

# HIGHWAY WORK PROPOSAL

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

Proposal Number:

037

STATE ID	FEDERAL ID	PROJECT DESCRIPTION	HIGHWAY	COUNTY
7120-00-74	N/A	Durand - Eau Claire, CTH O to 1010th Street	STH 085	Dunn
7120-00-76	N/A	Durand - Eau Claire, Br Chippewa River Bridge B-17-0370	STH 085	Dunn

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

Proposal Guaranty Required: \$75,000.00 Payable to: Wisconsin Department of Transportation	Attach Proposal Guaranty on back of this PAGE.
Bid Submittal Date: February 10, 2026 Time (Local Time): 11:00 am	Firm Name, Address, City, State, Zip Code
Contract Completion Time 75 Working Days	<b>SAMPLE</b> <b>NOT FOR BIDDING PURPOSES</b>
Assigned Disadvantaged Business Enterprise Goal 0%	This contract is exempt from federal oversight.

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

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

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

(Signature, Notary Public, State of Wisconsin)

(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:	For Department Use Only
Removals, Milling, Grading, Aggregate, Asphalt Pavement, Structure Replacement, Culvert Pipe, Curb and Gutter, Concrete Sidewalk, Beam Guard, Erosion Control, Traffic Control, Pavement Marking, Restoration.	
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://wisconsindot.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](http://www.bidx.com) web site or by contacting:

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

- (5) The department will address equipment and process failures, if the bidder can demonstrate that those failures were beyond their control.

- (6) Contractors are responsible for checking on the issuance of addenda and for obtaining the addenda. Notice of issuance of addenda is posted on the department's web site at:

<https://wisconsindot.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<sup>TM</sup> web site.
  2. Use Expedite<sup>TM</sup> software to enter a unit price for every item in the schedule of items.
  3. Submit the bid according to the requirements of Expedite<sup>TM</sup> software and the Bid Express<sup>TM</sup> 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<sup>TM</sup> 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<sup>TM</sup> 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<sup>TM</sup> generated schedule of items to the other proposal documents submitted to the department as a part of the bidder's sealed bid. As a separate submittal, not in the sealed bid envelop but due at the same time and place as the sealed bid, also provide the Expedite<sup>TM</sup> 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<sup>TM</sup> generated schedule of items is the governing contract document and must conform to the requirements of section 102 of the standard specifications. If a printout needs to be altered, cross out the printed information with ink or typewriter and enter the new information and initial it in ink. If there is a discrepancy between the printout and the diskette or CD ROM, the department will analyze the bid using the printout information.

(5) In addition to the reasons specified in section 102 of the standard specifications, proposals are irregular and the department may reject them for one or more of the following:

1. The check code printed on the bottom of the printout of the Expedite™ generated schedule of items is not the same on each page.
2. The check code printed on the printout of the Expedite™ generated schedule of items is not the same as the check code for that proposal provided on the diskette or CD ROM.
3. The diskette or CD ROM is not submitted at the time and place the department designates.

**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.

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

### Instructions for Certification

1. By signing and submitting this proposal, the prospective contractor is providing the certification set out below.
2. The inability of a person to provide the certification required below will not necessarily result in denial of participation in this covered transaction. The prospective contractor shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective contractor to furnish a certification or an explanation shall disqualify such person from participation in this transaction.
3. The certification in this clause is a material representation of fact upon which reliance was placed when the department determined to enter into this transaction. If it is later determined that the contractor knowingly rendered an erroneous certification in addition to other remedies available to the Federal Government the department may terminate this transaction for cause or default.
4. The prospective contractor shall provide immediate written notice to the department to whom this proposal is submitted if at any time the prospective contractor learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
5. The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "person," "primary covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of the rules implementing Executive Order 12549. You may contact the department to which this proposal is being submitted for assistance in obtaining a copy of those regulations.
6. The prospective contractor agrees by submitting this proposal that, should this contract be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department entering into this transaction.
7. The prospective contractor further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," which is included as an addendum to PR- 1273 - "Required Contract Provisions Federal Aid Construction Contracts," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.
8. The contractor may rely upon a certification of a prospective subcontractor/materials supplier that it is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A contractor may decide the method and frequency by which it determines the eligibility of its principals. Each contractor may, but is not required to, check the Disapproval List (telephone # 608/266/1631).

9. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of a contractor is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
10. Except for transactions authorized under paragraph 6 of these instructions, if a contractor in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department may terminate this transaction for cause or default.

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

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

**Special Provisions**  
**Table of Contents**

<b>Article</b>	<b>Description</b>	<b>Page #</b>
1. General.....		2
2. Scope of Work.....		2
3. Prosecution and Progress.....		2
4. Traffic. ....		4
5. Holiday and Special Event Work Restrictions.....		5
6. Utilities.....		6
7. Information to Bidders, U.S. Army Corps of Engineers Section 404 Permit.....		6
8. Information to Bidders, WPDES Transportation Construction General Permit (TCGP) for Storm Water Discharges.....		7
9. Environmental Protection, Aquatic Exotic Species Control. ....		7
10. Erosion Control Structures.....		8
11. Archaeological Site. ....		8
12. Notice to Contractor, Notification of Demolition and/or Renovation No Asbestos Found.....		8
13. Notice to Contractor, Contamination Beyond Construction Limits.....		9
14. Coordination with Businesses and Residents.....		10
15. Backfill Controlled Low Strength, Item 209.0200.S. ....		10
16. Base Repair for CIR Layer, Item 211.0800.S. ....		11
17. Cold In-Place Recycling (CIR) Asphalt Base Layer, Item 327.1000.S; Asphalt Stabilizing Agent, Item 455.0770.S.....		11
18. HMA Percent Within Limits (PWL) Test Strip Volumetrics, Item 460.0105.S; .....		20
19. Material Transfer Vehicle, Item 460.9000.S.....		25
20. Pipe Culverts.....		25
21. Stone Ditch Checks, Item 628.7515.S.....		26
22. Installing and Maintaining Bird Deterrent System Station 150+73, Item 999.2000.S.01; Station 261+62, Item 999.2000.S.02.....		26
23. Traffic Control, Digital Speed Reduction System (DSRS), Item SPV.0045.01.....		28
24. HMA Pavement Percent Within Limits (PWL) QMP, Core Only Project; Incentive Density PWL HMA Pavement, Item SPV.0055.01; Incentive Air Voids HMA Pavement SPV.0055.02.....		30
25. Appendix A, Core Only Project. ....		37
26. HMA Pavement Longitudinal Joint Density, Core Only Project; Incentive Density HMA Pavement Longitudinal Joints, Item SPV.0055.03. ....		39
27. Removing Distressed Pavement Milling, Item SPV.0180.01.....		43

**SPECIAL PROVISIONS**

**1. General.**

Perform the work under this construction contract for Project ID 7120-00-74, Durand-Eau Claire, CTH O to 1010th Street, STH 85, Dunn County, Wisconsin; Project ID 7120-00-76, Durand-Eau Claire, BR Chippewa River Bridge B-17-0370, STH 85, Dunn County, Wisconsin as the plans show and execute the work as specified in the State of Wisconsin, Department of Transportation, Standard Specifications for Highway and Structure Construction, 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 (20250701)

**2. Scope of Work.**

The work under this contract shall consist of removing asphaltic surface milling, cold-in-place recycling asphalt base layer, HMA pavement, common excavation, grading, culvert replacement, concrete masonry, MGS guardrail, concrete curb and gutter, marking, traffic control, erosion control, finishing items, and all incidental items necessary to complete the work as shown on the plans and included in the proposal and contract.

104-005 (20090901)

**3. Prosecution and Progress.**

Begin work within 10 calendar days after the engineer issues a written notice to do so.

Provide the time frame for construction of the project within the 2026 construction season to the engineer in writing within a month after executing the contract but at least 14 calendar days before the preconstruction conference. Assure that the time frame is consistent with the contract completion time. Upon approval, the engineer will issue the notice to proceed within ten calendar days before the beginning of the approved time frame.

To revise the time frame, submit a written request to the engineer at least two weeks before the beginning of the intended time frame. 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.

**Interim Completion and Liquidated Damages – Culvert Pipe Replacements, B-17-0370, Borrow Placement Station 301+50 to Station 306+00, and Cold-in-Place Recycling Asphaltic Base Layer: 50 Working Days**

At the beginning of construction, close STH 85 to through traffic for a maximum of 50 working days. Do not reopen until completing the following work: culvert pipe replacements, cattle pass removals, Structure B-17-0370, placement of borrow between Station 301+50 to Station 306+00, and cold-in-place recycling asphaltic base layer.

If the contractor fails to complete the work necessary to reopen STH 85 to traffic within 50 working days, the department will assess the contractor \$3,235 in interim liquidated damages for each working day the contract work remains incomplete beyond 50 working days. An entire working day will be charged for any period of time within a working day that the road remains closed beyond 12:01 AM.

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

**Work Restrictions**

Work between Station 152+00 and Station 160+00 cannot occur between April 25th and August 10th, dates inclusive.

Complete all culvert replacements, cattle pass removals, box culvert, and asphaltic surface prior to cold-in-place recycling operations.

Closed roadway, backfill and patch and culvert replacement, cattle pass removal, and box culvert trenches with asphaltic surface prior to reopening the roadway to traffic. Do not allow base aggregate culvert trench within a closed roadway to remain exposed for a period greater than 7 days before the asphaltic surface patch is applied.

### **Migratory Birds**

Swallow or other migratory bird nests have been observed on or under the existing structure(s). All active nests (when eggs or young are present) of migratory birds are protected under the federal Migratory Bird Treaty Act. The nesting season for swallows and other birds is from April 15 to August 31.

See below for information on affected structure(s). As a last resort, apply for a depredation permit from the US Fish and Wildlife Service for work that may disturb or destroy active nests. The need for a permit may be avoided by removing the existing bridge structure prior to nest occupation by birds or clearing nests from all structures before the nests become active in early spring.

Either prevent active nests from becoming established or prevent birds from nesting by installing and/or maintaining one suitable deterrent device on the following structure(s) prior to nesting activity under the bid item Installing and Maintaining Bird Deterrent System:

- Structure C-17-1395, Station 150+73
- Structure Location B, Station 261+62

Working days will not be assessed for placement of deterrent systems.

### **Protection of Endangered Bats (Tree Clearing)**

Federally bats have the potential to inhabit the project limits because they roost in trees, bridges and culverts. Tree clearing areas specified in plans are not considered suitable summer habitat for protected bats and no tree clearing restrictions apply to those locations. 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 Regional 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.

Direct temporary lighting, if used, away from wooded areas during the bat active season: April 15 to October 31, both dates inclusive.

Tree clearing is limited to that which is specified in the plans. Contractor means and methods to remove additional trees will not be allowed. If it is determined that additional trees with a 3-inch or greater diameter at breast height (dbh) need to be removed beyond contractor means and methods, notify the engineer to coordinate with the WisDOT REC to determine if consultation with United States Fish and Wildlife Service (USFWS) is required. The contractor must be aware that the WisDOT REC and/or USFWS may not permit modifications.

Submit a schedule and description of clearing operations with the ECIP 14 days prior to any clearing operations. The department will determine, based on schedule and scope of work, what additional erosion control measures shall be implemented prior to the start of clearing operations, and list those additional measures in the ECIP.

### **Milling and Paving Operations**

Begin Project to Station 163+40 and Station 167+28 to Station 180+52: After beginning removing asphaltic surface milling (3.25-inch depth), place lower layer HMA Pavement 5 MT 58-34 V (1.75-inch thickness) the same day. Pave upper layer HMA Pavement 5 MT 58-34 V (1.5-inch thickness) within

72 hours of placing the lower layer, unless adverse weather prevents placement of the upper layer HMA pavement. In the event of adverse weather, resume placement of the upper layer HMA pavement as soon as conditions permit.

## 4. Traffic.

### General

The traffic requirements are subject to change at the direction of the engineer in the event of an emergency, local event, or significant traffic delays.

Submit to engineer for approval a detailed traffic control plan for any changes to the proposed traffic control as shown on the plans. Submit the plan 14 days before the preconstruction conference, or if after the preconstruction conference, 14 days before the intended use of the revised traffic control. A request does not constitute approval.

Provide 24-hour contact information, including current telephone number(s), to the engineer, Dunn County Sheriff's Department, local first responders, and the State Patrol District Headquarters in the event a safety hazard develops. The contractor shall repair, replace, or restore the damaged or disturbed traffic control devices within two hours from the time notified.

Place Traffic Control Drums, spaced 100-foot intervals along the opposite paved CIR shoulder, during the first direction, lower layer lift of HMA pavement paving operation. Traffic Control Drums to remain until the lower layer lift of HMA paving is completed or as approved by the engineer.

### Detour

#### **Culvert Pipe Replacements, B-17-0370, Borrow Placement Station 301+50 to Station 306+00, and Cold-in-Place Recycling Asphaltic Base Layer**

Close STH 85 to through traffic during construction of the culvert pipe (or cattle pass) replacements, Structure B-17-0370, placement of borrow between Station 301+50 to Station 306+00, and cold-in-place recycling asphaltic base layer to the following routes as shown in the plans:

STH 85 NB Detour Route: STH 85–USH 10–STH 37.

STH 85 SB Detour Route: STH 85–STH 37–USH 10.

### Non-Detour Operations

STH 85 and all connecting side roads shall remain open during construction with the exception of the detour discussed above.

Maintain a minimum travel lane width of 12 feet in each direction, except during lane closures suitable for flagging operations.

During work hours, traffic may be restricted to a single lane (12-foot wide minimum) with the use of flaggers in the work zone. Keep this open lane free of equipment and materials, except for traffic control devices. Perform flagging operations according to the Standard Detail Drawing "Traffic Control for Lane Closures with Flagging Operation." During all lane closures, in addition to the requirements in the plan, a flagger shall be stationed at all sideroads and accesses intersecting the highway within the work zone for temporary halting of sidetraffic.

During flagging operations, restore and reopen the roadway to two-way traffic during nonworking hours, outside of detoured work zones.

Maintain full access to and from STH 85 at all side roads with the use of flag persons to control traffic as required during work operations within and at the intersections unless otherwise allowed per these special provisions and by the engineer. Maintain existing lane configurations on side roads when work is not occurring.

### Property Access

During detours, except at culvert pipe and box culvert replacements, maintain access through the work zone for local traffic (both residential and commercial), agricultural equipment, emergency vehicles, school buses, mail delivery, and garbage pickup. Maintain a minimum travel lane width of 12 feet with a minimum clear width of 14 feet on a minimum driving surface of base aggregate dense for local access. When work operations are not occurring and/or during nighttime hours maintain two lanes of traffic.

Maintain access to all commercial, private and field entrances at all times for local residents, businesses, and emergency vehicles. Driveways within the project may be closed for the minimum amount of time necessary to construct the improvements. If temporary access closures are required to accommodate construction operations, provide property owners a minimum of 48-hour notice of the impending work/closure. Restore private entrances, including gravel surface, within 12 hours of removal.

If the contractor coordinates the closure of any access to a business or private property with the owner(s), the contractor shall provide written documentation of coordination with the owner(s) to the engineer 48 hours in advance of the closure.

For operations that impact business parking lots, coordinate construction timeframes with the business owner so disruptions to their available parking are minimized to the extent possible or avoided. This may include having to perform operations during non-business hours and restoring parking lots to a minimum, drivable surface of base aggregate dense on a daily basis.

#### **ATV Trail Access**

During construction operations near Station 323+35, maintain access for ATV traffic through the work zone on a minimum driving surface of base aggregate dense.

#### **Chippewa River State Trail**

Provide temporary pedestrian and bicycle crossing at all times during construction. Maintain access to the parking lot for the adjacent Chippewa River State Trail.

#### **Advanced Notification**

Notify area first responders (police, fire, EMS), Dunn County Sheriff's Department, engineer, area school districts, local officials, and the post office two weeks in advance of road closure. Notifications should be confirmed with all parties one week before implementation. Parties shall also be notified if a closure is cancelled.

#### **Wisconsin Lane Closure System Advance 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**

<b>Closure type with height, weight, or width restrictions (available width, all lanes in one direction &lt; 16 feet)</b>	<b>MINIMUM NOTIFICATION</b>
Lane and shoulder closures	7 calendar days
Full roadway closures	7 calendar days
Ramp closures	7 calendar days
Detours	7 calendar days
<b>Closure type without height, weight, or width restrictions (available width, all lanes in one direction <math>\geq</math> 16 feet)</b>	<b>MINIMUM NOTIFICATION</b>
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.

## **5. Holiday and Special Event Work Restrictions.**

Do not perform work on, nor haul materials of any kind along or across any portion of the highway carrying STH 85 traffic, and entirely clear the traveled way and shoulders of such portions of the highway of equipment, barricades, signs, lights, and any other material that might impede the free flow of traffic during the following holiday and special event periods:

- From noon Friday, May 22, 2026 to 6:00 AM Tuesday, May 26, 2026 for Memorial Day;

- From noon Friday, July 3, 2026 to 6:00 AM Monday, July 6, 2026 for Independence Day;
- From noon Friday, September 4, 2026 to 6:00 AM Tuesday, September 8, 2026 for Labor Day.

stp-107-005 (20210113)

## 6. 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.

stp-107-065 (20240703)

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

### **Project 7120-00-74**

**AT&T (COMLN)**—has buried fiber along STH 85 from approximately Station 192+00 through the end of the project, as well as buried copper between Station 306+50 through the end of the project.

AT&T will address conflicts at the following locations:

- Replace the existing buried copper along the south side of STH 85 between Station 345+00 and Station 349+50 to a depth ranging from 3 feet to 10 feet deep relative to existing ground elevations to avoid conflict with the proposed Structure B-17-370.

This work is anticipated to be completed prior to construction.

**Dunn Energy Cooperative (ELCTY)**—has overhead electric facilities that run along the east and south side of STH 85 from the southern junction of CTH H to the norther junction of CTH H, with several aerial and buried service line drops. Buried facilities run along the south side of STH 85 from approximately Station 343+65 to the east through the project limits.

Dunn Energy Cooperative will address conflicts at the following locations:

- Replace overhead crossing and directional bore a new underground line near Station 225+70.
- Existing pole near Station 305+00 RT will remain. Grading and fill material adjacent to the pole was discussed and allowed by Dunn Energy Cooperative.
- Replace existing underground facility near Station 347+00 to a depth of up to 18 feet, relocated approximately 5 feet south of the existing line to avoid conflict with the proposed Structure B-17-370.

This work is anticipated to be completed prior to construction.

The following utility owner has facilities within the project area; however, no conflicts are anticipated:

### **West Wisconsin Telecom Cooperative (COMLN)**

### **Project 7120-00-76**

All coordination was completed under Project 7120-00-74.

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

The department has assumed coverage under the U.S. Army Corps of Engineers Section 404 Transportation Regional General Permit (TRGP). The department has determined that a pre-construction notification (permit application) to U.S. Army Corps of Engineers and their written verification of TRGP coverage is not necessary for this project.

A copy of the Section 404 Transportation Regional General Permit can be obtained on USACE's website:

<https://www.mvp.usace.army.mil/Portals/57/docs/regulatory/RGP/Transportation.pdf>

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 pre-construction notification (permit application) and written verification from U.S. Army Corps of Engineers under the Section 404 Transportation Regional General permit is required. If written verification under the TRGP is necessary, submit a pre-construction notification to U.S. Army Corps of Engineers and obtain written verification of permit coverage 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 written verification of permit coverage. The contractor must be aware that the U.S. Army Corps of Engineers may not grant the permit request.

stp-107-054 (20230629)

## **8. Information to Bidders, WPDES Transportation Construction General Permit (TCGP) for Storm Water Discharges.**

The calculated land disturbance for the project site is 2.61 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 Jeff Olson at 715-395-3032. 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.

stp-107-056 (20250108)

## **9. 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 (20130615)

## **10. 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)

## **11. Archaeological Site.**

St. Joseph Catholic Cemetery site is located approximately between Station 190+30 to Station 195+00 (LT) within the limits shown on the plans.

Notify the Bureau of Technical Services – Environmental Process and Document Section (BTS-EPDS) at (608) 266-0099 at least two weeks before commencement of any ground disturbing activities. BTS-EPDS will determine if a qualified archaeologist will need to be on site during construction of this area.

Do not use the site for borrow or waste disposal. Do not use the site area not currently capped by asphalt/concrete for the staging of personnel, equipment and/or supplies.

stp-107-220 (20180628)

## **12. Notice to Contractor, Notification of Demolition and/or Renovation No Asbestos Found.**

Madison I. Seymour, License Number All-294284, inspected Structures B-17-370, C-17-126, and C-17-1395, and Culvert No. 17085067277, and 17085067278 for asbestos on August 1, 2024. 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 Jeff Olson, 715-395-3032, [Jeffrey.olson@dot.wi.gov](mailto:Jeffrey.olson@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 Jeff Olson, 715-395-3032, [Jeffrey.olson@dot.wi.gov](mailto:Jeffrey.olson@dot.wi.gov). and via e-mail to [dothazmatunit@dot.wi.gov](mailto: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-17-370, STH 85 over BR Chippewa River
- Site Address: 0.2M E JCT CTH N To N
- Ownership Information: WisDOT Transportation Northwest Region
- Contact: TBD
- Phone: TBD
- Age: 33 years old. This structure was constructed in 1992.
- Area: 1540 SF of deck
  
- Site Name: Structure C-17-1395, STH 85 over Drainage
- Site Address: 0.572 MI E 90th Ave
- Ownership Information: WisDOT Transportation Northwest Region
- Contact: TBD
- Phone: TBD
- Age: 85 years old. This structure was constructed in 1940.
- Area: 168 SF of deck
  
- Site Name: Culvert No. 17085067277, STH 85 over Drainage
- Site Address: 0.19 Mi from 150th Ave
- Ownership Information: WisDOT Transportation Northwest Region
- Contact: TBD
- Phone: TBD
- Age: Unknown
- Area: Unknown
  
- Site Name: Culvert No. 17085067278, STH 85 over Drainage
- Site Address: 0.31 Mi from 150th Ave
- Ownership Information: WisDOT Transportation Northwest Region
- Contact: TBD
- Phone: TBD
- Age: Unknown
- Area: Unknown

Insert the following paragraph in Section 6.g.:

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

stp-107-125 (20220628)

### **13. Notice to Contractor, Contamination Beyond Construction Limits.**

Previously completed testing identified on the DNR BRRTS site identified soil contamination for locations within this project where excavation is required. Testing indicated that petroleum-contaminated soil is present at the following sites:

1. Station 319+65 to 320+05 from 64 feet LT of centerline to 44 feet LT of centerline.

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

## **14. Coordination with Businesses and Residents.**

The contractor shall arrange and conduct a meeting between the contractor, the department, affected residents, local officials and business people to discuss the project schedule of operations including vehicular and pedestrian access during construction operations. Hold the first meeting at least one week before the start of work under this contract and no further meetings will be required unless directed by the engineer. The contractor shall arrange for a suitable location for meetings that provides reasonable accommodation for public involvement. The department will prepare and coordinate publication of the meeting notices and mailings for meetings. The contractor shall schedule meetings with at least 2 weeks' prior notice to the engineer to allow for these notifications.

stp-108-060 (20141107)

## **15. Backfill Controlled Low Strength, Item 209.0200.S.**

### **A Description**

This special provision describes furnishing and placing a controlled low strength material designed for use as backfill in trenches for culverts, sewers, utilities, or similar structures, as backfill behind bridges abutments, or as fill for the abandonment of culverts, pipes, or tanks.

### **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 designed 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 Strength (psi)	ASTM D-6024	20-40 @ 14 days
		40-80 @ 28 days
		80-120 @ 90 days

Chemical admixtures to control air content and setting time are allowable. Ten days before placement, furnish the engineer with a design mix detailing all components and their proportions in the mix.

### **C Construction**

Place controlled low strength backfill at the locations and to the lines and grades as shown on the plan. Proportion and mix materials to produce a product of consistent texture and flow 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 controlled low strength backfill, 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 controlled low strength backfill shall be allowed to enter any stream, lake, or sewer system. The contractor shall be responsible for any clean up or remediation costs resulting from such occurrences.

### **D Measurement**

The department will measure Backfill Controlled Low Strength in volume by the cubic yard of material, placed and accepted. Such volume shall be computed from actual measurements of the dimensions of the area to be backfilled. In irregular or inaccessible areas, the engineer may allow volume to be determined by other appropriate methods.

### **E Payment**

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

ITEM NUMBER	DESCRIPTION	UNIT
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209.0200.S                    Backfill Controlled Low Strength                    CY  
Payment is full compensation for designing the mix; supplying all materials; preparing the proportioned mix; hauling it to the construction site; placing the material; and protecting it from freezing.  
stp-209-010 (20191121)

## 16. **Base Repair for CIR Layer, Item 211.0800.S.**

### **A Description**

This special provision describes base repair for Cold In-Place Recycling (CIR) layer in accordance with standard spec 211, and as hereinafter provided.

### **B (Vacant)**

### **C Construction**

After any contract required surface mill, the engineer and contractor shall visually inspect the milled surface for yielding areas.

Yielding areas will then be repaired prior to the CIR process. The identified yielding areas will be excavated to a maximum of 2 feet, repaired with base course, and a minimum of 5 inches of milled and re-laid pavement material or asphaltic surface in the upper layer,

*Add the following to standard spec 211.3.5:*

Prior to and during the placement of the CIR layer the contractor shall also be responsible for the work covered under this item.

Perform work under this bid item in accordance with standard spec 205.

Remove soft and/or yielding areas of base to a maximum depth of 2-feet. All areas will be documented, and information will be provided to the project engineer. If areas are found after paving operation begin, the project engineer will be notified of locations. Excavated area will be filled and compacted with material that meets the material requirements of standard spec 305 and Base Aggregate Dense 1 1/4-inch, or standard spec 330 and Mill and Relay, or standard spec 465 and Asphaltic Surface.

Do not exceed plan quantity without written approval from the engineer.

### **D Measurement**

The department will measure Base Repair for CIR Layer 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
211.0800.S	Base Repair for CIR Layer	CY

Payment is full compensation for removing and excavating areas of base to a maximum of 2 feet; required saw cuts; providing, placing, and compacting dense graded base course; milling and relaying pavement; asphaltic surfacing; and traffic control.

stp-211-030 (20200629)

## 17. **Cold In-Place Recycling (CIR) Asphalt Base Layer, Item 327.1000.S; Asphalt Stabilizing Agent, Item 455.0770.S.**

### **A Description**

(1) This work consists of the milling, crushing, and screening (as necessary) of the existing hot mix asphalt (HMA) pavement to the width and depth specified on the plans. The processed material shall be blended with foamed asphalt stabilizing agent, water, and other additives as necessary, and required by the mix design, for placement and compaction of this mixture according to the plans and specifications.

### **B Materials**

## **B.1 Reclaimed Asphalt Pavement (RAP) Material**

- (1) The RAP material shall be milled from the existing roadway and processed in place.
- (2) The RAP shall be free of contamination including a base material, aggregate shoulder material, concrete, silt, clay, or other deleterious materials unless specified in the plan.
- (3) Rubberized crack filler, pavement markers, loop wires, fabric, or other materials shall be removed as observed from the roadway during the recycling process. Any residual materials shall be appropriately sized and homogenously blended with the RAP. No rubberized crack filler or fabric piece may have a dimension exceeding a length of 4 inches.
- (4) The milled and processed material shall conform to the following gradation:

<u>Sieve Size</u>	<u>Percent Passing</u>
2"	100
1 ½"	98 to 100
1"	95 to 100

## **B.2 Stabilizing Agent**

- (1) The asphalt stabilizing agent used for Cold In-Place Recycling (CIR) Asphalt Base Layer shall be foamed asphalt.

### **B.2.1 Foamed Asphalt**

- (1) Foamed asphalt shall be produced with a performance graded asphalt binder; without polymer modification; according to standard spec 455.
- (2) Asphalt binder performance grade for foamed asphalt shall be PG 46-34 or PG 52-34. Ensure that the material is furnished by a supplier from the [Combined State Binder Group Certified Supplier List](#).
- (3) Asphalt binder shall be sufficiently heated to meet the mix design expansion and half-life criteria; not to exceed 375° F.
- (4) Asphalt binder shall produce asphalt foam with a minimum expansion ratio of 8, and a half-life of no less than 6 seconds.

### **B.2.2 Water**

- (1) Water may be added to the RAP at the milling head and/or in a mixing chamber.
- (2) Water added to the RAP, used for foaming asphalt, shall be free of sediment and deleterious materials.

## **B.3 Mixture Design**

- (1) The contractor shall be responsible for obtaining milled samples and/or cores for the project mix design.
- (2) Core samples shall be obtained at a minimum frequency of 0.5 lane-mile. Cores shall be obtained from the area to be recycled including the shoulder. Samples obtained by coring should be enough to develop the mix design.
- (3) Samples for mix design obtained by milling shall be taken from at least three different locations directly from the area to be recycled.
- (4) All samples shall represent the entire depth of the layer to be recycled.
- (5) Develop and submit a material sampling plan for review and approval a minimum of five business days prior to obtaining milled and/or cored samples.
- (6) Material sampling prior to receipt of the engineer's notice to proceed shall require submittal and approval of an Application/Permit to Work on Highway Right-of-Way ([DT1812](#)).
- (7) During material sampling operations, contractor insurance shall be as specified in standard spec 107, traffic control requirements shall be as specified in standard spec 107 and 643, and in the contract special provisions.

(8) Develop and submit a mix design with the optimal asphalt content 10 business days prior to the start of the CIR operation. This will be developed according to AASHTO MP 38-18 and PP 94-18; and additionally, will conform to the requirements listed in B.3.1. Submit mix design using WisDOT's provided CIR mix design template to the engineer and department's Bureau of Technical Services, Materials Management Section, Pavement Unit: [DOTDLDTSDBTPavementUnit@dot.wi.gov](mailto:DOTDLDTSDBTPavementUnit@dot.wi.gov)

**Table B.3.1 – Minimum Mix Design Requirements**

Properties	Test Method	Specification	Criteria
RAP	Gradation of RAP (Sieve Analysis of Aggregates)	AASHTO MP 38-18 and PP 94-18	Fine or Medium Gradation per AASHTO PP 38-18 (Table 1)
	RAP Coating Test		Minimum Good
Foaming	Foamed Asphalt Expansion Ratio	AASHTO MP 38-18 and PP 94-18	Minimum 8.0 Times
	Foamed Asphalt Half-life		Minimum 6.0 Seconds
Mixture Volumetrics	Bulk Specific Gravity of Compacted Samples	AASHTO MP 38-18 and PP 94-18	Report Only; Ndes=30
	Maximum Theoretical Specific Gravity		Report Only
	% Air Voids in Compacted Dense and Open Bituminous Paving Mixtures		Report Only
	Tensile Strength (Resistance of Compacted Mixture to Moisture)		Minimum 45 Minimum
	Dry, psi		0.60*
	Ratio (TSR)		

\*0.70 for mix designs requiring the addition of cement.

(9) The mix design shall be used for informational purposes.

(10) The mix design report shall contain the following minimum information:

1. Gradation of RAP.
2. Density, maximum specific gravity, air void content, indirect dry tensile strength, indirect wet (conditioned) tensile strength, and tensile strength ratio at each recycling agent content iteration (minimum of 4; inclusive of recommended moisture and stabilizing contents) and at the recommended moisture and stabilizing agent contents.
3. Recommended water content from the moisture density curve as a percentage of dry RAP.
4. Optimum stabilizing agent content as a percentage of dry RAP.
5. PG grading of asphalt binder for foamed asphalt, supplier name and location, and certified test report.
6. The optimal foaming characteristics of the asphalt stabilizing agent during the mix design process shall be determined at a minimum of using three different percentages of foamed asphalt content, three different temperatures, and water content.
7. RAP coating test results.
8. Any additives that may be used.
  - B.4 Quality Management Program

#### B.4.1 Quality Control Plan

(1) Submit a comprehensive written quality control plan, including random numbers, to the engineer no later than 10 business days before beginning CIR activities. Construct the project as the plan provides.

(2) Do not change the quality control plan without the engineer's review and acceptance. Update the plan with changes as they become effective. Provide a current copy of the plan to the engineer and post it 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 suppliers for all stabilizing agents.
4. A list of source locations for all water.
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 locations or quantities, selected randomly using ASTM Method D3665, to be tested under this provision.

#### **B.4.2 Pre-CIR Construction Meeting**

A minimum of 5 business days prior to the start of CIR construction, hold a pre-CIR construction meeting at a mutually agreed upon time and location. Attendance at the pre-CIR construction meeting is mandatory for the project leader, quality control manager, project inspection and testing staff, all appropriate contractor personnel involved in the sampling, testing, and quality control including subcontractors, and the engineer or designated representatives.

#### **B.4.3 Personnel**

- (1) Provide HTCP Nuclear Density Technician I or ACT certified technician for the performance of field density and field moisture content testing.
- (2) Provide HTCP Aggregate Technician I or ACT certified technician for material sampling and sieve analysis.
- (3) A Transportation Materials Sampling (TMS) certified technician is allowed for materials sampling.
- (4) If an ACT is performing sampling or testing, a certified technician must coordinate and take responsibility for the work an ACT performs. Have a certified technician ensure that all sampling and testing are performed correctly, analyze test results, and post resulting data. No more than one ACT can work under a single certified technician.

#### **B.4.4 Equipment**

- (1) Furnish the necessary equipment and supplies for performing quality control testing. Ensure that all testing equipment conforms to the equipment specifications applicable to the required testing methods. The engineer may inspect the measuring and testing devices to confirm both calibration and condition. Calibrate all testing equipment according to the CMM and applicable AASHTO and/or ASTM specifications and maintain a calibration record at the laboratory.
- (2) Furnish nuclear gauges from the department's approved product list at:  
<https://wisconsindot.gov/Pages/doing-bus/eng-consultants/cnslt-rsrsces/tools/appr-prod/default.aspx>
- (3) Ensure that the nuclear gauge manufacturer or an approved calibration service calibrates the gauge the same calendar year it is used on the project. Retain a copy of the calibration certificate with the gauge.
- (4) Conform to AASHTO T310 and CMM 8.15 for density testing and gauge monitoring methods.

#### **B.4.5 Quality Control (QC) Testing**

- (1) Roadway production lots will be defined as 4000 lane feet. Each roadway production lot will consist of two 2000 lane feet sublots. The contractor will notify the department before sampling.
- (2) Gradation samples shall be taken at a random location at a minimum frequency of one per lot of production. Gradation samples shall be taken as representative of the full recycled depth. Samples may be obtained prior to or after the addition of stabilizing agent depending on the type of CIR equipment used in the project. For each sample report the gradation of the material, as determined according to AASHTO T27, for the Number 4 (4.75mm) sieve and larger.

- (3) Conduct and report density testing at a minimum frequency of three individual random tests per subplot.
- (4) Conduct and report mill depth checks at a random location at a minimum frequency of once per subplot.
- (5) Measure and report stabilizing agent foaming properties (i.e. half-life and expansion ratio) of each new tanker load from the equipment's test nozzle or recycling unit. If the foaming properties do not meet the requirement as specified in B.2.1, take the necessary corrective action by adjusting the temperature of the stabilizing agent and/or foaming water content.
- (6) Report stabilizing agent temperature at a minimum of one per each new tanker load.
- (7) Report stabilizing agent foamed asphalt expansion ratio and half-life at random locations at a minimum frequency of once per subplot.
- (8) Perform startup QC testing (milling depth, stabilizing agent, foaming properties, and stabilizing agent application rate) within the first 500 feet at the beginning of each day of production.
- (9) Conduct and report daily moisture content of the finished CIR layer representing each day's placement. Moisture content shall be based on the average of three random tests, from each day's placement. The moisture content shall be determined from a sample retrieved over the full depth of the CIR layer by weighting and drying to a constant weight using an oven at  $230^{\circ}\pm9^{\circ}\text{F}$ . Engineer-directed tests are an addition to the above three tests representing the day's placement.
- (10) Once the section achieves 2.5% or less in moisture, the section is considered cured and additional moisture tests are not required unless directed by the engineer.
- (11) The contractor shall provide a Daily Inspection Report within 48 hours to the engineer summarizing the following:
  - daily beginning and ending stations,
  - applicable mix design,
  - stabilizing agent temperature,
  - stabilizing agent foaming properties,
  - subplot tests (mill depth check, density test, and gradation) locations and values, and
  - lot roadway sample locations.
  - moisture

Any adjustments to the application rate of the stabilizing agent, compaction or foaming water shall be reported as stated in section C.1. Test results (except gradation and moisture) shall be provided to the engineer by the end of the business day.

## **B.4.6 Department Testing**

### **B.4.6.1 General**

- (1) The department will conduct quality verification (QV) testing to validate the quality of the product and independent assurance (IA) 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 5 business days after the department obtains the sample.

### **B.4.6.2 Quality Verification (QV) Testing**

- (1) The department will have a technician, or ACT working under a technician, perform QV sampling and testing. Department verification testing personnel must meet the same certification level requirements specified in B.4.3 for contractor testing personnel for each test result being verified. The department will notify the contractor before sampling.
- (2) The department will conduct random QV tests at the minimum frequency of 10% of the required QC tests. The department will observe the contractor's QC stabilizing agent foaming property test.
- (3) The department's mill depth check, roadway gradation sample, and density test sites, will be at locations independent of the contractor's QC work, collecting one sample at each QV location. The department will split each QV gradation sample, test half for QV, and retain the remaining half for 7 calendar days.
- (4) The department will verify the contractor's moisture content values by testing a moisture content split sample at a frequency of at least one per day.

- (5) The department will conduct QV tests in a separate laboratory and with separate equipment from the contractor's QC tests. The department will use the same methods specified for QC testing.
- (6) The department will assess QV results by comparing them to the appropriate specification limits. If QV test results conform to this special provision, the department will take no further action. If QV test results are nonconforming, a re-evaluation of the entire process must be completed before production can resume.

#### **B.4.6.3 Independent Assurance (IA)**

- (1) Independence assurance is unbiased testing the department performs to evaluate the department's QV and the contractor's QC sampling and testing, including personnel qualifications, procedures, and equipment. The department will perform an IA review according to the department's independent assurance program. That review may include one or more of the following:
  - 1. Split sample testing.
  - 2. Proficiency sample testing.
  - 3. Witnessing sampling and testing.
  - 4. Test equipment calibration checks.
  - 5. Requesting that testing personnel perform additional sampling and testing.
- (2) If the department identifies a deficiency, and after further investigation confirms it, correct that deficiency. If the contractor does not correct or fails to cooperate in resolving identified deficiencies, the engineer may suspend placement until action is taken. Resolve disputes as specified in B.4.6.4.

#### **B.4.6.4 Dispute Resolution**

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

### **C Construction**

#### **C.1 General**

- (1) Unless the contract provides otherwise, keep the road open to traffic during construction.
- (2) Perform CIR operations; only between the dates of May 15 and September 15; when the air temperature approximately 3 feet above grade, in the shade, and away from artificial heat sources is above 50°F and when the nighttime ambient air temperature is above 35°F the night prior and the following night, unless approved otherwise by the engineer.
- (3) Do not perform CIR operations during inclement weather such as rain or fog; that will not allow proper mixing, placing, and/or compacting of the mixture.
- (4) CIR operations and recycled pavement base layer curing shall be completed to allow adequate time for placement of surfacing according to calendar requirements of standard spec 450.3.2.1.
- (5) The asphalt binder stabilizing agent application rate will be 2.00 percent with a field adjustment tolerance of +/- 0.30 percent. Any changes within the +/- 0.30 percent tolerance from the 2.00 percent application rate will need to be documented with date, time, pavement temperature, location, reason, and new values and communicated to the engineer at the time the change occurs.
- (6) The metered water added at the mill used for cooling and compaction shall be 2.00 percent. Any changes within the +/- 0.30 percent tolerance from the 2.00 percent application rate will need to be documented with date, time, pavement temperature, location, reason, and new values and communicated to the engineer at the time the change occurs.

(7) If the stabilizing agent or water application rate from the mix design referenced in section B.3 is not within the range of 1.70 to 2.30 percent, at the department's direction, 500 feet test sections will be required as a comparison. The contractor's liability for the department's directed test sections will be waived. The department's Bureau of Technical Services Pavement Unit will be consulted on these test sections. No test section will be considered below 1.50 percent asphalt binder stabilizing agent.

## **C.2 Equipment**

(1) Equipment used for CIR shall be subject to approval by the engineer.

(2) Tankers supplying hot stabilizing agent components shall be equipped to constantly monitor temperature within the tank.

### **C.2.1 Milling Machine**

(1) The primary milling machines; not inclusive of pre-mill/wedge-cut milling units; shall be capable of milling the existing pavement at a minimum width of not less than 12.5 feet and to the depth shown on the plans, specified in the contract or directed by the engineer. A smaller milling machine may be used to mill paved shoulders and miscellaneous areas to increase the recycle width.

(2) The milling machines shall be equipped with automatic depth control, shall maintain constant cutting depth and width, uniform grade, and uniform slope.

(3) For processes not incorporating additional screening, sizing, or crushing; the milling machine shall be capable of producing RAP sized as specified in B.1.

(4) Use of a heating device to soften the pavement is not permitted.

### **C.2.2 Screening, Crushing, and Sizing Equipment**

(1) Processes requiring additional screening, sizing, or crushing, shall include a unit with a closed-circuit system capable of continuously returning oversized material to the crusher until all milled material entering the screening, crushing, or sizing equipment meets the gradation requirements of section B.1.

### **C.2.3 Mixing Unit**

(1) Processed RAP shall be mixed with the stabilizing agent and water in a mixing unit; defined as the milling machine cutter housing, a separate mixing chamber, or a pugmill.

(2) The asphalt stabilizing agent shall be applied; using a computer-controlled additive system; uniformly at the predetermined application rate. The metering of the stabilizing agent must be monitored through a calibrated pump providing a continuous readout of quantities.

(3) The additive system shall contain separate pumping systems for adding stabilizing agent and water. Each system shall have an inspection or test nozzle for stabilizing agent and/or water sampling.

(4) The system shall be capable of producing a uniformly mixed homogeneous recycled pavement base layer mixture.

### **C.2.4 Paving Equipment**

(1) The placement and shaping of the recycled pavement base layer mixture shall be completed using a self-propelled paver or screed integral to the recycling equipment meeting the requirements of standard spec 450.3.1.4; revised to exclude the requirement of an activated screed or strike-off assembly.

(2) The screed shall not be heated.

(3) If utilizing a self-propelled paver, the material shall be transferred directly into the paver hopper from the recycling equipment or with a pick-up device. When a pick-up device is used, the entire windrow shall be removed from the milled surface and transferred to the paver hopper.

### **C.2.5 Compaction Equipment**

(1) Compaction equipment shall be self-propelled and meet the requirements of standard spec 450.3.1.5.

(2) The number, weight, and types of rollers shall be used as necessary to achieve the specified compaction. At a minimum, the following rollers shall be used:

1. At least one self-propelled double drum vibratory steel roller with a minimum weight of not less than 10 tons.
2. At least one self-propelled pneumatic-tired roller with a minimum weight of not less than 22 tons.

## **C.3 Constructing CIR**

### **C.3.1 Preparation**

- (1) After any contract required surface milling, and immediately prior to commencing CIR operations, remove from the roadway, and up to 1 inch below the milled surface, any vegetation, standing water, loose crack filler, and any other deleterious materials.
- (2) Inspect the pavement surface, after any contract required surface milling, for areas of yielding subgrade. Yielding areas will be repaired prior to CIR operations.
- (3) Blade the existing base aggregate roadway shoulders away from the asphaltic surface edge to minimize contamination of the CIR base layer.

### **C.3.2 Processing and Placement of CIR Material**

- (1) Mill the existing pavement to the required depth and width indicated on the plans.
- (2) Further process the milled RAP material as necessary by crushing, screening, and/or sizing to the gradation requirements of B.1.
- (3) Blend the RAP material with the mix design specified proportions of stabilizing agent and water; produce a uniform and homogeneous recycled mixture.
- (4) Spread the recycled mixture to the grade, elevations, and slopes specified on the plans; avoiding tearing or scarring of the recycled pavement base layer surface.
- (5) Ensure proper material transfer, handling, and spreading to prevent material segregation. If segregation does occur behind the paver, the contractor shall take immediate steps to correct the problem. Corrective action may include adjusting the forward speed of the paving operation and adjusting the flow of material to paver. The contractor shall make adjustments until a satisfactory end-product has been obtained, as determined by the engineer.
- (6) Longitudinal joints between successive CIR operations shall be overlapped a minimum of 3 inches. Consideration should be given to the amount of stabilizing agent used in the overlapping pass. Adjust the width of the stabilizing agent application so that the overlapped CIR mixtures maintains the target stabilizing agent content. Transverse joints between successive CIR operations during the same day of placement shall be overlapped a minimum of 2 feet. The beginning of each day's recycling operation shall overlap the end of the preceding recycling operation a minimum of 50 feet unless otherwise directed by the engineer.

## **C.4 Compaction**

### **C.4.1 Control Strip Construction**

- (1) On the first day of production, construct a control strip to identify the target wet density for the CIR layer using a nuclear moisture-density gauge in backscatter measurement. Nuclear gauge test duration in backscatter measurement shall be for a total of one-minute test per location in the direction of paving. The control strip construction and density testing will occur under the direct observation and/or assistance of the department QV personnel.
- (2) After the construction of the control strip, the CIR process shall be permitted to continue until the project's first asphalt binder tanker truck is empty. Any further CIR process shall be halted till the completion of the test rolling.
- (3) Unless the engineer approves otherwise, construct control strips to a minimum dimension of 500 feet long and one full lane width. Begin the control strip at a location of at least 200 feet beyond the start of the project.
- (4) Completed control strips may remain in-place to be incorporated into the final roadway cross-section.
- (5) Construct additional control strips, at a minimum, when:
  1. The CIR layer thickness changes in excess of 2.0 inches.
  2. The percent of target wet density is less than 96% or exceeds 105.0%; and is outside the range of the 10 random measurements defining the control strip; on two consecutive sublots.
  3. If there is a significant change in mix proportions, weather conditions, compaction equipment, or other controlling factors, the engineer may require the construction of new control strips to check target density.

- (6) Construct control strips using equipment and methods representative of the operations to be used for constructing the CIR layer.
- (7) After compacting the control strip with a minimum of three roller passes, mark and take three wet density measurements using a nuclear moisture-density gauge in backscatter mode at one random station. One density measurement representing the inside 1/3, one density measurement representing the middle 1/3, and one density measurement representing the outside 1/3 transversely across the traveled lane, a minimum of 1 1/2 feet from the center of the probe to the unrestricted edge of the CIR layer. Subsequent density measurements will be taken at the same three locations.
- (8) After each subsequent pass of compaction equipment over the entirety of the control strip, take wet density measurements at the three marked locations. Continue compacting and testing until the increase in density measurements of individual locations is less than 2.0 lb/ft<sup>3</sup>, or the density measurements begin to decrease.
- (9) Upon completion of control strip compaction, take 10 randomly located wet density measurements within the limits of the control strip, a minimum of 1 1/2 feet from the center of the probe to the unrestricted edge of the CIR layer. The final measurements recorded at the three locations under article paragraph (6) of this section may be included as 3 of the 10 measurements. Average the 10 measurements to obtain the control strip target density.

#### **C.4.2 Compaction Requirements**

- (1) Compact the CIR layer to a required density of 96% of the target density. Density acceptance shall be based on the average subplot measurements results.

#### **C.5 Surface Requirements**

- (1) Prior to placement of the surface treatment, the engineer and contractor shall visually inspect the CIR layer for distresses including, but not limited to raveled areas, rutted areas, and areas of excess or deficient stabilizing agent, or deficient surface tolerance areas.
- (2) Test the recycled pavement base layer surface at regular intervals, and engineer selected locations, using a 10-foot straightedge or other engineer-specified devices.
- (3) The engineer may direct the repair of surface deviations greater than 1/2 inch between two surface contact points. High points shall be corrected by rerolling, trimming, milling, or grinding. Depressions may be corrected by having a tack coat applied and be filled with HMA immediately prior to placement of the surface treatment.
- (4) Raveled areas, rutted areas, and areas of excess or deficient stabilizing agent shall be re-processed or repaired. Reprocessing shall consist of milling, blending of additional stabilizing agent, placement with a paver, and compaction with determined rolling patterns as determined by the control strip.

#### **C.6 Maintaining the Work**

- (1) After compaction is complete, the contractor will determine when the CIR is stable to open to traffic.
- (2) After opening to traffic, and prior to placement of the upper layer, the surface of the recycled base shall be maintained in a condition suitable for the safe movement of traffic.
- (3) The recycled base and shoulders shall be protected and maintained from standing water, deleterious substances, and/or other damage.
- (4) Any damage to the recycled base, excluding department-directed test sections, shall be repaired by the contractor prior to placement of the upper layer at no additional cost to the department.

#### **C.7 Curing and Surfacing**

##### **C.7.1 Curing**

- (1) Application of a surface treatment or leveling/lower layer of HMA will not be allowed until the moisture content of the CIR layer reduces to 2.50 percent or less.
- (2) If the moisture content of the CIR layer does not reduce to 2.50 percent; the surface treatment may be applied after the change in moisture content is less than 0.30 percentage points for three consecutive calendar days
- (3) The moisture content shall be determined from a sample retrieved over the full depth of the CIR layer by weighting and drying to a constant weight using an oven at 230°±9°F. Moisture content testing by nuclear density shall only be used for informational purposes and not for acceptance. The department will obtain a sample(s) to verify the contractor's final moisture content values.

### **C.7.2 Tack Coat**

- (1) The surface shall be prepared, and tack coat applied meeting the requirements of standard spec 455.3.2.
- (2) Tack coat application rate shall be 0.05 to 0.07 gal/SY. The engineer may adjust the tack coat application rate based on surface conditions.
- (3) Use only emulsified asphalt material as tack coat specified in standard spec 455.2.5. Paving grade asphaltic tack coat shall not be used.

### **C.7.3 Surfacing**

- (1) Surfacing materials, equipment, and construction methods shall be according to the applicable sections of the standard specs or contract special provisions.
- (2) Paving of final surfacing (for single layer) or leveling/lower layer of HMA on the cured CIR sections shall not be conducted until the moisture content in the CIR layer reduces to 2.50% or less.
- (3) The final surfacing (for single layer) or leveling/lower layer shall be placed on the CIR layer within 10 calendar days once a section of the CIR layer is considered cured per section B.4.5.
- (4) After any rain event, the excess moisture in the CIR layer shall be allowed to dry before paving the final surfacing (for single layer) or leveling/lower HMA layer. The contractor and engineer should inspect the CIR layer to determine suitability for surfacing.

## **D Measurement**

- (1) The department will measure Cold In-Place Recycling (CIR) Asphalt Base Layer by the square yard, acceptably completed.
- (2) The department will measure the Asphalt Stabilizing Agent incorporated into the work by the ton; as metered through a calibrated pump, or through delivered ticket quantity.

## **E Payment**

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

ITEM NUMBER	DESCRIPTION	UNIT
327.1000.S	Cold In-Place Recycling (CIR) Asphalt Base Layer	SY
455.0770.S	Asphalt Stabilizing Agent	TON

- (2) Payment is full compensation for measured quantities as specified above; all material including mixing and milling water; equipment necessary for milling and sizing, mixing, paving, compacting the completed CIR; incidentals necessary to the conduct mix design; including sampling and traffic control; mill the existing pavement for recycling, size the milled RAP, inject and mix the RAP with the stabilizing agent, place or pave, compact, and maintain the completed CIR.
- (3) The department will pay separately for the repair of yielding areas under the bid item Base Repair for CIR Layer.
- (4) The department will pay separately for removing or blading away of the adjacent shoulder material under the bid item Shaping Shoulders.
- (5) The department will pay separately for preparation under the bid item Prepare Foundation for CIR Base Layer.
- (6) The department will pay separately for surfacing treatments, including tack coat, under the appropriate bid items.

stsp-327-010 (20240105)

## **18. HMA Percent Within Limits (PWL) Test Strip Volumetrics, Item 460.0105.S;**

### **A Description**

This special provision describes the Hot Mix Asphalt (HMA) volumetric testing tolerances required for an HMA test strip. An HMA test strip is required for contracts constructed under HMA Percent Within Limits (PWL) QMP. A density test strip is required for each pavement layer placed over a specific, uniform underlying material, unless specified otherwise in the plans. Each contract is restricted to a single mix

design per mix type per layer (e.g., upper layer and lower layer may have different mix type specified or may have the same mix type with different mix designs). Each mix design requires a separate test strip. Density and volumetrics testing will be conducted on the same test strip whenever possible.

Perform work according to standard spec 460 and as follows.

## **B Materials**

Use materials conforming to HMA Pavement Percent Within Limits (PWL) QMP special provision.

## **C Construction**

### **C.1 Test Strip**

Submit the test strip start time and date to the department in writing at least 5 calendar days in advance of construction of the test strip. If the contractor fails to begin paving within 2 hours of the submitted start time, the test strip is delayed, and the department will assess the contractor \$2,000 for each instance according to Section E of this document. Alterations to the start time and date must be submitted to the department in writing a minimum of 24 hours prior to the start time. The contractor will not be liable for changes in start time related to adverse weather days as defined by standard spec 101.3 or equipment breakdown verified by the department.

On the first day of production for a test strip, produce approximately 750 tons of HMA. (Note: adjust tonnage to accommodate natural break points in the project.) Locate test strips in a section of the roadway to allow a representative rolling pattern (i.e. not a ramp or shoulder, etc.).

#### **C.1.1 Sampling and Testing Intervals**

##### **C.1.1.1 Volumetrics**

Laboratory testing will be conducted from a split sample yielding three components, with portions designated for QC (quality control), QV (quality verification), and retained.

During production for the test strip, obtain sufficient HMA mixture for three-part split samples from trucks prior to departure from the plant. Collect three split samples during the production of test strip material. Perform sampling from the truck box and three-part splitting of HMA according to WTM R47. These three samples will be randomly selected by the engineer from each *third* of the test strip tonnage (T), excluding the first 50 tons:

<u>Sample Number</u>	<u>Production Interval (tons)</u>
1	50 to 1/3 T
2	1/3 T to 2/3 T
3	2/3 T to T

##### **C.1.1.2 Density**

Required field tests include contractor QC and department QV nuclear density gauge tests and pavement coring at ten individual locations (five in each half of the test strip length) according to Appendix A: *Test Methods and Sampling for HMA PWL QMP Projects*. Both QV and QC teams shall have two nuclear density gauges present for correlation at the time the test strip is constructed. QC and QV teams may wish to scan with additional gauges at the locations detailed in Appendix A, as only gauges used during the test strip correlation phase will be allowed.

#### **C.1.2 Field Tests**

##### **C.1.2.1 Density**

For contracts that include STSP 460-020 QMP Density in addition to PWL, a gauge comparison according to WTM T355 shall be completed prior to the day of test strip construction. Daily standardization of gauges on reference blocks and a project reference site shall be performed according to WTM T355. A standard count shall be performed for each gauge on the material placed for the test strip, prior to any additional data collection. Nuclear gauge readings and pavement cores shall be used to determine nuclear gauge correlation according to Appendix A. The two to three readings for the five locations across the mat for each of two zones shall be provided to the engineer. The engineer will analyze the readings of each gauge relative to the densities of the cores taken at each location. The engineer will determine the average difference between the nuclear gauge density readings and the measured core densities to be used as a constant offset value. This offset will be used to adjust raw

density readings of the specific gauge and shall appear on the density data sheet along with gauge and project identification. An offset is specific to the mix and layer; therefore, a separate value shall be determined for each layer of each mix placed over a differing underlying material for the contract. This constitutes correlation of that individual gauge for the given layer. Two gauges per team are not required to be onsite daily after completion of the test strip. Any data collected without a correlated gauge will not be accepted.

The contractor is responsible for coring the pavement from the footprint of the density tests and filling core holes according to Appendix A. Coring and filling of pavement core holes must be approved by the engineer. The QV team is responsible for the labeling and safe transport of the cores from the field to the QC laboratory. Testing of cores shall be conducted by the contractor and witnessed by department personnel. The contractor is responsible for drying the cores following testing. The department will take possession of cores following laboratory testing and will be responsible for any verification testing at the discretion of the engineer.

The target maximum density to be used in determining core density is the average of the three volumetric/mix Gmm values from the test strip multiplied by 62.24 lb/ft<sup>3</sup>. In the event mix and density portions of the test strip procedure are separated, or if an additional density test strip is required, the mix portion must be conducted prior to density determination. The target maximum density to determine core densities shall then be the Gmm four-test running average (or three-test average from a PWL volumetric-only test strip) from the end of the previous day's production multiplied by 62.24 lb/ft<sup>3</sup>. If no PWL production QV volumetric test is to be taken in a density-only test strip, a non-random QV test will be taken according to 460.2.8.3.1.4 as modified in HMA Pavement Percent Within Limits (PWL) QMP and if non-conforming to C.2.1 herein, follow corrective action outlined in 460.2.8.2.1.7(4) as modified in HMA Pavement Percent Within Limits (PWL) QMP.

Exclusions such as shoulders and appurtenances shall be tested and reported according to CMM 815. However, all acceptance testing of shoulders and appurtenances will be conducted by the department, and average lot (daily) densities must conform to standard spec Table 460-3. No density incentive or disincentive will be applied to shoulders or appurtenances. However, unacceptable shoulder material will be handled according to standard spec 460.3.3.1 and CMM 815.11.

## **C.1.3 Laboratory Tests**

### **C.1.3.1 Volumetrics**

Obtain random samples according to C.1.1.1 and Appendix A. Perform tests the same day as taking the sample.

Theoretical maximum specific gravities of each mixture sample will be obtained. Bulk specific gravities of both gyratory compacted samples and field cores shall be determined. The bulk specific gravity values determined from field cores shall be used to calculate a correction factor (i.e., offset) for each QC and QV nuclear density gauge. The correction factor will be used throughout the remainder of the layer.

## **C.2 Acceptance**

### **C.2.1 Volumetrics**

Produce mix conforming to the following limits based on individual QC and QV test results (tolerances based on most recent JMF):

ITEM	ACCEPTANCE LIMITS
Percent passing given sieve:	
37.5-mm	+/- 8.0
25.0-mm	+/- 8.0
19.0-mm	+/- 7.5
12.5-mm	+/- 7.5
9.5-mm	+/- 7.5
2.36-mm	+/- 7.0
75-µm	+/- 3.0
Asphaltic content in percent <sup>[1]</sup>	- 0.5
Air Voids	-1.5 & +2.0
VMA in percent <sup>[2]</sup>	- 1.0
Maximum specific gravity	+/- 0.024

<sup>[1]</sup> Asphalt content more than -0.5% below the JMF will be referee tested by the department's AASHTO accredited laboratory and HTCP certified personnel using automated extraction.

<sup>[2]</sup> VMA limits based on minimum requirement for mix design nominal maximum aggregate size in table 460-1.

QV samples will be tested for Gmm, Gmb, and AC. Air voids and VMA will then be calculated using these test results.

Calculation of air voids shall use either the QC, QV, or retained split sample test results, as identified by conducting the paired t-test with the WisDOT PWL Test Strip Spreadsheet.

If QC and QV test results do not correlate as determined by the split sample comparison, the retained split sample will be tested by the department's AASHTO accredited laboratory and HTCP certified personnel as a referee test. Additional investigation shall be conducted to identify the source of the difference between QC and QV data. Referee data will be used to determine material conformance and pay.

## C.2.2 Density

Compact all layers of test strip HMA mixture according to Table 460-3.

Nuclear density gauges are acceptable for use on the project only if correlation is completed for that gauge during the time of the test strip and the department issues documentation of acceptance stating the correlation offset value specific to the gauge and mix design. The offset is not to be entered into any nuclear density gauge as it will be applied by the department-furnished Field Density Worksheet.

## C.2.3 Test Strip Approval and Material Conformance

All applicable laboratory and field testing associated with a test strip shall be completed prior to any additional mainline placement of the mix. All test reports shall be submitted to the department upon completion and approved before paving resumes. The department will notify the contractor within 24 hours from start of test strip regarding approval to proceed with paving unless an alternate time frame is agreed upon in writing with the department. The 24-hour approval time includes only working days as defined in standard spec 101.3.

The department will evaluate material conformance and make pay adjustments based on the PWL value of air voids and density for the test strip. The QC core densities and QC and QV mix results will be used to determine the PWL values as calculated according to Appendix A.

The PWL values for air voids and density shall be calculated after determining core densities. An approved test strip is defined as the individual PWL values for air voids and density both being equal to or greater than 75, mixture volumetric properties conforming to the limits specified in C.2.1, and an acceptable gauge-to-core correlation. Further clarification on PWL test strip approval and appropriate post-test strip actions are shown in the following table:

### PWL TEST STRIP APPROVAL AND MATERIAL CONFORMANCE CRITERIA

PWL VALUE FOR AIR Voids AND DENSITY	TEST STRIP APPROVAL	MATERIAL CONFORMANCE	POST-TEST STRIP ACTION
Both PWL $\geq$ 75	Approved <sup>1</sup>	Material paid for according to Section E	Proceed with Production
50 $\leq$ Either PWL < 75	Not Approved	Material paid for according to Section E	Consult BTS to determine need for additional test strip
Either PWL < 50	Not Approved	Unacceptable material removed and replaced or paid for at 50% of the contract unit price according to Section E	Construct additional Volumetrics or Density test strip as necessary

<sup>1</sup> In addition to these PWL criteria, mixture volumetric properties must conform to the limits specified in C.2.1, split sample comparison must have a passing result and an acceptable gauge-to-core correlation must be completed.

A maximum of two test strips will be allowed to remain in place per pavement layer per contract. If material is removed, a new test strip shall replace the previous one at no additional cost to the department. If the contractor changes the mix design for a given mix type during a contract, no additional compensation will be paid by the department for the required additional test strip and the department will assess the contractor \$2,000 for the additional test strip according to Section E of this special provision. For simultaneously conducted density and volumetric test strip components, the following must be achieved:

- i. Passing/Resolution of Split Sample Comparison
- ii. Volumetrics/mix PWL value  $\geq 75$
- iii. Density PWL value  $\geq 75$
- iv. Acceptable correlation

If not conducted simultaneously, the mix portion of a test strip must accomplish (i) & (ii), while density must accomplish (iii) & (iv). If any applicable criteria are not achieved for a given test strip, the engineer, with authorization from the department's Bureau of Technical Services, will direct an additional test strip (or alternate plan approved by the department) be conducted to prove the criteria can be met prior to additional paving of that mix. For a density-only test strip, determination of mix conformance will be according to main production, i.e., HMA Pavement Percent Within Limits (PWL) QMP special provision.

## D Measurement

The department will measure HMA Percent Within Limits (PWL) Test Strip as each unit of work, acceptably completed as passing the required air void, VMA, asphalt content, gradation, and density correlation for a Test Strip. Material quantities shall be determined according to standard spec 450.4 and detailed here within.

## E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
460.0105.S	HMA Percent Within Limits (PWL) Test Strip Volumetrics	EACH

These items are intended to compensate the contractor for the construction of the test strip for contracts paved under the HMA Pavement Percent Within Limits QMP article.

Payment for HMA Percent Within Limits (PWL) Test Strip Volumetrics is full compensation for volumetric sampling, splitting, and testing, and for the proper labeling, handling, and retention of the split samples.

Payment for HMA Percent Within Limits (PWL) Test Strip Density is full compensation for collecting and measuring of pavement cores, acceptably filling core holes, providing of nuclear gauges and operator(s), and all other work associated with completion of a core-to-gauge correlation, as directed by the engineer.

Acceptable HMA mixture placed on the project as part of a volumetric or density test strip will be compensated by the appropriate HMA Pavement bid item with any applicable pay adjustments. If a test strip is delayed as defined in C.1 of this document, the department will assess the contractor \$2,000 for each instance, under the HMA Delayed Test Strip administrative item. If an additional test strip is required because the initial test strip is not approved by the department or the mix design is changed by the contractor, the department will assess the contractor \$2,000 for each additional test strip (i.e., \$2,000 for each individual volumetrics or density test strip) under the HMA Additional Test Strip administrative item.

Pay adjustment will be calculated using 65 dollars per ton of HMA pavement. The department will pay for measured quantities of mix based on \$65/ton multiplied by the following pay adjustment:

PAY ADJUSTMENT FOR HMA PAVEMENT AIR VOIDS & DENSITY	
PERCENT WITHIN LIMITS	PAYMENT FACTOR, PF (percent of \$65/ton)
(PWL)	
$\geq 90$ to 100	$PF = ((PWL - 90) * 0.4) + 100$
$\geq 50$ to $< 90$	$(PWL * 0.5) + 55$
$< 50$	50% <sup>[1]</sup>

where, PF is calculated per air voids and density, denoted  $PF_{air\ voids}$  &  $PF_{density}$

<sup>[1]</sup>Material resulting in PWL value less than 50 shall be removed and replaced, unless the engineer allows for such material to remain in place. In the event the material remains in place, it will be paid at 50% of the contract unit price of HMA pavement.

For air voids, PWL values will be calculated using lower and upper specification limits of 2.0 and 4.3 percent, respectively. Lower specification limits for density will be according to Table 460-3. Pay adjustment will be determined for an acceptably completed test strip and will be computed as shown in the following equation:

$$\text{Pay Adjustment} = (PF-100)/100 \times (WP) \times (\text{tonnage}) \times (\$65/\text{ton})^*$$

\*Note: If Pay Factor = 50, the contract unit price will be used in lieu of \$65/ton and the weighted percentage (WP) will equal 1.0.

The following weighted percentage (WP) values will be used for the corresponding parameter:

Parameter	WP
Air Voids	0.5
Density	0.5

Individual Pay Factors for each air voids ( $PF_{air\ voids}$ ) and density ( $PF_{density}$ ) will be determined.  $PF_{air\ voids}$  will be multiplied by the total tonnage produced (i.e., from truck tickets), and  $PF_{density}$  will be multiplied by the calculated tonnage used to pave the mainline only (i.e., traffic lane excluding shoulder) as determined according to Appendix A.

The department will pay incentive for air voids under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
460.2005	Incentive Density PWL HMA Pavement	DOL

The department will administer disincentives under the Disincentive Density HMA Pavement and the Disincentive Air Voids HMA Pavement administrative items.

stp-460-040 (20230629)

## 19. Material Transfer Vehicle, Item 460.9000.S.

### A Description

This special provision describes providing Material Transfer Vehicles (MTV) and operators for use during HMA upper layer paving operations of the travel lanes as shown in the plan or as directed by the engineer.

### B Materials

Furnish a self-propelled MTV with the ability to remix, maintain constant temperature, and continually feed the paver hopper. MTV storage capacity shall be adequate to provide continuous forward movement of the paver. Coordinate paver speed to match the delivery of material and capacity of the MTV to minimize stopping of the paver.

### C Construction

Ensure that an operator stays with the MTV at all times during moving operations. Keep the paver's hopper full at all times and the MTV's hopper filled such that the conveying augers are never exposed to avoid segregation of the material. Placement of HMA upper layer pavement in the travel lanes will not be allowed without the MTV. Tie ins of intersections, shoulders paved separately, and other non-travel lane areas will not require the use of the MTV.

### D Measurement

The department will measure Material Transfer Vehicle once for the contract, acceptably completed, regardless the number of vehicles in use.

### E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
460.9000.S	Material Transfer Vehicle	EACH

Payment is full compensation for furnishing all material transfer vehicles and operators.

stp-460-900 (20230113)

## 20. Pipe Culverts.

*Replace standard spec 520.3.3(5) with the following:*

Provide joint ties at all joints of circular or horizontal elliptical concrete culvert pipes and concrete cattle pass installations, including endwalls.

## 21. Stone Ditch Checks, Item 628.7515.S.

### A Description

This special provision describes furnishing, installing, and maintaining permanent ditch checks, as the plans show or as the engineer directs.

### B Materials

Furnish materials conforming to the requirements for Riprap Extra Light according to standard spec 606.2.1.

### C Construction

Place stone ditch checks immediately after shaping of the ditches is completed. Place stone ditch checks perpendicular to the direction of flow. Construct according to the plan details.

During construction, maintain stone ditch checks by removing sediment whenever it accumulates to one half of the original ditch check height. Remove all accumulated sediment prior to final stabilization.

For temporary installations, remove all materials incorporated into the work when directed by the engineer. Restore areas with topsoil, seed, fertilizer, and other erosion control items as directed by the engineer.

### D Measurement

The department will measure Stone Ditch Checks by the cubic yard of material, 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
628.7515.S	Stone Ditch Checks	CY

Payment is full compensation for excavating, furnishing, placing, and shaping Stone Ditch Checks.

The department will pay separately for restoration and erosion control items under the appropriate contract bid items.

The department will pay separately for Geotextile Type R fabric.

~~stp-628-050 (20210708)~~

## 22. Installing and Maintaining Bird Deterrent System Station 150+73, Item 999.2000.S.01; Station 261+62, Item 999.2000.S.02.

### A Description

special provision describes inspecting, installing and/or maintaining approved deterrents that prevent migratory bird nesting on bridges and culverts. Swallows or other migratory birds' nests have been observed on or under the existing culvert or bridge at the station identified. All active nests (when eggs or young are present) of migratory birds are protected under the federal Migratory Bird Treaty Act. One deterrent system shall be installed and/or maintained for each applicable structure. Deterrent methods selected shall be appropriate for structure type, size and/or site-specific constraints.

### B Materials

#### B.1 Hardware and Lumber

Lumber, hardware, and fastening devices shall be durable enough to last through the length of the nesting season. Fastening devices and deterrence system must be approved by the engineer prior to installation on culverts and bridges that will remain in service after removal of deterrent systems. The method of fastening should not compromise the culvert or bridge concrete surfaces or steel protection systems. The attachment locations must be restored and repaired as needed by use of engineer approved fillers, sealers and paint systems.

#### B.2 Netting Materials

Exclusion netting is material either wrapped around or draped and fastened to bridge decks/abutments and culvert corners to prevent bird entry.

Furnish exclusionary netting to deter nesting in bridge decks and abutments and corners of box culverts, consisting of either:

- a. 1/2" x 1/2" or 3/4" x 3/4" knotless, flame resistant, U.V. stabilized polyethylene or polypropylene netting with minimum 40-pound breaking strength per strand, or engineer approved equal.
- b. Galvanized wire mesh (hardware cloth) with a wire diameter of .040 inches (19-gauge) and opening width of 1/2-inch.

At a minimum, use either 1" x 2" (nominal) lumber or 3/4" x 2" pressure treated plywood strips and of equal length as the netting.

### **B.3 Plastic Strip Curtain**

Plastic strip curtains are strips of plastic attached to vertical surfaces in areas suitable for nesting.

Furnish 3-foot wide lengths of 6 mil minimum plastic sheeting with the lower 2 feet cut into vertical strips 2 inches wide.

At a minimum, use either 1" x 2" (nominal) lumber or 3/4" x 2" pressure treated plywood strips and staples to attach plastic strips to wood to fabricate the strip curtain.

Furnish concrete screws to attach strip curtain to structure.

### **B.4 Corner Slope Materials**

Corner slopes are pieces of curved plastic placed in corners suitable for nesting. They are particularly effective in preventing nesting in top corners of box culverts.

Furnish U.V. stabilized pre-fabricated PVC or polycarbonate corner slopes from commercial bird-deterrent manufacturers or an approved equal.

## **C Construction**

### **C.1 General**

If active nests are observed after construction starts, or if a trapped bird or an active nest is found, stop work that may affect birds or their nests, and notify the engineer to consult with the Wisconsin Department of Natural Resources transportation liaison at Leah Nicol, at 715-934-9014, or the department regional environmental coordinator Andrew Gorniak, at 715-395-3030.

Efforts should be made to release trapped birds, unharmed.

### **C.2 Nest Removal**

Remove unoccupied nests prior to the beginning of the nesting season as designated in Prosecution and Progress. Nest removal involves the removal and disposal of unoccupied or partially constructed nests without eggs or nestlings. Removing all evidence of nesting (e.g. cleaning droppings from structures) eliminates a visual cue for a potential breeding location, especially for first-time breeders. Nest removal is not a type of deterrent and does not prevent nest establishment but can delay the process. As such, it should only be used in conjunction with other methods. It cannot be used on its own to ensure compliance. Nest removal is not required if deterrents are installed before the start of the avoidance window unless nests interfere with successful installation of the deterrent.

Remove nests on the structure by scraping or pressure washing prior to established avoidance windows to deter nesting. Remove only unoccupied or partially constructed nests without eggs or nestlings. Remove newly built nests every two days before eggs are laid. Nest removal is intended to be used prior to and in conjunction with other nesting deterrents.

### **C.3 Exclusion Netting**

#### **C.3.1 Installation**

Using concrete screws, anchor lumber to bridge or culvert along perimeter of intended netting. Fasten netting to lumber until netting is held taut. Use the minimum length of lumber and netting necessary to avoid sections of netting that are not flush to the bridge or culvert. Eliminate any loose pockets or wrinkles that could trap and entangle birds or other wildlife. Ensure the net is pulled taut in order to prevent flapping in the wind, which results in tangles or breakage at mounting points.

For culverts, attach netting at a 45-degree angle at the culvert corner so it extends at least 12" below the corner.

### **C.4 Plastic Curtains**

#### **C.4.1 Installation**

Attach plastic curtains along the entire length of vertical surface or corner on which nest building is to be deterred. Affix plastic curtain strips to treated lumber with staples spaced a minimum of 1 foot O.C. Wrap plastic curtains around lumber prior to attaching it to the structure to reduce the likelihood of it tearing out at the staples. Screw lumber into the underside of the bridge deck or top of box culvert with concrete screws placed 24-inches O.C. minimum.

#### **C.5 Corner Slopes**

##### **C.5.1 Installation**

Attach corner slopes to the structure per the manufacturer's recommendations. Use urethane-based adhesives if manufacturer supplied hardware or adhesives are not available or no recommendations are provided. Install end caps or seal ends of corner slopes to prevent entry of birds or other animals.

#### **C.6 Inspection and Maintenance**

Inspect bird deterrent devices every two weeks both during and prior to construction when deterrents have been installed to exclude birds prior to nesting windows, and after large storm events or high winds. Ensure that netting is taut, that no gaps or holes have formed, and that the nets are functioning properly. Ensure that corner slopes are not cracked or otherwise damaged and are functioning properly. Ensure that curtains are undamaged, with no tears, holes, or creases. Repair any damaged or loose deterrent devices. Inspect, maintain, and repair nesting deterrents whether installed by the contractor or others. Repair, replace, supplement deterrents as necessary with materials meeting the requirements of this specification.

Remove any unoccupied or partially constructed nests without eggs or nestlings.

Repair deterrents to prevent birds from attempting to nest again.

Record all inspection, removal, and maintenance activities. Provide inspection, removal and maintenance records to the engineer upon request.

#### **C.7 Removal and Structure Repair**

Maintain the deterrent until the engineer determines that the deterrent is deemed no longer necessary. Upon completion of the project, remove any remaining migratory bird deterrent from the project site. If the existing bridge or culvert is to remain after construction, restore and repair as needed by use of engineer approved fillers, sealers and paint systems.

### **D Measurement**

The department will measure Installing and Maintaining Bird Deterrent System (Station) as a single unit at each structure, acceptably completed.

### **E Payment**

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

ITEM NUMBER	DESCRIPTION	UNIT
999.2000.S.01	Installing and Maintaining Bird Deterrent System Station 150+73	EACH

Payment for Installing and Maintaining Bird Deterrent System is full compensation for providing and installing deterrents that prevent migratory bird nesting; removing and disposing of unoccupied or partially constructed nests without eggs or nestlings; maintaining, repairing, replacing, supplementing, existing deterrent materials; repairing damage to structures resulting from installation of deterrents; removal and disposal of materials.

stp-999-200 (20250108)

## **23. Traffic Control, Digital Speed Reduction System (DSRS), Item SPV.0045.01.**

### **A Description**

This special provision describes furnishing, installing, repositioning, operating, maintaining, monitoring, testing and removing a Digital Speed Reduction System (DSRS) per plan or as the engineer directs.

### **B Material**

#### **B.1 Digital Speed Limit Trailer (DSLT)**

Furnish a DSLT from the department's approved products list.

## **B.2 Automated System Manager (ASM)**

Furnish an ASM from the department's approved products list to remotely change the speed limit on the DSRS devices.

## **C Construction**

### **C.1 General**

Trailer-mount the speed limit sign so that the bottom is a minimum 7 feet above the roadway.

Provide training to the department as needed on the use and operation of the field hardware and the website for the DSRS.

Ensure the DSRS operates continuously when deployed on the project.

Provide a local specialist to respond to emergency situations within 2 hours of being notified. Equip the local specialist with sufficient resources to correct deficiencies in the DSRS.

The Contractor will be responsible for coordinating with the engineer when the work zone speed limits are to be changed.

Place DSLT per plan in one direction.

For moving work operations, remove and reinstall with advance warning area every 3,500 feet.

Place DSLTs on the right side of the roadway or as directed by the engineer.

R2-1 sign shall be 48" x 60" and follow standard spec 643 for sign requirements.

When work is complete for the day store the DSLT off the right-of-way.

At the end of each day, the flagger(s) shall complete the Microsoft form provided by the department.

Each week, the contractor(s) shall attend the weekly meeting to provide feedback on the work zone safety pilot project and strategy deployed.

### **C.2 Programming**

#### **C.2.1 General**

Program the DSRS to ensure the following operations are performed:

1. Provide a password protected login to the ASM, website and all other databases.
2. Provide real-time data from the ASM to a website and refresh every 60 seconds. The website should have a full-color mapping feature. Data on the website should be available to the department staff at all times for the duration of the work zone activity and should include:
  - Dates and times of speed limit changes
  - Device locations
3. Archive all data in a spreadsheet format with date and time stamps.
4. Configure the website to quantify system failures which includes DSLT malfunction, loss of power, low battery, etc.
5. Ensure the devices autonomously restart in case of any power failure.
6. Provide the department access to manually override the DSRS for a user-specified duration. Document all override messages.
7. The digital display portion automatically adjusts the brightness under varying light conditions to maintain legibility.
8. Speed limit values shown on the digital display legend continuously displays without animation. Brief blanking may be experienced, up to 10 seconds, only during digital display legend user input utilizing the hard-wired hand control.
9. The digital display changes between the original posted speed limit and the approved temporary speed limit on the digital speed limit trailer when directed by the engineer.
10. The beacon on the DSLT shall flash in a wig-wag pattern when the speed limit has been reduced per the temporary speed declaration.

#### **C.2.2 System Operation Strategy**

When active work is taking place, the DSLT shall display the work zone speed limit and the beacons on the DSRT shall flash in a wig-wag pattern.

### **C.3 Reports**

Provide an electronic copy of a weekly summary report and end of project summary report via email to the engineer and Bureau of Traffic Operations ([DOTBTOworkzone@dot.wi.gov](mailto:DOTBTOworkzone@dot.wi.gov)). Include timestamped information on the date, time, messages, and speed limit for when the DSRS was changed.

### **D Measurement**

The department will measure DSRS by the day 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.0045.01	Digital Speed Reduction System	DAY

Payment is full compensation for furnishing, installing, repositioning, operating, maintaining, monitoring, testing and removing the DSRS consisting of DSLT and ASM.

The department will deduct one day for each calendar day the DSRS is required but out of service for more than 2 hours.

The engineer will have the sole discretion to assess the deductions for an improperly working DSRS.

## **24. HMA Pavement Percent Within Limits (PWL) QMP, Core Only Project; Incentive Density PWL HMA Pavement, Item SPV.0055.01; Incentive Air Voids HMA Pavement SPV.0055.02.**

### **A Description**

This special provision describes percent within limits (PWL) pay determination, providing and maintaining a contractor Quality Control (QC) Program, department Quality Verification (QV) Program, required sampling and testing, dispute resolution, corrective action, pavement density, and payment for HMA pavements. Pay is determined by statistical analysis performed on contractor and department test results conducted according to the Quality Management Program (QMP) as specified in standard spec 460, except as modified below.

### **B Materials**

Conform to the requirements of standard specs 450, 455, and 460 except where superseded by this special provision. The department will allow only one mix design for each HMA mixture type per layer required for the contract, unless approved by the engineer. The use of more than one mix design for each HMA pavement layer will require the contractor to construct a new test strip in accordance with HMA Pavement Percent Within Limits (PWL) QMP Test Strip Volumetrics article at no additional cost to the department. The HMA Pavement Percent Within Limits (PWL) QMP Test Strip Density article will not be added to the Core Only Projects. The contractor may correlate gauges by taking up to 10 additional cores (non-production) at any location during the project. The department will not correlate any gauges.

*Replace standard spec 460.2.8.2.1.3.1 Contracts with 5000 Tons of Mixture or Greater with the following:*

#### **460.2.8.2.1.3.1 Contracts under Percent within Limits**

<sup>(1)</sup> Furnish and maintain a laboratory at the plant site fully equipped for performing contractor QC testing. Have the laboratory on-site and operational before beginning mixture production.

<sup>(2)</sup> Obtain random samples and perform tests according to this special provision and further defined in Appendix A: *Test Methods & Sampling for HMA PWL QMP Projects*. Obtain HMA mixture samples from trucks at the plant. For the subplot in which a QV sample is collected, discard the QC sample and test a split of the QV sample.

<sup>(3)</sup> Perform sampling from the truck box according to WTM R97 and four-part splitting of HMA samples according to WTM R47. Sample size must be adequate to run the appropriate required tests in addition to one set of duplicate tests that may be required for dispute resolution (i.e., retained). This requires sample sizes which yield four splits for all random sampling per subplot. All QC samples shall provide the following: QC, QV, Retained, and Extra. Take possession of the QC and Extra split samples intended for QC

testing. The department will observe the splitting and take possession of the QV and Retained split samples intended for QV testing. Additional sampling details are found in Appendix A. Label samples according to WTM R97.

<sup>(4)</sup> Test the QC split sample using the test methods identified below at a frequency greater than or equal to that indicated. The Extra split sample shall be tested only when the Gmm and/or Gmb replicate tolerances are exceeded according to WTM T166 section 13.1.4 and WTM T209 section 14.1.1. When testing the Extra split sample, only the results from the test from which the tolerances were exceeded may replace the results from the QC split sample. The Rule of Retained according to CMM 836.1.2 applies.

- Blended aggregate gradations in accordance with WTM T30.
- Asphalt content (AC) in percent.

Determine AC using one of the following methods:

- AC by ignition oven according to WTM T308. If the department is using an ignition oven to determine AC, conform to WTP H-003. If the department is not using an ignition oven to determine AC, IOCFs must still be reverified for any of the reasons listed in WTP H-003 Table 2 and conform to WTP H-003 section 3.
- AC by chemical extraction according to AASHTO T164 Method A or B.
- AC by automated extraction according to WTM D8159.
  - Bulk specific gravity (Gmb) of the compacted mixture according to WTM T166.
  - Maximum specific gravity (Gmm) according to WTM T209.
  - Air voids ( $V_a$ ) by calculation according to WTM T269.
  - Voids in Mineral Aggregate (VMA) by calculation according to WTM R35 section 9.2.

<sup>(5)</sup> Lot size shall consist of 3,750 tons with sublots of 750 tons. Test each design mixture at a frequency of 1 test per 750 tons of mixture type produced and placed as part of the contract. Add a random sample for any fraction of 750 tons at the end of production for a specific mixture design. Partial lots with less than three subplot tests will be included into the previous lot for data analysis and pay adjustment. Volumetric lots will include all tonnage of mixture type under specified bid item unless otherwise specified in the plan.

<sup>(6)</sup> Conduct field tensile strength ratio tests according to WTM T283 on each qualifying mixture in accordance with CMM 836.6.14. Test each full 50,000-ton production increment, or fraction of an increment, after the first 5,000 tons of production. Perform required increment testing in the first week of production of that increment. If field tensile strength ratio values are below the spec limit, notify the engineer. The engineer and contractor will jointly determine a corrective action.

*Delete standard spec 460.2.8.2.1.5 and 460.2.8.2.1.6.*

*Replace standard spec 460.2.8.2.1.7 Corrective Action with the following:*

#### **460.2.8.2.1.7 Corrective Action**

<sup>(1)</sup> Material must conform to the following action and acceptance limits based on individual QC and QV test results (tolerances relative to the JMF used on the PWL Test Strip):

ITEM	ACTION LIMITS	ACCEPTANCE LIMITS
Percent passing given sieve:		
37.5-mm	+/- 8.0	
25.0-mm	+/- 8.0	
19.0-mm	+/- 7.5	
12.5-mm	+/- 7.5	
9.5-mm	+/- 7.5	
2.36-mm	+/- 7.0	
75- $\mu$ m	+/- 3.0	
AC in percent	-0.3	-0.5
Va		- 1.5 & +2.0

<sup>[1]</sup> VMA limits based on minimum requirement for mix design nominal maximum aggregate size in table 460-1.

(2) QV samples will be tested for Gmm, Gmb, and AC. Air voids and VMA will then be calculated using these test results.

(3) Notify the engineer if any individual test result falls outside the action limits, investigate the cause and take corrective action to return to within action limits. If two consecutive test results fall outside the action limits, stop production. Production may not resume until approved by the engineer. Additional QV samples may be collected upon resuming production, at the discretion of the engineer.

(4) For any additional non-random tests outside the random number testing conducted for volumetrics, the data collected will not be entered into PWL calculations. Additional QV tests must meet acceptance limits or be subject to production stop. If the department's non-random test does not conform to the acceptance limits, the retained sample will be tested by the BTS lab. If the BTS results also do not meet the acceptance limits, the material will be considered unacceptable as described in (5) below.

(5) Remove and replace unacceptable material at no additional expense to the department. Unacceptable material is defined as any individual QC or QV tests results outside the acceptance limits or a PWL value < 50. For AC in percent, unacceptable material is defined as any individual QV test result outside of the acceptance limit. The engineer may allow such material to remain in place with a price reduction. The department will pay for such HMA Pavement allowed to remain in place at 50 percent of the contract unit price.

*Replace standard spec 460.2.8.3.1.2 Personnel Requirements with the following:*

#### **460.2.8.3.1.2 Personnel Requirements**

(1) The department will provide at least one HTCP-certified Transportation Materials Sampling (TMS) Technician, to observe QV sampling of HMA mixtures.

(2) Under departmental observation, a contractor TMS technician shall collect and split samples.

(3) A department HTCP-certified Hot Mix Asphalt, Technician I, Production Tester (HMA-IPT) technician will ensure that all sampling is performed correctly and conduct testing, analyze test results, and report resulting data.

(4) The department will make an organizational chart available to the contractor before mixture production begins. The organizational chart will include names, telephone numbers, and current certifications of all QV testing personnel. The department will update the chart with appropriate changes, as they become effective.

*Replace standard spec 460.2.8.3.1.4 Department Verification Testing Requirements with the following:*

#### **460.2.8.3.1.4 Department Verification Testing Requirements**

(1) HTCP-certified department personnel will obtain QV random samples by directly supervising HTCP-certified contractor personnel sampling from trucks at the plant. Sample size must be adequate to run the appropriate required tests in addition to one set of duplicate tests that may be required for dispute resolution (i.e., retained). This requires sample sizes which yield four splits for all random sampling per subplot. All QV samples shall furnish the following: QC, QV, Retained, and Extra. The department will observe the splitting and take possession of the QV, Retained, and Extra split samples intended for QV testing. The department will take possession of retained samples accumulated to date each day QV samples are collected. The department will retain samples until surpassing the analysis window of up to 5 lots, as defined in 460.2.8.3.1.7(2) of this special provision. Additional sampling details are found in Appendix A.

(2) The department will verify product quality using the test methods specified here in 460.2.8.3.1.4(3). The department will identify test methods before construction starts and use only those methods during production of that material unless the engineer and contractor mutually agree otherwise.

(3) The department will test the QV split sample using the test methods identified below at the frequency indicated. The Extra split sample will be tested only when the Gmm and/or Gmb replicate tolerances are exceeded according to WTM T166 section 13.1.4 and WTM T209 section 14.1.1. When testing the Extra split sample, only the results from the test from which the tolerances were exceeded may replace the results from the QV split sample. The Rule of Retained according to CMM 836.1.2 applies. In the event

that both the department and contractor's replicate tolerances are exceeded, perform dispute resolution according to 460.2.8.3.1.7(2).

- Bulk specific gravity (Gmb) of the compacted mixture according to WTM T166.
- Maximum specific gravity (Gmm) according to WTM T209.
- Air voids (Va) by calculation according to WTM T269.
- Voids in Mineral Aggregate (VMA) by calculation according to WTM R35 section 9.2.
- Asphalt Content (AC) in percent determined by ignition oven method according to WTM T308 and conforming to WTP H-003, chemical extraction according to AASHTO T164 Method A or B, or automated extraction according to WTM D8159.

(4) The department will randomly test each design mixture at the minimum frequency of one test for each lot.

*Delete standard spec 460.2.8.3.1.6.*

*Replace standard spec 460.2.8.3.1.7 Dispute Resolution with the following:*

#### **460.2.8.3.1.7 Data Analysis for Volumetrics**

(1) Analysis of test data for pay determination will be contingent upon QC and QV test results. Statistical analysis will be conducted on Gmm and Gmb test results for calculation of Va. If either Gmm or Gmb analysis results in non-comparable data as described in 460.2.8.3.1.7(2), subsequent testing will be performed for both parameters as detailed in the following paragraph.

(2) The engineer, upon completion of the first 3 lots, will compare the variances (F-test) and the means (t-test) of the QV test results with the QC test results. Additional comparisons incorporating the first 3 lots of data will be performed following completion of the 4<sup>th</sup> and 5<sup>th</sup> lots (i.e., lots 1-3, 1-4, and 1-5). A rolling window of 5 lots will be used to conduct F & t comparison for the remainder of the contract (i.e., lots 2-6, then lots 3-7, etc.), reporting comparison results for each individual lot. Analysis will use a set alpha value of 0.025. If the F- and t-tests report comparable data, the QC and QV data sets are determined to be statistically similar and QC data will be used to calculate the Va used in PWL and pay adjustment calculations. If the F- and t-tests result in non-comparable data, proceed to the *dispute resolution* steps found below. Note: if both QC and QV Va PWL result in a pay adjustment of 102% or greater, dispute resolution testing will not be conducted. Dispute resolution via further investigation is as follows:

[1] The Retained portion of the split from the lot in the analysis window with a QV test result furthest from the QV mean (not necessarily the subplot identifying that variances or means do not compare) will be referee tested for Gmm, Gmb, and Asphalt Content by the bureau's AASHTO accredited laboratory and certified personnel. All previous lots within the analysis window are subject to referee testing and regional lab testing as deemed necessary. Referee test results will replace the QV data of the subplot(s).

[2] Statistical analysis will be conducted with referee test results replacing QV results.

- i. If the F- and t-tests indicate variances and means compare, no further testing is required for the lot and QC data will be used for PWL and pay factor/adjustment calculations.
- ii. If the F- and t-tests indicate non-comparable variances or means, the Retained portion of the random QC sample will be tested for Gmm, Gmb, and Asphalt Content by the department's regional lab for the remaining 4 sublots of the lot which the F- and t- tests indicate non-comparable datasets. The department's regional lab and the referee test results will be used for PWL and pay factor/adjustment calculations. Upon the second instance of non-comparable variance or means and for every instance thereafter, the department will assess a pay reduction for the additional testing of the remaining 4 sublots at \$2,000/lot under the HMA Regional Lab Testing administrative item.

[3] The contractor may choose to dispute the regional test results on a lot basis within 7 days after receiving results from the region. In this event, the retained portion of each subplot will be referee tested by the department's AASHTO accredited laboratory and certified personnel. The referee Gmm and Gmb test results will supersede the regional lab results for the disputed lot.

- i. If referee testing results in an increased calculated pay factor, the department will pay for the cost of the additional referee testing.

- ii. If referee testing of a disputed lot results in an equal or lower calculated pay factor, the department will assess a pay reduction for the additional referee testing at \$2,000/lot under the Referee Testing administrative item.

<sup>(3)</sup> The department will notify the contractor of the referee test results within 3 working days after receipt of the samples by the department's AASHTO accredited laboratory. The intent is to provide referee test results within 7 calendar days from completion of the lot.

<sup>(4)</sup> The department will determine mixture conformance and acceptability by analyzing referee test results, reviewing mixture data, and inspecting the completed pavement, this special provision, and accompanying Appendix A.

<sup>(5)</sup> Unacceptable material (i.e., resulting in a PWL value less than 50 or individual QC or QV test results not meeting the Acceptance Requirements of 460.2.8.2.1.7 as modified herein) will be referee tested by the bureau's AASHTO accredited laboratory and certified personnel and those test results used for analysis. Such material may be subject to remove and replace, at the discretion of the engineer. If the engineer allows the material to remain in place, it will be paid at 50% of the HMA Pavement contract unit price. Replacement or pay adjustment will be conducted on a subplot basis. If an entire PWL subplot is removed and replaced, the test results of the newly placed material will replace the original data for the subplot. Any remove and replace shall be performed at no additional cost to the department. Testing of replaced material must include a minimum of one QV result. [Note: If the removed and replaced material does not result in replacement of original QV data, an additional QV test will be conducted and under such circumstances will be entered into the HMA PWL Production spreadsheet for data analysis and pay determination.] The quantity of material paid at 50% the contract unit price will be deducted from PWL pay adjustments, along with accompanying data of this material.

*Delete standard spec 460.2.8.3.1.8 Corrective Action.*

## C Construction

*Replace standard spec 460.3.3.2 Pavement Density Determination with the following:*

### 460.3.3.2 Pavement Density Determination by Cores

<sup>(1)</sup> For mainline pavement, determine density with cores. Full width passing lanes, turn lanes, or auxiliary lanes must be 1,500 lane feet or greater to be eligible for PWL density. Shoulder and appurtenance density will be accepted by cores and shall have average lot (daily) densities conforming to standard spec Table 460-3 or else be subject to disincentives according to 460.5.2.2(5) herein. No density incentive will be applied to shoulders or appurtenances.

<sup>(2)</sup> The engineer will determine the target maximum density using department procedures described in WTM T355 and CMM 815. The engineer will determine density as soon as practicable after compaction and before placement of subsequent layers or before opening to traffic.

<sup>(3)</sup> A lot is defined as 7,500 lane feet with sublots of 1,500 lane feet (excluding shoulder, even if paved integrally) and placed within a single layer for each location and target maximum density category indicated in table 460-3. A partial quantity less than 750 lane feet will be included with the previous subplot. Partial lots with less than three sublots will be included in the previous lot for data analysis/acceptance and pay, by the engineer.

<sup>(4)</sup> Under the direct observation of the engineer, cut 100 or 150 mm (4 or 6 inch) diameter cores from the pavement according to WTM R67 and Table 1 at one random location, determined by the engineer, per subplot. Each core will represent the entire length and width of the subplot. Cores will be cut by the next day, except if the next day is not a working day, then they shall be cut within 48 hours after placement. Fill core holes according to WTM R67 section 5.8 and obtain engineer approval before opening to traffic. Prepare cores and determine density according to WTM T166. Dry cores after testing according WTM R79. The department will label cores, transport cores to testing facilities, witness testing, store dried cores, and provide subsequent verification testing.

**Table 1: Core Density Testing<sup>(1)</sup>**

Application	Test Method	Test Locations	Frequency
Mainline	<a href="#">WTM R67</a>	<a href="#">WTP H-002</a>	1 / 1,500 LF

Shoulders & Appurtenances		Width ≤ 5 ft.	5 ft. < Width ≤ 9 ft.	Width > 9 ft.
		1 / 4,500 LF	1 / 3,000 LF	1 / 1,500 LF

<sup>[1]</sup> Replaces Table 1 in [WTP H-002](#) for shoulder and appurtenant testing.

<sup>(5)</sup> If a core is damaged at the time of coring, immediately take a replacement core 1 foot ahead of the existing testing location in the direction of traffic at the same offset as the damaged core. If a core is damaged during transport, record it as damaged and notify the engineer immediately.

<sup>(6)</sup> Do not re-roll compacted mixtures with deficient density test results. Do not operate continuously below the specified minimum density. Stop production, identify the source of the problem, and make corrections to produce work meeting the specification requirements.

*Replace standard spec 460.3.3.3 Waiving Density Testing with Acceptance of Density Data with the following:*

#### **460.3.3.3 Analysis of Density Data**

<sup>(1)</sup> As random density locations are paved, the core data will be recorded in the HMA PWL Production Spreadsheet for analysis in chronological order. Each lot will contain core density data from a single HMA mixture type placed over a specific underlying material.

<sup>(2)</sup> The department reserves the right to verify the density of any core and the department's result may be used for PWL and pay adjustment calculations, at the discretion of the engineer.

<sup>(3)</sup> The department will determine mixture density conformance and acceptability by analyzing test results, reviewing mixture data, and inspecting the completed pavement according to standard spec, this special provision, and accompanying Appendix A.

<sup>(4)</sup> Upon the completion of each lot, core data will be used by the department for PWL and pay adjustment calculation.

<sup>(5)</sup> Density resulting in a PWL value less than 50 or not meeting the requirements of 460.3.3.1 (any individual density test result falling more than 3.0 percent below the minimum required target maximum density as specified in standard spec Table 460-3) is unacceptable and may be subject to remove and replace at no additional cost to the department, at the discretion of the engineer.

- i. Replacement is conducted on a subplot basis. If an entire PWL subplot is removed and replaced, the test results of the newly placed material will replace the original data for the subplot.
- ii. Testing of replaced material must include a minimum of one QV result. [Note: If the removed and replaced material does not result in replacement of original QV data, an additional QV test must be conducted and under such circumstances will be entered into the data analysis and pay determination.]
- iii. If the engineer allows such material to remain in place, it will be paid for at 50% of the HMA Pavement contract unit price. The extent of unacceptable material will be addressed as specified in CMM 815.11. The quantity of material paid at 50% the contract unit price will be deducted from PWL pay adjustments, along with accompanying data of this material.

#### **D Measurement**

The department will measure the HMA Pavement bid items acceptably completed by the ton as specified in standard spec 450.4 and as follows in standard spec 460.5 as modified in this special provision.

#### **E Payment**

*Replace standard spec 460.5.2 HMA Pavement with the following:*

#### **460.5.2 HMA Pavement**

##### **460.5.2.1 General**

<sup>(1)</sup> Payment for HMA Pavement Type LT, MT, and HT mixes is full compensation for providing HMA mixture designs; for preparing foundation; for furnishing, preparing, hauling, mixing, placing, and compacting mixture; for HMA PWL QMP testing and aggregate source testing; for warm mix asphalt additives or processes; for stabilizer, hydrated lime and liquid antistripping agent, if required; and for all materials including asphaltic materials.

(2) If provided for in the plan quantities, the department will pay for a leveling layer, placed to correct irregularities in an existing paved surface before overlaying, under the pertinent paving bid item. Absent a plan quantity, the department will pay for a leveling layer as extra work.

#### 460.5.2.2 Calculation of Pay Adjustment for HMA Pavement using PWL

(1) Pay adjustments will be calculated using 65 dollars per ton of HMA pavement. The HMA PWL Production Spreadsheet, including data, will be made available to the contractor by the department as soon as practicable upon completion of each lot. The department will pay for measured quantities of mix based on this price multiplied by the following pay adjustment calculated in accordance with the HMA PWL Production Spreadsheet:

##### PAY FACTOR FOR HMA PAVEMENT AIR VOIDS & DENSITY

PERCENT WITHIN LIMITS (PWL)	PAYMENT FACTOR, PF (percent of \$65/ton)
$\geq 90$ to 100	$PF = ((PWL - 90) * 0.4) + 100$
$\geq 50$ to $< 90$	$(PWL * 0.5) + 55$
$< 50$	50% <sup>[1]</sup>

where PF is calculated per air voids and density, denoted  $PF_{air\ voids}$  &  $PF_{density}$ .

<sup>[1]</sup> Any material resulting in PWL value less than 50 shall be removed and replaced unless the engineer allows such material to remain in place. In the event the material remains in place, it will be paid at 50% of the contract unit price of HMA pavement.

(2) For air voids, PWL values will be calculated using lower and upper specification limits of 2.0 and 4.3 percent, respectively. Lower specification limits for density shall be in accordance with standard spec Table 460-3.

(3) Pay adjustment will be determined on a lot basis and will be computed as shown in the following equation.

$$\text{Pay Adjustment} = (PF-100)/100 \times (WP) \times (\text{tonnage}) \times (\$65/\text{ton})^*$$

\*Note: If the Pay Factor = 50%, the contract unit price will be used in lieu of \$65/ton and the weighted percentage (WP) will equal 1.0. The following weighted percentage (WP) values will be used for the corresponding parameter:

Parameter	WP
Air Voids	0.5
Density	0.5

(4) Individual Pay Factors for each air voids ( $PF_{air\ voids}$ ) and density ( $PF_{density}$ ) will be determined.  $PF_{air\ voids}$  will be multiplied by the total tonnage placed (i.e., from truck tickets), and  $PF_{density}$  will be multiplied by the calculated tonnage used to pave the mainline only (i.e., traffic lanes excluding shoulder) as determined in accordance with Appendix A.

(5) Pay adjustment for shoulders and appurtenances accepted by department testing will be determined on a lot basis. If the lot density is less than the specified minimum in table 460-3, the department will reduce pay based on the contract unit price for the HMA pavement bid item for that lot as follows:

##### DISINCENTIVE PAY REDUCTION FOR HMA PAVEMENT DENSITY

PERCENT LOT DENSITY BELOW SPECIFIED MINIMUM	PAYMENT FACTOR (percent of contract price)
From 0.5 to 1.0 inclusive	98
From 1.1 to 1.5 inclusive	95
From 1.6 to 2.0 inclusive	91
From 2.1 to 2.5 inclusive	85
From 2.6 to 3.0 inclusive	70

More than 3.0<sup>[1]</sup>

[1] Remove and replace the lot with a mixture at the specified density. When acceptably replaced, the department will pay for the replaced work at the contract unit price. Alternatively, the engineer may allow the nonconforming material to remain in place with a 50 percent payment factor.

(6) The department will pay incentive for air voids and density under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0055.01	Incentive Density PWL HMA Pavement	DOL
SPV.0055.02	Incentive Air Voids HMA Pavement	DOL

(7) The department will administer disincentives under the Disincentive Density HMA Pavement and the Disincentive Air Voids HMA Pavement administrative items.

(8) The department will administer a disincentive under the Disincentive HMA Binder Content administrative item for each individual QV test result indicating asphalt binder content below the Action Limit in 460.2.8.2.1.7 presented herein. The department will adjust pay per subplot of mix at 65 dollars per ton of HMA pavement multiplied by the following pay adjustment calculated according to the HMA PWL Production Spreadsheet:

<u>AC Binder Relative to JMF</u>	<u>Pay Adjustment / Sublot</u>
-0.4% to -0.5%	75% <sup>[1]</sup>
More than -0.5%	50% <sup>[1][2]</sup>

<sup>[1]</sup> Any material resulting in an asphalt binder content more than 0.3% below the JMF AC content will be referred tested by the department's AASHTO accredited laboratory and HTCP certified personnel using automated extraction according to automated extraction according to WTM D8159.

<sup>[2]</sup> Any material resulting in an asphalt binder content more than 0.5% below the JMF AC content shall be removed and replaced unless the engineer allows such material to remain in place. In the event the material remains in place, it will be paid at 50% of the contract unit price of HMA pavement.

Note: PWL value determination is further detailed in the *PWL Production Spreadsheet Instructions located in the Project Info and Instructions tab* of the HMA PWL Production spreadsheet.

## 25. Appendix A, Core Only Project.

### **Test Methods & Sampling for HMA PWL QMP Projects.**

The following procedures are included with the HMA Pavement Percent Within Limits (PWL) Quality Management Program (QMP) special provision:

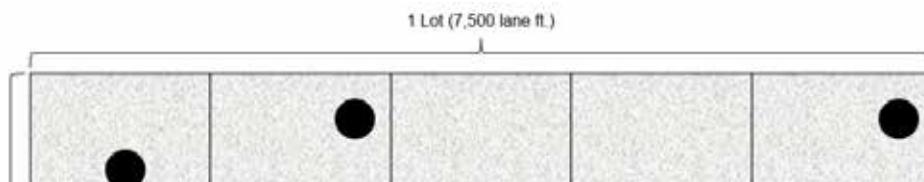
- WisDOT Test Method for HMA PWL QMP Density Measurements for Main Production
- Sampling for WisDOT HMA PWL QMP
- Calculation of PWL Mainline Tonnage Example

#### **WisDOT Test Method for HMA PWL QMP Density Determination for Main Production**

For mainline density determination, typical subplot lengths are 1,500 lane feet and lots typically consist of 5 sublots. Partial lots with less than three sublots remaining at the end of the project will be included in the previous lot, by the engineer. The PWL Density measurements do not include the shoulder and other appurtenances. Such areas are tested by the department and are not eligible for density incentive but are subject to disincentive according to 460.5.2.2(5) of the HMA PWL QMP STSP.

#### **Determination by Cores**

For mainline density determination by cores, collect one core per subplot. Each core location is determined by the engineer using random numbers and represents the entire length and width of the subplot. The contractor is responsible for all work related to coring and filling of the core holes according to WTM R67. Each core is tested for density according to WTM T166 by the contractor and witnessed by a department representative. The department must always maintain custody of the cores during collection, transportation, and testing. Figure 5 shows an example coring layout for a 12-foot-wide lane.



**Figure 5: Example core density locations for traffic lanes**

**Sampling for WisDOT HMA PWL QMP Production**

Sampling of HMA mix for QC, QV, Retained, and Extra split samples shall conform to WTM R97 and WTM R47.

**Sampling Hot Mix Asphalt**

At the beginning of the contract, determine the anticipated tonnage to be produced. The frequency of sampling is 1 per 750 tons (sublot) for QC and Retained Samples and 1 per 3,750 tons (lot or 5 sublots) for QV as defined by the HMA PWL QMP STSP. A test sample is obtained randomly from each subplot. Collect each random sample at the plant according to WTM R97. Submit the random numbers for all mix sampling to the department before production begins.

*Example 1*

Expected production for a contract is 12,400 tons. The number of required samples is determined based on this expected production (per HMA PWL QMP SPV) and is determined by the random sample calculation.

- Sample 1 – from 50 to 750 tons
- Sample 2 – from 751 to 1500 tons
- Sample 3 – from 1501 to 2250 tons
- Sample 4 – from 2251 to 3000 tons
- Sample X – .....
- Sample 16 – from 11,251 to 12,000 tons
- Sample 17 – from 12,001 to 12,400 tons

The approximate location of each sample within the prescribed sublots is determined by selecting random numbers using WTM D3665. The random numbers selected are used in determining when a sample is to be taken and will be multiplied by the subplot tonnage. This number will then be added to the final tonnage of the previous subplot to yield the approximate cumulative tonnage of when each sample is to be taken. To allow for plant start-up variability, the procedure calls for the first random sample to be taken at 50 tons or greater per production day (not intended to be taken in the first two truckloads). Random samples calculated for 0-50 ton shall be taken in the next truck (51-75 ton).

This procedure is to be used for any number of samples per contract.

If the production is less than the final randomly generated sample tonnage, then the random sample is to be collected from the remaining portion of that subplot of production. If the randomly generated sample is calculated to be within the first 0-50 tons of the subsequent day of production, it shall be taken in the next truck. Add a random sample for any fraction of 750 tons at the end of the contract. Lot size will consist of

3,750 tons with sublots of 750 tons. Partial lots with less than three subplot tests will be included into the previous lot, by the engineer.

It's intended that the plant operator is not advised ahead of time when samples are to be taken.

If belt samples are used during troubleshooting, the blended aggregate will be obtained when the mixture production tonnage reaches approximately the sample tonnage. For plants with storage silos, this could be up to 60 minutes in advance of the mixture sample that's taken when the required tonnage is shipped from the plant.

Collect QC, QV, Retained, and Extra split samples for all test strip and production mixture testing using a four-part splitting procedure according to WTM R47.

### Calculation of PWL Mainline Tonnage Example

A mill and overlay project is being constructed with a 12-foot traffic lane and an integrally paved 3-foot shoulder. The layer thickness is 2 inches for the full width of paving. Calculate the tonnage in each subplot eligible for density incentive or disincentive.

**Solution:**

$$\frac{1500 \text{ ft} \times 12 \text{ ft} \times 2 \text{ in} \times 112 \text{ lb/sy/in}}{9 \text{ sf/sy} \times 2000 \text{ lb/ton}} = 224 \text{ tons}$$

## 26. HMA Pavement Longitudinal Joint Density, Core Only Project; Incentive Density HMA Pavement Longitudinal Joints, Item SPV.0055.03.

### A Description

This special provision incorporates longitudinal joint density requirements into the contract and describes the data collection, acceptance, and procedure used for determination of pay adjustments for HMA pavement longitudinal joint density. Pay adjustments will be made on a linear foot basis, as applicable per pavement layer and paving lane. Applicable longitudinal joints are defined as those between any two or more traffic lanes including full-width passing lanes, turn lanes, or auxiliary lanes more than 1500 lane feet, and those lanes must also include the 460.2005 Incentive Density PWL HMA Pavement bid item. This excludes any joint with one side defined as a shoulder and ramp lanes of any length. If echelon paving is required in the contract, the longitudinal joint density specification shall not apply for those joints. Longitudinal joints placed during a test strip will be tested for information only to help ensure the roller pattern will provide adequate longitudinal joint density during production. Longitudinal joint density test results collected during a test strip are not eligible for pay adjustment.

Pay is determined according to standard spec 460, HMA Pavement Percent Within Limits QMP special provisions, and as modified within.

### B Materials

Compact all applicable HMA longitudinal joints to the appropriate density based on the layer, confinement, and mixture type shown in Table B-1.

TABLE B-1 MINIMUM REQUIRED LONGITUDINAL JOINT DENSITY

Layer	Percent of Target Maximum Density			
	Unconfined		Confined	
	LT and MT	HT	LT and MT	HT
Lower (on crushed/recycled base)	88	89	89.5	90.5

Lower (on Concrete/HMA)	90 <sup>[1]</sup>	90 <sup>[1]</sup>	91.5 <sup>[1]</sup>	91.5 <sup>[1]</sup>
Upper	90	90	91.5	91.5

<sup>[1]</sup> Minimum reduced by 1.0 percent for a 1.25-inch-thick No. 5 mix lower layer constructed on a paved or milled surface.

## C Construction

*Add the following to standard spec 460.3.3.2:*

- (5) Establish companion density locations for each applicable joint. Each companion location shares longitudinal stationing with the QV mainline density location within each subplot and is located transversely with the center of the core 6-inches from the final joint edge of the paving area. Sublot and lot numbering remains the same as mainline densities, however, in addition to conventional naming, joint identification must clearly indicate "M" for inside/median side of lane or "O" for outside shoulder side of lane, as well as "U" for an unconfined joint or "C" for a confined joint (e.g., XXXXX-MC or XXXXX-OU).
- (6) Each joint shall be measured, reported, and accepted under methods, testing times, and procedures consistent with the program employed for mainline density, i.e., PWL.
- (7) For single density test results greater than 3.0% below specified minimums per Table B-1 herein, perform the following:
  - a) Testing at 50-foot increments both ahead and behind the unacceptable site
  - b) Continued 50-foot incremental testing until test values indicate higher than or equal to -3.0 percent from target joint density.
  - c) Materials within the incremental testing indicating lower than -3.0 percent from target joint density are defined as unacceptable and will be handled with remedial action as defined in the payment section of this document.
  - d) The remaining subplot average (exclusive of unacceptable material) will be determined by the first forward and backward 50-foot incremental tests that reach the criteria of higher than or equal to -3.0 percent from target joint density.

Note: If the 50-foot testing extends into a previously accepted subplot, remedial action is required up to and inclusive of such material; however, the results of remedial action must not be used to recalculate the previously accepted subplot density. When this occurs, the lane feet of any unacceptable material will be deducted from the subplot in which it is located, and the previously accepted subplot density will be used to calculate pay for the remainder of the subplot.

- (8) Joint density measurements shall be recorded in the HMA PWL Production Spreadsheet.
- (9) Placement and removal of excess material outside of the final joint edge, to increase joint density at the longitudinal joint testing location, shall be done at the contractor's discretion and cost. This excess material and related labor will be considered waste and will not be paid for by the department. Joints with excess material placed outside of the final joint edge to increase joint density or where a notched wedge is used will be considered unconfined joints.
- (10) When not required by the contract, echelon paving may be performed at the contractor's discretion to increase longitudinal joint density and still remain eligible to earn incentive. The additional costs incurred related to echelon paving will not be paid for by the department. If lanes are paved in echelon, the contractor may choose to use a longitudinal vertical joint or notched wedge longitudinal joint as described in [SDD 13c19 HMA Longitudinal Joints](#). Lanes paved in echelon will be considered confined on both sides of the joint regardless of the selected joint design. Place the joint between echelon paved lanes at the centerline or along lane lines.
- (11) When performing inlay paving below the elevation of the adjacent lane, the longitudinal joint along the adjacent lane to be paved shall be considered unconfined.

## D Measurement

<sup>(1)</sup> The department will measure each side of applicable longitudinal joints, as defined in Section A of this special provision, by the linear foot of pavement acceptably placed. Measurement will be conducted independently for the inside or median side and for the outside or shoulder side of paving

lanes with two applicable longitudinal joints. Each paving layer will be measured independently at the time the mat is **placed**.

## **E Payment**

*Add the following as 460.5.2.4 Pay Adjustment for HMA Pavement Longitudinal Joint Density:*

(1) The department will administer longitudinal joint density adjustments under the Incentive Density HMA Pavement Longitudinal Joints and Disincentive Density HMA Pavement Longitudinal Joints items. The department will adjust pay based on density relative to the specified targets in Section B of this special provision, and linear foot of the HMA Pavement bid item for that sublot as follows:

### **PAY ADJUSTMENT FOR HMA PAVEMENT LONGITUDINAL JOINT DENSITY**

PERCENT SUBLLOT DENSITY	PAY ADJUSTMENT PER LINEAR FOOT
-------------------------	--------------------------------

#### ABOVE/BELOW SPECIFIED MINIMUM

Equal to or greater than +1.0 confined, +2.0 unconfined	\$0.20
From 0.0 to +0.9 confined, 0.0 to +1.9 unconfined	\$0
From -0.1 to -1.0	\$(0.20)
From -1.1 to -2.0	\$(0.40)
From -2.1 to -3.0	\$(0.80)
More than -3.0	<i>REMEDIAL ACTION<sup>(1)</sup></i>

<sup>(1)</sup> Remedial action must be approved by the engineer and agreed upon at the time of the pre-pave meeting and may include partial sublots as determined and defined in 460.3.3.2(7) of this document. If unacceptable material is removed and replaced per guidance by the engineer, the removal and replacement will be for the full lane width of the side of which the joint was constructed with unacceptable material.

(2) The department will not assess joint density disincentives for pavement placed in cold weather because of a department-caused delay as specified in [standard spec 450.5.2\(3\)](#).

(3) The department will not pay incentive on the longitudinal joint density if the traffic lane is in disincentive. A disincentive may be applied for each mainline lane and all joint densities if both qualify for a pay reduction.

(4) Inlay paving operations will limit payment for additional material to 2 inches wider than the final paving lane width at the centerline.

The department will pay incentive for longitudinal joint density under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0055.03	Incentive Density HMA Pavement Longitudinal Joints	DOL

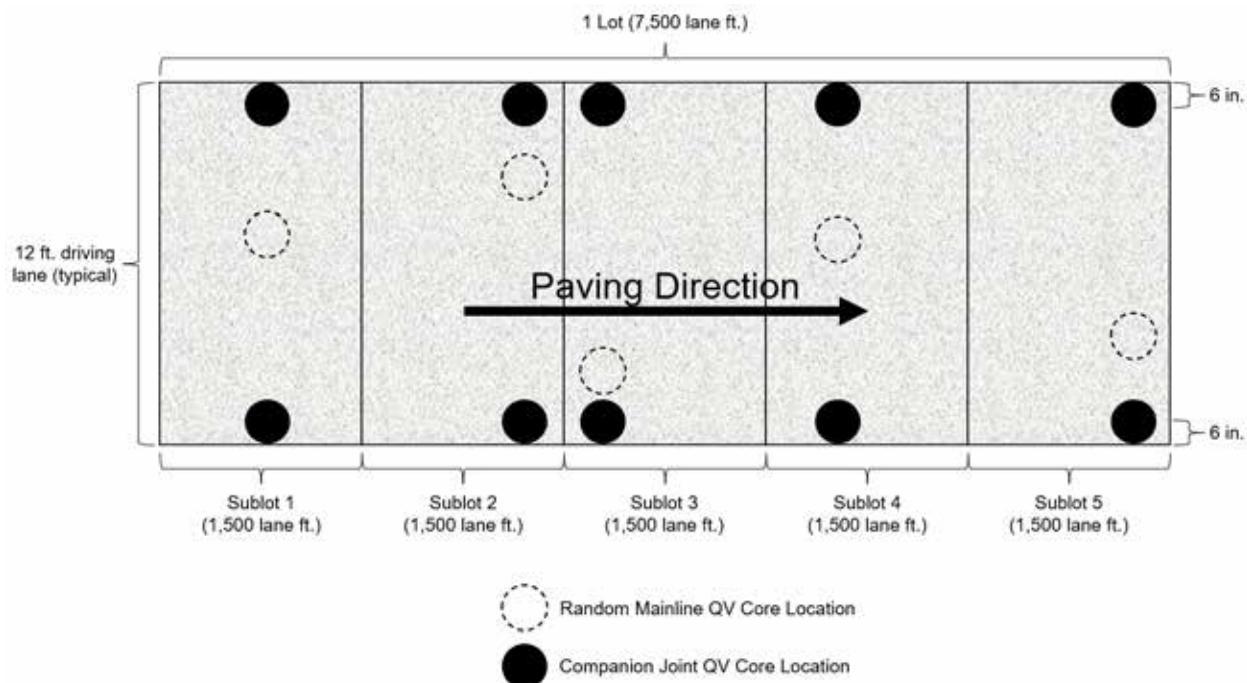
The department will administer disincentives under the Disincentive Density HMA Pavement Longitudinal Joints administrative item.

## **Appendix**

### **WisDOT Longitudinal Joint – Core Density Layout**

Each mainline QV density location must have a companion longitudinal joint density location for applicable joints. This companion location shares the longitudinal stationing for each QV mainline density location and is located transversely with the center of the core 6-inches from the final joint edge of the paving area.

**For HMA Pavement Percent Within Limits QMP projects**, this appears as follows:



**Further Explanation of PAY ADJUSTMENT FOR HMA PAVEMENT LONGITUDINAL JOINT DENSITY**  
Table

	Confined				Pay Adjust	
	Lower Layer (On Base)		Upper Layer			
	LT/MT	HT	LT/MT	HT		
Mainline Target (SS 460-3)	91.0	92.0	93.0	93.0	-	
Confined Target (mainline - 1.5)	89.5	90.5	91.5	91.5	-	
Equal to or greater than +1.0	$\geq 90.5$	$\geq 91.5$	$\geq 92.5$	$\geq 92.5$	\$0.20	
From 0.0 to +0.9	90.4 - 89.5	91.4 - 90.5	92.4 - 91.5	92.4 - 91.5	\$0	
From -0.1 to -1.0	89.4 - 88.5	90.4 - 89.5	91.4 - 90.5	91.4 - 90.5	(\$0.20)	
From -1.1 to -2.0	88.4 - 87.5	89.4 - 88.5	90.4 - 89.5	90.4 - 89.5	(\$0.40)	
From -2.1 to -3.0	87.4 - 86.5	88.4 - 87.5	89.4 - 88.5	89.4 - 88.5	(\$0.80)	
More than -3.0	$< 86.5$	$< 87.5$	$< 88.5$	$< 88.5$	REMEDIAL ACTION	

	Unconfined				Pay Adjust	
	Lower Layer (On Base)		Upper Layer			
	LT/MT	HT	LT/MT	HT		
Mainline Target (SS 460-3)	91.0	92.0	93.0	93.0	-	
Unconfined Target (Mainline -3.0)	88.0	89.0	90.0	90.0	-	
Equal to or greater than +2.0	$\geq 90.0$	$\geq 91.0$	$\geq 92.0$	$\geq 92.0$	\$0.20	
From 0.0 to +1.9	89.9 - 88.0	90.9 - 89.0	91.9 - 90.0	91.9 - 90.0	\$0	
From -0.1 to -1.0	87.9 - 87.0	88.9 - 88.0	89.9 - 89.0	89.9 - 89.0	(\$0.20)	
From -1.1 to -2.0	86.9 - 86.0	87.9 - 87.0	88.9 - 88.0	88.9 - 88.0	(\$0.40)	
From -2.1 to -3.0	85.9 - 85.0	86.9 - 86.0	87.9 - 87.0	87.9 - 87.0	(\$0.80)	
More than -3.0	$< 85.0$	$< 86.0$	$< 87.0$	$< 87.0$	REMEDIAL ACTION	

**27. Removing Distressed Pavement Milling, Item SPV.0180.01.**

**A Description**

This special provision describes the removal and disposal of additional 2-inches of asphaltic pavement by milling in areas of distressed pavement. This will be completed in spot locations throughout the project as directed by the engineer.

**B (Vacant)**

**C Construction**

**C.1 Milling**

Use a milling machine designed and constructed for milling pavements without tearing or gouging the underlying surface. Space the teeth on the drum to mill a surface finish that is acceptable to the engineer. Shroud the machine to prevent discharge of any loosened material into adjacent work areas or live traffic lanes. Equip the machine with electronic devices that provide accurate depth, grade, and slope control, and an acceptable dust control system.

The milling operation is to be done in a manner to prevent damage to the remaining pavement. It should result in a reasonably uniform plane surface free of excessively large scarification marks, and with the uniform transverse slope required on the plans or directed by the engineer.

Any milled surface will not be allowed during nonworking hours. Windrowing or storing of the removed milled asphaltic pavement on the road is only permitted in connection with the continuous removal and pick-up operation. During nonworking hours, clear the road of waste materials and equipment.

The removed material shall become the property of the contractor. Properly dispose of it in accordance with section 204 of the standard specifications.

**C.2 Cleaning**

Clean the milled surface by removing all dust, dirt, debris, or other foreign or loose material.

**C.3 Pavement Prep**

The cleaned milled surface will have Tack Coat applied and be filled with Asphaltic Surface.

**D Measurement**

The department will measure Removing Distressed Pavement Milling 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
SPV.0180.01	Removing Distressed Pavement Milling	SY

Payment is full compensation for removing the asphaltic surface; cleaning the milled surface; and for disposing of waste material. Tack Coat and Asphaltic Surface will be paid for separately.

## **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 Provision 6 (ASP-6)**  
**Modifications to the standard specifications**

**Table of Contents**

<a href="#"><u>Section 104 Scope of Work</u></a> .....	1
<a href="#"><u>Section 107 Legal Relations and Responsibility to the Public</u></a> .....	1
<a href="#"><u>Section 305 Dense Graded Base</u></a> .....	2
<a href="#"><u>Section 310 Open-Graded Base</u></a> .....	3
<a href="#"><u>Section 415 Concrete Pavement</u></a> .....	3
<a href="#"><u>Section 416 Concrete Pavement - Repair and Replacement</u></a> .....	4
<a href="#"><u>Section 506 Steel Bridges</u></a> .....	4
<a href="#"><u>Section 509 Concrete Overlay and Structure Repair</u></a> .....	6
<a href="#"><u>Section 513 Railing</u></a> .....	6
<a href="#"><u>Section 517 Paint and Painting</u></a> .....	6
<a href="#"><u>Section 526 Temporary Structures</u></a> .....	7
<a href="#"><u>Section 621 Landmark Reference Monuments</u></a> .....	8
<a href="#"><u>Section 643 Traffic Control</u></a> .....	8
<a href="#"><u>Section 646 Pavement Marking</u></a> .....	10
<a href="#"><u>Section 650 Construction Staking</u></a> .....	10
<a href="#"><u>Section 680 Public Land Survey Monuments</u></a> .....	10
<a href="#"><u>Section 682 Geodetic Survey Monuments</u></a> .....	11
<a href="#"><u>Section 710 General Concrete QMP</u></a> .....	12
<a href="#"><u>Section 715 QMP Concrete Pavement, Cast-in-Place Barrier and Structures</u></a> .....	17
<a href="#"><u>Section 716 QMP Ancillary Concrete</u></a> .....	19
<a href="#"><u>Section Bid Items</u></a> .....	19
<a href="#"><u>ERRATA</u></a> .....	20

## Additional Special Provision 6 (ASP-6) Modifications to the standard specifications

*Make the following revisions to the standard specifications.*

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### **104 Scope of Work**

#### **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 traveled 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 traveled way.
  - Posted speeds from 45 mph to 55 mph inclusive: within 10 feet of the traveled way.
  - Posted speeds above 55 mph: within 15 feet of the traveled 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.

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### **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**

- (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](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.

### **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.

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## **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<sup>[1]</sup>**

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	-

<sup>[1]</sup> 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 <sup>[1]</sup>
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

<sup>[1]</sup> 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.

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## 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.

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## 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

*Replace subsection with the following effective with the November 2025 letting.*

- (1) After fabrication, blast clean assemblies per SSPC-SP6 and galvanize according to ASTM A123.

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### 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 Bureau of Structures (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 BOS 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.

**621 Landmark Reference Monuments**

*Remove Standard Specification 621 (Landmark Reference Monuments) effective with the November 2025 letting. Refer to updated information in 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
- Barricades type III
- Flexible tubular marker posts including bases
- Warning lights and attachment hardware
- Channelizing curb systems
- Connected work zone start and end location markers
- Connected arrow boards
- Sign sheeting
- 42-inch cone assemblies
- Portable changeable message signs
- Speed feedback trailers

**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 Bureau of Traffic Operations (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, replace paragraph (3) and add paragraph (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:

ITEM NUMBER	DESCRIPTION	UNIT
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

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643.3960 - 3999	Temporary Marking Removable Mask Out Tape (width)	LF
643.4100	Traffic Control Interim Lane Closure	EACH
643.5000	Traffic Control	EACH

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**646 Pavement Marking****646.3.1.1 General Marking**

Replace paragraph (7) with the following effective with the November 2025 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.

**646.3.1.6.2 Retroreflectivity**

Replace paragraph (1) with the following effective with the November 2025 letting.

(1) For grooved-in markings, the engineer will also evaluate the percent failing retroreflectivity at the end of the proving period. Ensure that the 180-day reflectivity, in millicandela/lux/m<sup>2</sup>, meets or exceeds the following:

<u>MATERIAL</u>	<u>COLOR</u>	180 DAY DRY
		<u>RETROREFLECTIVITY</u>
Epoxy	White	150
	Yellow	100
Wet Reflective Epoxy	White	250
	Yellow	150
Permanent Tape	White	400
	Yellow	335

**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.

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**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.

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**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](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:

ITEM NUMBER	DESCRIPTION	UNIT
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.

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## 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.

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**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

MODIFICATION TYPE		LEVEL I	LEVEL II	NEW MIX DESIGN DURING PROJECT
Change in:	Water source	X		
	Cement source, type, or brand			X
	Total cementitious <sup>[1]</sup>			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	
	Chemical admixture manufacturer or product name <sup>[2]</sup>			X
Removal of:	SCM			X
	Type B or Type D chemical admixture	X <sup>[3]</sup>	X <sup>[4]</sup>	
Addition of:	Non-fading, color pigment	X		
	Type B or Type D chemical admixture	X <sup>[3]</sup>	X <sup>[4]</sup>	
	New SCM			X

[1] If not HES/SHES concrete.

[2] Not including Type B or Type D chemical admixture.

[3] Furnished from the APL.

[4] Not furnished from the APL.

TABLE 710-3 MIX DESIGN MODIFICATION DOCUMENTATION

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 <sup>[1]</sup>	X		
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	X
New maturity curve	X <sup>[2]</sup>	X	X
New lot/sublot layout <sup>[3]</sup>		X <sup>[4]</sup>	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.

TABLE 710-4 OPTIONS FOR HES CONCRETE

SCENARIO	MIXTURE MODIFICATION	
When the contract requires, or the HES is directed by the department	OPTION 1 <sup>[1]</sup>	Add 94 to 282 lb/cy of cement <sup>[2]</sup>
	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 <sup>[1,2]</sup>	

<sup>[1]</sup> Adjust water to maintain workability without raising the w/cm ratio.

<sup>[2]</sup> 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

CONCRETE CLASSIFICATION	PRE-PLACEMENT TESTING	PLACEMENT TESTING	
Class I: Pavement	One pre-placement test per aggregate source	Hand Placement: ≤ 250 CY	One test per cumulative 250 CY
Class I: Structures <sup>[2], [3], [4]</sup>		> 250 CY	One test per day
Class I: Cast-in Place Barrier		Slip Formed Placement <sup>[1]</sup> ≤ 1500 CY	One test per day
		> 1500 CY	Two tests per day
Class II: Base		One test per cumulative 150 CY, maximum one test per day	
Class II: Structure Repair - Joints			
Class II: Concrete Overlay			
Class II: Pavement Repair	One pre-placement test per aggregate source		
Class II: Pavement Replacement		One test per 400 CY, minimum one test per 10 business days, maximum one test per day	
Class II: Base Patching			
Class II: Ancillary			
Class II: Structure Repair – Curb & Surface <sup>[5]</sup>		Preplacement testing only	

<sup>[1]</sup> Frequency is based on project daily production rate.

<sup>[2]</sup> 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.

<sup>[3]</sup> 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. <ul style="list-style-type: none"> <li>- If all samples are passing, reduced testing frequency is applied.</li> <li>- Reduced frequency: One test per calendar week of placement</li> </ul>
Class I: Structures	One test per 250 CY placed. <ul style="list-style-type: none"> <li>- Minimum of one test per contract for substructure</li> <li>- Minimum of one test per contract for superstructure</li> </ul>
Class I: Cast-in-Place Barrier	One test per 500 CY placed
Class II: Concrete Overlay	One test per 250 CY <ul style="list-style-type: none"> <li>- Maximum one test per day</li> </ul>
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	
Class I: Structures	One test on the first day of placement.
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 or a new combined 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.

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**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 subplot for possible removal and replacement if the 28-day subplot average strength is:

- Pavement (Compressive): < 2500 psi
- Pavement (Flexural): < 500 psi
- Structure: <  $f_c$  - 500 psi <sup>[1]</sup>
- Cast-in-Place Barrier: <  $f_c$  - 500 psi <sup>[1]</sup>

<sup>[1]</sup>  $f_c$  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	$\geq 0.5$ [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

LIMITS (F) [1]	PERCENT PRICE REDUCTION OF THE CONTRACT UNIT PRICE
$\leq 5$	10
$> 5$	25

[1] Applies only for Concrete Structures and Cast-in-Place Barrier.

## 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

### 600 Bid Items

Add the following bid items effective with the November 2025 letting.

611.0613	Inlet Covers Type DW	EACH
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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 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 1<sup>st</sup> Tier and DBE Payments During Construction

1. Comply with reporting requirements specified in the department's Civil Rights Compliance, Contractor's User Manual, Sublets and Payments.
2. Report payments to all DBE firms within 10 calendar days of receipt of a progress payment by the department or a contractor for work performed, materials furnished, or materials stockpiled by a DBE firm. Report the payment as specified in A(1) for all work satisfactorily performed and for all materials furnished or stockpiled.
3. Report payments to all first tier subcontractor relationships within 10 calendar days of receipt of a progress payment by the department for work performed. Report the payment as specified in A(1) for all work satisfactorily performed.
4. All tiers shall report payments as necessary to comply with the DBE payment requirement as specified in A(2).
5. 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](mailto: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/laborwage/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](mailto: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](mailto: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>

## 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).

## 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/rdwy/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>



## Proposal Schedule of Items

Page 1 of 9

**Proposal ID:** 20260210037    **Project(s):** 7120-00-74, 7120-00-76**Federal ID(s):** N/A, N/A**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	10.000		
	Clearing	STA	_____.	_____.
0004	201.0205	10.000		
	Grubbing	STA	_____.	_____.
0006	203.0220	1.000		
	Removing Structure (structure) 01. C-17-1395	EACH	_____.	_____.
0008	203.0220	1.000		
	Removing Structure (structure) 02. LOCATION A	EACH	_____.	_____.
0010	203.0220	1.000		
	Removing Structure (structure) 03. LOCATION B	EACH	_____.	_____.
0012	203.0220	1.000		
	Removing Structure (structure) 04. B-17-131	EACH	_____.	_____.
0014	204.0110	164.000		
	Removing Asphaltic Surface	SY	_____.	_____.
0016	204.0115	1,192.000		
	Removing Asphaltic Surface Butt Joints	SY	_____.	_____.
0018	204.0120	19,110.000		
	Removing Asphaltic Surface Milling	SY	_____.	_____.
0020	204.0165	2,440.000		
	Removing Guardrail	LF	_____.	_____.
0022	204.0220	2.000		
	Removing Inlets	EACH	_____.	_____.
0024	204.0245	37.000		
	Removing Storm Sewer (size) 01. 12-INCH	LF	_____.	_____.
0026	205.0100	2,983.000		
	Excavation Common	CY	_____.	_____.
0028	206.2001	1.000		
	Excavation for Structures Culverts (structure) 01. B-17-0370	EACH	_____.	_____.



## Proposal Schedule of Items

Page 2 of 9

**Proposal ID:** 20260210037    **Project(s):** 7120-00-74, 7120-00-76**Federal ID(s):** N/A, N/A**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	208.0100	2,791.000		
	Borrow	CY	_____.	_____.
0032	209.0200.S	9.000		
	Backfill Controlled Low Strength	CY	_____.	_____.
0034	210.2500	2,000.000		
	Backfill Structure Type B	TON	_____.	_____.
0036	211.0101	1.000		
	Prepare Foundation for Asphaltic Paving (project) 01. 7120-00-74	EACH	_____.	_____.
0038	211.0400	381.000		
	Prepare Foundation for Asphaltic Shoulders	STA	_____.	_____.
0040	211.0800.S	200.000		
	Base Repair for CIR Layer	CY	_____.	_____.
0042	213.0100	1.000		
	Finishing Roadway (project) 01. 7120-00-74	EACH	_____.	_____.
0044	305.0110	4,740.000		
	Base Aggregate Dense 3/4-Inch	TON	_____.	_____.
0046	305.0120	932.000		
	Base Aggregate Dense 1 1/4-Inch	TON	_____.	_____.
0048	305.0500	430.000		
	Shaping Shoulders	STA	_____.	_____.
0050	311.0110	304.000		
	Breaker Run	TON	_____.	_____.
0052	327.1000.S	65,800.000		
	CIR Asphaltic Base Layer	SY	_____.	_____.
0054	455.0605	11,185.000		
	Tack Coat	GAL	_____.	_____.
0056	455.0770.S	339.000		
	Asphalt Stabilizing Agent	TON	_____.	_____.
0058	460.0105.S	1.000		
	HMA Percent Within Limits (PWL) Test Strip Volumetrics	EACH	_____.	_____.



## Proposal Schedule of Items

Page 3 of 9

**Proposal ID:** 20260210037    **Project(s):** 7120-00-74, 7120-00-76**Federal ID(s):** N/A, N/A**SECTION:** 0001

Contract Items

**Alt Set ID:****Alt Mbr ID:**

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0060	460.6645 HMA Pavement 5 MT 58-34 V	14,490.000 TON	_____	_____
0062	460.9000.S Material Transfer Vehicle	1.000 EACH	_____	_____
0064	465.0105 Asphaltic Surface	581.000 TON	_____	_____
0066	465.0120 Asphaltic Surface Driveways and Field Entrances	92.000 TON	_____	_____
0068	465.0520 Asphaltic Rumble Strips, Shoulder	29,600.000 LF	_____	_____
0070	465.0560 Asphaltic Rumble Strips, Centerline	13,970.000 LF	_____	_____
0072	504.0100 Concrete Masonry Culverts	266.000 CY	_____	_____
0074	505.0400 Bar Steel Reinforcement HS Structures	26,780.000 LB	_____	_____
0076	505.0600 Bar Steel Reinforcement HS Coated Structures	3,360.000 LB	_____	_____
0078	516.0500 Rubberized Membrane Waterproofing	34.000 SY	_____	_____
0080	522.0418 Culvert Pipe Reinforced Concrete Class IV 18-Inch	56.000 LF	_____	_____
0082	522.0436 Culvert Pipe Reinforced Concrete Class IV 36-Inch	58.000 LF	_____	_____
0084	522.0442 Culvert Pipe Reinforced Concrete Class IV 42-Inch	136.000 LF	_____	_____
0086	522.1018 Apron Endwalls for Culvert Pipe Reinforced Concrete 18-Inch	2.000 EACH	_____	_____



## Proposal Schedule of Items

Page 4 of 9

**Proposal ID:** 20260210037    **Project(s):** 7120-00-74, 7120-00-76**Federal ID(s):** N/A, N/A**SECTION:** 0001

Contract Items

**Alt Set ID:****Alt Mbr ID:**

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0088	522.1036 Apron Endwalls for Culvert Pipe Reinforced Concrete 36-Inch	2.000 EACH	_____ : _____	_____ : _____
0090	522.1042 Apron Endwalls for Culvert Pipe Reinforced Concrete 42-Inch	4.000 EACH	_____ : _____	_____ : _____
0092	601.0557 Concrete Curb & Gutter 6-Inch Sloped 36-Inch Type D	157.000 LF	_____ : _____	_____ : _____
0094	602.0410 Concrete Sidewalk 5-Inch	164.000 SF	_____ : _____	_____ : _____
0096	602.0515 Curb Ramp Detectable Warning Field Natural Patina	40.000 SF	_____ : _____	_____ : _____
0098	602.0810 Concrete Driveway 6-Inch	24.000 SY	_____ : _____	_____ : _____
0100	606.0200 Riprap Medium	23.000 CY	_____ : _____	_____ : _____
0102	606.0300 Riprap Heavy	87.000 CY	_____ : _____	_____ : _____
0104	614.0397 Guardrail Mow Strip Emulsified Asphalt	895.000 SY	_____ : _____	_____ : _____
0106	614.2300 MGS Guardrail 3	1,088.000 LF	_____ : _____	_____ : _____
0108	614.2330 MGS Guardrail 3 K	713.000 LF	_____ : _____	_____ : _____
0110	614.2610 MGS Guardrail Terminal EAT	4.000 EACH	_____ : _____	_____ : _____
0112	618.0100 Maintenance and Repair of Haul Roads (project) 01. 7120-00-74	1.000 EACH	_____ : _____	_____ : _____
0114	619.1000 Mobilization	1.000 EACH	_____ : _____	_____ : _____
0116	620.0300 Concrete Median Sloped Nose	112.000 SF	_____ : _____	_____ : _____



## Proposal Schedule of Items

Page 5 of 9

**Proposal ID:** 20260210037    **Project(s):** 7120-00-74, 7120-00-76**Federal ID(s):** N/A, N/A**SECTION:** 0001

Contract Items

**Alt Set ID:****Alt Mbr ID:**

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0118	624.0100 Water	90.000 MGAL	_____.	_____.
0120	625.0100 Topsoil	11,660.000 SY	_____.	_____.
0122	628.1504 Silt Fence	1,840.000 LF	_____.	_____.
0124	628.1520 Silt Fence Maintenance	3,680.000 LF	_____.	_____.
0126	628.1905 Mobilizations Erosion Control	12.000 EACH	_____.	_____.
0128	628.1910 Mobilizations Emergency Erosion Control	5.000 EACH	_____.	_____.
0130	628.2008 Erosion Mat Urban Class I Type B	13,520.000 SY	_____.	_____.
0132	628.2027 Erosion Mat Class II Type C	2,410.000 SY	_____.	_____.
0134	628.2037 Erosion Mat Class III Type C	940.000 SY	_____.	_____.
0136	628.7010 Inlet Protection Type B	2.000 EACH	_____.	_____.
0138	628.7504 Temporary Ditch Checks	420.000 LF	_____.	_____.
0140	628.7515.S Stone Ditch Checks	9.000 CY	_____.	_____.
0142	628.7555 Culvert Pipe Checks	35.000 EACH	_____.	_____.
0144	628.7560 Tracking Pads	3.000 EACH	_____.	_____.
0146	628.7570 Rock Bags	110.000 EACH	_____.	_____.
0148	629.0210 Fertilizer Type B	11.000 CWT	_____.	_____.



## Proposal Schedule of Items

Page 6 of 9

**Proposal ID:** 20260210037    **Project(s):** 7120-00-74, 7120-00-76**Federal ID(s):** N/A, N/A**SECTION:** 0001

Contract Items

**Alt Set ID:****Alt Mbr ID:**

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0150	630.0130 Seeding Mixture No. 30	701.000 LB	_____ : _____	_____
0152	630.0200 Seeding Temporary	413.000 LB	_____ : _____	_____
0154	630.0300 Seeding Borrow Pit	77.000 LB	_____ : _____	_____
0156	630.0500 Seed Water	378.000 MGAL	_____ : _____	_____
0158	633.5200 Markers Culvert End	4.000 EACH	_____ : _____	_____
0160	638.2102 Moving Signs Type II	6.000 EACH	_____ : _____	_____
0162	642.5001 Field Office Type B	1.000 EACH	_____ : _____	_____
0164	643.0300 Traffic Control Drums	1,910.000 DAY	_____ : _____	_____
0166	643.0420 Traffic Control Barricades Type III	5,868.000 DAY	_____ : _____	_____
0168	643.0705 Traffic Control Warning Lights Type A	10,866.000 DAY	_____ : _____	_____
0170	643.0900 Traffic Control Signs	28,693.000 DAY	_____ : _____	_____
0172	643.0920 Traffic Control Covering Signs Type II	6.000 EACH	_____ : _____	_____
0174	643.1050 Traffic Control Signs PCMS	14.000 DAY	_____ : _____	_____
0176	643.3165 Temporary Marking Line Paint 6-Inch	62,400.000 LF	_____ : _____	_____
0178	643.3805 Temporary Marking Stop Line Paint 18-Inch	30.000 LF	_____ : _____	_____
0180	643.5000 Traffic Control	1.000 EACH	_____ : _____	_____



## Proposal Schedule of Items

Page 7 of 9

**Proposal ID:** 20260210037    **Project(s):** 7120-00-74, 7120-00-76**Federal ID(s):** N/A, N/A**SECTION:** 0001

Contract Items

**Alt Set ID:****Alt Mbr ID:**

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0182	644.1440 Temporary Pedestrian Surface Matting	825.000 SF	_____ : _____	_____ : _____
0184	644.1605 Temporary Pedestrian Detectable Warning Field	40.000 SF	_____ : _____	_____ : _____
0186	644.1810 Temporary Pedestrian Barricade	205.000 LF	_____ : _____	_____ : _____
0188	645.0105 Geotextile Type C	456.000 SY	_____ : _____	_____ : _____
0190	645.0120 Geotextile Type HR	238.000 SY	_____ : _____	_____ : _____
0192	645.0130 Geotextile Type R	72.000 SY	_____ : _____	_____ : _____
0194	646.2040 Marking Line Grooved Wet Ref Epoxy 6-Inch	74,200.000 LF	_____ : _____	_____ : _____
0196	646.4040 Marking Line Grooved Wet Ref Epoxy 10-Inch	1,140.000 LF	_____ : _____	_____ : _____
0198	646.5020 Marking Arrow Epoxy	2.000 EACH	_____ : _____	_____ : _____
0200	646.6120 Marking Stop Line Epoxy 18-Inch	30.000 LF	_____ : _____	_____ : _____
0202	646.7120 Marking Diagonal Epoxy 12-Inch	640.000 LF	_____ : _____	_____ : _____
0204	650.5500 Construction Staking Curb Gutter and Curb & Gutter	157.000 LF	_____ : _____	_____ : _____
0206	650.6000 Construction Staking Pipe Culverts	4.000 EACH	_____ : _____	_____ : _____
0208	650.6501 Construction Staking Structure Layout (structure) 01. B-17-0370	1.000 EACH	_____ : _____	_____ : _____



## Proposal Schedule of Items

Page 8 of 9

**Proposal ID:** 20260210037    **Project(s):** 7120-00-74, 7120-00-76**Federal ID(s):** N/A, N/A**SECTION:** 0001

Contract Items

**Alt Set ID:****Alt Mbr ID:**

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0210	650.8000 Construction Staking Resurfacing Reference	22,222.000 LF	_____	_____
0212	650.9000 Construction Staking Curb Ramps	2.000 EACH	_____	_____
0214	650.9911 Construction Staking Supplemental Control (project) 01. 7120-00-74	1.000 EACH	_____	_____
0216	650.9920 Construction Staking Slope Stakes	4,024.000 LF	_____	_____
0218	680.0100 Public Land Reference Monument Verify and Reset	1.000 EACH	_____	_____
0220	690.0150 Sawing Asphalt	759.000 LF	_____	_____
0222	690.0250 Sawing Concrete	17.000 LF	_____	_____
0224	715.0502 Incentive Strength Concrete Structures	1,596.000 DOL	1.00000	1,596.00
0226	740.0440 Incentive IRI Ride	16,835.000 DOL	1.00000	16,835.00
0228	999.2000.S Installing and Maintaining Bird Deterrent System (station) 01. Station 150+73	1.000 EACH	_____	_____
0230	999.2000.S Installing and Maintaining Bird Deterrent System (station) 02. Station 261+62	1.000 EACH	_____	_____
0232	SPV.0045 Special 01. Traffic Control, Digital Speed Reduction System (DSRS)	21.000 DAY	_____	_____
0234	SPV.0055 Special 01. Incentive Density PWL HMA Pavement	9,264.000 DOL	1.00000	9,264.00
0236	SPV.0055 Special 02. Incentive Air Voids HMA Pavement	14,481.000 DOL	1.00000	14,481.00



## Proposal Schedule of Items

Page 9 of 9

Proposal ID: 20260210037 Project(s): 7120-00-74, 7120-00-76

**Federal ID(s):** N/A, N/A

**SECTION: 0001** Contract Items

**Alt Set ID:** **Alt Mbr ID:**

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0238	SPV.0055 Special 03. Incentive Density HMA Pavement Longitudinal Joints	8,890.000 DOL	1.00000	8,890.000
0240	SPV.0180 Special 01. Removing Distressed Pavement Milling	1,420.000 SY	_____.	_____.
<b>Section:</b> 0001			<b>Total:</b>	_____.
			<b>Total Bid:</b>	_____.

**PLEASE ATTACH ADDENDA HERE**