HIGHWAY WORK PROPOSAL

Wisconsin Department of Transportation
06/2017 s.66.0901(7) Wis. Stats

Proposal Number: 012

COUNTY	STATE PROJECT	FEDERAL	PROJECT DESCRIPTION	HIGHWAY
Sheboygan	4010-27-60	N/A	Waldo-Sheboygan; Sth 57-Prange Rd	STH 028

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: June 12, 2018 Time (Local Time): 9:00 am	Firm Name, Address, City, State, Zip Code SAMPLE NOT FOR BIDDING PURPOSES
Contract Completion Time 30 Working Days	
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

For Department Use Only

Type of Work:
Excavation, Base, HMA Pavement, Curb and Gutter, Sidewalk, Signs, Pavement Marking, Street Lighting

Notice of Award Dated	Date Guaranty Returned

PLEASE ATTACH
PROPOSAL GUARANTY HERE

Effective with November 2007 Letting

PROPOSAL REQUIREMENTS AND CONDITIONS

The bidder, signing and submitting this proposal, agrees and declares as a condition thereof, to be bound by the following conditions and requirements.

If the bidder has a corporate relationship with the proposal design engineering company, the bidder declares that it did not obtain any facts, data, or other information related to this proposal from the design engineering company that was not available to all bidders.

The bidder declares that they have carefully examined the site of, and the proposal, plans, specifications and contract forms for the work contemplated, and it is assumed that the bidder has investigated and is satisfied as to the conditions to be encountered, as to the character, quality, and quantities of work to be performed and materials to be furnished, and as to the requirements of the specifications, special provisions and contract. It is mutually agreed that submission of a proposal shall be considered conclusive evidence that the bidder has made such examination.

The bidder submits herewith a proposal guaranty in proper form and amount payable to the party as designated in the advertisement inviting proposals, to be retained by and become the property of the owner of the work in the event the undersigned shall fail to execute the contract and contract bond and return the same to the office of the engineer within fourteen (14) days after having been notified in writing to do so; otherwise to be returned.

The bidder declares that they understand that the estimate of quantities in the attached schedule is approximate only and that the attached quantities may be greater or less in accordance with the specifications.

The bidder agrees to perform the said work, for and in consideration of the payment of the amount becoming due on account of work performed, according to the unit prices bid in the following schedule, and to accept such amounts in full payment of said work.

The bidder declares that all of the said work will be performed at their own proper cost and expense, that they will furnish all necessary materials, labor, tools, machinery, apparatus, and other means of construction in the manner provided in the applicable specifications and the approved plans for the work together with all standard and special designs that may be designed on such plans, and the special provisions in the contract of which this proposal will become a part, if and when accepted. The bidder further agrees that the applicable specifications and all plans and working drawings are made a part hereof, as fully and completely as if attached hereto.

The bidder, if awarded the contract, agrees to begin the work not later than ten (10) days after the date of written notification from the engineer to do so, unless otherwise stipulated in the special provisions.

The bidder declares that if they are awarded the contract, they will execute the contract agreement and begin and complete the work within the time named herein, and they will file a good and sufficient surety bond for the amount of the contract for performance and also for the full amount of the contract for payment.

The bidder, if awarded the contract, shall pay all claims as required by Section 779.14, Statutes of Wisconsin, and shall be subject to and discharge all liabilities for injuries pursuant to Chapter 102 of the Statutes of Wisconsin, and all acts amendatory thereto. They shall further be responsible for any damages to property or injury to persons occurring through their own negligence or that of their employees or agents, incident to the performance of work under this contract, pursuant to the Standard Specifications for Road and Bridge Construction applicable to this contract.

In connection with the performance of work under this contract, the contractor agrees to comply with all applicable state and federal statutes relating to non-discrimination in employment. No otherwise qualified person shall be excluded from employment or otherwise be subject to discrimination in employment in any manner on the basis of age, race, religion, color, gender, national origin or ancestry, disability, arrest or conviction record (in keeping with s.111.32), sexual orientation, marital status, membership in the military reserve, honesty testing, genetic testing, and outside use of lawful products. This provision shall include, but not be limited to the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation, and selection for training, including apprenticeship. The contractor further agrees to ensure equal opportunity in employment to all applicants and employees and to take affirmative action to attain a representative workforce.

The contractor agrees to post notices and posters setting forth the provisions of the nondiscrimination clause, in a conspicuous and easily accessible place, available for employees and applicants for employment.

If a state public official (section 19.42, Stats.) or an organization in which a state public official holds at least a 10% interest is a party to this agreement, this contract is voidable by the state unless appropriate disclosure is made to the State of Wisconsin Ethics Board.

Effective with August 2015 Letting

BID PREPARATION

Preparing the Proposal Schedule of Items

A General

(1) Obtain bidding proposals as specified in section 102 of the standard specifications prior to 11:45 AM of the last business day preceding the letting. Submit bidding proposals using one of the following methods:

1. Electronic bid on the internet.
2. Electronic bid on a printout with accompanying diskette or CD ROM.
3. Paper bid under a waiver of the electronic submittal requirements.

(2) Bids submitted on a printout with accompanying diskette or CD ROM or paper bids submitted under a waiver of the electronic submittal requirements govern over bids submitted on the internet.

(3) The department will provide bidding information through the department's web site at:
http://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 P.M. local time on the Thursday before the letting. Check the department's web site after 5:00 P.M. local time on the Thursday before the letting to ensure all addenda have been accounted for before preparing the bid. When bidding using methods 1 and 2 above, check the Bid Express™ on-line bidding exchange at http://www.bidx.com/ after 5:00 P.M. local time on the Thursday before the letting to ensure that the latest schedule of items Expedite file (*.ebs or *.00x) is used to submit the final bid.

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

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

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

(6) Contractors are responsible for checking on the issuance of addenda and for obtaining the addenda. Notice of issuance of addenda is posted on the department's web site at:
http://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 departments web site listed above or by picking up the addenda at the Bureau of Highway Construction, Room 601, 4802 Sheboygan Avenue, Madison, WI, during regular business hours.

(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:

1. Have a properly executed annual bid bond on file with the department.
2. Have a digital ID on file with and enabled by Info Tech Inc. Using this digital ID will constitute the bidder's signature for proper execution of the bidding proposal.

(2) In lieu of preparing, delivering, and submitting the proposal as specified in 102.6 and 102.9 of the standard specifications, submit the proposal on the internet as follows:

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

(3) The department will not consider the bid accepted until the hour and date the Notice to Contractors designates.

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

(1) Download the latest schedule of items from the Wisconsin pages of the Bid Express™ web site reflecting the latest addenda posted on the department's web site at:

http://wisconsindot.gov/Pages/doing-bus/contractors/hcci/bid-let.aspx

Use Expedite ™ software to prepare and print the schedule of items. Provide a valid amount for all price fields. Follow instructions and review the help screens provided on the Bid Express™ web site to assure that the schedule of items is prepared properly.

(2) Staple an 8 1/2 by 11 inch printout of the Expedite™ generated schedule of items to the other proposal documents submitted to the department as a part of the bidder's sealed bid. As a separate submittal not in the sealed bid envelop but due at the same time and place as the sealed bid, also provide the Expedite™ generated schedule of items on a 3 1/2 inch computer diskette or CD ROM. Label each diskette or CD ROM with the bidder's name, the 4 character department-assigned bidder identification code from the top of the bidding proposal, and a list of the proposal numbers included on that diskette or CD ROM as indicated in the following example:

Bidder

Name

BN00

Proposals: 1, 12, 14, & 22

(3) If bidding on more than one proposal in the letting, the bidder may include all proposals for that letting on one diskette or CD ROM. Include only submitted proposals with no incomplete or other files on the diskette or CD ROM.

(4) The bidder-submitted printout of the Expedite™ generated schedule of items is the governing contract document and must conform to the requirements of section 102 of the standard specifications. If a printout needs to be altered, cross out the printed information with ink or typewriter and enter the new information and initial it in ink. If there is a discrepancy between the printout and the diskette or CD ROM, the department will analyze the bid using the printout information.

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

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

C Waiver of Electronic Submittal

(1) The bidder may request a waiver of the electronic submittal requirements. Submit a written request for a waiver in lieu of bids submitted on the internet or on a printout with accompanying diskette or CD ROM. Use the waiver that was included with the paper bid document sent to the bidder or type up a waiver on the bidder's letterhead. The department will waive the electronic submittal requirements for a bidding entity (individual, partnership, joint venture, corporation, or limited liability company) for up to 4 individual proposals in a calendar year. The department may allow additional waivers for equipment malfunctions.

(2) Submit a schedule of items on paper conforming to section 102 of the standard specifications. The department charges the bidder a $75 administrative fee per proposal, payable at the time and place the department designates for receiving bids, to cover the costs of data entry. The department will accept a check or money order payable to: "Wisconsin, Dept. of Transportation."

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

1. The bidder fails to provide the written request for waiver of the electronic submittal requirements.
2. The bidder fails to pay the $75 administrative fee before the time the department designates for the opening of bids unless the bidder requests on the waiver that they be billed for the $75.
3. The bidder exceeds 4 waivers of electronic submittal requirements within a calendar year.

(4) In addition to the reasons specified in section 102 of the standard specifications, the department may refuse to issue bidding proposals for future contracts to a bidding entity that owes the department administrative fees for a waiver of electronic submittal requirements.

PROPOSAL BID BOND

Wisconsin Department of Transportation

DT1303 1/2006

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

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

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

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

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

PRINCIPAL

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

(Signature and Title)

(Company Name)

(Signature and Title)

(Company Name)

(Signature and Title)

(Company Name)

(Signature and Title)

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

(Signature of Attorney-in-Fact)

NOTARY FOR PRINCIPAL

(Date)

State of Wisconsin)
) ss.
_____ County)

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

(Signature, Notary Public, State of Wisconsin)

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

(Date Commission Expires)

Notary Seal

NOTARY FOR SURETY

(Date)

State of Wisconsin)
) ss.
_____ County)

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

(Signature, Notary Public, State of Wisconsin)

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

(Date Commission Expires)

Notary Seal

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

CERTIFICATE OF ANNUAL BID BOND

Wisconsin Department of Transportation

DT1305 8/2003

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

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

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

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

(Signature of Authorized Contractor Representative) (Date)

March 2010

LIST OF SUBCONTRACTORS

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

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

Name of Subcontractor	Class of Work	Estimated Value

DECEMBER 2000

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

Instructions for Certification

1. By signing and submitting this proposal, the prospective contractor is providing the certification set out below.

2. The inability of a person to provide the certification required below will not necessarily result in denial of participation in this covered transaction. The prospective contractor shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective contractor to furnish a certification or an explanation shall disqualify such person from participation in this transaction.

3. The certification in this clause is a material representation of fact upon which reliance was placed when the department determined to enter into this transaction. If it is later determined that the contractor knowingly rendered an erroneous certification in addition to other remedies available to the Federal Government the department may terminate this transaction for cause or default.

4. The prospective contractor shall provide immediate written notice to the department to whom this proposal is submitted if at any time the prospective contractor learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

5. The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "person," "primary covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of the rules implementing Executive Order 12549. You may contact the department to which this proposal is being submitted for assistance in obtaining a copy of those regulations.

6. The prospective contractor agrees by submitting this proposal that, should this contract be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department entering into this transaction.

7. The prospective contractor further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," which is included as an addendum to PR-1273 - "Required Contract Provisions Federal Aid Construction Contracts," without

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

8. The contractor may rely upon a certification of a prospective subcontractor/materials supplier that it is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A contractor may decide the method and frequency by which it determines the eligibility of its principals. Each contractor may, but is not required to, check the Disapproval List (telephone # 608/266/1631).

9. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of a contractor is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

10. Except for transactions authorized under paragraph 6 of these instructions, if a contractor in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department may terminate this transaction for cause or default.

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

(1) The prospective contractor certifies to the best of its knowledge and belief, that it and its principals:

(a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;

(b) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements or receiving stolen property;

(c) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offense enumerated in paragraph (1)(b) of this certification; and

(d) Have not within a three-year period preceding this proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

(2) Where the prospective contractor is unable to certify to any of the statements in this certification, such prospective contractor shall attach an explanation to this proposal.

Special Provisions

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SPECIAL PROVISIONS

1. General.

Perform the work under this construction contract for Project 4010-27-60, Waldo – Sheboygan, STH 57 – Prange Rd, STH 28, located in Sheboygan 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, 2018 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 (20171130)

2. Scope of Work.

The work under this contract shall consist of pavement milling, base aggregate dense, HMA pavement, guard rail adjustment and replacement, concrete curb and gutter, gabion wall, concrete sidewalk, rumble strips, pavement marking, signing, and all incidental items necessary to complete the work as shown on the plans and included in the proposal and contract.

104-005 (20090901)

3. Prosecution and Progress.

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

Start work no later than July 30, 2018 unless otherwise approved by the engineer.

Provide the time frame for construction of the project within the 2018 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.

Do not allow the milled surface to remain exposed for a period greater than 72 hours unless adverse weather prevents placement of asphalt surface layer. In the event of adverse weather, resume placement of the asphalt surface layer as soon as conditions permit. Except for paving where a notched wedge longitudinal joint is constructed, milling and paving shall be done so that each day's progress for either operation ends at the same station and thickness or depth for both mainline lanes, unless the engineer directs or allows otherwise.

Interim Liquidated Damages

At the beginning of the work at the STH 28/STH 32 roundabout and at the Onion River Tributary, close STH 28 and STH 32 to through and local traffic for a maximum of 12 working days. Do not reopen until completing the following work: Within the roundabout work limits - pavement milling, HMA pavement, curb and gutter, curb ramps, sidewalks, lighting, pavement marking, permanent signing, and removal of detour signing. Within the Onion River Tributary work limits – gabion construction, pavement milling, select crushed material, base aggregate, HMA pavement, beam guard, same day epoxy 4-inch (yellow) pavement marking, and rock bag removal.

If the contractor fails to complete the work necessary to reopen STH 28 and STH 32 to traffic within 12 working days, the department will assess the contractor $3,250 in interim liquidated damages for each working day contract work remains incomplete beyond 12 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.

4. Traffic.

Except for the closures for the construction in the STH 28/STH 32 roundabout work limits, maintain through and local traffic at all times on STH 28 and STH 32. Maintain one 12-foot lane in each direction on STH 28. STH 28 may be reduced to one lane in the immediate area of milling and paving operations and within the Onion River Tributary work limits and time frame using flagging operations or as directed by the engineer. Restore the roadway to normal two-way traffic operations at the end of each work day.

Maintain through and local traffic at all times on side roads. Maintain one existing-lane-width lane in each direction. Side roads may be reduced to one lane at the intersection with STH 28 during intersection milling and paving operations using flaggers or as directed by the engineer.

Maintain emergency access to the project area at all times.

Maintain access to private driveways and field entrances. If a driveway closure is necessary, notify the property owner three working days prior to the anticipated closure. Close the driveway for a maximum of one calendar day.

The Shoreline Metro transit system operates a bus route along STH 32 and STH 28. Notify the Shoreline Metro transit system at least 14 calendar days prior to the closure of the STH 28/STH 32 roundabout. Shoreline Metro can be reached via phone at (920) 459-3281, or via e-mail at contact@shorelinemetro.com.

Prior to closing the STH 28/STH 32 roundabout, implement the detour route as shown on the plans. STH 28 and STH 32 shall be closed to both through and local traffic within the roundabout during the closure. STH 28 and STH 32 shall be closed to pedestrians and bicyclists within the roundabout during the closure. The STH 28/STH 32 roundabout shall be open to both through and local traffic during the holiday and special event times noted under Holiday and Special Event Work Restrictions.

Portable Changeable Message Signs – Message Prior Approval

After coordinating with department construction field staff, notify the Northeast Region Traffic Section at (920) 366-8033 (secondary contact number is (920) 360-3107) 3 business days prior to deploying or changing a message on a PCMS to obtain approval of the proposed message. The Northeast Region Traffic Unit will review the proposed message and either approve the message or make necessary changes.

PCMS boards must be deployed 7 calendar days prior to the closure of the STH 28/STH 32 roundabout. PCMS boards must be deployed 7 calendar days prior to the beginning of construction.

(NER15-1112)

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

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

Temporary Work Zone Clear Zone Working Restrictions

Park equipment and store materials, including stockpiles, a minimum of 18-feet from the edge of the traveled way unless protected by concrete barrier temporary precast.

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

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 28 or STH 32 traffic, and entirely clear the traveled way and shoulders of such portions of the highway of equipment, barricades, signs, lights, and any other material that might impede the free flow of traffic during the following holiday periods:

- From noon Friday, June 29, 2018 to 6:00 AM Monday, July 9, 2018 for Independence Day and the Ducktona 500 special event;
- From noon Friday, August 31, 2018 to 6:00 AM Tuesday, September 4, 2018 for Labor Day;
- From noon Wednesday, October 3, 2018 to 6:00 AM Friday, October 5, 2018 for the Taste of Falls at the Bull at Pinehurst Farms special event.

6. Utilities.

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

stp-107-065 (20080501)

There are utility facilities within the construction limits of this project. Coordinate construction activities with a call to Diggers Hotline or a direct call to the utilities for the underground facilities in the area, as required per statutes. Take all required precautions when working within 18 inches of underground utilities. Use caution to maintain the integrity of underground utilities and maintain OSHA code clearances from overhead facilities at all times.

Alliant Energy has overhead electric facilities within the project limits. No conflicts are anticipated with this project.

The contact for this project is Joe Kochan (920) 459-6331, joekochan@alliantenergy.com.

American Transmission Company (ATC) has overhead electric facilities within the project limits. No conflicts are anticipated with this project.

The contact for this project is Gerald Rhode, (920) 338-6523, grhode@atcllc.com.

AT&T has underground facilities along STH 28 in the following locations:

- Along the north side between CTH N and CTH M
- Along the south side between CTH M and Humphrey Road
- Along the north side between Humphrey Road and Brusse Road
- Along both the north and south sides between Brusse Road and CTH PPP

No conflicts are anticipated with this project. The contact for this project is Chuck Bartelt, (920) 410-5104, cb1461@att.com.

Charter Communications has aerial and underground communications facilities along STH 28 in the following locations:

- Along the south side between a private driveway 0.5 miles west of CTH PPP and CTH PPP
- Crossing STH 28 along the west side of STH 32
- Along the north side between CTH EE and Paradise Lane

No conflicts are anticipated with this project. The contact for this project is Tom Harycki, (262) 416-2437, tom.harycki@charter.com.

Frontier Communications has underground communications facilities along the south side of STH 28 between STH 57 and CTH N.

No conflicts are anticipated with this project. The contact for this project is Ryan Osness, (920) 893-7455, ryan.d.osness@ftr.com.

City of Sheboygan Falls has an underground 10" water main along the east side of STH 32 through the STH 28/STH 32 roundabout intersection.

No conflicts are anticipated with this project; however, caution should be used when constructing light pole bases in proximity of the water main.

The contact for this project is Mark Debbink, (920) 980-3747, mark.debbink@shebfalls.com.

We Energies – Electric has overhead electric facilities along STH 28 in the following locations:

- Along the south side between SHT 57 and CTH N
- Along the north side between CTH N and CTH M
- Along the south side between CTH U and Humphrey Road

No conflicts are anticipated with this project. The contact for this project is Alan Schmitt, (262) 338-7662, alan.schmitt@we-energies.com.

We Energies – Gas has underground gas facilities along STH 28 east of STH 57 but west of the project limits. No conflicts are anticipated with this project.

The contact for this project is Alex Dantinne, (920) 621-6903, alex.dantinne@we-energies.com.

Wisconsin Public Service Corporation (WPS) has underground gas/petroleum facilities along STH 28 in the following locations:

- Along the south side between a private driveway 0.5 miles west of CTH PPP and CTH PPP
- Crossing STH 28 along the west side of STH 32
- Along the south side between CTH EE and Prange Road

No conflicts are anticipated with this project. The contact for this project is Kevin Kolb, (920) 451-3733, kckolb@wisconsinpublicservice.com.

7. Notice to Contractor – Airport Operating Restrictions – General.

Portions of STH 28 are in the vicinity of the Sheboygan County Memorial Airport. Submit Federal Aviation Administration (FAA) form 7460-1, Notice of Proposed Construction or Alteration, to the FAA at least 45 days before beginning construction operations or on the date an application for a construction permit is filed, whichever is earliest.

If required, complete and submit FAA form 7460-2, Notice of Actual Construction or Alteration, to the FAA at least 48 hours before beginning actual construction.

8. Notice to Contractor – Archaeology.

Farmin Cemetery: this site shall not be used for borrow or waste disposal, or for the staging of personnel, equipment and/or supplies.

9. Notice to Contractor – Contractor Data Packet.

The department will provide electronic design data for project 4010-27-60. The data provided is for the bidder's general knowledge only and is not a part of the contract. The department assumes no responsibility for discrepancies between the data provided and the contract documents.

The department will provide the project contractor data packet before the project let date within 5 business days of a contractor request submitted by email to Paul Brauer at paul.brauer@dot.wi.gov.

The contractor data packet contains the following:

1. Field control data, LandXML v1.2 file
2. Existing topographic data, 2D AutoCAD DWG files
    a. Mapping
    b. Utilities
3. Reference line alignments and proposed profiles, LandXML v1.2 file(s)
4. Superelevation transition information, comma separated value (csv) text file(s)
5. Proposed roadway features, 2D AutoCAD DWG file
6. Proposed structure horizontal features, 2D in AutoCAD DWG file
7. Surface models, LandXML v1.2 files and AutoCAD DWG files containing 3D face objects representing surface TIN triangles of surface models as follows:
    a. Existing ground surface
    b. Proposed top surface
        i. Top of topsoil outside the roadway subgrade shoulder points extended to the slope intercepts
        ii. Top of shoulder and top of pavement within the roadway subgrade
    c. Proposed datum surface
        i. Top of topsoil outside the roadway subgrade shoulder points extended to the slope intercepts
        ii. Subgrade surface within the roadway subgrade shoulder points
8. Proposed surface model longitudinal breaklines, 3D AutoCAD DWG files
9. Surface model outer boundaries, 3D AutoCAD DWG file
10. Slope stake report, comma separated value (csv) text file
11. Earthwork data, Excel spreadsheet xlsx file(s)
12. Right-of-Way and easement data, LandXML v1.2 file and 2D AutoCAD DWG file
13. Metadata information

10. Construction Over or Adjacent to Navigable Waters.

The Onion River and its associated tributaries are classified as federal navigable waterways under standard spec 107.19.

stp-107-060 (20171130)

11. QMP Base Aggregate.

A Description

A.1 General

(1) This special provision describes contractor quality control (QC) sampling and testing for base aggregates, documenting those test results, and documenting related production and placement process changes. This special provision also describes department quality verification (QV), independent assurance (IA), and dispute resolution.

(2) Conform to standard spec 301, standard spec 305, and standard spec 310 as modified here in this special provision. Apply this special provision to material placed under all of the Base Aggregate Dense and Base Aggregate Open Graded bid items, except do not apply this special provision to material classified as reclaimed asphaltic pavement placed under the Base Aggregate Dense bid items.

(3) Do not apply this special provision to material placed and paid for under the Aggregate Detours, Breaker Run, Select Crushed, Pit Run, Subbase, or Riprap bid items.

(4) Provide and maintain a quality control program, defined as all activities related to and documentation of the following:

1. Production and placement control and inspection.
2. Material sampling and testing.

(5) Chapter 8 of the department's construction and materials manual (CMM) provides additional detailed guidance for QMP work and describes required sampling and testing procedures.

http://wisconsindot.gov/rdwy/cmm/cm-08-00toc.pdf

A.2 Small Quantities

(1) The department defines a small quantity, for each individual Base Aggregate bid item, as a contract quantity of 9000 tons or less of material as shown in the schedule of items under that bid item.

(2) The requirements under this special provision apply equally to a small quantity for an individual bid item except as follows:

A.2.1 Quality Control Plan

(1) Submit an abbreviated quality control plan consisting of the following:

1. Organizational chart including names, telephone numbers, current certifications with HTCP numbers, and expiration dates, and roles and responsibilities of all persons involved in the quality control program for material under affected bid items.

A.2.2 Contractor Testing

1. Testing frequency:

Contract Quantity	Minimum Required Testing per source
≤ 6000 tons	One stockpile test before placement, and two production or one loadout test. *[1] [2]*
> 6000 tons and ≤ 9000 tons	One stockpile and Three placement tests *[3] [4] [5]*

[1] Submit production test results to the engineer for review before incorporating the material into the work. Production test results are valid for a period of 3 years.

[2] If the actual quantity overruns 6,000 tons, on the next day of placement perform one randomly selected placement test for each 3000 tons, or fraction of 3000 tons, of overrun.

[3] If the actual quantity overruns 9000 tons, on the next day of placement perform one randomly selected placement test for each 3000 tons, or fraction of 3000 tons, of overrun.

[4] For 3-inch material or lift thickness of 3 inch or less, obtain samples at load-out.

[5] Divide the aggregate into uniformly sized sublots for testing.

2. Stockpile testing for concrete pavement recycled in place will be sampled on the first day of production.
3. Until a four point running average is established, individual placement tests will be used for acceptance. Submit aggregate load-out and placement test results to the engineer within one business day of obtaining the sample. Assure that all properties are within the limits specified for each test.
4. Material represented by a sublot with any property outside the specification limits is nonconforming. The department may reject material or otherwise determine the final disposition of nonconforming material as specified in standard spec 106.5.

A.2.3 Department Testing

(1) The department will perform testing as specified in B.8 except as follows:

- Department testing may be waived for contract bid item quantities of 500 tons or less.

B Materials

B.1 Quality Control Plan

(1) Submit a comprehensive written quality control plan to the engineer at or before the pre-construction meeting. Do not place base before the engineer reviews and comments on the plan. Construct the project as that plan provides.

(2) Do not change the quality control plan without the engineer's review. Update the plan with changes as they become effective. Provide a current copy of the plan to the engineer and post in each of the contractor's laboratories as changes are adopted. Ensure that the plan provides the following elements:

1. An organizational chart with names, telephone numbers, current certifications and/or titles, and roles and responsibilities of QC personnel.
2. The process used to disseminate QC information and corrective action efforts to the appropriate persons. Include a list of recipients, the communication means that will be used, and action time frames.
3. A list of source and processing locations, section and quarter descriptions, for all aggregate materials requiring QC testing.
4. Test results for wear, sodium sulfate soundness, freeze/thaw soundness, and plasticity index of all aggregates requiring QC testing. Obtain this information from the region materials unit or from the engineer.
5. Descriptions of stockpiling and hauling methods.
6. Locations of the QC laboratory, retained sample storage, and where control charts and other documentation is posted.
7. An outline for resolving a process control problem. Include responsible personnel, required documentation, and appropriate communication steps.

B.2 Personnel

(1) Have personnel certified under the department's highway technician certification program (HTCP) perform sampling, testing, and documentation as follows:

SAMPLING AND TESTING ROLES	TEST STANDARD	REQUIRED CERTIFICATION
Random Sampling of Materials Sampling Aggregates	ASTM D3665 AASHTO T2 *[1]*	Transportation Materials Sampling Technician (TMS) Aggregate Technician I (AGGTEC-I) AGGTEC-I Assistant Certified Technician (ACT-AGG)
Percent passing the 200 Sieve Gradation Moisture Content Fractured Faces	AASHTO T11 AASHTO T27 AASHTO T255 ASTM D5821	Aggregate Technician I (AGGTEC-I) AGGTEC-I Assistant Certified Technician (ACT-AGG)
Liquid and Plasticity Index	AASHTO T89 AASHTO T90	Aggregate Testing for Transportation Systems (ATTS) Grading Technician I (GRADINGTEC-1) Grading Assistant Certified Technician (ACT-Grading)
Plasticity Check	AASHTO T90	Aggregate Technician I (AGGTEC-I) AGGTEC-I Assistant Certified Technician (ACT-AGG) Grading Technician I (GRADINGTEC-1) Grading Assistant Certified Technician (ACT-Grading)

[1] Plant personnel under the direct observation of an aggregate technician certified at level one or higher may operate equipment to obtain samples.

(2) A certified technician must coordinate and take responsibility for the work an ACT performs. Have a certified technician ensure that all sampling and testing is performed correctly, analyze test results, and post resulting data. No more than one ACT can work under a single certified technician.

B.3 Laboratory

(1) Perform QC testing at a department-qualified laboratory. Obtain information on the Wisconsin laboratory qualification program from:

Materials Management Section
3502 Kinsman Blvd.
Madison, WI 53704
Telephone: (608) 246-5388

http://wisconsindot.gov/Pages/doing-bus/eng-consultants/cnslt-rsrces/tools/appr-prod/qual-labs.aspx

B.4 Quality Control Documentation

B.4.1 General

(1) Submit base aggregate placement documentation to the engineer within 10 business days after completing base placement. Ensure that the submittal is complete, neatly organized, and includes applicable project records and control charts.

B.4.2 Records

(1) Document all placement observations, inspection records, and control adjustments daily in a permanent field record. Also include all test results in the project records. Provide test results to the engineer within one business day after obtaining a sample. Post or distribute tabulated results using a method mutually agreeable to the engineer and contractor.

B.4.3 Control Charts

(1) Plot gradation and fracture on the appropriate control chart as soon as test results are available. Format control charts according to CMM 8.30. Include the project number on base placement control charts. Maintain separate control charts for each base aggregate size, source or classification, and type.

(2) Provide control charts to the engineer within one business day after obtaining a sample. Post or distribute charts using a method mutually agreeable to the engineer and contractor. Update control charts daily to include the following:

1. Contractor individual QC tests.
2. Department QV tests.
3. Department IA tests.
4. Four-point running average of the QC tests.

(3) Except as specified under B.8.2.1 for nonconforming QV placement tests, include only QC placement tests in the running average. The contractor may plot process control or informational tests on control charts, but do not include these tests, conforming QV tests, or IA tests in the running average.

B.5 Contractor Testing

(1) Test gradation, fracture, liquid limit and plasticity index during placement for each base aggregate size, source or classification, and type.

(2) Perform one stockpile test from each source before placement. One stockpile test may be used for multiple projects up to 60 calendar days.

(3) Test gradation once per 3000 tons of material placed or fraction thereof. Determine random sample locations and provide those sample locations to the engineer. Obtain samples after the material has been bladed, mixed, and shaped but before watering and compacting; except collect 3-inch samples or lift thickness of 3 inch or less from the stockpile at load-out. Do not sample from material used to maintain local traffic or from areas of temporary base that will not have an overlying pavement. On days when placing only material used to maintain local traffic or only temporary base that will not have an overlying pavement, no placement testing is required.

(4) Split each contractor QC sample and identify it according to CMM 8.30. Retain the split for seven calendar days in a dry, protected location. If requested for department comparison testing, deliver the split to the engineer within one business day.

(5) The engineer may require additional sampling and testing to evaluate suspect material or the technician’s sampling and testing procedures.

(6) Test fracture for each gradation test until the fracture running average is above the lower warning limit. Subsequently, the contractor may reduce the frequency to one test per 10 gradation tests if the fracture running average remains above the warning limit.

(7) Test the liquid limit and plasticity index for the first gradation test. Subsequently, test the liquid limit and plasticity index a minimum of once per 10 gradation tests.

B.6 Test Methods

B.6.1 Gradation

(1) Test gradation using a washed analysis conforming to the following as modified in CMM 8.60:

Gradation	AASHTO T 27
Material finer than the No. 200 sieve	AASHTO T 11

(2) For 3-inch base, if 3 consecutive running average points for the percent passing the No. 200 sieve are 8.5 percent or less, the contractor may use an unwashed analysis. Wash at least one sample out of 10. If a single running average for the percent passing the No. 200 sieve exceeds 8.5 percent, resume washed analyses until 3 consecutive running average points are again 8.5 percent passing or less.

(3) Maintain a separate control chart for each sieve size specified in standard spec 305 or standard spec 310 for each base aggregate size, source or classification, and type. Set control and warning limits based on the standard specification gradation limits as follows:

1. Control limits are at the upper and lower specification limits.
2. There are no upper warning limits for sieves allowing 100 percent passing and no lower control limits for sieves allowing 0 percent passing.
3. Dense graded warning limits, except for the No. 200 sieve, are 2 percent within the upper and lower control limits. Warning limits for the No. 200 sieve are set 0.5 percent within the upper and lower control limits.
4. Open graded warning limits for the 1-inch, 3/8-inch, and No. 4 sieves are 2 percent within the upper and lower control limits. Upper warning limits for the No. 10, No. 40, and No. 200 sieves are 1 percent inside the upper control limit.

B.6.2 Fracture

(1) Test fracture conforming to CMM 8.60. The engineer will waive fractured particle testing on quarried stone.

(2) Maintain a separate fracture control chart for each base aggregate size, source or classification, and type. Set the lower control limit at the contract specification limit, either specified in another special provision or in table 301-2 of standard spec 301.2.4.5. Set the lower warning limit 2 percent above the lower control limit. There are no upper limits.

B.6.3 Liquid Limit and Plasticity

(1) Test the liquid limit and plasticity according to AASHTO T 89 and T 90.

(2) Ensure the material conforms to the limits specified in standard spec table 301-2.

B.7 Corrective Action

B.7.1 General

(1) Consider corrective action when the running average trends toward a warning limit. Take corrective action if an individual test exceeds the contract specification limit. Document all corrective actions both in the project records and on the appropriate control chart.

B.7.2 Placement Corrective Action

(1) Do not blend additional material on the roadbed to correct gradation problems.

(2) Notify the engineer whenever the running average exceeds a warning limit. When two consecutive running averages exceed a warning limit, the engineer and contractor will discuss appropriate corrective action. Perform the engineer's recommended corrective action and increase the testing frequency as follows:

1. For gradation, increase the QC testing frequency to at least one randomly sampled test per 1000 tons placed.
2. For fracture, increase the QC testing frequency to at least one test per gradation test.

(3) If corrective action improves the property in question such that the running average after four additional tests is within the warning limits, the contractor may return to the testing frequency specified in B.5.3. If corrective action does not improve the property in question such that the running average after four additional individual tests is still in the warning band, repeat the steps outlined above starting with engineer notification.

(4) If the running average exceeds a control limit, material starting from the first running average exceeding the control limit and ending at the first subsequent running average inside the control limit is nonconforming and subject to pay reduction.

(5) For individual test results significantly outside the control limits, notify the engineer, stop placing base, and suspend other activities that may affect the area in question. The engineer and contractor will jointly review data, data reduction, and data analysis; evaluate sampling and testing procedures; and perform additional testing as required to determine the extent of potentially unacceptable material. The engineer may direct the contractor to remove and replace that material. Individual test results are significantly outside the control limits if meeting one or more of the following criteria:

1. A gradation control limit for the No. 200 sieve is exceeded by more than 3.0 percent.
2. A gradation control limit for any sieve, except the No. 200, is exceeded by more than 5.0 percent.
3. The fracture control limit is exceeded by more than 10.0 percent.

B.8 Department Testing

B.8.1 General

(1) The department will conduct verification testing to validate the quality of the product and independent assurance testing to evaluate the sampling and testing. The department will provide the contractor with a listing of names and telephone numbers of all QV and IA personnel for the project, and provide test results to the contractor within two business days after the department obtains the sample.

B.8.2 Verification Testing

B.8.2.1 General

(1) The department will have an HTCP technician, or ACT working under a certified technician, perform QV sampling and testing. Department verification testing personnel must meet the same certification level requirements specified in B.2 for contractor testing personnel for each test result being verified. The department will notify the contractor before sampling so the contractor can observe QV sampling.

(2) The department will conduct QV tests of each base aggregate size, source or classification, and type during placement conforming to the following:

1. Perform one stockpile test from each source before placement.
2. At least one random test per 30,000 tons, or fraction of 30,000 tons, placed.

(3) The department will sample randomly, at locations independent of the contractor's QC work, collecting one sample at each QV location. The department will collect QV samples after the material has been bladed, mixed, and shaped but before watering and compacting; except, for 3-inch aggregates or for a lift thickness of 3 inch or less, the department will collect samples at load-out. The department will split each sample, test half for QV, and retain half.

(4) The department will conduct QV tests in a separate laboratory and with separate equipment from the contractor's QC tests. The department will use the same methods specified for QC testing.

(5) The department will assess QV results by comparing to the appropriate specification limits. If QV test results conform to the specification, the department will take no further action. If QV test results are nonconforming, add the QV to the QC test results as if it were an additional QC test.

B.8.3 Independent Assurance

(1) Independence assurance is unbiased testing the department performs to evaluate the department's QV and the contractor's QC sampling and testing including personnel qualifications, procedures, and equipment. The department will perform an IA review according to the department's independent assurance program. That review may include one or more of the following:

1. Split sample testing.
2. Proficiency sample testing.
3. Witnessing sampling and testing.
4. Test equipment calibration checks.
5. Reviewing required worksheets and control charts.
6. Requesting that testing personnel perform additional sampling and testing.

(2) If the department identifies a deficiency, and after further investigation confirms it, correct that deficiency. If the contractor does not correct or fails to cooperate in resolving identified deficiencies, the engineer may suspend placement until action is taken. Resolve disputes as specified in B.9.

B.9 Dispute Resolution

(1) The engineer and contractor should make every effort to avoid conflict. If a dispute between some aspect of the contractor's and the engineer's testing program does occur, seek a solution mutually agreeable to the project personnel. The department and contractor may review the data, examine data reduction and analysis methods, evaluate sampling and testing procedures, and perform additional testing. Use ASTM E 178 to evaluate potential statistically outlying data.

(2) Production test results, and results from other process control testing, may be considered when resolving a dispute.

(3) If the project personnel cannot resolve a dispute, and the dispute affects payment or could result in incorporating non-conforming product, the department will use third party testing to resolve the dispute. The department's central office laboratory, or a mutually agreed on independent testing laboratory, will provide this testing. The engineer and contractor will abide by the results of the third party tests. The party in error will pay service charges incurred for testing by an independent laboratory. The department may use third party test results to evaluate the quality of questionable materials and determine the appropriate payment. The department may reject material or otherwise determine the final disposition of nonconforming material as specified in standard spec 106.5.

C (Vacant)

D (Vacant)

E Payment

(1) Costs for all sampling, testing, and documentation required under this special provision are incidental to this work. If the contractor fails to perform the work required under this special provision, the department may reduce the contractor's pay. The department will administer pay reduction under the non-performance of QMP administrative item.

(2) For material represented by a running average exceeding a control limit, the department will reduce pay according to CMM 8-10.5.2 for the affected Base Aggregate bid items listed in subsection A. The department will administer pay reduction under the Nonconforming QMP Base Aggregate Gradation or Nonconforming QMP Base Aggregate Fracture Administrative items. The department will determine the quantity of nonconforming material as specified in B.7.2.

stp-301-010 (20171130)

12. Reheating HMA Pavement Longitudinal Joints, Item 460.4110.S.

A Description

This special provision describes reheating the abutting edge of the previously compacted layer in the adjacent lane while paving mainline asphalt pavements.

B (Vacant)

C Construction

C.1 Equipment

Provide a self-contained heating unit that heats by convection only. Do not use forced air to enhance the flame. Provide a fireproof barrier between the flame and the heater's fuel source. The heater must produce a uniform distribution of heat within the heat box. Provide automatic controls to regulate the heater output and shutoff the heater when the paver stops or the heater control system loses power.

Mount the heater on the paver inside the paver's automatic leveling device.

C.2 Reheating Joints

Evenly reheat at least an 8 inch (200 mm) wide strip of the previously compacted layer in the adjacent lane as follows:

- Reheat the joint to within 60 degrees F (15 degrees C) of the mix temperature at the paver auger. Measure joint temperature immediately behind the heater.

The engineer may allow the required joint reheat temperatures to be cooler than specified to adjust for weather, wind, and other field conditions. Coordinate the heater output and paver speed to achieve the required joint reheat temperature without visible smoke emission.

D Measurement

The department will measure Reheating HMA Pavement Longitudinal Joints by the linear foot, acceptably completed, as measured along each joint for each layer of asphalt placed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
460.4110.S	Reheating HMA Pavement Longitudinal Joints	LF

Payment is full compensation for all the work required under this bid item.

stp-460-015 (20140630)

13. Survey Monument Coordination

The contractor is to notify the Northeast Regional Survey Coordinator, Cormac McInnis, (920) 492-5638, at least 30 days prior to the beginning of construction activities. The Regional Survey Coordinator will then make the arrangements to have the Public Land Survey Monument and Landmark Reference Monuments tied out.

After the majority of construction is complete (prior to restoration) the contractor is again to notify the Survey Coordinator that the site is ready for the replacement of the monuments. The Survey Coordinator will then make arrangements to have the Public Land Survey Monument and Landmark Reference Monuments reset.

(NER14-0429)

14. Traffic Control.

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

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

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

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

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

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

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

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

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

a. Do not park or store any vehicle, piece of equipment, or construction materials on the right-of-way, unless otherwise specified in the traffic control article or without approval of the engineer.

b. All construction vehicles and equipment entering or leaving live traffic lanes shall yield to through traffic.

c. Equip all vehicles and equipment entering or leaving the live traffic lanes with a hazard identification beam (flashing yellow signal) capable of being visible on a sunny day when viewed without the sun directly on or behind the device from a distance of 1000 feet. Activate the beam when merging into or exiting a live traffic lane.

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

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

(NER17-1018)

15. Temporary Portable Rumble Strips, Item 643.0310.S.

A Description

This special provision describes providing, relocating, maintaining, and removing temporary portable rumble strips.

B Materials

Furnish RoadQuake2 or Roadquake2F temporary portable rumble strips, by Plastic Safety Systems. Do not use alternate products or methods without preapproval by the Bureau of Traffic Operations.

C Construction

C.1 Placement

Provide rumble strips where the plans show or the engineer directs as follows:

1. Before placing rumble strips, clean the roadway of sand and other materials that may cause slippage.
2. Place one end of the rumble strips 6 inches from the roadway centerline. Extend the strips perpendicular to the direction of travel. Ensure strips lay flat on the roadway surface.
3. Only one series of rumble strips, placed before the first work zone, is required per direction of travel for multiple work zones spaced 1 mile or less apart. Work zones spaced greater than 1 mile apart require a separate series of rumble strips.

C.2 Maintenance

Maintain rumble strips as follows:

1. If rumble strips slide, become out of alignment, or are no longer in the wheel path of approaching vehicles during the work period, thoroughly clean both sides of the rumble strips and reset on a clean roadway.
2. Repair or replace damaged rumble strips immediately.

D Measurement

The department will measure temporary portable rumble strips as a single lump sum unit of work acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
643.0310.S	Temporary Portable Rumble Strips	LS

Payment is full compensation for providing, relocating, maintaining or replacing, and removing temporary portable rumble strips.

stp-643-020 (20161130)

16. Locating No-Passing Zones, Item 648.0100.

For this project, the spotting sight distance in areas with a 55 mph posted speed limit is 0.21 miles (1108 feet).

stp-648-005 (20060512)

17. Pavement Marking and Centerline Rumble Strips.

Before centerline rumble strips are installed, place centerline Temporary Marking Line (Epoxy) 4-Inch. Except where removed with the rumble strip application, do not remove the centerline Temporary Marking Line (Epoxy) 4-Inch. After the centerline rumble strips have been installed, place permanent centerline Marking Line (Epoxy) 4-Inch.

18. Gabion Wall, Item SPV.0035.01.

A Description

This special provision describes furnishing materials and erecting a permanent earth retention system according to the lines, dimension, elevations and details as shown on the plans and provided in the contract.

B Materials

Furnish gabions and mattresses as shown on the plans and according to ASTM A974 or A975. Gabions have a height of 1'-0" or greater and mattresses have a thickness of 1'-0" or less.

Furnish welded wire fabric gabions and mattresses according to ASTM A974. Wall components shall receive a zinc-coating, Style 1 or 2, with a polyvinyl chloride (PVC) overcoat Style 5.

Furnish twisted/woven mesh gabions and mattresses (revet) according to ASTM A975. Wires shall receive a zinc-coating, Style 1, with a PVC overcoat Style 3.

PVC coated wire shall be colored black, gray, green, or silvery. All other aspects of the wire mesh and fastening systems, including the galvanizing and PVC coating, shall meet the pertinent requirements of ASTM A974 or A975.

Furnish wire sizes meeting the following minimum requirements:

Type of Wire	Mesh Opening	Coated Wire Diameter [1] (inches)	Total Diameter [2] (inches)
Mesh - Gabions	3 ¼" x 4 ½"	0.106	0.146
Mesh - Mattresses	2 ½" x 3 ¼"	0.087	0.127
Selevedge		0.134	0.172
Lacing/Stiffener		0.087	0.127
Fasteners		0.118 [3]	0.118 [3]
Welded - Gabions	3" x 3"	0.106	0.146
Welded - Mattresses	1 ½" x 3"	0.087	0.127
Spiral - Gabions		0.106	0.146
Spiral - Mattresses		0.087	0.127
Lacing/Stiffener		0.087	0.127

(1) Includes 0.80 oz./sf galvanizing coating

(2) Includes 0.02 inch nominal PVC coating (0.015 inch minimum)

(3) Stainless steel wire

Provide lacing and stay wires for gabion diaphragms and for securing tops that are according to the wire specifications for the mesh, except the diameter shall not be less than 0.087 inch. Mechanical fasteners made of galvanized steel with zinc coating (as described above) or stainless steel and supplied by the gabion manufacturer may be used in lieu of the lacing wire, with the approval of the engineer.

Submit a certificate of compliance at or before material is delivered unless the engineer directs or allows otherwise. Ensure that material conforms to this specification and certify that all material furnished is represented by a submitted test report. Acceptance of materials is based on a certificate of compliance.

Provide rock, which will be used inside of the gabions, that is hard durable gravel or stone and is free of organic matter, lumps of clay, shale or other deleterious substances. Provide rock that is at least 85 percent of the rock particles, by weight, shall be within the predominant rock size range.

Gabion or mattress height	Predominant rock size (inch)	Minimum rock dimension (inch)	Maximum rock dimension (inch)
1'-0", 1'-6", or 3'-0" gabions	4.0 to 8.0	4.0	8.0
6", 9" or 1'-0" mattresses	3.0 to 6.0	3.0	6.0

Submit shop drawings to engineer prior to wall construction showing the gabion wall plan and wall elevation including stacking and step patterns.

Backfill for gabions shall comply with the requirements for Granular Backfill grade 1 as contained in standard spec 209.2.2. The contractor may substitute grade 1 or grade 2 material.

C Construction

C.1 Excavation

Excavation and preparation of the foundation for the wall shall be according to standard spec 206. The volume of excavation covered is limited to the width and to the depth of the shown or noted otherwise on the plan. At the end of each working day, provide good temporary drainage such that the backfill shall not become contaminated with run-off soil or water if it should rain. Do not stockpile or store materials or large equipment within 10 feet of the back of the wall.

C.2 Foundation Preparation

Prepare foundation rock surface as required to facilitate gabion placement as shown in the plans. Limit gaps and voids on the prepared surface to no larger than 3 inches. Prior to beginning wall construction, notify the department and allow the Regional Soils Engineer two working days to review the foundation. Provide foundation surface improvements as required. Any required foundation improvements will be paid for at the appropriate bid prices for the items with the approval of the engineer.

C.3 Wall Components

Place the wall units to the lines, elevations and batter shown in the plans. Place wall units in horizontal layers, unless otherwise specified in the plan. Stagger basket-to-basket end joints in relation to adjacent layer basket end joints. Maintain the design wall face batter as wall construction proceeds. Do not place subsequent layers of baskets until the backfill has been placed and compacted behind all lower basket layers. Use backfill behind wall as specified in the plans.

Tightly close mechanical fasteners and space the fasteners as recommended by the manufacturer, the spacing between fasteners shall not exceed 6 inches.

Securely fasten individual gabions to adjacent gabions along the top, bottom, and vertical edges, and fill and place stone inside of the gabions in such a manner that conforms to specifications and details shown in the plan. Carefully place the stone in layers and densely pack the stone into the gabions. Layers of stone shall be approximately 12 inches thick. Use stiffeners between each stone layer to stiffen the basket and to ensure rectangular basket configurations after filling. Use a minimum of two stiffeners per stone layer for each 3 linear feet of wall length. Uniformly overfill the top layer of stone in each basket 1 to 2 inches to compensate for future rock settlement; allow for proper closing of the lid and for providing an even surface that is uniform in appearance. After closing, securely attach the lid to the surrounding baskets.

Place geotextile between the wall backfill and gabion wall as shown on the plans.

C.4 Backfill

Place backfill materials in the areas as indicated on the plans and as detailed in this specification. Backfill lifts shall be no more than 8-inches in depth, after compaction.

Conduct backfilling operations in such a manner as to prevent damage or misalignment of the wall panels, soil reinforcement, or other wall components. At no expense to the department, correct any such damage or misalignment as directed by the engineer. A field representative of the wall supplier shall be available during wall construction to provide technical assistance to the contractor and the engineer.

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

C.5 Compaction

Compact all backfill behind the wall as specified in standard spec 207.3.6.

Ensure adequate moisture is present in the backfill during placement and compaction to prevent segregation and to help achieve compaction.

Compaction of backfill within 3 feet of the back face of the wall should be accomplished using lightweight compaction devices. Use of heavy compaction equipment or vehicles should be avoided within 3 feet of the back face of the wall.

D Measurement

The department will measure Gabion Wall for payment in volume of gabion rock by the cubic yard in place, acceptably completed according to the contract and accepted.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0035.01	Gabion Wall	CY

Payment is full compensation for locating the position of the gabion according to the details; excavating, preparing, and improving the foundation surface; disposing of unnecessary excavated material; providing and compacting the backfill; furnishing, hauling, and placing the gabion baskets and rock; and for providing and placing geotextile fabric.

19. **HMA Percent Within Limits (PWL) Test Strip Volumetrics, Item SPV.0060.01; HMA Percent Within Limits (PWL) Test Strip Density Item SPV.0060.02.**

A Description

This special provision describes the Hot Mix Asphalt (HMA) density and volumetric testing tolerances required for an HMA test strip. An HMA test strip is required for projects constructed under HMA Percent Within Limits (PWL) QMP. A test strip is required for each pavement layer placed over a specific, uniform underlying material, unless specified otherwise in the plans. Each project is restricted to a single mix design for each mix type required (e.g., upper layer and lower layer may have different mix type specified).

Perform work according to standard spec 460 and as hereinafter modified.

B Materials

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

C Construction

C.1 Test Strip

Notify the department at least 5 calendar days in advance of construction of the test strip. On the first day of production for a test strip, produce approximately 750 tons of HMA. (Note: tonnage shall be adjusted to accommodate natural break points in the project.) Test strips shall be located 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, HMA mixture samples shall be obtained from trucks prior to departure from the plant. Three split samples shall be collected during the production of test strip material. Sampling and splitting shall be according to Appendix A: *Sampling for WisDOT PWL QMP*. These three samples will be randomly selected by the engineer from each *third* of the test strip tonnage (T), excluding the first 50 tons:

Sample Number	Production Interval (tons)
1	50 to $\frac{T}{3}$
2	$\frac{T}{3}$ to $\frac{2T}{3}$
3	$\frac{2T}{3}$ to T

C.1.1.2 Density

Required field tests include contractor QC and department QV nuclear density gauge tests and pavement coring.

The engineer will identify two zones in which gauge/core correlation is to be performed. These two zones will be randomly selected within each *half* of the test strip length. (Note: Density zones shall not overlap and must have a minimum of 100 feet between the two zones; therefore, random numbers may be shifted (evenly) in order to meet these criteria.) Each zone shall consist of five locations across the mat as identified in Appendix A. The following shall be determined at each of the five locations within both zones:

- two one-minute nuclear density gauge readings for QC team*
- two one-minute nuclear density gauge readings for QV team*
- pavement core sample

*If the two readings exceed 1.0 lb/ft^3 of one another, a third reading shall be conducted in the same orientation as the first reading. [In this event, the engineer will average all three readings, discard the initial of the three readings which falls farthest from the average value and then average the remaining two values to represent the location for the gauge.]

Both QV and QC teams shall have two nuclear density gauges present for correlation at the time the test strip is constructed. The above testing shall be conducted according to Appendix A: *Test Methods & Sampling for PWL QMP HMA Pavements*.

All test reports shall be submitted to the department upon completion, and approved before paving resumes.

C.1.2 Field Tests

C.1.2.1 Density

Daily standardization of gauges on reference blocks and a project reference site shall be performed according to CMM 8-15. 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 for the remainder of the project 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 project. 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. 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.

Each core 150 mm (6 inches) in diameter shall be taken at locations identified in Section C.1.1.2 Each random core shall be full thickness of the layer placed. Core densities shall be determined according to AASHTO T 166. Thoroughly dry pavement cores according to ASTM D 7227. 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^3. (In the event mix and density portions of the test strip procedure are separated, 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 from the end of the previous day's production multiplied by 62.24 lb/ft^3.)

Fill all core holes with non-shrink rapid-hardening grout, mortar or concrete, or with HMA. When using grout, mortar or concrete, remove all water from the core holes prior to filling. Mix the mortar or concrete in a separate container prior to placement in the hole. If HMA is used, fill all core holes with hot-mix matching the same day's production mix type at same day compaction temperature +/- 20 F. The core holes shall be dry and coated with tack before filling, filled with a top layer no thicker than 2.25 inches, lower layers not to exceed 4 inches, and compacted with a Marshall hammer or similar tamping device using approximately 50 blows per layer. The finished surface shall be flush with the pavement surface. Any deviation in the surface of the filled core holes greater than 1/4 inch at the time of final inspection will require removal of the fill material to the depth of the layer thickness and replacement.

All applicable laboratory and field testing associated with a test strip shall be completed prior to any additional mainline placement of the mix for the associated test strip. 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.

[Exclusions such as shoulders and appurtenances shall be tested according to CMM 8-15. However, all acceptance testing of shoulders and appurtenances will be conducted by the department, and average lot (daily) densities must conform to Table 460-3.]

C.1.3 Laboratory Tests

C.1.3.1 Volumetrics

Obtain random samples according to Appendix A. Obtain HMA mixture samples from trucks at the plant. Perform tests the same day as taking the sample.

Bulk specific gravities shall be determined for cores according to AASHTO T 166. 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. QC and QV teams may wish to scan with additional gauges at the locations detailed in C.1.1 above, as only gauges used during the test strip correlation phase will be allowed on the remainder of the project.

C.2 Acceptance

C.2.1 Volumetrics

Conform to the following limits based on individual QC and QV test results (tolerances based on initial JMF/mix design):

ITEM	CONFORMANCE 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	- 0.5
Air Voids	-1.5 and +2.0
VMA in percent[1]	- 1.0
Maximum specific gravity	+/- 0.024

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

QV test results will be determined for air voids and VMA, Gmm, and Gmb, and AC.

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 Analysis Template.

If QC and QV test results do not correlate as determined by the paired t-test, 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 acceptance and pay.

C.2.2 Density

Compact all layers of test strip HMA mixture to the applicable density shown in the following table:

TABLE 460-3 MINIMUM REQUIRED DENSITY[1]

	MIXTURE TYPE	
LAYER	LT and MT	HT
LOWER	93.0[2]	93.0[3]
UPPER	93.0	93.0

[1] If any individual core density test result falls more than 3.0 percent below the minimum required target maximum density, the engineer may investigate the acceptability of that material per CMM 8-15.11.

[2] Minimum reduced by 2.0 percent for a lower layer constructed directly on crushed aggregate or recycled base courses.

[3] Minimum reduced by 1.0 percent for lower layer constructed directly on crushed aggregate or recycled base courses.

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-provided Field Density Worksheet.

C.2.3 Test Strip Acceptance

The department will evaluate material acceptance 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 acceptable test strip is defined as the individual PWL value for air voids and density both above 75, and an acceptable gauge-to-core correlation.

If either PWL value for the test strip is below 50, the material is nonconforming and the test strip is unacceptable. Material allowed to remain in place requires another test strip prior to additional paving. If material is removed, a new test strip shall replace the previous one at no additional cost to the department. 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 > 75

iii. Density PWL value > 75

iv. Acceptable correlation

If not conducted simultaneously, the mix portion of a test strip must accomplish (i) and (ii), while density must accomplish (iii) and (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, mix acceptance 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
SPV.0060.01	HMA Percent Within Limits (PWL) Test Strip Volumetrics	EACH
SPV.0060.02	HMA Percent Within Limits (PWL) Test Strip Density	EACH

These items are intended to compensate the contractor for the construction of the test strip for projects 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; for proper labeling, handling, and retention of 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.

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 calculated according to Appendix A.

The department will adjust pay for each test strip as follows:

PAY ADJUSTMENT FOR HMA PAVEMENT AIR VOIDS & DENSITY

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

where,

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

[1]Material resulting in PWL value of 50 or less 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 as modified here within. Pay adjustment will be determined for an acceptably completed test strip and will be computed as shown in the following equation.

Pay Adjustment = (PF-100)/100 x (WP) x (tonnage) x ($65/ton)*

*Note: If Pay Factor <50, the contract unit price will be used in lieu of $65/ton

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., excluding shoulder) as determined according to CMM 8-15.

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
460.2010	Incentive Air Voids HMA Pavement	DOL

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

bts-PWL Test Strip (20171002)

20. HMA Pavement Percent Within Limits (PWL) QMP.

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 required below.

B Materials

Conform to the requirements of standard spec 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 project, 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 according to HMA Pavement Percent Within Limits (PWL) QMP Test Strip Volumetrics and HMA Pavement Percent Within Limits (PWL) QMP Test Strip Density articles at no additional cost to the department.

Replace standard spec 460.2.8.2.1.3.1 for contracts with 5000 Tons of Mixture or Greater with the following:

460.2.8.2.1.3.1 Contracts under Percent within Limits

(1) 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.

(2) Obtain random samples and perform tests according to Appendix A Test Methods & Sampling for HMA Pavement PWL QMP. Obtain HMA mixture samples from trucks at the plant. For the sublot in which a QV sample is collected, the QC sample shall be discarded, and the QC team shall test a split of the QV sample.

(3) 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 three splits for all random sampling per sublot. All QC samples shall provide the following: QC, QV, and Retained. The contractor shall take possession and test the QC portions. The department will observe the splitting and take possession of the samples intended for QV testing (i.e., QV portion from each sample) and the Retained portions. Additional sampling details are found in Appendix A. Samples shall be labeled according to Appendix A. Additional handling instructions for retained samples are found in CMM 8-36.

(4) Use the test methods identified below to perform the following tests at a frequency greater than or equal to that indicated:

Blended aggregate gradations according to AASHTO T 30

Asphalt content (AC) in percent according to AASHTO T 308 (ignition oven) or AASHTO T 164 (chemical extraction)

Bulk specific gravity (Gmb) of the compacted mixture according to AASHTO T 166.

Maximum specific gravity (Gmm) according to AASHTO T 209.

Air voids (V_a) by calculation according to AASHTO T 269.

Voids in Mineral Aggregate (VMA) by calculation according to AASHTO R35.

(5) Lot size shall consist of 3750 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 on the project. Add a random sample for any fraction of 750 tons at the end of a project. Partial lots with less than three sublot tests will be included into the previous lot for data analysis/acceptance and pay. Volumetric lots will include all tonnage of mixture type under specified bid item unless otherwise specified in the plan.

(6) Conduct field tensile strength ratio tests according to AASHTO T283, without freeze-thaw conditioning cycles, on each qualifying mixture according to CMM 8-36.6.14. 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

(1) Material must conform to the following action and conformance limits based on individual QC and QV test results (tolerances relative to JMF):

ITEM	ACTION LIMITS	CONFORMANCE 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	
AC in percent	- 0.5	
Va		- 1.5 and +2.0
VMA in percent[1]	- 0.5	-1.0

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

(2) QV samples will be tested for air voids, VMA, Gmm, Gmb, and AC.

(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. Additional QV tests must meet action limits or be subject to production stop and/or remove and replace.

(4) For any additional tests outside the random number testing conducted for volumetrics, the data collected will not be entered into PWL calculations. However, additional QV testing shall meet the tolerances for material acceptance as specified in the standard specifications and this document.

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

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 HMA technician, certified at a level appropriate for sampling and mixture production control testing, to observe QV sampling of project mixtures.

(2) Under departmental observation, a contractor HMA technician certified at a level appropriate for sampling and mixture production control testing will collect and split samples.

(3) A department HMA technician certified at a level appropriate for sampling and mixture production control testing will ensure that all sampling is performed correctly and conduct testing, analyze test results, and report resulting data.

(4) The department will provide an organizational chart 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 three splits for all random sampling per sublot. All QV samples shall provide the following: QC, QV, and Retained. The department will observe the splitting and take possession of the samples intended for QV testing (i.e., QV portion from each sample) and the Retained portions. The department will take possession of retained samples accumulated to date each day QV samples are collected. Retention of samples will be provided until surpassing the analysis window of up to 5 lots, as defined in standard spec 460.2.8.3.1.7(2) of this document. Additional sampling details are found in Appendix A.

(2) The department will verify product quality using the test methods specified here in standard spec 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 perform all testing conforming to the following standards:

Bulk specific gravity (Gmb) of the compacted mixture according to AASHTO T 166.

Maximum specific gravity (Gmm) according to AASHTO T 209.

Air voids (Va) by calculation according to AASHTO T 269.

Voids in Mineral Aggregate (VMA) by calculation according to AASHTO R 35.

Asphalt Content (AC) in percent by ignition oven according to AASHTO T 308 or by chemical extraction according to AASHTO T 164

(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 Acceptance for Volumetrics

(1) Acceptance 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 standard spec 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 4th and 5th 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 project (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. Dispute resolution via further investigation is as follows:

[1] The Retained portion of the split from the most recent lot in the analysis window (specifically the sublot identifying that variances or means do not compare) shall be referee tested by the bureau's AASHTO accredited laboratory and certified personnel. If the non-comparison occurs following Lot 3, 4, or 5, all previous lots are subject to referee testing. Referee test results will replace the QV data of the sublot(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 QV portion of the random QC sample will be tested by the department's regional lab for the remaining 4 sublots of the lot which the F- and t- tests report not comparing. The department's region lab and the referee test results will be used for PWL and pay factor/adjustment calculations.

[3] The contractor may choose to *dispute* the regional test results on a lot basis. In this event, the retained portion of each sublot 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 absorb 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 contractor pays for the additional referee testing at $2,000/lot.

(3) 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.

(4) The department will determine mixture conformance and acceptability by analyzing referee test results, reviewing mixture project data, and inspecting the completed pavement according to Standard Spec, this special provision, and accompanying Appendix A.

(5) Nonconforming mix (i.e., resulting in a PWL value less than 50 or not meeting the requirements of standard spec 460.2.8.2.1.7 as modified here within) may be subject to remove and replace, at the discretion of the engineer. Replacement may be conducted on a sublot basis. If an entire PWL sublot is removed and replaced, the test results of the newly placed material shall replace the original data for the sublot. 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 data analysis and pay determination.] If the engineer approves the nonconforming material to remain in place, it will be paid at 50% of the HMA Pavement contract unit price. The extent of nonconforming mix shall be determined by following the dispute resolution process detailed in standard spec 460.2.8.3.1.7(2) of this document. The quantity of material paid at 50% the contract unit price will be deducted from PWL pay adjustments, along with accompanying data of this nonconforming 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

(1) The engineer will determine the target maximum density using department procedures described in CMM 8-15. The engineer will determine density as soon as practicable after compaction and before placement of subsequent layers or before opening to traffic.

(2) 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.

(3) A lot is defined as 7500 lane feet with sublots of 1500 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. The contractor is required to complete 3 tests randomly per sublot and the department will randomly conduct one QV test per sublot. A partial quantity less than 1500 lane feet will

be included with the previous sublot. Partial lots with less than three sublots will be included into the previous lot for data analysis/acceptance and pay, by the engineer. If density lots/sublots are determined prior to construction of the test strip, any random locations within the test strip shall be omitted. Exclusions such as shoulders and appurtenances shall be tested according to CMM 8-15. However, all acceptance testing of shoulders and appurtenances will be conducted by the department, and average lot (daily) densities must conform to Table 460-3.

(4) The three QC locations per sublot will represent the outside, middle, and inside of the paving lane. Each location will be measured with two one-minute gauge readings oriented 180 degrees from one another, in the same footprint as detailed in Appendix A. Each location will be the average of the two readings. If the two readings exceed 1.0 lb/ft^3 of one another, a third reading shall be conducted in the same orientation as the first reading. In this event, all three readings shall be averaged, the initial of the three readings which falls farthest from the average value discarded, and the remaining two values averaged to represent the location for the gauge. Multiple locations are not to be averaged together.

(5) QV nuclear testing will consist of a randomly selected location per sublot. The QV is also comprised of two one-minute readings, averaged as described in standard spec 460.3.3.2(4) above.

(6) A certified nuclear density technician shall identify random locations and perform the testing. The responsible certified technician shall ensure that sample location and testing is performed correctly, analyze test results, and provide density results to the contractor weekly, or at the completion of each lot.

(7) For any additional tests outside the random number testing conducted for density, the data collected will not be entered into PWL calculations. However, additional QV testing must meet the tolerances for material acceptance as specified in the standard specification and this document. If additional density data identifies nonconforming material, proceed according to CMM 8-15.11.

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

460.3.3.3 Acceptance of Density Data

(1) Acceptance of test data for pay determination will be contingent upon test results from both the contractor (QC) and the department (QV).

(2) As random density locations are paved, the data shall be recorded in the PWL spreadsheet for analysis in chronological order. The engineer, upon completion of the analysis lot, will compare the variances (F-test) and the means (t-test) of the QV test results with the QC test results. Analysis will use a set alpha value of 0.025.

i. If the F- and t-tests indicate variances and means compare, the QC and QV data sets are determined to be statistically similar and QC data will be used for PWL and pay adjustment calculations.

ii. If the F- and t-tests indicate variances or means do not compare, the QV data will be used for subsequent calculations.

(3) The department will determine mixture density conformance and acceptability by analyzing test results, reviewing mixture project data, and inspecting the completed pavement according to Standard Spec, this document, and accompanying Appendix.

(4) Density resulting in a PWL value less than 50 or not meeting the requirements of standard spec 460.3.3.1 is non-conforming and may be subject to remove and replace at no additional cost to the department, at the discretion of the engineer.

i. Replacement may be conducted on a sublot basis. If an entire PWL sublot is removed and replaced, the test results of the newly placed material shall replace the original data for the sublot.

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 approves the nonconforming material to remain in place, it will be paid for at 50% of the HMA Pavement contract unit price. The extent of nonconforming density is addressed according to CMM 8-15.11. The quantity of material paid at 50% the contract unit price will be deducted from PWL pay adjustments, along with accompanying data of this nonconforming 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 here within.

E Payment

Replace standard spec 460.5.2 HMA Pavement with the following:

460.5.2 HMA Pavement

460.5.2.1 General

(1) 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 analysis template, including data, will be provided 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 according to the *Calculations* worksheet of the WisDOT PWL Analysis Template:

PAY FACTOR FOR HMA PAVEMENT AIR VOIDS & DENSITY

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

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

[1] Any material resulting in PWL value of 50 or less 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 shall be according to Table 460-3. Pay adjustment will be determined on a lot basis and will be computed as shown in the following equation.

Pay Adjustment = (PF-100)/100 x (WP) x (tonnage) x ($65/ton)*

*Note: If Pay Factor <50, the contract unit price will be used in lieu of $65/ton

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 placed (i.e., from truck tickets), and $PF_{density}$ will be multiplied by the calculated tonnage used to pave the mainline only (i.e., travel lane) as determined according to CMM 8-15.

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

ITEM NUMBER	DESCRIPTION	UNIT
460.2005	Incentive Density PWL HMA Pavement	DOL
460.2010	Incentive Air Voids HMA Pavement	DOL

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

Note: PWL value determination is further detailed in the *Calculations* worksheet of the WisDOT PWL Analysis Template.

bts-HMA PWL QMP (20171002)

21. Remove and Salvage Roundabout Lighting (STH 32 & STH 28), Item SPV.0105.01.

A Description

This work shall consist of removing lighting cable/wire from the homerun conduit system, six 4 foot luminaire arms, and salvaging six transformer bases, six poles, and six fixtures from the intersection of STH 32 & STH 28 as shown in the plans and according to the requirements of standard spec 657 and standard spec 658, standard detail drawings, and as hereinafter provided.

B (Vacant)

C Construction

After coordination with the NE Region Electrical Unit, the existing Roundabout Lighting equipment shall be disconnected from the concrete bases and the old luminaire arms, cable/wire shall be removed from the underground conduit system. The transformer bases, poles, and fixtures shall be salvaged and reused on the new concrete bases. After removal, the luminaire arms and cable/wire shall be transported off site to the electrical subcontractor's facilities and/or to a recycling/garbage facility.

D Measurement

The department will measure Remove and Salvage Roundabout Lighting (STH 32 & STH 28) bid item as a single lump sum unit of work, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.01	Remove Roundabout Lighting (STH 32 & STH 28)	LS

Payment for Remove and Salvage Roundabout Lighting (STH 32 & STH 28) is full compensation for removing and transporting six 4 foot luminaire arms and cable/wire to the appropriate facility, removing and reinstalling the salvaged transformer bases, poles, and fixtures at the new base locations.

22. Appendix A

TEST Methods & Sampling for HMA Pavement PWL QMP.

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

- WisDOT Procedure for Nuclear Gauge/Core Correlation – Test Strip
- WisDOT Test Method for HMA PWL QMP Density Measurements for Main Production
- Sampling for WisDOT HMA PWL QMP

WisDOT Procedure for Nuclear Gauge/Core Correlation – Test Strip

Density Testing Zone of Approximately 200 lane ft

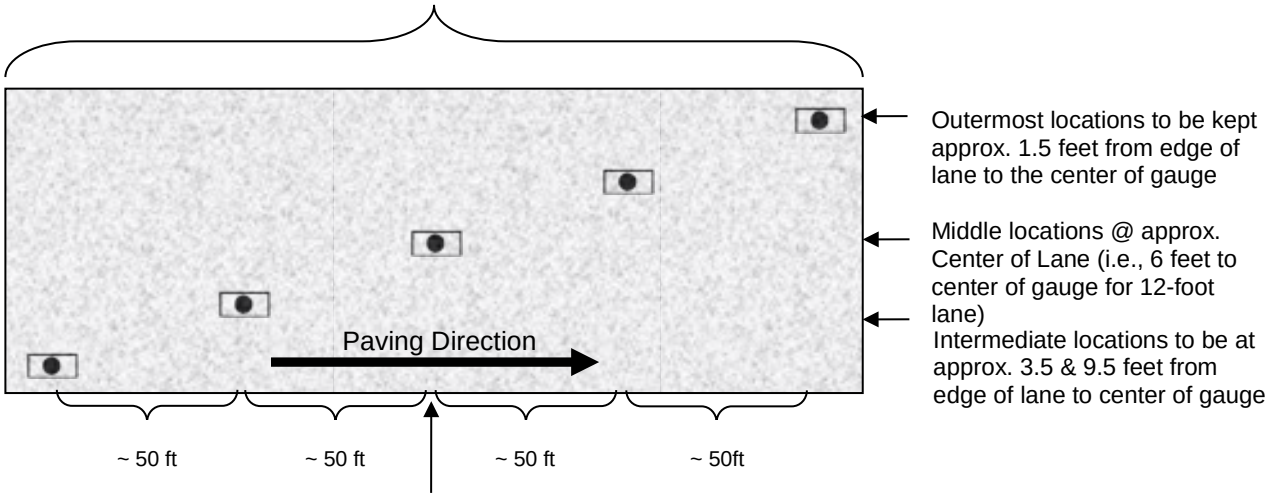


Figure 1: Nuclear/Core Correlation Location Layout

The zones are supposed to be undisclosed to the contractor/roller operators. The engineer will not lay out density/core test sites until rolling is completed and the cold/finish roller is beyond the entirety of the zone. Sites are staggered across the 12-foot travel lane, and do not include shoulders. The outermost locations should be 1.5-feet from the center of the gauge to the edge of lane. [NOTE: This staggered layout is only applicable to the test strip. All mainline density locations after test strip should have a longitudinal- as well as transverse-random number to determine location as detailed in the *WisDOT Test Method for HMA PWL QMP Density Measurements for Main Production* section of this document.]

Individual locations are represented by the  symbol as seen in Figure 1 above. The symbol is two-part, comprised of the nuclear test locations and the location for coring the pavement, as distinguished here:

The nuclear site is the same for QC and QV readings for the test strip, i.e., the QC and QV teams are to take nuclear density gauge readings in the same footprint. Each of the QC and QV teams are to take a minimum of two one-minute readings per nuclear site, with the gauge rotated 180 degrees between readings, as seen here:

(a) (b)

Figure 2: Nuclear gauge orientation for (a) 1st one-minute reading and (b) 2nd one-minute reading

Photos should be taken of each of the 10 core/gauge locations of the test strip. This should include gauge readings (pcf) and a labelled core within the gauge footprint. If a third reading is needed, all three readings should be recorded and documented. Only raw readings in pcf should be written on the pavement during the test strip, with a corresponding gauge ID/SN (generalized as QC-1 through QV-2 in the following Figure) in the following format:

Figure 3: Layout of raw gauge readings as recorded on pavement

Each core will then be taken from the center of the gauge footprint, and will be used to correlate each gauge with laboratory-measured bulk specific gravities of the pavement cores. One core in good condition must be obtained from each of the 10 locations. If a core is damaged at the time of extracting from the pavement, a replacement core should be taken immediately adjacent to the damaged core, i.e., from the same footprint. If a core is damaged during transport, it should be recorded as damaged and excluded from the correlation. Coring after traffic is on the pavement should be avoided. The contractor is responsible for coring of the pavement. Coring and filling of 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. Core density testing will 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 initial testing and is responsible for any verification testing.

Each core 150 mm (6 inches) in diameter will be taken at locations as identified in Figure 1. Each random core will be full thickness of the layer being placed. The contractor is responsible for thoroughly drying cores obtained from the mat according to ASTM D 7227 prior to using specimens for in-place density determination according to AASHTO T 166.

Cores must be taken before the pavement is open to traffic. Cores are cut under department/project staff observation. Relabel each core immediately after extruding, or ensure that labels applied to pavement prior to cutting remain legible. The layer interface should also be marked immediately following extrusion. Cores should be cut at this interface, using a wet saw, to allow for density measurement of only the most recently placed layer. Cores should be protected from excessive temperatures such as direct sunlight. Also, there should be department custody (both in transport and storage) for the cores until they are tested, whether that be immediately after the test strip or subsequent day if agreed upon between department and contractor. Use of concrete cylinder molds works well to transport cores. Cores should be placed upside down (flat surface to bottom of cylinder mold) in the molds, one core per mold, cylinder molds stored upright, and ideally transported in a cooler. Avoid any stacking of pavement cores.

WisDOT Test Method for HMA PWL QMP Density Measurements for Main Production

For nuclear density testing of the pavement beyond the test strip, QC tests will be completed at three locations per sublot, with a sublot defined as 1500 lane feet. The three locations will represent the outside, middle, and inside of the paving lane (i.e., the lane width will be divided into thirds as shown by the dashed longitudinal lines in Figure 3 and random numbers will be used to identify the specific transverse location within each third according to CMM 8-15). Longitudinal locations within each sublot shall be determined with 3 independent random numbers. 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. Each location will be measured with two one-minute gauge readings oriented 180 degrees from one another, in the same footprint as detailed in Figure 2 above. Each location requires a minimum of two readings per gauge. QV nuclear testing will consist of one randomly selected location per sublot. The QV is also comprised of two one-minute readings. This is depicted as follows, with QC test locations shown as solid lines and QV as dashed.

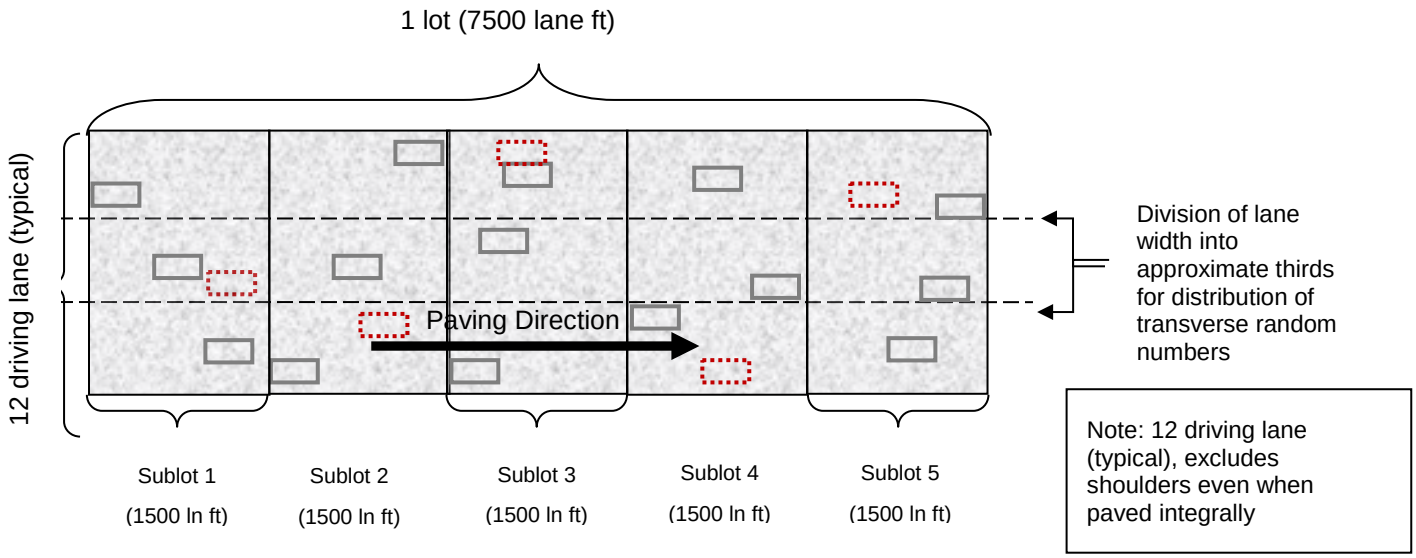


Figure 5: Locations of main lane HMA density testing (QC=solid lines, QV=dashed)

QC and QV nuclear density gauge readings will be statistically analyzed according to the following section of this Appendix. (Note: For density data, if F- and t-tests compare, QC data will be used for the subsequent calculations of PWL value and pay determination. However, if an F- or t-test does not compare, the QV data will be used in subsequent calculations.)

Sampling for WisDOT HMA PWL QMP

Delete CMM 8-36.4 Sampling Hot Mix Asphalt and replace with the following to update sublot tonnages:

Sampling Hot Mix Asphalt

At the beginning of the project, the contractor determines the anticipated tonnage to be produced. The frequency of sampling is 1 per 750 tons (sublot) for QC and 1 per 3750 tons (lot or 5 sublots) for QV as defined by the PWL QMP SPV. A test sample is obtained randomly from each sublot. The contractor must submit the random numbers for all mix sampling to the department before production begins.

Example 1

Expected project production is 12,400 tons. The number of required samples is determined based on this expected production (per 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 ASTM Method D-3665 or by using a calculator or computerized spreadsheet that has a random number generator. The random numbers selected are used in determining when a sample is to be taken and will be multiplied by the sublot tonnage. This number will then be added to the final tonnage of the previous sublot 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 should be taken in the next truck (51-75 ton).

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

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 sublot of production. If the randomly generated sample is calculated to be within the first 0-50 tons of the subsequent day of production, it should be taken in the next truck. Add a random sample for any fraction of 750 tons at the end of the project. Lot size will consist of 3750 tons with sublots of 750 tons. Partial lots with less than three sublot tests will be included into the previous lot, by the engineer.

It's intended that the plant operator not be advised ahead of time when samples are to be taken. If the plant operator is involved in recording a Pb (%AC) to match up with the mix sample tonnage, then notification need not be earlier than 60 minutes before the mix sample being 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.

Delete CMM 8-36.4.2.1 through 8-36.4.2.3 and replace with the following PWL Split Sample Sizes

PWL Split Sample Sizes

- Minimum sample sizes are referenced below and are guidance for meeting requirements for test completion.

Mixture NMAS	Minimum Individual Sample Size
$\leq$ 12.5mm (1/2")	35 lb (4 x 35 = 140 lb)
19.0mm - 25.0mm (3/4" – 1")	50 lb (4 x 50 = 200 lb)
$\geq$ 37.5mm (1-1/2")	80 lb (4 x 80 = 320 lb)

- The total sample for larger NMAS (nominal maximum aggregate size) mixtures will be enough to provide the required minimum testing sample size as defined in Figure 6.

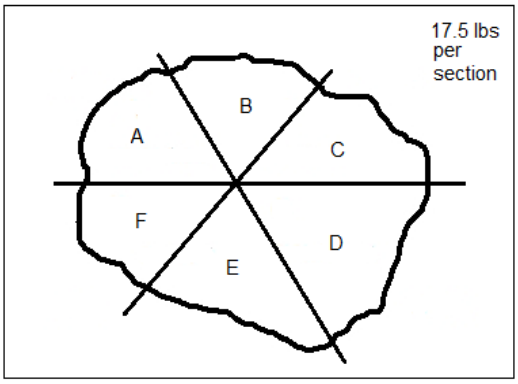
Delete 8-36.5.1.1 Step 1 and replace with the following Initial Splitting of Sample

Initial Splitting of Sample

For QC sample reduction the HMA sample in the containers is mixed and quartered. The quartering process should then proceed as follows:

14. Collect the minimum sample size given in the *PWL Split Sample Size* section above. Split the sample into "Test" and "Retained" samples. Place entire sample on table, quickly re-mix and split to minimize temperature loss. Split the Test & Retained samples as shown on Figure 6. For 1/2" mixes start with at least a total of 105 lb of HMA.

Figure 6 Superpave Sample for 105 lb for three-way split for QC, QV, and retained samples



(a) (b)

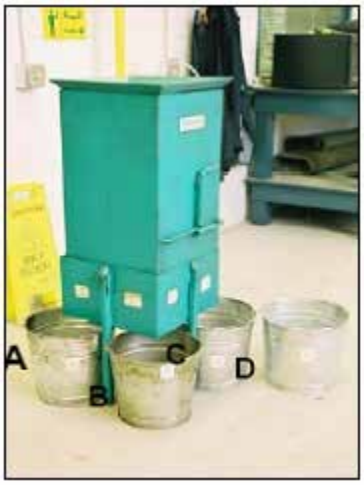
15. For a three-way split shown in Figure 3, *diagonal sections*, as indicated on the sketch, must be combined to form the QV sample (A+D), retained sample (B+E) and the QC test sample (C+F). The retained sample must be bagged, labeled, and stored in a safe dry place. The retained samples may be tested using the "rule of retained" (see "Definitions" section).
16. The QC & QV test samples are then further split for the specified tests. Continue the splitting process in *Further Reduction of Samples to Test Sizes* for the test materials until individual samples are in the oven.

Delete CMM 8-36.5.2 Use of Alternative Sampling / Quartering Devices (ex: Quartermaster) and replace with the following:

Use of Alternative Sampling / Quartering Devices (ex: Quartermaster)

Use of other devices to assist in the sampling and splitting procedures may be used with approval of the department. The Quartermaster is one such device. A picture of a Quartermaster device is shown in Figure 7.

Figure 7 Quartermaster Quartering Device



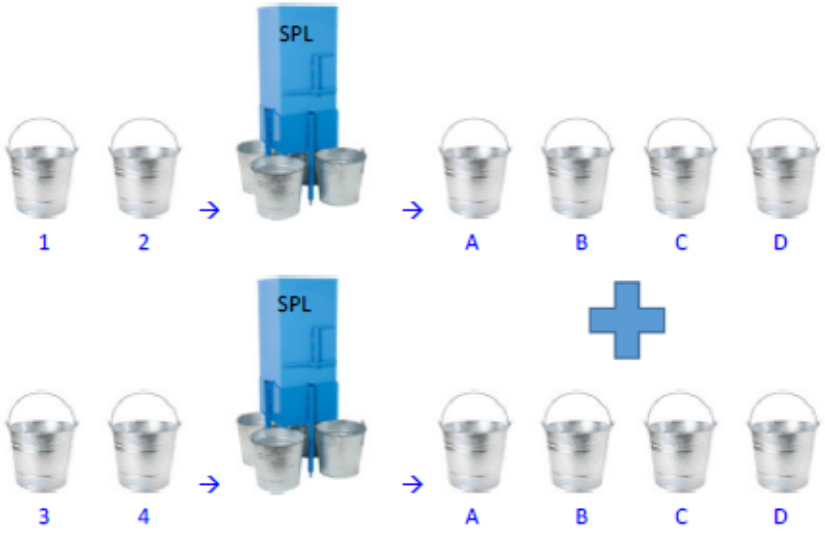
Example 3

If a quartermaster is used to reduce a PWL split sample into the proper quanitites, it is required to collect four times the minimum sample size shown in PWL Split Sample Sizes (e.g. 4 x 35 is approximately 140 lb), use the selected device to split, and discard the extra quadrant of material. The quartermaster is used to blend the asphalt mixture to minimize any segregation during the splitting process. The following steps helps to ensure uniform splits for each party/quadrant and should be followed for each PWL sample collected.

Figure 8 PWL Sample Splitting with Quartermaster

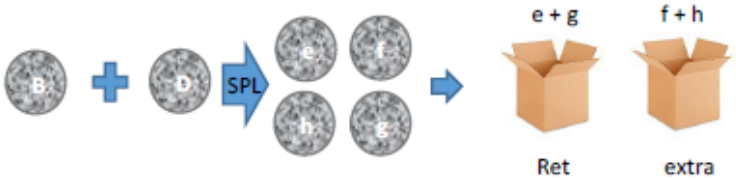
Step 1: Grab 4 buckets of loose mix from truck (if using a Department-approved mechanical sampling device & increased-capacity hopper, place the minimum material sample weight requirement in the hopper and skip to step 3):

Step 2: Send Buckets 1 & 2 thru Quartermaster to fill half of each A thru D. Then split Buckets 3 & 4 to fill remaining half of buckets A thru D.



Step 3: Recombine Opposite Corner Buckets A & C, to yield a, b, c, & d. Then recombine opposite corners (a&c, b&d) to yield first two box samples.

Step 4: Recombine Opposite Corner Buckets B & D, to yield e, f, g, & h. Then recombine opposite corners (e&g, f&h) to yield remaining two box samples.



ADDITIONAL SPECIAL PROVISION 4

Payment to First-Tier Subcontractors

Within 10 calendar days of receiving a progress payment for work completed by a subcontractor, pay the subcontractor for that work. The prime contractor may withhold payment to a subcontractor if, within 10 calendar days of receipt of that progress payment, the prime contractor provides written notification to the subcontractor and the department documenting "just cause" for withholding payment.

The prime contractor may also withhold routine retainage from payments due subcontractors.

Payment to Lower-Tier Subcontractors

Ensure that subcontracting agreements at all tiers provide prompt payment rights to lower-tier subcontractors that parallel those granted first-tier subcontractors in this provision.

Release of Routine Retainage

After granting substantial completion the department may reduce the routine retainage withheld from the prime contractor to 75 percent of the original total amount retained.

When the Department sends the semi-final estimate the department may reduce the routine retainage withheld from the prime contractor to 10 percent of the original total amount retained.

Within 30 calendar days of receiving the semi-final estimate from the department, submit written certification that subcontractors at all tiers are paid in full for acceptably completed work and that no routine retainage is being withheld. The department will pay the prime contractor in full and reduce the routine retainage withheld from the prime contractor to zero when the department approves the final estimate.

This special provision does not limit the right of the department, prime contractor, or subcontractors at any tier to withhold payment for work not acceptably completed or work subject to an unresolved contract dispute.

ADDITIONAL SPECIAL PROVISION 6
ASP 6 - Modifications to the standard specifications

Make the following revisions to the standard specifications:

104.10.1 General

Replace paragraph one with the following effective with the December 2017 letting:

(1) Subsection 104.10 specifies a 2-step process for contractors to follow in submitting a cost reduction incentive (CRI) for modifying the contract in order to reduce direct construction costs computed at contract bid prices. The initial submittal is referred to as a CRI concept and the second submittal is a CRI proposal. The contractor and the department will equally share all savings generated to the contract due to a CRI as specified in 104.10.4.2(1). The department encourages the contractor to submit CRI concepts.

104.10.4.2 Payment for the CRI Work

Replace paragraph one with the following effective with the December 2017 letting:

(1) The department will pay for completed CRI work as specified for progress payments under 109.6. The department will pay for CRI's under the Cost Reduction Incentive administrative item. When all CRI costs are determined, the department will execute a contract change order that does the following:

1. Adjusts the contract time, interim completion dates, or both.
2. Pays the contractor for the unpaid balance of the CRI work.
3. Pays the contractor 50 percent of the net savings resulting from the CRI, calculated as follows:

NS = CW - CRW - CC - DC

Where:

NS = Net Savings

CW = The cost of the work required by the original contract that is revised by the CRI. CW is computed at contract bid prices if applicable.[1]

CRW = The cost of the revised work, computed at contract bid prices if applicable.[1]

CC = The contractor's cost of developing the CRI proposal.

DC = The department's cost for investigating, evaluating, and implementing the CRI proposal.

[1] The department may adjust contract bid prices that, in the engineer's judgement, do not represent the fair value of the work deleted or proposed.

108.11 Liquidated Damages

Replace paragraphs two and three with the following effective with the December 2017 letting:

(2) This deducted sum is not a penalty but is a fixed, agreed, liquidated damage due the department from the contractor for the added cost of engineering and supervision resulting from the contractor's failure to complete the work within the contract time.

(3) Unless enhanced in the special provisions, the department will assess the following daily liquidated damages

LIQUIDATED DAMAGES

ORIGINAL CONTRACT AMOUNT		DAILY CHARGE	
FROM MORE THAN	TO AND INCLUDING	CALENDAR DAY	WORKING DAY
$0	$250,000	$850	$1700
$250,000	$500,000	$815	$1630
$500,000	$1,000,000	$1250	$2500
$1,000,000	$2,000,000	$1540	$3080
$2,000,000	___	$2070	$4140

203.3.2.2 Removal Operations

Replace the entire text with the following effective with the December 2017 letting:

203.3.2.2.1 General

(1) Except as specified below for closing culverts, remove the entire top slab of box culverts and the entire superstructure of other culverts and bridges designated for removal. Completely remove existing piles, cribs, or other timber construction within the limits of new embankments, or remove these structures to an elevation at least 2 feet below finished ground line. Remove sidewalls or substructure units in water to an elevation no higher than the elevation of the natural stream or lake bed, or, if grading the channel is required under the contract or the plans, to the proposed finished grade of the stream or lake bed. Remove sidewalls or substructure units not in water down to at least 2 feet below natural or finished ground line.

(2) If extending or incorporating existing culverts and bridges in the new work, remove only those parts of the existing structure as necessary to provide a proper connection to the new work. Saw, chip, or trim the connecting edges to the required lines and grades without weakening or damaging the remaining part of the structure. During concrete removal, do not damage reinforcing bars left in place as dowels or ties incorporated into the new work.

(3) Remove pipe culverts designated for salvage in a way that prevents damage to the culverts.

(4) Dismantle steel structures or parts of steel structures designated for salvage in a way that avoids damage to the members. If the contract specifies removing the structure in a way that leaves it in a condition suitable for re-erection, matchmark members with durable white paint before dismantling. Mark pins, bolts, nuts, loose plates, etc., similarly to indicate their proper location. Paint pins, bolts, pinholes, and machined surfaces with a department-approved rust preventative. Securely wire loose parts to adjacent members, or label and pack them in boxes.

(5) Remove timber structures or parts of timber structures designated for salvage in a way that prevents damage to the members.

(6) If the engineer approves, the contractor may temporarily use materials designated for salvage in falsework used to construct new work. Do not damage or reduce the value of those materials through temporary use.

203.3.2.2.2 Deck Removal

(1) Protect the work as specified in 107.14 during deck removal. Minimize debris falling onto water surfaces and wetlands as the contract specifies in 107.18 or in the special provisions. Also, minimize debris falling on the ground and roadway.

(2) Do not damage existing bar steel reinforcement, girders, or other components that will be incorporated in new work. Remove decks on prestressed concrete girders using a hydraulic shear or other engineer-approved equipment. Thoroughly clean, realign, and retie reinforcement as necessary.

(3) After deck removal is complete, notify the engineer to request a damage survey. Point out damage to the engineer. Allow one business day for the engineer to complete the damage survey. If damage is identified, the department will determine if repairs or girder restoration will be allowed.

(4) If the department allows girder restoration, have a professional engineer registered in the State of Wisconsin analyze the effect of the damage to the bridge, make recommendations, and prepare signed and sealed computations and structural details required to restore girders to their previous structural capacity. Submit the restoration proposal, including analysis and structural details, to the department and design engineer of record. The department will accept or reject the restoration proposal within 3 business days. Do not begin restoration work until the department allows in writing.

(5) The engineer will not extend contract time to assess or remediate contractor caused damage.

203.5.1 General

Replace paragraph two with the following effective with the December 2017 letting:

(2) Payment is full compensation for breaking down and removing; costs associated with contractor-caused damage; required salvaging, storing, and disposing of materials; and, unless the contract specifies granular backfill, for backfilling.

415.2.3 Expansion Joint Filler

Replace paragraph one with the following effective with the December 2017 letting:

(1) Furnish expansion joint filler conforming to AASHTO M153, AASHTO M213, or ASTM D8139 in lengths equal to the pavement lane width and of the thickness and height the plans show. Where dowel bars are required, use filler with factory-punched holes at the dowel bar locations and with a diameter not greater than 1/8 inch larger than the nominal dowel bar diameter.

415.3.20 Filling Joints

Replace paragraph two with the following effective with the December 2017 letting:

(2) Clean joints of laitance, curing compound, and other contaminants before filling. Saw construction joints at least 3/4 inches deep before filling. Sawing is not required for tooled joints in curb and gutter. Sandblast or waterblast exposed joint faces using multiple passes as required to clean joints surfaces of material that might prevent bonding. Blow clean and dry with oil-free compressed air immediately before filling.

415.5.1 General

Replace paragraph six with the following effective with the December 2017 letting:

(6) Payment for Concrete Pavement Joint Filling is full compensation for filling concrete pavement joints; filling adjacent curb and gutter joints; and for sawing.

440.3.4.2 Contractor Testing

Replace paragraph two with the following effective with the December 2017 letting:

(2) Coordinate with the engineer at least 24 hours before making profile runs for acceptance unless the engineer approves otherwise. The department may require testing to accommodate staged construction or if corrective action is required.

455.5.3 Tack Coat

Replace paragraph two with the following effective with the December 2017 letting:

(2) The department will adjust pay for Tack Coat, under the Nonconforming Tack Coat administrative item, for nonconforming material the engineer allows to remain in place at a maximum of 75 percent of the contract unit price.

460.2.7 HMA Mixture Design

Replace paragraph one with the following effective with the December 2017 letting:

(1) For each HMA mixture type used under the contract, develop and submit an asphaltic mixture design according to CMM 8-66 and conforming to the requirements of table 460-1 and table 460-2. The values listed are design limits; production values may exceed those limits. The department will review mixture designs and report the results of that review to the designer according to CMM 8-66.

TABLE 460-2 MIXTURE REQUIREMENTS

Mixture type	LT	MT	HT	SMA
ESALs x 10^6 (20 yr design life)	<2.0	2 - <8	>8	___
LA Wear (AASHTO T96)				
100 revolutions(max % loss)	13	13	13	13
500 revolutions(max % loss)	50	45	45	40
Soundness (AASHTO T104) (sodium sulfate, max % loss)	12	12	12	12
Freeze/Thaw (AASHTO T103) (specified counties, max % loss)	18	18	18	18
Fractured Faces (ASTM D5821) (one face/2 face, % by count)	65/___	75 / 60	98 / 90	100/90
Flat & Elongated (ASTM D4791) (max %, by weight)	5 (5:1 ratio)	5 (5:1 ratio)	5 (5:1 ratio)	20 (3:1 ratio)
Fine Aggregate Angularity (AASHTO T304, method A, min)	40	43	45	45
Sand Equivalency (AASHTO T176, min)	40	40	45	50
Gyratory Compaction				
Gyrations for N_{ini}	6	7	8	8
Gyrations for N_{des}	40	75	100	65
Gyrations for N_{max}	60	115	160	160
Air Voids, $\%V_a$ ($\%G_{mm}$ N_{des})	4.0 (96.0)	4.0 (96.0)	4.0 (96.0)	4.0 (96.0)
% G_{mm} N_{ini}	<= 91.5[1]	<= 89.0[1]	<= 89.0	___
% G_{mm} N_{max}	<= 98.0	<= 98.0	<= 98.0	___
Dust to Binder Ratio[2] (% passing 0.075/P_{be})	0.6 - 1.2	0.6 - 1.2	0.6 - 1.2	1.2 - 2.0
Voids filled with Binder (VFB or VFA, %)	68 - 80[4] [5]	65 - 75[3] [5]	65 - 75[3] [5]	70 - 80
Tensile Strength Ratio (TSR) (AASHTO T283)[6] [7]				
no antistripping additive	0.75 min	0.75 min	0.75 min	0.75 min
with antistripping additive	0.80 min	0.80 min	0.80 min	0.80 min
Draindown (AASHTO T305) (%)	___	___	___	0.30

[1] The percent maximum density at initial compaction is only a guideline.

[2] For a gradation that passes below the boundaries of the caution zone (ref. AASHTO M323), the dust to binder ratio limits are 0.6 - 1.6.

[3] For No. 5 (9.5mm) and No. 4 (12.5 mm) nominal maximum size mixtures, the specified VFB range is 70 - 76 percent.

[4] For No. 2 (25.0mm) nominal maximum size mixes, the specified VFB lower limit is 67 percent.

[5] For No. 1 (37.5mm) nominal maximum size mixes, the specified VFB lower limit is 67 percent.

[6] WisDOT eliminates freeze-thaw conditioning cycles from the TSR test procedure.

[7] Run TSR at asphalt content corresponding to 3.0% air void regressed design using distilled water for testing.

460.2.8.2.1.3.1 Contracts with 5000 Tons of Mixture or Greater

Replace paragraph six with the following:

(6) Conduct TSR tests during mixture production according to CMM 8-36.6.14. Test each full 50,000 ton production increment, or fraction of an increment, after the first 5000 tons of production. Perform required increment testing in the first week of production of that increment. If production TSR values are below the limit specified in CMM 8-36.6.14, notify the engineer. The engineer and contractor will jointly determine a corrective action.

502.2.7 Preformed Joint Filler

Replace paragraph one with the following effective with the December 2017 letting:

(1) Use preformed joint filler conforming to AASHTO M153, AASHTO M213, or ASTM D8139.

502.3.7.8 Floors

Replace paragraph fourteen with the following effective with the December 2017 letting:

(14) Unless specified otherwise, transversely tine finish the floors of structures with approach pavements designed for speeds of 40 mph or greater as specified in 415.3.8.3, except make the tining 1/8 inch in depth and do not perform tining within 12 inches of gutters. The contractor may apply a broom finish, described below, instead of the artificial turf drag finish required before tining. The contractor may perform tining manually, if it obtains a finish satisfactory to the engineer. Perform tining within 20 degrees of the centerline of bearing of the substructure units on bridge decks having skew angles of 20 degrees or greater.

505.2.6 Dowel Bars and Tie Bars

Replace the entire text with the following effective with the March 2018 letting:

505.2.6.1 General

(1) Furnish bars coated in a plant certified by the Concrete Reinforcing Steel Institute. For dowel bars and straight tie bars, there is no requirement for bend tests. Ensure that the bars are the specified diameter and length the plans show.

(2) The contractor need not coat or patch sawed ends, sheared ends, cut ends, ends left bare during the coating process, or ends with damaged coating.

(3) The contractor need not repair circumferential coating damage from shipping, handling, or installation, if the following conditions are met:

1. The damaged area is 1/4 inch square or smaller.
2. The total damaged area in any one-foot length does not exceed 2 percent of the circumferential area in that length.

(4) Repair areas of damaged circumferential coating larger than 1/4 inch square. Reject bars with total damage greater than 2 percent of the bar's circumferential area.

505.2.6.2 Dowel Bars

505.2.6.2.1 General

(1) Ensure that the bars are straight, round, smooth, and free from burrs or other deformations detrimental to the free movement of the bar in the concrete.

(2) Saw bars to the required length. For solid bars, the department will allow shearing if no damage occurs to the coating and shearing distortions do not exceed the following:

1. No distorted diameter is more than 0.04 inches greater than the true diameter.
2. No distortion extends more than 0.40 inches from the sheared end.

(3) Apply a surface treatment to loose dowels, or furnish manufacturer-treated bars in dowel bar baskets, capable of preventing bond between the epoxy-coated bars and the concrete. Apply field surface treatments when loading bars in the dowel bar magazine.

505.2.6.2.2 Solid Dowel Bars

(1) Furnish coated bars conforming to AASHTO M31 grade 40 or 60. Alternatively the contractor may furnish dowel bars conforming to AASHTO M227 grade 70-80. Coat with a thermosetting epoxy conforming to AASHTO M254, type B.

505.2.6.2.3 Tubular Dowel Bars

(1) Furnish welded steel tubular bars conforming to ASTM A513 fabricated from plain carbon steel with a minimum tensile yield strength of 60 ksi and sized as follows:

SOLID BAR SPECIFIED DIAMETER	MINIMUM REQUIRED OUTSIDE DIAMETER	MINIMUM BASE METAL WALL THICKNESS
1 1/4-inch	1 5/16 inches	0.120 inch
1 1/2-inch	1 5/8 inches	0.120 inch

(2) Cap bar ends to prevent intrusion of concrete or other materials. Ensure that tubing is galvanized on the exterior and interior according to ASTM A653 with a G40 zinc coating and apply 7-13 mils of epoxy to the galvanized exterior according to AASHTO M254, Type B.

505.2.6.2.4 High Performance Dowel Bars

(1) As an alternate the contractor may furnish high performance dowel bars from the department's APL.

505.2.6.3 Tie Bars

(1) Furnish coated bars conforming to AASHTO M31 grade 40 or 60. Coat tie bars as specified in 505.2.4 for coated high-strength steel reinforcement. Ensure that the tie bars are the shape the plans show.

(2) Repair, with compatible coating material, the bend location of field-straightened coated tie bars.

614.2.1 General

Add the following as paragraph ten effective with the December 2017 letting:

(10) Furnish guardrail reflectors from the department's APL.

614.3.2.1 Installing Posts

Add the following as paragraph five effective with the December 2017 letting:

(5) Provide post-mounted reflectors every 100 feet with one at the beginning and end of each run and a minimum of three reflectors per run.

614.5 Payment

Replace paragraph four with the following effective with the December 2017 letting:

(4) Payment for the Steel Thrie Beam, Steel Plate Beam Guard, Guardrail Stiffened, MGS Guardrail, Short Radius, and various transition bid items is full compensation for providing guardrail and transitions including post-mounted reflectors; for repairing damaged zinc coatings; and for excavating, backfilling, and disposing of surplus material.

641.2.9 Overhead Sign Supports

Replace paragraph three with the following effective with the December 2017 letting:

(3) Provide steel pole shafts, mast arms or trusses, and luminaire arms zinc coated according to ASTM A123. The contractor may provide either straight or tapered pole and arm shafts unless the plans specify otherwise. Provide bolts and other hardware conforming to 641.2.2.

642.2.2.1 General

Replace the entire text with the following effective with the December 2017 letting:

(1) Provide each field office with two rooms, separated by an interior door with a padlock. Ensure that each room has a separate exterior door and its own air conditioner. Locate the office where a quality internet connection can be achieved.

(2) Provide long distance telephone service via a land line for exclusive department use that has the following:

- Two programmable touch-tone phones, one of which is cordless. Ensure that phone operations will not interfere with other telecommunications equipment.
- Voice mail service or an answering machine.

(3) Provide high-speed internet service for exclusive department use via cable or DSL connection with a modem/router and capable of supporting cloud enabled file sharing, voice over internet protocol (VoIP), video conferencing, and web based applications. Ensure that system meets the following:

- Includes a wireless network for the field office.
- Can accommodate IPSec based VPN products.
- Has a bandwidth range as follows:

Field office with 1-5 staff:	A minimum connection speed of 5 Mbps download and 1 Mbps upload. If a cable or DSL option is not available the contractor may provide a personal hotspot using cell phone tethering or other device able to achieve the specified minimum speeds inside the field office.
Field office with 6 or more staff:	A minimum connection speed of 10 Mbps + 1/2 Mbps per user download and 5 Mbps upload.
Projects over 500 million dollars:	A minimum connection speed of 20 Mbps + 1/2 Mbps per user download and 10 Mbps upload. Coordinate network setup at the leased office with the WisDOT network team.

(4) Provide and maintain a Windows 7 and Windows 10 compliant multi-function device with copy, print, and scan capabilities that can accommodate both 8 1/2" x 11" and 11" x 17" paper. Replenish paper, toner cartridges, and other supplies before fully expended. Ensure that department staff can connect to the device either directly or through the field office wireless network.

(5) Equip with a drafting table with a drafter's stool. Except as specified in 642.2.2.4, provide 2 ergonomically correct office chairs in working condition with, at a minimum, the following:

1. Five-legged base with casters.
2. Seat adjustable from 15 to 22 inches from the floor with a seamless waterfall, rounded, front edge.
3. High backrest with no arms or adjustable arms.

643.3.1 General

Replace paragraph one with the following effective with the December 2017 letting:

(1) Provide and maintain traffic control devices located where the plans show or engineer directs to maintain a safe work zone throughout the contract duration. Relocate as required to accommodate changing work operations. When not in use, place devices away from traffic outside of paved and gravel shoulder surfaces. Where there is barrier on the shoulder, the contractor may place devices not in use on the shoulder as close as possible to the barrier and delineated with drums. Lay signs and supports flat on the grade with uprights oriented parallel to and downstream from traffic. Do not stack devices or equipment. Promptly remove temporary devices from within the project limits as follows:

- That will not be used within 14 consecutive calendar days.
- Within 5 business days of substantial completion unless the engineer allows otherwise.

645.2.2.2 Geotextile, Type SAS (Subgrade Aggregate Separation)

Replace paragraph one with the following effective with the December 2017 letting:

(1) Furnish fabric conforming to the following physical properties:

TEST	METHOD	VALUE[1]
Minimum grab tensile strength	ASTM D4632	170 lb
Minimum puncture strength	ASTM D6241	350 lb
Maximum apparent opening size	ASTM D4751	No. 70
Minimum permittivity	ASTM D4491	0.35 s^{-1}

[1] All numerical values represent minimum/maximum average roll values. Average test results from all rolls in a lot must conform to the tabulated values.

645.2.2.4 Geotextile, Type DF (Drainage Filtration)

Replace paragraph one with the following effective with the December 2017 letting:

(1) Furnish fabric conforming with the physical requirements of either schedule A, schedule B, or schedule C as the contract specifies.

SCHEDULE A TEST	METHOD	VALUE[1]
Minimum grab tensile strength	ASTM D4632	110 lb
Minimum puncture strength	ASTM D6241	200 lb
Minimum apparent breaking elongation	ASTM D4632	30%
Maximum apparent opening size	ASTM D4751	300 µm
Minimum permittivity	ASTM D4491	0.70 s^{-1}

SCHEDULE B TEST	METHOD	VALUE[1]
Minimum grab tensile strength	ASTM D4632	180 lb
Minimum puncture strength	ASTM D6241	350 lb
Minimum apparent breaking elongation	ASTM D4632	30%
Maximum apparent opening size	ASTM D4751	300 µm
Minimum permittivity	ASTM D4491	1.35 s^{-1}

SCHEDULE C TEST	METHOD	VALUE[1]
Minimum grab tensile strength	ASTM D4632	180 lb
Minimum puncture strength	ASTM D6241	350 lb
Minimum apparent breaking elongation	ASTM D4632	15%
Maximum apparent opening size	ASTM D4751	600 µm
Minimum permittivity	ASTM D4491	1.00 s^{-1}

[1] All numerical values represent minimum/maximum average roll values. Average test results from all rolls in a lot must conform to the tabulated values.

645.2.2.6 Geotextile, Type R (Riprap)

Replace paragraph one with the following effective with the December 2017 letting:

(1) Use fabric conforming to the following physical properties:

TEST	METHOD	VALUE[1]
Minimum grab tensile strength	ASTM D4632	205 lb
Minimum puncture strength	ASTM D6241	400 lb
Minimum apparent breaking elongation	ASTM D4632	15%
Maximum apparent opening size	ASTM D4751	No. 30
Minimum permittivity	ASTM D4491	0.12 s^{-1}

[1] All numerical values represent minimum/maximum average roll values. Average test results from all rolls in a lot must conform to the tabulated values.

645.2.2.7 Geotextile, Type HR (Heavy Riprap)

Replace paragraph one with the following effective with the December 2017 letting:

(1) Use fabric conforming to the following physical properties:

TEST	METHOD	VALUE[1]
Minimum grab tensile strength, lb	ASTM D4632	305 lb
Minimum puncture strength, lb	ASTM D6241	500 lb
Minimum apparent breaking elongation, %	ASTM D4632	15%
Maximum apparent opening size	ASTM D4751	No. 30
Minimum permittivity	ASTM D4491	0.40, s^{-1}

[1] All numerical values represent minimum/maximum average roll values. Average test results from all rolls in a lot must conform to the tabulated values.

645.2.2.8 Geotextile, Type C (Modified SAS)

Replace paragraph one with the following effective with the December 2017 letting:

(1) Use fabric conforming to the following physical properties:

TEST	METHOD	VALUE[1]
Grab tensile strength, lb	ASTM D4632	205 lb
Puncture strength, lb	ASTM D6241	350 lb
Maximum apparent opening size	ASTM D4751	No. 50
Minimum permittivity	ASTM D4491	0.12 s^{-1}

[1] All numerical values represent minimum/maximum average roll values. Average test results from all rolls in a lot must conform to the tabulated values.

646.3.1.1 General Marking

Replace paragraph one with the following effective with the December 2017 letting:

(1) Prepare the surface and apply marking as the manufacturer specifies. Provide manufacturer specifications as the engineer requests. Do not mark over a marking product with less adherence or over chipped or peeled marking. Do not remove polymer overlay materials in areas receiving pavement marking. Use only epoxy pavement marking where the contract requires marking placed on polymer overlays.

Replace paragraph five with the following effective with the December 2017 letting:

(5) After the marking can sustain exposure to traffic, re-apply clear protective surface treatment conforming to 502.2.11 where removed from structures during marking surface preparation. Seal exposed concrete including grooves for tape. Cover marking during resealing with a system that will not degrade the marking's retroreflectivity when removed. Uncover marking before opening to traffic.

701.3 Contractor Testing

Replace paragraph one with the following effective with the December 2017 letting:

(1) Perform contract required QC tests for samples randomly located according to CMM 8-30. Also perform other tests as necessary to control production and construction processes, and additional testing enumerated in the contractor's quality control plan or that the engineer directs. Use test methods as follows:

TABLE 701-2 TESTING STANDARDS

TEST	TEST STANDARD
Washed P 200 analysis	AASHTO T11[1]
Sieve analysis of fine and coarse aggregate	AASHTO T27[1]
Aggregate moisture	AASHTO T255[1]
Sampling freshly mixed concrete	AASHTO R60
Air content of fresh concrete	AASHTO T152[2]
Air void system of fresh concrete	AASHTO Provisional Standard TP118
Concrete slump	AASHTO T119[2]
Concrete temperature	ASTM C1064
Concrete compressive strength	AASHTO T22
Making and curing concrete cylinders	AASHTO T23
Standard moist curing for concrete cylinders	AASHTO M201

[1] As modified in CMM 8-60.

[2] As modified in CMM 8-70.

715.2.3.1 Pavements

Add the following as paragraph six effective with the December 2017 letting:

(6) For new lab-qualified mixes, test the air void system of the proposed concrete mix conforming to AASHTO provisional standard TP 118. Include the SAM number as a part of the mix design submittal.

715.3.1.1 General

Replace paragraph one with the following effective with the December 2017 letting:

(1) Provide slump, air content, concrete temperature and compressive strength test results as specified in 710.5. Provide a battery of QC tests, consisting of results for each specified property, using a single sample randomly located within each sublot. Cast three cylinders for strength evaluation. For pavement concrete, also test the air void system conforming to AASHTO provisional standard TP118 at least once per lot and enter the SAM number in the MRS for information only.

715.3.1.3 Department Verification Testing

Replace paragraph one with the following effective with the December 2017 letting:

(1) The department will perform verification testing as specified in 701.4.2 with additional testing as required to obtain at least 1 verification test per lot for air content, slump, temperature, and compressive strength.

Errata

Make the following corrections to the standard specifications:

106.3.3.1 General

Correct errata by changing "acceptance" to "approval".

(1) For manufactured products or assemblies, the department may base approval on a product certification or require both a product certification and production plant certification.

205.3.1 General

Correct errata by replacing paragraphs three and four with the following to reflect current practice to incorporate suitable materials.

(3) Replace unsuitable material with satisfactory material. Trim and finish the roadway. Maintain the work done under 205 in a finished condition until acceptance.

305.1 Description

Correct errata to clarify that the contractor may use more than one material under a single contract.

(1) This section describes constructing a dense graded base using one or more of the following aggregates at the contractor's option:

Crushed stone	Reclaimed asphalt
Crushed gravel	Reprocessed material
Crushed concrete	Blended material

521.2 Materials

Correct errata by deleting bullet three and including aluminum coated pipe in bullet one.

(1) Furnish corrugated steel pipe and steel apron end walls as follows:

- Corrugated steel culvert pipe, steel apron endwalls, aluminum coated corrugated steel culvert pipe, and other components conforming to AASHTO M36.
- Polymer coated corrugated steel culvert pipe and pipe arch fabricated from zinc coated sheet steel conforming to AASHTO M218. Before fabrication, coat the sheets on both sides with polymer protective coating grade 250/250 according to AASHTO M246. Fabricate the pipe according to AASHTO M245.

614.3.2.2 Installing Rail

Correct errata for splice location and allow punching or drilling holes and slots.

(1) Install rail with lap splices in the direction of traffic. Ensure that the number and dimensions of holes and bolts conforms to the plan details for new splices. Place the round head of bolts on the traffic side.

(2) Cut rails to length by shearing or sawing; do not use cutting torches. Drill or punch bolt holes and slots; ensure that they are burr free. After installation, cut anchor bolts that project more than one inch from the nut to 1/2 inch from the nut; deburr the threaded end of cut bolts.

618.1 Description

Correct errata by deleting designated detours from the scope of Maintenance and Repair of Haul Roads.

(1) This section describes maintaining, repairing, and restoring all public roads, streets, drainage facilities, and other components used for hauling by contractor, subcontractor, or supplier to support work for a department contract to its pre-haul condition. Public roads and streets shall be limited to those not a part of the State Trunk Highway System and from now on called haul roads.

643.3.5.2 Cellular Communication

Correct errata by changing State Traffic Operations Center to Traffic Management Center.

(2) A minimum of 14 days before deployment, demonstrate to the department that the cellular modem is capable of communications with the Traffic Management Center. If remote communications are interrupted or temporarily unavailable, the department will notify the contractor to change messages manually. Update messages within 2 hours of receiving notification.

646.3.1.2 Liquid Marking

Correct errata by changing "epoxy overlays" to "polymer overlays".

(5) Apply liquid marking and glass beads across the line at or exceeding the following:

LIQUID MARKING	PAVEMENT TYPE	THICKNESS (mils)	BEAD APPLICATION (pounds per gallon)
Paint	all	16	8-10
Epoxy	SMA, seal coats, and polymer overlays	25	25
Epoxy	all other	20	22.5

654.5 Payment

Correct errata to clarify that contractor-provided anchor rods and associated hardware are incidental.

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

ADDITIONAL SPECIAL PROVISION 7

A. Reporting 1st Tier and DBE Payments During Construction

1. Comply with reporting requirements specified in the department's Civil Rights Compliance, Contractor's User Manual, Sublets and Payments.
2. Report payments to all DBE firms within 10 calendar days of receipt of a progress payment by the department or a contractor for work performed, materials furnished, or materials stockpiled by a DBE firm. Report the payment as specified in A(1) for all work satisfactorily performed and for all materials furnished or stockpiled.
3. Report payments to all first tier subcontractor relationships within 10 calendar days of receipt of a progress payment by the department for work performed. Report the payment as specified in A(1) for all work satisfactorily performed.
4. All tiers shall report payments as necessary to comply with the DBE payment requirement as specified in A(2).
5. Require all first tier relationships, DBE firms and all other tier relationships necessary to comply with the DBE payment requirement in receipt of a progress payment by contractor to acknowledge receipt of payment as specified in A(1), (2), (3) and (4).
6. All agreements made by a contractor shall include the provisions in A(1), (2), (3), (4) and (5), and shall be binding on all first tier subcontractor relationships and all contractors and subcontractors utilizing DBE firms on the project.

B. Costs for conforming to this special provision are incidental to the contract.

NOTE: CRCS Prime Contractor payment is currently not automated and will need to be manually loaded into the Civil Rights Compliance System. Copies of prime contractor payments received (check or ACH) will have to be forwarded to paul.ndon@dot.wi.gov within 5 days of payment receipt to be logged manually.

***Additionally, for information on Subcontractor Sublet assignments, Subcontractor Payments and Payment Tracking, please refer to the CRCS Payment and Sublets manual at:

http://wisconsindot.gov/Documents/doing-bus/civil-rights/labornwage/crcs-payments-sublets-manual.pdf

ADDITIONAL SPECIAL PROVISION 9-S
Electronic Labor Data Submittal for
State Funded Only Projects

(1) Use the Workforce Utilization Report Microsoft Excel spread sheet, or other compatible spread sheet (i.e., Google Spread Sheet), to report required labor data. Details and the Excel spreadsheet are available online through the department's highway construction contract information (HCCI) site on the Labor, Wages, and EEO Information page at:

http://wisconsindot.gov/Pages/doing-bus/civil-rights/labornwage/default.aspx

(2) Ensure that all tiers of subcontractors, including all trucking firms, submit their labor data electronically via the Excel spread sheet to the prime contractor within 14 calendar days of the end of each quarter (quarters are defined as January-March, April-June, July-September, and October-December). The prime contractor shall coordinate collection of their subcontractors' spread sheets and forward them to the Regional Labor Compliance Specialist within 21 calendar days of the end of each quarter. Every company or contractor providing physical labor towards completing the project is a subcontractor under this special provision.

(3) Upon receipt of contract execution, promptly make all affected companies or contractors aware of the requirements under this special provision and arrange for them to receive an Excel spreadsheet as part of their subcontract documents.

(4) The department will reject all paper submittals of information required under this special provision. All costs for conforming to this special provision are incidental to the contract.

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).

Effective August 2015 letting

BUY AMERICA PROVISION

All steel and iron materials permanently incorporated in this project shall be domestic products and all manufacturing and coating processes for these materials from smelting forward in the manufacturing process must have occurred within the United States. Coating includes epoxy coating, galvanizing, painting and any other coating that protects or enhances the value of a material subject to the requirements of Buy America. The exemption of this requirement is the minimal use of foreign materials if the total cost of such material permanently incorporated in the product does not exceed one-tenth of one percent (1/10 of 1%) of the total contract cost or $2,500.00, whichever is greater. For purposes of this paragraph, the cost is that shown to be the value of the subject products as they are delivered to the project. The contractor shall take actions and provide documentation conforming to CMM 2-28.5 to ensure compliance with this “Buy America” provision.

http://wisconsindot.gov/rdwy/cmm/cm-02-28.pdf

Upon completion of the project certify to the engineer, in writing using department form WS4567, that all steel, iron, and coating processes for steel or iron incorporated into the contract work conform to these "Buy America" provisions. Attach a list of exemptions and their associated costs to the certification form. Department form WS4567 is available at:

http://wisconsindot.gov/hcciDocs/contracting-info/ws4567.doc

March 2017

NOTICE TO BIDDERS
WAGE RATE DECISION

The wage rate decision of the Department of Labor which has been incorporated in these advertised specifications is incomplete in that the classifications may be omitted from the Department of Labor's decision.

Since the bidder is responsible, independently, for ascertaining area practice with respect to the necessity, or lack of necessity, for the use of these classifications in the prosecution of the work contemplated by this project, no inference may be drawn from the omission of these classifications concerning prevailing area practices relative to their use. Further, this omission will not, per se, be construed as establishing any governmental liability for increased labor cost if it is subsequently determined that such classifications are required.

There may be omissions and/or errors in the federal wage rates. The bidder is responsible for evaluating and determining the correct applicable rate.

If a project includes multiple types of construction (highway, bridge over navigable water, sanitary sewer and water main, building) and there is not a separate wage determination for this type of work included in the proposal, use the wage determination that is in the proposal.

Proposal ID: 20180612012 Project(s): 4010-27-60

Federal ID(s): 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	204.0115 Removing Asphaltic Surface Butt Joints	111.000 SY	_____.____	_____.____
0004	204.0120 Removing Asphaltic Surface Milling	159,316.000 SY	_____.____	_____.____
0006	204.0150 Removing Curb & Gutter	146.000 LF	_____.____	_____.____
0008	204.0155 Removing Concrete Sidewalk	23.000 SY	_____.____	_____.____
0010	204.0165 Removing Guardrail	200.000 LF	_____.____	_____.____
0012	204.0195 Removing Concrete Bases	6.000 EACH	_____.____	_____.____
0014	205.0100 Excavation Common	25.000 CY	_____.____	_____.____
0016	213.0100 Finishing Roadway (project) 01. 4010-27-60	1.000 EACH	_____.____	_____.____
0018	305.0110 Base Aggregate Dense 3/4-Inch	3,917.000 TON	_____.____	_____.____
0020	305.0120 Base Aggregate Dense 1 1/4-Inch	134.000 TON	_____.____	_____.____
0022	305.0500 Shaping Shoulders	890.000 STA	_____.____	_____.____
0024	312.0110 Select Crushed Material	8.000 TON	_____.____	_____.____
0026	416.0610 Drilled Tie Bars	16.000 EACH	_____.____	_____.____
0028	440.4410 Incentive IRI Ride	66,726.000 DOL	1.00000	66,726.00
0030	455.0605 Tack Coat	11,359.000 GAL	_____.____	_____.____
0032	460.2005 Incentive Density PWL HMA Pavement	15,458.000 DOL	1.00000	15,458.00

Proposal ID: 20180612012 Project(s): 4010-27-60

Federal ID(s): 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
0034	460.2010 Incentive Air Voids HMA Pavement	20,528.000 DOL	1.00000	20,528.00
0036	460.4110.S Reheating HMA Pavement Longitudinal Joints	43,184.000 LF	_____.____	_____.____
0038	460.6224 HMA Pavement 4 MT 58-28 S	20,528.000 TON	_____.____	_____.____
0040	465.0105 Asphaltic Surface	20.000 TON	_____.____	_____.____
0042	465.0475 Asphalt Centerline Rumble Strips 2-Lane Rural	40,030.000 LF	_____.____	_____.____
0044	601.0411 Concrete Curb & Gutter 30-Inch Type D	146.000 LF	_____.____	_____.____
0046	602.0410 Concrete Sidewalk 5-Inch	586.000 SF	_____.____	_____.____
0048	602.0505 Curb Ramp Detectable Warning Field Yellow	80.000 SF	_____.____	_____.____
0050	614.0340 Steel Plate Beam Guard Over Low-Fill Culverts Class A	200.000 LF	_____.____	_____.____
0052	614.0400 Adjusting Steel Plate Beam Guard	4,565.000 LF	_____.____	_____.____
0054	614.0950 Replacing Guardrail Posts and Blocks	46.000 EACH	_____.____	_____.____
0056	614.0951 Replacing Guardrail Rail and Hardware	275.000 LF	_____.____	_____.____
0058	618.0100 Maintenance And Repair of Haul Roads (project) 01. 4010-27-60	1.000 EACH	_____.____	_____.____
0060	619.1000 Mobilization	1.000 EACH	_____.____	_____.____
0062	624.0100 Water	106.000 MGAL	_____.____	_____.____

Proposal ID: 20180612012 Project(s): 4010-27-60

Federal ID(s): 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
0064	625.0100 Topsoil	100.000 SY	_____.____	_____.____
0066	627.0200 Mulching	100.000 SY	_____.____	_____.____
0068	628.1504 Silt Fence	200.000 LF	_____.____	_____.____
0070	628.1520 Silt Fence Maintenance	100.000 LF	_____.____	_____.____
0072	628.1905 Mobilizations Erosion Control	3.000 EACH	_____.____	_____.____
0074	628.1910 Mobilizations Emergency Erosion Control	3.000 EACH	_____.____	_____.____
0076	628.7015 Inlet Protection Type C	13.000 EACH	_____.____	_____.____
0078	628.7570 Rock Bags	100.000 EACH	_____.____	_____.____
0080	629.0210 Fertilizer Type B	8.000 CWT	_____.____	_____.____
0082	630.0130 Seeding Mixture No. 30	3.000 LB	_____.____	_____.____
0084	634.0614 Posts Wood 4x6-Inch X 14-FT	39.000 EACH	_____.____	_____.____
0086	634.0616 Posts Wood 4x6-Inch X 16-FT	108.000 EACH	_____.____	_____.____
0088	634.0618 Posts Wood 4x6-Inch X 18-FT	8.000 EACH	_____.____	_____.____
0090	637.2210 Signs Type II Reflective H	958.100 SF	_____.____	_____.____
0092	637.2230 Signs Type II Reflective F	309.750 SF	_____.____	_____.____
0094	638.2602 Removing Signs Type II	131.000 EACH	_____.____	_____.____
0096	638.3000 Removing Small Sign Supports	139.000 EACH	_____.____	_____.____

Proposal ID: 20180612012 Project(s): 4010-27-60

Federal ID(s): 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
0098	642.5001 Field Office Type B	1.000 EACH	_____.____	_____.____
0100	643.0300 Traffic Control Drums	6,325.000 DAY	_____.____	_____.____
0102	643.0310.S Temporary Portable Rumble Strips	1.000 LS	_____.____	_____.____
0104	643.0420 Traffic Control Barricades Type III	253.000 DAY	_____.____	_____.____
0106	643.0705 Traffic Control Warning Lights Type A	481.000 DAY	_____.____	_____.____
0108	643.0900 Traffic Control Signs	12,596.000 DAY	_____.____	_____.____
0110	643.0910 Traffic Control Covering Signs Type I	4.000 EACH	_____.____	_____.____
0112	643.0920 Traffic Control Covering Signs Type II	13.000 EACH	_____.____	_____.____
0114	643.1000 Traffic Control Signs Fixed Message	120.000 SF	_____.____	_____.____
0116	643.1050 Traffic Control Signs PCMS	28.000 DAY	_____.____	_____.____
0118	643.5000 Traffic Control	1.000 EACH	_____.____	_____.____
0120	646.1020 Marking Line Epoxy 4-Inch	47,983.000 LF	_____.____	_____.____
0122	646.1040 Marking Line Grooved Wet Ref Epoxy 4-Inch	87,959.000 LF	_____.____	_____.____
0124	646.3040 Marking Line Grooved Wet Ref Epoxy 8-Inch	1,127.000 LF	_____.____	_____.____
0126	646.6320 Marking Dotted Extension Epoxy 18-Inch	73.000 LF	_____.____	_____.____
0128	646.7120 Marking Diagonal Epoxy 12-Inch	168.000 LF	_____.____	_____.____

Proposal ID: 20180612012 Project(s): 4010-27-60

Federal ID(s): 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
0130	646.7420 Marking Crosswalk Epoxy Transverse Line 6-Inch	294.000 LF	_____.____	_____.____
0132	646.8120 Marking Curb Epoxy	40.000 LF	_____.____	_____.____
0134	646.8220 Marking Island Nose Epoxy	4.000 EACH	_____.____	_____.____
0136	648.0100 Locating No-Passing Zones	8.640 MI	_____.____	_____.____
0138	649.0120 Temporary Marking Line Epoxy 4-Inch	62,199.000 LF	_____.____	_____.____
0140	650.8000 Construction Staking Resurfacing Reference	43,184.000 LF	_____.____	_____.____
0142	650.9000 Construction Staking Curb Ramps	4.000 EACH	_____.____	_____.____
0144	650.9910 Construction Staking Supplemental Control (project) 01. 4010-27-60	LS	LUMP SUM	_____.____
0146	652.0605 Conduit Special 2-Inch	120.000 LF	_____.____	_____.____
0148	654.0105 Concrete Bases Type 5	6.000 EACH	_____.____	_____.____
0150	655.0610 Electrical Wire Lighting 12 AWG	900.000 LF	_____.____	_____.____
0152	655.0615 Electrical Wire Lighting 10 AWG	4,240.000 LF	_____.____	_____.____
0154	657.0710 Luminaire Arms Truss Type 4 1/2-Inch Clamp 12-FT	6.000 EACH	_____.____	_____.____
0156	690.0150 Sawing Asphalt	790.000 LF	_____.____	_____.____
0158	690.0250 Sawing Concrete	25.000 LF	_____.____	_____.____
0160	SPV.0035 Special 01. Gabion Wall	32.000 CY	_____.____	_____.____

Proposal ID: 20180612012 Project(s): 4010-27-60

Federal ID(s): 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
0162	SPV.0060 Special 01. Percent Within Limits (PWL) Test Strip Volumetrics	1.000 EACH	_____._____	_____._____
0164	SPV.0060 Special 02. HMA Percent Within Limits (PWL) Test Strip Density	1.000 EACH	_____._____	_____._____
0166	SPV.0105 Special 01. Remove and Salvage Roundabout Lighting (STH 32 & STH 28)	LS	LUMP SUM	_____._____
	Section: 0001		Total:	_____._____

Total Bid: _____._____

PLEASE ATTACH SCHEDULE OF ITEMS HERE