matching the total number of units provided on the inventory form. The department will not measure broken fixtures that exceed a total of 10 percent of all fixtures to be disposed.

The department will measure Lamp, Ballast, LED, SWITCH Disposal by Department as each individual unit removed and delivered to the department, properly packaged and acceptably completed, matching the total number of units provided on the inventory form. The department will not measure broken fixtures that exceed a total of 10 percent of all fixtures to be disposed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
659.5000.S	Lamp, Ballast, LED, Switch Disposal by Contractor	EACH

Payment for Lamp, Ballast, LED, Switch Disposal by Contractor is full compensation for detachment, handling, packaging, labeling and scheduling disposal with the hazardous waste vendor; and scrapping and disposal of all other materials.

stp-659-500 (20220628)

14.12 Anchor Bolt Cover Shroud, Item SPV.0060.0500.

A Description

This special provision describes furnishing and installing anchor bolt cover shrouds.

B Materials

Furnish aluminum cover shroud in accordance with standard spec 657.2.6.

Housing and cover plate shall be 12-gauge aluminum. Rivets for attaching the cover plate to the housing shall be aluminum and sized in accordance with the specifications determined by the fabricator of the unit. Provide nonmetallic washers between cover shroud and steel lock washer.

C Construction

Construct In accordance with standard spec 657.3.

Follow all manufacturer installation guidelines for installation of cover shroud and accessories. Apply silicone sealant between the top of the cover shroud body and the aluminum cover plate.

Cover shrouds shall be installed at the locations noted on the plans.

D Measurement

The department will measure Anchor Bolt Cover Shroud by each unit, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.0500	Anchor Bolt Cover Shroud	EACH

Payment is full compensation for furnishing and installing.

14.13 Concrete Bases Type 7 Tall, Item SPV.0060.0501.

A Description

This special provision describes constructing Concrete Bases Type 7 Tall mainline median mounted lighting units.

B Materials

In accordance with the plans and standard spec 654.2.

C Construction

In accordance with the plans and standard spec 654.3.

D Measurement

The department will measure Concrete Bases Type 7 Tall by each individual base 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.0060.0501	Concrete Bases Type 7 Tall	EACH

Payment is full compensation for providing concrete bases; for embedded conduit and electrical components; for anchor rods, nuts and washers; for bar steel reinforcement; for excavating, backfilling, restoring asphaltic surfaces, and disposing of surplus materials.

14.14 Remove Traffic Signal (STH 441 & CTH OO), Item SPV.0060.0510.

A Description

This special provision describes removing some of the existing traffic signal equipment at the intersection of STH 441 SB & CTH OO as shown on the plans in accordance with the requirements of Section 657 and Section 658 of the Standard Specifications for Highway and Structure Construction, standard detail drawings, and as hereinafter provided. This article also covers disposal of some traffic signal equipment and all associated cable/wire from the aforementioned intersection.

B (Vacant)

C Construction

Remove wire and cable, and associated components. Remove pullbox rings in a manner that prevents damaging the material.

Transport signal equipment off site to the electrical subcontractor facilities and/or to a recycling/garbage facility.

Break down and remove concrete bases according to standard spec 204.

D Measurement

The department will measure Removing Traffic Signals bid item as a single unit 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.0060.0510	Removing Traffic Signals STH 441 SB & CTH OO	EACH

Payment is full compensation for removing, hauling, and disposing of signal equipment; breaking down, removing, hauling, and disposing of concrete bases; for restoring the roadway cross-section; and for backfilling.

15. FTMS/ITS.

15.1 Intelligent Transportation Systems (ITS) – Control of Materials.

Standard spec 106.2 – Supply Source and Quality

Add the following to standard spec 106.2:

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

Department-Furnished Items
Camera Pole 50-ft
Camera Pole 80-ft
Camera Assembly
Microwave Detector Assembly
Pole Mounted Cabinet
Small Pole Mounted Cabinet
Ethernet Switch
Small Form Pluggable
Ethernet Extender
Fiber Optic Termination (12-CT Panel)
Fiber Optic Cable Outdoor Plan 12-CT
Fiber Optic Cable Outdoor Plan 24-CT
Fiber Optic Cable Outdoor Plan 72-CT

Pick-up small department-furnished equipment, such as communications devices, cameras, and controllers, from the department's Traffic Management Center (TMC), 433 W. St. Paul Ave., Milwaukee, WI 53203 at a mutually agreed upon time during normal state office hours. Contact the Statewide ITS Engineer, Dean Beekman at (414) 227-2154 to coordinate pick-up of equipment.

Pick up cabinets and solar power systems, including batteries, at the department's TMC equipment storage facility at 633 W. Wisconsin Ave., Milwaukee, WI 53203 at a mutually agreed upon time during normal state office hours. Contact Dean Beekman to coordinate pick-up of equipment.

Large department-furnished equipment, such as camera poles and dynamic message signs will be delivered by the supplier to a contractor-controlled site identified by the contractor. Delivery will not necessarily be in a "just in time" manner. Store the equipment until field installation.

Within two weeks of Notice to Proceed, contact the engineer and Dean Beekman. Provide the address and contact information for the contractor-controlled location for delivery and the desired delivery schedule for the large state-furnished materials.

Transportation of the equipment between the electric shop and the field or interim locations are the responsibility of the contractor.

Standard spec 106.3 – Approval of Materials

Add the following to standard spec 106.3:

Design/Shop Drawings

Before the purchase and/or fabrication of any of the components listed herein, and for any non-catalog item shown on the Material and Equipment List specified above, and no more than 30 days after notice to proceed, submit five copies of design drawings and shop drawings, as required, to the department for review. The items and the drawings that represent them shall meet the requirements of the standard specifications.

Design drawing submissions shall consist of signed and certified designs, design drawings, calculations, and material specifications for required items.

Shop drawings will be required for, but not limited to the following:

1. Mounting assemblies for the vehicle speed and classification sensors, including their attachment to the structure.
2. Mounting LED warning signs to the sign structure.
3. Mounting detail for dynamic message signs.
4. Any contractor-designed structure or foundation.

The department will complete its review of the material within 30 days from the date of receipt of the submission, unless otherwise specified. The department will advise the contractor, in writing, as to the

acceptability of the material submitted. The department may determine that if no exceptions were taken for the item, it is approved, and no further action is required by the contractor; or the item may be partially or totally rejected, in which case modify and/or amend the submittal as required by the department and resubmit the item within 14 days. At this time, the review and approval cycle described above will begin again.

stp-670-005 (20230629)

15.2 Intelligent Transportation Systems - General Requirements.

A Description

A.1 General

This special provision describes providing elements for an Intelligent Transportation System (ITS) in or along the existing roadway as the plans show.

Unusual aspects of this project include:

1. The project includes working on cables and equipment that are carrying data between roadside equipment and the department's Traffic Management Center (TMC). Interruption of this service is not expected to perform this work. If an interruption is determined necessary, it must be done on a weekend, and must be done in a way that minimizes communication outages for the existing equipment. Notify the department's TMC at least 48 hours in advance of the planned interruption.
2. The department will furnish some of the equipment to be installed. Make a reasonable effort to discover defects in that equipment before installing it.

A.2 Surge Protection

Equip every ungrounded conductor wire entering or leaving any equipment cabinet with a surge protector. For purposes of this section, multiple cabinets on a single pole or foundation are considered a single cabinet.

B Materials

B.1 General

Only furnish equipment and component parts for this work that are new and have high quality workmanship. All controls, indicators, and connectors shall be clearly and permanently labeled in a manner approved by the engineer. All equipment of each type shall be identical.

All electrical equipment shall conform to the standards and requirements of the Wisconsin Electrical Code, the National Electrical Manufacturers Association (NEMA), National Electric Safety Council (NESC), Underwriter's Laboratory Inc. (UL) or the Electronic Industries Association (EIA), when applicable. All materials and workmanship shall conform to the requirements of the National Electrical Code (NEC), Rural Electrification Administration (REA), Standards of the American Society for Testing and Materials (ASTM), American Association of State Highway and Transportation Officials (AASHTO), requirements of the plans these special provisions, the standard specifications, and to any other codes, standards, or ordinances that may apply. All system wiring, conduit, grounding hardware and circuit breakers shall be in conformance with the National Electrical Code. Whenever reference is made to any of the standards mentioned, the reference shall be considered to mean the code, ordinance, or standard that is in effect at the time of the bid advertisement.

B.2 Outdoor Equipment

All conductive connectors, pins (except pins connected by soldering), and socket contacts shall be gold plated. Acrylic conformal coating shall protect each circuit board side that has conductive traces. Except for integrated circuits containing custom firmware, all components shall be soldered to the printed circuit board.

To prevent galvanic corrosion, all connections between dissimilar metals shall incorporate a means of keeping moisture out of the connection. Where the connection need not conduct electricity, interpose a non-absorbing, inert material or washer between the dissimilar metals. Use nonconductive liners and washers to insulate fasteners from dissimilar metals. Where the connection must conduct electricity, use a conductive sealant between the dissimilar metals. Alternatively, use an insulating gasket and a bond wire connecting the two metal parts.

B.3 Custom Equipment

Equipment that is not part of the manufacturer's standard product line, or that is made or modified specifically for this project, shall conform to the following requirements:

Where practical, electronics shall be modular plug-in assemblies to facilitate maintenance. Such assemblies shall be keyed to prevent incorrect insertion of modules into sockets.

All components shall be available from multiple manufacturers as part of the manufacturers' standard product lines. All must be clearly labeled with the value, part number, tolerance, or other information sufficient to enable a technician to order an exact replacement part.

Lamps used for indicator purposes shall be light-emitting diodes.

The printed circuit boards shall be composed of "two-ounce" copper on 1/16 inch thick fiberglass epoxy or equivalent type construction. Holes that carry electrical connections from one side of the boards to the other shall be completely plated through. Multilayer printed circuit boards shall not be used. The name or reference number used for the board in the drawings and maintenance manuals supplied to the department shall be permanently affixed to each board.

All components shall be mounted so that the identifying markings are visible without moving or removing any part, if practical.

B.4 Environmental Conditions

Equipment shall continue to operate as specified under the following ranges of environmental conditions, except as noted in the specifications for individual pieces of equipment.

1. **Vibration and Shock:** Vehicle speed and classification sensors and any other equipment mounted atop poles or on structures shall not be impaired by the continuous vibration caused by winds (up to 90 mph with a 30 percent gust factor) and traffic.
2. **Duty Cycle:** Continuous
3. **Electromagnetic Radiation:** The equipment shall not be impaired by ambient electrical or magnetic fields, such as those caused by power lines, transformers, and motors. The equipment shall not radiate signals that adversely affect other equipment.
4. **Electrical Power:**
 - 4.1. **Operating power:** The equipment shall operate on 120-volts, 60-Hz, single-phase unless otherwise specified. It shall conform to its specified performance requirements when the input voltage varies from 89 to 135 volts and the frequency varies +3 Hz.
 - 4.2. **High frequency interference:** The equipment operation shall be unaffected by power supply voltage spikes of up to 150 volts in amplitude and 10 microseconds duration.
 - 4.3. **Line voltage transients:** The equipment operation shall be unaffected by voltage transients of plus or minus 20 percent of nominal line voltage for a maximum duration of 50 milliseconds. Equipment in the field shall meet the power service transient requirements of NEMA Standard TS-2 when connected to the surge protectors in the cabinets.
5. **Temperature and Humidity:**
 - 5.1. **Field equipment:** Equipment in the field shall meet the temperature and humidity requirements of NEMA Standard TS-2. Liquid crystal displays shall be undamaged by temperatures as high as 165 degrees F, and shall produce a usable display at temperatures up to 120 degrees F.
 - 5.2. **Equipment in Controlled Environments:** shall operate normally at any combination of temperatures between 50 degrees F and 100 degrees F, and humidity's between 5 percent and 90 percent, non-condensing, and with a temperature gradient of 9 degrees F per hour.

B.5 Patch Cables and Wiring

All cables and wiring between devices installed in a single cabinet, or in separate cabinets sharing a single concrete base, will be considered incidental to the installation of the devices and no separate payment will be made for them. It is anticipated that this will include fiber optic patch cables between termination panels and Ethernet switches, 10 / 100 MBPS Ethernet cables, RS-232 cables between individual devices and terminal servers, and power cables between individual devices and power sources within the cabinets.

B.6 Surge Protection

Low-voltage signal pairs, including twisted pair communication cable entering each cabinet shall be protected by two-stage, plug-in surge protectors and shall be installed on both ends of camera control cables. The protectors shall meet or exceed the following minimum requirements:

1. The protectors shall suppress a peak surge current of up to 10k amps.

2. The protectors shall have a response time less than one nanosecond.
3. The protector shall clamp the voltage between the two wires at a voltage that is no more than twice the peak signal voltage and clamp the voltage between each wire and ground at 50 volts.
4. The first stage of protection shall be a three-element gas discharge tube, and the second stage shall consist of silicon clamping devices.
5. The protector shall also contain a resettable fuse (PTC) to protect against excessive current.
6. There shall be no more than two pairs per protector.
7. It shall be possible to replace the protector without using tools.

Cables carrying power to curve signs shall be protected at the cabinet by grounded metal oxide varistors of appropriate voltages. The varistors must be at least 0.8 inch in diameter.

C Construction

C.1 Thread Protection

Provide rust, corrosion, and anti-seize protection at all thread assemblies of metallic parts by coating (non-spray) the mating surfaces with an approved compound. Failure to use an approved compound will result in no payment for the items to which coating was to have been applied.

C.2 Cable Installation

When installing new cables into conduits containing existing cables, remove the existing cables and reinstall the existing cables simultaneously with the new cables. Take every precaution necessary to protect the existing cables. In the event of avoidable damage to the existing cables, replace all damaged cables, in-kind, at no additional expense to the department. When cables are pulled into conduit, use a cable pulling lubricant approved by the cable manufacturer. Submit documentation supporting manufacturer approval of the lubricant to the engineer.

C.3 Wiring

Every conductor, except a conductor contained entirely within a single piece of equipment, must terminate either in a connector or on a terminal block. Provide and install the connectors and terminal blocks where needed, without separate payment. Use approved splice kits instead of connectors and terminal blocks for underground power cable splices.

Permanently label and key connectors to preclude improper connection. Obtain prior engineer approval for labeling methods before use.

Terminal blocks must be affixed to panels that permanently identify the block and what wire connects to each terminal. This may be accomplished by silk screening or by installing a laminated printed card under the terminal block, with the labels on portions of the card that extend beyond the block. Installation of terminal blocks by drilling holes in the exterior wall of the cabinet is not acceptable.

Use barriers to protect personnel from accidental contact with all dangerous voltages.

Do not install conductors carrying AC power in the same wiring harness as conductors carrying control or communication signals.

Arrange wiring, including fiber optic pigtails, so that any removable assembly can be removed without disturbing wiring that is not associated with the assembly being removed.

Communication and control cables may not be spliced underground, except where indicated on the plans.

Cables in the Traffic Management Center (TMC) or in communication hubs, which are not contained within a single cabinet, shall have at least 10 feet of slack.

C.4 System Operations

If the contractor's operations unexpectedly interrupt Intelligent Transportation Systems (ITS) service, notify the engineer immediately and restore service within 24 hours. Repair all damaged facilities to the condition existing before the interruption. If service is not restored within 24 hours, the department may restore service to any operating device and deduct restoration costs from payments due the contractor.

C.5 Surge Protection

Arrange the equipment and cabinet wiring to minimize the distance between each conductor's point of entry and its protector. Locate the protector as far as possible from electronic equipment. Ensure that all wiring between the surge protectors and the point of entry is free from sharp bends.

D Measurement

The department will not measure the work performed under this special provision.

E Payment

The department will pay for the work performed under this special provision under the contract ITS bid items.

stp-670-010 (20230629)

15.3 Temporary Intelligent Transportation System

The existing camera EXCB5-1R is to remain functional until camera on WP6-1 is installed, tested, and functional.

15.4 Intelligent Transportation System Sequencing

The contractor shall follow the requirements listed below to maintain WisDOT fiber optic cable throughout construction.

1. Installation of the proposed fiber optic cable outdoor plant 72-ct from EXCV6-1 to CV5-6 shall be installed in the first stage of construction.
2. The existing WisDOT conduit with 72-count fiber optic cable shall be maintained from EXCV6-1 to EXCV5-7 until the proposed 72-count fiber optic cable is active and communication system test is completed.
3. The proposed conduit between EXCV6-1 and CV5-6 must be completed prior to splicing the existing mainline fiber optic cable over to the new 72-count fiber optic cable.
4. Once the new fiber optic cable is installed, complete the fiber optic splicing from the existing cable to the proposed cable during an 8-hour window. The WisDOT TMC may require work to be done overnight or on a weekend.
5. No fiber optic removals shall be initiated until the fiber optic network is operating on the new 72-count fiber optic cable.

Alternative sequencing needs to be approved by the engineer.

15.5 City of Appleton Intelligent Transportation System.

The camera on CB3-3 shall be installed, tested, and functional by 12/31/2028.

15.6 Removing Communication Vault, Item 204.9060.S.0701.

A Description

This special provision describes removing Communication Vaults conforming to standard spec 204.

B (Vacant)

C (Vacant)

D Measurement

The department will measure Removing Communication Vault by the unit acceptably completed.

E Payment

Add the following to standard spec 204.5:

ITEM NUMBER	DESCRIPTION	UNIT
204.9060.S.0701	Removing Communication Vault	EACH

stp-204-025 (20230113)

15.7 Install Conduit into Existing Item, Item 652.0700.S

A Description

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

B Materials

Use conduits, as provided and paid for under other items in this contract. Furnish backfill material, topsoil, fertilizer, seed, and mulch conforming to the standard spec.

C Construction

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

D Measurement

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

E Payment

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

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

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

stp-652-070 (20230629)

15.8 Install Pole Mounted Cabinet, Item 673.1225.S.

A Description

This special provision describes installing department furnished aluminum enclosures on poles for intelligent transportation systems equipment.

B Materials

Use stainless steel bolts, nuts, and washers unless otherwise specified.

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

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

The service panel will be equipped with a four-outlet handi-box. Wire the handi-box to the series portion of the filtering surge protector.

Use metallic conduit, fittings, and adapters required from the underground conduit transition point to the cabinet as part of this item. A typical installation requires on 2-inch conduit. Use metallic conduit conforming to standard spec 652.

C Construction

Coordinate receiving the cabinet from the department's vendor and protect and store the cabinet between receiving the cabinet and installing as shown on the plans. Note and photograph any damage to the cabinet upon receipt and notify the engineer and the Statewide ITS Engineer of any damage.

Fasten the field cabinet securely onto a pole. Provide bolted stainless steel connections with lock washers, locking nuts, or other engineer-approved means to prevent the connection nuts from backing off. Isolate dissimilar materials from one another using stainless steel fittings. Make all power connections to the cabinet as specified in standard spec 656.

Drill and tap the cabinet, as necessary, to mount the terminal blocks and other attachments to the service panel, to provide an entrance on the back of the cabinet for cable from the pole mounted intelligent

transportation systems equipment, and to mount the service panel to the cabinet as shown in the details. Remove all sharp edges or burrs, or both, caused by the cutting or drilling process. Seal all openings to prevent water from entering the cabinet. Mount the surge protector to the service panel.

Install metallic conduit on the exterior of the pole (for entrance to the cabinet from the ground) as the plans show, and according to the applicable requirements of standard spec 652.

D Measurement

The department will measure Install Pole Mounted Cabinet as each individual assembly, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
673.1225.S	Install Pole Mounted Cabinet	EACH

Payment is full compensation for storing the pole mounted cabinet, installing the pole mounted cabinet; for making all connections and conduit/wire entrances; and for all testing.

15.9 Removing 50-Foot Camera Pole, Item 677.9051.S.

A Description

This special provision describes removing existing camera poles and all equipment mounted on them.

B (Vacant)

C Construction

The contractor may request a meeting with the engineer to assess the condition and operability of equipment mounted on the pole before beginning work removing the pole. Any damage or improper operation not noted at the meeting, or before the contractor starting work on the removal, will be assumed to be the fault of the contractor; repair or replace the equipment. Store the equipment for pick up by department representatives.

Disconnect all cables, wiring and equipment that are mounted on or in the poles, and remove the pole from the concrete footing. The department will pick up any antenna, cameras, or other equipment mounted on the pole; contact maintenance staff at (414) 227-2166 at the department's Statewide Traffic Operations Center, when the material is ready to be picked up. Properly dispose of the pole, conduit, cabling, and wiring away from the project site.

D Measurement

The department will measure Removing 50-Foot Camera Pole by the unit, acceptably removed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
677.9051.S	Removing 50-Foot Camera Pole	EACH

Payment is full compensation for removing and disposing of the existing camera pole; disconnecting any necessary wiring; removing the equipment mounted on the poles; disposing of cabling and wiring; disposing of the pole properly off the project site; and transportation.

stp-677-901 (20230629)

15.10 Install Ethernet Extender, Item SPV.0060.0701.

A Description

This special provision describes installing an ethernet extender.

B Materials

The department will furnish ethernet extenders.

Furnish cables and connectors required to connect department-furnished ethernet switches and ethernet extenders or other devices.

C Construction

Install ethernet extenders in new or existing field cabinets. Connect to the devices the plans show or engineer directs.

D Measurement

The department will measure install Ethernet Extender as each individual unit acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.0701	Install Ethernet Extender	EACH

Payment is full compensation for installing the devices; for cables and connectors; and connecting the devices.

15.11 Salvaging Microwave Detector Equipment, Item SPV.0060.0702

A Description

This special provision describes removing and salvaging a mounted controller microwave detector assembly.

B (Vacant)

C Construction

Carefully remove the existing microwave detector equipment at the location indicated on the drawings. Remove mounting hardware associated with the microwave detector assembly. Disconnect all wiring connected to the microwave detector assembly back to the control cabinet. Use caution not to damage any existing devices or processor assembly.

Prior to salvaging, the Field System Integrator must determine if the ITS equipment is fully functional. If any part of the ITS equipment is found to not meet original manufacturer's specifications, contact the department's Traffic Management Center at 414-227-2166.

Disconnect all cables and wiring. Salvage and store the microwave detector equipment. The department will pick up to the microwave detector equipment. Contact Traffic Management Center staff at 414-227-2166 at least 5 working days prior to when material is ready to be picked up. Properly dispose of the cabling and wiring away from the project site.

Storage and protection of the salvaged materials prior to pickup is the responsibility of the contractor and is included with this item.

Any materials which are lost or damaged during salvaging or storage shall be repaired or replaced by the contractor at the expense of the contractor or will be repaired or replaced by the department at the expense of the contractor, as determined by the engineer.

D Measurement

The department will measure Salvaging Microwave Detector Equipment as each unit, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.0702	Salvaging Microwave Detector Equipment	EACH

Payment is full compensation for removing of the microwave detector assembly; disconnecting any necessary wiring; removing the equipment mounted on the existing pole; and disposing of cabling and wiring.

15.12 Salvaging Wireless Antennas, Item SPV.0060.0703;

A Description

This special provision describes removing and salvaging wireless antennas.

B (Vacant)

C Construction

Carefully remove the existing wireless antennas at the location indicated on the drawings. Remove mounting hardware associated with the wireless antenna. Disconnect all wiring connected to the antenna back to the control cabinet. Use caution not to damage any existing devices or processor assembly.

Prior to salvaging, the Field System Integrator must determine if the ITS equipment is fully functional. If any part of the ITS equipment is found to not meet original manufacturer's specifications, contact the department's Traffic Management Center at 414-227-2166.

Disconnect all cables and wiring. Salvage and store the wireless antenna equipment. The department will pick up to the wireless antenna equipment. Contact Traffic Management Center staff at 414-227-2166 at least 5 working days prior to when material is ready to be picked up. Properly dispose of the cabling and wiring away from the project site.

Storage and protection of the salvaged materials prior to pickup is the responsibility of the contractor and is included with this item.

Any materials which are lost or damaged during salvaging or storage shall be repaired or replaced by the contractor at the expense of the contractor or will be repaired or replaced by the department at the expense of the contractor, as determined by the engineer.

D Measurement

The department will measure Salvaging Wireless Antennas as each unit, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.0703	Salvaging Wireless Antennas	EACH

Payment is full compensation for removing of the wireless antenna; disconnecting any necessary wiring; removing the equipment mounted on the existing pole; and disposing of cabling and wiring

15.13 Remove and Reinstall ITS Equipment, Item SPV.0060.0704.

A Description

This special provision describes removing and reinstalling ITS equipment from the temporary camera pole to the permanent camera pole at the STH 441 interchange as indicated on the plans. ITS equipment includes pole mounted cabinet, ethernet switch, breaker disconnect box, and CCTV camera.

B Materials

Provide all tools and equipment necessary to remove and reinstall the ITS equipment from the temporary wood pole to the permanent camera pole.

C Construction

Prior to relocating, the Field System Integrator must determine if the ITS equipment is fully functional. ITS equipment to be relocated includes pole mounted cabinet, ethernet switch, breaker disconnect box, and CCTV camera. If any parts of the equipment are found to not meet original manufacturer's specifications, notify engineer.

Carefully remove and reinstall the ITS equipment as indicated on the plans. Relocate all mounting hardware and cables/wires associated with the ITS equipment.

Reinstall and make operational the ITS equipment from the temporary camera pole onto the permanent camera pole within 5 days.

Storage of materials during the relocation process is the responsibility of the contractor and is incidental to this item.

Any materials which are damaged during the relocation process will be repaired or replaced at the expense of the contractor.

Notify the Traffic Management Center at (414) 227-2154 a minimum of 5 working days prior to removing and reinstalling ITS equipment to coordinate video outages.

D Measurement

The department will measure Remove and Reinstall ITS Equipment as a single unit, acceptably completed of work.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.0704	Remove and Reinstall ITS Equipment	EACH

Payment is full compensation for removing and reinstalling the ITS equipment including all labor, tools, and equipment.

15.14 Wood Pole, 60-FT, Item SPV.0060.0705.

A Description

This special provision describes furnishing and installing a wood pole, 60-ft with as shown on the plans, and as provided hereinafter.

B Materials

Furnish a Class II wood pole conforming to the American Standard Specifications and Dimensions for Wood Poles (ANSI 2051), unless otherwise specified by the engineer.

Treat the wood pole in accordance to the requirements and recommendations of AWWA Standard C1 and the applicable AWWA Commodity Standards. Do not use Creosote for treatment.

Furnish all necessary riser conduit and fittings, weather heads, guy wire, span wire, tether wire, messenger wire and mounting hardware, intermediate support posts, electrical wire, and all other necessary materials to make the connection as shown on the plans.

Use metallic conduit, flexible liquid tight conduit, fittings, and adapters required from the underground conduit transition point to the wood pole.

Furnish grounding electrodes that are one solid rod with a minimum 8-foot length and 5/8-inch diameter made of the copper clad type or engineer-approved equal. Furnish a separate 6 AWG stranded bare copper wire to run up the pole to attached equipment for grounding purposes.

C Construction

Install the wood pole with 20% of the pole length below ground.

Perform work according to the WSEC. Provide and install wood poles, intermediate support posts, tether wire, messenger wire, tether wire hardware, messenger wire hardware, guy wire, span wire, guy wire hardware, and span wire hardware, riser conduit, banding, underground conduit, and required connection into existing meter breaker pedestal. Restore ground to original condition using seed, mulch and fertilizer, as required.

Drive a grounding electrode vertically into the ground outside the wood pole. Exothermically weld copper wire to the grounding electrode, run to, and terminate at a grounding lug inside equipment on the pole.

Coordinate with Kimberly Bradley of the WisDOT NE Region at 920-492-4174 a minimum of 14 working days prior to connecting into meter breaker pedestal service at the location shown on the plans.

D Measurement

The department will measure Wood Pole, 60-FT as each individual wood pole 60-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.0060.0705	Wood Pole 60-FT	EACH

Payment is full compensation for furnishing and installing the wood pole, all materials necessary for connection to the meter breaker pedestal, for excavating, bedding, backfilling, and restoration of ground to original condition including seed, mulch and fertilizer.

15.15 Remove Poles Wood, Item SPV.0060.0706.

A Description

This special provision describes removing an existing wood pole and all attached equipment (that is not being salvaged or relocated by the project).

B Materials

Provide all tools and equipment necessary to remove the existing wood pole and all attached equipment (that is not being salvaged or relocated by the project).

C Construction

Carefully remove the existing wood pole and all attached equipment (that is not being salvaged or relocated by the project) at the location indicated on the plans.

Dispose of removed materials off of department right-of-way.

D Measurement

The department will measure Remove Poles Wood as each individual wood pole acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.0706	Remove Poles Wood	EACH

Payment is full compensation for removing the wood pole and all attached equipment that is not being salvaged or relocated by the project.

16. Miscellaneous and Incidental Construction.

16.1 Noise Barriers Double-Sided Sound Absorptive N-44-0017, Item 541.0300.S.0017.

A Description

This special provision describes designing, fabricating, transporting, and erecting composite concrete double-sided sound absorptive noise barriers as the plans show and conforming to department-approved installation specifications.

B Noise Wall System

B.1 System Pre-Qualification and Selection

The noise wall system supplied must be pre-qualified by the department. The department maintains a list of pre-qualified systems which can be viewed online at:

<https://wisconsin.gov/Pages/doing-bus-eng-consultants/cnslt-rsrcs/tools/appr-prod/default.aspx>

Systems eligible for use on this project shall be pre-qualified before the award of this contract.

Provide the name of the selected system, and the intended fabricator to the engineer within 25 days after award of the contract. Schedule a pre-design meeting with the engineer subsequent to award of the contract and before beginning design of the noise barrier. A representative of the fabricator of the noise barrier components shall attend this meeting.

B.2 Design

B.2.1 Structural and Foundation Design

The structural and foundation design of the noise barrier system shall conform to the current edition of "AASHTO LRFD Bridge Design Specifications" published by the American Association of State Highway and Transportation Officials (AASHTO), 444 North Capitol Street, NW, Suite 225, Washington, DC 20001, with the following exceptions:

The minimum design wind pressure shall be 35 pounds per square foot (Strength III) for ground mounted noise barriers and 40 pounds per square foot (Strength III) for structure mounted noise barriers, unless specified otherwise on the plans. For ground and structure mounted noise barriers, the minimum Service I

design wind pressure shall be 15 pounds per square foot. All wind loads shall be applied perpendicular to the barrier, alternately in each direction.

Design drilled shaft foundations using the Broms Method or the p-y Method. Ignore the top 1 foot of supporting soil in the design of ground-mounted barrier foundations.

In addition to wind loads, design the bottom noise barrier panel to support the dead load (weight) of the panels directly above it and its own dead load. Assume this dead load to be distributed uniformly across the bottom panel acting as a simple beam supported at the posts.

Bottom noise barrier panels shall have a minimum amount of perimeter reinforcement of a #4 bar which shall be continuous around the corners. Reinforcing steel in the concrete core of noise barrier panels shall have a minimum clear cover of 1 inch. Clear cover does not include sound absorptive material. Design the reinforced concrete core to resist the loads without considering any composite action from other material in the panel.

Provide a neoprene bearing pad or equivalent material of 1/4 inch minimum thickness between the foundation and the bottom panels. The allowable bearing stress shall not exceed 900 psi. Precast concrete pedestals placed between the foundation and bottom panels shall be reinforced if over 1'-0" high. The bearing pads shall be preformed EPDM rubber conforming to ASTM D-2000, Grade 2, Type A, Class A with a minimum Durometer Hardness of 80.

B.2.2 Fire Hose Access Openings

Design fire hose access openings, at locations the plans show, with additional reinforcement and clear cover around the opening as necessary to maintain structural integrity. Detail drawings shall show the additional reinforcement and method for attaching the Fire Hydrant Location Signs to the barrier panel.

B.2.3 Barrier Profile

Unless the plans show or the engineer approves otherwise, design the top of the noise barrier to be horizontal and at or above the acoustic elevation line the plans show. The bottom elevation of the noise barrier shall be as the plans show. Changes in elevation shall be accomplished by stepping sections at posts. Steps shall not exceed 3-feet in height. All joints shall be horizontal or vertical and shall be aligned with the adjacent panels.

B.2.4 Panel Orientation

Design the panels to prevent entrapment and ponding of water. Avoid inadvertently providing areas for perching, nesting of birds or collecting of dirt and debris in the design of the noise barrier system.

B.2.5 Sound Transmission Loss (TL)

Design the noise barrier panel material to achieve a transmission loss equal to or greater than 20 decibels in all test frequency bands, as referenced in ASTM E90.

B.2.6 Noise Reduction Coefficient (NRC)

Design the noise barrier system so that the highway sides of the noise barrier panels have a minimum NRC of 0.80 and the residential sides have a minimum NRC of 0.70 as referenced in ASTM C423.

B.2.7 Design Coordination

Design the noise barrier post spacing so as not to interfere with the existing utility and drainage facilities. Design the noise barrier post spacing so as not to interfere with proposed utility and drainage facilities the plans show. This includes proposed roadway lighting and ITS facilities.

For noise barriers mounted behind or near proposed retaining walls, coordinate and design the noise barrier post spacing so as to not interfere with embedded portion of the proposed retaining walls, including MSE wall soil reinforcement and tieback anchors on soldier pile and timber lagging retaining walls.

For noise barriers mounted on proposed bridges and retaining walls, coordinate and design the noise barrier post spacing to coincide with noise barrier post and embedded noise barrier anchor assembly spacing shown on the bridge and retaining wall plans. Coordinate any required changes to the noise barrier post spacing and embedded noise barrier anchor assembly locations shown on the bridge and retaining wall plans, if required for the design of the noise barrier.

B.2.8 Weep Hole Openings

Design panels such that weep hole openings in noise wall to allow water to drain can be field installed per C.3 at locations the plans show.

B.2.9 Maintenance Doors

Design maintenance doors and door portals in noise walls, at locations the plans show, with additional reinforcement and clear cover around the opening as necessary to maintain structural integrity per B.2.1.

B.3 Materials

Required material certifications and testing are the responsibility of the contractor. All certifications and test reports shall carry the name and address of the fabrication facility where the specific material was produced.

B.3.1 Concrete Masonry

Provide grade A concrete conforming to standard spec 501 as modified in standard spec 716 for concrete posts and the core component of composite concrete sound absorbing panels. Provide QMP for class II ancillary concrete as specified in standard spec 716.

B.3.2 Materials Testing General

All test reports shall carry the name and address of the laboratory where testing was performed, and the name of the person in responsible charge of the specific tests for which data is presented. Materials tested shall be representative of materials manufactured for this specific contract. Panels tested or from which samples will be taken will be selected and appropriately marked by the engineer either at the manufacturer's plant or from panels delivered to the project at the engineer's option.

Testing as detailed below is required for each lot of material not to exceed 100,000 SF of noise barrier produced. Conduct testing on panels within the first 30,000 SF of production of each lot not exceeding 100,000 SF. For projects that do not exceed 100,000 SF, a minimum of two lots of material will represent the project, each lot representing equivalent square footage. The first set of tests conducted for projects that do not exceed 100,000 SF shall be within the first third of the total square footage of the project. Provide the shipping record of the samples to the laboratory within five days of sampling. Begin testing as soon as practicable after sampling.

Test all materials as fabricated, including any specified finishing.

B.3.2.1 Noise Reduction Coefficient (NRC)

Test noise barrier panels according to ASTM C423, and placed according to ASTM E795, mounting type A, to determine the noise reduction coefficient (NRC) of the material. Submit to the engineer an independent laboratory test report that shows that the noise barrier panels achieve an NRC as specified in B.2.6 for the highway side of the barrier.

B.3.2.2 Long-term Durability

Test all sound absorbing composite concrete and composite concrete components for long-term durability according to ASTM C672 and the following modifications and/or requirements:

B.3.2.2.1 Test Specimens

Three specimens of a full cross section of the composite panel at least 144 square inches in face area will be selected at random from the provided composite panel as defined in B.3. Sample specimens shall be representative of the manufacturer's continuous production operation, as selected and marked by the engineer. Specimens shall be 2D-symmetric and shaped according to the testing laboratory's accommodations.

Prepare the surfaces of the sample specimens for testing as follows. Brush the surfaces of the sample to remove any loose particles. Before testing, submerge the test specimens be submerged in water for a period of 24 hours before testing. Immediately following this, cover the specimens with the sodium chloride solution as stated below.

B.3.2.2.2 Test Procedure

Place samples in a 5 sided water tight container, fully submerged in a solution of sodium chloride (concentration 3% by mass). Maintain 1/4 inch of sodium chloride solution above the top surface of the fully submerged specimen within the container.

Subject the submerged specimens to continuous freeze-thaw cycles as follows:

After each five cycles, remove the salt solution and particles of deteriorated concrete from the slab and collect in a watertight container. The operation is best accomplished by tilting the slab in a funnel

approximately 20 inches in diameter and washing the surface of the slab with a 3% sodium chloride solution. Continue this washing until all loose particles are removed from the sample. Strain the solution through a filter and dry the residue at 221 degrees Fahrenheit to a constant mass condition. Cumulatively weigh the residue after each five cycles. The dry residue is defined as the loss of mass. Calculate the loss of mass to the nearest 0.01 pounds per square foot, not including the exposed surface of any core material on the cast or cut edges. Visually rate the surfaces according to 10.1.5 of ASTM C672 including any delamination of the sound absorbing material from the concrete core for composite concrete materials. After each washing of each sample, re-establish the initial submerged condition with a new solution of 3% sodium chloride before continuing with freeze-thaw cycling.

Continue the test until 30 freeze-thaw cycles have been completed.

During the test position and support each specimen to allow free circulation of the test solution under, around, and over test pieces. Support the bottom of the specimens on blocks in a manner to facilitate movement of moisture through and around the test specimens.

B.3.2.2.3 Test Report

Submit to the engineer an independent testing laboratory test report which shows that all solid and composite concrete products meet or exceed the following criteria:

1. After 30 freeze-thaw cycles the test specimens shall not exhibit excessive deterioration in the form of cracks, spalls, aggregate disintegration, delamination or other objectionable features.
2. Compliance with the test requirements is based upon a loss of mass of not more than 0.2 pounds per square foot from the surface after 30 cycles of freezing and thawing.
3. Provide the report with the following:
 - 3.1. Name of manufacturer.
 - 3.2. Location of production.
 - 3.3. Production description.
 - 3.4. Date product sample was cast.
 - 3.5. Date testing began.
 - 3.6. Specimen identification.
 - 3.7. 5x7-inch color photographs of the test specimens before and after the 30 cycles of freeze-thaw test showing both sound absorbing faces and at least one representative side view of a cut (not cast) face, and any defects.
 - 3.8. A graph of the cumulative mass loss of each specimen plotted against the number of freeze-thaw cycles for 5, 10, 15, 20, 25, and 30 freeze-thaw cycles.
 - 3.9. Visual rating according to ASTM C672 Section 10.1.5, including report of any delamination of the sound absorbing material from the concrete core for composite concrete components.

B.3.3 Materials Certification - General

Provide certification of compliance or sample fabrications as noted below. All material certifications shall reference the specific facility manufacturing the material and this contract. Certification is required for each lot of material not to exceed 100,000 SF of noise barrier produced, and shall include dates of fabrication for the lot being certified. For projects that do not exceed 100,000 SF, a minimum of two lots of material will represent the project, each lot representing equivalent square footage.

B.3.3.1 Color and Surface Texture

Supply and deliver to the engineer a 3 foot x 5 foot minimum test panel for each panel type with the specified pattern and colors. Obtain the engineer's acceptance of the panel's pattern and color before production of the panels required for the contract. The accepted pattern and color test panels shall remain on the project site in a readily accessible location for the duration of the project. The accepted pattern and color sample panels will be the standard for all noise barriers on the project.

Manufacture noise barrier posts of the same materials throughout the project. Shop apply coating and coloring of the post and panels.

Unless otherwise shown and provided for in the plans, wall pattern shall contain textures with relief features of sufficient depth and quantity to be distinguishable at an observation distance of 500-feet. The colors and textures chosen will be within the following parameters; however, at the discretion of the engineer, a single color and/or a single texture may be selected for either side of the noise barrier.

FREEWAY SIDE RESIDENTIAL SIDE

Number of colors 2 2

In the proportion of 75:25 (+/- 5%) 75:25 (+/-5%) Number of textures 2 2

In the proportion of 75:25 (+/- 5%) 75:25 (+/- 5%)

The engineer will visually inspect panels for color consistency upon arrival at the project. The panels shall have no substantial variation in color from the accepted sample panel submitted for the project. All panels with substantial color variation will be rejected and shall be removed from the project.

B.3.3.2 Structural Steel

Submit to the engineer certification of compliance, including mill certifications and heat numbers, that structural steel conforms to the properties required on the plans and shop drawings, and is galvanized after fabrication by the hot-dip process according to ASTM A123. Galvanize all steel hardware and threaded fasteners, bolts, nuts, and washers according to ASTM A153.

Shop coat all steel galvanized surfaces exposed to view with a department-approved paint system. Clean galvanizing surfaces to be painted according to SSPC-SP1 to remove, chlorides, sulfates zinc salts, oil, dirt, organic matter and other contaminants. Brush Blast clean the surfaces according to SSPC-SP7 to create a slight angular surface profile (1.0 – 1.5 mils suggested) for adhesion. Do not fracture the galvanized finish or remove any dry film thickness during these processes.

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 surface and prepare the surface for the top coat. Apply a top coat matching the finished color specified in B.3.2. Use a pre-approved top coat that is resistant to the effects of the sun, and is suitable for use in a marine environment. Exercise care so as not to damage the painted surfaces during shipment and erection of the noise barriers.

Use one of the qualified paint sources and products given below. An equivalent system may be used with the written approval of the engineer. Supply the engineer with the product data sheets before applying any coating. The product data sheets shall indicate the mixing and thinning directions, the recommended spray nozzles and pressures, the minimum drying time for shop applied coats, and the recommended procedures for coating galvanized bolts, nuts, and washers.

Producer	Coat	Products	Dry Film Minimum Thickness (mils)	Minimum Time Between Coats (hours)
Sherwin Williams Co. (847) 330-1250	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 Co. (314) 644-1000	Tie	Rustbond Penetrating Sealer FC	1	36
	Top	Carboline 133 LH	4	NA
Wasser Corp. (253) 850-2967	Tie	MC-Ferrox B 100	3.0 to 5.0	8
	Top	MC-Luster 100	2.0 to 4.0	NA

B.3.3.3 Sound Transmission Loss (TL)

Submit to the engineer certification of compliance that the sound transmission loss of the panel material, when tested according to ASTM Standard E90, achieves a transmission loss as specified in B.2.5.

B.3.3.4 Accelerated Weathering

Submit to the engineer certification of compliance that all coatings on barrier components, with the exception of structural steel and wood components comply with the following requirements when tested according to ASTM Standard G155, G153, or G152 after 2400 hours of exposure on a cement based test specimens:

1. No checking when rated according to ASTM D660.
2. No cracking when rated according to ASTM D661.
3. No blistering when rated according to ASTM D714.
4. No difference in adhesion between the unexposed control sample and an exposed sample when tested according to ASTM D3359, Method A.
5. No chalking less than #7 rating when rated according to ASTM D4214.
6. No color change greater than 5 NBS units when measured according to ASTM D2244, using illuminant D65 and the 1964 10-degree standard observer.

B.3.3.5 Corrosion Resistance (Salt Fog Exposure)

Submit to the engineer certification of compliance that all coated steel components, with the exception of structural steel, has a coating system that has been tested for corrosion resistance according to ASTM B117 and comply with the following requirements:

1. No checking when rated according to ASTM D660.
2. No blistering when rated according to ASTM D714.
3. No loss of adhesion when tested according to ASTM D3359 with no evidence of corrosion along the edges

of the samples or along the score lines or both or other defects.

B.4 Project Submittal Requirements

Furnish required submittals according to the following:

B.4.1 Pre-Construction Submittals

A minimum of 14 days before beginning any shop or field work, submit the following documents to the engineer conforming to standard spec 105.2 with electronic submittal to the fabrication library under standard spec 105.2.2.

1. Structural and foundation design calculations
2. Design calculations shall be on 8 1/2 x 11-inch sheets, neatly bound with a title sheet listing the complete project identification number and sound barrier designation. Structural and foundation calculations shall be signed, sealed, and dated by a professional engineer licensed in the State of Wisconsin.
3. Detailed design/shop drawings.
4. Design/shop drawings shall conform to the contract plans and the requirements of these special provisions. The design/shop drawings shall consist of plan and profile sheets, details, explanatory notes, erection diagrams, aesthetic treatments, and other working plans. All dimensions, sizes of material, material information and other information necessary for the complete fabrication and construction of the noise barrier shall be designated on the appropriate sheets. The design/shop drawings shall be drawn to an appropriate scale on reproducible sheets 11 x 17 inches including borders. Each sheet shall carry the complete project identification number and noise barrier designation. Design/shop drawings shall be signed, sealed and dated by a professional engineer licensed in the State of Wisconsin.
5. Specifications regarding installation requirements and sequence of construction, including a detailed bill of materials.
6. Detailed color plan of the aesthetic treatments and finishes for the entire noise barrier.
7. Shipping, handling, and storage plan identifying methods or practices to limit post production damage.

Department review does not relieve the contractor from responsibility for errors or omissions on shop drawings.

B.4.2 Pre-Installation Submittals

Supply and deliver to the engineer the sample panel required under Section B.3.3.1 at least 14 calendar days before beginning production and/or installation of job materials. Acceptance of the sample panel will be by: Bryan Learst, (920) 366-5639, bryan.learst@dot.wi.gov. If the panel is not acceptable, a second panel shall be produced and submitted for acceptance. Sample panel to be representative of quality for precast panel work after acceptance. Deliver test panels to the WisDOT CTH S interchange park and ride for comparison purposes. The park and ride is located on the SW side of the interchange and can be accessed from Mid Vally Drive.

B.4.3 Payment Submittals

Submit certifications and test data as required under B.3 for all materials, including trade name of the products along with the name and address of the manufacturers.

B.4.4 Submittal Review

The engineer's review and acceptance of the drawings, calculations, and related material, submitted by the contractor, is for compliance with design intent only, and does not relieve the contractor from responsibility in regard to errors or omissions on said submittals.

The final accepted design documents and/or shop drawings will become a part of the contract. Any substitution of materials or dimensions contemplated by the contractor's submitted documents, different from materials or dimensions shown on the contract plans, shall be made only when approved by the engineer, and in such case, additional costs resulting from such substitution shall be borne by the contractor.

Ordering materials before department acceptance of submittals is at the contractor's risk.

C Construction

C.1 General

Construct the noise barriers at the locations the plans show, according to the contract specifications and design drawings and/or as the engineer directs. Deliver all sound absorbing composite concrete components to the project site as a finished component. A sound absorbing composite concrete system, which has the sound absorbing material glue-laminated or alternately affixed by a secondary adhesion method on the project site, will not be allowed.

Provide a minimum ten day notice to the engineer of the date that the fabrication of the noise barrier material will begin.

Inspect all materials delivered to the construction site for proper dimensions, honeycombing, cracks, voids, surface defects, consistency in color and texture, and any other damage or imperfections, before installation.

If any part of the noise barrier material fails to comply with any requirements of the contract specification, the component shall either be corrected, permanently marked as unacceptable and be disposed of by the contractor or accepted at a reduced price. The decision will be made by the engineer and is dependent on the severity of the specification deviation.

Erect noise barriers to avoid conflict with any existing facilities or utilities to remain in place. Any damage caused by construction activities shall be repaired by the contractor at no cost to the department.

C.2 Fire Hydrant Location Signs

Attach fire hydrant location signs to the noise barrier at each location the plans show by a method the department's approved drawings show. The signs shall conform and be of the type specified in the department's sign plate book, plate D9-54 and/or D9-54A.

C.3 Weep Hole Openings

Provide weep hole openings for drainage at the locations and sized as noted on the plan. Install weep holes by drilling through the wall after erection of the noise barrier. Use 6" PVC Schedule 40 pipe sleeve conforming to ASTM D-1785. Epoxy 6" PVC Schedule 40 pipe sleeve into bored weep hole. PVC pipe sleeve shall fit snugly in cored hole through wall. Epoxy PVC pipe sleeve into bored weep hole in noise barrier. Locate and construct weep holes according to the plans and as the engineer directs. Place weep holes at locations the plans show unless the engineer approves adjusting locations to fit field conditions. The engineer will field verify the height and location of the weep hole for positive drainage.

C.4 Name Plates

Provide name plates conforming to the requirements of standard spec 506.2.4. Install one name plate on each noise barrier at the location the plans show. Rigidly attach each plate to the barrier by a means approved by the engineer.

Compensation for furnishing and placing of name plates shall be included in the contract price for Noise Barriers, Double-Sided Sound Absorptive Structure and no additional compensation therefore will be allowed.

C.5 Structure Mounted Noise Barriers

Do not erect noise barriers mounted to bridge or retaining wall structures until after the concrete for bridge decks and parapets or retaining wall moment slabs and parapets have attained their specified 28-day strength.

For noise barriers mounted to moment slabs and parapets on top of MSE retaining walls, erection of the noise barrier is limited to two-thirds the height of the noise barrier acoustical line the plans show before placement of earth fill or pavement over the top of the moment slab as the plans show. Erection of the noise barrier in excess of two-thirds its height to the full height of the noise barrier acoustical line the plans show may not occur until after the earth fill or pavement structure over the top of the moment slab the plans show is complete.

C.6 Construction Tolerances

Install the posts and panels comprising the noise barrier plumb within 1/2 inch in 15-feet. Locate the posts to the line and grades as the plans show to within +/- 3/4 inch. Align horizontal joints of adjacent panels to a vertical tolerance of 1/4 inch. Where vertical adjustments are required for alignment, use a mortar base or steel shims. Galvanize and prime coat steel shims according to B.3.3.2.

D Measurement

The department will measure Noise Barriers Double-Sided Sound Absorptive N-44-0017 by the square foot, acceptably completed, as the area the original plans show plus engineer-approved modifications to the plan quantity caused by plan corrections or revisions.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
541.0300.S.0017	Noise Barriers Double-Sided Sound Absorptive N-44-0017	SF

Payment is full compensation for providing noise barrier including coloring and aesthetic treatment on panels, preparing the design drawings and calculations, furnishing and delivering sample and test panels, materials testing, furnishing materials test reports and certifications, excavation, preparing the site, constructing foundations, erecting posts and panels, and disposing of waste materials.

stp-541-010 (20230113)

16.2 Fire Hydrant Sign Mounting Item SPV.0060.0090.

A Description

The work under this item shall consist of furnishing and installing a Fire Hydrant Sign Mounting at each fire hydrant hose access location. All work under this item shall conform to section 637 of the standard specifications, the plans and as hereinafter provided.

B Materials

B.1 Mounting Bracket

Provide a sign bracket from a supplier listed below or an approved equal.

Supplier

Product Name

TAPCO

Metro Wing Bracket

5100 W. Brown Deer Road

Brown Deer, WI 53223

GRIMCO

Metro Wing Street Sign Brackets

N16W23390 Stone Ridge Dr. Suite A

B.2 Mounting Hardware

Attach the mounting bracket to the noise wall using stainless steel bolts with self-locking nuts. Provide the following:

- Stainless steel bolts and washers conforming to standard spec 513.2.1.
- Stainless steel self-locking nuts conforming to ASME B18.16.6.

Provide components in accordance to standard spec 637.2.4.2.1 for attaching the sign the mounting bracket.

C Construction

Two mounting brackets are required for each sign location. One bracket to support the top of the sign and the other to support the bottom of the sign.

Attach the mounting bracket to the noise wall in a stable position. Locate the mounting bracket as follows, or as directed by the engineer:

- No more than 2' from the top of the structure.
- No more than 5' on either side of a vertical line extending up from the actual fire hydrant access point.

Attach the sign to the mounting bracket in accordance to standard spec 637.3.3.3.

D Measurement

The department will measure Fire Hydrant Sign Mounting as each individual sign mounting, 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.0060.0090	Fire Hydrant Sign Mounting	EACH

Payment is full compensation for furnishing, installing mounting bracket and installing sign in bracket.

The department will pay separately for the sign.

16.3 Emergency Response to Traffic Involving Concrete Barrier Temporary, Item SPV.0060.0165.

A Description

This special provision describes providing prompt response to an emergency repair request for damaged and/or dislodged temporary concrete barrier installed under this project and for temporary concrete barrier left in place that are damaged or displaced due to a vehicular collision during the time this contract is in effect.

B (Vacant)

C Construction

The contractor shall provide appropriate staff, equipment, and materials to the incident site within one hour of receiving a repair request from the responding agency. The contractor shall consult with the department's representative on potential repair or replacement options to restore the temporary concrete barrier to proper working condition. Staff and equipment deployed shall be capable of completing the needed repairs as quickly as possible once repair work is started. Repair work shall be completed off the traveled way to the maximum extent allowable. The contractor shall provide a time log of when the repair request was received and when staff arrived at the incident site. This information shall be submitted to the engineer, for verification, within 24 hours of the repair completion.

Contact information for the contractor's responsible party (the person or persons in charge of coordinating and completing repair efforts) shall be submitted to the engineer at the pre-construction meeting. This person(s) shall be available 24 hours a day, 7 days a week, during the duration of this contract. The contact information for the department's representative will be supplied to the contractor at the pre-construction meeting.

If the contractor fails to be on-site of an incident with appropriate staff and equipment within one hour of receiving a repair request, the department will assess the contractor a \$500 fee assessment for each 15-minute interval that the contractor is not present following the allotted one-hour response time. Increments of 15 minutes or less will be assessed as a 15-minute increment. The engineer, or designated representative, will be the sole authority in determining assessable 15-minute increments. Fee assessments will be assessed under the administrative item Failing to Open Road to Traffic.

For contractor owned temporary concrete barrier and temporary concrete barrier left in place, repair work shall be completed according to standard spec 603 and 643, and as directed by the engineer. Additional traffic control measures may be required depending on the severity and duration of the incident. The contractor shall provide any needed traffic control measures as directed by the department's representative.

D Measurement

The department will measure Emergency Response to Traffic Involving Concrete Barrier Temporary as each individual response, 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.0060.0165	Emergency Response to Traffic Involving Concrete Barrier Temporary	EACH

Payment is full compensation for providing prompt response to an emergency repair request for damaged and/or dislodged temporary concrete barrier located within the project limits.

The cost of providing the appropriate level of on-call staff and equipment for 24 hour a day incident response availability shall be included in the Mobilization bid item for this project.

If the displaced barrier is damaged, replacement of the barrier is incidental to the items Concrete Barrier Temporary Precast Installed and Maintain and Remove Concrete Barrier Temporary Left in Place. If the displaced barrier is anchored, re-anchoring the barrier wall will be paid for under the Anchoring Concrete Barrier Temporary Precast bid item. The anchoring bid item will be used for both contractor owned temporary concrete barrier and temporary concrete barrier left in place that are anchored.

The department will pay for any additional traffic control measures, if required, under the respective traffic control bid items in the contract.

ner41-603 (07082024)

16.4 Emergency Response to Traffic Involving Crash Cushion Temporary, Item SPV.0060.0170.

A Description

This special provision describes providing prompt response to an emergency repair request involving a damaged temporary crash cushion installed under this project and for crash cushions temporary left in place that are displaced or damaged due to a vehicular collision during the time this contract is in effect.

B (Vacant)

C Construction

The contractor shall provide appropriate staff, equipment, and materials to the incident site within one hour of receiving a repair request from the responding agency. Staff deployed shall be capable of immediately assessing the severity of the damage to the device and consult with the department's representative on potential repair or replacement options and the projected timeline to restore the roadside device to its proper working condition. The contractor shall provide a time log of when the repair request was received and when staff arrived at the incident site. This information shall be submitted to the engineer, for verification, within 24 hours of the repair completion.

Contact information for the contractor's responsible party (the person or persons in charge of coordinating repair efforts) shall be submitted to the engineer at the pre-construction meeting. This person(s) shall be

available 24 hours a day, 7 days a week, during the duration of this contract. The contact information for the department's representative will be supplied to the contractor at the pre-construction meeting.

If the contractor fails to be on-site of an incident with appropriate staff and equipment within one hour of receiving a repair request, the department will assess the contractor a \$500 fee assessment for each 15-minute interval that the contractor is not present following the allotted one-hour response time. Increments of 15 minutes or less will be assessed as a 15-minute increment. The engineer, or designated representative, will be the sole authority in determining assessable 15-minute increments. Fee assessments will be assessed under the administrative item Failing to Open Road to Traffic.

Repair work shall be completed according to standard spec 614, and as directed by the engineer. Once repair work has been started, work shall continue until completion. Repair work shall be completed off the traveled way to the maximum extent allowable.

Additional traffic control measures may be required depending on the severity and duration of the incident. The contractor shall provide any needed traffic control measures as directed by the department's representative.

D Measurement

The department will measure Emergency Response to Traffic Involving Temporary Crash Cushion as each individual response, 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.0060.0170	Emergency Response to Traffic Involving Crash Cushion Temporary	EACH

Payment is full compensation for providing a prompt staff response to an emergency repair request for a damaged crash cushion device located within the project limits. If a crash cushion temporary requires replacement, payment for the installation and future removal of the new crash cushion is incidental to item Crash Cushions Temporary.

The cost of providing the appropriate level of on-call staff and equipment for 24 hour a day incident response availability shall be incidental to the Mobilization bid item for this project.

The department will pay for any additional traffic control measures, if required, under the respective traffic control bid items in the contract.

ner603 (20240111)

16.5 Fence Safety, Item 616.0700.S.

A. Description

This special provision describes providing plastic fence at locations the plans show.

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
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, 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
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.

stp-616-030 (20160607)

16.6 Removing Pavement Marking.

Perform this work in accordance with section 643 and 646.3.1.4 of the standard spec 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 water blasted off the pavement. Other methods of removing the markings off the permanent pavement will not be allowed.

16.7 Midwest Guardrail System (MGS).

Add to standard spec 614.2.1 the following:

The Midwest Guardrail System installed along IH 41, STH 15, STH 96 and ramps shall be attached to steel posts and notched plastic blockouts.

Add to standard spec 614.3.2.1 the following:

All posts will be driven through the base aggregate dense and select crushed layers of the pavement structure.

**16.8 Construction Staking Survey Project 1130-65-71, Item SPV.0060.0100;
Construction Staking Survey Project 1130-65-72, Item SPV.0060.0200;
Construction Staking Survey Project 1130-65-73, Item SPV.0060.0300;
Construction Staking Survey Project 1130-65-74, Item SPV.0060.0400;
Construction Staking Survey Project 1130-65-78, Item SPV.0060.0800.**

A. Description

This special provision describes providing all construction staking survey required to layout and construct the work. Conform to standard spec 650 and standard spec 105.6, and as follows.

B. (Vacant)

C. Construction

Perform all surveying required to construct the work under this contract as specified in standard spec 650. Include all other miscellaneous survey required to layout and construct all work under this contract.

Remove and replace standard spec 105.6 with the following:

105.6 Construction Staking

105.6.1 General

The department is responsible for errors or discrepancies found in previous department surveys, plans, specifications, special provisions, or work constructed under other department contracts. The department will pay for further studies and redesign required due to these errors or discrepancies.

The department will furnish data for the horizontal and vertical control points. Prosecute the work using these points for field control. The department is responsible for the accuracy of lines, slopes, and grades it provides. The engineer and contractor shall agree on the meaning of all stakes, measurements, and marks before the contractor begins work.

105.6.2 Contractor-Performed Staking

Provide the construction stakes or markings needed to prosecute the work as follows:

1. Additional staking or markings that might be needed to support the contractor's specific method of operations.
2. Staking required under standard spec 650 to lay out and construct the work for the individual construction bid items the contract includes.
3. Other staking or markings as required to successfully prosecute the work.

The contractor is responsible for the accuracy of lines, slopes, and grades the contractor provides. Construct the work conforming to the lines, grades, cross sections, and dimensions the contract specifies or the engineer establishes.

Notify the engineer immediately when finding errors or discrepancies in previous surveys, plans, specifications, special provisions, or work constructed under other contracts. Suspend related operations until the engineer gives approval to proceed.

The engineer may check the control of work, as established by the contractor, at any time. The engineer will provide the results of these checks to the contractor, but by doing so in no way relieves the contractor of the responsibility for the accuracy of their layout work.

Correct or replace deficient layout and construction work resulting from:

1. Inaccuracies in the contractor's staking operations.
2. Not reporting inaccuracies found in work done by the department or by others.

If, due to the inaccuracies in 105.6.2(5), the department is required to make further studies, redesign, or both, the department will deduct all expenses incurred from the payment due the contractor.

D. Measurement

The department will measure Construction Staking Survey Project as a single unit acceptably completed for the entire project.

E. Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.0100	Construction Staking Survey Project 1130-65-71	EACH
SPV.0060.0200	Construction Staking Survey Project 1130-65-72	EACH
SPV.0060.0300	Construction Staking Survey Project 1130-65-73	EACH
SPV.0060.0400	Construction Staking Survey Project 1130-65-74	EACH
SPV.0060.0800	Construction Staking Survey Project 1130-65-78	EACH

Payment is full compensation for performing all survey work required to layout and construct all work under this contract.

ner-650-025 (20210716)

16.9 Blue Specific Service Signs.

Add the following to standard spec 638.3.4:

Do not remove or move blue specific service signs or their associated posts. Specific service signs are signs with logos that identify commercial entities providing gas, food, lodging, camping, or attractions. A separate contractor, Interstate Logos - Wisconsin, is responsible for these signs. Contact Interstate Logos - Wisconsin at (844) 496-9163 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.

stp-638-010 (20150630)

16.10 Temporary Tape Rumble Strip Orange, Item 643.0320.S.

A Description

This special provision describes providing, maintaining, and removing temporary tape rumble strips orange.

B Materials

Provide temporary rumble strips according to the following:

1. Rumble Strip:

Composition:	Polymer with pre-applied adhesive
Color:	Orange
Tensile Strength:	250 psi
Cross-Section:	0.25 inch thick by 4 inches wide
2. Primer: Provide primer according to the manufacturer's recommendation.

C Construction

C.1 Placement

Place temporary rumble strips per manufacturer's recommendation.

Ensure that the rumble strip covers the entire width of the roadway from outside shoulder edge line to inside shoulder edge line.

Place the temporary tape rumble strips per plan or as directed by engineer.

C.2 Maintenance

If the temporary tape rumble strips lose their adhesion to the pavement, replace or re-adhere them, as directed by the engineer.

Upon completion of the project, or before the first snow fall, or as directed by the engineer, entirely remove temporary tape rumble strips in accordance with standard spec 646.3.1.4.

D Measurement

The department will measure Temporary Tape Rumble Strips Orange 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
643.0320.S	Temporary Tape Rumble Strip Orange	LF

Payment is full compensation for providing, maintaining, and removing temporary tape rumble strips.

The department will not pay for replacement of temporary rumble strips not applied per manufacturer's recommendation.

stp-643-032 (20250108)

16.11 Inlet Markers, Item SPV.0060.2000.

A Description

This special provision describes furnishing and installing a Type II W5-53S sign to mark inlet locations adjacent to barrier wall or parapets as shown in the plans, in accordance with standard spec 637, and as hereinafter provided.

Refer to WisDOT Sign Plate Manual for details of W5-53S (Low Inlet Marker).

B Materials

Furnish sheet aluminum conforming to standard spec 637.2.1.3.

Furnish reflective sheeting conforming to standard spec 637.2.2.2.

Furnish stainless steel anchors and washers conforming to standard spec 513.2.1.

C Construction

Manufacture, assemble and install inlet marker in accordance with 637.3 of the standard spec.

Install inlet marker against a clean and flat surface.

D Measurement

The department will measure Inlet Marker as each individual marker 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.0060.2000	Inlet Markers	EACH

Payment is full compensation for providing sign including mounting hardware; and for installing barrier wall inlet marker.

ner41-633 (20241104)

16.12 Fixed Message Sign Portable Support, Item SPV.0060.0440.

A Description

This special provision describes the construction of special portable sign supports for fixed message signs for shielded applications only, as the plans show.

B Materials

Use lumber and hardware conforming to standard spec 634.2.1.

C Construction

Construct the Fixed Message Sign Portable Support as the plans show. Remove at the completion of the work.

D Measurement

The department will measure Fixed Message Sign Portable Support as each individual portable 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
SPV.0060.0440	Fixed Message Sign Portable Support	EACH

Payment is full compensation for providing, maintaining and removing the portable support and moving sign.

ner41-634 (20240917)

16.13 Glare Screen Temporary, Item SPV.0090.0305.

A Description

This special provision describes furnishing, installing, maintaining, and removing a modular paddle glare guard system on concrete barrier temporary precast at the indicated locations according to the plans and standard specifications, as directed by the engineer and as hereinafter provided.

B Materials

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

Utilize modular units with cumulative nominal length equal to 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.

Design the relative connection strengths between various components of the assembly to minimize the potential impact and debris hazard to approaching traffic and to simplify repairs. Fabricate the modular

units 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.

Provide a paddle glare guard from a manufacturer below or an approved equal:

Manufacturer Address

Safe-Hit Corporation 2405 IH 35 West, New Braunfels, TX 78130

Carsonite International 2900 Lockhead Way, Carson City, NV 89701

Flexstake Incorporated 2150 Andrea Lane, Fort Meyers, FL 33912

C Construction

Attach the base rail to the top of the concrete barrier temporary precast by 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.0090.0305	Glare Screen Temporary	LF

Payment is full compensation for furnishing, installing, maintaining and removing the Glare Screens Temporary.

ner41-600 (05082024)

ADDITIONAL SPECIAL PROVISION 1 (ASP 1) HIGHWAY CONSTRUCTION SKILLS TRAINING (HCST) 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 include: 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).

The Wisconsin Department of Transportation OJT program was originally established in 1995. Highway Construction Skills Training (HCST) was previously known as Transportation Alliance for New Solutions (TrANS) and underwent a name change in early 2023. HCST is an industry driven plan of services to address the outreach, preparation, placement and retention of women, minorities, and disadvantaged persons as laborers and apprentices in the highway skilled trades. Candidate preparation and contractor coordination services (OJT Supportive Services) are provided by contracted community-based organizations.

I. BASIC CONCEPTS

Training reimbursements to employing contractors for new placements, rehires or advancement to apprenticeship of Highway Construction Skills Training (HCST) graduates and employing eligible trainees in qualifying trades will be made as follows:

- 1) **On-the-Job Training, Item ASP.1T0G, ASP 1 HCST Graduate.** At the rate of \$5.00 per hour on Federal-aid projects when HCST graduates are initially hired, or seasonally rehired, as unskilled laborers or equivalent.
Eligibility and Duration: To the employing contractor, for up to 2,000 hours or two years, whichever comes first from the point of initial hire as a HCST placement.
Contract Goal: To maintain the intent of the Equal Employment Opportunity program, it is a goal that 5 HCST Graduate(s) be utilized for 5760 hours 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 HCST Program is subsequently entered into an apprenticeship contract in a qualifying trade.
Eligibility and Duration: To the employing contractor, for the length of time that the HCST graduate is in apprenticeship status.
Contract Goal: To maintain the intent of the Equal Employment Opportunity program, it is a goal that 2 HCST Apprentice(s) be utilized for 2100 hours on this contract.
- 3) The maximum duration of reimbursement is two years as a HCST graduate plus time in apprentice status.
- 4) If a HCST 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 Department of Transportation Labor Development Specialist at the phone number listed below.

- 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.

II. RATIONALE AND SPECIAL NOTE

The \$5.00 per hour now being paid for HCST 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 HCST 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 HCST 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 HCST 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.*

III. 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 page 2 Dated January 2012 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 HCST graduate or a HCST apprentice. The compliance specialists utilize the information on the Certified Payrolls to track the hours accumulated by HCST Graduates and HCST 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. HCST 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. HCST 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 ensure 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-Office of Business Opportunity & Equity Compliance (OBOEC). A request for an exemption or modification, with justification, shall be made in writing, addressed to WisDOT OBOEC - Labor Development, 141 NW Barstow Street, Suite 411, PO Box 798, Waukesha, WI 53187.

VI. PROGRAM CONTACTS

Marguerite (Maggie) Givings, Labor Development Specialist

Marguerite.Givings@dot.wi.gov | 608-789-7876

Deborah Seip, Labor Development Specialist

Deborah.Seip@dot.wi.gov | 262-548-8702

ADDITIONAL SPECIAL PROVISION 3

DISADVANTAGED BUSINESS ENTERPRISE (DBE) PROGRAM IMPLEMENTATION

Authority

Wisconsin Department of Transportation (WisDOT) is a recipient of funds from the US Department of Transportation's Federal Highway Administration. The DBE program is a federal program applicable on all contracts administered by WisDOT that include federal-aid highway funds. The authority for the DBE program is the Transportation Bill as approved by Congress periodically. DBE program guidance and requirements are outlined in the Code of Federal Regulations at 49 CFR Part 26. This contract is subject to DBE provisions because it is financed with federal-aid-highway funds. Additionally, this contract is subject to the *State of Wisconsin Standard Specifications for Highway and Structure Construction* and all applicable contract documents.

Requirements

Pursuant to the federal DBE program regulation at 49 CFR Part 26, a contractor's failure to comply with any provision of the DBE program regulatory provisions will be considered a material breach of contract. This is nonnegotiable.

If a contractor fails to carry out the DBE program requirements and/or the Required Contract Provisions for Federal Aid Contracts (FHWA 1273) referenced in this document, sanctions will be assessed depending upon the facts, reasoning, severity, and remedial efforts of the contractor that may include: termination of contract, withholding payment, assessment of monetary sanctions, and/or suspension/debarment proceedings that could result in the disqualification of the contractor from bidding for a designated period of time.

- (1) The Commitment to Subcontract to DBE (Form DT1506 or digital submittal), Attachments A, and Good Faith Effort Documentation (Form DT1202) will be submitted as described in Section 2.
- (2) Any change to DBE Commitments thereafter must follow modification of DBE subcontracting commitment as described in Section 9.
- (3) The Department requires this list of DBE subcontractors from all bidders at time of bid to ensure the lowest possible cost to taxpayers and fairness to other bidders and subcontractors. Bid shopping is prohibited.
- (4) The contractor must utilize the specific DBE firms listed in the approved DBE Commitment to perform the work and/or supply the materials for which the DBE firm is listed unless the contractor obtains written consent in advance from WisDOT. The contractor will not be entitled to payment for any work or materials on the approved DBE Commitment that is not performed or supplied by the listed DBE without WisDOT's written consent.

Description

The Wisconsin Department of Transportation is committed to the compliant administration of the DBE Program. The DBE provisions work in tandem with FHWA 1273 and WisDOT's *Standard Specifications for Highway and Structure Construction* and *Construction and Materials Manual*. The WisDOT Secretary is signatory to assurances of department-wide compliance.

The Department assigns the contract DBE goal as a percentage of work items that could be performed by certified DBE firms on the contract. The assigned DBE goal is expressed on the bid proposal as a percentage applicable to the total contract bid amount.

- (1) WisDOT identifies the assigned DBE goal in its contract advertisements and posts the contract DBE goal on the cover of the bidding proposal. The contractor can meet the assigned contract DBE goal by subcontracting work to a DBE firm or by procuring services or materials from a DBE firm.

- (2) Under the contract, the prime contractor should inform, advise, and develop participating DBE firms to be more knowledgeable contractors who are prepared to successfully complete their contractual agreement through the proactive provision of assistance in the following areas:
- Produce accurate and complete quotes
 - Understand highway plans applicable to their work
 - Understand specifications and contract requirements applicable to their work
 - Understand contracting reporting requirements
- (3) The Department encourages contractors to assist DBE subcontractors more formally by participating in WisDOT's Business Development program as a mentor, coach, or resource. For comprehensive information on the Disadvantaged Business Enterprise Program, visit the Department's Civil Rights and Compliance Section website at: <http://wisconsindot.gov/Pages/doing-bus/civil-rights/dbe/default.aspx>

1. Definitions

Interpret these terms, used throughout this additional special provision, as follows:

- a. **Assigned DBE Contract Goal:** The percentage shown on the cover of the Highway Work Proposal that represents the feasible level of DBE participation for each contract. The goal is calculated using the Engineer's Estimate and DBE Interest Report. Goal assignment includes review of FHWA funds, analyzes bid items for subcontract opportunity and compatibility with DBE certified firm work codes. Additional factors considered include proximity, proportion, and regulations.
- b. **Bid Shopping:** In construction law, bid shopping is the practice of divulging a subcontractor's bid to another prospective contractor(s) before or after the award of a contract to secure a lower bid.
- c. **DBE:** Disadvantaged Business Enterprise – A for-profit small business concern where socially and economically disadvantaged individuals own at least a 51% interest and control management and daily business operations.
- d. **DBE Commitment:** The DBE Commitment is identified in the Commitment to Subcontract to DBE (Form DT1506) and is expressed as the amount of DBE participation the prime contractor has secured. The DT1506, a contract document completed by the bidder, is required to be considered a responsive bidder on an FHWA-funded contract that has an assigned DBE goal. The prime contractor will have the option to submit the DT1506 digitally, as an entry with the bid in Bid Express, or as an attachment to the bid.
- e. **DBE Utilization:** The actual participation of a DBE subcontractor on a project. WisDOT verifies DBE utilization through review of the DBE Commitment, payments to subcontractors, and contract documentation. The Prime Contractor receives DBE credit for payments made to the DBE firms performing the work listed on the approved DBE Commitment, and those submitted after approved commitment with Attachment A.
- f. **Good Faith Effort:** Legal term describing a diligent and honest effort taken by a reasonable person under the same set of facts or circumstances. For DBE subcontracting, the bidder must show that it took all necessary and reasonable steps to achieve the assigned DBE goal by the scope, intensity, and appropriateness of effort that could reasonably be expected for a contractor to obtain sufficient DBE participation.
- g. **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.
- h. **Reasonable Price:** Contractors are expected to assess reasonable price by analyzing the contract scope for DBE subcontract feasibility and comparing common line items in DBE and non-DBE subcontract quotes for the same work. Per federal regulation, reasonable price is not necessarily the lowest price.
- i. **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.
- j. **Tied quote:** Subcontractor quote that groups multiple bid/line items at a bundled/package price with a notation that the items within the quote will not be separated.

2. WisDOT DBE Program Compliance

a. Documentation Submittal

- The Commitment to Subcontract to DBE (Form DT1506 or digital submittal) must be submitted at the time of bid (Tuesday) by all prime contractors.
- Attachments A OR quotes from all DBEs included in the Commitment must be submitted at bid (Tuesday) **OR**
- Within one-hour following bid submittal by ALL prime contractors via eSubmit (Tuesday).
- If only DBE quotes were submitted, all remaining signed Attachments A must be submitted within 24-hours of bid closing via eSubmit (Wednesday).
- If the assigned DBE contract goal is not met, Documentation of Good Faith Effort (Form DT1202) and supporting documentation must be submitted within 24-hours of bid closing (Wednesday) via eSubmit. [Instructions for eSubmit.](#)

****Bidders have the option of submitting the DBE Commitment at the time of bid via direct entry through Bid Express OR with attachment of Form DT1506 (Commitment to Subcontract to DBE). The DBE Commitment entered with bid is the digital form of the DT1506. Separate submission of Form DT1506 is not required if the DBE Commitment is entered in Bid Express. Form DT1202, if applicable, is no longer required to be submitted at time of bid; submit DT1202 within the 24-hour supplemental time frame following bid closing.**

The DBE Office will not certify Good Faith Effort and the Bureau of Project Development will consider the bid nonresponsive if the contractor fails to furnish the DBE Commitment (digitally entered into the bid OR Form DT1506 as an attachment), Attachments A, and Form DT1202 if applicable, as required. See sample forms in the Appendix.

b. Verification of DBE Commitment

The documentation related to DBE subcontract commitment submitted prior to contract award is evaluated as follows:

(1) DBE Goal Met

If the bidder indicates that the contract DBE goal is met, the Department will evaluate the DBE Commitment submitted with bid OR Form DT1506, and Attachments A to verify the actual DBE percentage calculation. If the DBE Commitment is verified, the contract is eligible for award with respect to the DBE Commitment.

(2) DBE Goal Not Met

- a) If the bidder indicates a bid percentage on the DBE Commitment that does not meet the assigned DBE contract goal, the bidder must request alternative evaluation of good faith effort through submission of Form DT1202 (Documentation of Good Faith Effort) within 24-hours of bid including narrative description. Supplementary documentation of good faith effort that supports the DT1202 submission is also due within 24-hours of bid submission and prior to bid posting. The Department will review the bidder's DBE Commitment and evaluate the bidder's good faith efforts submission.
- b) Following evaluation of the bidder's Good Faith Effort documentation the bidder will be notified that the Department intends to:
 1. *Approve* the request (adequate documentation of GFE has been submitted) - no conditions placed on the contract with respect to the DBE Commitment;
 2. *Deny* the request (inadequate documentation of GFE has been submitted) - the contract is viewed as non-responsive per Wisconsin Standard Specifications for Highway and Structure Construction and will not be executed.

- c) If the Department denies the bidder's request, the contract is ineligible for award. The Department will provide a written explanation for denying the request to the bidder. The bidder may appeal the Department's denial (see Section 4).

Supplemental good faith effort documentation must be submitted through eSubmit.

3. Department's Criteria for Good Faith Effort Documentation

The Federal-aid Construction Contract Provision, referenced as FHWA-1273, explicitly states that the prime contractor shall be responsible for all work performed on the contract by piecework, station work, or subcontract.

The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of the contract including assurances of equal employment opportunity laws, DBE regulations, and affirmative action. Compliance encompasses responsible and responsive action, documentation, and good faith effort.

Contractually, all contractors, subcontractors, and service providers on the contract are bound by FHWA 1273 and DBE program provisions. **Prime contractors should encourage subcontractors to utilize DBE firms whenever possible to contribute to the assigned DBE contract goal.**

Bidders are required to document good faith effort. Per 49 CFR Part 26.53, good faith effort is demonstrated in one of two ways. The bidder:

- (1) Documents that it has obtained enough DBE participation to meet the goal; OR
- (2) Documents that it made adequate good faith efforts to meet the goal, even though it did not succeed

Appendix A of 49 CFR Part 26 provides guidance concerning good faith efforts. WisDOT evaluates good faith effort on a contract basis just as each contract award is evaluated individually.

The efforts employed by the bidder should be those that WisDOT can reasonably expect a bidder to take to actively and aggressively obtain DBE participation sufficient to meet the DBE contract goal. The Department will only approve demonstration of good faith effort if the bidder documents the quality, quantity, and intensity of the variety of activities undertaken that are commensurate with expected efforts to meet the stated goal.

The Department, in conjunction with industry stakeholders, has developed the following guidance for contractor good faith effort activity. 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.

a. Solicitation Guidance for Prime Contractors:

- (1) Document all efforts and decisions made toward achieving the DBE goal on the contract. The bidder should use WisDOT-approved DBE outreach tools, including the UCP DBE Directory and the Bid Express Small Business Network to foster DBE participation on all applicable contracts.
- (2) As needed, request assistance with DBE outreach and follow-up by contacting the Department's DBE Support Services Office by phone or email request at least 14 days prior to the bid letting date. Phone numbers are (414) 438-4584 and/or (608) 267-3849; Fax: (414) 438-5392; E-mail: DBE_Alert@dot.wi.gov
- (3) Participate in and document a substantive conversation with at least one DBE firm per Let, to discuss questions, concerns, and any other contract related matters that may be applicable to the DBE firm. Guidelines for this conversation are provided in Appendix A of ASP-3.
- (4) Request quotes by identifying potential items to subcontract and solicit. In their initial contacts, contractors are strongly encouraged to include a single page, 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 B.* 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 firms to do work in a prime contractor's area of specialization.

- i. Solicit quotes from certified DBE firms who match possible items to subcontract using all reasonable and available means. Additionally, forward copies of solicitations highlighting the work areas for which quotes are being sought to DBE_Alert@dot.wi.gov
- ii. Acceptable outreach tools include SBN (Small Business Network, see Appendix C): <https://www.bidx.com/wi/main>, postal mail, email, fax, and phone.
 - a. Contractors must ask DBE firms for a response in their solicitations. See *Sample Contractor Solicitation Letter*, Appendix B. This letter may be included as an attachment to the sub-quote request.
 - b. Solicit quotes at least 10 calendar days prior to the letting date to allow DBE firms sufficient time to respond. Prime contractors should contact DBE firms early, asking if they need help organizing their quote, assistance confirming equipment needs, or other assistance supporting their submission of a competitive quote for their services.
 - c. A follow up solicitation should take place within 5 calendar days of the letting date. Email and/or SBN are the preferred method for the solicitation.
- iii. 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.
- iv. When potential exists, the contractor should advise interested DBE firms on how to obtain bonding, line of credit, or insurance if requested.
- v. 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. Signed copy of record of subcontractor outreach effort

b. Guidance for Evaluating DBE quotes

- (1) Quote evaluation practices required to evaluate DBE quotes:
 - i. Reasonable Price: Contractors are expected to assess reasonable price by analyzing the contract scope for DBE subcontract feasibility and comparing common line items in DBE and non-DBE subcontract quotes for the same work. Per federal regulation, reasonable price is not necessarily the lowest price. See 49 CFR Part 26, Appendix A. IV.D(2).
- (2) Documentation submitted by the prime of the following evaluation is required to evaluate DBE quotes by contractors:
 - i. Evaluation of DBE firm's ability to perform "possible items to subcontract" using legitimate reasons, including but not limited to, **a discussion** between the prime and DBE firm regarding its capabilities prior to the bid letting. If lack of capacity is the reason for not utilizing the DBE firm's quote, the prime is required to contact the DBE by phone and email regarding their ability to perform the work indicated in the UCP directory listed as their work area by NAICS code. Only the work area indicated by the NAICS code(s) listed in the UCP directory can be counted toward DBE credit. Documentation of the conversation is required.
 - a. In striving to meet an assigned DBE contract goal, contractors are expected to use DBE quotes that are responsive and reasonable. This includes DBE quotes that are not the low quote.
 - b. Additional evaluation - Evaluation of DBE quotes with tied bid items. Typically, this type of quoting represents a cost saving but is not clearly stated as a discount. Tied quotes are usually presented as an 'all or none' quote. When non-DBE subcontractors submit tied bid items in their quotes, the DBE firm's quote may not appear competitive. In such a case, the following steps are taken in comparing the relevant quotes. These are qualitative examples:

- i Compare bid items common to both quotes, noting the reasonableness in the price comparison.
- ii 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.

See Appendix D – *Good Faith Effort Evaluation Measures* and Appendix E - *Good Faith Effort Best Practices*.

- c. Requesting Good Faith Effort Evaluation** At the time of bid- if the DBE goal is not met in full, the prime contractor must indicate they will file form DT1202- Documentation of Good Faith Effort within 24-hours of bid submission. Supplementary documentation of good faith effort that supports the DT1202 submission is also due within 24-hours of bid submission and prior to bid posting. Supporting documentation for the DT1202 is to include the following:
- (1) Solicitation Documentation: The names, addresses, email addresses, and telephone numbers of DBE firms contacted along with the dates of both initial and follow-up contact; electronic copies of all written solicitations to DBE firms. A printed copy of SBN solicitation is acceptable.
 - (2) Selected Work Items Documentation: Identify economically feasible work units to be performed by DBEs to include activities such as: list of work items to be performed; breaking up of large work items into smaller tasks or quantities; flexible time frames for performance and delivery schedules.
 - (3) Documentation of Project Information provided to interested DBEs: A description of information provided to the DBE firms regarding the plans, specifications, and estimated quantities for portions of the work to be performed by that DBE firm.
 - (4) Documentation of Negotiation with Interested DBEs: Provide sufficient evidence to demonstrate that good faith negotiations took place. Merely sending out solicitations requesting bids from DBEs does not constitute sufficient good faith efforts.
 - (5) Documentation of Sound Reasoning for Rejecting DBEs and copies of each quote received from a DBE firm and, if rejected, copies of quotes from non-DBEs for same items.
 - (6) Documentation of Assistance to Interested DBEs- Bonding, Credit, Insurance, Equipment, Supplies/Materials
 - (7) Documentation of outreach to Minority, Women, and Community Organizations and other DBE Business Development Support: Contact organizations and agencies for assistance in contacting, recruiting, and providing support to DBE subcontractors, suppliers, manufacturers, and truckers at least 14 days before bid opening. Participate in or host activities such as networking events, mentor-protégé programs, small business development workshops, and others consistent with DBE support.

If the Good Faith Effort documentation is deemed adequate, the request will be approved and the DBE office will promptly notify the Prime Contractor and Bureau of Project Development.

If the DBE Office denies the request, the Prime Contractor will receive written correspondence outlining the reasons. The Department encourages the Prime Contractor to communicate with DBE staff to clarify any questions related to meeting goals and/or contractor demonstration of good faith efforts.

If the contract is awarded, the Prime Contractor must obtain written consent from the DBE Office to change or replace any DBE firm listed on the approved DBE Commitment. No contractor, prime or subsequent tier, shall be paid for completing work assigned to a DBE subcontractor on an approved DBE Commitment unless WisDOT has granted permission for the reduction, replacement, or termination of the assigned DBE in writing. If a prime contractor or a subcontractor on any tier uses its own forces to perform work assigned to a DBE on an approved DBE Commitment, **they will not be paid for the work**. Any changes to DBE Commitment after the approval of the DBE Commitment must be reviewed and approved by the DBE Office prior to the change (see Section 9).

Additional resources for demonstrating and tracking good faith effort can be found on the “Contracting with a DBE” webpage in the [ASP-3 and Good Faith Effort Guidance](#) section.

4. Bidder's Documentation of Good Faith Effort Evaluation Request Appeal Process

A bidder can appeal the Department's decision to deny the bidder's demonstration of Good Faith Effort through Administrative Reconsideration. The bidder must provide a written justification refuting the specific reasons for denial as stated in the Department's denial notice. The bidder may meet in person with the Department if so requested. Failure to appeal within 5 business days after receiving the Department's written notice denying the request constitutes a forfeiture of the bidder's right of appeal. Receipt of appeal is confirmed by email date stamp or certified mail signed by WisDOT staff. A contract will not be executed without documentation that the DBE provisions have been fulfilled.

The Department will appoint a representative who did not participate in the original good faith effort determination, to assess the bidder's appeal. The Department will issue a written decision within 5 business days after the bidder presents all written and oral information. In that written decision, the Department will explain the basis for finding that the bidder did or did not demonstrate an adequate good faith effort to meet the contract DBE goal. The Department's decision is final.

5. Determining DBE Eligibility

Directory of DBE firms

- a. The only resource for DBE firms certified in the State of Wisconsin is the Wisconsin Unified Certification Program (UCP) DBE Directory. WisDOT maintains a current list of certified DBE firms at: <http://wisconsindot.gov/Documents/doing-bus/civil-rights/dbe/dbe-ucp-directory.xlsx>
- b. The DBE Program office is available to assist with contracting DBE firms:(608) 267-3849.
- c. DBE firms are certified based on various factors including the federal standards from the Small Business Administration that assigns a North American Industrial Classification (NAICS) Codes. DBE firms are only eligible for credit when performing work in their assigned NAICS code(s). If a DBE subcontractor performs work that is not with its assigned NAICS code, the prime contractor should contact the DBE Office to inquire about compatibility with the Business Development Program.

6. Counting DBE Participation

Assessing DBE Work

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 UCP agencies. 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:

- a. The Department counts work performed by the DBE firm's own resources. The Department includes the cost of materials and supplies the DBE firm obtains for the work. The Department also includes the cost of equipment the DBE firm leases for the work. The Department will not include the cost of materials, supplies, or equipment the DBE firm purchases or leases from the prime contractor or its affiliate, with the exception of non-project specific leases the DBE has in place before the work is advertised.
- b. The Department counts fees and commissions the DBE subcontractor charges for providing 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 program engineer deems reasonable based on experience or prevailing market rates.
- c. If a DBE firm subcontracts work, the Department counts the value of the work subcontracted to a DBE subcontractor.
- d. The contractor will maintain records and may be required to furnish periodic reports documenting its performance under this item.
- e. It is the Prime Contractor's responsibility to determine whether the work that is committed and/or contracted to a DBE firm can be counted for DBE credit by referencing the work type and NAICS code listed for the DBE firm on the Wisconsin UCP DBE Directory.

- f. It is the Prime Contractor's responsibility to assess the DBE firm's ability to perform the work for which it is committing/contracting the DBE to do. Note that the Department encourages the Prime Contractor to assist and develop DBE firms to become fully knowledgeable contractors to successfully perform on its contracts.
- g. The Prime Contractor will inform the DBE office via email of all DBE subcontractors added to the project following execution of the contract. The Prime Contractor may omit submission of another form DT1506, but must submit signed Attachment A forms for additional DBE firms.
- h. See Section 7 for DBE credit evaluation for Trucking and Section 8 for DBE credit evaluation for Manufacturers, Suppliers, and Brokers

Naming conventions: When emailing files, please use the following language to identify your submission- "Project #, Proposal #, Let date, Business Name, Attachment A" Email: DBE_Alert@dot.wi.gov

*Note: A sublet request is required for DBE work, regardless of subcontract tier, and also for reporting materials or supplies furnished by a DBE.

- Sublet Requests via form DT1925 or WS1925 are required for 1st Tier DBEs
- For all 2nd Tier and below notification of DBE sublet is indicated by the contractor entering them in CRCS

7. Credit Evaluation for Trucking

All bidders are expected to adhere to the Department's current trucking policy posted on the HCCI website at: <http://wisconsindot.gov/Documents/doing-bus/civil-rights/dbe/trucking-utilization-policy.pdf>

The prime contractor is responsible for ensuring that all subcontractors including trucking firms, receive Form FHWA 1273: <https://www.fhwa.dot.gov/programadmin/contracts/1273/1273.pdf>

See Section 8 for Broker credit.

8. Credit Evaluation for Manufacturers, Suppliers, Brokers

The Department will calculate the amount of DBE credit awarded to a prime using a DBE firm for the provisions of materials and supplies on a contract-by-contract basis. The Department will count the material and supplies that a DBE firm provides under the contract for DBE credit based on whether the DBE firm is a manufacturer, supplier, or broker. Generally, DBE credit is determined through evaluation of the DBE owner's role, responsibility, and contribution to the transaction. Maximum DBE credit is awarded when the DBE firm manufactures materials or supplies. DBE credit decreases when the DBE firm solely supplies materials, and minimal credit is allotted when the DBE firm's role is administrative or transactional. It is the bidder's responsibility to confirm that the DBE firm is considered a supplier or a manufacturer before listing them on Commitment to Subcontract to DBE form DT1506 or DBE Commitment submitted with the bid.

a. Manufacturers

- (1) A manufacturer is 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 and of the general character described by the specifications.
- (2) If the materials or supplies are obtained from a DBE manufacturer, **100%** percent of the cost of the materials or supplies counts toward DBE goals.

b. Regular Dealers of Material and/or Supplies

- (1) A regular dealer is a firm that owns, operates, or maintains a store, warehouse, or other establishment in which the materials, supplies, articles or equipment of the general character described by the specifications

and required under the contract are bought, kept in stock, and regularly sold or leased to the public in the usual course of business.

- (2) If the materials or supplies are purchased from a DBE regular dealer, count **60%** percent of the cost of the materials or supplies toward DBE goals.
- (3) At a minimum, a regular dealer must meet the following criteria to be counted for DBE credit:
 - i. The DBE firm must be an established, regular business that engages, as its principal business and under its own name, in the purchase and sale or lease of the products in question.
 - ii. The DBE firm must both own and operate distribution equipment for the product--bulk items such as petroleum products, steel, cement, gravel, stone, or asphalt. If some of the distribution equipment is leased, the lease agreement must accompany the DBE Commitment form for evaluation of the dealer's control before the DBE office approves the DBE credit.
- (4) When DBE suppliers are contracted, additional documentation must accompany the DBE Commitment and Attachment A forms. An invoice or bill-of-sale that includes names of the bidder and the DBE supplier, along with documentation of the calculations used as the basis for the purchase agreement, subcontract, or invoice. WisDOT recognizes that the amount on the Attachment A form may be more or less than the amount on the invoice per b.(1) above.
 - i. The bidder should respond to the following questions and include with submission of form DT1506 or the DBE Commitment entered with bid:
 - a. What is the product or material?
 - b. Is this item in the prime's inventory or was the item purchased when contract was awarded?
 - c. Which contract line items were referenced to develop this quote?
 - d. What is the amount of material or product used on the project?
- (5) Supplies purchased in **bulk** from DBE firms at the beginning of the season may be credited to current contracts if submitted with appropriate documentation to the DBE office.
 - i. To ensure that the appropriate credit is assigned, follow the procedure below:
 - a. When DBE suppliers are contracted for bulk supply or commodity purchases, an invoice or bill-of-sale that includes names of the contractor and the DBE supplier should be submitted to the DBE Office via eSubmit (preferred during letting) or the DBE_Alert email box. The supply/commodity credit may be applied during the federal fiscal year (October- September) in which the purchase was made.
 - b. When the contractor intends to apply the credit to a particular project, submit a copy of the original invoice, documentation of the calculations for supplies/commodities to be used on the project, and an Attachment A. Indicate on the Attachment A:
 - c. This supply/commodity is in the prime's inventory or pre-paid in case of commodities
 - d. The full value of the original invoice submitted to the DBE Office, above in (1)
 - e. The amount of material or product used on this project
 - f. Fuel estimate listed on Attachment A will be recorded as a deduction from the full fuel purchase amount shown on the invoice
 - ii. DBE Office Process (Applies only to bulk purchases)
 - a. Supply/Commodity commitment is received
 - b. Engineer verifies amount listed on invoice and enters the full amount into spreadsheet
 - c. The amount of credit applied for each project is updated on the spreadsheet until the bulk purchase is exhausted
 - d. Engineer informs contractor when full amount of bulk purchase has been applied

c. Brokers, Transaction Expeditors, Packagers, Manufacturers' Representatives

- (1) No portion of the cost of the materials, supplies, services themselves will count for DBE credit. However, WisDOT will evaluate the fees or commissions charged when a prime purchases materials, supplies, or services from a DBE certified firm which is neither a manufacturer nor a regular dealer, namely: brokers, packagers, manufacturers' representatives, or other persons who arrange or expedite transactions.
- (2) Brokerage fees are calculated as **10%** of the purchase amount.
- (3) WisDOT may count the amount of fees or commissions charged for assistance in the procurement of the materials and supplies, fees, or transportation charges for the delivery of materials or supplies required on a job site.
- (4) Evaluation of DBE credit includes review of the contract need for the item/service, the sub-contract or invoice for the item/service, and a comparison of the fees customarily allowed for similar services to determine whether they are reasonable.

9. DBE Commitment Modification Policy (Formerly "DBE Replacement Policy")

a. Issuing a Contract Change Order

Any changes or modifications to the contract once executed are considered contract modifications and as such require a change order. In addition, the DBE office must provide consent for reduction, termination, or replacement of subcontractors approved on the DBE Commitment *in advance* of the modification for the prime contractor to receive payment for work or supplies. Additions to the DBE Commitment do not require advance notification of the DBE office. (see below e. DBE Utilization beyond the approved DBE Commitment)

b. Contractor Considerations

- (1) A prime contractor cannot modify the DBE Commitment through reduction in participation, termination, or replacement of a DBE subcontractor listed on the approved DBE Commitment without prior written consent from the DBE Office. This includes, but is not limited to, instances in which a prime contractor seeks to perform work originally designated for a DBE subcontractor with its own forces or those of an affiliate, a non-DBE firm, or with another DBE firm.
- (2) If a prime contractor reduces participation, replaces, or terminates a DBE subcontractor who has been approved for DBE credit toward its contract, the prime is required to provide documentation supporting its inability to fulfill the contractual commitment made to the Department regarding the DBE utilization.
- (3) The Prime Contractor is required to demonstrate efforts to find another DBE subcontractor to perform at least the same amount of work under the contract as the DBE subcontractor that was terminated, to the extent needed to meet the assigned DBE contract goal. When additional opportunity is available by contract modifications, the Prime Contractor must utilize DBE subcontractors that were committed to equal work items, in the original contract.
- (4) In circumstances when a DBE subcontractor fails to complete its work on the contract for any reason, or is terminated from a contract, the Prime Contractor must undertake efforts to maintain its commitment to the assigned DBE goal.
- (5) The DBE subcontractor should communicate with the Prime Contractor regarding its schedule and capacity in the context of the contract. If the DBE firm anticipates that it cannot fulfill its subcontract, they will advise the Prime Contractor and suggest a DBE subcontractor that may replace their services and provide written consent to be released from its subcontract.
 - i. Before the Prime Contractor can request modification to the approved DBE Commitment, the Prime Contractor must:
 - a. Make every effort to fulfill the DBE Commitment by working with the listed DBE subcontractor to ensure that the firm is fully knowledgeable of the Prime Contractor's expectations for successful performance on the contract. Document these efforts in writing.

- b. If those efforts fail, provide written notice to the DBE subcontractor of the Prime Contractor's intent to request to modify the Commitment through reduction in participation, termination, and/or replacement of the subcontractor including the reason(s) for pursuing this action.
- c. Copy the DBE Office on all correspondence related to changing a DBE subcontractor who has been approved for DBE credit on a contract, including preparation and coordination efforts.
- d. Clearly state the amount of time the DBE firm has to remedy and/or respond to the notice of intent to replace/terminate. The DBE must be allowed five days from the date notice was received as indicated by email time stamp or signed certified mail, to respond, in writing. EXCEPTION: The Prime Contractor must provide a verifiable reason for a response period shorter than five days. For example, a WisDOT project engineer or project manager confirms that WisDOT has eliminated an item the DBE subcontractor was contracted for.
- e. The DBE subcontractor must acknowledge the contract modification with written response to the Prime Contractor and the DBE Office. If objecting to the subcontract modification, the DBE subcontractor must outline the basis for objection to the proposed modification, providing sound reasoning for WisDOT to reject the prime's request.

c. Request to Modify DBE Subcontracting Commitment

The written request referenced above may be delivered by email or fax. The request must contain the following:

- (1) Project ID number
- (2) WisDOT Contract Project Engineer's name and contact information
- (3) DBE subcontractor name and work type and/or NAICS code
- (4) Contract's progress schedule
- (5) Reason(s) for requesting that the DBE subcontractor be replaced or terminated
- (6) Attach/include all communication with the DBE subcontractor to deploy/address/resolve work completion

Naming conventions: When emailing files, please use the following language to identify your submission- "Project #, Proposal #, Let date, Business Name, MODIFICATION" Email: DBE_Alert@dot.wi.gov + Project Engineer

WisDOT will review the request and any supporting documentation submitted to evaluate if the circumstance and the reasons constitute good cause for replacing or terminating the approved DBE subcontractor.

Good Causes to Replace a DBE subcontractor according to the federal DBE program guidelines {49 CFR part 26.53}

- The listed DBE subcontractor fails or refuses to execute a written contract
- The listed DBE subcontractor fails or refuses to perform the work of its subcontract in a way consistent with normal industry standards. Provided, however, that good cause does not exist if the failure or refusal of the DBE subcontractor to perform its work on the subcontract results from the bad faith or discriminatory action of the prime contractor
- The listed DBE subcontractor fails or refuses to meet the prime contractor's reasonable, nondiscriminatory bond requirements
- The listed DBE subcontractor becomes bankrupt, insolvent, or exhibits credit unworthiness
- The listed DBE subcontractor is ineligible to work on public works projects because of suspension and debarment proceedings pursuant 2 CFR Parts 180, 215, and 1,200 or applicable state law
- The prime has determined that the listed DBE subcontractor is not a responsible contractor
- The listed DBE subcontractor voluntarily withdraws from the project and provides written notice of its withdrawal
- The listed DBE subcontractor is ineligible to receive DBE credit for the type of work required

- A DBE firm owner dies or becomes disabled with the result that the listed DBE subcontractor is unable to complete its work on the contract.

d. Evaluation and Response to the Request

WisDOT's timely response to the Prime Contractor's request for modification of the approved DBE Commitment will be provided to the prime and the WisDOT project engineer via email.

If WisDOT determines that the Prime Contractor's basis for reduction in participation, replacement, or termination of the DBE subcontractor is not consistent with the good cause guidelines, the DBE office will provide a response via email within 48-hours of receipt of request from the Prime Contractor as indicated by email time stamp. The communication will include: the requirement to utilize the committed DBE, actions to support the completion of the contractual commitment, a list of available WisDOT support services, and administrative remedies, including withholding payment to the prime, that may be invoked for failure to comply with federal DBE guidelines for DBE replacement.

The WisDOT contact for all actions related to modification of the approved DBE Commitment is the DBE Program Engineer who can be reached at DBE_Alert@dot.wi.gov or (414) 335-0413.

e. DBE Utilization beyond the approved DBE Commitment

When the prime or a subcontractor increases the scope of work for an approved DBE subcontractor or adds a DBE subcontractor who was not on the approved form DT1506 or DBE Commitment submitted with bid at any time after contract execution, this is referred to as voluntary DBE contract goal achievement. The contractor must follow these steps to ensure that the participation is accurately credited toward the DBE goal:

- (1) Forward a complete, signed Attachment A form to the DBE Office. A complete Attachment A includes DBE subcontractor contact information, signatures, subcontract value, and description of the work areas to be performed by the DBE. The DBE Office will verify the DBE participation and revise the DBE Commitment based on the email/discussion and the new Attachment A.
- (2) When adding to an existing DBE Commitment, submit a new Attachment A to the DBE Alert mailbox
- (3) OR Submit a final Attachment A to DBE Alert during the Finals Process when Compliance receives notice of "Substantially Complete"

Naming conventions: When emailing files, please use the following language to identify your submission- "Project #, Proposal #, Let date, Business Name, New Attachment A" Email: DBE_Alert@dot.wi.gov

Special note on trucking

- DBE truckers added to the sublets in CRCS *will* be approved without DBE credit (You will see a "N" in CRCS instead of "Y")
- Prime Contractors may enter a "place holder" e.g. \$1000.00, for DBE Trucking in CRCS if the full amount of trucking is unknown for sublet purposes only
- The hiring contractor may obtain the Attachment A with DBE signature included but the **Prime Contractor** must sign the Attachment A before submitting
- DBE truckers need to be added to the DBE commitment once. If the DBE trucker is on the initial commitment (DT1506/E1506) there is no requirement to submit another Attachment A for that trucker for that contract.

10. Commercially Useful Function

- a. Commercially Useful Function (CUF) is evaluated after the contract has been executed, while the DBE certified firm is performing contracted work items.
- b. The Department uses Form DT1011, DBE Commercially Useful Function Review and Certification to evaluate if the DBE is performing a commercially useful function. WisDOT counts expenditures of a DBE toward the DBE goal only if the DBE is performing a commercially useful function on that contract.

- c. A DBE firm is performing a commercially useful function if the following conditions are met:
 - (1) For contract work, the DBE is responsible for executing a distinct portion of the work and is carrying out its responsibilities by actually performing, managing, and supervising that work.
 - (2) For materials and supplies, the DBE is responsible for negotiating price, determining quality and quantity, ordering, and paying for those materials and supplies.
- d. Offsite Hauling – when DBE truck will haul between a pit and plant or location other than the construction site associated with the commitment
 - (1) Indicate Offsite Hauling on Attachment A
 - (2) Discuss offsite hauling at weekly progress meetings with Project Engineer (PE)
 - (3) PE conducts spot checks of pits/plants to verify DBE truck is hauling and/or verifying hauling log
 - (4) Prime should be prepared to submit haul tickets, plant/pit tickets, timecards, and other pertinent documentation if requested by PE or DBE Office

11. Credit Evaluation for DBE Primes

WisDOT calculates DBE credit based on the amount and type of work performed by DBE certified firms for work submitted with required documentation. If the prime contractor is a DBE certified firm, the Department will only count the work that the DBE prime performs with its own forces for DBE neutral credit. The Department will also calculate DBE credit for work performed by any other DBE certified subcontractor, DBE certified supplier, and DBE certified manufacturer on the contract in each firm's approved NAICS code/work areas that are submitted with required documentation. Crediting for manufacturers and suppliers is calculated consistent with Section 8 of this document and 49 CFR Part 26.

12. Joint Venture

A joint venture is an association of a DBE firm and one or more other firms to carry out a single, for-profit business enterprise, for which the parties combine their property, capital, efforts, skills and knowledge, and in which the DBE is responsible for a distinct, clearly defined portion of the work of the contract and whose share in the capital contribution, control, management, risks, and profits of the joint venture are commensurate with its ownership interest. If a DBE performs as a participant in a joint venture, the Department will only credit the portion of the total dollar value of the contract equal to the portion of the work that the DBE performs with its own forces.

13. 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. DBE credit is evaluated and confirmed by the DBE Office for any contracts on which the mentor-protégé team identifies itself to the DBE Office as a current participant of the Mentor-Protégé Program.
 - (1) DBE credit may only be awarded to a non-DBE mentor firm for using its own protégé firm for less than one half of its goal on any contract; and
 - (2) Not award DBE credit to a non-DBE mentor firm for using its own protégé firm for more than every other contract performed by the protégé firm.
- c. A DBE protégé firm may be eligible for conditional NAICS code extension for training with the mentor. Request permission from the DBE Office- Certification area.
- d. Refer to WisDOT's Mentor-Protégé guidelines for guidance on the number of contracts and amount of DBE credit allowed on WisDOT projects.

14. Use of Joint Checks

The use of joint checks is allowable if it is a commonly recognized business practice in the material industry. A joint check is defined as a two-party check between a DBE subcontractor, a prime contractor, and the regular dealer or materials supplier who is neither the prime nor an affiliate of the prime. Typically, the prime contractor issues one check as payor to the DBE subcontractor and to the supplier jointly (to guarantee payment to the supplier) as payment for the material/supplies used by the DBE firm in cases where the DBE subcontractor and materials have been approved for DBE credit. The DBE subcontractor gains the opportunity to establish a direct contracting relationship with the supplier to potentially facilitate a business rapport that results in a line of credit or increased partnering opportunities.

The cost of material and supplies purchased by the DBE firm is part of the value of work performed by the DBE to be counted toward the goal. To receive credit, the DBE firm must be responsible for negotiating price, determining quality and quantity, ordering the materials, and installing (where applicable) and "paying for the material itself." See 49 CFR 26.55(c)(1).

The approval to use joint checks constitutes a commitment to provide further information to WisDOT, upon request by staff. WisDOT will allow the use of joint checks when the following conditions are met:

- a. The Prime Contractor must request permission to use joint checks from the DBE Office by submitting the Application to Use Joint Checks.
 - (1) Request should be made when the DBE Commitment or the Request to Sublet is submitted; the request will not be considered if submitted after the DBE Subcontractor starts its work.
 - (2) Approval/Permission must be granted prior to the issuance of any joint checks.
 - (3) The payment schedule for the supplier must be presented to the DBE office before the first check is issued.
 - (4) The joint check for supplies must be strictly for the cost of approved supplies.
- b. The DBE subcontractor is responsible for furnishing and/or installing the material/work item and is not an 'extra participant' in the transaction. The DBE firm's role in the transaction cannot be limited solely to signing the check(s) to release payment to the material supplier. At a minimum, the DBE subcontractor's tasks should include the following:
 - (1) The DBE subcontractor (not the prime/payor) negotiates the quantities, price, and delivery of materials.
 - (2) The DBE subcontractor consents to sign/release the check to the supplier by signing the [Application to Use Joint Checks](#) after establishing the conditions and documentation of payment within the subcontract terms or in a separate written document.
- c. The Prime contractor/payor acts solely as a guarantor.
 - (1) The Prime Contractor agrees to furnish the check used for the payment of materials/supplies under the contract.
 - (2) The prime contractor/payor cannot require the subcontractor to use a specific supplier or the prime contractor's negotiated unit price.

15. Payment

Costs for conforming to this Additional Special Provision (ASP) and any associated DBE requirements are incidental to the contract.

Appendix A

Substantive Conversation Guidelines

The substantive conversation is critical to all bidders' demonstration of good faith effort to meet the DBE goal prior to bid opening. Relationship building between primes and subcontractors is crucial to DBE goal attainment. Responsible bidders seek to build rapport with potential DBE subcontractors to understand capacity, areas of expertise, and assess contracting feasibility. Bidders who compete for WisDOT contracts are specialty contractors responding to a growing and changing contract environment. Just as these specialists are responsible for care of the roads, they are likewise responsible for contributing to the health of the industry. The substantive conversation drives collaboration that will build industry health and capacity. The following is intended to provide guidance for such discussions but is not an exhaustive list. Contractors are encouraged to incorporate their existing strategies for cultivating business relationships as well.

Prior to Bid Opening- this discussion should happen as early as possible (WisDOT advertisements are released weeks prior to each Let)

1. Determine DBE subcontractor's interest in quoting
2. If response indicates inexperience with quoting- offer support/assistance to the DBE in understanding the industry including fundamentals a subcontractor needs to know, required reading and/or resources.
3. Assess their interest and experience in the road construction industry by asking questions such as:
 - Have you competed for other WisDOT contracts? Ratio of competed/to wins
 - Have you performed on any transportation industry contracts (locally or with other states)?
 - What the largest contract you've completed?
 - Have you worked in the industry: apprentice, journeyman, safety, inspection etc.?
 - Does this project fit into your schedule? Are you working on any contracts now?
 - Have you reviewed a copy of the plans? Are you comfortable performing within the scope and quantity considerations of this contract?
 - What region do you work in? Home base?
 - Which line items are you considering?
 - Have you read/are you familiar with WisDOT Standard Specifications? Construction Material Manual?
 - Do you understand where your work fits in the project schedule, project phases?

Following Bid Opening- this discussion can happen at any time

1. After reviewing their quote, note the following in your discussion:
 - Does the quote look complete? Irregular?
 - Are there errors in the quote? Are items very high or very low?
 - In general, does the quote look competitive?
2. Questions and Advice for the bidder to share with the potential DBE subcontractor:
 - What line items would typically be in a competitive quote for a subcontractor of their specialty?
 - How many employees and what is their role/experience/expertise in your firm?
 - Do you have resources for labor (union member, family-based, community-resourced) and capital (banking relationship, bond agent, CPA)?
 - Where have you worked: cities, states, government, commercial, residential/private sector, etc. Explain similarities or differences.
 - Refer them to reliable, trusted, industry resources that can educate or connect them to relevant resources, education/certification resources, more appropriate contract opportunities.
 - Discussion about prime contract and subcontract liability, critical path items, contract quantities, schedule risks, and potential profit/loss (for upcoming known projects or in general).
 - Discussion of bonding, insurance, and overall business risk considerations.

Appendix B

Sample Contractor Solicitation Letter Page 1

(This sample is provided as a guide, not a formatting requirement)

DBE Solicitation - [Month] [Day], [Year] WisDOT Bid Letting

Attention all DBEs. [Prime Contractor] is actively seeking your quote for the [Month][Day], [Year] Bid Letting. [Prime Contractor] is considering bidding on the projects listed on page 2 as a prime contractor. Please see page 2 for instructions and the sub-contractable opportunities for each proposal.

Does [Prime Contractor] accept quotes in areas we might self-perform? Yes, we do! We support this federal rule and (if needed) we consider areas we might self-perform an opportunity to provide in the field assistance and training if we award your quote.

Where can DBEs find the plans, specifications & addenda? Please visit [Prime Contractor's] plan room [LINK] or on WisDOT's Highway Construction Contract Information HCCI website: [Wisconsin Department of Transportation Highway Construction Contract Information \(wisconsindot.gov\)](https://wisconsindot.gov/HighwayConstructionContractInformation). This same website can be checked for the contract status.

What should your quote include? All the costs required to complete the items you propose to perform including labor, equipment, material, and related bonding or insurance. The quote should also note items that you are DBE certified to perform, tied items, and any special terms. Please use page 2 as your cover sheet for your quote.

Do you have a question regarding bonding, credit, insurance, equipment, or supplies/materials? We welcome all DBE questions! Please call [Prime Contractor] and ask to speak with [Contact]. [Prime Contractor] can provide basic information as well as a referral to a trusted industry partner for insurance and bonding needs.

When are quotes due?

[Month] [Day], [Year] at [Time]. We accept quotes via SBN, email, or fax. Please make every effort to have your quotes in by this time or earlier. Quality check your quote so it includes the correct letting date, project ID, proposal number, unit price and extension.

Who can DBEs contact for questions, information, clarification or for a quote evaluation? [Project Manager Name] [Phone] [Email]. If you are quoting [Prime Contractor] for the first time, we encourage you to come meet with us in person to discuss the project. Our office hours are 7:30 a.m. – 5:00 p.m. On bid day, we are in the office by 6:30 a.m.

Why partner with [Prime Contractor]?

DBE partnership is a core part of [Prime Contractor's] mission. Including DBEs at the beginning of each project is essential in the success of each project. We consider DBEs to be important industry partners who bring dedication and knowledge at various stages during construction. We are proud to be an industry leader with our DBE partnership. Your success as a DBE is our success.

Sample Contractor Solicitation Letter Page 2*(This sample is provided as a guide, not a formatting requirement)***REQUEST FOR QUOTE****[Prime Contractor]****Letting Date: [Month] [Day], [Year]****Project IDs: 1234-56-00 (Proposal #1) & 1234-01-78 (Proposal #6)**

Please check all that apply:

- ☐ Yes, we will be quoting the projects & 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 someone contact me at this number:

Prime Contractor Contact: _____

DBE: _____

Phone: _____

Fax: _____

Email: _____

Please circle the proposals and items you will be quoting below and contact us with any questions

Proposal County	1 Dane County	6 Crawford County
Clearing & Grubbing	X	X
Dump Truck Hauling	X	X
Curb/Gutter/Sidewalk	X	
Erosion Control Items		X
Excavation	X	X
Pavement Marking		X
Traffic Control	X	
Sawing	X	X
QMP, Base		X
Pipe Underdrain	X	
Landscape		X
Beam Guard	X	
Electrical	X	
Signs/Posts/Markers		X
Survey/Staking		X

Again, please make every effort to have your quotes into our office by **time deadline** prior to the letting date.

Sample Contractor Solicitation Email - Simplified

(This sample is provided as a guide, not a formatting requirement)

ATTENTION DBEs

- [Prime Contractor] specializes in municipal projects in the XX Region(s)
- We have successfully competed for and completed XX WisDOT projects over the past XX years
- Consider [Prime Contractor] your partner on WisDOT Projects

[Prime Contractor] is seeking your subcontractor quote for the XX/XX/20XX WisDOT bid letting on the below projects:

Project	Proposal	County	Region
1234-56-00	2	Dane	SW
1234-01-78	6	Crawford	SW

- o Please review the attachments **[attach Solicitation Letter]** and respond with your intent to quote (or not) along with the work items you are interested in performing and respond via fax or email by date. The quote should note items that you are DBE certified to perform, tied items, and any special terms. Please include labor, equipment, material, and related bonding or insurance.
- o If you have any questions regarding bonding, credit, insurance, equipment and/or materials/supplies, please feel free to call [Prime Contractor] and ask for [Contact]. **(Include if your company is willing to answer these types of DBE questions)**
- o Plans and Specifications can be found: **WisDOT HCCI Website: List webpage where plans are located**
- o If you do choose to quote, please make every effort to have your quote into our office by time and date. Make sure the correct letting date, project number, unit price and extension are included in your quote.
- o Should you have questions regarding the mentioned project, please call our office at (414) 555-5555 and we will direct you to the correct estimator/project manager.
Our office hours are 7:30 a.m. - 5:00 p.m.

Thank you – we look forward to working with your company on this project!

Prime Contractor
Project Manager

Direct: 414-555-5555

Cell: 414-555-5556

Sample Contractor Solicitation Email to **non-DBE** WisDOT Subcontractors - Simplified

(This sample is provided as a guide, not a formatting requirement)

ATTENTION WisDOT SUBCONTRACTORS

[Prime Contractor] is considering bidding on the below projects for the XX/XX/20XX WisDOT Bid Letting:

Project	Proposal	County	Region	DBE Goal
1234-56-00	2	Dodge	SW	6.00%
1234-01-78	11	Adams	NC	3.00%
1234-00-99	20	Buffalo	NW	5.00%
1234-00-98	33	Portage	NC	6.00%

The above projects have DBE goals and [Prime Contractor] is committed to DBE inclusion with every project. As such, we are requesting:

- All WisDOT Subcontractors to **solicit and utilize** DBEs in your quotes.
- DBE participation can be achieved through purchasing materials from DBE suppliers, using DBE subcontractors and/or DBE trucking firms or any combination of these.
- If there is an opportunity to untie an item in your quote so a DBE can be utilized, please look for those opportunities as well.
- Your quote will be evaluated based on the amount of DBE participation your company is able to provide when compared to other quotes for the same work.

If you do choose to quote, please make every effort to have your quote into our office by **time and date**. Please submit all quotes to [Email]. Make sure the correct letting date, project number, unit price and extension are included in your quote.

Should you have questions regarding the mentioned project, the Project Manager contact is: [Name] [Phone Number] [Email]

Thank you for utilizing DBEs who are trusted industry partners with WisDOT projects.

Prime Contractor

Project Manager

Direct: 414-555-5555

Cell: 414-555-5556

Appendix C

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 later completion.
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 help small businesses learn more about opportunities, compete more effectively, network with other contractors and subcontractors, and win more jobs. The DBE will provide free SBN accounts to DBEs when requested. Use DBE_Alert@dot.wi.gov to request an account. **DBE firms can:**

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 a 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.

Appendix D

Good Faith Effort Evaluation Measures *by categories referenced in DBE regulations*

Bidders must demonstrate that they took all necessary and reasonable steps to achieve the assigned DBE contract goal. For each contract, all bidders must submit documentation indicating the goal has been met or if falling short of meeting the assigned goal, must request a DBE Goal Waiver and document all efforts employed to secure DBE subcontractor participation on Form DT1202.

DBE staff analyze the bidder's documented good faith efforts to determine if action taken was sufficient to meet the goal. Sufficiency is measured contract-by-contract. WisDOT evaluates active and aggressive efforts, quality, quantity, scope, intensity, and appropriateness of the bidder's efforts as a scale of the principles of Good Faith outlined in 49 CFR Part 26, Appendix A. Additional emphasis is placed on the bidder's demonstration of timely submission of documentation and communication with DBE subcontractors, and business development initiatives undertaken to support DBE firm growth.

The following is a sample of good faith effort activities that are rated according to the accompanying rubric. Contractors are encouraged to identify additional activities that align with their business type(s).

- Personal, tailored solicitation to firms that specialize in work types planned or desired for subcontracting
- Follow up to initial solicitation via email or phone
- Substantive conversation including topics such as contract liability, critical path work items, schedule risks, and potential profit/loss
- SBN utilization including posting quotes
- Review and response to DBE quotes including provision of information about plans, specifications, and requirements as applicable
- Documentation requesting subcontractors support DBE goal by solicitation and inclusion of DBE subcontractor quotes
- Responsive and timely submission of organized documentation
- Analysis of number of DBE firms who do work types that you typically subcontract
- Analysis of number of DBE firms who reside in geographical areas where prime seeks work
- Analysis of firms who express interest in bidding/quoting including the number of firms who declined your solicitation
- Reference check of DBE subcontractor work or training (documentation of questions and response required)
- Number of different efforts undertaken to meet the assigned DBE goal as documented in accompanying Form DT1202
- Submission of all DBE quotes received matched with a variety of work to be performed by DBEs
- Number and names of DBE firms provided written advice, or referral to industry-specific business development resources
- Overall pattern of DBE utilization on all WisDOT contracts which may include contracting with municipalities
- Documentation of resources expended to meet assigned DBE goal (#of hours, staff titles, average pay rate, actions taken)
- Analysis of subcontractable work items to be completed by prime beyond prime contractor's 30%
- Risk analysis of work items that are typically in tied quotes that could be unbundled
- List of contract work items in smallest economically feasible units, identifying schedule impact
- Submission of a Gap Analysis identifying DBE skillset and/or industry needs
- Staff training in EEO and Civil Rights laws as documented in training logs
- Written Capacity Assessment completed with DBE firm documenting its ability to perform the work quoted
- DBE engagement efforts beyond simple solicitation that include a substantive discussion, initiated as early in the acquisition process as possible (*points added for each day prior to letting*)
- Outreach and marketing efforts with minority, women, and veteran-focused organizations at least 10 days prior to bid opening
- Active involvement in WisDOT's Business Development Program, TrANS training, facilitated networking efforts, workshops
- Customized teaching/training efforts for future opportunities with DBE subcontractor, contract specific and/or annually
- Introduction and reference provided for DBE subcontractor to a prime who has not previously contracted with the DBE firm
- Prime utilization of a DBE subcontractor the prime has not contracted with previously
- Written referral/recommendation to bond/insurance agents, manufacturer, supplier
- Documented efforts fostering DBE participation through administrative and/or technical assistance
- Evidence of negotiation with the DBE firm about current and future Let opportunities
- Recommendation of local and state services that support small business and access to opportunity: DOA, SBA, WEDC, WPI, etc.
- Advice on bonding, lines of credit, or insurance as required to complete the items quoted and contract requirements

GFE Evaluation Rubric – Phase 1 – Initial Review

DT1202	Examples	Rating	OBOEC Feedback
Solicitation Documentation	Identify all reasonable and available activities performed to solicit the interest of all certified DBEs who have capacity and ability to perform work on the project. <i>Such as: Updated solicitation letter and email, timely solicitation, and follow-up, and/or utilized various methods to communicate solicitation (ex: letter, email, publication, posting and/or website)</i>		
Selected Work Items Documentation	All work items are broken out into economically feasible units to facilitate DBE participation. <i>Such as: Selected work items are <u>specific</u> to each proposal and clearly identified in all solicitation(s)</i>		
Documentation of Project Information provided to Interested DBEs	Provide interested DBEs with adequate information about the plans, specifications, and any other contractual requirements in a timely manner to assist DBEs in response to solicitation. <i>Such as: Project information is clearly identified in all solicitation(s)</i>		
Documentation of Negotiation with Interested DBEs	Provide sufficient evidence demonstrating that good faith negotiations took place during the bid letting. <i>Such as: Documented attempts with DBEs or on behalf of DBEs to increase DBE participation</i>		
Documentation of Sound Reason for Rejecting DBEs	Provide sufficient evidence demonstrating that DBEs are rejected for sound reasons. <i>Such as: Detailed and thoughtful analysis that considers both the percentage and dollar difference when rejecting a DBE including past performance, relevant business experience and stability, safety record, business ethic and integrity, technical capacity, and other tangible factors.</i>		
Documentation of Assistance to Interested DBEs- bonding, credit, insurance, equipment, supplies/materials	Documented assistance in both solicitation(s) and outreach to DBEs.		
Documentation of Outreach to Minority, Women, and Community organizations and other DBE Business Development Support	Effectively use the services of minority, women, and community organizations as well as contractors' groups, local, state, and federal business assistance offices and organization that provide assistance in recruiting and supporting DBEs, as well participation in activities that support DBE business development. <i>Such as: Variety of activities that translate into meaningful DBE participation</i>		
Documentation of other GFE activities	<i>Such as: Used DT1202 Excel Workbook, Diversity & Inclusion company policy, Mentor-Protégé participant, awarded neutral DBE after bid submission, included company GFE overview/strategy information and/or company website highlights DBE opportunities and participation</i>		
Overall Demonstration of GFE			

GFE EVALUATION RATING LEGEND – PHASE 1 – Initial Review

Documentation provided by bidder is evaluated and rated on the rubric. Bidders should include activities characterized by the following types of effort:

ACTIVE & AGGRESSIVE: Demonstrated through engaged and assertive activity

QUALITY: Demonstrated through essential character of conscientious and serious activity

QUANTITY: Demonstrated through a measurable number of activities

SCOPE & INTENSITY: Demonstrated through a rigorous approach to an appropriate and purposeful range of activities

TIMING: Demonstrated through engagement efforts beyond simple solicitation, initiated early in the process

GFE EVALUATION – PHASE 2 – Team Review

GFE Team completes:

- Review of activities included on the rubric
- Review of the intent to award and sound reasoning submitted by Prime
- Bid analysis to confirm if any bid submitted met the DBE goal
- Review average of other bidders DBE goal achievement
- Team review of combined efforts documented in Phase 1 and 2 constitute final GFE determination

Rating Scale:

- **GFE Approval:**
Bona Fide = 6 or more categories color coded green.
Genuine effort characterized by sincere and earnest activities – “Solicitation” and “Sound Reasoning” must be green
- **GFE Approval:**
Sufficient = 5 or more categories color coded green or yellow
Adequate effort documented with a variety of quality activities – “Solicitation” and “Sound Reasoning” must be green or yellow
- **GFE Denial:**
Pro Forma efforts = 4 or less categories color coded green or yellow. Perfunctory effort characterized by routine or superficial activities

Green = Exceeds expectations

Yellow = Meets expectations

Red = Areas in need of attention and/or absence of documentation

See OBOEC Rubric Analysis Feedback

Excerpt from Appendix A to 49 CFR Part 26:

V. In determining whether a bidder has made good faith efforts, it is essential to scrutinize its documented efforts. At a minimum, you must review the performance of other bidders in meeting the contract goal. 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 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. As provided in §26.53(b)(2)(vi), you must also require the contractor to submit copies of each DBE and non-DBE subcontractor quote submitted to the bidder when a non-DBE subcontractor was selected over a DBE for work on the contract to review whether DBE prices were substantially higher; and contact the DBEs listed

GFE RUBRIC ANALYSIS	
OBOEC DECISION	APPROVAL OR DENIAL
Prime Contractor	
Proposal	
Project	
Bid Letting	
DBE Goal Amount	
DBE Goal Amount Achieved	
Bid Analysis	
Goal %	Achieved %
Apparent Low Bidder	%
Bidder B	
Bidder C	
Average of OTHER Bidders (Not including Apparent Low Bidder)	
DBE Quotes Received	
DBE Quotes Awarded	
DBE Quote(s) Rejected	Rejected Quote Analysis
DBE Quote(s) Awarded	Awarded DBE Amount

Appendix E

Good Faith Effort Best Practices

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 be thorough 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 F

Good Faith Effort Evaluation Guidance

Appendix A of 49 CFR Part 26

I. When, as a recipient, you establish a contract goal on a DOT-assisted contract for procuring construction, equipment, services, or any other purpose, a bidder must, in order to be responsible and/or responsive, make sufficient 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, you have the responsibility 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, based on the regulations and the guidance in this Appendix.

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. Determinations should not be made using quantitative formulas.

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. (1) Conducting market research to identify small business contractors and suppliers and soliciting through all reasonable and available means the interest of all certified DBEs that have the capability to perform the work of the contract. This may include attendance at pre-bid and business matchmaking meetings and events, advertising and/or written notices, posting of Notices of Sources Sought and/or Requests for Proposals, written notices or emails to all DBEs listed in the State's directory of transportation firms that specialize in the areas of work desired (as noted in the DBE directory) and which are located in the area or surrounding areas of the project.

(2) The bidder should solicit this interest as early in the acquisition process as practicable to allow the DBEs to respond to the solicitation and submit a timely offer for the subcontract. The bidder should 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 (for example, smaller tasks or quantities) to facilitate DBE participation, even when the prime contractor might otherwise prefer to perform these work items with its own forces. This may include, where possible, establishing flexible timeframes for performance and delivery schedules in a manner that encourages and facilitates DBE participation.

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 with their offer for the subcontract.

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. (1) 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 status) are not legitimate causes for the rejection or non-solicitation of bids in the contractor's efforts to meet the project goal. Another practice considered an insufficient good faith effort is the rejection of the DBE because its quotation for the work was not the lowest received. However, nothing in this paragraph shall be construed to require the bidder or prime contractor to accept unreasonable quotes in order to satisfy contract goals.

(2) A prime contractor's inability to find a replacement DBE at the original price is not alone sufficient to support a finding that good faith efforts have been made to replace the original DBE. The fact that the contractor has the ability and/or desire to perform the contract work with its own forces does not relieve the contractor of the obligation to make good faith efforts to find a replacement DBE, and it is not a sound basis for rejecting a prospective replacement DBE's reasonable quote.

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, it is essential to scrutinize its documented efforts. At a minimum, you must review the performance of other bidders in meeting the contract goal. 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 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. As provided in §26.53(b)(2)(vi), you must also require the contractor to submit copies of each DBE and non-DBE subcontractor quote submitted to the bidder when a non-DBE subcontractor was selected over a DBE for work on the contract to review whether DBE prices were substantially higher; and contact the DBEs listed on a contractor's solicitation to inquire as to whether they were contacted by the prime. Pro forma mailings to DBEs requesting bids are not alone sufficient to satisfy good faith efforts under the rule.

VI. A promise to use DBEs after contract award is not considered to be responsive to the contract solicitation or to constitute good faith efforts.

[79 FR 59600, Oct. 2, 2014]

Appendix G
(SAMPLE) Forms DT1506 and DT1202

COMMITMENT TO SUBCONTRACT TO DBE

Wisconsin Department of Transportation

☐ Non-Traditional Project

Proposal #

County:

Prime Contract:

%

0.00 %

[illegible]

\$	0.00	\$	0.00

Prime Representative Signature & Date

1

**COMMITMENT TO SUBCONTRACT TO DBE
ATTACHMENT A**

CONFIRMATION OF PARTICIPATION

Project I.D.:	Proposal Number:
Letting Date:	

Name of DBE Firm Participating in this Contract:	
Name of the Prime/Subcontractor who hired the DBE Firm: <i>(list all names of tiers if more than one)</i>	
Type of Work or Type of Material Supplied:	
Total Subcontract Value:	Total DBE Credit Value:

FOR PRIME CONTRACTORS ONLY: I certify that I made arrangements with the participating DBE firm to perform the type of work listed or supply the material indicated above for the subcontract value listed above.	Prime Contractor Representative's Signature
	Prime Contractor Representative's Name (Print Name)
	Prime Contractor (Print Company Name)
	Date

FOR PARTICIPATING DBE FIRMS ONLY: I certify that I made arrangements with the Prime Contractor or the Hiring Contractor to perform the type of work or supply the material indicated above for the subcontract value listed above. FOR DBE TRUCKING FIRMS ONLY: I certify that I will utilize, for DBE credit, only trucks listed on my WisDOT approved Schedule of Owned/Leased Vehicles for DBE Credit form and I will be utilizing the number of trucks as listed below.	Participating DBE Firm Representative's Signature	Date
	Participating DBE Firm Representative's Name (Print Name)	
	Participating DBE Firm (Print Company Name)	
	DBE Firm's Address:	

# Owned Trucks	# Leased Trucks	# DBE-Owned Leased Trucks	# Non-DBE-Owned Leased Trucks

☐ Off site Hauling

**DOCUMENTATION OF GOOD FAITH EFFORT**
 Wisconsin Department of Transportation
 DT 1202 3/2020


Project ID XXXX	Proposal No. XXXX	Letting XXXX
Prime Contractor XXXX	County XXXX	
Person Submitting Document XXXX	Telephone Number XXXX	
Address XXXX	Email Address XXXX	

All bidders must undertake necessary and reasonable steps to achieve the assigned DBE contract goal per federal regulatory guidance at 49 CFR Part 26. Bidders use this form to document all efforts employed to meet the assigned goal as a record of contractor good faith efforts (GFE). Refer to ASP3 or 49 CFR Part 26 for guidance on actions that demonstrate good faith effort.

It is critical to list all efforts, attach documentation, and follow the instructions to complete this submission. Documentation of good faith effort includes copies of each DBE and non-DBE subcontractor quote submitted to the bidder for the same line items. Utilize the sample documentation logs to document and organize efforts.

Submit good faith effort documentation per ASP-3 guidelines.

Instructions: Provide a narrative description of all activities pursued to demonstrate good faith efforts, any corresponding documentation, and applicable explanation on separate pages. Include the following items organized in the order listed below.

1. Solicitation Documentation:

- a. **Purpose:** To identify all reasonable and available activities the bidder performed to solicit the interest of all certified DBEs who have the capacity and ability to perform work on the project. All solicitation efforts should begin as early as possible to ensure DBEs have ample time to respond and ask questions.
- b. **Action:** Identify and list all activities engaged in to solicit DBEs using all reasonable and available means such as written notice and follow-up communications, substantive conversations, pre-bid meetings, networking events, market research, advertising.

2. Selected Work Items Documentation:

- a. **Purpose:** To ensure that all work items are broken out into economically feasible units to facilitate DBE participation. This must occur even when you prefer to perform the work yourself.
- b. **Action:** Identify economically feasible work units to be performed by DBEs to include activities such as: list of work items to be performed; breaking up of large work items into smaller tasks or quantities; flexible time frames for performance and delivery schedules.

3. Documentation of Project Information provided to Interested DBEs:

- a. **Purpose:** To provide interested DBEs with adequate information about the plans, specifications, and any other contractual requirements in a timely manner to assist DBEs in response to solicitation.
- b. **Action:** Provide DBEs access to plans, specifications, and other contract requirements. Early solicitation allows ample opportunity to provide project information, links to Let advertisements, and substantive engagement with DBEs.

4.→ Documentation of Negotiation with Interested DBEs:

a.→ Purpose: To ensure that negotiations with interested DBEs were made in good faith providing evidence as to why agreements could not be reached for DBEs to perform work.

b.→ Action: Provide sufficient evidence to demonstrate that good faith negotiations took place. Merely sending out solicitations requesting bids from DBEs does not constitute sufficient good faith efforts. A bidder using good business judgment considers a number of factors in negotiating with all subcontractors, and the firm's price and capabilities in addition to contract goals are taken 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 failing to meet the DBE goal as long as costs are reasonable. (see 49 CFR Part 26 Appendix A)

5.→ Documentation of Sound Reason for Rejecting DBEs:

a.→ Purpose: To ensure that bidders avoid rejecting DBEs as unqualified without sound reasons. Reasons for rejection must be based on thorough investigation of DBE capabilities.

b.→ Action: Provide sufficient evidence to demonstrate that DBE was rejected for sound reasons such as past performance, relevant business experience and stability, safety record, business ethic and integrity, technical capacity, other tangible factors.

6.→ Documentation of Assistance to Interested DBEs--Bonding, Credit, Insurance, Equipment, Supplies/Materials:

a.→ Purpose: To assist interested DBEs in obtaining bonds, lines of credit, insurance, equipment, supplies, materials, and other assistance or services.

b.→ Action: Assist interested DBEs in obtaining bonding, lines of credit or insurance, and provide technical assistance or information related to plans, specifications, and project requirements. Assist DBEs in obtaining equipment, supplies, materials or other services related to meeting project requirements (excluding supplies or equipment the DBE purchases from the prime).

7.→ Documentation of outreach to Minority, Women, and Community Organizations and other DBE Business Development Support:

a.→ Purpose: To effectively use the services of minority, women, and community organizations as well as contractors' groups, local, state, and federal business assistance offices and organization that provide assistance in recruiting and supporting DBEs, as well as participation in activities that support DBE business development.

b.→ Action: Contact organizations and agencies for assistance in contacting, recruiting, and providing support to DBE subcontractors, suppliers, manufacturers, and truckers at least 14 days before bid opening. Participate in or host activities such as networking events, mentor-protégé programs, small business development workshops, and others consistent with DBE support.

Return to:
 Wisconsin Department of Transportation
 DBE Program Office
 PO Box 7965
 Madison, WI 53707-7965
 DBE_Alert@dot.wi.gov

I certify that I have utilized comprehensive good faith efforts to solicit and utilize DBE firms to meet the DBE participation requirements of this contract proposal, as demonstrated by my responses and as specified in Additional Special Provision 3 (ASP-3).

I certify that the information given in the Documentation of Good Faith Efforts is true and correct to the best of my knowledge and belief.

I further understand that any willful falsification, fraudulent statement, or misrepresentation will result in appropriate sanctions, which may involve debarment and/or prosecution under applicable state (Trans 504) and Federal laws.

		(Bidder/Authorized Representative Signature)

		(Print Name)

		(Title)

Good Faith Effort--Sample Documentation Logs

The sample logs below are provided as guides rather than exhaustive list. See ASP3, Appendix A for additional examples of demonstrable good faith efforts. Attach documentation for each activity listed.

Acceptable forms of documentation include copies of solicitations sent to DBEs, notes from substantive conversations and negotiations with DBEs, copies of advertisements placed, email communications, all quotes received from DBEs and from all subcontractors who were considered alongside DBE quotes, proof of attendance at applicable networking events; flyers for events or workshops for DBEs offered by the prime, and other physical records of good faith efforts activities.

SOLICITATION LOG

Date	Activity	Name of DBE Solicited	Follow-up
4/1/2020	Sent May-Let solicitation	Winterland Electric	Spoke with Mark Winterland on 4/15/20 to ask if he would quote.

SELECTED WORK ITEMS SOLICITED LOG

Work Type	DBE Firm	Contact Person	Date	Contact Mode
Pavement Marking	ABC Marking	Leslie Lynch	4/1/2020	Email; phone
	#1 Marking Co.	Mark Smart	4/1/2020	Email; left VM
Electrical	Winterland Electric	Tabitha Tinker	4/3/2020	Email, left VM
	Superstar Wiring	Jose Huascar	4/3/2020	Email; phone

INFORMATION PROVIDED LOG

Request Date	DBE Firm	Information Requested & Provided	Response Date
4/1/2020	Winterland Electric	Requested info on electrical requirements; provided plan and link to specs	4/3/2020
4/21/2020	Absolute Construction	Wanted to know how and when supplies are paid for by WisDOT; referred to spec that covers stockpiling	4/21/2020

NEGOTIATIONS LOG

Date	DBE Firm	Contact Name	Work Type	Quotes Rec'd?	Considered for project?	If not selected, why?
4/12/2020	ABC Landscape	John Dean	Erosion Control	Yes	No	Cannot perform all items
4/17/2020	Wild Ferns	Sandy Lynn	Erosion Control	Yes	Yes	
4/20/2020	#1 Marking	Mark Smart	Electrical	Yes	Yes	

ASSISTANCE LOG

Date	DBE Firm	Contact Person	Assistance Provided
4/1/2020	ABC Sawing	Jackie Swiggle	Informed DBE on how to obtain bonding
4/17/2020	Supreme Construction	Winston Walters	Provided contact for wholesale supply purchase

OUTREACH & BUSINESS DEVELOPMENT LOG

Date	Agency/Organization Contacted	Contact Person	Assistance Requested
4/1/2020	Women in Construction	LaTonya Klein	Contact information for woman-owned suppliers
4/28/2020	WBIC	Sam Smith	Asked for information to provide to DBE regarding financing programs through WBIC

Official Form DT1202 can be found here: <https://wisconsindot.gov/pages/global-footer/formdocs/default.aspx>

ADDITIONAL SPECIAL PROVISION 4

This special provision does not limit the right of the department, prime contractor, or subcontractors at any tier to withhold payment for work not acceptably completed or work subject to an unresolved contract dispute.

Payment to First-Tier Subcontractors

Within 10 calendar days of receiving a progress payment for work completed by a subcontractor, pay the subcontractor for that work. The prime contractor may withhold payment to a subcontractor if, within 10 calendar days of receipt of that progress payment, the prime contractor provides written notification to the subcontractor and the department documenting "just cause" for withholding payment.

The prime contractor is not allowed to withhold retainage from payments due subcontractors.

Payment to Lower-Tier Subcontractors

Ensure that subcontracting agreements at all tiers provide prompt payment rights to lower-tier subcontractors that parallel those granted first-tier subcontractors in this provision.

Acceptance and Final Payment

Within 30 calendar days of receiving the semi-final estimate from the department, submit written certification that subcontractors at all tiers are paid in full for acceptably completed work.

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
209.1100	Backfill Granular Grade 1	CY	0.23
209.1500	Backfill Granular Grade 1	Ton	0.115
209.2100	Backfill Granular Grade 2	CY	0.23
209.2500	Backfill Granular Grade 2	Ton	0.115
350.0102	Subbase	CY	0.28
350.0104	Subbase	Ton	0.14
350.0115	Subbase 6-Inch	SY	0.05
350.0120	Subbase 7-Inch	SY	0.05
350.0125	Subbase 8-Inch	SY	0.06
350.0130	Subbase 9-Inch	SY	0.07
350.0135	Subbase 10-Inch	SY	0.08
350.0140	Subbase 11-Inch	SY	0.09
350.0145	Subbase 12-Inch	SY	0.09

C Fuel Index

A Current Fuel Index (CFI) in dollars per gallon will be established by the Department of Transportation for each month. The CFI will be the price of No. 2 fuel oil, as reported in U.S. Oil Week, using the first issue dated that month. The CFI will be the average of prices quoted for Green Bay, Madison, Milwaukee and Minneapolis.

The base Fuel Index (BFI) for this contract is \$4.70 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:

$$FA = \frac{CFI}{BFI} - 1 \times Q \times BFI$$

(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

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Additional Special Provision 6 (ASP-6)
Modifications to the standard specifications

Make the following revisions to the standard specifications.

104 Scope of Work

104.2.2 Issuing Change Orders

Replace subsection 104.2.2 with the following and rearrange to add a 104.2.2.7 effective with the February 2026 letting.

104.2.2.1 Change Orders for Differing Site Conditions

- (1) During the progress of the work, if one or more of the following differing conditions are encountered at the site, the party discovering the condition must promptly notify the other party of the specific condition before further disturbing the site and before further performing the affected work.
 1. A subsurface or latent physical condition, differing materially from those indicated in the contract.
 2. An unknown physical condition of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in the work specified in the contract.
- (2) If the contractor discovers the differing condition, the contractor shall provide oral notification as specified in 104.3.2, of the specific differing condition before further disturbing the site and before further performing the affected work.
- (3) The project engineer will investigate the conditions. If the project engineer determines the conditions materially differ and cause an increase or decrease in the cost, time, or both, required to perform the work under the contract, the project engineer will adjust the contract price, time, or both, and modify the contract in writing accordingly. The project engineer will respond to the contractor as to whether or not an adjustment is warranted. The project engineer will follow the contractor notification procedures specified in 104.3.
- (4) The department will not allow a contract adjustment unless the contractor has provided the required notice as specified in 104.3.

104.2.2.2 Change Orders for Engineer-Ordered Suspensions

- (1) If the project engineer suspends or delays the performance of all or any portion of the work in writing for an unreasonable period of time (not originally anticipated, customary, or inherent to the construction industry) and the contractor believes that additional payment, contract time, or both, is due because of the suspension or delay, the contractor shall notify the engineer as specified in 104.3.
- (2) The project engineer will evaluate the contractor's request. If the project engineer agrees that the cost, time, or both, required for the performance of the contract has increased due to the suspension or delay and the suspension or delay was caused by conditions beyond the control of and not the fault of the contractor, its suppliers, or subcontractors at any approved tier, and not caused by weather, the project engineer will make an adjustment and modify the contract in writing accordingly. The project engineer will respond to the contractor as to whether or not an adjustment is warranted as specified in 104.3.6.
- (3) The project engineer will not consider a contract adjustment unless the contractor submits the request for adjustment within the time specified above.
- (4) The project engineer will not consider a contract adjustment under this clause to the extent that the performance would have been suspended by any other cause, or for which an adjustment is provided or excluded under any other term or condition of this contract.

104.2.2.3 Change Orders for Altered Work

- (1) If original contract work is altered from what is included in the contract, the department will adjust the contract if the character of the work as altered differs materially in kind or nature from that involved or included in the original contract.
- (2) Before performing altered work, reach agreement with the project engineer for any price adjustments as specified in 109.4. If the project engineer does not agree that the work has significantly changed and a price adjustment is justified, follow the notification procedures as specified in 104.3.
- (3) If the alterations do not significantly change the character of the work under the contract, the department will not adjust the contract.

104.2.2.4 Change Orders for Quantity Variations

- (1) If all original contract work for a bid item is completed as required in the contract, and the measured quantity for that bid item varies from the contract quantity, the department will adjust the contract if the department or contractor demonstrates that the quantity variation affects the contractor's unit cost to perform the work and

meets one of the criteria below. If the quantity variation does not significantly change the character of the work under the contract, the department will pay for the work at the contract price.

1. The quantity of a major bid item, as defined in 101.3, is increased in excess of 125 percent or decreased below 75 percent of the original contract quantity. Any allowance for an increase in quantity applies only to that portion in excess of 125 percent of the original contract bid item quantity, or in case of a decrease below 75 percent, to the work actually performed.
2. The quantity of a minor bid item is increased to become a major bid item. An adjustment in the contract unit price for that bid item applies only to the quantity of that bid item having a contract value as follows:
 - Original Contract < \$8M: In excess of 6.25 percent of the original contract.
 - Original Contract >= \$8M: In excess of \$500,000.
3. The quantity of a minor bid item that is part of an approved subcontract and that exceeds 10 percent of the original value of that subcontract is decreased more than 50 percent from the original contract quantity for that bid item. Either party to the contract may submit a request for a revision to the contract unit price for that bid item. The department's total payment for the final reduced quantity will not exceed 75 percent of the original contract quantity at the contract price.
4. The quantity of a minor bid item that is part of an approved subcontract and that exceeds 10 percent of the original value of that subcontract is increased more than 50 percent from the original contract quantity for that bid item and which as increased does not qualify for adjustment as a major bid item. Either party to the contract may submit a request to the other for a revision of the contract unit price for that quantity of the bid item that is in excess of 125 percent of the original contract quantity.

104.2.2.5 Change Orders for Extra Work

- (1) The department has the right to direct extra work not required in the original contract, as defined in 101.3.
- (2) The engineer will determine payment for extra work as specified in 109.4.

104.2.2.6 Change Orders for Eliminated Work

- (1) The department has the right to partially eliminate or completely eliminate work the project engineer finds to be unnecessary for the project. If the project engineer partially eliminates or completely eliminates work, the project engineer will issue a change order for a fair and equitable amount as specified in 109.5.

104.2.2.7 Change Orders for Revisions to Contract Time

- (1) The department will issue a change order to revise the contract time as specified in 108.10.

104.6 Roadway Maintenance and Traffic Control

104.6.1.2.3 Drop-Off Protection

Replace subsection with the following effective with the November 2025 letting.

- (1) Eliminate vertical drop-offs greater than 2 inches and edge slopes steeper than 3:1 between adjacent lanes open to traffic.
- (2) If the roadway remains open to through traffic during construction and a greater than 2-inch drop-off occurs within 3 feet or less from the edge of the traveled way, eliminate the drop-off within 48 hours after completing that day's work. Provide aggregate shoulder material compacted to a temporary 3:1 or flatter cross slope from the surface of the pavement edge.
- (3) Unless the engineer allows otherwise address drop-offs when they exist greater than 3 and less than 8 feet from the travelled way as follows:
 - Delineate vertical drop-offs 2 inches or greater and edge slopes steeper than 3:1 with drums, barricades, and signs, by the end of the workday.
 - Eliminate vertical drop-offs 2 inches or greater and edge slopes steeper than 3:1 within 72 hours or before a weekend or holiday whichever comes first.
 - Eliminate or use temporary concrete barrier to protect vertical drop-offs 4-inches or greater after 72 hours or before a weekend or holiday whichever comes first.
- (4) If a 4-inch or greater vertical drop-off or an edge slope steeper than 3:1 exists greater than 8 and less than 15 feet from the traveled way, delineate that drop-off or edge slope with drums, barricades, and signs by the end of the workday.
- (5) If a 12-inch or greater vertical drop-off exists greater than 8 and less than 15 feet from a traveled way with a posted speed limit of 55 mph or greater, eliminate or use temporary concrete barrier to protect that drop-off within 72 hours or before a weekend or holiday whichever comes first.

104.6.1.2.4 Hazard Protection on Roads Open to All Traffic

Replace subsection with the following effective with the November 2025 letting.

- (1) On roads open to all traffic; conform to the following construction clear zone requirements:

- Posted speeds 45 mph or less: within 8 feet of the travelled way.
 - Posted speeds from 45 mph to 55 mph inclusive: within 10 feet of the travelled way.
 - Posted speeds above 55 mph: within 15 feet of the travelled way.
- (2) Remove all construction debris, stored materials, and equipment not in use from the construction clear zone; or if the engineer allows, delineate and shield with concrete barrier.
- (3) Delay removal of existing permanent roadside safety devices until necessary. When located within the construction clear zone and not shielded by concrete barrier, use temporary traffic control drums to delineate bridge abutments, concrete barrier blunt ends, sign bridge foundations, drainage structures, and slopes exposed by removing permanent protective measures.
- For exposed bridge abutments, concrete barrier blunt ends, sign bridge foundations, and drainage structures, eliminate the need for delineation within 5 calendar days.
 - For exposed slopes steeper than 3:1, eliminate the need for delineation within 14 calendar days, or duration approved by the engineer.

105 Control of the Work

105.13 Claims Process for Unresolved Changes

Replace subsection with the following effective with the February 2026 letting.

105.13.3 Submission of Claim

- (1) Submit the claim to the project engineer as promptly as possible following the submission of the Notice of Claim. If the contractor does not submit the claim prior to the earlier of the following dates, the department will deny the claim:
1. 120 calendar days from the date of the Notice of Claim.
 2. The end of the time allowed under 109.7 for the contractor to respond in writing to the engineer issued semi-final estimate.
- (2) The department will not accept the submission of a claim until the resolution process in 104.3 has been completed and the contractor makes no further requests to submit updated information that may affect the region's final decision.

107 Legal Relations and Responsibility to the Public

Add section 107.27 (Drones or Unmanned Aircraft Systems (UAS)) effective with the November 2024 letting.

107.27 Drones or Unmanned Aircraft Systems (UAS)

107.27.1 Licensing and Compliance

Add paragraph 107.27.1(5) to the information included with the November 2024 ASP-6, effective with the February 2026 letting.

- (1) Obtain and possess the necessary Federal Aviation Administration (FAA) licenses and certifications to operate drones commercially (<https://www.faa.gov/uas>).
- (2) Comply with all FAA regulations, airspace restrictions, and local laws. Operators of small drones that are less than 55 pounds for work or business must follow all requirements as listed in Title 14, Chapter 1, Subchapter F, Part 107 of the Code of Federal Regulations (14 CFR) and obtain a remote pilot certificate (https://www.faa.gov/uas/commercial_operators).
- (3) Comply with Wisconsin State Statute 942.10. Limit operations to the specific approved purpose and employ reasonable precautions to avoid capturing images of the public except those that are incidental to the project.
- (4) Provide copies of waivers required for specific project conditions to the engineer prior to any flight.
- (5) UAS and UAS components are required to be compliant with federal guidelines outlined in the American Security Drone Act of 2023 (ASDA) and the OMB memorandum M-26-02.

107.27.2 Flight Approval, Safety, and Incident Reporting

- (1) Submit information in 107.27.2(2) to obtain written drone flight approval from the engineer at least 3 business days prior to operating a drone within the right-of-way. Do not operate a drone within the right-of-way unless approved by the engineer.
- (2) Drone flight application for review and approval must include:
- UAS pilot information and qualifications, images of certification
 - UAS drone information and FAA tail numbers
 - Max/ Min allowable flight parameters (weather)
 - Specifics of flight mission: capture scope

-
- Estimated flight duration
 - Pre-flight checklist
 - Site-specific parameters
 - Notification protocols - Federal/Local/Agency/Owner/Responsible in Charge
 - Confirmation and verification of approved operators and hardware
 - Flight plan map diagram (including launch and landing location)
 - FAA-Airspace flight map classification and confirmation with graphics
 - UAS incident management protocol
- (3) If contractor is requesting multiple types of the same flight, a simplified request can be submitted listing weekly flight plan.
- (4) Safety measures must include but are not limited to:
- Regular training and updates on drone regulations are required and must be provided upon request.
 - Drones must be operated in accordance with safety guidelines, including maintaining a safe distance from people, structures, vehicles, etc.
 - Conduct a pre-flight safety assessment, considering weather conditions, airspace restrictions, and potential hazards.
 - Emergency procedures (e.g., drone malfunction, loss of control) must be documented and followed.
 - All incidents must be reported to the engineer.
- (5) If the drone has an incident during flight, report the following to the engineer:
- Incident background and details.
 - FAA (14 CFR 107.9) and NTSB (49 CFR 870) notification protocol.
 - Contractor internal notification protocol.

107.27.3 Insurance Requirements

- (1) Maintain drone liability insurance with the following limits.
1. For drones weighing 10 pounds or less, a liability policy with a minimum limit of \$1,000,000.00 is required.
 2. For drones weighing more than 10 pounds and less than or equal to 20 pounds, a liability policy with a minimum limit of \$2,000,000.00 is required.
 3. For drones weighing more than 20 pounds, notify engineer and department will determine appropriate liability policy coverage levels based on size, use, location, and other risk factors.

305 Dense Graded Base

305.3.3.3 Shoulders Adjacent to Asphaltic Pavement or Surfacing

Replace subsection with the following effective with the November 2025 letting.

- (1) If the roadway is closed to through traffic during construction, construct the aggregate shoulders before opening the road.
- (2) If the roadway remains open to through traffic during construction, conform as specified in 104.6.1.2.3.
- (3) Provide and maintain signing and other traffic protection and control devices, as specified in 643, until completing shoulder construction to the required cross-section and flush with the asphaltic pavement or surfacing.

310 Open-Graded Base**310.2 Materials**

Replace paragraph (2) with the following effective with the November 2025 letting.

- (2) The contractor may substitute material conforming to the gradation requirements for crushed aggregate specified in table 310-01 if that material conforms to the fracture requirements for open-graded crushed gravel specified in 301.2.4.5.

TABLE 310-01 COARSE AGGREGATE (% passing by weight)**AASHTO No. 67 ^[1]**

SIEVE	COARSE AGGREGATE (% PASSING by WEIGHT) AASHTO No. 67
2-inch	-
1 1/2-inch	-
1-inch	100
3/4-inch	90 - 100
1/2-inch	-
3/8-inch	20 - 55
No. 4	0 - 10
No. 8	0 - 5
No. 16	-
No. 30	-
No. 50	-
No. 100	-
No. 200	-

^[1] Size according to AASHTO M43.

415 Concrete Pavement**415.3.16.4.1.2 Magnetic Pulse Induction**

Replace subsection with the following effective with the November 2025 letting.

- (1) The department will measure thickness within 10 business days of paving. Upon completion of the project thickness testing, the department will provide the test results to the contractor within 5 business days.
- (2) The department will establish a project reference plate at the start of each paving stage. The department will notify the contractor of project reference plate locations before testing. The department will measure the project reference plate before each day of testing.
- (3) If the random plate test result falls within 80 to 50 percent pay range specified in 415.5.2, the department will measure the second plate in that unit. The department will notify the contractor immediately if the average of the 6 readings fall within the 80 to 50 percent pay range.
- (4) If an individual random plate test result is more than 1 inch thinner than contract plan thickness, the pavement is unacceptable. Department will determine limits of unacceptable pavement by performing the following:
 - The engineer will test each consecutive plate stationed ahead and behind until the thickness test result is plan thickness or greater.
 - The engineer will direct the contractor to core the hardened concrete to determine the extent of the unacceptable area. In each direction, the contractor shall take cores at points approximately 20 feet from the furthest out of specification plate towards the plate that is plan thickness of greater. Once a core is within 80 to 100 percent pay range, the coring is complete and the limits of unacceptable pavement extend from the stationing between the core test results of 80 to 100 percent payment, inclusive of all unacceptable core and plate test results.
 - Perform coring according to WTM T24. The department will evaluate the results according to AASHTO T148
 - Fill core holes with concrete or mortar.

416 Concrete Pavement - Repair and Replacement**416.2 Materials****416.2.1 General**

Replace paragraph (3) with the following effective with the November 2025 letting.

- (3) The contractor may use accelerating admixtures for concrete placed under SHES bid items as follows:
1. If using calcium chloride,
 - AASHTO M144, type S as grade N1 or grade N2, class A.
 - AASHTO M144, type L in a concentration of approximately 30 percent for premixed solutions.
 2. If using non-chloride accelerators, conform to:
 - AASHTO M194, type C accelerating admixtures.
 3. Do not exceed the manufacturer's recommended maximum dosage.
 4. If the engineer requests, provide a written copy of the manufacturer's dosage recommendations.

416.2.4 Special High Early Strength Concrete Pavement Repair and Replacement**416.2.4.1 Composition and Proportioning of Concrete**

Add paragraph (4) to subsection effective with the November 2025 letting.

- (4) The contractor may use pre-packaged horizontal rapid set concrete patch material from the APL for partial and full-depth pavement repairs instead of specified grades of concrete.

506 Steel Bridges**506.3.12.3 High-Strength Bolts****506.3.12.3.1 Materials**

Replace subsection with the following effective with the November 2025 letting.

- (1) Install bolts according to AASHTO LRFD Bridge Construction Specifications, article 11.5.5, with the following exceptions:
1. If connections are assembled, install bolts with a hardened washer under the nut or bolt head, whichever is the element turned in tightening.
 2. If using oversized holes, 2 hardened washers are required, one under the bolt head and one under the nut.
 3. Bring the bolted parts into solid contact bearing before final tightening. Use not less than 25 percent of the total number of bolts in a joint to serve as fitting up bolts.
 4. For steel diaphragms on prestressed concrete bridges do the following:
 - 4.1. For steel-to-steel connections within diaphragms:
 - Tension by the turn-of-nut method.
 - 4.2. For steel-to-concrete girder connections:
 - No PIV or field rotational capacity (RoCAP) testing is required.
 - Tighten as the plan details specify.
- (2) Before fasteners are delivered to the site, provide documentation of rotational capacity testing in accordance with ASTM F3125, Annex A2, Rotational Capacity (RoCap) Test. The fasteners must be received in packages that match the fastener assembly combination as tested. If documentation of RoCap testing is not received; then perform this testing in the field prior to installation.
- (3) Install bolt, nut, and washer combinations from the same rotational-capacity lot.
- (4) Check galvanized nuts to verify that a visible dyed lubricant is on the threads and at least one bolt face.
- (5) Ensure that uncoated bolts are oily to the touch over their entire surface when delivered and installed.
- (6) Provide and use a Skidmore-Wilhelm Calibrator or an acceptable equivalent tension measuring device at each job site during erection. Perform pre-installation verification (PIV) testing in the field conforming to the procedures enumerated in department form DT2114 no earlier than 14 calendar days prior to permanent bolting. Submit 2 copies of form DT2114 to the engineer.
- (7) Prior to installation, ensure that the fastener condition has not changed due to accumulation of rust or dirt, weathering, mixture of tested assembly lots, or other reasons. If changes have occurred, including cleaning and re-lubricating of weathered bolts, the engineer will require re-qualification using RoCap testing in the field, for a minimum of two fastener assemblies of each combination to be used in permanent bolting, and PIV re-testing.

- (8) Additional RoCap or PIV tests are required whenever the condition of the fasteners or understanding of the bolting crew is in question by the Engineer. Do not allow permanent bolting until PIV testing is completed.
- (9) Tighten threaded bolts by the turn-of-nut method while holding the bolt head. Where clearance is an issue, the contractor may tighten the bolt head while holding the nut.
- (10) The contractor may use alternate tightening methods if the engineer approves before use.
- (11) The contractor may use a flat washer if the surface adjacent to and abutting the bolt head or nut does not have a slope of more than 1:20 with respect to a plane normal to the bolt axis. For slopes greater than 1:20, use smooth, beveled washers to produce parallelism.
- (12) Snug all bolts during installation according to AASHTO LRFD Bridge Construction Specifications, article 11.5.5.4.1.
- (13) Tighten each fastener to provide, if all fasteners in the joint are tight, at least the minimum bolt tension as follows:

TABLE 506-1 BOLT TENSION

BOLT SIZE	REQUIRED MINIMUM BOLT TENSION ^[1]
1/2-inch.....	12 kips
5/8-inch.....	19 kips
3/4-inch.....	28 kips
7/8-inch.....	39 kips
1-inch	51 kips
1 1/8-inch.....	64 kips
1 1/4-inch.....	81 kips
1 3/8-inch.....	97 kips
1 1/2-inch.....	118 kips

^[1] Equal to the proof load by the length measurement method as specified in ASTM F3125 for grade A35 bolts.

- (14) Do not reuse galvanized F3125 A325 bolts. The contractor may reuse uncoated F3125 A325 bolts, if the engineer approves, but not more than once. The department will not consider re-tightening previously tightened bolts that become loosened by the tightening of adjacent bolts as reuse.

506.3.19 Welding

Replace subsection title and text with the following effective with the November 2025 letting.

506.3.19.4 Welding Inspection

- (1) Inspect welding according to the current edition of AWS D1.5. Unless specified otherwise, test butt welds in main members by either the radiographic or the ultrasonic method.
- (2) Test fillet welds and groove welds not covered otherwise in main members in a non-destructive manner by the magnetic particle method according to ASTM E709, utilizing the yoke method. This includes, but is not limited to, a minimum of 12 inches in every 10 feet or portion thereof of each weld connecting web to flange, bearing stiffener to web or flange, framing connection bar to web or flange, and longitudinal stiffener to web or vertical bar.

506.3.31 Cleaning of Surfaces

506.3.31.2 Coated Surfaces

Replace subsection with the following effective with the November 2025 letting.

- (1) Blast clean structural steel and ferrous metal products to be coated as specified in 517.3.1.3.3.
- (2) Blast clean steel that will be encased in concrete to SSPC-SP 6 standards or cleaner.

506.3.32 Painting Metal

Replace subsection with the following effective with the November 2025 letting.

- (1) Unless the contract provides otherwise, apply 3 coats of paint to structural steel and ferrous metal products. Furnish and apply paints according to the epoxy system or as specified in the special provisions. The requirements for this system are set forth in 517.
- (2) For structural steel, including weathering steel, and miscellaneous metals that will be encased in concrete, paint as specified in 517.3.1.
- (3) For galvanized surfaces paint as specified in 517.3.1.
- (4) Use the 3-coat epoxy system to paint the end 6 feet of structural weathering steel at the abutments, the 6 feet on each side of piers, joints, downspouts, hinges, and galvanized bearings in contact with weathering

steel. Use a coat of brown urethane matching AMS Standard 595A: AMS-STD 20059. Apply one coat of zinc-rich paint to surfaces of expansion joint assemblies and other surfaces not in contact with the weathering steel but inaccessible after assembly or erection.

- (5) Do not paint structural steel to be welded before completing welding. If welding only in the fabricating shop and subsequently erecting by bolting, coat it after completing shop welding. Apply one coat of weldable primer or other engineer-approved protective coating to steel surfaces to be field welded after completing shop welding and shop fabrication. Protect machine-finished surfaces that do not receive a paint or galvanizing from contamination during the cleaning and painting process.
- (6) Upon fabrication and acceptance, coat pins and pinholes with a plastic or other engineer-approved coating before removing from the shop.
- (7) Mark members weighing 3 tons or more with their weights on areas that will be encased in concrete, or paint with a compatible paint on zinc-rich primer, or mark with soapstone on an epoxy-coated surface. Wait until material is dry, inspected, and approved for shipment before loading for shipment.

509 Concrete Overlay and Structure Repair

509.2 Materials

Replace subsection with the following effective with the November 2025 letting.

- (1) Furnish a neat cement bonding grout. Mix the neat cement in a water-cement ratio approximately equal to 5 gallons of water per 94 pounds of cement. Pre-packaged non-shrink grout from the APL may be used instead of site mixed or ready mixed grout.
- (2) Furnish grade E conforming to 501 for overlays.
- (3) Furnish grade C or E concrete conforming to 501 for surface repairs. The contractor may increase the slump for grade E concrete to a maximum of 4 inches. For vertical and overhead repairs, use pre-packaged vertical and overhead repair material from the APL unless a different material is approved by the engineer in writing.
- (4) Furnish grade C or E concrete conforming to 501 for joint repairs, curb repairs, and full-depth deck repairs; except as follows:
 1. The contractor may increase slump of grade E concrete to 3 inches.
 2. The contractor may use ready-mixed concrete.
- (5) Provide QMP for class II ancillary concrete as specified in 716 if using concrete mixtures conforming to 501.

513 Railing

513.2.3 Steel Railing

Replace subsection with the following effective with the November 2025 letting.

- (1) Furnish steel railing components as follows:

Structural steel	506.2.2
High strength bolts	506.2.5
Steel guardrail	614.2
Round structural steel tubing for steel pipe railing	ASTM A500 grade B
Structural steel tubing used with other steel railings	ASTM A500 grade B or C
- (2) Furnish a two-coat paint system from the APL for structure painting systems under paint - galvanized surfaces.

517 Paint and Painting

517.3.1.3.3 Blast Cleaning

517.3.1.3.3.2 Epoxy Coating System

Replace subsection with the following effective with the November 2025 letting.

- (1) Blast clean structural steel receiving this coating to a near-white finish according to SSPC-SP 10.
- (2) Solvent clean oil and grease on surfaces receiving this coating according to SSPC-SP 1 and blast clean to a near-white finish according to SSPC-SP 10.
- (3) Remove fins, tears, slivers, and burred or sharp edges present on any steel member, or that appears during blasting, by grinding then re-blast the area to a one to 2 mils surface shape.

-
- (4) If using abrasives for blast cleaning, use either clean dry sand, steel shot, mineral grit, or manufactured grit of a gradation that produces a uniform one to 2 mils profile as measured with a department-approved impregnated surface profile tape.
 - (5) Remove abrasive and paint residue from steel surfaces with a commercial grade vacuum cleaner equipped with a brush-type cleaning tool, or by double blowing. If using the double blowing method, vacuum the top surfaces of structural steel, including top and bottom flanges; longitudinal stiffeners, splice plates, and hangers after completing the double blowing operations. Ensure that the steel is dust free when applying primer. Apply the primer within 8 hours after blast cleaning.
 - (6) Protect freshly coated surfaces from later blast cleaning operations. Brush any blast damaged primed surfaces with a non-rusting tool, or if visible rust occurs, re-blast to a near white condition. Clean the brushed or blast cleaned surfaces and re-prime within the manufacturer's recommended time.
 - (7) When coating galvanized surfaces, ensure tie-coat adhesion by brush blasting the cleaned surface according to SSPC-SP7 to create a slight angular surface profile according to manufacturer's recommendations of 1 mil to 1.5 mils. Blasting must not fracture the galvanized finish or remove dry film thickness. For the tie- and top-coat, furnish an epoxy coating system from the APL for paint systems for galvanized surfaces.

517.3.1.3.5 Galvanizing

Add subsection effective with the November 2025 letting.

- (1) After fabrication, blast clean assemblies per SSPC-SP6 and galvanize according to ASTM A123.
-

526 Temporary Structures

526.3.4 Construction, Backfilling, Inspection and Maintenance

Replace subsection with the following effective with the November 2025 letting.

- (1) Construct temporary structures conforming to 500. Backfill conforming to 206.3.13 with structure backfill conforming to 210.2.
- (2) Temporary highway bridges open to traffic less than or equal to 24 months: inspect temporary bridges conforming to the National Bridge Inspection Standards (NBIS) and the department's Structure Inspection Manual (SIM) before opening to traffic. Perform additional inspections, as the department's SIM requires, based on structure type, condition, and time in service. Submit inspection reports on department form DT2007 to the engineer and electronic copies to the BOS Maintenance Section. Ensure that a department-certified qualified team leader performs the inspections.
- (3) Temporary highway bridges open to traffic greater than 24 months: complete additional inspections and inventory data collection per the NBIS and SIM within 27 months of the bridge being opened to traffic. Contact the Bureau of Structures to have a structure number assigned. Enter the inventory data and element level bridge inspection data in accordance with the SIM into WisDOT's Highway Structures Information System (HSIS) within 90 days of completing the field portion of the inspection. Continue to complete required inspections and data submittal at intervals according to the requirements of the NBIS and SIM.
- (4) Maintain temporary structures and approaches in place until no longer needed. Unless the engineer directs otherwise, completely remove and dispose of as specified in 203.3.5; do not place on the finished surface.

526.5 Payment

Replace paragraph (2) with the following effective with the November 2025 letting.

- (2) Payment for the Temporary Structure bid items is full compensation for providing a temporary structure including design and construction; for construction staking; for temporary shoring and other secondary structure items; for backfilling with structure backfill; for maintaining; and for removing when no longer needed. The department will pay 70 percent of the contract amount when open to traffic and the balance after structure removal and associated site restoration.
-

550 Driven Piles

550.3.9 Pre-Boring

550.3.9.1 General

Add paragraph (2) effective with the February 2026 letting.

- (1) Pre-bore holes to the depth the plans or special provisions require. Submit written requests for pre-boring not required under the contract to the engineer for review and approval. Do not impair the capacity of in-place piles or damage adjacent structures by pre-boring operations.

- (2) Contractor may elect to not perform pre-boring, subject to written approval from the engineer as specified in 104.2.1(2). If the contractor elects to not perform pre-boring and subsequently pre-boring is necessary at any point throughout the project, no additional time or compensation will be granted.

621 Landmark Reference Monuments

Remove Standard Specification 621 (Landmark Reference Monuments) effective with the November 2025 letting. Refer to updated information in this ASP-6 for standard specifications 680 and 682.

643 Traffic Control

643.1 Description

Replace paragraph (1) with the following effective with the November 2025 letting.

- (1) This section describes providing, maintaining, repositioning, and removing temporary traffic control devices as follows:

Drums	Warning lights	42-inch cones
Barricades type III	Connected arrow boards	Portable changeable message signs
Flexible tubular markers	Signs	Channelizing curb system
Speed feedback trailers	Connected work zone start and end location markers	

643.2.2 Department's Approved Products List (APL)

Replace paragraph (1) with the following effective with the November 2025 letting.

- (1) Furnish materials from the APL as follows:

- Drums	- Connected arrow boards
- Barricades type III	- Sign sheeting
- Flexible tubular marker posts including bases	- 42-inch cone assemblies
- Warning lights and attachment hardware	- Portable changeable message signs
- Channelizing curb systems	- Speed feedback trailers
- Connected work zone start and end location markers	

643.3 Construction

643.3.1 General

Add paragraphs (10), (11), (12) and (13) effective with the November 2025 letting.

- (10) For connected devices provide a local specialist to respond to emergency situations within 2 hours of being notified. Equip local specialists with sufficient resources to correct deficiencies in the connected work zone devices.
- (11) Prior to deployment, test all connected devices with the engineer to ensure the device is showing in the WisDOT approved data feed. Send an email to DOTBTOWorkzone@dot.wi.gov to notify BTO that the devices have been turned on.
- (12) Provide a WisDOT approved data feed from connected devices and the remote management software, updated at least every minute.
- (13) If requested by the engineer, provide real-time status change alerts to a list of designated personnel via text or email or both. Send an alert each time a connected device is switched between operating modes which include the current operating mode, the previous operating mode, the date and time of the mode switch, and the location (latitude and longitude) of the device at the time of the mode switch in the alert.

643.3.3 Connected Arrow Boards

Revise subsection title and add paragraphs (3) and (4) effective with the November 2025 letting.

- (3) The connected arrow board may be switched between the following pattern displays per the plan:
- Blank
 - Right arrow static
 - Right arrow flashing
 - Right arrow sequential
 - Left arrow static
 - Left arrow flashing
 - Left arrow sequential
 - Line flashing

- Bi-directional arrow flashing.

- (4) When the connected arrow board is not displaying a pattern, the display shall be blank, and the connected arrow board transmits its status to the data feed. When a connected arrow board is switched to a pattern, the connected arrow board transmits its location and its current operating mode to the data feed.

643.3.7 Temporary Pavement Marking

Add paragraph (9) effective with the November 2025 letting.

- (9) Install temporary markings on the final surface in the same location as permanent markings will be placed or as the plans show.

643.3.10 Connected Work Zone Start and End Location Markers

Add subsection effective with the November 2025 letting.

- (1) Place work zone start location marker at the beginning of the work zone per plan or as the engineer directs. Clearly label the work zone start location marker so that it is easily distinguishable by field personnel.
- (2) Place work zone end location marker at the end of the work zone per plan or as the engineer directs. Clearly label the work zone end location marker so that it is easily distinguishable by field personnel.
- (3) Ensure the connected work zone start and end location markers operate continuously when deployed on the project.
- (4) Ensure the work zone location markers and connected arrow board are from the same manufacturer.
- (5) When the work zone start and end location markers are switched to the ON mode, verify the begin and end location markers transmit their location and identity as begin or end markers to the data feed.
- (6) Switch the work zone start and end location markers to OFF mode when temporary traffic control is removed, and the normal traveled way is restored.

643.4 Measurement

643.4.1 Items Measured by the Day

Add paragraphs (3) and (4) effective with the November 2025 letting.

- (3) The department will measure Traffic Control Connected Arrow Boards by day for the days the device is reporting correct data.
- (4) The department will measure Traffic Control Connected Work Zone Start and End Location Markers by day per roadway segment for the days the devices are reporting correct data.

643.5 Payment

643.5.1 General

Replace paragraph (1) with the following effective with the November 2025 letting.

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

<u>ITEM NUMBER</u>	<u>DESCRIPTION</u>	<u>UNIT</u>
643.0300	Traffic Control Drums	DAY
643.0420	Traffic Control Barricades Type III	DAY
643.0500	Traffic Control Flexible Tubular Marker Posts	EACH
643.0600	Traffic Control Flexible Tubular Marker Bases	EACH
643.0650	Traffic Control Channelizing Curb System	LF
643.0700 - 0799	Traffic Control Warning Lights (type)	DAY
643.0810	Traffic Control Connected Arrow Boards	DAY
643.0900	Traffic Control Signs	DAY
643.0910	Traffic Control Covering Signs Type I	EACH
643.0920	Traffic Control Covering Signs Type II	EACH
643.1000	Traffic Control Signs Fixed Message	SF
643.1050	Traffic Control PCMS	DAY
643.1051	Traffic Control PCMS with TMC Communications	DAY
643.1070 - 1079	Traffic Control Cones (height)	DAY
643.1220	Traffic Control Connected Work Zone Start and End Location Markers	DAY
643.1500	Traffic Control Speed Feedback Trailer	DAY
643.3100 - 3299	Temporary Marking Line (material/type) (width)	LF
643.3300 - 3399	Temporary Marking Crosswalk (material) 6-Inch	LF
643.3500 - 3599	Temporary Marking Arrow (material)	EACH

643.3600 - 3699	Temporary Marking Word (material)	EACH
643.3700 - 3799	Temporary Marking Raised Pavement Marker (type)	EACH
643.3800 - 3899	Temporary Marking Stop Line (material) 18-Inch	LF
643.3900 - 3959	Temporary Marking Diagonal (material) 12-Inch	LF
643.3960 - 3999	Temporary Marking Removable Mask Out Tape (width)	LF
643.4100	Traffic Control Interim Lane Closure	EACH
643.5000	Traffic Control	EACH

646 Pavement Marking

646.3.1.1 General Marking

Replace paragraph (7) with the following effective with the November 2025 letting. Add paragraph (8) effective with the February 2026 letting.

- (7) Apply marking to the width and color the bid item indicates. Distribute beads uniformly across the line. Provide a sharp cutoff for both sides and ends of the marking with a uniform cross-section. Achieve straight alignment, not to exceed a 3/8-inch variation in any 40-foot section of travelled way. Do not damage existing marking that will remain in place.
- (8) Apply both lines of the centerline marking simultaneously to ensure a consistent gap.

646.3.1.6 Proving Period

646.3.1.6.1 General

Replace paragraph (1) with the following effective with the February 2026 letting.

- (1) The engineer may conduct post acceptance inspections periodically during a proving period to evaluate the physical presence of pavement marking and, for permanent markings, the retroreflectivity. The proving period begins on the last day of the week, for all marking placed within that week. The proving period extends through April 15 of the next calendar year or 180 days, whichever is longer. If weather or road surface conditions prevent the engineer from fully evaluating the marking at the end of the proving period, the engineer may extend the proving period.

646.3.1.6.2 Retroreflectivity

Replace paragraph (1), included with the November 2025 ASP-6, with the following effective with the February 2026 letting.

- (1) For permanent markings, the engineer will also evaluate the percent failing retroreflectivity at the end of the proving period. Ensure that the 180-day reflectivity, in millicandelas/lux/m², meets or exceeds the following:

		180 DAY DRY
<u>MATERIAL</u>	<u>COLOR</u>	<u>RETROREFLECTIVITY</u>
Epoxy	White	150
	Yellow	100
Wet Reflective Epoxy	White	250
	Yellow	150
Permanent Tape	White	400
	Yellow	335

646.3.2.3.2 Wet Reflective Epoxy

Replace paragraph (1) with the following effective with the February 2026 letting.

- (1) Apply wet reflective epoxy binder in a grooved slot and provide a double drop bead system at the application rate specified in the APL.

646.3.2.4 Black Epoxy

Replace paragraph (1) with the following effective with the November 2024 letting.

- (1) Apply black epoxy in a grooved slot directly after the white marking. Apply epoxy at a wet mil thickness of 20. Apply black aggregate at or exceeding 25 pounds per gallon of epoxy. Do not apply glass beads to black epoxy.

646.3.3 Special Marking

Replace subsection with the following effective with the February 2026 letting.

- (1) Fill in any breaks left from the stencil with the same material to ensure there are no gaps.

-
- (2) Under the Marking Railroad Crossings bid items, apply the RXR symbol and 3 transverse lines as the plans show.
 - (3) Under the Marking Curb bid items, mark the vertical face and the top of the curb.
 - (4) Under the Marking Aerial Enforcement Bars bid items, the department will locate the marking. Notify the engineer at least one week before marking so the State Patrol can provide exact locations.
-

650 Construction Staking

650.3.12 Supplemental Control Staking

Replace paragraph (2) with the following effective with the November 2025 letting.

- (2) Document and provide to the engineer complete descriptions and reference ties of the control points, alignment points, and benchmarks to allow for quick reestablishment of the plan data at any time during construction and upon project completion. Document additional control on department form DT1291 as described in CMM 710, table 710-1.
-

680 Public Land Survey Monuments

Add section 680 (Public Land Survey Monuments) effective with the November 2025 letting.

680.1 Description

- (1) This section describes perpetuating US Public Land Survey System (USPLSS) monuments.

680.2 Materials

- (1) Furnish magnetic survey nails with center point a minimum of 2-1/2 inches long or engineer approved alternative.
- (2) Furnish minimum 3/4-inch reinforcement or 1 inch outside diameter (OD) iron pipe at least 24 inches long.
- (3) Furnish plastic survey marker cap with lettering that reads "Witness Monument".
- (4) Use alternative materials if requested and furnished by the county surveyor.

680.3 Construction

680.3.1 General

- (1) Perform work under the direction and control of a professional land surveyor registered in the state of Wisconsin, following Wisconsin Administrative Code A-E 7 (https://docs.legis.wisconsin.gov/code/admin_code/a_e/7).
- (2) Preserve existing USPLSS monuments and witness monuments (ties) within the construction limits in their original position until monuments are verified and sufficiently tied off.

680.3.2 Pre-Construction

- (1) Notify the county surveyor at least 30 days prior to start of construction operations about all USPLSS monuments within the construction limits that might be disturbed.
- (2) Obtain the existing USPLSS Monument Record from the county surveyor. Verify existing monuments and witness monuments are in place and undisturbed.
- (3) Replace witness monuments that are missing or that could be disturbed by construction operations. Locate new witness monuments near the USPLSS monument but outside the construction limits. Submit a monument record as specified in 680.3.5.
- (4) Temporarily mark the location of all witness monuments to protect them during construction.

680.3.3 Removals

- (1) Remove or abandon existing monument and monument cover that interfere with construction operations. Remove and dispose of surplus excavation and materials as specified in 205.3.12.

680.3.4 Post-Construction

- (1) Verify the location of monuments and witness monuments when construction operations are complete.
- (2) Set new monuments and witness monuments where necessary. Recess magnetic survey nails 1/4 inch below the pavement surface for monuments located in pavement. Use reinforcement or iron pipe for monuments not in pavement and for witness monuments. Locate new witness monuments near the USPLSS monument and outside the roadbed. Install plastic caps on witness monuments.
- (3) Install marker posts next to all witness monuments if required and supplied by the county surveyor.
- (4) Omit setting monuments in the pavement if approved by the department's regional survey coordinator and county surveyor due to traffic or safety concerns.

- (5) Submit a monument record as specified in 680.3.5.

680.3.5 Monument Records

- (1) Submit a monument record on department form DT1291 to the county surveyor at locations where monuments were set. Provide a copy to the engineer and regional survey coordinator.

680.4 Measurement

- (1) The department will measure bid items under this section as each individual monument acceptably completed.

680.5 Payment

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

<u>ITEM NUMBER</u>	<u>DESCRIPTION</u>	<u>UNIT</u>
680.0100	Public Land Survey Monument Verify and Reset	EACH

- (2) Payment for the Public Land Survey Monument Verify and Salvage bid item is full compensation for providing all materials; for coordinating with county surveyors; for obtaining existing monument records; for verifying the existing location of monuments and witness monuments; for removing or abandoning existing monuments and monument covers; for resetting monuments; for setting or resetting temporary and permanent witness monuments; and for submitting monument records.

682 Geodetic Survey Monuments

Add section 682 (Geodetic Survey Monuments) effective with the November 2025 letting.

682.1 Description

- (1) This section describes salvaging geodetic survey discs and constructing geodetic survey monuments.

682.2 Materials

- (1) Furnish materials conforming to the following:

Concrete.....	501
Reinforcement	505.2
Foundation backfill	520.2

- (2) Furnish grade A concrete as modified in 716. Provide QMP for class III ancillary concrete as specified in 716.

682.3 Construction

- (1) Contact the WisDOT Geodetic Surveys Unit at (866) 568-2852 or “geodetic@dot.wi.gov” as required below.

682.3.1 Salvage Geodetic Survey Discs

- (1) Remove and salvage geodetic survey discs from existing structures or survey monuments being removed at the locations shown in the plan.
- (2) Notify the WisDOT Geodetic Surveys Unit 7 calendar days prior to removal operations.
- (3) Ship or deliver salvaged discs to following address:

WisDOT Bureau of Technical Services
 Geodetic Surveys Unit
 3502 Kinsman Boulevard
 Madison, WI 53704

Provide a tracking number to the Geodetic Surveys Unit upon shipment or contact the Geodetic Surveys Unit to schedule in-person delivery.

682.3.2 Geodetic Survey Monuments

682.3.2.1 Monument Location

- (1) Stake the approximate location of monuments provided in the plan and contact the WisDOT Geodetic Surveys Unit 30 days prior to excavating holes for field verification and delivery of department furnished geodetic survey discs.

682.3.2.2 Placing Monuments

- (1) Excavate holes for monuments by use of a circular auger at the size and depth the plans show or as the engineer directs.
- (2) Remove and dispose of surplus excavation and materials as specified in 205.3.12.

- (3) Fill holes with concrete and strike off flush with the ground surface. Place circular forms and steel reinforcement in the concrete as the plans show. Place geodetic survey discs on monuments while the concrete is still plastic.

682.3.2.3 Protecting and Curing

- (1) Cure exposed portions of cast in place concrete monuments as specified in 415.3.12 except the contractor may use curing compound conforming to 501.2.8.
- (2) Protect placed concrete monuments as specified for concrete pavement as specified in 415.3.14
- (3) Protect cast in place concrete monuments from freezing for 7 days.

682.4 Measurement

- (1) The department will measure bid items under this section as each individual monument acceptably completed.

682.5 Payment

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

<u>ITEM NUMBER</u>	<u>DESCRIPTION</u>	<u>UNIT</u>
682.0100	Salvage Geodetic Survey Disc	EACH
682.0200	Geodetic Survey Monument	EACH

- (2) Payment for the Salvage Geodetic Survey Disc bid item is full compensation for removing and salvaging; and shipping or delivering the disc to the Geodetic Surveys Unit. Removing existing survey monuments will be paid separately under the Removing Concrete Bases bid item. Removing existing survey marker posts will be paid separately under the Removing Delineators and Markers bid item.
- (3) Payment for the Geodetic Survey Monument bid item is full compensation for staking; providing concrete; providing steel reinforcement; for placing department-furnished geodetic discs; and for excavating and backfilling.

710 General Concrete QMP

710.3 Certification Requirements

Replace paragraph (1) and add paragraph (2) effective with the November 2025 letting.

- (1) Have a person certified from the Highway Technician Certification Program Portland Cement Concrete Technician 1 (HTCP - PCCTEC-1) or Assistant Certified Technician Program - Portland Cement Concrete (ACT-PCC) working under a certified technician, on the project site, prepared and equipped to perform required sampling and testing whenever placing concrete.
- (2) The department will have a certified HTCP Portland Cement Concrete Mix Design Certification (PCC MDC) technician to review and approve concrete mixes.

710.4 Concrete Mixes

Replace subsection with the following effective with the November 2025 letting.

- (1) The contractor is responsible for mix performance.
- (2) At least 7 business days before producing concrete, document that materials conform to 501 unless the engineer allows or individual QMP specifications provide otherwise. Include the following:
1. For mixes: quantities per cubic yard expressed as SSD weights and net water, water to cementitious material ratio, air content, and SAM number.
 2. For cementitious materials and admixtures: type, brand, and source.
 3. For aggregates: absorption, oven-dried specific gravity, SSD bulk specific gravity, wear, soundness, light weight pieces, freeze thaw test results if required, and air correction factor. Submit component aggregate gradations, aggregate proportions, and target combined blended aggregate gradations using the following:
 - DT2220 for combined aggregate gradations.
 - DT2221 for optimized aggregate gradations.
 4. For optimized concrete mixtures:
 - Complete the worksheets within DT2221 according to the directions.
 - Ensure the optimized aggregate gradations and the optimized mix design conform to WisDOT specifications and pass the built-in tests within DT2221.
 - Verify slip-form mixture workability and conformance to specifications through required trial batching.
 - Submit the completed DT2221 to the engineer electronically. Include the trial batch test results with the mix design submittal.

5. For high early strength (HES) concrete mixtures required by contract, complete the HES mix modification section in the DT2220 or DT2221 form.

- (3) Document mix adjustments daily during concrete production.
- (4) Prepare, notify, and submit mixture design modifications to the engineer. Do not place material until the documentation is submitted and, when required, written approval of the mixture design modifications.
- (5) Report concrete mix design modifications as classified in levels as specified in table 710-1.

TABLE 710-1 MIX DESIGN MODIFICATION NOTIFICATION

NOTIFICATION	LEVEL I	LEVEL II	NEW MIX DESIGN DURING PROJECT
Prepare, notify, and submit mix design to Engineer	Prior to use	3 business days prior to use	5 business days prior to use
Approval required before placement	No	Yes	Yes

- (6) A mix design modification is when any modification occurs for a specific level as specified in table 710-2.
- (7) Dependent on the modification performed, documentation is required to be submitted to the engineer as specified in table 710-3.
- (8) For HES concrete, conform as specified in table 710-4.
- (9) HES concrete is not eligible for 28-day strength incentives.
- (10) Submit concrete mix designs into MRS as specified in 701.1.2.7.

TABLE 710-2 MATERIAL MIX DESIGN MODIFICATIONS

Replace Table 710-2, included with the November 2025 ASP-6, with the following effective with the February 2026 letting.

MODIFICATION TYPE		LEVEL I	LEVEL II	NEW MIX DESIGN DURING PROJECT
Change in:	Water source	X		
	Cement source, type, or brand			X
	Total cementitious		X ^[1]	X
	Aggregate blend	X		
	Aggregate source			X
	SCM replacement rate		X	
	SCM type and supplier			X
	Fly ash source (different class)			X
	Fly ash source (same class for pavements and cast-in-place barriers)		X	
	Fly ash source (same class for structures)			X
	Slag source (same grade)		X	
	Slag source (different grade)		X	
	Chemical admixture manufacturer or product name ^[2]			X
	Chemical admixture dosage rates	X ^[3]		X
Removal of:	SCM			X
	Chemical admixture other than Type B or D			X ^[3,4]
	Type B or Type D chemical admixture	X ^[3]	X ^[4]	
Addition of:	Non-fading, color pigment	X		
	Chemical admixture other than Type B or D			X ^[3,4]
	Type B or Type D chemical admixture	X ^[3]	X ^[4]	
	New SCM			X

^[1] For HES/SHES concrete modification only.

^[2] Not including Type B or Type D chemical admixture.

^[3] When admixture is from the concrete admixture APL and the dosage rate is within recommended dosage rates as specified in the APL. If the admixture dosage rate is outside of recommended dosage rates as specified in the APL, BTS approval is required before use.

^[4] Not furnished from the APL.

TABLE 710-3 MIX DESIGN MODIFICATION DOCUMENTATION

Replace Table 710-3, included with the November 2025 ASP-6, with the following effective with the February 2026 letting.

NEW REQUIRED DOCUMENTATION	LEVEL I	LEVEL II	NEW MIX DESIGN DURING PROJECT
Results from trial batching if required			X
Amendment to the quality control plan	X	X	X
Water source name and report	X ^[1]		
Cement mill certification			X
WisDOT aggregate quality report			X
SCM mill certification		X	X
Chemical additive product data sheet	X	X	X
Updated DT2220 or DT2221 form	X	X	
New DT2220 or DT2221 form			X
New mixture ID: Contractor ID and WisDOT ID		X	X
New maturity curve	X ^[2]	X	X
New lot/sublot layout ^[3]		X ^[3,4,5]	X

^[1] Water for concrete report conforming to 501.2.6 for private wells or surface water sources.

^[2] Required only when using a retarder.

^[3] Required for HES concrete.

^[4] Required when changing the SCM replacement rate.

^[5] Not required for SCM source change of same Class/Grade in pavements and cast-in-place barrier projects.

TABLE 710-4 OPTIONS FOR HES CONCRETE

SCENARIO	MIXTURE MODIFICATION	
When the contract requires, or the HES is directed by the department	OPTION 1 ^[1]	Add 94 to 282 lb/cy of cement ^[2]
	OPTION 2	Use Type III cement
When the engineer allows HES when requested by the contractor in writing	Add up to 282 lb/cy of cement ^[1,2]	

^[1] Adjust water to maintain workability without raising the w/cm ratio.

^[2] Add to a previously accepted mixture.

710.5.6.2 Contractor Control Charts

710.5.6.2.1 General

Replace subsection with the following effective with the November 2025 letting.

- (1) Test aggregate gradations during concrete production except as allowed for small quantities under 710.2. Perform required contractor testing using non-random samples.
- (2) Sample aggregates from either the conveyor belt or from the working face of the stockpiles.
- (3) Complete aggregate testing as specified in table 710-5. Submit one pre-placement test within five days before anticipated placement. Include this gradation on the control charts.
- (4) Report gradation test results and provide control charts to the engineer within 1 business day of obtaining the sample. Submit results to the engineer and electronically into MRS as specified in 701.1.2.7.
- (5) Conduct aggregate testing at the minimum frequency specified in table 710-5 for each mix design, except as allowed for small quantities in 710.2. The contractor's concrete production tests can be used for the same mix design on multiple contracts.

TABLE 710-5 QC AGGREGATE TESTING FREQUENCY

Replace Table 710-5, included with the November 2025 ASP-6, with the following effective with the February 2026 letting.

CONCRETE CLASSIFICATION	PRE-PLACEMENT TESTING	PLACEMENT TESTING	
Class I: Pavement ^[1]	One pre-placement test per aggregate source	Hand Placement: ≤ 250 CY > 250 CY Slip Formed Placement ≤ 1500 CY > 1500 CY	One test per cumulative 250 CY One test per day One test per day Two tests per day
Class I: Structures ^{[2], [3], [4]}		One test per cumulative 150 CY, maximum one test per day	
Class I: Cast-in Place Barrier ^[1]		≤ 250 CY > 250 CY	One test per cumulative 250 CY One test per day
Class II: Base	One pre-placement test per aggregate source	One test per calendar week of production	
Class II: Structure Repair - Joints		One test per cumulative 150 CY, maximum one test per day	
Class II: Concrete Overlay		One test per 400 CY, minimum one test per 10 business days, maximum one test per day	
Class II: Pavement Repair			
Class II: Pavement Replacement			
Class II: Base Patching			
Class II: Ancillary			
Class II: Structure Repair – Curb & Surface ^[5]		Preplacement testing only	

^[1] Frequency is based on project daily production rate.

^[2] Aggregate gradation testing must be performed on a per contract basis. If multiple structures are on the same contract and use the same aggregate source, then the samples must be collected based on cumulative concrete contract quantities within the same concrete classification.

^[3] WTM T255 (Fine and Coarse) required for each aggregate sample.

^[4] Calculate trial batch weights for each mix design when production begins and whenever the moisture content of the fine or coarse aggregate changes by more than 0.5 percent, adjust the batch weights to maintain the design w/cm ratio.

^[5] Aggregate gradation must meet the gradation previously approved by the engineer.

710.5.6.3 Department Acceptance Testing

Replace subsection with the following effective with the November 2025 letting.

- (1) Department testing frequency is based on the quantity of each mix design placed under each individual WisDOT contract as specified table 710-6. Aggregate gradation testing must be performed on a per contract basis.
- (2) The department will split each sample, test for acceptance, and retain the remainder for a minimum of 10 calendar days.
- (3) The department will obtain the sample and deliver to the regional testing lab in the same day. The department will report gradation test results to the contractor within 1 business day of being delivered to the lab. The department and contractor can agree to an alternative test result reporting timeframe. Document alternative timeframes in the contractor's quality control plan.
- (4) Additional samples may be taken at the engineer's discretion due to a changed condition.
- (5) If multiple bid items on the same contract use the same aggregate source, then the samples must be collected based on cumulative concrete contract quantities within the same concrete classification.
- (6) Department will test small quantities at the minimum frequency specified in table 710-7.

TABLE 710-6 QV AGGREGATE TESTING FREQUENCY

CONCRETE CLASSIFICATION	PLACEMENT TESTING
Class I: Pavement	One test per placement day for first 5 days of placement. - If all samples are passing, reduced testing frequency is applied. - Reduced frequency: One test per calendar week of placement
Class I: Structures	One test per 250 CY placed. - Minimum of one test per contract for substructure - Minimum of one test per contract for superstructure
Class I: Cast-in-Place Barrier	One test per 500 CY placed
Class II: Concrete Overlay	One test per 250 CY - Maximum one test per day
Class II: Base	No minimum testing
Class II: Structure Repair	
Class II: Pavement Repair	
Class II: Pavement Replacement	
Class II: Base Patching	
Class II: Ancillary	

TABLE 710-7 QV AGGREGATE TESTING FREQUENCY FOR SMALL QUANTITIES

CONCRETE CLASSIFICATION	PLACEMENT TESTING
Class I: Pavement	One test on the first day of placement.
Class I: Structures	
Class I: Cast-in-Place Barrier	

710.5.7 Corrective Action**710.5.7.1 Optimized Aggregate Gradations**

Replace subsection with the following effective with the November 2025 letting.

- (1) If the contractor's 4-point running average or a department test result of the volumetric percent retained exceeds the tarantula curve limits by less than or equal to 1.0 percent on a single sieve size or limits listed in the additional requirements for optimized aggregate gradation in 501.2.7.4.2 table 501-4, notify the other party immediately and do the following:

Option A:

1. Perform corrective action documented in the QC plan or as the engineer approves.
2. Document and provide corrective action results to the engineer as soon as they are available.
3. Department will conduct two tests within the next business day after corrective action. Department will provide test results to contractor after each test is complete.
4. If blended aggregate gradations are within the tarantula curve limits by the second department test:
 - Continue with concrete production.
 - Include a break in the 4-point running average.
 - For Class I Pavements: The department will discontinue reduced frequency testing and will test at a frequency of 1 test per placement day. Once 5 consecutive samples are passing at the 1 test per placement day frequency, the reduced frequency testing will be reapplied.
5. If blended aggregate gradations are not within the tarantula curve limits by the second department test:
 - If the contract does not require optimized aggregate gradation under 501.2.7.4.2.1(2), stop concrete production and submit either a modified optimized aggregate gradation mix design or a new optimized aggregate gradation mix design.
 - If the contract requires optimized aggregate gradations under 501.2.7.4.2.1(2), stop concrete production and submit a modified optimized aggregate gradation mix design or a new optimized aggregate gradation mix design.

Option B:

1. Submit a modified optimized aggregate gradation mix design or a new optimized aggregate gradation mix design.
2. Restart control charts for new mix design.

- (2) If the contractor's 4-point running average or a department test result of the volumetric percent retained exceeds the tarantula curve limits by more than 1.0 percent on one or more sieves, stop concrete production and submit a modified mix design or a new mix design.
- (3) Both the department and contractor must sample and test aggregate of the modified mix design or a new mix design at the frequency specified in 710.5.6.1.

710.5.7.2 Combined Aggregate Gradations

Replace subsection with the following effective with the November 2025 letting.

- (1) If the contractor's 4-point running average or a department test result of the percent passing by weight exceeds the combined aggregate gradation limits by less than or equal to 1.0 percent on a single sieve size, do the following:
 1. Notify the other party immediately.
 2. Perform corrective action documented in the QC plan or as the engineer approves.
 3. Document and provide corrective action results to the engineer as soon as they are available.
 4. The department will conduct two tests within the next business day after corrective action is complete.
 5. If blended aggregate gradations are within the combined aggregate gradation limits by the second department test:
 - Continue with concrete production.
 - Include a break in the 4-point running average.
 - For Class I Pavements: The department will discontinue reduced frequency testing and will test at a frequency of 1 test per placement day. Once 5 consecutive samples are passing at the 1 test per placement day frequency, the reduced frequency testing will be reapplied.
 6. If blended aggregate gradations are not within the combined aggregate gradation limits by the second department test, stop concrete production and submit a modified mix design or a new mix design.
- (2) If the contractor's 4-point running average or a department test result of the percent passing by weight exceeds the combined aggregate gradation limits by more than 1.0 percent on one or more sieves, stop concrete production and submit a modified mix design or a new mix design.
- (3) Both the department and contractor must sample and test aggregate of the modified mix design or a new mix design at the frequency specified in 710.5.6.1.

715 QMP Concrete Pavement, Cast-in-Place Barrier and Structures

715.3.1.2 Lot and Sublot Definition

715.3.1.2.1 General

Replace subsection with the following effective with the November 2025 letting.

- (1) Designate the location and size of all lots before placing concrete. Ensure that no lot contains concrete of more than one mix design or placement method defined as follows:

Mix design change A modification to the mix requiring the engineer's approval under 710.4(5).
For paving and barrier mixes, follow 710.4(4) and 710.4(5) for concrete mixture design modifications.

Placement method Either slip-formed, not slip-formed, or placed under water.

- (2) Lots and sublots include ancillary concrete placed integrally with the class I concrete.

715.3.1.2.3 Lots by Cubic Yard

Replace paragraph (3) with the following effective with the November 2025 letting.

- (3) An undersized lot is eligible for incentive payment under 715.5 if the lot has 4 or more sublots for that lot.

715.3.2 Strength Evaluation

715.3.2.1 General

Replace subsection with the following effective with the November 2025 letting.

- (1) The department will make pay adjustments for strength on a lot-by-lot basis using the compressive strength of contractor QC cylinders or the flexural strength of contractor QC beams.
- (2) The department will evaluate the sublot for possible removal and replacement if the 28-day sublot average strength is:
 - Pavement (Compressive): < 2500 psi
 - Pavement (Flexural): < 500 psi
 - Structure: < f'_c - 500 psi ^[1]

- Cast-in-Place Barrier: < f'c - 500 psi ^[1]
^[1] f'c is design strength found in plans or specials.

715.5 Payment

715.5.1 General

Replace paragraph (4) and add paragraphs (8) and (9) effective with the November 2025 letting.

- (4) The department will adjust pay for each lot using PWL of the 28-day subplot average strengths for that lot. The department will measure PWL relative to strength lower specification limits as follows:
 - Compressive strength of 3700 psi for pavements.
 - Flexural strength of 650 psi for pavements.
 - Compressive strength of 4000 psi for super structures and barrier, or as shown in the plan details.
 - Compressive strength of 3500 psi for substructures and culverts, or as shown in the plan details.
- (5) The department will not pay a strength incentive for concrete that is nonconforming in another specified property, for ancillary concrete accepted based on tests of class I concrete, or for high early strength concrete unless placed in pavement gaps as allowed under 715.3.1.2.2.
- (6) Submit test results to the department electronically using MRS software. The department will verify contractor data before determining pay adjustments.
- (7) All coring and testing costs under 715.3.2.2 including filling core holes and providing traffic control during coring are incidental to the contract.
- (8) If the contractor combines concrete of varying specified strengths in a single lot/sublot, the highest specified strength of the related concrete shall be used to calculate pay incentive/disincentive.
- (9) The department will apply one price adjustment to a given quantity of material. If the quantity in question is subject to more than one nonconforming test, apply the adjustment with the greater price reduction. In the absence of exact quantities affected by the subplot test results, pay reductions will be applied to the entire subplot.

715.5.4 Pay Adjustments for Nonconforming Air Content, Temperature, and Delivery Time

Add subsection 715.5.4 (Pay Adjustments for Nonconforming Air Content, Temperature, and Delivery Time) effective with the November 2025 letting.

- (1) The department will adjust pay for each subplot with nonconforming QC air content and temperature test results as specified in table 715-2 and table 715-3. If the quantity in question is subject to more than one of the following conditions, apply the adjustment with the greater price reduction.
- (2) For high temperatures, the engineer may consider the effectiveness of the contractor's temperature control plan and the contractor's compliance with their temperature control plan before taking a price reduction.
- (3) A 25% price reduction to the concrete invoice price will be applied if concrete is placed after the delivery time exceeds the limit specified in 501.3.5.2.

TABLE 715-2 PRICE REDUCTIONS FOR NONCONFORMING AIR CONTENT

LIMITS (%)		PERCENT PRICE REDUCTION OF THE CONTRACT UNIT PRICE
Above Specification	≥ 0.5 ^[1]	10
	0.1 to 0.4 ^[1]	5
Below Specification	0.1 to 0.5	20
	0.6 to 1.0	30
	> 1.0	50 or remove and replace

^[1] Evaluate the strength data. If the strengths are acceptable, do not take a price reduction for high air content. Contractor is responsible to provide additional strength data, if necessary.

TABLE 715-3 PRICE REDUCTIONS FOR NONCONFORMING TEMPERATURE

Replace Table 715-3, included with the November 2025 ASP-6, with the following effective with the February 2026 letting.

CONCRETE TEMPERATURE (F) ^[1]		PRICE REDUCTION (%)
Upper Temperature Limit ^[2]	> 80 to <= 85	10
	> 85	25
Lower Temperature Limit	45 to <= 50	10
	< 45	25

^[1] Applies only for Concrete Structures and Cast-in-Place Barrier.

^[2] If a written temperature control plan outlining the actions by the contractor to control concrete temperature at the point of placement exceeding 80 F is submitted and followed to effectively control the temperature, the upper temperature limit is increased by 10 F for price reductions for nonconforming temperature.

716 QMP Ancillary Concrete

716.2 Materials

716.2.1 Class II Concrete

Replace paragraph (2) with the following effective with the November 2025 letting.

(2) Perform random QC testing at the following frequencies:

1. Test air content, temperature, and slump a minimum of once per 100 cubic yards for each mix design and placement method.
2. Cast one set of 3 cylinders per 200 cubic yards for each mix design and placement method. Cast a minimum of one set of 3 cylinders per contract for each mix design and placement method. Random 28-day compressive strength cylinders are not required for HES or SHES concrete.
3. For deck overlays, perform tests and cast cylinders once per 50 cubic yards of grade E concrete placed.
4. For concrete base, one set of tests and one set of cylinders per 250 cubic yards.

The department will allow concrete startup test results for small quantities as specified in 710.2(1). Cast one set of 3 cylinders if using startup testing for acceptance.

716.2.2 Class III Concrete

Replace paragraph (1) with the following effective with the November 2025 letting.

- (1) Acceptance of class III concrete is based on DT2220/ DT2221 certification page. Submit the certificate of compliance at least 3 business days before producing concrete along with the initial concrete mix documentation as required under 710.4(2).

Bid Items

500 Bid Items

Remove the following bid items effective with the February 2026 letting.

522.2363	Culvert Pipe Reinforced Concrete Horizontal Elliptical Class HE-III 63x98-Inch	LF
522.2663	Apron Endwalls for Culvert Pipe Reinforced Concrete Horizontal Elliptical 63x98-Inch	EACH

600 Bid Items

Remove the following bid item effective with the February 2026 letting.

608.2363	Storm Sewer Pipe Reinforced Concrete Horizontal Elliptical Class HE-III 63x98-Inch	LF

Add the following bid item effective with the November 2025 letting.

611.0613	Inlet Covers Type DW	EACH

Remove the following bid items effective with the November 2025 letting.

621.0100	Landmark Reference Monuments	EACH
621.1100	Landmark Reference Monuments and Cast-Iron Covers	EACH
621.1200	Landmark Reference Monuments and Aluminum Covers	EACH

Remove the following bid items effective with the November 2025 letting.

643.0405	Traffic Control Barricades Type I	DAY
643.0410	Traffic Control Barricades Type II	DAY
643.0800	Traffic Control Arrow Boards	DAY

Add the following bid items effective with the November 2025 letting.

643.0810	Traffic Control Connected Arrow Boards	DAY
643.1220	Traffic Control Connected Work Zone Start and End Location Markers	DAY

Add the following bid item effective with the February 2026 letting.

657.0348	Poles Type 9 - Special Over Height	EACH
657.0353	Poles Type 10 - Special Over Height	EACH

Add the following bid items effective with the November 2025 letting.

680.0100	Public Land Survey Monument Verify and Reset	EACH
682.0100	Salvage Geodetic Survey Disk	EACH
682.0200	Geodetic Survey Monuments	EACH

ERRATA

204.3.1.3 Salvaging or Disposal of Materials

Replace paragraph (2) to correct link from 203.3.4 to 203.3.5 effective with the November 2024 letting.

- (2) Dispose of concrete, stone, brick, and other material not designated for salvage as specified for disposing of materials under 203.3.5.

204.3.2.3 Removing Buildings

Replace paragraph (2) to correct link from 203.3.4 to 203.3.5 effective with the November 2024 letting.

- (2) Buildings removed and materials resulting from building removal become the contractor's property unless the contract specifies otherwise. Dispose of unclaimed and removed material as specified for disposing of materials in 203.3.5.

335.3.2 Rubblizing

Replace paragraph (6) to correct link from 203.3.4 to 203.3.5 effective with the November 2024 letting.

- (6) Remove reinforcing steel exposed at the surface by cutting below the surface and disposing of the steel as specified in 203.3.5. Do not remove unexposed reinforcing steel.

335.3.3 Compacting

Replace paragraph (2) to correct link from 203.3.4 to 203.3.5 effective with the November 2024 letting.

- (2) Remove loose asphaltic patching material, joint fillers, expansion material, or other similar materials from the compacted surface. Also remove pavement or patches that have a maximum dimension greater than or equal to 6 inches that are either not well seated or projecting more than one inch. Dispose of removed material as specified in 203.3.5.

460.3.3.2 Pavement Density Determination

Replace change description annotation with the following to revise implementation date. This change is effective with the November 2025 letting.

Add information to 460.3.3.2(1) and (3). Add reference to CMM, WTM, and WTP H-002. WTP H-002 contains the subplot layouts formerly in CMM 815. Definition of a lot is now defined here (460.3.3.2(3)) instead of CMM. This change was implemented via ASP-6 with the February 2024 letting.

602.3.6 Concrete Rumble Strips

Replace paragraph (5) to correct link from 203.3.4 to 203.3.5 effective with the November 2024 letting.

- (5) At the end of each workday, move equipment and material out of the clear zone and sweep or vacuum the traveled way pavement and shoulder areas. Sweep away or vacuum up milling debris before opening adjacent lanes to traffic. Dispose of waste material as specified in 203.3.5; do not place on the finished shoulder surface.

604.2 Materials

Replace paragraph (1) with the following information to remove line and link for crushed aggregate effective with the November 2024 letting. The crushed aggregate gradation information for slope paving is now found in 604.2(3).

- (1) Furnish materials conforming to the following:

Water.....	501.2
Select crushed material.....	312.2
Concrete.....	501
Reinforcement.....	505
Expansion joint filler	415.2.3
Asphaltic materials	455.2

ADDITIONAL SPECIAL PROVISION 7

A. Reporting 1st Tier and DBE Payments During Construction

1. Comply with reporting requirements specified in the department's Civil Rights Compliance, Contractor's User Manual, Sublets and Payments.
2. Report payments to all DBE firms within 10 calendar days of receipt of a progress payment by the department or a contractor for work performed, materials furnished, or materials stockpiled by a DBE firm. Report the payment as specified in A(1) for all work satisfactorily performed and for all materials furnished or stockpiled.
3. Report payments to all first tier subcontractor relationships within 10 calendar days of receipt of a progress payment by the department for work performed. Report the payment as specified in A(1) for all work satisfactorily performed.
4. All tiers shall report payments as necessary to comply with the DBE payment requirement as specified in A(2).
5. DBE firms must enter all payments to DBE and non-DBE firms regardless of tier.
6. 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).
7. All agreements made by a contractor shall include the provisions in A(1), (2), (3), (4), (5), and (6), and shall be binding on all first tier subcontractor relationships, all contractors and subcontractors utilizing DBE firms on the project, and all payments from DBE firms.

B. Costs for conforming to this special provision are incidental to the contract.

NOTE: CRCS Prime Contractor payment is currently not automated and will need to be manually loaded into the Civil Rights Compliance System. Copies of prime contractor payments received (check or ACH) will have to be forwarded to paul.ndon@dot.wi.gov within 5 days of payment receipt to be logged manually.

***Additionally, for information on Subcontractor Sublet assignments, Subcontractor Payments and Payment Tracking, please refer to the CRCS Payment and Sublets manual at:

<https://wisconsindot.gov/Documents/doing-bus/civil-rights/labornwage/crcs-payments-sublets-manual.pdf>

ADDITIONAL SPECIAL PROVISION 9

Electronic Certified Payroll or Labor Data Submittal

- (1) Use the department's Civil Rights Compliance System (CRCS) for projects with a LET date on or before December 2024 and AASHTOWare Project Civil Rights and Labor (AWP CRL) for projects with a LET date on or after January 2025 to electronically submit Certified Payroll Reports for contracts with federal funds and labor data for contracts with state funds only. Details are available online through the department's Highway Construction Contractor Information (HCCI) site on the Labor, Wages, and EEO Information page at:
<https://wisconsindot.gov/Pages/doing-bus/civil-rights/labornwage/default.aspx>
- (2) Ensure that all tiers of subcontractors, including all trucking firms, either submit their weekly certified payroll reports (contracts with federal funds) or labor data (contracts with state funds only) electronically through CRCS or AWP CRL. These payrolls or labor data 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 or AWP CRL training as they are about to begin their submittals. The department will provide training either in a classroom setting at one of our regional offices, via the online AWP Knowledge Base, or by telephone. to schedule CRCS specific training. The AWP Knowledge Base is at: <https://awpkb.dot.wi.gov/>
- (4) The department will reject all paper submittals for information required under this special provision. All costs for conforming to this special provision are incidental to the contract.
- (5) For firms wishing to export payroll/labor data from their computer system, have their payroll coordinator contact:
 - For CRCS: Paul Ndon at paul.ndon@dot.wi.gov. Information about exporting payroll/labor data. Not every contractor's payroll system can produce export files. For details, see Section 4.8 CPR Auto Submit (Data Mapping) on pages 49-50; 66-71 of the CRCS Payroll Manual at: <https://wisconsindot.gov/Documents/doing-bus/civil-rights/labornwage/crcs-payroll-manual.pdf>
 - For AWP CRL: Contact AWP Support at awpsupport@dot.wi.gov. Additional information can be found in the AWP Knowledge Base at <https://awpkb.dot.wi.gov/Content/crl/Payrolls-PrimesAndSubs/PayrollXMLFileCreationProcess.htm>

REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS

- I. General
- II. Nondiscrimination
- III. Non-segregated 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. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion
- XI. Certification Regarding Use of Contract Funds for Lobbying
- XII. Use of United States-Flag Vessels:

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, United States Code, as required in 23 CFR 633.102(b) (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). 23 CFR 633.102(e).

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. 23 CFR 633.102(e).

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) in accordance with 23 CFR 633.102. 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 solicitation-for-bids or request-for-proposals 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). 23 CFR 633.102(b).

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. 23 CFR 633.102(d).

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. 23 U.S.C. 114(b). The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors. 23 U.S.C. 101(a).

II. NONDISCRIMINATION (23 CFR 230.107(a); 23 CFR Part 230, Subpart A, Appendix A; EO 11246)

The provisions of this section related to 23 CFR Part 230, Subpart A, Appendix A 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 Part 60, 29 CFR Parts 1625-1627, 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), 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 Part 60, and 29 CFR Parts 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), and Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), 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 Part 230, Subpart A, 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 (see 28 CFR Part 35, 29 CFR Part 1630, 29 CFR Parts 1625-1627, 41 CFR Part 60 and 49 CFR Part 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 Part 35 and 29 CFR Part 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. 23 CFR 230.409 (g)(4) & (5).

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, sexual orientation, gender identity, 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 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 or other knowledgeable company official.

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, sexual orientation, gender identity, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to ensure 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. 23 CFR 230.409. 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, sexual orientation, gender identity, 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, sexual orientation, gender identity, 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 thereunder. 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, sexual orientation, gender identity, 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, 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. Assurances Required:

a. The requirements of 49 CFR Part 26 and the State DOT's FHWA-approved Disadvantaged Business Enterprise (DBE) program are incorporated by reference.

b. The contractor, subrecipient 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 recipient deems appropriate, which may include, but is not limited to:

- (1) Withholding monthly progress payments;
- (2) Assessing sanctions;
- (3) Liquidated damages; and/or
- (4) Disqualifying the contractor from future bidding as non-responsible.

c. The Title VI and nondiscrimination provisions of U.S. DOT Order 1050.2A at Appendixes A and E are incorporated by reference. 49 CFR Part 21.

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 more than \$10,000. 41 CFR 60-1.5.

As prescribed by 41 CFR 60-1.8, 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, sexual orientation, gender identity, 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), in accordance with 29 CFR 5.5. The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. 23 U.S.C. 113. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. 23 U.S.C. 101. Where applicable law requires that projects be treated as a project on a Federal-aid highway, the provisions of this subpart will apply regardless of the location of the project. Examples include: Surface Transportation Block Grant Program projects funded under 23 U.S.C. 133 [excluding recreational trails projects], the Nationally Significant Freight and Highway

Projects funded under 23 U.S.C. 117, and National Highway Freight Program projects funded under 23 U.S.C. 167.

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 (29 CFR 5.5)

a. *Wage rates and fringe benefits.* All laborers and mechanics employed or working upon the site of the work (or otherwise working in construction or development of the project under a development statute), 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 basic hourly 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. As provided in paragraphs (d) and (e) of 29 CFR 5.5, the appropriate wage determinations are effective by operation of law even if they have not been attached to the contract. Contributions made or costs reasonably anticipated for bona fide fringe benefits under the Davis-Bacon Act ([40 U.S.C. 3141\(2\)\(B\)](#)) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.e. 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 must be paid the appropriate wage rate and fringe benefits on the wage determination for the classification(s) of work actually performed, without regard to skill, except as provided in paragraph 4. of this section. 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 classifications and wage rates conformed under paragraph 1.c. of this section) and the Davis-Bacon poster (WH-1321) must 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. *Frequently recurring classifications.* (1) In addition to wage and fringe benefit rates that have been determined to be prevailing under the procedures set forth in [29 CFR part 1](#), a wage determination may contain, pursuant to § 1.3(f), wage and fringe benefit rates for classifications of laborers and mechanics for which conformance requests are regularly submitted pursuant to paragraph 1.c. of this section, provided that:

(i) The work performed by the classification is not performed by a classification in the wage determination for which a prevailing wage rate has been determined;

(ii) The classification is used in the area by the construction industry; and

(iii) The wage rate for the classification bears a reasonable relationship to the prevailing wage rates contained in the wage determination.

(2) The Administrator will establish wage rates for such classifications in accordance with paragraph 1.c.(1)(iii) of this section. Work performed in such a classification must be paid at no less than the wage and fringe benefit rate listed on the wage determination for such classification.

c. *Conformance.* (1) The contracting officer must 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 be classified in conformance with the wage determination. Conformance of an additional classification and wage rate and fringe benefits is appropriate 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 used 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) The conformance process may not be used to split, subdivide, or otherwise avoid application of classifications listed in the wage determination.

(3) 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 will be sent by the contracting officer by email to DBAconformance@dol.gov. 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.

(4) 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 will, by email to DBAconformance@dol.gov, refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The 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.

(5) The contracting officer must promptly notify the contractor of the action taken by the Wage and Hour Division

under paragraphs 1.c.(3) and (4) of this section. The contractor must furnish a written copy of such determination to each affected worker or it must be posted as a part of the wage determination. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraph 1.c.(3) or (4) of this section must 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.

d. *Fringe benefits not expressed as an hourly rate.* 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 may either pay the benefit as stated in the wage determination or may pay another bona fide fringe benefit or an hourly cash equivalent thereof.

e. *Unfunded plans.* 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, in accordance with the criteria set forth in § 5.28, 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.

f. *Interest.* In the event of a failure to pay all or part of the wages required by the contract, the contractor will be required to pay interest on any underpayment of wages.

2. Withholding (29 CFR 5.5)

a. *Withholding requirements.* The contracting agency may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for the full amount of wages and monetary relief, including interest, required by the clauses set forth in this section for violations of this contract, or to satisfy any such liabilities required by any other Federal contract, or federally assisted contract subject to Davis-Bacon labor standards, that is held by the same prime contractor (as defined in § 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to Davis-Bacon labor standards requirements and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld. In the event of a contractor's failure to pay any laborer or mechanic, including any apprentice or helper working on the site of the work all or part of the wages required by the contract, or upon the contractor's failure to submit the required records as discussed in paragraph 3.d. of this section, the contracting agency may on its own initiative and 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.

b. *Priority to withheld funds.* The Department has priority to funds withheld or to be withheld in accordance with paragraph

2.a. of this section or Section V, paragraph 3.a., or both, over claims to those funds by:

- (1) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;
- (2) A contracting agency for its procurement costs;
- (3) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;
- (4) A contractor's assignee(s);
- (5) A contractor's successor(s); or
- (6) A claim asserted under the Prompt Payment Act, [31 U.S.C. 3901–3907](#).

3. Records and certified payrolls (29 CFR 5.5)

a. Basic record requirements (1) Length of record retention. All regular payrolls and other basic records must be maintained by the contractor and any subcontractor during the course of the work and preserved for all laborers and mechanics working at the site of the work (or otherwise working in construction or development of the project under a development statute) for a period of at least 3 years after all the work on the prime contract is completed.

(2) Information required. Such records must contain the name; Social Security number; last known address, telephone number, and email address of each such worker; each worker's correct classification(s) of work actually performed; 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 [40 U.S.C. 3141\(2\)\(B\)](#) of the Davis-Bacon Act); daily and weekly number of hours actually worked in total and on each covered contract; deductions made; and actual wages paid.

(3) Additional records relating to fringe benefits. Whenever the Secretary of Labor has found under paragraph 1.e. of this section 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 [40 U.S.C. 3141\(2\)\(B\)](#) of the Davis-Bacon Act, the contractor must 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.

(4) Additional records relating to apprenticeship. Contractors with apprentices working under approved programs must maintain written evidence of the registration of apprenticeship programs, the registration of the apprentices, and the ratios and wage rates prescribed in the applicable programs.

b. Certified payroll requirements (1) Frequency and method of submission. The contractor or subcontractor must submit weekly, for each week in which any DBA- or Related Acts-covered work is performed, certified payrolls to the contracting

agency. The prime contractor is responsible for the submission of all certified payrolls by all subcontractors. A contracting agency or prime contractor may permit or require contractors to submit certified payrolls through an electronic system, as long as the electronic system requires a legally valid electronic signature; the system allows the contractor, the contracting agency, and the Department of Labor to access the certified payrolls upon request for at least 3 years after the work on the prime contract has been completed; and the contracting agency or prime contractor permits other methods of submission in situations where the contractor is unable or limited in its ability to use or access the electronic system.

(2) Information required. The certified payrolls submitted must set out accurately and completely all of the information required to be maintained under paragraph 3.a.(2) of this section, except that full Social Security numbers and last known addresses, telephone numbers, and email addresses must not be included on weekly transmittals. Instead, the certified payrolls need only include an individually identifying number for each worker (e.g., the last four digits of the worker's Social Security number). The required weekly certified payroll information may be submitted using Optional Form WH-347 or in any other format desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division website at <https://www.dol.gov/sites/dolgov/files/WHD/legacy/files/wh347.pdf> or its successor website. It is not a violation of this section for a prime contractor to require a subcontractor to provide full Social Security numbers and last known addresses, telephone numbers, and email addresses to the prime contractor for its own records, without weekly submission by the subcontractor to the contracting agency.

(3) Statement of Compliance. Each certified payroll submitted must be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor, or the contractor's or subcontractor's agent who pays or supervises the payment of the persons working on the contract, and must certify the following:

(i) That the certified payroll for the payroll period contains the information required to be provided under paragraph 3.b. of this section, the appropriate information and basic records are being maintained under paragraph 3.a. of this section, and such information and records are correct and complete;

(ii) That each laborer or mechanic (including each helper and apprentice) working 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 [29 CFR part 3](#); and

(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(s) of work actually performed, as specified in the applicable wage determination incorporated into the contract.

(4) Use of Optional Form WH-347. The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 will satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(3) of this section.

(5) *Signature.* The signature by the contractor, subcontractor, or the contractor's or subcontractor's agent must be an original handwritten signature or a legally valid electronic signature.

(6) *Falsification.* The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under [18 U.S.C. 1001](#) and [31 U.S.C. 3729](#).

(7) *Length of certified payroll retention.* The contractor or subcontractor must preserve all certified payrolls during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

c. *Contracts, subcontracts, and related documents.* The contractor or subcontractor must maintain this contract or subcontract and related documents including, without limitation, bids, proposals, amendments, modifications, and extensions. The contractor or subcontractor must preserve these contracts, subcontracts, and related documents during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

d. *Required disclosures and access* (1) *Required record disclosures and access to workers.* The contractor or subcontractor must make the records required under paragraphs 3.a. through 3.c. of this section, and any other documents that the contracting agency, the State DOT, the FHWA, or the Department of Labor deems necessary to determine compliance with the labor standards provisions of any of the applicable statutes referenced by § 5.1, available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and must permit such representatives to interview workers during working hours on the job.

(2) *Sanctions for non-compliance with records and worker access requirements.* If the contractor or subcontractor fails to submit the required records or to make them available, or refuses to permit worker interviews during working hours on the job, the Federal agency may, after written notice to the contractor, sponsor, applicant, owner, or other entity, as the case may be, that maintains such records or that employs such workers, 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, or to permit worker interviews during working hours on the job, may be grounds for debarment action pursuant to § 5.12. In addition, any contractor or other person that fails to submit the required records or make those records available to WHD within the time WHD requests that the records be produced will be precluded from introducing as evidence in an administrative proceeding under [29 CFR part 6](#) any of the required records that were not provided or made available to WHD. WHD will take into consideration a reasonable request from the contractor or person for an extension of the time for submission of records. WHD will determine the reasonableness of the request and may consider, among other things, the location of the records and the volume of production.

(3) *Required information disclosures.* Contractors and subcontractors must maintain the full Social Security number and last known address, telephone number, and email address

of each covered worker, and must provide them upon request to the contracting agency, the State DOT, the FHWA, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or other compliance action.

4. Apprentices and equal employment opportunity (29 CFR 5.5)

a. *Apprentices* (1) *Rate of pay.* Apprentices will be permitted to work at less than the predetermined rate for the work they perform 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 (OA), or with a State Apprenticeship Agency recognized by the OA. A person who is not individually registered in the program, but who has been certified by the OA or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice, will be permitted to work at less than the predetermined rate for the work they perform in the first 90 days of probationary employment as an apprentice in such a program. In the event the OA or a State Apprenticeship Agency recognized by the OA withdraws approval of an apprenticeship program, the contractor will no longer be permitted to use apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(2) *Fringe benefits.* Apprentices must 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, fringe benefits must be paid in accordance with that determination.

(3) *Apprenticeship ratio.* The allowable ratio of apprentices to journeyworkers on the job site in any craft classification must not be greater than the ratio permitted to the contractor as to the entire work force under the registered program or the ratio applicable to the locality of the project pursuant to paragraph 4.a.(4) of this section. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated in paragraph 4.a.(1) of this section, must 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 this section must be paid not less than the applicable wage rate on the wage determination for the work actually performed.

(4) *Reciprocity of ratios and wage rates.* Where a contractor is performing construction on a project in a locality other than the locality in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyworker's hourly rate) applicable within the locality in which the construction is being performed must be observed. If there is no applicable ratio or wage rate for the locality of the project, the ratio and wage rate specified in the contractor's registered program must be observed.

b. *Equal employment opportunity.* The use of apprentices and journeyworkers under this part must be in conformity with

the equal employment opportunity requirements of Executive Order 11246, as amended, and [29 CFR part 30](#).

c. 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. 23 CFR 230.111(e)(2). 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 journeyworkers 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 as provided in 29 CFR 5.5.

6. Subcontracts. The contractor or subcontractor must insert FHWA-1273 in any subcontracts, along with the applicable wage determination(s) and such other clauses or contract modifications as the contracting agency may by appropriate instructions require, and a clause requiring the subcontractors to include these clauses and wage determination(s) in any lower tier subcontracts. The prime contractor is responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in this section. In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and may be subject to debarment, as appropriate. 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 as provided in 29 CFR 5.5.

9. Disputes concerning labor standards. As provided in 29 CFR 5.5, 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 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 [40 U.S.C. 3144\(b\)](#) or § 5.12(a).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of [40 U.S.C. 3144\(b\)](#) or § 5.12(a).

c. The penalty for making false statements is prescribed in the U.S. Code, Title 18 Crimes and Criminal Procedure, [18 U.S.C. 1001](#).

11. Anti-retaliation. It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

a. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#);

b. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#);

c. Cooperating in any investigation or other compliance action, or testifying in any proceeding under the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#); or

d. Informing any other person about their rights under the DBA, Related Acts, this part, or [29 CFR part 1](#) or [3](#).

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

Pursuant to 29 CFR 5.5(b), 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 watchpersons 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. 29 CFR 5.5.

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 and interest from the date of the underpayment. 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 watchpersons and guards, employed in violation of the clause set forth in paragraph 1. of this section, in the sum currently provided in 29 CFR 5.5(b)(2)* 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.

* \$31 as of January 15, 2023 (See 88 FR 88 FR 2210) as may be adjusted annually by the Department of Labor, pursuant to the Federal Civil Penalties Inflation Adjustment Act of 1990.

3. Withholding for unpaid wages and liquidated damages

a. *Withholding process.* The FHWA or the contracting agency may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for any unpaid wages; monetary relief, including interest; and liquidated damages required by the clauses set forth in this section on this contract, 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 that is held by the same prime contractor (as defined in § 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to the Contract Work Hours and Safety Standards Act and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld.

b. *Priority to withheld funds.* The Department has priority to funds withheld or to be withheld in accordance with Section IV paragraph 2.a. or paragraph 3.a. of this section, or both, over claims to those funds by:

- (1) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;
- (2) A contracting agency for its procurement costs;
- (3) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;
- (4) A contractor's assignee(s);
- (5) A contractor's successor(s); or
- (6) A claim asserted under the Prompt Payment Act, [31 U.S.C. 3901](#)–3907.

4. Subcontracts. The contractor or subcontractor must insert in any subcontracts the clauses set forth in paragraphs 1. through 5. of this section and a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor is responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs 1. through 5. In the

event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and associated liquidated damages and may be subject to debarment, as appropriate.

5. Anti-retaliation. It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

a. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the Contract Work Hours and Safety Standards Act (CWHSSA) or its implementing regulations in this part;

b. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under CWHSSA or this part;

c. Cooperating in any investigation or other compliance action, or testifying in any proceeding under CWHSSA or this part; or

d. Informing any other person about their rights under CWHSSA or this part.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System pursuant to 23 CFR 635.116.

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" in paragraph 1 of Section VI 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: (based on longstanding interpretation)

- (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. 23 CFR 635.102.

2. Pursuant to 23 CFR 635.116(a), 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. Pursuant to 23 CFR 635.116(c), 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. (based on long-standing interpretation of 23 CFR 635.116).

5. The 30-percent self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements. 23 CFR 635.116(d).

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 Part 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. 23 CFR 635.108.

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 Part 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). 29 CFR 1926.10.

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 Part 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 11, 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 (42 U.S.C. 7606; 2 CFR 200.88; EO 11738)

This provision is applicable to all Federal-aid construction contracts in excess of \$150,000 and to all related subcontracts. 48 CFR 2.101; 2 CFR 200.327.

By submission of this bid/proposal or the execution of this contract or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, subcontractor, supplier, or vendor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251-1387). Violations must be reported to the Federal Highway Administration and the Regional Office of the Environmental Protection Agency. 2 CFR Part 200, Appendix II.

The contractor agrees to include or cause to be included the requirements of this Section in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements. 2 CFR 200.327.

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. 2 CFR 180.220 and 1200.220.

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. 2 CFR 180.320.

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. 2 CFR 180.325.

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. 2 CFR 180.345 and 180.350.

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, Subpart I, 180.900-180.1020, and 1200. "First Tier Covered Transactions" refers to any covered transaction between a recipient or subrecipient 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 recipient or subrecipient 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. 2 CFR 180.330.

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. 2 CFR 180.220 and 180.300.

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. 2 CFR 180.300; 180.320, and 180.325. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. 2 CFR 180.335. 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 System for Award Management website (<https://www.sam.gov/>). 2 CFR 180.300, 180.320, and 180.325.

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 CFR 180.325.

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 CFR 180.335;.

(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, 2 CFR 180.800;

(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, 2 CFR 180.700 and 180.800; 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. 2 CFR 180.335(d).

(5) Are not a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(6) Are not a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability (USDOT Order 4200.6 implementing appropriations act requirements).

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant should attach an explanation to this proposal. 2 CFR 180.335 and 180.340.

3. 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). 2 CFR 180.220 and 1200.220.

a. By signing and submitting this proposal, the prospective lower tier participant 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. 2 CFR 180.365.

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, Subpart I, 180.900 – 180.1020, 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 recipient or subrecipient of Federal funds and a participant (such as the prime or general contractor). "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 recipient or subrecipient 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. 2 CFR 1200.220 and 1200.332.

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. 2 CFR 180.220 and 1200.220.

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 System for Award Management website (<https://www.sam.gov/>), which is compiled by the General Services Administration. 2 CFR 180.300, 180.320, 180.330, and 180.335.

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. 2 CFR 180.325.

* * * * *

4. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

a. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals:

(1) is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.355;

(2) is a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(3) is a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability. (USDOT Order 4200.6 implementing appropriations act requirements)

b. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant should 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 Part 20, App. A.

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.

XII. USE OF UNITED STATES-FLAG VESSELS:

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, or any other covered transaction. 46 CFR Part 381.

This requirement applies to material or equipment that is acquired for a specific Federal-aid highway project. 46 CFR 381.7. It is not applicable to goods or materials that come into inventories independent of an FHWA funded-contract.

When oceanic shipments (or shipments across the Great Lakes) are necessary for materials or equipment acquired for a specific Federal-aid construction project, the bidder, proposer, contractor, subcontractor, or vendor agrees:

1. To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels. 46 CFR 381.7.

2. To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, 'on-board' commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (b)(1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Office of Cargo and Commercial Sealift (MAR-620), Maritime Administration, Washington, DC 20590. (MARAD requires copies of the ocean carrier's (master) bills of lading, certified onboard, dated, with rates and charges. These bills of lading may contain business sensitive information and therefore may be submitted directly to MARAD by the Ocean Transportation Intermediary on behalf of the contractor). 46 CFR 381.7.

**ATTACHMENT A - EMPLOYMENT AND MATERIALS
PREFERENCE FOR APPALACHIAN DEVELOPMENT
HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS
ROAD CONTRACTS (23 CFR 633, Subpart B, Appendix B)**

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.

NON-DISCRIMINATION PROVISIONS

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees as follows:

1. Compliance with Regulations: The contractor (hereinafter includes consultants) will comply with the Acts and the Regulations relative to Non-discrimination in Federally-assisted programs of the U.S. Department of Transportation, Federal Highway Administration, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.

2. Non-discrimination: The contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor will not participate directly or indirectly in the discrimination prohibited by the Acts and the Regulations, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR Part 21.

3. Solicitations for Subcontracts, Including Procurements of Materials and Equipment: In all solicitations, either by competitive bidding, or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the contractor of the contractor's obligations under this contract and the Acts and the Regulations relative to Non-discrimination on the grounds of race, color, or national origin.

4. Information and Reports: The contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Recipient or the Federal Highway Administration to be pertinent to ascertain compliance with such Acts, Regulations, and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the contractor will so certify to the Recipient or the Federal Highway Administration, as appropriate, and will set forth what efforts it has made to obtain the information.

5. Sanctions for Noncompliance: In the event of a contractor's noncompliance with the Non-discrimination provisions of this contract, the Recipient will impose such contract sanctions as it or the Federal Highway Administration may determine to be appropriate, including, but not limited to:

- a. Withholding payments to the contractor under the contract until the contractor complies; and/or
- b. Cancelling, terminating, or suspending a contract, in whole or in part.

6. Incorporation of Provisions: The contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The contractor will take action with respect to any subcontract or procurement as the Recipient or the Federal Highway Administration may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the contractor may request the Recipient to enter into any litigation to protect the interests of the Recipient. In addition, the contractor may request the United States to enter into the litigation to protect the interests of the United States.

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees to comply with the following non-discrimination statutes and authorities; including but not limited to:

Pertinent Non-Discrimination Authorities:

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d et seq., 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin); and 49 CFR Part 21.
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Federal-Aid Highway Act of 1973, (23 U.S.C. § 324 et seq.), (prohibits discrimination on the basis of sex);
- Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 et seq.), as amended, (prohibits discrimination on the basis of disability); and 49 CFR Part 27;
- The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 et seq.), (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982, (49 USC § 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131-12189) as implemented by Department of Transportation regulations at 49 C.F.R. parts 37 and 38;
- The Federal Aviation Administration's Non-discrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures Non-discrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of Limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);
- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. 1681 et seq).

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.

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.

DOMESTIC MATERIALS PREFERENCE PROVISION

Domestic Materials Preference (in accordance with the Buy America Act per [23 CFR 635.410](#), and the Build America-Buy America Act (BABA) per [2 CFR Part 184](#), and [2 CFR Part 200](#)) shall be articles, materials, or supplies permanently incorporated in this project as classified in the following four categories, and as described in the Construction and Materials Manual (CMM):

1. Iron and Steel

To be considered domestic, all steel and iron products used, and all products predominantly manufactured from steel or iron must be produced in the United States in accordance with the steel and iron product standards in 23 CFR 635.410.

This includes smelting, coating, bending, shaping, and all other manufacturing processes performed on the product. Coating includes all processes which protect or enhance the value of the material to which the coating is applied.

Products that are predominantly iron or steel or a combination of both as defined in 23 CFR 635.410 are considered Steel and Iron products and must comply with this section.

2. Construction Materials

To be considered domestic, all construction materials used must be produced in the United States in accordance with the construction material standards in [2 CFR 184.6](#):

- Non-ferrous metals: All manufacturing processes, from initial smelting or melting through final shaping, coating, and assembly, occurred in the United States.
- Plastic and polymer-based products: All manufacturing processes, from initial combination of constituent plastic or polymer-based inputs, or, where applicable, constituent composite materials, until the item is in its final form, occurred in the United States.
- Glass: All manufacturing processes, from initial batching and melting of raw materials through annealing, cooling, and cutting, occurred in the United States.
- Fiber optic cable (including drop cable): All manufacturing processes, from the initial ribboning (if applicable), through buffering, fiber stranding and jacketing, occurred in the United States. All manufacturing processes also include the standards for glass and optical fiber, but not for non-ferrous metals, plastic and polymer-based products, or any others.
- Optical fiber: All manufacturing processes, from the initial preform fabrication stage through the completion of the draw, occurred in the United States.
- Lumber: All manufacturing processes, from initial debarking through treatment and planning, occurred in the United States.
- Drywall: All manufacturing processes, from initial blending of mined or synthetic gypsum plaster and additives through cutting and drying of sandwiched panels, occurred in the United States.
- Engineered wood: All manufacturing processes from the initial combination of constituent materials until the wood product is in its final form, occurred in the United States.

3. Manufactured Products

To be considered domestic, all manufactured products used must be produced in the United States as defined in [23 CFR 635.410\(c\)\(1\)\(vii\)](#):

- For projects with let dates on or after October 1, 2025, the final step in the manufacturing process must occur in the United States.
- For projects with let dates on or after October 1, 2026, the final step in the manufacturing process must occur in the United States and the cost of the components of the manufactured product that are mined, produced, or manufactured in the United States must be greater than 55 percent of the total cost of all components of the manufactured product.

Manufactured products means articles, materials, or supplies that have been processed into a specific form and shape, or combined with other articles, materials, or supplies to create a product with different properties than the individual articles, materials, or supplies. If an item is classified as an iron or steel product, an excluded material, or construction material, then it is not a manufactured product. An article, material, or supply classified as a manufactured product may include components that are iron or steel

products, excluded materials, or construction materials. Mixtures of excluded materials delivered to a work site without final form for incorporation into a project are not a manufactured product.

Items that consist of two or more construction materials that have been combined together through a manufacturing process, and items that include at least one construction material combined with a material that is not a construction material (including steel/iron) through a manufacturing process are treated as manufactured products, rather than as construction materials.

Products that are classified as predominantly iron or steel do not meet the definition of a manufactured product and must comply with section 1.

With respect to precast concrete products **that are classified as manufactured products**, components of precast concrete products that consist wholly or predominantly of iron or steel or a combination of both shall meet the requirements of section 1. The cost of such components shall be included in the applicable calculation for purposes of determining whether the precast concrete product is produced in the United States.

With respect to intelligent transportation systems and other electronic hardware systems that are installed in the highway right of way or other real property **and classified as manufactured products**, the cabinets or other enclosures of such systems that consist wholly or predominantly of iron or steel or a combination of both shall meet the requirements of section 1. The cost of cabinets or other enclosures shall be included in the applicable calculation for purposes of determining whether systems referred to in the preceding sentence are produced in the United States.

4. Temporary and Excluded Materials

Temporary materials, and excluded materials meeting the definition of Section 70917(c) Materials as defined in [2 CFR 184](#), do not have any domestic materials requirements. Section 70917(c) Materials means cement and cementitious materials; aggregates such as stone, sand, or gravel; or aggregate binding agents or additives. Mixtures of excluded materials delivered to a work site without final form for incorporation into a project are not a manufactured product.

The classification of an article, material, or supply as falling into one of the categories listed in this section will be made based on its status at the time it is brought to the work site for incorporation into the project. Except as otherwise provided, an article, material, or supply incorporated into an infrastructure project must meet the Domestic Material Preference for only the single category in which it is classified.

Requirements do not preclude a minimal use of foreign steel and iron provided the cost of such materials do not exceed 0.1 percent (0.1%) of the total contract cost or \$2500 whichever is greater. The total contract cost is the contract amount at award.

For each iron or steel product subject to meeting domestic materials requirements, that doesn't fully meet Buy America Act requirements, the following documentation must be provided by the Contractor to verify the foreign steel value. Ensure the threshold is not exceeded and place the documentation in the project files.

- Pay Item,
- Description of associated foreign iron or steel product, or component,
- Invoiced cost of associated foreign iron or steel product, or component, and
- Current cumulative list of all foreign iron or steel products with the total dollar amount of foreign products in relation to the total contract amount.

The minimal use of foreign iron or steel under the minimal usage threshold must be approved by the Engineer prior to incorporation into the project and any associated payment under the contract. The use of foreign iron or steel under the minimal usage threshold does not need to be approved by FHWA. This amount is not considered a waiver to the domestic materials requirements. The Contractor must ensure that the minimal usage amount is not exceeded.

The contractor shall take actions and provide documentation conforming to CMM 228.5 to ensure compliance with this Domestic Material provision.

<https://wisconsindot.gov/rdw/cmm/cm-02-28.pdf>

Effective with October 2025 Letting

Upon completion of the project, certify to the engineer, in writing using department form DT4567 that all iron and steel, construction materials, and manufactured products conform to this domestic material provision.

Form DT4567 is available at: <https://wisconsindot.gov/Documents/formdocs/dt4567.docx>

Attach a list of foreign iron or steel and their associated costs to the certification form using the Domestic Material Exemption Tracking Tool, available at:

<https://wisconsindot.gov/hccidocs/contracting-info/buy-america-exemption-tracking-tool.xlsx>

CARGO PREFERENCE ACT REQUIREMENT

All Federal-aid projects shall comply with 46 CFR 381.7 (a) – (b) as follows:

(a) *Agreement Clauses.* “Use of United States-flag vessels:”

(1) Pursuant to Pub. L. 664 (43 U.S.C. 1241(b)) at least 50 percent of any equipment, materials or commodities procured, contracted for or otherwise obtained with funds granted, guaranteed, loaned, or advanced by the U.S. Government under this agreement, and which may be transported by ocean vessel, shall be transported on privately owned United States-flag commercial vessels, if available.

(2) Within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, ‘on-board’ commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (a)(1) of this section shall be furnished to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590.”

(b) *Contractor and Subcontractor Clauses.* “Use of United States-flag vessels: The contractor agrees—”

(1) To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels.

(2) To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, ‘on-board’ commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (b) (1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590.

(3) To insert the substance of the provisions of this clause in all subcontracts issued pursuant to this contract.

**WISCONSIN DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION AND SYSTEM DEVELOPMENT**

**SUPPLEMENTAL REQUIRED CONTRACT PROVISIONS
FOR PROJECTS WITH FEDERAL AID**

I. PREVAILING WAGE RATES

The attached U.S. Department of Labor (Davis-Bacon Minimum Wage Rates) furnishes the minimum prevailing wage rates pursuant to the Davis-Bacon and Related Acts. The wage rates shown are the minimum rates required by the contract to be paid during its life, however 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 will be allowed or authorized on account of the payment of wage rates in excess of those listed herein.

II. COVERAGE OF TRUCK DRIVERS

Truck drivers are covered by Davis-Bacon Minimum Wage Rates in the following circumstances:

- Drivers of a contractor or subcontractor for time spent working on the site of the work.
- Drivers of a contractor or subcontractor for time spent loading and/or unloading materials and supplies on the site of the work, if such time is not de minimis.
https://www.dol.gov/whd/FOH/FOH_Ch15.pdf
- Truck drivers transporting materials or supplies between a facility that is deemed part of the site of the work and the actual construction site.
- Truck drivers transporting portions of the building or work between a site established specifically for the performance of the contract where a significant portion of such building or work is constructed and the physical place where the building or work called for in the contract will remain.

Truck drivers are not covered by Davis-Bacon Minimum Wage Rates in the following circumstances:

- Material delivery truck drivers while off the site of the work.
- Drivers of a contractor or subcontractor traveling between a Davis-Bacon job and a commercial supply facility while they are off the site of the work.”
- Truck drivers whose time spent on the site of the work is de minimis, such as only a few minutes at a time merely to pick up or drop off materials or supplies.

Details are available online at:

<https://www.dol.gov/whd/recovery/pwrb/Tab9.pdf>

<https://wisconsindot.gov/Pages/doing-bus/civil-rights/labornwage/trckng.aspx>

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 and accessible place at the site of work:

- a. A copy of the contractor's Equal Employment Opportunity Policy.

All required documents shall be posted by the first day of work and be accurate and complete. Postings must be readable, in an area where they will be noticed, and maintained until the last day of work.

IV. RESOURCES

Required information regarding compliance with federal provisions is found in the following resources:

- FHWA-1273 included in this contract
- U.S. Department of Labor Prevailing Wage Resource Book
- U.S. Department of Labor Field Operations Handbook
- U.S. Code of Federal Regulations
- Any applicable law, Act, or Executive Order enacted by the federal government at the time of the letting of this contract

State: Wisconsin

Construction Types: Highway

Counties: Wisconsin Counties of
Adams, Ashland, Barron, Bayfield, Brown,
Buffalo, Burnett, Calumet, Chippewa,
Clark, Columbia, Crawford, Dane, Dodge,
Door, Douglas, Dunn, Eau Claire,
Florence, Fond Du Lac, Forest, Grant,
Green, Green Lake, Iowa, Iron, Jackson,
Jefferson, Juneau, Kenosha, Kewaunee, La
Crosse, Lafayette, Langlade, Lincoln,
Manitowoc, Marathon, Marinette,
Marquette, Menominee, Milwaukee, Monroe,
Oconto, Oneida, Outagamie, Ozaukee,
Pepin, Pierce, Polk, Portage, Price,
Racine, Richland, Rock, Rusk, Sauk,
Sawyer, Shawano, Sheboygan, St Croix,
Taylor, Trempealeau, Vernon, Vilas,
Walworth, Washburn, Washington,
Waukesha, Waupaca, Waushara, Winnebago
and Wood

Modification Number	Publication Date
0	01/02/2026
1	05/18/2026

BRWI0001-002 06/01/2025

	Rates	Fringes
BRICKLAYER (CRAWFORD, JACKSON, JUNEAU, LA CROSSE, MONROE, TREMPLEALEAU, AND VERNON COUNTIES).....	\$ 40.09	28.10

BRWI0002-002 06/01/2025

	Rates	Fringes
BRICKLAYER (ASHLAND, BAYFIELD, DOUGLAS, AND IRON COUNTIES).....	\$ 48.60	29.31

BRWI0002-005 06/01/2025

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER (ADAMS, BARRON, BROWN, CALUMET, CHIPPEWA, CLARK, COLUMBIA, DODGE, DOOR, DUNN, FLORENCE, FOND DU LAC, FOREST, GREEN LAKE, JEFFERSON, KEWAUNEE, LANGLADE, LINCOLN, MANITOWOC, MARATHON, MARINETTE, MARQUETTE, MENOMINEE, OCONTO, ONEIDA, OUTAGAMIE, POLK, PORTAGE, RUSK, SAUK, SHAWANO, SHEBOYGAN, ST. CROIX, TAYLOR, VILAS, WALWORTH, WAUPACA, WAUSHARA, WINNEBAGO, AND WOOD COUNTIES).....	\$ 46.01	29.31

BRWI0003-002 06/01/2024		
	Rates	Fringes
BRICKLAYER (BROWN, DOOR, FLORENCE, KEWAUNEE, MARINETTE, AND OCONTO COUNTIES).....	\$ 38.45	27.41

BRWI0004-002 06/01/2025		
	Rates	Fringes
BRICKLAYER (KENOSHA, RACINE, AND WALWORTH COUNTIES)....	\$ 44.71	28.90

BRWI0006-002 06/01/2025		
	Rates	Fringes
BRICKLAYER (ADAMS, CLARK, FOREST, LANGLADE, LINCOLN, MARATHON, MENOMINEE, ONEIDA, PORTAGE, PRICE, TAYLOR, VILAS AND WOOD COUNTIES).....	\$ 39.36	28.83

BRWI0007-002 06/01/2025		
	Rates	Fringes
BRICKLAYER (GREEN, LAFAYETTE, AND ROCK COUNTIES)....	\$ 40.34	29.49

BRWI0008-002 06/01/2025		
	Rates	Fringes
BRICKLAYER (MILWAUKEE, OZAUKEE, WASHINGTON, AND WAUKESHA COUNTIES).....	\$ 45.72	27.42

BRWI0011-002 06/01/2024		
	Rates	Fringes
BRICKLAYER (CALUMET, FOND DU LAC, MANITOWOC, AND SHEBOYGAN COUNTIES).....	\$ 38.45	27.41

BRWI0019-002 06/01/2025		
	Rates	Fringes
BRICKLAYER (BARRON, BUFFALO, BURNETT, CHIPPEWA, DUNN, EAU CLAIRE, PEPIN, PIERCE, POLK, RUSK, ST. CROIX, SAWYER AND WASHBURN COUNTIES).....	\$ 39.50	28.69

BRWI0034-002 06/01/2025		
	Rates	Fringes
BRICKLAYER (COLUMBIA AND SAUK COUNTIES).....	\$ 41.17	28.66

CARP0068-011 05/05/2025		
	Rates	Fringes
PILEDRIVERMAN (BURNETT (W. OF HWY 48), PIERCE (W. OF HWY 29), POLK (W. OF HWYS 35, 48 & 65), AND ST. CROIX (W. OF HWY 65) COUNTIES).....	\$ 47.71	30.98
CARPENTER (BURNETT (W. OF HWY 48), PIERCE (W. OF HWY 29), POLK (W. OF HWYS 35, 48 & 65), AND ST. CROIX (W. OF HWY 65) COUNTIES).....	\$ 47.57	31.17

CARP0231-002 06/01/2025		
	Rates	Fringes
CARPENTER (KENOSHA, MILWAUKEE, OZAUKEE, RACINE, WASHINGTON, AND WAUKESHA COUNTIES).....	\$ 45.46	31.52

CARP0310-002 06/01/2025		

	Rates	Fringes
PILEDRIIVER (ADAMS, ASHLAND, BAYFIELD (EASTERN 2/3), FOREST, IRON, JUNEAU, LANGLADE, LINCOLN, MARATHON, ONEIDA, PORTAGE, PRICE, SHAWANO (WESTERN PORTION OF THE COUNTY), TAYLOR, VILAS, AND WOOD COUNTIES).....	\$ 44.43	29.95
CARPENTER (ADAMS, ASHLAND, BAYFIELD (EASTERN 2/3), FOREST, IRON, JUNEAU, LANGLADE, LINCOLN, MARATHON, ONEIDA, PORTAGE, PRICE, SHAWANO (WESTERN PORTION OF THE COUNTY), TAYLOR, VILAS, AND WOOD COUNTIES).....	\$ 44.43	29.95

CARP0314-001 06/02/2025

	Rates	Fringes
CARPENTER: PILEDRIIVERMEN (COLUMBIA, DANE, DODGE, GRANT, GREEN, IOWA, JEFFERSON, LAFAYETTE, RICHLAND, ROCK, SAUK, AND WALWORTH COUNTIES).....	\$ 44.45	28.78

CARP0361-004 05/05/2025

	Rates	Fringes
CARPENTER (BAYFIELD (WEST OF HWY 63) AND DOUGLAS COUNTIES).....	\$ 46.82	31.92

CARP0731-002 06/03/2024

	Rates	Fringes
CARPENTER: PILEDRIIVER (CALUMET (EASTERN PORTION OF THE COUNTY), FOND DU LAC (EASTERN PORTION OF THE COUNTY), MANITOWOC, AND SHEBOYGAN COUNTIES).....	\$ 42.44	28.44
CARPENTER (CALUMET (EASTERN PORTION OF THE COUNTY), FOND DU LAC (EASTERN PORTION OF THE COUNTY), MANITOWOC, AND SHEBOYGAN COUNTIES).....	\$ 42.44	28.44

CARP0955-002 06/01/2025

	Rates	Fringes
PILEDRIIVER (CALUMET (WESTERN PORTION OF THE COUNTY), FOND DU LAC (WESTERN PORTION OF THE COUNTY), GREEN LAKE, MARQUETTE, OUTAGAMIE, WAUPACA, WAUSHARA, AND WINNEBAGO).....	\$ 44.43	29.95
CARPENTER (CALUMET (WESTERN PORTION OF THE COUNTY), FOND DU LAC (WESTERN PORTION OF THE COUNTY), GREEN LAKE, MARQUETTE, OUTAGAMIE, WAUPACA, WAUSHARA, AND WINNEBAGO).....	\$ 44.43	29.95

CARP0955-002 06/02/2025

	Rates	Fringes
PILEDRIIVER (CALUMET (WESTERN PORTION OF THE COUNTY), FOND DU LAC (WESTERN PORTION OF THE COUNTY), GREEN LAKE, MARQUETTE, OUTAGAMIE, WAUPACA, WAUSHARA, AND WINNEBAGO).....	\$ 44.43	29.95
CARPENTER (CALUMET (WESTERN PORTION OF THE COUNTY), FOND DU LAC (WESTERN PORTION OF THE COUNTY), GREEN LAKE, MARQUETTE, OUTAGAMIE, WAUPACA, WAUSHARA, AND WINNEBAGO).....	\$ 44.43	29.95

CARP1056-002 06/01/2024

	Rates	Fringes
MILLWRIGHT (ADAMS, ASHLAND, BARRON, BAYFIELD , BROWN, BUFFALO, BURNETT ,CALUMET, CHIPPEWA, CLARK, COLUMBIA, CRAWFORD, DANE, DODGE, DOOR, DUNN, EAU CLAIRE, FLORENCE, FOND DU LAC, FOREST, GRANT, GREEN, GREEN LAKE, IOWA, IRON, JACKSON, JEFFERSON,		

JUNEAU, KEWAUNEE, LA CROSSE, LAFAYETTE, LANGLADE, LINCOLN, MANITOWOC, MARATHON, MARINETTE, MARQUETTE, MENOMINEE, MONROE, OCONTO, ONEIDA, OUTAGAMIE, PEPIN, PIERCE (E. OF HWY. 29 & 65), POLK (E. OF HWY. 35, 48 & 65), PORTAGE, PRICE, RICHLAND, ROCK,.....	\$ 42.00	28.85

CARP1074-002 06/02/2025

	Rates	Fringes

PILEDRIIVER (BARRON, BURNETT, CHIPPEWA, CLARK, DUNN, EAU CLAIRE, PEpin, PIERCE (E. OF HWY. 29 & 65), POLK (E. OF HWY. 35, 48 & 65), RUSK, SAWYER, ST. CROIX (E. OF HWY. 65), AND WASHBURN).....	\$ 44.43	29.95
CARPENTER (BARRON, BURNETT, CHIPPEWA, CLARK, DUNN, EAU CLAIRE, PEpin, PIERCE (E. OF HWY. 29 & 65), POLK (E. OF HWY. 35, 48 & 65), RUSK, SAWYER, ST. CROIX (E. OF HWY. 65), AND WASHBURN).....	\$ 44.43	29.95

CARP1143-002 06/02/2025

	Rates	Fringes

PILEDRIIVER (BUFFALO, CRAWFORD, JACKSON, LA CROSSE, MONROE, TREMPLEALEU AND VERNON COUNTIES).....	\$ 44.43	29.95
CARPENTER (BUFFALO, CRAWFORD, JACKSON, LA CROSSE, MONROE, TREMPLEALEU AND VERNON COUNTIES).....	\$ 44.43	29.95

CARP1146-002 06/02/2025

	Rates	Fringes

PILEDRIIVER (BROWN, DOOR, FLORENCE, KEWAUNEE, MARINETTE, MENOMINEE, OCONTO, AND SHAWANO (WESTERN PORTION OF THE COUNTY) COUNTIES).....	\$ 44.43	29.95
CARPENTER (BROWN, DOOR, FLORENCE, KEWAUNEE, MARINETTE, MENOMINEE, OCONTO, AND SHAWANO (WESTERN PORTION OF THE COUNTY) COUNTIES).....	\$ 44.43	29.95

CARP2337-009 06/02/2025

	Rates	Fringes

PILEDRIIVERMAN (KENOSHA, MILWAUKEE, OZAUKEE, RACINE, WASHINGTON, AND WAUKESHA).....	\$ 44.39	34.79

ELEC0014-002 05/25/2025

	Rates	Fringes

ELECTRICIANS: (ASHLAND, BARRON, BAYFIELD, BUFFALO, BURNETT, CHIPPEWA, CLARK (EXCEPT MARYVILLE, COLBY, UNITY, SHERMAN, FREMONT, LYNN & SHERWOOD), CRAWFORD, DUNN, EAU CLAIRE, GRANT, IRON, JACKSON, LA CROSSE, MONROE, PEpin, PIERCE, POLK, PRICE, RICHLAND, RUSK, ST CROIX, SAWYER, TAYLOR, TREMPLEALEU, VERNON, AND WASHBURN COUNTIES).....	\$ 44.29	25.21

ELEC0014-007 05/25/2025

	Rates	Fringes

TELEDATA SYSTEM INSTALLER: INSTALLER/TECHNICIAN (ADAMS, ASHLAND, BARRON, BAYFIELD, BROWN, BUFFALO, BURNETT, CALUMET, CHIPPEWA, CLARK, COLUMBIA, CRAWFORD, DANE, DODGE, DOOR, DOUGLAS, DUNN, EAU CLAIRE, FLORENCE, FOND DU LAC, FOREST, GRANT, GREEN, GREEN LAKE, IOWA, IRON, JACKSON, JEFFERSON, JUNEAU, KENOSHA, KEWAUNEE, LA CROSSE, LAFAYETTE, LANGLADE, LINCOLN, MARATHON, MARINETTE, MARQUETTE,		

MENOMINEE, MONROE, OCONTO, ONEIDA, OUTAGAMIE, PEPIN, PIERCE, POLK, PORTAGE, PRICE, RACINE, RICHLAND, ROCK, RUS.....	\$ 31.17	20.08

ELEC0127-002 06/01/2025		
	Rates	Fringes
ELECTRICIANS: (KENOSHA COUNTY).....	\$ 50.01	28.40

ELEC0158-002 05/25/2025		
	Rates	Fringes
ELECTRICIAN (BROWN, DOOR, KEWAUNEE, MANITOWOC (EXCEPT SCHLESWIG), MARINETTE(WAUSUAKEE AND AREA SOUTH THEREOF), OCONTO, MENOMINEE (EAST OF A INE 6 MILES WEST OF THE WEST BOUNDARY OF OCONTO COUNTY), SHAWANO (EXCEPT AREA NORTH OF TOWNSHIPS OF ANIWA AND HUTCHINS) COUNTIES).....	\$ 42.00	23.93

ELEC0159-003 05/26/2024		
	Rates	Fringes
ELECTRICIAN (COLUMBIA, DANE, DODGE (AREA WEST OF HWY 26, EXCEPT CHESTER AND 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).....	\$ 48.55	25.91

ELEC0219-004 06/01/2019		
	Rates	Fringes
ELECTRICIANS: ELECTRICAL CONTRACTS UNDER \$180,000 (FLORENCE COUNTY (TOWNSHIPS OF AURORA, COMMONWEALTH, FERN, FLORENCE AND HOMESTEAD) AND MARINETTE COUNTY (TOWNSHIP OF NIAGARA)).....	\$ 31.75	21.73
ELECTRICIANS: ELECTRICAL CONTRACTS OVER \$180,000 (FLORENCE COUNTY (TOWNSHIPS OF AURORA, COMMONWEALTH, FERN, FLORENCE AND HOMESTEAD) AND MARINETTE COUNTY (TOWNSHIP OF NIAGARA)).....	\$ 33.94	21.80

ELEC0242-005 06/01/2025		
	Rates	Fringes
ELECTRICIANS: (DOUGLAS COUNTY).....	\$ 47.46	33.34

ELEC0388-002 06/01/2024		
	Rates	Fringes
ELECTRICIANS: (ADAMS, CLARK (COLBY, FREEMONT, LYNN, MAYVILLE, SHERMAN, SHERWOOD, UNITY), FOREST, JUNEAU, LANGLADE, LINCOLN, MARATHON, MARINETTE (BEECHER, DUNBAR, GOODMAN & PEMBINE), MENOMINEE (AREA WEST OF A LINE 6 MILES WEST OF THE WEST BOUNDARY OF OCONTO COUNTY), ONEIDA, PORTAGE, SHAWANO (ANIWA AND HUTCHINS), VILAS AND WOOD COUNTIES).....	\$ 40.19	22.90

ELEC0430-002 06/01/2024		
	Rates	Fringes
ELECTRICIANS: (RACINE COUNTY (EXCEPT BURLINGTON TOWNSHIP)).....	\$ 48.50	26.25

ELEC0494-005 06/01/2025		
	Rates	Fringes
ELECTRICIANS: (MILWAUKEE, OZAUKEE, WASHINGTON, AND WAUKESHA COUNTIES).....	\$ 50.86	28.26

ELEC0494-006 06/01/2025		
	Rates	Fringes
ELECTRICIANS: (CALUMET (TOWNSHIP OF NEW HOLSTEIN), DODGE (EAST OF HWY 26 INCLUDING CHESTER TOWNSHIP), FOND DU LAC, MANITOWOC (SCHLESWIG), AND SHEBOYGAN COUNTIES).....	\$ 45.20	25.27

ELEC0494-013 06/01/2025		
	Rates	Fringes
SOUND & COMMUNICATIONS: TECHNICIAN (DODGE (EAST OF HWY 26 INCLUDING CHESTER TWP, EXCLUDING EMMET TWP), FOND DU LAC (EXCEPT WAUPUIN), MILWAUKEE, OZAUKEE, MANITOWOC (SCHLESWIG), WASHINGTON, AND WAUKESHA COUNTIES).....	\$ 37.13	21.58
SOUND & COMMUNICATIONS: INSTALLER (DODGE (EAST OF HWY 26 INCLUDING CHESTER TWP, EXCLUDING EMMET TWP), FOND DU LAC (EXCEPT WAUPUIN), MILWAUKEE, OZAUKEE, MANITOWOC (SCHLESWIG), WASHINGTON, AND WAUKESHA COUNTIES).....	\$ 37.13	21.58

ELEC0577-003 06/01/2025		
	Rates	Fringes
ELECTRICIANS: (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, AND SPRINGFIELD), OUTAGAMIE, WAUPACA, WAUSHARA, AND WINNEBAGO COUNTIES).....	\$ 41.76	23.65

ELEC0890-003 06/01/2024		
	Rates	Fringes
ELECTRICIANS: (DODGE (EMMET TOWNSHIP ONLY), GREEN, JEFFERSON, LAFAYETTE, RACINE (BURLINGTON TOWNSHIP), ROCK AND WALWORTH COUNTIES).....	\$ 43.65	23.59

ELEC0953-001 06/02/2019		
	Rates	Fringes
LINE CONSTRUCTION: (6) GROUNDSMAN.....	\$ 26.14	14.60
LINE CONSTRUCTION: (5) LIGHT GROUNDMAN DRIVER.....	\$ 30.89	16.11
LINE CONSTRUCTION: (4) HEAVY GROUNDMAN DRIVER.....	\$ 33.27	16.88
LINE CONSTRUCTION: (3) EQUIPMENT OPERATOR).....	\$ 38.02	18.40
LINE CONSTRUCTION: (2) HEAVY EQUIPMENT OPERATOR.....	\$ 42.78	19.80
LINE CONSTRUCTION: (1) LINEMAN.....	\$ 47.53	21.43

ENGI0139-005 06/01/2025		
	Rates	Fringes
POWER EQUIPMENT OPERATOR: GROUP 6 OFF-ROAD MATERIAL HAULER WITH OR WITHOUT EJECTOR.		

HAZARDOUS WASTE PREMIUMS: EPA LEVEL "A" PROTECTION	
- \$3.00 PER HOUR EPA LEVEL "B" PROTECTION - \$2.00	
PER HOUR EPA LEVEL "C" PROTECTION - \$1.00 PER HOUR.	\$ 40.32
POWER EQUIPMENT OPERATOR: GROUP 5 AIR COMPRESSOR;	
POWER PACK; VIBRATOR 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 TENDER, DAY LIGHT MACHINE	
	30.30

HAZARDOUS WASTE PREMIUMS: EPA LEVEL "A" PROTECTION	
- \$3.00 PER HOUR EPA LEVEL "B" PROTECTION - \$2.00	
PER HOUR EPA LEVEL "C" PROTECTION - \$1.00 PER HOUR.	\$ 46.22
POWER EQUIPMENT OPERATOR: GROUP 4 GREASER, ROLLER	
STEEL (5 TONS OR LESS); ROLLER (PNEUMATIC TIRED) -	
SELF PROPELLED; TRACTOR (MOUNTED OR TOWED	
COMPACTORS & LIGHT EQUIPMENT); SHOULDERING MACHINE;	
SELF- PROPELLED CHIP SPREADER; CONCRETE SPREADER;	
FINISHING MACHINE; MECHANICAL FLOAT; CURING	
MACHINE; POWER SUBGRADER; JOINT SAWER (MULTIPLE	
BLADE) BELTING MACHINE; BURLAP MACHINE; TEXTURING	
MACHINE; TRACTOR ENDLOADER (RUBBER TIRED) - LIGHT;	
JEEP DIGGER; FORKLIFT; MULCHER; LAUNCH OPERATOR;	
FIREMAN, ENVIRONMENTAL BURNER	
	30.30

HAZARDOUS WASTE PREMIUMS: EPA LEVEL	
"A" PROTECTION - \$3.00 PER HOUR EPA LEVEL "B"	
PROTECTION - \$2.00 PER HOUR EPA LEVEL "C"	
PROTECTION - \$1.00 PER HOUR.....	\$ 46.51
POWER EQUIPMENT OPERATOR: GROUP 3 MECHANIC OR	
WELDER - HEAVY DUTY EQUIPMENT; CRANES WITH A	
LIFTING CAPACITY OF 25 TONS OR UNDER; CONCRETE	
BREAKER (MANUAL OR REMOTE); VIBRATORY/SONIC	
CONCRETE BREAKER; CONCRETE LASER SCREED; CONCRETE	
SLIPFORM PAVER; CONCRETE BATCH PLANT OPERATOR;	
CONCRETE PVT. SPREADER - HEAVY DUTY (RUBBER TIRED);	
CONCRETE SPREADER & DISTRIBUTOR; AUTOMATIC	
SUBGRADER (CONCRETE); CONCRETE GRINDER & PLANING	
MACHINE; CONCRETE SLIPFORM CURB & GUTTER MACHINE;	
SLIPFORM CONCRETE PLACER; TUBE FINISHER; HYDRO	
BLASTER (10,000 PSI & OVER); BRIDGE PAVER; CONCRETE	
CONVEYOR SYSTEM; CONCRETE PUMP; ROTEC TYPE	
CONVEYOR; STABILIZING MIXER (SELF-PROPELLED);	
SHOULDER WIDENER; ASPHALT PLANT ENGINEER;	
BITUMINIOUS PAVER; BUMP CUTTER & GROOVING MACHINE;	
MILLING MACHINE; SCREED (BITUMINOUS PAVER); ASPHALT	
HEATER, PLANER & SCARIFIER; BACKHOES (EXCAVATORS)	
WEIGHING UNDER 130,000 LBS; GRADER OR MOTOR PATROL;	
TRACTOR (SCRAPER, DOZER, PUSHER, LOADER); SCRAPER -	
RUBBER TIRED (SINGLE OR TWIN ENGINE); ENDLOADER;	
HYDRAULIC BACKHOE (TRACTOR TYPE); TRENCHING	
MACHINE; SKID RIGS; TRACTOR, SIDE BOOM (HEAVY);	
DRILLING OR BORING MACHINE (MECHANICAL HEAVY);	
ROLLER OVER 5 TONS; PERCUSSION OR ROTARY DRILLING	
	30.30

MACHINE; AIR TRACK; BLASTER; LOADING MACHINE
(CONVEYOR); TUGGER; BOATMEN; WINCHES & A-FRAMES;
POST DRIVER; MATERIAL HOIST.

HAZARDOUS WASTE PREMIUMS: EPA LEVEL "A" PROTECTION
- \$3.00 PER HOUR EPA LEVEL "B" PROTECTION - \$2.00
PER HOUR EPA LEVEL "C" PROTECTION - \$1.00 PER HOUR. \$ 46.77 30.30
POWER EQUIPMENT OPERATOR 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 JIBS LENGTHS MEASURING 175 FEET OR
UNDER AND BACKHOES (EXCAVATORS) WEIGHING 130,000
LBS AND OVER; CAISSON RIGS; PILE DRIVER; DREDGE
OPERATOR; DREDGE ENGINEER; BOAT PILOT.

HAZARDOUS WASTE PREMIUMS: EPA LEVEL
"A" PROTECTION - \$3.00 PER HOUR EPA LEVEL "B"
PROTECTION - \$2.00 PER HOUR EPA LEVEL "C"
PROTECTION - \$1.00 PER HOUR.....\$ 47.87 30.30
POWER EQUIPMENT OPERATOR 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.

HAZARDOUS WASTE PREMIUMS: EPA LEVEL "A"
PROTECTION - \$3.00 PER HOUR EPA LEVEL "B"
PROTECTION - \$2.00 PER HOUR EPA LEVEL "C"
PROTECTION - \$1.00 PER HOUR.....\$ 48.37 30.30

IRON0008-002 06/01/2025

Rates Fringes

IRONWORKER (BROWN, CALUMET, DOOR, FOND DU LAC,
KEWAUNEE, MANITOWOC, MARINETTE, OCONTO, OUTAGAMI,
SHAWANO, SHEBOYGAN, AND WINNEBAGO COUNTIES).....\$ 44.66 33.67

IRON0008-003 06/01/2025

Rates Fringes

IRONWORKER (KENOSHA, MILWAUKEE, OZAUKEE, RACINE,
WALWORTH (N.E. 2/3), WASHINGTON, AND WAUKESHA
COUNTIES).....\$ 47.52 33.67

IRON0383-001 06/01/2025

Rates Fringes

IRONWORKER (ADAMS, COLUMBIA, CRAWFORD, DANE, DODGE, FLORENCE, FOREST, GRANT, GREENE, (EXCLUDING S.E. TIP), GREEN LAKE, IOWA, JEFFERSON, JUNEAU, LA CROSSE, LAFAYETTE, LANGLADE, MARATHON, MARQUETTE, MENOMINEE, MONROE, PORTAGE, RICHLAND, ROCK (NORTHERN AREA, VICINITY OF EDGERTON AND MILTON), SAUK, VERNON, WAUPACA, WAUSHARA, AND WOOD COUNTIES).	\$ 44.00	32.66

IRON0498-005 06/01/2025		
	Rates	Fringes
IRONWORKER (GREEN (S.E. 1/3), ROCK (SOUTH OF EDGERTON AND MILTON), AND WALWORTH (S.W. 1/3) COUNTIES:)	\$ 48.74	49.65

IRON0512-008 05/01/2025		
	Rates	Fringes
IRONWORKER (BARRON, BUFFALO, CHIPPEWA, CLARK, DUNN, EAU CLAIRE, JACKSON, PEPIN, PIERCE, POLK, RUSK, ST CROIX, TAYLOR, AND TREMPLEAU COUNTIES)	\$ 46.35	36.86

IRON0512-021 05/01/2025		
	Rates	Fringes
IRONWORKER (ASHLAND, BAYFIELD, BURNETT, DOUGLAS, IRON, LINCOLN, ONEIDA, PRICE, SAWYER, VILAS AND WASHBURN COUNTIES)	\$ 42.89	36.86

LABO0113-002 06/02/2025		
	Rates	Fringes
LABORER: GROUP 6 FLAGPERSON; TRAFFIC CONTROL PERSON		

(MILWAUKEE AND WAUKESHA COUNTIES)	\$ 35.30	25.53
LABORER: GROUP 5 BLASTER AND POWDERMAN		

(MILWAUKEE AND WAUKESHA COUNTIES)	\$ 39.46	25.53
LABORER: GROUP 4 LINE AND GRADE SPECIALIST		

(MILWAUKEE AND WAUKESHA COUNTIES)	\$ 39.31	25.53
LABORER: GROUP 3 BITUMINOUS WORKER (RAKER AND LUTEMAN); FORMSETTER (CURB, SIDEWALK, AND PAVEMENT); STRIKE OFF MAN		

(MILWAUKEE AND WAUKESHA COUNTIES)	\$ 39.16	25.53
LABORER: GROUP 2 AIR TOOL OPERATOR; JOINT SAWER AND FILLER (PAVEMENT); VIBRATOR OR TAMPER OPERATOR (MECHANICAL HAND OPERATED); CHAIN SAW OPERATOR; DEMOLITION BURNING TORCH LABORER		

(MILWAUKEE AND WAUKESHA COUNTIES).	\$ 38.96	25.53
LABORER: 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, AND UTILITY MAN); BATCH TRUCK DUMPER OR CEMENT HANDLER; BITUMINOUS WORKER (DUMPER, IRONER, SMOOTHER, AND TAMPER); CONCRETE HANDLER		

(MILWAUKEE AND WAUKESHA COUNTIES).....	\$ 38.81	25.53

LABO0113-003 06/02/2025		
	Rates	Fringes
LABORER: GROUP 6 FLAGPERSON AND TRAFFIC CONTROL PERSON		

(OZAUKEE AND WASHINGTON COUNTIES).....	\$ 35.15	25.53
LABORER: GROUP 5 BLASTER; POWDERMAN		

(OZAUKEE AND WASHINGTON COUNTIES).....	\$ 38.26	25.53
LABORER: GROUP 4 LINE AND GRADE SPECIALIST		

(OZAUKEE AND WASHINGTON COUNTIES).....	\$ 38.41	25.53
LABORER: GROUP 3 BITUMINOUS WORKER (RAKER AND LUTEMAN); FORMSETTER (CURB, SIDEWALK, AND PAVEMENT); STRIKE OFF MAN		

(OZAUKEE AND WASHINGTON COUNTIES).	\$ 38.21	25.53
LABORER: GROUP 2 AIR TOOL OPERATOR; JOINT SAWER AND FILLER (PAVEMENT); VIBRATOR OR TAMPER OPERATOR (MECHANICAL HAND OPERATED); CHAIN SAW OPERATOR; DEMOLITION BURNING TORCH LABORER		

(OZAUKEE AND WASHINGTON COUNTIES).....	\$ 38.16	25.53
LABORER: 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, AND UTILITY MAN); BATCH TRUCK DUMPER OR CEMENT HANDLER; BITUMINOUS WORKER (DUMPER, IRONER, SMOOTHER, AND TAMPER); CONCRETE HANDLER		

(OZAUKEE AND WASHINGTON COUNTIES).....\$ 38.06 25.53

LABO0113-011 06/02/2025
Rates Fringes
LABORER: GROUP 6 FLAGMAN; TRAFFIC CONTROL PERSON

(KENOSHA AND RACINE
COUNTIES).....\$ 35.02 25.53
LABORER: GROUP 5 BLASTER AND POWDERMAN

(KENOSHA AND RACINE COUNTIES).....\$ 38.52 25.53
LABORER: GROUP 4 LINE AND GRADE SPECIALIST

(KENOSHA AND
RACINE COUNTIES).....\$ 38.19 25.53
LABORER: GROUP 3 BITUMINOUS WORKER (RAKER AND
LUTEMAN); FORMSETTER (CURB, SIDEWALK, AND
PAVEMENT); STRIKE OFF MAN

(KENOSHA AND RACINE COUNTIES)...\$ 38.22 25.53
LABORER: GROUP 2 AIR TOOL OPERATOR; JOINT SAWER AND
FILLER (PAVEMENT); VIBRATOR OR TAMPER OPERATOR
(MECHANICAL HAND OPERATED); CHAIN SAW OPERATOR;
DEMOLITION BURNING TORCH LABORER

(KENOSHA AND RACINE COUNTIES).....\$ 38.02 25.53
LABORER: 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, AND UTILITY
MAN); BATCH TRUCK DUMPER OR CEMENT HANDLER;
BITUMINOUS WORKER (DUMPER, IRONER, SMOOTHER, AND
TAMPER); CONCRETE HANDLER

(KENOSHA AND RACINE COUNTIES).....\$ 37.87 25.53

LABO0140-002 06/02/2025
Rates Fringes
LABORER GROUP 6 (ADAMS, ASHLAND, BARRON, BAYFIELD,

BROWN, BUFFALO, BURNETT, CALUMET, CHIPPEWA, CLARK, COLUMBIA, CRAWFORD, DODGE, DOOR, DOUGLAS, DUNN, EAU CLAIRE, FLORENCE, FOND DU LAC, FOREST, GRANT, GREEN, GREEN LAKE, IRON, JACKSON, JUNEAU, IOWA, JEFFERSON, KEWAUNEE, LA CROSSE, LAFAYETTE, LANGLADE, LINCOLN, MANITOWOC, MARATHON, MARINETTE, MARQUETTE, MENOMINEE, MONROE, OCONTO, ONEIDA, OUTAGAMIE, PEPIN, PIERCE, POLK, PORTAGE, PRICE, RICHLAND, ROCK, RUSK, SAUK, SAWYER, SHAWANO, SHEBOYGAN, ST. CRO.....\$ 40.40	19.97
LABORER GROUP 5 (ADAMS, ASHLAND, BARRON, BAYFIELD, BROWN, BUFFALO, BURNETT, CALUMET, CHIPPEWA, CLARK, COLUMBIA, CRAWFORD, DODGE, DOOR, DOUGLAS, DUNN, EAU CLAIRE, FLORENCE, FOND DU LAC, FOREST, GRANT, GREEN, GREEN LAKE, IRON, JACKSON, JUNEAU, IOWA, JEFFERSON, KEWAUNEE, LA CROSSE, LAFAYETTE, LANGLADE, LINCOLN, MANITOWOC, MARATHON, MARINETTE, MARQUETTE, MENOMINEE, MONROE, OCONTO, ONEIDA, OUTAGAMIE, PEPIN, PIERCE, POLK, PORTAGE, PRICE, RICHLAND, ROCK, RUSK, SAUK, SAWYER, SHAWANO, SHEBOYGAN, ST. CRO.....\$ 43.97	19.97
LABORER GROUP 4 (ADAMS, ASHLAND, BARRON, BAYFIELD, BROWN, BUFFALO, BURNETT, CALUMET, CHIPPEWA, CLARK, COLUMBIA, CRAWFORD, DODGE, DOOR, DOUGLAS, DUNN, EAU CLAIRE, FLORENCE, FOND DU LAC, FOREST, GRANT, GREEN, GREEN LAKE, IRON, JACKSON, JUNEAU, IOWA, JEFFERSON, KEWAUNEE, LA CROSSE, LAFAYETTE, LANGLADE, LINCOLN, MANITOWOC, MARATHON, MARINETTE, MARQUETTE, MENOMINEE, MONROE, OCONTO, ONEIDA, OUTAGAMIE, PEPIN, PIERCE, POLK, PORTAGE, PRICE, RICHLAND, ROCK, RUSK, SAUK, SAWYER, SHAWANO, SHEBOYGAN, ST. CRO.....\$ 44.12	19.97
LABORER GROUP 3 (ADAMS, ASHLAND, BARRON, BAYFIELD, BROWN, BUFFALO, BURNETT, CALUMET, CHIPPEWA, CLARK, COLUMBIA, CRAWFORD, DODGE, DOOR, DOUGLAS, DUNN, EAU CLAIRE, FLORENCE, FOND DU LAC, FOREST, GRANT, GREEN, GREEN LAKE, IRON, JACKSON, JUNEAU, IOWA, JEFFERSON, KEWAUNEE, LA CROSSE, LAFAYETTE, LANGLADE, LINCOLN, MANITOWOC, MARATHON, MARINETTE, MARQUETTE, MENOMINEE, MONROE, OCONTO, ONEIDA, OUTAGAMIE, PEPIN, PIERCE, POLK, PORTAGE, PRICE, RICHLAND, ROCK, RUSK, SAUK, SAWYER, SHAWANO, SHEBOYGAN, ST. CRO.....\$ 43.92	19.97
LABORER GROUP 2 (ADAMS, ASHLAND, BARRON, BAYFIELD, BROWN, BUFFALO, BURNETT, CALUMET, CHIPPEWA, CLARK, COLUMBIA, CRAWFORD, DODGE, DOOR, DOUGLAS, DUNN, EAU CLAIRE, FLORENCE, FOND DU LAC, FOREST, GRANT, GREEN, GREEN LAKE, IRON, JACKSON, JUNEAU, IOWA, JEFFERSON, KEWAUNEE, LA CROSSE, LAFAYETTE, LANGLADE, LINCOLN, MANITOWOC, MARATHON, MARINETTE, MARQUETTE, MENOMINEE, MONROE, OCONTO, ONEIDA, OUTAGAMIE, PEPIN, PIERCE, POLK, PORTAGE, PRICE, RICHLAND, ROCK, RUSK, SAUK, SAWYER, SHAWANO, SHEBOYGAN, ST. CRO.....\$ 43.87	19.97
LABORER GROUP 1 (ADAMS, ASHLAND, BARRON, BAYFIELD, BROWN, BUFFALO, BURNETT, CALUMET, CHIPPEWA, CLARK, COLUMBIA, CRAWFORD, DODGE, DOOR, DOUGLAS, DUNN, EAU CLAIRE, FLORENCE, FOND DU LAC, FOREST, GRANT, GREEN, GREEN LAKE, IRON, JACKSON, JUNEAU, IOWA, JEFFERSON, KEWAUNEE, LA CROSSE, LAFAYETTE, LANGLADE, LINCOLN, MANITOWOC, MARATHON, MARINETTE, MARQUETTE, MENOMINEE, MONROE, OCONTO, ONEIDA, OUTAGAMIE, PEPIN, PIERCE, POLK, PORTAGE, PRICE, RICHLAND, ROCK, RUSK, SAUK, SAWYER, SHAWANO, SHEBOYGAN, ST. CRO.....\$ 43.77	19.97

LAB00464-003 06/02/2025

	Rates	Fringes
LABORER: GROUP 6 FLAGPERSON AND TRAFFIC CONTROL PERSON		
(DANE COUNTY).....\$ 40.40		19.97
LABORER: GROUP 5 BLASTER; POWDERMAN		
(DANE COUNTY).....\$ 44.25		19.97
LABORER: GROUP 4 LINE AND GRADE SPECIALIST		
(DANE COUNTY).....\$ 44.40		19.97
LABORER: GROUP 3 BITUMINOUS WORKER (RAKER AND LUTEMAN); FORMSETTER (CURB, SIDEWALK, AND PAVEMENT); STRIKE OFF MAN		
(DANE COUNTY).....\$ 44.20		19.97
LABORER: GROUP 2 AIR TOOL OPERATOR; JOINT SAWER AND FILLER (PAVEMENT); VIBRATOR OR TAMPER OPERATOR (MECHANICAL HAND OPERATED); CHAIN SAW OPERATOR; DEMOLITION BURNING TORCH LABORER		
(DANE COUNTY).....\$ 44.15		19.97
LABORER: 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, AND UTILITY MAN); BATCH TRUCK DUMPER OR CEMENT HANDLER; BITUMINOUS WORKER (DUMPER, IRONER, SMOOTHER, AND TAMPER); CONCRETE HANDLER		
(DANE COUNTY).....\$ 44.05		19.97

PAIN0106-008 05/05/2025

	Rates	Fringes
PAINTERS: REPAINT: SPRAY, SANDBLAST, STEEL: ASHLAND, BAYFIELD, BURNETT, AND DOUGLAS COUNTIES....\$ 37.27		27.26
PAINTERS: REPAINT: BRUSH, ROLLER: ASHLAND, BAYFIELD, BURNETT, AND DOUGLAS COUNTIES.....\$ 36.67		27.26
PAINTERS: NEW: SPRAY, SANDBLAST, STEEL: ASHLAND, BAYFIELD, BURNETT, AND DOUGLAS COUNTIES.....\$ 38.77		27.26
PAINTERS: NEW: BRUSH, ROLLER: ASHLAND, BAYFIELD, BURNETT, AND DOUGLAS COUNTIES.....\$ 38.17		27.26

PAIN0108-002 06/01/2025		
	Rates	Fringes
PAINTERS: SPRAY & SANDBLAST (RACINE COUNTY).....	\$ 44.64	23.35
PAINTERS: BRUSH, ROLLER (RACINE COUNTY).....	\$ 43.64	23.35

PAIN0259-002 05/01/2008		
	Rates	Fringes
PAINTER (BARRON, CHIPPEWA, DUNN, EAU CLAIRE, PEPIN, PIERCE, POLK, RUSK, SAWYER, ST. CROIX, AND WASHBURN COUNTIES).....	\$ 24.11	12.15

PAIN0259-004 05/01/2015		
	Rates	Fringes
PAINTER (BUFFALO, CRAWFORD, JACKSON, LA CROSSE, MONROE, TREMPLEAU, AND VERNON COUNTIES).....	\$ 22.03	12.45

PAIN0781-002 06/01/2025		
	Rates	Fringes
PAINTERS: SPRAY & SANDBLAST (JEFFERSON, MILWAUKEE, OZAUKEE, WASHINGTON, AND WAUKESHA COUNTIES).....	\$ 43.19	24.87
PAINTERS: BRUSH (JEFFERSON, MILWAUKEE, OZAUKEE, WASHINGTON, AND WAUKESHA COUNTIES).....	\$ 42.44	24.87
PAINTERS: BRIDGE (JEFFERSON, MILWAUKEE, OZAUKEE, WASHINGTON, AND WAUKESHA COUNTIES).....	\$ 43.19	24.87

PAIN0802-002 06/01/2025		
	Rates	Fringes
PAINTER: BRUSH (COLUMBIA, DANE, DODGE, GRANT, GREEN, IOWA, LAFAYETTE, RICHLAND, ROCK, AND SAUK COUNTIES).....	\$ 37.65	21.17

PAIN0802-003 06/01/2025		
	Rates	Fringes
PAINTER (ADAMS, BROWN, CALUMET, CLARK, DOOR, FOND DU LAC, FOREST, GREEN LAKE, IRON, JUNEAU, KEWAUNEE, LANGLADE, LINCOLN, MANITOWOC, MARATHON, MARINETTE, MARQUETTE, MENOMINEE, OCONTO, ONEIDA, OUTAGAMIE, PORTAGE, PRICE, SHAWANO, SHEBOYGAN, TAYLOR, VILAS, WAUSHARA, WAUPACA, WINNEBAGO, AND WOOD COUNTIES)...	\$ 37.65	21.17

PAIN0934-001 06/01/2025		
	Rates	Fringes
PAINTERS: STRUCTURAL STEEL (KENOSHA AND WALWORTH COUNTIES).....	\$ 40.77	26.37
PAINTERS: SPRAY (KENOSHA AND WALWORTH COUNTIES).....	\$ 41.62	26.37
PAINTERS: BRUSH (KENOSHA AND WALWORTH COUNTIES).....	\$ 40.62	26.37

PAIN1011-002 06/01/2025		
	Rates	Fringes
PAINTERS: (FLORENCE COUNTY).....	\$ 31.17	15.92

PLAS0599-002 06/01/2025		
	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER: AREA D: MILWAUKEE, OZAUKEE, WASHINGTON, AND WAUKESHA COUNTIES.....	\$ 42.28	26.43
CEMENT MASON/CONCRETE FINISHER, AREA F: KENOSHA AND		

RACINE COUNTIES.....	\$ 37.33	31.38
CEMENT MASON/CONCRETE FINISHER, AREA E: DANE, GRANT, GREEN, IOWA, LAFAYETTE, AND ROCK COUNTIES....	\$ 41.16	27.54
CEMENT MASON/CONCRETE FINISHER AREA C: BUFFALO, CRAWFORD, EAU CLAIRE, JACKSON, JUNEAU, LA CROSSE, MONROE, PEPIN, PIERCE, RICHLAND, TREMPPEALEAU, AND VERNON COUNTIES	\$ 40.06	28.65
CEMENT MASON/CONCRETE FINISHER AREA A: ASHLAND, BURNETT, BAYFIELD, DOUGLAS, IRON, PRICE, SAWYER, AND WASHBURN COUNTIES.....	\$ 47.22	31.90

TEAM0039-001 06/01/2025

	Rates	Fringes
TRUCK DRIVER 3 OR MORE AXLES; EUCLIDS, DUMPTOR & ARTICULATED, TRUCK MECHANIC.....	\$ 39.72	28.70
TRUCK DRIVER 1 & 2 AXLES.....	\$ 39.57	28.70

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

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at <https://www.dol.gov/agencies/whd/government-contracts>.

Note: Executive Order 13658 generally applies to contracts subject to the Davis-Bacon Act that were awarded on or between January 1, 2015 and January 29, 2022, and that have not been renewed or extended on or after January 30, 2022. Executive Order 13658 does not apply to contracts subject only to the Davis-Bacon Related Acts regardless of when they were awarded. If a contract is subject to Executive Order 13658, the contractor must pay all covered workers at least \$13.65 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract from May 11, 2026, through December 31, 2026. The applicable Executive Order minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under Executive Order 13658 is available at www.dol.gov/whd/govcontracts.

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

The body of each wage determination lists the classifications and wage rates that have been found to be prevailing for the type(s) of construction and geographic area covered by the wage

determination. The classifications are listed in alphabetical order under rate identifiers indicating whether the particular rate is a union rate (current union negotiated rate), a survey rate, a weighted union average rate, a state adopted rate, or a supplemental classification rate.

Union Rate Identifiers

A four-letter identifier beginning with characters other than **◆SU◆**, **◆UAVG◆**, **◆SA◆**, or **◆SC◆** denotes that a union rate was prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2024. PLUM is an identifier of the union whose collectively bargained rate prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2024 in the example, is the effective date of the most current negotiated rate.

Union prevailing wage rates are updated to reflect all changes over time that are reported to WHD in the rates in the collective bargaining agreement (CBA) governing the classification.

Union Average Rate Identifiers

The UAVG identifier indicates that no single rate prevailed for those classifications, but that 100% of the data reported for the classifications reflected union rates. EXAMPLE: UAVG-OH-0010 01/01/2024. UAVG indicates that the rate is a weighted union average rate. OH indicates the State of Ohio. The next number, 0010 in the example, is an internal number used in producing the wage determination. The date, 01/01/2024 in the example, indicates the date the wage determination was updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

The **◆SU◆** identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the year of the survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier.

◆SU◆ wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

State Adopted Rate Identifiers

The **SA** identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the **SA** identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

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

- a) a survey underlying a wage determination
- b) an existing published wage determination
- c) an initial WHD letter setting forth a position on a wage determination matter
- d) an initial conformance (additional classification and rate) determination

On survey related matters, initial contact, including requests for summaries of surveys, should be directed to the WHD Branch of Wage Surveys. Requests can be submitted via email to davisbaconinfo@dol.gov or by mail to:

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

Regarding any other wage determination matter such as conformance decisions, requests for initial decisions should be directed to the WHD Branch of Construction Wage Determinations. Requests can be submitted via email to BCWD-Office@dol.gov or by mail to:

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

2) If an initial decision has been issued, then any interested party (those affected by the action) that disagrees with the decision can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Requests for review and reconsideration can be submitted via email to dba.reconsideration@dol.gov or by mail to:

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

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

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

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

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END OF GENERAL DECISION

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NOTICE TO BIDDERS WAGE RATE DECISION

The wage rate decision of the Department of Labor which has been incorporated in these advertised specifications is incomplete in that the classifications may be omitted from the Department 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.

If a project includes multiple types of construction (highway, bridge over navigable water, sanitary sewer and water main, building) and there is not a separate wage determination for this type of work included in the proposal, use the wage determination that is in the proposal.

If a project includes multiple types of construction, different wage rate determinations may be inserted into the contract (WI10/Highway = in all WisDOT highway contracts, WI15/Heavy = bridge over navigable water per USDOL and US Coast Guard designation, WI8/Heavy (Sewer & Water Line & Tunnel) = sanitary sewer and water main if the cost is more than 20% of the contract and/or at least \$1,000,000, and Building). If multiple wage rate determinations are inserted into the contract, use the classification in the wage determination for the work being done. Use WI15 wage rates when working on the bridge and/or structure from bank to bank. Use WI8 wage rates when working on any sanitary sewer or water main work. Use Building wage rates for all work done within the footprint of the building. Use WI10 wage rates for all other highway work in the contract and approaches to structures. For example, if a laborer is working within the footprint of a building, use the Laborer rate in the Building wage determination inserted in the contract. If a laborer is working on a bridge/structure within the banks, use the Laborer rate in the WI15/Heavy wage determination if inserted in the contract. If the laborer is working on the highway, use the Laborer rate in the WI10/Highway wage determination.



Proposal Schedule of Items

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Proposal ID: 20260714005 **Project(s):** 1130-65-71, 1130-65-72, 1130-65-73, 1130-65-74, 1130-65-78**Federal ID(s):** WISC 2026379, WISC 2026380, WISC 2026381, WISC 2026382, WISC 2026383**SECTION:** 0001

Contract Items

Alt Set ID:**Alt Mbr ID:**

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0002	201.0105 Clearing	92.000 STA	_____.	_____.
0004	201.0205 Grubbing	106.000 STA	_____.	_____.
0006	203.0100 Removing Small Pipe Culverts	2.000 EACH	_____.	_____.
0008	203.0220 Removing Structure (structure) 0001. B-44-129	1.000 EACH	_____.	_____.
0010	203.0220 Removing Structure (structure) 0002. B-44-130	1.000 EACH	_____.	_____.
0012	203.0220 Removing Structure (structure) 0030. C-44-30	1.000 EACH	_____.	_____.
0014	203.0220 Removing Structure (structure) 0128. B-44-0128	1.000 EACH	_____.	_____.
0016	203.0220 Removing Structure (structure) 0180. C-44-018	1.000 EACH	_____.	_____.
0018	204.0100 Removing Concrete Pavement	141,933.000 SY	_____.	_____.
0020	204.0110 Removing Asphaltic Surface	8,700.000 SY	_____.	_____.
0022	204.0120 Removing Asphaltic Surface Milling	1,098.000 SY	_____.	_____.
0024	204.0150 Removing Curb & Gutter	1,840.000 LF	_____.	_____.
0026	204.0155 Removing Concrete Sidewalk	240.000 SY	_____.	_____.
0028	204.0157 Removing Concrete Barrier	3,592.000 LF	_____.	_____.



Proposal Schedule of Items

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Proposal ID: 20260714005 **Project(s):** 1130-65-71, 1130-65-72, 1130-65-73, 1130-65-74, 1130-65-78**Federal ID(s):** WISC 2026379, WISC 2026380, WISC 2026381, WISC 2026382, WISC 2026383**SECTION:** 0001

Contract Items

Alt Set ID:**Alt Mbr ID:**

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0030	204.0165 Removing Guardrail	7,012.000 LF	_____.	_____.
0032	204.0167 Removing Cable Barrier	9,590.000 LF	_____.	_____.
0034	204.0170 Removing Fence	28,415.000 LF	_____.	_____.
0036	204.0180 Removing Delineators and Markers	148.000 EACH	_____.	_____.
0038	204.0195 Removing Concrete Bases	20.000 EACH	_____.	_____.
0040	204.0210 Removing Manholes	6.000 EACH	_____.	_____.
0042	204.0220 Removing Inlets	31.000 EACH	_____.	_____.
0044	204.0245 Removing Storm Sewer (size) 0001. 12-Inch	55.000 LF	_____.	_____.
0046	204.0245 Removing Storm Sewer (size) 0002. 15-Inch	816.000 LF	_____.	_____.
0048	204.0245 Removing Storm Sewer (size) 0003. 18-Inch	2,940.000 LF	_____.	_____.
0050	204.0245 Removing Storm Sewer (size) 0004. 24-Inch	683.000 LF	_____.	_____.
0052	204.0245 Removing Storm Sewer (size) 0005. 30-Inch	901.000 LF	_____.	_____.
0054	204.0245 Removing Storm Sewer (size) 0006. 36-Inch	515.000 LF	_____.	_____.



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Proposal ID: 20260714005 **Project(s):** 1130-65-71, 1130-65-72, 1130-65-73, 1130-65-74, 1130-65-78**Federal ID(s):** WISC 2026379, WISC 2026380, WISC 2026381, WISC 2026382, WISC 2026383**SECTION:** 0001

Contract Items

Alt Set ID:**Alt Mbr ID:**

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0056	204.0245 Removing Storm Sewer (size) 0007. 48-Inch	525.000 LF	_____.	_____.
0058	204.0270 Abandoning Culvert Pipes	1.000 EACH	_____.	_____.
0060	204.9060.S Removing (item description) 0001. Removing Anchor Bolt Cover Shroud	4.000 EACH	_____.	_____.
0062	204.9060.S Removing (item description) 0002. Removing Street Light Assembly	19.000 EACH	_____.	_____.
0064	204.9060.S Removing (item description) 0003. Removing Lighting Control	1.000 EACH	_____.	_____.
0066	204.9060.S Removing (item description) 0004. Removing Sign	6.000 EACH	_____.	_____.
0068	204.9060.S Removing (item description) 0103. Removing Apron Endwalls	3.000 EACH	_____.	_____.
0070	204.9060.S Removing (item description) 0701. Communication Vault	16.000 EACH	_____.	_____.
0072	204.9090.S Removing (item description) 0001. Removing Electrical Conductors From Existing Conduit	3,405.000 LF	_____.	_____.
0074	204.9090.S Removing (item description) 0002. Removing Or Abandoning Existing Conduit	3,405.000 LF	_____.	_____.
0076	205.0100 Excavation Common	790,780.000 CY	_____.	_____.
0078	206.1001 Excavation for Structures Bridges (structure) 0001. B-44-326	1.000 EACH	_____.	_____.



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Proposal ID: 20260714005 **Project(s):** 1130-65-71, 1130-65-72, 1130-65-73, 1130-65-74, 1130-65-78**Federal ID(s):** WISC 2026379, WISC 2026380, WISC 2026381, WISC 2026382, WISC 2026383**SECTION:** 0001 Contract Items**Alt Set ID:****Alt Mbr ID:**

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0080	206.1001 Excavation for Structures Bridges (structure) 0002. B-44-327	1.000 EACH	_____.	_____.
0082	206.1001 Excavation for Structures Bridges (structure) 0128. B-44-128	1.000 EACH	_____.	_____.
0084	206.2001 Excavation for Structures Culverts (structure) 0146. C-44-0146	1.000 EACH	_____.	_____.
0086	206.2001 Excavation for Structures Culverts (structure) 0147. C-44-0147	1.000 EACH	_____.	_____.
0088	206.3001 Excavation for Structures Retaining Walls (structure) 0070. R-44-0070	1.000 EACH	_____.	_____.
0090	206.3001 Excavation for Structures Retaining Walls (structure) 0071. R-44-0071	1.000 EACH	_____.	_____.
0092	209.0200.S Backfill Controlled Low Strength	73.000 CY	_____.	_____.
0094	210.1100 Backfill Structure Type A	860.000 CY	_____.	_____.
0096	210.1500 Backfill Structure Type A	2,645.000 TON	_____.	_____.
0098	210.2500 Backfill Structure Type B	3,350.000 TON	_____.	_____.
0100	213.0100 Finishing Roadway (project) 0001. 1130-65-71	1.000 EACH	_____.	_____.
0102	213.0100 Finishing Roadway (project) 0002. 1130-65-72	1.000 EACH	_____.	_____.
0104	213.0100 Finishing Roadway (project) 0003. 1130-65-73	1.000 EACH	_____.	_____.



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Proposal ID: 20260714005 **Project(s):** 1130-65-71, 1130-65-72, 1130-65-73, 1130-65-74, 1130-65-78**Federal ID(s):** WISC 2026379, WISC 2026380, WISC 2026381, WISC 2026382, WISC 2026383**SECTION:** 0001

Contract Items

Alt Set ID:**Alt Mbr ID:**

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0106	213.0100 Finishing Roadway (project) 0004. 1130-65-74	1.000 EACH	_____.	_____.
0108	213.0100 Finishing Roadway (project) 0005. 1130-65-78	1.000 EACH	_____.	_____.
0110	305.0110 Base Aggregate Dense 3/4-Inch	1,770.000 TON	_____.	_____.
0112	305.0120 Base Aggregate Dense 1 1/4-Inch	236,524.000 TON	_____.	_____.
0114	311.0110 Breaker Run	260.000 TON	_____.	_____.
0116	312.0110 Select Crushed Material	757,057.000 TON	_____.	_____.
0118	320.0105 Concrete Base 4-Inch	11,186.000 SY	_____.	_____.
0120	320.0140 Concrete Base 7 1/2-Inch	674.000 SY	_____.	_____.
0122	390.0100 Removing Pavement for Base Patching	300.000 CY	_____.	_____.
0124	390.0201 Base Patching Asphaltic	500.000 TON	_____.	_____.
0126	415.0090 Concrete Pavement 9-Inch	84,591.000 SY	_____.	_____.
0128	415.0410 Concrete Pavement Approach Slab	473.000 SY	_____.	_____.
0130	416.0610 Drilled Tie Bars	10,892.000 EACH	_____.	_____.
0132	416.0620 Drilled Dowel Bars	885.000 EACH	_____.	_____.
0134	455.0605 Tack Coat	6,406.000 GAL	_____.	_____.



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Proposal ID: 20260714005 **Project(s):** 1130-65-71, 1130-65-72, 1130-65-73, 1130-65-74, 1130-65-78**Federal ID(s):** WISC 2026379, WISC 2026380, WISC 2026381, WISC 2026382, WISC 2026383**SECTION:** 0001

Contract Items

Alt Set ID:**Alt Mbr ID:**

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0136	460.2000 Incentive Density HMA Pavement	3,320.000 DOL	1.00000	3,320.00
0138	460.5223 HMA Pavement 3 LT 58-28 S	2,258.000 TON	_____	_____
0140	460.5224 HMA Pavement 4 LT 58-28 S	2,791.000 TON	_____	_____
0142	460.6224 HMA Pavement 4 MT 58-28 S	76.000 TON	_____	_____
0144	465.0105 Asphaltic Surface	37,573.000 TON	_____	_____
0146	465.0125 Asphaltic Surface Temporary	95.000 TON	_____	_____
0148	495.1000.S Cold Patch	500.000 TON	_____	_____
0150	501.1000.S Ice Hot Weather Concreting	45,000.000 LB	_____	_____
0152	502.0100 Concrete Masonry Bridges	4,429.100 CY	_____	_____
0154	502.3101 Expansion Device	115.000 LF	_____	_____
0156	502.3111.S Expansion Device Modular	208.000 LF	_____	_____
0158	502.3200 Protective Surface Treatment	16,065.000 SY	_____	_____
0160	502.3210 Pigmented Surface Sealer	5,388.000 SY	_____	_____
0162	502.4206 Adhesive Anchors No. 6 Bar	34.000 EACH	_____	_____
0164	502.4209 Adhesive Anchors No. 9 Bar	9.000 EACH	_____	_____



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Proposal ID: 20260714005 **Project(s):** 1130-65-71, 1130-65-72, 1130-65-73, 1130-65-74, 1130-65-78**Federal ID(s):** WISC 2026379, WISC 2026380, WISC 2026381, WISC 2026382, WISC 2026383**SECTION:** 0001

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Alt Set ID:**Alt Mbr ID:**

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0166	503.0155 Prestressed Girder Type I 54W-Inch	8,674.000 LF	_____.	_____.
0168	504.0100 Concrete Masonry Culverts	22.000 CY	_____.	_____.
0170	504.0500 Concrete Masonry Retaining Walls	1,170.000 CY	_____.	_____.
0172	505.0400 Bar Steel Reinforcement HS Structures	194,790.000 LB	_____.	_____.
0174	505.0600 Bar Steel Reinforcement HS Coated Structures	2,159,010.000 LB	_____.	_____.
0176	505.0800.S Bar Steel Reinforcement HS Stainless Structures	16,400.000 LB	_____.	_____.
0178	506.0605 Structural Steel HS	4,253,000.000 LB	_____.	_____.
0180	506.2605 Bearing Pads Elastomeric Non-Laminated	52.000 EACH	_____.	_____.
0182	506.2610 Bearing Pads Elastomeric Laminated	16.000 EACH	_____.	_____.
0184	506.3020 Welded Stud Shear Connectors 7/8x7-Inch	33,243.000 EACH	_____.	_____.
0186	506.4000 Steel Diaphragms (structure) 0001. B-44-326	30.000 EACH	_____.	_____.
0188	506.4000 Steel Diaphragms (structure) 0002. B-44-327	80.000 EACH	_____.	_____.
0190	506.4000 Steel Diaphragms (structure) 0128. B-44-128	4.000 EACH	_____.	_____.



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Proposal ID: 20260714005 **Project(s):** 1130-65-71, 1130-65-72, 1130-65-73, 1130-65-74, 1130-65-78**Federal ID(s):** WISC 2026379, WISC 2026380, WISC 2026381, WISC 2026382, WISC 2026383**SECTION:** 0001

Contract Items

Alt Set ID:**Alt Mbr ID:**

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0192	506.5000 Bearing Assemblies Fixed (structure) 0001. B-44-327	12.000 EACH	_____.	_____.
0194	506.6000 Bearing Assemblies Expansion (structure) 0001. B-44-326	20.000 EACH	_____.	_____.
0196	506.6000 Bearing Assemblies Expansion (structure) 0002. B-44-327	120.000 EACH	_____.	_____.
0198	509.1500 Concrete Surface Repair	5.000 SF	_____.	_____.
0200	509.5100.S Polymer Overlay	14,398.000 SY	_____.	_____.
0202	511.1100 Temporary Shoring	2,530.000 SF	_____.	_____.
0204	511.1200 Temporary Shoring (structure) 0128. B-44-128	930.000 SF	_____.	_____.
0206	511.1200 Temporary Shoring (structure) 0147. C-44-147	1,000.000 SF	_____.	_____.
0208	513.2001 Railing Pipe	43.000 LF	_____.	_____.
0210	514.0445 Floor Drains Type GC	4.000 EACH	_____.	_____.
0212	514.0450 Floor Drains Type WF	7.000 EACH	_____.	_____.
0214	514.0460 Floor Drains Type H	11.000 EACH	_____.	_____.
0216	514.2608 Downspout 8-Inch	883.000 LF	_____.	_____.
0218	516.0100 Dampproofing	1,534.000 SY	_____.	_____.



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Proposal ID: 20260714005 **Project(s):** 1130-65-71, 1130-65-72, 1130-65-73, 1130-65-74, 1130-65-78**Federal ID(s):** WISC 2026379, WISC 2026380, WISC 2026381, WISC 2026382, WISC 2026383**SECTION:** 0001

Contract Items

Alt Set ID:**Alt Mbr ID:**

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0220	516.0500 Rubberized Membrane Waterproofing	150.000 SY	_____.	_____.
0222	517.0601 Painting Epoxy System (structure) 0001. B-44-326	1.000 EACH	_____.	_____.
0224	517.0601 Painting Epoxy System (structure) 0002. B-44-327	1.000 EACH	_____.	_____.
0226	517.1010.S Concrete Staining (structure) 0001. B-44-326	39,102.000 SF	_____.	_____.
0228	517.1010.S Concrete Staining (structure) 0002. B-44-327	101,315.000 SF	_____.	_____.
0230	517.1010.S Concrete Staining (structure) 0003. R-44-0042	17,130.000 SF	_____.	_____.
0232	517.1010.S Concrete Staining (structure) 0004. R-44-0045	7,810.000 SF	_____.	_____.
0234	517.1010.S Concrete Staining (structure) 0005. R-44-0047	960.000 SF	_____.	_____.
0236	517.1010.S Concrete Staining (structure) 0070. R-44-0070	762.000 SF	_____.	_____.
0238	517.1010.S Concrete Staining (structure) 0071. R-44-0071	808.000 SF	_____.	_____.
0240	517.1010.S Concrete Staining (structure) 0127. B-44-0127	5,425.000 SF	_____.	_____.
0242	517.1010.S Concrete Staining (structure) 0128. B-44-0128	5,830.000 SF	_____.	_____.



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Proposal ID: 20260714005 **Project(s):** 1130-65-71, 1130-65-72, 1130-65-73, 1130-65-74, 1130-65-78**Federal ID(s):** WISC 2026379, WISC 2026380, WISC 2026381, WISC 2026382, WISC 2026383**SECTION:** 0001

Contract Items

Alt Set ID:**Alt Mbr ID:**

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0244	520.8000 Concrete Collars for Pipe	14.000 EACH	_____.	_____.
0246	522.0130 Culvert Pipe Reinforced Concrete Class III 30-Inch	250.000 LF	_____.	_____.
0248	522.0136 Culvert Pipe Reinforced Concrete Class III 36-Inch	1,001.000 LF	_____.	_____.
0250	522.0418 Culvert Pipe Reinforced Concrete Class IV 18-Inch	51.000 LF	_____.	_____.
0252	522.0424 Culvert Pipe Reinforced Concrete Class IV 24-Inch	119.000 LF	_____.	_____.
0254	522.0436 Culvert Pipe Reinforced Concrete Class IV 36-Inch	236.000 LF	_____.	_____.
0256	522.0518 Culvert Pipe Reinforced Concrete Class V 18-Inch	25.000 LF	_____.	_____.
0258	522.0524 Culvert Pipe Reinforced Concrete Class V 24-Inch	24.000 LF	_____.	_____.
0260	522.0542 Culvert Pipe Reinforced Concrete Class V 42-Inch	34.000 LF	_____.	_____.
0262	522.1015 Apron Endwalls for Culvert Pipe Reinforced Concrete 15-Inch	5.000 EACH	_____.	_____.
0264	522.1018 Apron Endwalls for Culvert Pipe Reinforced Concrete 18-Inch	57.000 EACH	_____.	_____.
0266	522.1024 Apron Endwalls for Culvert Pipe Reinforced Concrete 24-Inch	22.000 EACH	_____.	_____.



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Alt Set ID:**Alt Mbr ID:**

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0268	522.1030 Apron Endwalls for Culvert Pipe Reinforced Concrete 30-Inch	7.000 EACH	_____.	_____.
0270	522.1036 Apron Endwalls for Culvert Pipe Reinforced Concrete 36-Inch	13.000 EACH	_____.	_____.
0272	522.1042 Apron Endwalls for Culvert Pipe Reinforced Concrete 42-Inch	2.000 EACH	_____.	_____.
0274	522.1048 Apron Endwalls for Culvert Pipe Reinforced Concrete 48-Inch	5.000 EACH	_____.	_____.
0276	522.2338 Culvert Pipe Reinforced Concrete Horizontal Elliptical Class HE-III 38x60-Inch	80.000 LF	_____.	_____.
0278	522.2419 Culvert Pipe Reinforced Concrete Horizontal Elliptical Class HE-IV 19x30-Inch	113.000 LF	_____.	_____.
0280	522.2424 Culvert Pipe Reinforced Concrete Horizontal Elliptical Class HE-IV 24x38-Inch	250.000 LF	_____.	_____.
0282	522.2434 Culvert Pipe Reinforced Concrete Horizontal Elliptical Class HE-IV 34x53-Inch	17.000 LF	_____.	_____.
0284	522.2619 Apron Endwalls for Culvert Pipe Reinforced Concrete Horizontal Elliptical 19x30-Inch	6.000 EACH	_____.	_____.
0286	522.2624 Apron Endwalls for Culvert Pipe Reinforced Concrete Horizontal Elliptical 24x38-Inch	3.000 EACH	_____.	_____.



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Proposal ID: 20260714005 **Project(s):** 1130-65-71, 1130-65-72, 1130-65-73, 1130-65-74, 1130-65-78**Federal ID(s):** WISC 2026379, WISC 2026380, WISC 2026381, WISC 2026382, WISC 2026383**SECTION:** 0001

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Alt Set ID:**Alt Mbr ID:**

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0288	522.2634 Apron Endwalls for Culvert Pipe Reinforced Concrete Horizontal Elliptical 34x53-Inch	2.000 EACH	_____.	_____.
0290	522.2638 Apron Endwalls for Culvert Pipe Reinforced Concrete Horizontal Elliptical 38x60-Inch	2.000 EACH	_____.	_____.
0292	531.1100 Concrete Masonry Ancillary Structures Type NS	212.200 CY	_____.	_____.
0294	531.1140 Steel Reinforcement HS Ancillary Structures Type NS	18,943.000 LB	_____.	_____.
0296	531.1160 Steel Reinforcement HS Coated Ancillary Structures Type NS	11,900.000 LB	_____.	_____.
0298	531.2024 Drilling Shaft 24-Inch	201.000 LF	_____.	_____.
0300	531.2036 Drilling Shaft 36-Inch	646.000 LF	_____.	_____.
0302	531.2042 Drilling Shaft 42-Inch	322.000 LF	_____.	_____.
0304	531.2048 Drilling Shaft 48-Inch	138.000 LF	_____.	_____.
0306	531.2054 Drilling Shaft 54-Inch	14.000 LF	_____.	_____.
0308	531.4050 Foundation Camera Pole 50-FT	1.000 EACH	_____.	_____.
0310	531.4080 Foundation Camera Pole 80-FT	1.000 EACH	_____.	_____.
0312	531.5030 Foundation Two-Shaft Butterfly Type B-1 (structure) 0380. S-44-0380	1.000 EACH	_____.	_____.



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Alt Set ID:**Alt Mbr ID:**

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0314	531.5330 Foundation Single-Shaft Type TC-III (structure) 0372. S-44-0372	1.000 EACH	_____.	_____.
0316	531.5330 Foundation Single-Shaft Type TC-III (structure) 0375. S-44-0375	1.000 EACH	_____.	_____.
0318	531.6010 Foundation Two-Shaft Type FC-I (structure) 0378. S-44-0378	1.000 EACH	_____.	_____.
0320	531.6010 Foundation Two-Shaft Type FC-I (structure) 0409. S-44-0409	1.000 EACH	_____.	_____.
0322	531.6110 Foundation Two-Shaft Type FF-I (structure) 0374. S-44-0374	1.000 EACH	_____.	_____.
0324	531.6110 Foundation Two-Shaft Type FF-I (structure) 0376. S-44-0376	1.000 EACH	_____.	_____.
0326	531.6110 Foundation Two-Shaft Type FF-I (structure) 0407. S-44-0407	1.000 EACH	_____.	_____.
0328	531.6110 Foundation Two-Shaft Type FF-I (structure) 0408. S-44-0408	2.000 EACH	_____.	_____.
0330	531.6120 Foundation Two-Shaft Type FF-II (structure) 0368. S-44-0368	2.000 EACH	_____.	_____.
0332	531.6120 Foundation Two-Shaft Type FF-II (structure) 0405. S-44-0405	2.000 EACH	_____.	_____.
0334	531.6120 Foundation Two-Shaft Type FF-II (structure) 0406. S-44-0406	2.000 EACH	_____.	_____.
0336	531.6130 Foundation Two-Shaft Type FF-III (structure) 0365. S-44-0365	2.000 EACH	_____.	_____.



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Alt Set ID:**Alt Mbr ID:**

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0338	531.6130 Foundation Two-Shaft Type FF-III (structure) 0366. S-44-0366	2.000 EACH	_____.	_____.
0340	531.6130 Foundation Two-Shaft Type FF-III (structure) 0379. S-44-0379	2.000 EACH	_____.	_____.
0342	531.8990 Anchor Assemblies Poles on Structures	24.000 EACH	_____.	_____.
0344	532.5030 Butterfly 2-Chord Type 1 (structure) 0380. S-44-0380	1.000 EACH	_____.	_____.
0346	532.5330 Truss Cantilever 2-Chord Type III (structure) 0372. S-44-0372	1.000 EACH	_____.	_____.
0348	532.5330 Truss Cantilever 2-Chord Type III (structure) 0375. S-44-0375	1.000 EACH	_____.	_____.
0350	532.6010 Truss Cantilever 4-Chord Type I (structure) 0378. S-44-0378	1.000 EACH	_____.	_____.
0352	532.6010 Truss Cantilever 4-Chord Type I (structure) 0409. S-44-0409	1.000 EACH	_____.	_____.
0354	532.6110 Truss Full Span 4-Chord Type I (structure) 0374. S-44-0374	1.000 EACH	_____.	_____.
0356	532.6110 Truss Full Span 4-Chord Type I (structure) 0376. S-44-0376	1.000 EACH	_____.	_____.
0358	532.6110 Truss Full Span 4-Chord Type I (structure) 0407. S-44-0407	1.000 EACH	_____.	_____.
0360	532.6110 Truss Full Span 4-Chord Type I (structure) 0408. S-44-0408	1.000 EACH	_____.	_____.



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Alt Set ID:**Alt Mbr ID:**

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0362	532.6120 Truss Full Span 4-Chord Type II (structure) 0368. S-44-0368	1.000 EACH	_____.	_____.
0364	532.6120 Truss Full Span 4-Chord Type II (structure) 0379. S-44-0379	1.000 EACH	_____.	_____.
0366	532.6120 Truss Full Span 4-Chord Type II (structure) 0405. S-44-0405	1.000 EACH	_____.	_____.
0368	532.6120 Truss Full Span 4-Chord Type II (structure) 0406. S-44-0406	1.000 EACH	_____.	_____.
0370	532.6130 Truss Full Span 4-Chord Type III (structure) 0365. S-44-0365	1.000 EACH	_____.	_____.
0372	532.6130 Truss Full Span 4-Chord Type III (structure) 0366. S-44-0366	1.000 EACH	_____.	_____.
0374	532.6130 Truss Full Span 4-Chord Type III (structure) 0377. S-44-0377	1.000 EACH	_____.	_____.
0376	541.0300.S Noise Barriers Double-Sided Sound Absorptive (structure) 0017. N-44-0017	88,420.000 SF	_____.	_____.
0378	550.0500 Pile Points	16.000 EACH	_____.	_____.
0380	550.1120 Piling Steel HP 12-Inch X 53 Lb	1,040.000 LF	_____.	_____.
0382	550.2148 Piling CIP Concrete 14 X 0.50-Inch	35,655.000 LF	_____.	_____.
0384	601.0405 Concrete Curb & Gutter 18-Inch Type A	480.000 LF	_____.	_____.
0386	601.0409 Concrete Curb & Gutter 30-Inch Type A	257.000 LF	_____.	_____.



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Proposal ID: 20260714005 **Project(s):** 1130-65-71, 1130-65-72, 1130-65-73, 1130-65-74, 1130-65-78**Federal ID(s):** WISC 2026379, WISC 2026380, WISC 2026381, WISC 2026382, WISC 2026383**SECTION:** 0001

Contract Items

Alt Set ID:**Alt Mbr ID:**

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0388	602.0405 Concrete Sidewalk 4-Inch	2,485.000 SF	_____.	_____.
0390	602.3010 Concrete Surface Drains	2.000 CY	_____.	_____.
0392	602.3210 Concrete Rumble Strips, Shoulder Divided Roadway	84,010.000 LF	_____.	_____.
0394	603.0105 Concrete Barrier Single-Faced 32-Inch	765.000 LF	_____.	_____.
0396	603.1242 Concrete Barrier Type S42A	293.000 LF	_____.	_____.
0398	603.1442 Concrete Barrier Type S42C	84.000 LF	_____.	_____.
0400	603.3113 Concrete Barrier Transition Type NJ32SF to S36	6.000 EACH	_____.	_____.
0402	603.3513 Concrete Barrier Transition Type S32 to S36	16.000 EACH	_____.	_____.
0404	603.3535 Concrete Barrier Transition Type S36 to S42	20.000 EACH	_____.	_____.
0406	603.3559 Concrete Barrier Transition Type S42 to S56	20.000 EACH	_____.	_____.
0408	603.8000 Concrete Barrier Temporary Precast Delivered	245,421.000 LF	_____.	_____.
0410	603.8125 Concrete Barrier Temporary Precast Installed	246,141.000 LF	_____.	_____.
0412	603.8500 Anchoring Concrete Barrier Temporary Precast	69,448.000 LF	_____.	_____.



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Proposal ID: 20260714005 **Project(s):** 1130-65-71, 1130-65-72, 1130-65-73, 1130-65-74, 1130-65-78**Federal ID(s):** WISC 2026379, WISC 2026380, WISC 2026381, WISC 2026382, WISC 2026383**SECTION:** 0001

Contract Items

Alt Set ID:**Alt Mbr ID:**

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0414	603.8505 Anchoring Concrete Barrier Temporary Precast on Bridge Decks	237.000 LF	_____.	_____.
0416	604.0400 Slope Paving Concrete	14.000 SY	_____.	_____.
0418	604.0600 Slope Paving Select Crushed Material	891.000 SY	_____.	_____.
0420	606.0100 Riprap Light	5,684.000 CY	_____.	_____.
0422	606.0200 Riprap Medium	1,290.000 CY	_____.	_____.
0424	606.0300 Riprap Heavy	56.000 CY	_____.	_____.
0426	608.0315 Storm Sewer Pipe Reinforced Concrete Class III 15-Inch	613.000 LF	_____.	_____.
0428	608.0318 Storm Sewer Pipe Reinforced Concrete Class III 18-Inch	2,510.000 LF	_____.	_____.
0430	608.0324 Storm Sewer Pipe Reinforced Concrete Class III 24-Inch	7,080.000 LF	_____.	_____.
0432	608.0330 Storm Sewer Pipe Reinforced Concrete Class III 30-Inch	850.000 LF	_____.	_____.
0434	608.0336 Storm Sewer Pipe Reinforced Concrete Class III 36-Inch	910.000 LF	_____.	_____.
0436	608.0415 Storm Sewer Pipe Reinforced Concrete Class IV 15-Inch	56.000 LF	_____.	_____.
0438	608.0418 Storm Sewer Pipe Reinforced Concrete Class IV 18-Inch	5,687.000 LF	_____.	_____.



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Proposal ID: 20260714005 **Project(s):** 1130-65-71, 1130-65-72, 1130-65-73, 1130-65-74, 1130-65-78**Federal ID(s):** WISC 2026379, WISC 2026380, WISC 2026381, WISC 2026382, WISC 2026383**SECTION:** 0001

Contract Items

Alt Set ID:**Alt Mbr ID:**

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0440	608.0424 Storm Sewer Pipe Reinforced Concrete Class IV 24-Inch	11,666.000 LF	_____.	_____.
0442	608.0430 Storm Sewer Pipe Reinforced Concrete Class IV 30-Inch	1,657.000 LF	_____.	_____.
0444	608.0436 Storm Sewer Pipe Reinforced Concrete Class IV 36-Inch	1,151.000 LF	_____.	_____.
0446	608.0442 Storm Sewer Pipe Reinforced Concrete Class IV 42-Inch	500.000 LF	_____.	_____.
0448	608.0448 Storm Sewer Pipe Reinforced Concrete Class IV 48-Inch	516.000 LF	_____.	_____.
0450	608.0524 Storm Sewer Pipe Reinforced Concrete Class V 24-Inch	8.000 LF	_____.	_____.
0452	608.2419 Storm Sewer Pipe Reinforced Concrete Horizontal Elliptical Class HE-IV 19x30-Inch	1,026.000 LF	_____.	_____.
0454	608.2424 Storm Sewer Pipe Reinforced Concrete Horizontal Elliptical Class HE-IV 24x38-Inch	1,208.000 LF	_____.	_____.
0456	611.0430 Reconstructing Inlets	2.000 EACH	_____.	_____.
0458	611.0530 Manhole Covers Type J	4.000 EACH	_____.	_____.
0460	611.0535 Manhole Covers Type J-Special	38.000 EACH	_____.	_____.
0462	611.0606 Inlet Covers Type B	1.000 EACH	_____.	_____.
0464	611.0624 Inlet Covers Type H	2.000 EACH	_____.	_____.



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Proposal ID: 20260714005 **Project(s):** 1130-65-71, 1130-65-72, 1130-65-73, 1130-65-74, 1130-65-78**Federal ID(s):** WISC 2026379, WISC 2026380, WISC 2026381, WISC 2026382, WISC 2026383**SECTION:** 0001

Contract Items

Alt Set ID:**Alt Mbr ID:**

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0466	611.0642 Inlet Covers Type MS	22.000 EACH	_____.	_____.
0468	611.0654 Inlet Covers Type V	8.000 EACH	_____.	_____.
0470	611.0656 Inlet Covers Type VV-B	394.000 EACH	_____.	_____.
0472	611.2004 Manholes 4-FT Diameter	22.000 EACH	_____.	_____.
0474	611.2005 Manholes 5-FT Diameter	332.000 EACH	_____.	_____.
0476	611.2006 Manholes 6-FT Diameter	24.000 EACH	_____.	_____.
0478	611.2007 Manholes 7-FT Diameter	3.000 EACH	_____.	_____.
0480	611.2008 Manholes 8-FT Diameter	4.000 EACH	_____.	_____.
0482	611.2009 Manholes 9-FT Diameter	1.000 EACH	_____.	_____.
0484	611.2044 Manholes 4x4-FT	10.000 EACH	_____.	_____.
0486	611.2055 Manholes 5x5-FT	3.000 EACH	_____.	_____.
0488	611.3003 Inlets 3-FT Diameter	5.000 EACH	_____.	_____.
0490	611.3004 Inlets 4-FT Diameter	1.000 EACH	_____.	_____.
0492	611.3225 Inlets 2x2.5-FT	8.000 EACH	_____.	_____.
0494	611.3260 Inlets 2x3.5-FT	36.000 EACH	_____.	_____.



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Proposal ID: 20260714005 **Project(s):** 1130-65-71, 1130-65-72, 1130-65-73, 1130-65-74, 1130-65-78**Federal ID(s):** WISC 2026379, WISC 2026380, WISC 2026381, WISC 2026382, WISC 2026383**SECTION:** 0001

Contract Items

Alt Set ID:**Alt Mbr ID:**

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0496	611.3901 Inlets Median 1 Grate	8.000 EACH	_____.	_____.
0498	611.3902 Inlets Median 2 Grate	7.000 EACH	_____.	_____.
0500	611.8115 Adjusting Inlet Covers	3.000 EACH	_____.	_____.
0502	611.8120.S Cover Plates Temporary	59.000 EACH	_____.	_____.
0504	612.0206 Pipe Underdrain Unperforated 6-Inch	190.000 LF	_____.	_____.
0506	612.0406 Pipe Underdrain Wrapped 6-Inch	527.000 LF	_____.	_____.
0508	612.0806 Apron Endwalls for Underdrain Reinforced Concrete 6-Inch	1.000 EACH	_____.	_____.
0510	614.0150 Anchor Assemblies for Steel Plate Beam Guard	1.000 EACH	_____.	_____.
0512	614.0397 Guardrail Mow Strip Emulsified Asphalt	649.000 SY	_____.	_____.
0514	614.0800 Crash Cushions Permanent	9.000 EACH	_____.	_____.
0516	614.0905 Crash Cushions Temporary	79.000 EACH	_____.	_____.
0518	614.2300 MGS Guardrail 3	462.500 LF	_____.	_____.
0520	614.2500 MGS Thrie Beam Transition	394.000 LF	_____.	_____.
0522	614.2610 MGS Guardrail Terminal EAT	10.000 EACH	_____.	_____.
0524	616.0206 Fence Chain Link 6-FT	25,431.000 LF	_____.	_____.



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Proposal ID: 20260714005 **Project(s):** 1130-65-71, 1130-65-72, 1130-65-73, 1130-65-74, 1130-65-78**Federal ID(s):** WISC 2026379, WISC 2026380, WISC 2026381, WISC 2026382, WISC 2026383**SECTION:** 0001

Contract Items

Alt Set ID:**Alt Mbr ID:**

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0526	616.0329 Gates Chain Link (width) 0001. 12-FT	1.000 EACH	_____.	_____.
0528	616.0700.S Fence Safety	5,000.000 LF	_____.	_____.
0530	618.0100 Maintenance and Repair of Haul Roads (project) 0001. 1130-65-71	1.000 EACH	_____.	_____.
0532	618.0100 Maintenance and Repair of Haul Roads (project) 0002. 1130-65-72	1.000 EACH	_____.	_____.
0534	618.0100 Maintenance and Repair of Haul Roads (project) 0003. 1130-65-73	1.000 EACH	_____.	_____.
0536	618.0100 Maintenance and Repair of Haul Roads (project) 0004. 1130-65-74	1.000 EACH	_____.	_____.
0538	618.0100 Maintenance and Repair of Haul Roads (project) 0005. 1130-65-78	1.000 EACH	_____.	_____.
0540	619.1000 Mobilization	1.000 EACH	_____.	_____.
0542	620.0300 Concrete Median Sloped Nose	27.000 SF	_____.	_____.
0544	623.0200 Dust Control Surface Treatment	612,952.000 SY	_____.	_____.
0546	624.0100 Water	3,374.000 MGAL	_____.	_____.
0548	625.0500 Salvaged Topsoil	1,705,561.000 SY	_____.	_____.
0550	627.0200 Mulching	7,388.000 SY	_____.	_____.
0552	628.1504 Silt Fence	18,299.000 LF	_____.	_____.



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Proposal ID: 20260714005 **Project(s):** 1130-65-71, 1130-65-72, 1130-65-73, 1130-65-74, 1130-65-78**Federal ID(s):** WISC 2026379, WISC 2026380, WISC 2026381, WISC 2026382, WISC 2026383**SECTION:** 0001

Contract Items

Alt Set ID:**Alt Mbr ID:**

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0554	628.1520 Silt Fence Maintenance	83,109.000 LF	_____	_____
0556	628.1905 Mobilizations Erosion Control	132.000 EACH	_____	_____
0558	628.1910 Mobilizations Emergency Erosion Control	130.000 EACH	_____	_____
0560	628.2004 Erosion Mat Class I Type B	447,888.000 SY	_____	_____
0562	628.2008 Erosion Mat Urban Class I Type B	43,960.000 SY	_____	_____
0564	628.2027 Erosion Mat Class II Type C	5,570.000 SY	_____	_____
0566	628.2037 Erosion Mat Class III Type C	15.000 SY	_____	_____
0568	628.7005 Inlet Protection Type A	570.000 EACH	_____	_____
0570	628.7010 Inlet Protection Type B	634.000 EACH	_____	_____
0572	628.7015 Inlet Protection Type C	5.000 EACH	_____	_____
0574	628.7504 Temporary Ditch Checks	5,582.000 LF	_____	_____
0576	628.7555 Culvert Pipe Checks	311.000 EACH	_____	_____
0578	628.7560 Tracking Pads	26.000 EACH	_____	_____
0580	628.7570 Rock Bags	608.000 EACH	_____	_____
0582	629.0210 Fertilizer Type B	2,852.000 CWT	_____	_____



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Proposal ID: 20260714005 **Project(s):** 1130-65-71, 1130-65-72, 1130-65-73, 1130-65-74, 1130-65-78**Federal ID(s):** WISC 2026379, WISC 2026380, WISC 2026381, WISC 2026382, WISC 2026383**SECTION:** 0001

Contract Items

Alt Set ID:**Alt Mbr ID:**

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0584	630.0120 Seeding Mixture No. 20	200.000 LB	_____.	_____.
0586	630.0130 Seeding Mixture No. 30	28,004.000 LB	_____.	_____.
0588	630.0500 Seed Water	11,364.000 MGAL	_____.	_____.
0590	633.1000 Delineators Barrier Wall	843.000 EACH	_____.	_____.
0592	634.0614 Posts Wood 4x6-Inch X 14-FT	1.000 EACH	_____.	_____.
0594	634.0616 Posts Wood 4x6-Inch X 16-FT	48.000 EACH	_____.	_____.
0596	634.0618 Posts Wood 4x6-Inch X 18-FT	16.000 EACH	_____.	_____.
0598	635.0200 Sign Supports Structural Steel HS	13,700.000 LB	_____.	_____.
0600	637.1220 Signs Type I Reflective SH	6,640.000 SF	_____.	_____.
0602	637.2210 Signs Type II Reflective H	661.500 SF	_____.	_____.
0604	637.2230 Signs Type II Reflective F	162.000 SF	_____.	_____.
0606	638.2102 Moving Signs Type II	19.000 EACH	_____.	_____.
0608	638.2601 Removing Signs Type I	18.000 EACH	_____.	_____.
0610	638.2602 Removing Signs Type II	140.000 EACH	_____.	_____.
0612	638.3000 Removing Small Sign Supports	176.000 EACH	_____.	_____.



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Proposal ID: 20260714005 **Project(s):** 1130-65-71, 1130-65-72, 1130-65-73, 1130-65-74, 1130-65-78**Federal ID(s):** WISC 2026379, WISC 2026380, WISC 2026381, WISC 2026382, WISC 2026383**SECTION:** 0001

Contract Items

Alt Set ID:**Alt Mbr ID:**

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0614	638.3100 Removing Structural Steel Sign Supports	18.000 EACH	_____.	_____.
0616	638.4000 Moving Small Sign Supports	15.000 EACH	_____.	_____.
0618	640.1303.S Pond Liner Clay	31,375.000 CY	_____.	_____.
0620	643.0300 Traffic Control Drums	600,925.000 DAY	_____.	_____.
0622	643.0320.S Temporary Tape Rumble Strip Orange	1,296.000 LF	_____.	_____.
0624	643.0420 Traffic Control Barricades Type III	53,187.000 DAY	_____.	_____.
0626	643.0705 Traffic Control Warning Lights Type A	106,375.000 DAY	_____.	_____.
0628	643.0715 Traffic Control Warning Lights Type C	103,997.000 DAY	_____.	_____.
0630	643.0810 Traffic Control Connected Arrow Boards	2,700.000 DAY	_____.	_____.
0632	643.0900 Traffic Control Signs	171,644.000 DAY	_____.	_____.
0634	643.0910 Traffic Control Covering Signs Type I	35.000 EACH	_____.	_____.
0636	643.0920 Traffic Control Covering Signs Type II	18.000 EACH	_____.	_____.
0638	643.1000 Traffic Control Signs Fixed Message	1,547.000 SF	_____.	_____.
0640	643.1050 Traffic Control Signs PCMS	2,811.000 DAY	_____.	_____.
0642	643.1220 Traffic Control Connected Work Zone Start and End Location Markers	9,040.000 DAY	_____.	_____.



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Proposal ID: 20260714005 **Project(s):** 1130-65-71, 1130-65-72, 1130-65-73, 1130-65-74, 1130-65-78**Federal ID(s):** WISC 2026379, WISC 2026380, WISC 2026381, WISC 2026382, WISC 2026383**SECTION:** 0001

Contract Items

Alt Set ID:**Alt Mbr ID:**

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0644	643.3165 Temporary Marking Line Paint 6-Inch	342,056.000 LF	_____.	_____.
0646	643.3170 Temporary Marking Line Epoxy 6-Inch	219,698.000 LF	_____.	_____.
0648	643.3180 Temporary Marking Line Removable Tape 6-Inch	56,053.000 LF	_____.	_____.
0650	643.3265 Temporary Marking Line Paint 10-Inch	25,520.000 LF	_____.	_____.
0652	643.3270 Temporary Marking Line Epoxy 10-Inch	22,018.000 LF	_____.	_____.
0654	643.3280 Temporary Marking Line Removable Tape 10-Inch	9,257.000 LF	_____.	_____.
0656	643.3760 Temporary Marking Raised Pavement Marker Type I	963.000 EACH	_____.	_____.
0658	643.5000 Traffic Control	1.000 EACH	_____.	_____.
0660	645.0105 Geotextile Type C	450.000 SY	_____.	_____.
0662	645.0111 Geotextile Type DF Schedule A	267.000 SY	_____.	_____.
0664	645.0120 Geotextile Type HR	2,486.000 SY	_____.	_____.
0666	645.0130 Geotextile Type R	11,089.000 SY	_____.	_____.
0668	645.0140 Geotextile Type SAS	68,690.000 SY	_____.	_____.
0670	646.2020 Marking Line Epoxy 6-Inch	709.000 LF	_____.	_____.



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Proposal ID: 20260714005 **Project(s):** 1130-65-71, 1130-65-72, 1130-65-73, 1130-65-74, 1130-65-78**Federal ID(s):** WISC 2026379, WISC 2026380, WISC 2026381, WISC 2026382, WISC 2026383**SECTION:** 0001

Contract Items

Alt Set ID:**Alt Mbr ID:**

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0672	646.2040 Marking Line Grooved Wet Ref Epoxy 6-Inch	187,774.000 LF	_____.	_____.
0674	646.4020 Marking Line Epoxy 10-Inch	708.000 LF	_____.	_____.
0676	646.4040 Marking Line Grooved Wet Ref Epoxy 10-Inch	30,529.000 LF	_____.	_____.
0678	646.5020 Marking Arrow Epoxy	15.000 EACH	_____.	_____.
0680	646.5120 Marking Word Epoxy	4.000 EACH	_____.	_____.
0682	646.6120 Marking Stop Line Epoxy 18-Inch	115.000 LF	_____.	_____.
0684	646.6220 Marking Yield Line Epoxy 18-Inch	6.000 EACH	_____.	_____.
0686	646.7220 Marking Chevron Epoxy 24-Inch	1,407.000 LF	_____.	_____.
0688	646.8105 Marking Curb Paint	10.000 LF	_____.	_____.
0690	646.8205 Marking Island Nose Paint	1.000 EACH	_____.	_____.
0692	646.9000 Marking Removal Line 4-Inch	3,934.000 LF	_____.	_____.
0694	646.9002 Marking Removal Line 6-Inch	67,208.000 LF	_____.	_____.
0696	646.9102 Marking Removal Line 10-Inch	424.000 LF	_____.	_____.
0698	646.9300 Marking Removal Special Marking	2.000 EACH	_____.	_____.
0700	652.0125 Conduit Rigid Metallic 2-Inch	226.000 LF	_____.	_____.



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Proposal ID: 20260714005 **Project(s):** 1130-65-71, 1130-65-72, 1130-65-73, 1130-65-74, 1130-65-78**Federal ID(s):** WISC 2026379, WISC 2026380, WISC 2026381, WISC 2026382, WISC 2026383**SECTION:** 0001

Contract Items

Alt Set ID:**Alt Mbr ID:**

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0702	652.0225 Conduit Rigid Nonmetallic Schedule 40 2-Inch	52,656.000 LF	_____.	_____.
0704	652.0235 Conduit Rigid Nonmetallic Schedule 40 3-Inch	8,308.000 LF	_____.	_____.
0706	652.0325 Conduit Rigid Nonmetallic Schedule 80 2-Inch	5.000 LF	_____.	_____.
0708	652.0335 Conduit Rigid Nonmetallic Schedule 80 3-Inch	990.000 LF	_____.	_____.
0710	652.0615 Conduit Special 3-Inch	128.000 LF	_____.	_____.
0712	652.0700.S Install Conduit into Existing Item	15.000 EACH	_____.	_____.
0714	652.0800 Conduit Loop Detector	204.000 LF	_____.	_____.
0716	653.0154 Pull Boxes Non-Conductive 24x36-Inch	9.000 EACH	_____.	_____.
0718	653.0164 Pull Boxes Non-Conductive 24x42-Inch	57.000 EACH	_____.	_____.
0720	653.0222 Junction Boxes 18x12x6-Inch	33.000 EACH	_____.	_____.
0722	653.0905 Removing Pull Boxes	8.000 EACH	_____.	_____.
0724	654.0102 Concrete Bases Type 2	1.000 EACH	_____.	_____.
0726	654.0105 Concrete Bases Type 5	11.000 EACH	_____.	_____.
0728	654.0107 Concrete Bases Type 7	63.000 EACH	_____.	_____.



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Contract Items

Alt Set ID:**Alt Mbr ID:**

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0730	654.0230 Concrete Control Cabinet Bases Type L30	2.000 EACH	_____.	_____.
0732	655.0230 Cable Traffic Signal 5-14 AWG	138.000 LF	_____.	_____.
0734	655.0260 Cable Traffic Signal 12-14 AWG	263.000 LF	_____.	_____.
0736	655.0305 Cable Type UF 2-12 AWG Grounded	263.000 LF	_____.	_____.
0738	655.0515 Electrical Wire Traffic Signals 10 AWG	319.000 LF	_____.	_____.
0740	655.0610 Electrical Wire Lighting 12 AWG	68,443.000 LF	_____.	_____.
0742	655.0625 Electrical Wire Lighting 6 AWG	48,698.000 LF	_____.	_____.
0744	655.0630 Electrical Wire Lighting 4 AWG	190,037.000 LF	_____.	_____.
0746	655.0700 Loop Detector Lead In Cable	1,032.000 LF	_____.	_____.
0748	655.0800 Loop Detector Wire	424.000 LF	_____.	_____.
0750	656.0201 Electrical Service Meter Breaker Pedestal (location) 0001. MB3-3	1.000 EACH	_____.	_____.
0752	656.0201 Electrical Service Meter Breaker Pedestal (location) 0002. MB5-1	1.000 EACH	_____.	_____.
0754	656.0401 Electrical Service Main Lugs Only Meter Pedestal (location) 0001. CB800	1.000 EACH	_____.	_____.
0756	656.0401 Electrical Service Main Lugs Only Meter Pedestal (location) 0002. CB900	1.000 EACH	_____.	_____.



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Contract Items

Alt Set ID:**Alt Mbr ID:**

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0758	656.0501 Electrical Service Breaker Disconnect Box (location) 0001. CB3-3	1.000 EACH	_____.	_____.
0760	656.0501 Electrical Service Breaker Disconnect Box (location) 0003. CB6-1	1.000 EACH	_____.	_____.
0762	657.0210 Transformer Bases Breakaway 15-17 Inch Bolt Circle	127.000 EACH	_____.	_____.
0764	657.0255 Transformer Bases Breakaway 11 1/2-Inch Bolt Circle	9.000 EACH	_____.	_____.
0766	657.0310 Poles Type 3	1.000 EACH	_____.	_____.
0768	657.0322 Poles Type 5-Aluminum	34.000 EACH	_____.	_____.
0770	657.0337 Poles Type 17-Aluminum	128.000 EACH	_____.	_____.
0772	657.0605 Luminaire Arms Single Member 4 1/2-Inch Clamp 4-FT	23.000 EACH	_____.	_____.
0774	657.0620 Luminaire Arms Single Member 6-Inch Clamp 4-FT	181.000 EACH	_____.	_____.
0776	659.1120 Luminaires Utility LED B	23.000 EACH	_____.	_____.
0778	659.1125 Luminaires Utility LED C	181.000 EACH	_____.	_____.
0780	659.2230 Lighting Control Cabinets 240/480 30-Inch	2.000 EACH	_____.	_____.
0782	659.5000.S Lamp, Ballast, LED, Switch Disposal by Contractor	19.000 EACH	_____.	_____.



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Contract Items

Alt Set ID:**Alt Mbr ID:**

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0784	670.0101 Field System Integrator	1.000 EACH	_____.	_____.
0786	670.0201 ITS Documentation	1.000 EACH	_____.	_____.
0788	671.0132 Conduit HDPE 3-Duct 2-Inch	12,615.000 LF	_____.	_____.
0790	671.0142 Conduit HDPE 4-Duct 2-Inch	4,731.000 LF	_____.	_____.
0792	671.0232 Conduit HDPE Directional Bore 3-Duct 2-Inch	1,480.000 LF	_____.	_____.
0794	671.0242 Conduit HDPE Directional Bore 4-Duct 2-Inch	368.000 LF	_____.	_____.
0796	671.0300 Fiber Optic Cable Marker	39.000 EACH	_____.	_____.
0798	673.0105 Communication Vault Type 1	17.000 EACH	_____.	_____.
0800	673.0200 Tracer Wire Marker Posts	34.000 EACH	_____.	_____.
0802	673.1225.S Install Pole Mounted Cabinet	14.000 EACH	_____.	_____.
0804	674.0200 Cable Microwave Detector	16,960.000 LF	_____.	_____.
0806	674.0300 Remove Cable	20,734.000 LF	_____.	_____.
0808	675.0300 Install Mounted Controller Microwave Detector Assembly	13.000 EACH	_____.	_____.
0810	677.0150 Install Camera Pole 50-FT	1.000 EACH	_____.	_____.
0812	677.0180 Install Camera Pole 80-FT	1.000 EACH	_____.	_____.



Proposal Schedule of Items

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Proposal ID: 20260714005 **Project(s):** 1130-65-71, 1130-65-72, 1130-65-73, 1130-65-74, 1130-65-78**Federal ID(s):** WISC 2026379, WISC 2026380, WISC 2026381, WISC 2026382, WISC 2026383**SECTION:** 0001

Contract Items

Alt Set ID:**Alt Mbr ID:**

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0814	677.0200 Install Camera Assembly	3.000 EACH	_____.	_____.
0816	677.9051.S Removing 50-FT Camera Pole	1.000 EACH	_____.	_____.
0818	678.0012 Install Fiber Optic Cable Outdoor Plant 12-CT	1,768.000 LF	_____.	_____.
0820	678.0024 Install Fiber Optic Cable Outdoor Plant 24-CT	1,488.000 LF	_____.	_____.
0822	678.0072 Install Fiber Optic Cable Outdoor Plant 72-CT	28,752.000 LF	_____.	_____.
0824	678.0200 Fiber Optic Splice Enclosure	5.000 EACH	_____.	_____.
0826	678.0300 Fiber Optic Splice	406.000 EACH	_____.	_____.
0828	678.0400 Fiber Optic Termination	28.000 EACH	_____.	_____.
0830	678.0501 Communication System Testing	4.000 EACH	_____.	_____.
0832	678.0600 Install Ethernet Switches	4.000 EACH	_____.	_____.
0834	678.0700 Install Wireless Antennas	6.000 EACH	_____.	_____.
0836	690.0150 Sawing Asphalt	46,340.000 LF	_____.	_____.
0838	690.0250 Sawing Concrete	4,923.000 LF	_____.	_____.
0840	715.0502 Incentive Strength Concrete Structures	70,798.000 DOL	1.00000	70,798.00
0842	715.0603 Incentive Strength Concrete Barrier	41,438.000 DOL	1.00000	41,438.00



Proposal Schedule of Items

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Proposal ID: 20260714005 **Project(s):** 1130-65-71, 1130-65-72, 1130-65-73, 1130-65-74, 1130-65-78**Federal ID(s):** WISC 2026379, WISC 2026380, WISC 2026381, WISC 2026382, WISC 2026383**SECTION:** 0001

Contract Items

Alt Set ID:**Alt Mbr ID:**

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0844	715.0715 Incentive Flexural Strength Concrete Pavement	108,480.000 DOL	1.00000	108,480.00
0846	801.0117 Railroad Flagging Reimbursement	50,000.000 DOL	1.00000	50,000.00
0848	ASP.1T0A On-the-Job Training Apprentice at \$5.00/HR	2,100.000 HRS	5.00000	10,500.00
0850	ASP.1T0G On-the-Job Training Graduate at \$5.00/HR	5,760.000 HRS	5.00000	28,800.00
0852	SPV.0035 Special 0100. Roadway Embankment	120,784.000 CY	_____.	_____.
0854	SPV.0035 Special 1000. HPC Masonry Structures	6,006.000 CY	_____.	_____.
0856	SPV.0035 Special 1010. Concrete Masonry Bridges Special	503.000 CY	_____.	_____.
0858	SPV.0035 Special 2000. Excavation, Hauling, and Reuse of Low-Level Contaminated Material	31,500.000 CY	_____.	_____.
0860	SPV.0035 Special 4020. Lightweight Foamed Concrete Fill Grade 1	11,103.000 CY	_____.	_____.
0862	SPV.0035 Special 4030. Lightweight Foamed Concrete Fill Grade 2	4,893.000 CY	_____.	_____.
0864	SPV.0055 Special 0100. Incentive IRI Ride PCC Surfaces	176,400.000 DOL	_____.	_____.
0866	SPV.0060 Special 0003. Concrete Barrier Transition Type M1	3.000 EACH	_____.	_____.



Proposal Schedule of Items

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Proposal ID: 20260714005 **Project(s):** 1130-65-71, 1130-65-72, 1130-65-73, 1130-65-74, 1130-65-78**Federal ID(s):** WISC 2026379, WISC 2026380, WISC 2026381, WISC 2026382, WISC 2026383**SECTION:** 0001 Contract Items**Alt Set ID:** **Alt Mbr ID:**

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0868	SPV.0060 Special 0004. Concrete Barrier Transition Type M2	2.000 EACH	_____.	_____.
0870	SPV.0060 Special 0090. Fire Hydrant Sign Mounting	2.000 EACH	_____.	_____.
0872	SPV.0060 Special 0100. Construction Staking Survey Project 1130-65-71	1.000 EACH	_____.	_____.
0874	SPV.0060 Special 0105. Baseline CPM Progress Schedule	5.000 EACH	_____.	_____.
0876	SPV.0060 Special 0110. CPM Progress Schedule and Accepted Revisions	180.000 EACH	_____.	_____.
0878	SPV.0060 Special 0127. Sawing Concrete Barrier Single Faced	4.000 EACH	_____.	_____.
0880	SPV.0060 Special 0140. Concrete Barrier Transition	8.000 EACH	_____.	_____.
0882	SPV.0060 Special 0150. Adjusting Sanitary Manhole Covers	2.000 EACH	_____.	_____.
0884	SPV.0060 Special 0165. Emergency Response to Traffic Involving Concrete Barrier Temporary	26.000 EACH	_____.	_____.
0886	SPV.0060 Special 0170. Emergency Response to Traffic Involving Crash Cushion Temporary	25.000 EACH	_____.	_____.
0888	SPV.0060 Special 0200. Construction Staking Survey Project 1130-65-72	1.000 EACH	_____.	_____.
0890	SPV.0060 Special 0210. Storm Sewer Plug	3.000 EACH	_____.	_____.



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Proposal ID: 20260714005 **Project(s):** 1130-65-71, 1130-65-72, 1130-65-73, 1130-65-74, 1130-65-78**Federal ID(s):** WISC 2026379, WISC 2026380, WISC 2026381, WISC 2026382, WISC 2026383**SECTION:** 0001

Contract Items

Alt Set ID:**Alt Mbr ID:**

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0892	SPV.0060 Special 0215. Reconnect Storm Sewer	2.000 EACH	_____.	_____.
0894	SPV.0060 Special 0220. Pond A Outlet Storm Sewer Structure	1.000 EACH	_____.	_____.
0896	SPV.0060 Special 0225. Pond BC Outlet Storm Sewer Structure	1.000 EACH	_____.	_____.
0898	SPV.0060 Special 0230. Inlet Covers Type Y	5.000 EACH	_____.	_____.
0900	SPV.0060 Special 0235. Fastening Sewer Access Covers	65.000 EACH	_____.	_____.
0902	SPV.0060 Special 0240. Sealing Storm Sewer Structure	1.000 EACH	_____.	_____.
0904	SPV.0060 Special 0300. Construction Staking Survey Project 1130-65-73	1.000 EACH	_____.	_____.
0906	SPV.0060 Special 0400. Construction Staking Survey Project 1130-65-74	1.000 EACH	_____.	_____.
0908	SPV.0060 Special 0440. Fixed Message Sign Portable Support	20.000 EACH	_____.	_____.
0910	SPV.0060 Special 0500. Anchor Bolt Cover Shroud	17.000 EACH	_____.	_____.
0912	SPV.0060 Special 0501. Concrete Bases Type 7 Tall	77.000 EACH	_____.	_____.
0914	SPV.0060 Special 0502. Temporary Overhead Sign Structure (S-04-0001-Temp)	1.000 EACH	_____.	_____.
0916	SPV.0060 Special 0504. Temporary Overhead Sign Structure (S-04-0002-Temp)	1.000 EACH	_____.	_____.



Proposal Schedule of Items

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Proposal ID: 20260714005 **Project(s):** 1130-65-71, 1130-65-72, 1130-65-73, 1130-65-74, 1130-65-78**Federal ID(s):** WISC 2026379, WISC 2026380, WISC 2026381, WISC 2026382, WISC 2026383**SECTION:** 0001 Contract Items**Alt Set ID:** **Alt Mbr ID:**

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0918	SPV.0060 Special 0510. Remove Traffic Signal S-44-0510 (STH SB & OO)	1.000 EACH	_____.	_____.
0920	SPV.0060 Special 0520. Temporary Overhead Sign Structure (S-04-0003-Temp)	1.000 EACH	_____.	_____.
0922	SPV.0060 Special 0530. Temporary Overhead Sign Structure (S-01-0004-Temp)	1.000 EACH	_____.	_____.
0924	SPV.0060 Special 0540. Relocating Temporary Overhead Sign Structure (S-01-0003-Temp)	3.000 EACH	_____.	_____.
0926	SPV.0060 Special 0550. Relocating Temporary Overhead Sign Structure (S-01-0004-Temp)	3.000 EACH	_____.	_____.
0928	SPV.0060 Special 0560. Transporting S-01-0001-Temp to Project	1.000 EACH	_____.	_____.
0930	SPV.0060 Special 0570. Transporting S-01-0002-Temp to Project	1.000 EACH	_____.	_____.
0932	SPV.0060 Special 0580. Transporting S-01-0003-Temp to Project	1.000 EACH	_____.	_____.
0934	SPV.0060 Special 0590. Transporting S-01-0004-Temp To Project	1.000 EACH	_____.	_____.
0936	SPV.0060 Special 0600. ANR Pipeline protection	1.000 EACH	_____.	_____.
0938	SPV.0060 Special 0601. Transporting S-01-0001-Temp to Department	1.000 EACH	_____.	_____.
0940	SPV.0060 Special 0610. Transporting S-01-0002-Temp to Department	1.000 EACH	_____.	_____.



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Proposal ID: 20260714005 **Project(s):** 1130-65-71, 1130-65-72, 1130-65-73, 1130-65-74, 1130-65-78**Federal ID(s):** WISC 2026379, WISC 2026380, WISC 2026381, WISC 2026382, WISC 2026383**SECTION:** 0001 Contract Items**Alt Set ID:****Alt Mbr ID:**

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0942	SPV.0060 Special 0620. Transporting S-01-0003-Temp to Department	1.000 EACH	_____.	_____.
0944	SPV.0060 Special 0630. Transporting S-01-0004-Temp to Department	1.000 EACH	_____.	_____.
0946	SPV.0060 Special 0701. Install Ethernet Extender	22.000 EACH	_____.	_____.
0948	SPV.0060 Special 0702. Salvaging Microwave Detector Equipment	1.000 EACH	_____.	_____.
0950	SPV.0060 Special 0703. Salvaging Wireless Antennas	3.000 EACH	_____.	_____.
0952	SPV.0060 Special 0704. Remove and Reinstall ITS Equipment	1.000 EACH	_____.	_____.
0954	SPV.0060 Special 0705. Wood Pole 60-ft	1.000 EACH	_____.	_____.
0956	SPV.0060 Special 0706. Remove Poles Wood	1.000 EACH	_____.	_____.
0958	SPV.0060 Special 0800. Construction Staking Survey Project 1130-65-78	1.000 EACH	_____.	_____.
0960	SPV.0060 Special 0900. Precast Concrete Wingwalls (C-44-0146)	4.000 EACH	_____.	_____.
0962	SPV.0060 Special 0901. Precast Concrete Wingwalls (C-44-0147)	1.000 EACH	_____.	_____.
0964	SPV.0060 Special 1000. Pile Dynamic Analyzer (PDA) Testing	64.000 EACH	_____.	_____.
0966	SPV.0060 Special 1010. Pile Dynamic Analyzer (PDA) Restrikes	64.000 EACH	_____.	_____.



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Proposal ID: 20260714005 **Project(s):** 1130-65-71, 1130-65-72, 1130-65-73, 1130-65-74, 1130-65-78**Federal ID(s):** WISC 2026379, WISC 2026380, WISC 2026381, WISC 2026382, WISC 2026383**SECTION:** 0001

Contract Items

Alt Set ID:**Alt Mbr ID:**

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0968	SPV.0060 Special 1020. Case Pile Wave Analysis Program (CAPWAP) Evaluation	32.000 EACH	_____.	_____.
0970	SPV.0060 Special 2000. Inlet Markers	409.000 EACH	_____.	_____.
0972	SPV.0075 Special 0100. Street Sweeping	1,000.000 HRS	_____.	_____.
0974	SPV.0075 Special 5000. Animal Carcass Removal	184.000 HRS	_____.	_____.
0976	SPV.0085 Special 1000. Post-Tensioning integral Pier Cap	2,460.000 LB	_____.	_____.
0978	SPV.0090 Special 0100. HMA Longitudinal Joint Repair	7,100.000 LF	_____.	_____.
0980	SPV.0090 Special 0115. Concrete Barrier Type S42 Special	44,407.000 LF	_____.	_____.
0982	SPV.0090 Special 0120. Concrete Barrier Type S56 Special	36,443.000 LF	_____.	_____.
0984	SPV.0090 Special 0125. Single Slope Concrete Barrier Retaining Wall	2,005.000 LF	_____.	_____.
0986	SPV.0090 Special 0154. Concrete Gutter 48-Inch	1,008.000 LF	_____.	_____.
0988	SPV.0090 Special 0200. Slotted Vane Drain Permanent	1,294.000 LF	_____.	_____.
0990	SPV.0090 Special 0205. Slotted Vane Drain Temporary	1,080.000 LF	_____.	_____.
0992	SPV.0090 Special 0210. Cure In Place Liner For 36-Inch Pipe	359.000 LF	_____.	_____.



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Proposal ID: 20260714005 **Project(s):** 1130-65-71, 1130-65-72, 1130-65-73, 1130-65-74, 1130-65-78**Federal ID(s):** WISC 2026379, WISC 2026380, WISC 2026381, WISC 2026382, WISC 2026383**SECTION:** 0001

Contract Items

Alt Set ID:**Alt Mbr ID:**

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0994	SPV.0090 Special 0215. Jack and Bore Storm Sewer Pipe Reinforced Concrete Pipe Class V 36-Inch	270.000 LF	_____.	_____.
0996	SPV.0090 Special 0220. Jack and Bore Storm Sewer Pipe Reinforced Concrete Pipe Class V 48-Inch	418.000 LF	_____.	_____.
0998	SPV.0090 Special 0305. Glare Screen Temporary	4,300.000 LF	_____.	_____.
1000	SPV.0090 Special 0800. Abutment Anchorage	43.000 LF	_____.	_____.
1002	SPV.0090 Special 0910. Precast Concrete Box Culvert, 9 FT X 5 FT	398.000 LF	_____.	_____.
1004	SPV.0090 Special 1010. Pile Wrapping	325.000 LF	_____.	_____.
1006	SPV.0090 Special 1020. Piling CIP Concrete 14 x 0.50-Inch Special	22,310.000 LF	_____.	_____.
1008	SPV.0090 Special 2000. Pipe Underdrain 6-Inch Special	49,732.000 LF	_____.	_____.
1010	SPV.0165 Special 0042. Wall Concrete Panel Mechanically Stabilized Earth (R-44-0042)	2,945.000 SF	_____.	_____.
1012	SPV.0165 Special 0142. Wall Concrete Panel Mechanically Stabilized Earth, LFCF (R-44-0042)	12,610.000 SF	_____.	_____.
1014	SPV.0165 Special 0145. Wall Concrete Panel Mechanically Stabilized Earth, LFCF (R-44-0045)	6,555.000 SF	_____.	_____.



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Proposal ID: 20260714005 **Project(s):** 1130-65-71, 1130-65-72, 1130-65-73, 1130-65-74, 1130-65-78

Federal ID(s): WISC 2026379, WISC 2026380, WISC 2026381, WISC 2026382, WISC 2026383

SECTION: 0001 Contract Items

Alt Set ID: **Alt Mbr ID:**

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
1016	SPV.0165 Special 0147. Wall Concrete Panel Mechanically Stabilized Earth, LFCF (R-44-0047)	940.000 SF	_____.	_____.
1018	SPV.0165 Special 1000. Longitudinal Grooving Bridge Deck	132,290.000 SF	_____.	_____.
1020	SPV.0180 Special 0100. Concrete Pavement 10 1/2-Inch Special	276,488.000 SY	_____.	_____.
1022	SPV.0180 Special 0127. Methacrylate Flood Seal	1,911.000 SY	_____.	_____.
Section: 0001			Total:	_____.
			Total Bid:	_____.

PLEASE ATTACH ADDENDA HERE