

# HIGHWAY WORK PROPOSAL

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

Proposal Number: **005**

<u>COUNTY</u>	<u>STATE PROJECT</u>	<u>FEDERAL</u>	<u>PROJECT DESCRIPTION</u>	<u>HIGHWAY</u>
Milwaukee	1000-13-75	N/A	Se Region - Milwaukee County; Mitchell Tunnels 1&2 (Sys Ramp W-N)	VAR HWY

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: August 11, 2020 Time (Local Time): 9:00 am	Firm Name, Address, City, State, Zip Code
Contract Completion Time 120 Working Days	<b>SAMPLE</b> <b>NOT FOR BIDDING PURPOSES</b>
Assigned Disadvantaged Business Enterprise Goal 0%	This contract is exempt from federal oversight.

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

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

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

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

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

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

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

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

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

Notary Seal

Type of Work: Highway Lighting Maintenance	For Department Use Only
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:  
<https://wisconsindot.gov/Pages/doing-bus/contractors/hcci/bid-let.aspx>

The contractor is responsible for reviewing this web site for general notices as well as information regarding proposals in each letting. The department will also post special notices of all addenda to each proposal through this web site no later than 4:00 PM local time on the Thursday before the letting. Check the department's web site after 5:00 PM local time on the Thursday before the letting to ensure all addenda have been accounted for before preparing the bid. When bidding using methods 1 and 2 above, check the Bid Express™ on-line bidding exchange at <http://www.bidx.com/> after 5:00 PM local time on the Thursday before the letting to ensure that the latest schedule of items Expedite file (\*.ebs or \*.00x) is used to submit the final bid.

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

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

- (5) The department will address equipment and process failures, if the bidder can demonstrate that those failures were beyond their control.
- (6) Contractors are responsible for checking on the issuance of addenda and for obtaining the addenda. Notice of issuance of addenda is posted on the department's web site at:  
<https://wisconsindot.gov/Pages/doing-bus/contractors/hcci/bid-let.aspx>

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

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

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

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

- (1) Do the following before submitting the bid:
  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:  
<https://wisconsindot.gov/Pages/doing-bus/contractors/hcci/bid-let.aspx>  
Use Expedite™ software to prepare and print the schedule of items. Provide a valid amount for all price fields. Follow instructions and review the help screens provided on the Bid Express™ web site to assure that the schedule of items is prepared properly.
- (2) Staple an 8 1/2 by 11 inch printout of the Expedite™ generated schedule of items to the other proposal documents submitted to the department as a part of the bidder's sealed bid. As a separate submittal, not in the sealed bid envelop but due at the same time and place as the sealed bid, also provide the Expedite™ generated schedule of items on a 3 1/2 inch computer diskette or CD ROM. Label each diskette or CD ROM with the bidder's name, the 4 character department-assigned bidder identification code from the top of the bidding proposal, and a list of the proposal numbers included on that diskette or CD ROM as indicated in the following example:

**Bidder Name**

**BN00**

**Proposals: 1, 12, 14, & 22**

- (3) If bidding on more than one proposal in the letting, the bidder may include all proposals for that letting on one diskette or CD ROM. Include only submitted proposals with no incomplete or other files on the diskette or CD ROM.
- (4) The bidder-submitted printout of the Expedite™ generated schedule of items is the governing contract document and must conform to the requirements of section 102 of the standard specifications. If a printout needs to be altered, cross out the printed information with ink or typewriter and enter the new information and initial it in ink. If there is a discrepancy between the printout and the diskette or CD ROM, the department will analyze the bid using the printout information.
- (5) In addition to the reasons specified in section 102 of the standard specifications, proposals are irregular and the department may reject them for one or more of the following:
  1. The check code printed on the bottom of the printout of the Expedite™ generated schedule of items is not the same on each page.
  2. The check code printed on the printout of the Expedite™ generated schedule of items is not the same as the check code for that proposal provided on the diskette or CD ROM.

3. The diskette or CD ROM is not submitted at the time and place the department designates.

### **C Waiver of Electronic Submittal**

- (1) The bidder may request a waiver of the electronic submittal requirements. Submit a written request for a waiver in lieu of bids submitted on the internet or on a printout with accompanying diskette or CD ROM. Use the waiver that was included with the paper bid document sent to the bidder or type up a waiver on the bidder's letterhead. The department will waive the electronic submittal requirements for a bidding entity (individual, partnership, joint venture, corporation, or limited liability company) for up to 4 individual proposals in a calendar year. The department may allow additional waivers for equipment malfunctions.
- (2) Submit a schedule of items on paper conforming to section 102 of the standard specifications. The department charges the bidder a \$75 administrative fee per proposal, payable at the time and place the department designates for receiving bids, to cover the costs of data entry. The department will accept a check or money order payable to: "Wisconsin, Dept. of Transportation."
- (3) In addition to the reasons specified in section 102 of the standard specifications, proposals are irregular and the department may reject them for one or more of the following:
  1. The bidder fails to provide the written request for waiver of the electronic submittal requirements.
  2. The bidder fails to pay the \$75 administrative fee before the time the department designates for the opening of bids unless the bidder requests on the waiver that they be billed for the \$75.
  3. The bidder exceeds 4 waivers of electronic submittal requirements within a calendar year.
- (4) In addition to the reasons specified in section 102 of the standard specifications, the department may refuse to issue bidding proposals for future contracts to a bidding entity that owes the department administrative fees for a waiver of electronic submittal requirements.

# PROPOSAL BID BOND

DT1303 1/2006

Wisconsin Department of Transportation

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

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

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

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

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

## PRINCIPAL

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

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

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

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

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

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

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

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

## NOTARY FOR PRINCIPAL

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

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

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

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

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

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

**Notary Seal**

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

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

## NOTARY FOR SURETY

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

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

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

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

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

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

**Notary Seal**

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





# CERTIFICATE OF ANNUAL BID BOND

DT1305 8/2003

Wisconsin Department of Transportation

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

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

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

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

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

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



## March 2010

## LIST OF SUBCONTRACTORS

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

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

[illegible]

**DECEMBER 2000**

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

Instructions for Certification

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

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

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

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

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

## Special Provisions

### Table of Contents

Article	Description	Page #
1.	General.....	2
2.	Scope of Work.....	2
3.	Prosecution and Progress.....	2
4.	Traffic. ....	4
5.	Traffic Operations.....	5
6.	Holiday Work Restrictions and Special Event Work Restrictions. ....	5
7.	Utilities.....	6
8.	Other Contracts.....	7
9.	Erosion Control. ....	8
10.	Short-Term Shoulder Work or Short Term Sequential Moving Operations. ....	9
11.	Public Convenience and Safety. ....	9
12.	Material and Equipment Staging.....	9
13.	Personnel Qualifications. ....	9
14.	Inspection.....	10
15.	Removing Luminaires Tunnel Lighting, Item 204.9060.S.1001.....	10
16.	Removing Luminaires Underdeck Lighting, Item 204.9060.S.1002.....	10
17.	Traffic Control.....	11
18.	Truck or Trailer-Mounted Attenuator, Item 643.1055.S. ....	11
19.	Roadway Lighting Systems.....	12
20.	Luminaires Tunnel Lighting LED (Daytime), Item SPV.0060.1001; Luminaires Tunnel Lighting LED (Nighttime), Item SPV.0060.1002. ....	14
21.	Luminaire Probeam LED, Item SPV.0060.1003. ....	16
22.	Tunnel Lighting Mounting Brackets, Item SPV.0060.1004. ....	18
23.	Junction Boxes Steel 18x12x6-Inch Coated, Item SPV.0060.1005; Junction Boxes Steel 6x6x4-Inch Coated, Item SPV.0060.1006. ....	18
24.	Distribution Center Preventive Maintenance, Item SPV.0060.1007. ....	19
25.	Tunnel Cleaning – Marquette Interchange Tory Hill Tunnel, Item SPV.0060.1008; Tunnel Cleaning – Mitchell Interchange Tunnel 1, Item SPV.0060.1009; Tunnel Cleaning – Mitchell Interchange Tunnel 2, Item SPV.0060.1010.....	19
26.	Liquid Tight Flexible Metallic Conduit 3/4-Inch, Item SPV.0090.1001.....	20
27.	Rigid Galvanized Steel Conduit 1-Inch Coated, Item SPV.0090.1002; Rigid Galvanized Steel Conduit 1 ¼-Inch Coated, Item SPV.0090.1003.....	21
28.	Control System Preventive and Maintenance, Item SPV.0105.1001. ....	22
29.	Lighting System Integrator, Item SPV.0105.1002.....	22

**SPECIAL PROVISIONS**

**1. General.**

Perform the work under this construction contract for Project 1000-13-75, SE Region – Milwaukee County, Mitchell Tunnels 1 & 2 (Sys Ramp W-N), Various Highways, Milwaukee 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, 2020 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 (20191121)

**2. Scope of Work.**

The work under this contract shall consist of retrofitting to LED luminaire tunnel lighting, maintenance/replacement, highway lighting distribution center preventive maintenance, traffic control and all incidental items necessary to complete the work as shown on the plans and included in the proposal and contract.

104-005 (20090901)

**3. Prosecution and Progress.**

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

Provide the time frame for construction of the project within the 2020 and 2021 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.

Comply with all local ordinances that apply to contract operations, including those that pertain to nighttime work. Furnish to the engineer any ordinance variation by the municipality or required permits, before performing such work.

A week in advance, provide to the engineer a schedule of day-to-day operations by location. Adhere to this schedule unless the engineer agrees in advance to a change. The department reserves the right to alter the sequence of luminaire maintenance operations for reasons of directing the contractor to areas of greatest priority, as determined by the engineer. In these cases, the contractor will be allowed two calendar weeks to respond to the priorities given to him.

**Northern Long-eared Bat (*Myotis septentrionalis*)**

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

If additional construction activities beyond what was originally specified are required to complete the work, approval from the engineer, following coordination with WisDOT REC, is required prior to initiating these activities.



## **Schedule of Operations**

Traffic shifts shown in a given stage may occur at different times during that stage depending on the controlling elements for a given traffic movements. The department anticipates that the schedule for each stage shall be as follows:

Anticipated schedule:

Do not move to the next stage until all work in the current stage is completed or as approved by the engineer.

### **B-40-1222 – Southbound IH 43 to IH 94 Westbound (NW Ramp) – Tory Hill Tunnel**

#### **Stage 1 Construction:**

- Remove and replace the existing HPS lighting with LED fixture (Right / West Wall).

### **B-40-832 – Northbound IH 43 Tunnel #1 under IH 41 (WN Ramp)**

#### **Stage 2A Construction:**

- Remove and replace the existing HPS lighting with LED fixture (Right / East Wall).

#### **Stage 2B Construction:**

- Remove and replace the existing HPS lighting with LED fixture (Left / West Wall).

### **B-40-827 – Northbound IH 43 Tunnel #2 under IH 41 (WN Ramp)**

#### **Stage 2A Construction:**

- Remove and replace the existing HPS lighting with LED fixture (Right / East Wall).

#### **Stage 2B Construction:**

- Remove and replace the existing HPS lighting with LED fixture (Left / West Wall).

## **Contractor Coordination**

Arrange and conduct a meeting between the department, utilities and other local officials to discuss the project schedule and sequence of operations during construction operations. Discuss near term schedule activities, address any long-term schedule issues, and discuss any relevant technical issues. Develop a rolling three-week schedule identifying the previous week worked and a two week “look ahead”. Provide sufficient detail to include actual and planned activities and all the subcontractors for offsite and construction activities, addressing all activities including ramp and lane closure schedules to be performed and identifying issues requiring engineering action or input. Hold the first meeting prior to the start of work under this contract and hold two meetings per month thereafter.

## **Work Zone Ingress/Egress**

Any initial set-up and/or changes to the Work Zone Ingress – Egress construction detail in the plan or location(s) should be submitted a minimum of 10 working days before use and are subject to approval by the engineer and the Southeast Region Work Zone Engineer.

ser-643-005 (20180131)

## **Portable Changeable Message Signs**

Obtain acceptance from the engineer regarding the wording of all messages on portable changeable message signs prior to placing the message.

#### 4. Traffic.

Work on the traveled way, shoulders, and within the clear zones, or any work requiring workers and equipment to access the sites from the main line, shall be allowed only during the hours and under the restrictions of the articles to follow. Perform all such work using short-term closures only, with no full-time traffic control set up. Do not store any equipment or materials within the clear zones past the time that a short-term closure expires.

The engineer may grant exceptions on a case-by-case basis. Under these cases, additional traffic control measures may be required, as directed by the engineer, for no increase in compensation.

The contractor is advised that his request for lane, ramp or shoulder closures, or his request for moving operations, may be denied on the basis of scheduled work (by the same contractor and/or by others) in the same or adjacent segments, or a conflict between inside lane and outside lane work in the same segment, or for other reasons such as unusual traffic patterns, special events, or bad weather.

Do not close two consecutives on or off ramps at the same time, whether through this contract or in conjunction with work by others.

Post any service ramp closure a minimum of three business days in advance.

Post any system ramp closure a minimum of seven calendar days in advance.

To the extent possible, work median lighting in the direction approaching, not departing from, major interchanges such as the Zoo, Stadium, and Mitchell Interchanges.

Installing and removing median light poles will require:

- One lane closure, and one shoulder closure (in the opposite direction), where median shoulders exist.
- Double lane closure, and single lane closure (in the opposite direction), where there are no median shoulders.

Work outside of the clear zones that can be performed by workers and equipment accessing the site from the property side is not restricted by the hours in the articles labeled Traffic Operations.

Work vehicles shall yield to moving traffic and shall enter and leave live lanes moving only in the direction of traffic.

#### Wisconsin Lane Closure System Advance Notification

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

**TABLE 108-1 CLOSURE TYPE AND REQUIRED MINIMUM ADVANCE NOTIFICATION**

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

## 5. Traffic Operations.

This article covers any operation that will close a freeway lane, a freeway off-ramp, a freeway on-ramp, or a system-to-system ramp, for any amount of time.

Maintain all lanes in all directions and ensure that roadways are entirely clear for traffic during peak hours. A single shoulder closure is allowed between 9:00 AM and 3:00 PM, except on I-43 from Bender Road to County Line Road. A single lane closure is allowed during off-peak hours. During night time hours, maintain a minimum of one lane in each direction of the roadway.

Peak, off peak, and night time closure hours are as follows:

### **Milwaukee County:**

#### Weekday Peak Hours

- 5:30 AM – 9:00AM Monday, Tuesday, Wednesday, Thursday, and Friday
- 2:00 PM – 7:00 PM Monday, Tuesday, Wednesday, Thursday, and Friday
- 5:30 AM – 7:00 PM I-43 from Bender Road to County Line Road; Monday, Tuesday, Wednesday, Thursday, and Friday

#### Weekend Peak Hours

- 11:00AM – 7:00 PM I-43 SB from County Line Road to Bender road; Saturday, Sunday

#### Weekday Midday Hours

- 9:00 AM – 2:00PM Monday, Tuesday, Wednesday, Thursday, and Friday

#### Weekday Off-Peak Hours

- 7:00 PM – 11:00 PM Monday, Tuesday, Wednesday, Thursday, Friday

#### Weekend Peak Hours

- 11:00 AM – 7:00 PM Saturday and Sunday

#### Weekend Off-Peak Hours

- 7:00 AM – 11:00 AM Saturday, Sunday
- 7:00 PM – 11:00 PM Saturday
- 7:00 PM – 11:00 PM Sunday

#### Night Time Hours

- 11:00 PM – 5:30 AM Sunday PM to Monday AM, Monday PM to Tuesday AM, Tuesday PM to Wednesday AM, Wednesday PM to Thursday AM, Thursday PM to Friday AM
- 11:00 PM – 7:00 AM Friday PM to Saturday AM, Saturday PM to Sunday AM

#### Full Freeway Closure/ Full System Ramp Closure Hours

- 11:00 PM – 4:30 AM Sunday PM to Monday AM, Monday PM to Tuesday AM, Tuesday PM to Wednesday AM, Wednesday PM to Thursday AM, Thursday PM to Friday AM
- 11:00 PM – 6:00 AM Friday PM to Saturday AM, Saturday PM to Sunday AM

## 6. Holiday Work Restrictions and Special Event Work Restrictions.

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

- From noon, Friday, September 4, 2020 until noon, Tuesday, September 8, 2020 for Labor Day;
- From 12:01 AM Wednesday, November 25, 2020 until 6:00 AM Monday, November 30, 2020 for Thanksgiving;
- From 12:01 AM Friday December 18, 2020 until 6:00 AM Monday, January 4, 2021 for Christmas and New Year's Day;
- Sundays except where night / weekend work is specifically required.

In Milwaukee County, the following restrictions shall apply:

- For Milwaukee Brewer home games, no lane, shoulder, or ramp closures will be permitted three hours prior to start of game until two hours after completion.
- For Wisconsin Badger Football games at Camp Randall, no lane closure is permitted on westbound IH-94 from four hours prior to the kickoff, and no lane closures are permitted on eastbound IH-94 from the time the game ends until four hours following.
- During Summerfest, no lane, shoulder or ramp closure will be permitted.
- During Wisconsin State Fair, no lane, shoulder or ramp closure will be permitted.

## 7. Utilities.

This contract does not come under the provision of Administrative Rule Trans 220.

stp-107-066 (20080501)

There are underground and overhead utility facilities located within the project limits. Coordinate construction activities with a call to Digger's Hotline or a direct call to the utilities that have facilities in the area as required per statutes. Use caution to ensure the integrity of underground and overhead facilities.

Bidders are advised to contact each utility company listed in the plans prior to preparing their bids, to obtain current information on the status of any utility within the project work limits.

The following utilities are adjusted as part of this contract:

- WisDOT (Lighting)
- WisDOT (Signals)

The following utilities have facilities within the construction limits, however, no adjustments are anticipated:

### **AT&T Legacy – Communication Line**

The AT&T Legacy – Communication Line contact is Kenneth Colwell at (312) 734-2223 or [kc1298@ATT.COM](mailto:kc1298@ATT.COM)

### **AT&T Wisconsin – Communication Line**

The AT&T Wisconsin – Communication Line contact is Matt Dinnauer at (262) 896-7690 or [MD9542@ATT.COM](mailto:MD9542@ATT.COM)

### **ATC Management, Inc.**

Maintain a safe working distance to the 138kV and 230kV conductors always based on the latest OSHA requirements.

The ATC Management, Inc. contact is Mike Olsen at (920) 338-6582 or [molsen@atcllc.com](mailto:molsen@atcllc.com)

### **Charter Communications**

The Charter Communications contact is Pete Kruzela at (414) 908-1339 or [wis.engineering@charter.com](mailto:wis.engineering@charter.com).

### **City of Greenfield – Water**

The City of Greenfield – Water contact is Jeff Katz at (414) 329-5325 or [jeffk@greenfieldwi.us](mailto:jeffk@greenfieldwi.us)

### **City of Milwaukee – Electricity**

The City of Milwaukee – Electricity contact is Samir Amin at (414) 286-3301 or [samin@milwaukee.gov](mailto:samin@milwaukee.gov)

### **Midwest Fiber Networks LLC – Communication Line**

The Midwest Fiber Networks LLC – Communication Line contact is Richard Trgovec at (414) 257-5942 or [rtrgovec@midwestfibernetworks.com](mailto:rtrgovec@midwestfibernetworks.com).

### **We Energies – Electric** has facilities within the project area.

The We Energies – Electric contact is Nicole Smullen at (414) 221-5617 or [nicole.smullen@wecenergygroup.com](mailto:nicole.smullen@wecenergygroup.com).

We Energies Electric has facilities within the construction limits. It is imperative that the highway contractor contact We Energies if removing any electrical underground cables, to verify that they have been discontinued and carry no electrical current. The contractor must not assume that unmarked facilities have been discontinued. At no time is it acceptable to push, pull, cut or drill an unmarked facility without explicit consent from We Energies. Contractor must call the We Energies 24-hour Dispatch lines to arrange for this verification. We Energies Electric Dispatch, 1 (800) 662-4797.

### **We Energies – Gas/Petroleum**

The We Energies – Electric contact is Nicole Smullen at (414) 221-5617 or [nicole.smullen@wecenergygroup.com](mailto:nicole.smullen@wecenergygroup.com).

We Energies Gas has facilities within the construction limits. It is imperative that the highway contractor contact We Energies if removing any gas facilities, to verify that they have been discontinued and carry no natural gas. The contractor must not assume that unmarked facilities have been discontinued. At no time is it acceptable to push, pull, cut or drill an unmarked facility without explicit consent from We Energies. Contractor must call the We Energies 24-hour Dispatch lines to arrange for this verification. We Energies Gas Dispatch, 1 (800) 261-5325.

### **WisDOT Communications**

The WisDOT Communications contact is Jeffrey Madson at (414) 225-3723 or [jeffrey.madson@dot.wi.gov](mailto:jeffrey.madson@dot.wi.gov).

### **WisDOT RWIS Program – Communication Tower**

WisDOT RWIS Program – Communication Tower contact is Michael Adams at (608) 266-5004 or [michael.adams@dot.wi.gov](mailto:michael.adams@dot.wi.gov).

## **8. Other Contracts.**

Modifications to the traffic control plan may be required by the engineer to be safe and consistent with the adjacent work by others.

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

### **Project 1060-11-73**

I-94 Bridge Maintenance, 16<sup>th</sup> Street – 70<sup>th</sup> Street, Milwaukee County.

WisDOT Contact:

Scott Anderson, WisDOT Project Manager

[Scottm.Anderson@dot.wi.gov](mailto:Scottm.Anderson@dot.wi.gov)

(262) 548-6894

**Project 1060-33-84**

Zoo IC, USH 45, Swan Blvd to Burleigh Street, Milwaukee County

WisDOT Contact:

Chris Zacharias, WisDOT Project Manager

[Christopher.Zacharias@dot.wi.gov](mailto:Christopher.Zacharias@dot.wi.gov)

(414) 750-4955

**Project 1100-18-73**

Zoo Interchange Bridge Preventative Maintenance

WisDOT Contact:

Josh LeVeque, WisDOT Project Manager

[Josh.Leveque@dot.wi.gov](mailto:Josh.Leveque@dot.wi.gov)

(414) 750-1468

**Project 1228-09-74**

Marquette Interchange Planned Pavement Maintenance

WisDOT Contact:

Evan Limberatos, WisDOT Project Manager

[Evan.Limberatos@dot.wi.gov](mailto:Evan.Limberatos@dot.wi.gov)

(414) 750-1468

**Project 1300-09-72**

I-794 Lake Freeway Bridge Overlays, Milwaukee County.

WisDOT Contact:

Chris Zacharias, WisDOT Project Manager

[Christopher.Zacharias@dot.wi.gov](mailto:Christopher.Zacharias@dot.wi.gov)

(414) 750-4955

**9. Erosion Control.**

The contractor shall prepare and submit an erosion control implementation plan (ECIP) for the project including borrow sites, material disposal sites, dust control, and dewatering according to Chapter TRANS 401 requirements. The ECIP shall supplement information shown on the plans and shall not reproduce it. The ECIP will identify how the contractor intends to implement the project's erosion control plan.

Provide the ECIP 14 calendar days prior to the pre-construction conference. Provide one copy of the ECIP to WisDOT and one copy of the ECIP to the WDNR Liaison, Ms. Kristina Betzold, (414) 263-8517, [Kristina.Betzold@wisconsin.gov](mailto:Kristina.Betzold@wisconsin.gov), 2300 N Martin Luther King Dr, Milwaukee, WI 53212. Pursue operations in a timely and diligent manner, continuing all construction operations methodically from the initial removals and topsoil stripping operations through the subsequent grading, paving, and re-topsoiling to minimize the period of exposure to possible erosion. Do not implement the ECIP until it has been approved by the department.

Erosion control devices shall be specified on the construction plans for any areas of ground disturbance, grading or filling. The contractor's ECIP shall detail how these devices will be implemented for any disturbed areas. Additional devices may be needed based on field conditions and as directed by DNR and engineer.

All disturbed areas shall be adequately protected and restored as soon as feasible. Any disturbed area that will not be 're-worked' for 14 days or more shall be temporary seeded or matted to prevent erosion into adjacent waterways or wetlands. Any 'release' of sediment-laden water from the work site that enters a wetland or waterway should be reported to the DNR liaison within 24 hours.

When performing roadway cleaning operations, the contractor shall use equipment having vacuum or water spray mechanism to eliminate the dispersion of dust. If vacuum equipment is employed, it shall have suitable self-contained particulate collectors to prevent discharge from the collection bin into the atmosphere.

All temporary stock piles must be in an upland location and protected with erosion control measures (e.g. silt fence, rock filter-bag berm, etc.). Proposed stockpile locations should be included in the ECIP. Do not stockpile fill or other construction materials in or adjacent to wetlands, waterways or floodplain.

Construction materials and debris, including fuels, oil, and other liquid substances, will not be stored in the construction area in a manner that would allow them to enter a wetland or waterbody as a result of spillage, natural runoff, or flooding. If a spill of any hazardous material should occur on the worksite, it is the responsibility of the contractor to remove such material, to minimize any contamination resulting from this spill, and to immediately notify the State Duty Officer at 1 (800) 943-0003.

## **10. Short-Term Shoulder Work or Short Term Sequential Moving Operations.**

A single shoulder closure is allowed between 9:00 AM and 3:00 PM.

Shoulder work generally means the parking of vehicles and equipment on the shoulders for short-term operations such as unloading materials or work equipment or work off the shoulder within the clear zone.

Sequential moving operations include luminaire maintenance, on segments where these operations can be accomplished without lane closures, off-ramp closures, or system-to-system ramp closures.

A sequential moving operation means moving in the direction of traffic along a paved shoulder and setting up equipment and outriggers beyond the traveled way. Brief entrances onto the traveled way, such as moving in the direction of traffic from light pole to light pole via the traveled lanes where necessary, will be allowed.

Only vehicles directly involved in the work may be allowed on the freeways under the time envelopes granted under this article. Personal vehicles of contractor personnel will be prohibited.

A truck-mounted attenuator, paid separately, shall trail sequential moving operations. Shoulder work may require a truck-mounted attenuator, paid separately, as directed by the engineer based on his judgment of the geometrics and traffic conditions of the given segment.

## **11. Public Convenience and Safety.**

*Revise standard spec 107.8(6) as follows:*

Check for and comply with local ordinances governing the hours of operation of construction equipment. Do not operate motorized construction equipment from 9:00 PM until the following 7:00 AM, unless prior written approval is obtained from the engineer.

stp-107-001 (20060512)

## **12. Material and Equipment Staging.**

Submit a map showing all proposed material stockpile or equipment storage locations to the engineer 14 days prior to either preconstruction or proposed use, whichever comes first.

Identify the specific purposes for the location. Obtain written permits from the property owner and submit two copies to the engineer before use. Do not stockpile or store materials or equipment on wetlands.

SEF Rev. 13\_0204

## **13. Personnel Qualifications.**

*Add the following to standard spec 651.3.2:*

Each luminaire maintenance crew shall include at least one person stated as qualified to perform electrical work per standard spec 651.3(1).

**14. Inspection.**

Inspection of existing light poles that is required and is incidental to paid items under this contract does not transfer responsibility for their condition from the department to the contractor. The contractor will not be held responsible for the condition of any existing light pole or associated installation, or for the consequences of a failure.

**15. Removing Luminaires Tunnel Lighting, Item 204.9060.S.1001.**

**A Description**

This special provision describes removing existing luminaires tunnel lighting and lamps from Mitchell Tunnel #1, #2 and Marquette Tory Hill Tunnel as shown on the plans, according to the pertinent provisions of standard spec 204, and as hereinafter provided.

**B Material**

Removed luminaires and lamps become the property of the contractor and shall be disposed off the project site. Luminaire lamps, which are considered a hazardous material, shall be disposed of in an environmentally sound manner.

**C Construction**

No removal work will be permitted without approval from the engineer. Removal shall start as soon as the temporary lighting or permanent lighting, as applicable, is placed in approved operation. An inspection and approval by the engineer will take place before any associated proposed permanent or temporary lighting is approved for operation.

**D Measurement**

The department will measure Removing Luminaires Tunnel Lighting by each individual unit, acceptably completed.

**E Payment**

*Add the following to standard spec 204.5:*

ITEM NUMBER	DESCRIPTION	UNIT
204.9060.S.1001	Removing Luminaires Tunnel Lighting	EACH
SER-204.11 (20171021)		

**16. Removing Luminaires Underdeck Lighting, Item 204.9060.S.1002**

**A Description**

This special provision describes removing existing luminaires and lamps from bridge decks as shown on the plans, according to the pertinent provisions of standard spec 204, and as hereinafter provided. Bridge deck shall remain in service.

**B Material**

Removed luminaires and lamps become the property of the contractor and shall be disposed off the project site. Lamps, which are considered a hazardous material, shall be disposed of an environmentally sound manner.

**C Construction**

No removal work will be permitted without approval from the engineer. Removal shall start as soon as the temporary lighting or permanent lighting, as applicable, is placed in approved operation. An inspection and approval by the engineer will take place before any associated proposed permanent or temporary lighting is approved for operation.

**D Measurement**

The department will measure Removing Luminaires by each individual unit, acceptably completed.



## E Payment

Add the following to standard spec 204.5:

ITEM NUMBER	DESCRIPTION	UNIT
204.9060.S.1002	Removing Luminaires Underdeck Lighting	EACH
SER-204.11 (20171021)		

## 17. Traffic Control.

Append standard spec 643 as follows:

### Aerial Service Vehicles

Equip lift trucks and similar electrical construction vehicles with two or more high-intensity yellow rotating beacons clearly visible to the rear and sides, but not to the front of the vehicle (exception: surface highways with traffic approaching the truck from the front). Mount these beacons as high on the truck as possible. In lieu of rotating beams, the contractor may, subject to the approval of the engineer, used fixed flashing beams of equivalent visual impact as the rotating beams.

### Channelization Devices

For daytime work only, the contractor may use 36-inch traffic cones of fluorescent orange color instead of traffic control drums. Such cones shall have a weighted base designed and manufactured specifically for the cones furnished. Cones will not be measured for payment but shall be considered an incidental item paid as electrical or traffic control work.

## 18. Truck or Trailer-Mounted Attenuator, Item 643.1055.S.

### A Description

This special provision describes protecting work operations with a truck or trailer-mounted attenuator (TMA).

### B Materials

Furnish and maintain a TMA conforming to NCHRP Report 350 test level 3 or to MASH crashworthiness criteria. Submit written certification from the manufacturer that the host vehicle/attenuator configuration provided conforms to crashworthiness criteria. Include the federal-aid reimbursement eligibility letter with that submittal.

Provide a host vehicle and mount the attenuator conforming to the attenuator manufacturer's specifications. Provide the engineer a copy of the manufacturer's specifications and installation instructions.

### C Construction

Coordinate with the engineer at least 72 hours before its intended use so the engineer can determine if the work operation requires TMA protection.

Position the attenuator at a manufacturer-recommended location in advance of a stationary work operation. Position and maintain the attenuator consistently at the manufacturer-recommended distance from a mobile work operation. Ensure that an operator stays with the host vehicle while protecting a mobile work operation.

### D Measurement

The department will measure Truck or Truck-Trailer-Mounted Attenuator by the day, acceptably completed, measured to the 1/2-day based on the engineer-determined time the attenuator is required to protect work operations. The department will measure 4 or less hours per calendar day as a half day and over 4 hours as a full day.

## E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
643.1055.S	Truck or Trailer-Mounted Attenuator	DAY

Payment is full compensation for providing the portable attenuator, host vehicle, and operator.

643-015 (20140630)

## **19. Roadway Lighting Systems.**

*Add the following to standard spec 651, 652, 653, 654, 655, 656, 657 and 659:*

All the work necessary to comply with revisions to standards specs mentioned as follows shall be incidental to associated pay items or to the project including coordination, materials, and labor. No additional payment shall be made to the contractor.

*Add the following to standard spec 651.2:*

Materials indicated to be returned to the department shall be transported to one of the following two locations:

- State Electrical Shop at 935 South 60th street, West Allis, as directed by Miss Bree Johns-Konkol, (414) 266-1170
- Milwaukee County Grounds, 10191 West Watertown Plank Road, Wauwatosa, as directed by Mr. Pat Stoetzel, (414) 750-5306

Arrange pickups and deliveries a minimum 3 days in advance and during regular business hours (Monday – Thursday 7:00 AM to 3:45 PM).

*Add the following to standard spec 651.3.1:*

Any circuit that the contractor does not personally tag out at the disconnect shall be considered live and will be subject to being activated by another person with no notice to the contractor. Make tagouts with manufactured tags and endorse them with the date and the name of the contractor. Clear tagouts at the end of the workday. The department does not and will not employ a load dispatcher. Each electrical worker is responsible for their own protection from automatic switching and from switching by others.

The plans show required disconnections of existing lighting circuits, most in the form of abandoning existing underground conductors in place. The contractor may need to mobilize several times per each existing lighting distribution center. The contractor is expected to account for these costs in the various paid items for removals and installations.

Replace all existing slotted junction box cover screws with stainless hex head cover screws at each location where it is required to open the cover of an existing lighting junction box. The stainless hex head cover screw is incidental to the contract.

*Add the following to standard spec 651.5:*

Work to disconnect and connect conductors will be incidental to the paid measurement of footage.

Work to disconnect and connect electrical system, splice through, or to connect conductors is incidental to the installation or removal of the freeway lighting pay items included in this contract.

The department will not measure and pay conductors or conduits that have been abandoned in place or removed for scrap unless covered in the contract bid items. The department will allow, at the contractor's discretion, for the salvaging of conductors to be abandoned.

*Add the following to standard spec 652.3.1:*

Install minimum 3-inch diameter PVC conduit elbows in a ground mounted concrete bases to accommodate Cable in Duct (CID) type cable.

*Add the following to standard spec 652.3.1.2:*

Furnish and install an UL-listed liquid tight flexible metallic conduit transition wherever a conduit exits from below grade.

Furnish a UL-listed fitting appropriate for the purpose at each transition from one type of conduit to another type. Couplings will not be individually measured for payment.

*Add the following to standard spec 652.3.1.4:*

Support conductors at the top of the vertical raceway or as close as practical if the vertical rise exceeds 40-feet. Provide additional supports as shown; in no case shall the distance between supports exceed that shown in Table 300.19(A) of the Wisconsin State Electric Code.

*Add the following to standard spec 653.3(1):*

This provision modifies the standard detail drawing for pull boxes and thereby both the standard items and SPV pay item for pull boxes. Lighting pull box covers shall read "LIGHTING".

*Add the following to standard spec 655.3.1:*

Wet location splices are not shown on the plans and not anticipated on this project. In the event that the engineer allows wet location splices, make pull box splices with engineer approved epoxy kit.

At each pull point or access point, indicate the line side bundle with a lap of blue tape.

*Add the following to standard spec 655.3.7(4):*

Where two or more wire networks pass through a pull point, tag each circuit network (i.e. A/B/N and C/D/N) with approved all-weather tags.

*Add the following to standard spec 657.2:*

Non-breakaway poles (mounted on structures, concrete bases or behind noise wall barriers without transformer base), as well as at stems of sign bridges containing electrical wires are to be double nutted and contractor shall install galvanized rat screen enclosing the bottom of pole area; extra nuts and screen are incidental to the contract.

*Add the following to standard spec 657.3.1 and 657.3.5:*

Corrosion protection measures described in standard spec 657.3.1 and 657.3.5 are invoked for breakaway transformer bases and aluminum light poles. The contractor shall avoid contact of dissimilar metals in erecting the pole on its foundation and/or breakaway device. Any concern of trapped moisture or potential corrosion cell shall be resolved to the satisfaction of the engineer.

### **Manufacturer's Warranty for LED luminaires**

The manufacturer shall warrant to the department that each complete luminaire (consisting of the housing, optical assembly, LED drivers, surge protection and wiring) will be free from defects in material and workmanship for 10 years from the date that the luminaire are put into service. Luminaires shall be installed within one year of manufacture.

If any luminaires fail to meet the above warranty, the department shall provide the manufacturer with a written notice of any defect within 30 days after discovery of the defect. The manufacturer shall provide all materials, luminaires, replacement component parts, labor and all incidentals necessary to restore the luminaire to a fully operational, installed condition.

## Submittal Requirements for LED luminaires

Considering the rapid advancement in LED technology, the overall project construction and duration of construction, within 10 calendar days after contract execution, the contractor is responsible to coordinate the lead time for LED luminaires purchase and installation schedule for LED luminaires with the engineer and the department's lighting engineer, Eric Perea, at [eric.perea@dot.wi.gov](mailto:eric.perea@dot.wi.gov) or (262) 574-5422 prior to order LED luminaires. The LED luminaires purchasing may be done during later stage of construction as directed by the department which shall not delay the construction.

*Add the following to standard spec 659.3.1:*

Contractor shall be responsible to provide adequate temporary roadway lighting during all the construction stages not shown on the temporary lighting plans, but which are necessitated by field conditions or by any construction phasing changes. Installation of temporary lighting not shown on temporary lighting plans shall be paid according to appropriate pay items included in this contract. Contractor shall be responsible to submit a redline markup plans for any additional temporary lighting to the engineer for approval prior to installation.

SER-659.1 (20170407) ELEC

## 20. Luminaires Tunnel Lighting LED (Daytime), Item SPV.0060.1001; Luminaires Tunnel Lighting LED (Nighttime), Item SPV.0060.1002.

### A Description

This special provision describes furnishing and installing dimmable LED tunnel luminaires at the positions shown in the plan for tunnel B-40-821.

### B Materials

#### B.1 Luminance and Illuminance Requirements

##### B.1.1 Tunnel B-40-827 / 832 / 1222

- Tunnel length = 584' / 744' / 520'
- 50 MPH
- SSSD = 425'
- Greater than 51,800 ADT
- No bicyclists
- Poor daylight penetration
- Poor wall reflectance
- Ceiling reflectance will be minimal due to 36" bridge girders
- Adjustment factor Table 2 of RP-22-11 = 50%
- Driver faces East / East / South
- Table 3 of RP-22-11 = 240 cd/sq m
- Minimum luminance =  $240 \times 50\% = 120$  cd/sq m
- Circuit NT1, NT2, EM1 and EM2 of lighting control cabinet HL-40-TX / HL-40-TY and NT1 and EM1 of lighting control cabinet HL-40-QC are the designated circuit for night lighting. The four luminaires on this circuit shall provide illuminance of less than 0.6 Ave maintained FC at the minimum dimming setting and greater than 2.0 Ave maintained FC at full brightness.
- Luminaires are to be wall mounted on both sides of the wall for Mitchel Tunnels #1, #2 and one of the wall for the Marquette Interchange Tory Hill Tunnel as shown in the plan.

##### B.1.2 Photometric Evaluation

Photometric layout files will be available from the DOT when plans are made available. Contact Eric Perea at (262) 574-5422. Photometric layout files are based upon AGI32 version 15.3.17. The results of the photometric analysis are a required shop drawing as both an AGI file and in a PDF format.

## B.2 Material Qualifications

Furnish a complete list of documentation according to standard spec 651.2.

One example luminaire matching what is proposed for use on the project. Example luminaire shall be available for evaluation for up to two weeks. Furnish the following list of specific documentation detailing the characteristics of the LED luminaire:

- Fixture IES files (.ies format) for illumination modeling.
- Cut sheets, warranty information and parts list for all equipment.
- Luminaire heat dissipation techniques.
- Energy usage information.
- Color spectrum with HID lamp comparison.
- Optical design features.
- Two references from municipalities currently using the same luminaires.

Do not order materials until the engineer approves the list.

## B.3 Luminaire

Tunnel Luminaire shall be specifically manufactured and tested for tunnel type applications. Luminaire housing shall be die cast from low copper content A360 aluminum with integral heat fins to optimize thermal management through convective and conductive cooling. Housing shall be designed for either wall or ceiling mounting using heavy duty stainless steel brackets. Housing shall have three ¾" NPT threaded entries for connecting with conduit raceway.

Luminaire door shall be completely sealed using a silicone gasket and secured by minimum 6 stainless steel latches or Alloy 410 stainless steel bolts with captive zinc-plated fasteners. Housing door shall be equipped with two internal hinges for easy access to internal components including drivers, surge protection, LED arrays, quick disconnect plugs and high and low voltage terminal blocks. Luminaire door shall encase prismatic borosilicate glass lens.

Complete assembly shall be tested to withstand 3G vibration per ANSI C136.31-2001 and shall be rated IP66 per IEC60529. Additionally, luminaire shall pass a High Pressure Water Spray Test where the spray apparatus consists of four spraying nozzles each providing a minimum of 12 gallons per minute at 100 PSI at the nozzle, in a 90-degree cone. Spray shall be applied for 30 minute intervals on surface containing photometric nadir and directly at electrical entry or access points. The test data and results shall be completed in writing and shall be submitted to the engineer for review and acceptance.

## B.4 Electronic Components

Class 1 Drivers shall be rated for 100,000 hours life and shall be dimming type for 0-10v control signal. Dimming output shall be controllable between 10-100% of nominal. Low voltage terminal block shall provide for landing incoming as well as outgoing signal cable. Driver power factor shall be minimum 90% and maximum total harmonic distortion shall be 20%. Supply power voltage will be 277V.

Surge Protection shall meet 10KV\5KA per ANSI IEEE\C62.41.

The luminaire shall have an approximate physical size of 2'-0" W X 1'-6" D. Other sizes would be allowed if it can be demonstrated that all luminaires can be mounted per the above physical constraints.

## B.5 Optical / Illumination Performance

Luminaire shall conform to the following:

- Luminaire tested and certified by an independent test laboratory to meet the photometric performance criteria established by IESNA LM-79-08.
- Luminaire shall deliver approximately 30,200 lumens minimum and be rated to consume no more than 370 watts maximum while operating for a minimum (L70) of 100,000 hours (+/- 10%).
- Maximum nominal drive current of 1050 Ma. Daytime fixture, 435W LED and Nighttime fixture 125W LED.

## B.6 Finish

Luminaire housing shall be anodized and then finish with powder coating in gray color. Finish shall exceed 5000 hour salt fog test per ASTM B117 and D1654. Alternative equivalent finishes shall be approved by the engineer.

## B.7 Ratings / Certifications

Luminaires shall be rated and/or certified as follows:

- IP-65 minimum weather fastness rating
- IDA dark sky full cutoff compliant
- IEC 61000 - Electromagnetic Compatibility Test (EMC)
- FCC Title 47 CFR Part 18 – Federal Communication Commission
- ANSI/IEEE/C62.41
- IEEE 519 – Harmonic Control in Electrical Power Systems
- ANSI C82.77:2002 Harmonic Distortion
- ANSI C136.31:2001 – Luminaire Vibration
- ASTM B 117:2003 – Salt Spray Test
- IEC 60529 – Degrees of protection provided by enclosure
- UL 1598 – UL Wet Location @ 40C
- ROHS compliance for key components

## B.8 Dimming

Luminaires shall be capable of being dimmed from 100% output down to 10% output with wireless dimming control. Dimming control shall be coordinated with the lighting control cabinets HL-40-TX for Tunnel #1, cabinet HL-40-TY for Tunnel #2 and cabinet HL-40-QC for Tory Hill Tunnel.

## C Construction

Install Luminaires Tunnel Lighting LED according to the pertinent provisions of standard spec 659 and as the manufacturer directs.

## D Measurement

The department will measure Luminaires Tunnel Lighting LED (type) as each individually installed, acceptably completed.

## E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.1001	Luminaires Tunnel Lighting LED (Daytime)	EACH
SPV.0060.1002	Luminaires Tunnel Lighting LED (Nighttime)	EACH

Payment is full compensation for furnishing all materials; and installing a complete luminaire.

## 21. Luminaire Probeam LED, Item SPV.0060.1003.

### A Description

The work under this item consists of installing Luminaire Probeam LED luminaires at locations specified in plans, according to plan details, the applicable portions of standard spec 659, and as hereinafter provided.

### B Materials

Probeam LED luminaires shall be outdoor lighting suitable for wet locations up to 40°C ambient temperature. Electrical housing shall be IP65 rated. All hardware shall be stainless steel. Units shall be UL listed for WET LOCATIONS. Die-cast aluminum housing has integral heat sink fins to optimize thermal management through conductive and convective cooling. The LED driver is mounted in direct contact with the casting to promote low operating temperature and long life. Units shall be utility gray in color.

Example luminaire shall be available for evaluation for up to two weeks' time. Furnish the following list of specific documentation detailing the characteristics of the LED luminaire:

- Fixture IES files (.ies format) for illumination modeling
- Cut sheets, warranty information and parts list for all equipment.
- Luminaire heat dissipation techniques.
- Energy usage information.
- Color spectrum with HID lamp comparison.
- Optical design features.

Do not order materials until the engineer approves the list.

## **B.2 Luminaire**

Furnish LED luminaires with a slim, low profile design that minimizes wind loading. Luminaires shall be constructed of rugged cast and extruded aluminum with integral, weather-tight LED driver components with high performance aluminum heat-sinks. Each luminaire shall use a terminal block for power input suitable for #2 to #14 AWG wire. Luminaires shall be installed and mounted on the existing mast arm mounting plate as shown in the plans.

### **B.2.1 Electronic Components**

Luminaire shall accommodate varied lighting output from high brightness, 4000K (+/- 500K per full unit), minimum 70 CRI, long life LED sources. Drivers shall operate across 120-277V, 50/60 Hertz as standard. LED drivers shall have a power factor greater than 90% and THD less than 20% of full load. All luminaires shall come equipped with an integral surge suppression protection standard.

### **B.2.2 Optical / Illumination Performance**

Luminaire shall conform to the following:

- Luminaire tested and certified by an independent test laboratory to meet the photometric performance criteria established by IESNA LM-79.
- Luminaire shall deliver approximately 12,000 lumens and be rated to consume no more than 175 watts (+/- 15%) while operating for a minimum of 70,000 hours (+/- 10%).
- Luminaire shall have 6 x 6 or 6 x 7 light distribution.

### **B.2.3 Finish**

The luminaire fixture finish shall feature an epoxy primer with an ultra-durable silver powder topcoat, providing resistance to corrosion, ultraviolet degradation and abrasion. Alternative equivalent finishes shall be approved by the engineer.

### **B.2.4 Ratings / Certifications**

Luminaires shall be rated and/or certified as follows:

- U.L. listed for wet locations
- RoHS compliant for lead and mercury standards
- IP-65 minimum weather fastness rating

## **C Construction**

Conform to the applicable requirements of standard spec 659.3.

## **D Measurement**

The department will measure Luminaire Probeam LED by each individual unit, acceptably completed.

## **E Payment**

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.1003	Luminaire Probeam LED	EACH

Payment is full compensation for furnishing and installing all materials including the luminaires, wiring, and fusing.

**22. Tunnel Lighting Mounting Brackets, Item SPV.0060.1004.**

**A Description**

This special provision describes furnishing and installing mounting brackets for tunnel luminaires at the positions shown in the plan for Tunnel B-40-827, B-40-832 and B-40-1222

**B Materials**

Provide units as detailed. The brackets are to be mounted on the top of the wall as shown on the plan. Brackets as detailed are for a tunnel fixture of about 2'-0" W x 1'-6"H and a 60 lb luminaire weight. If tunnel luminaires of a different size are proposed, a different sized bracket shall be submitted. See the plan detail for special imitations.

Unit shall receive a prime paint coat and an epoxy final paint coat prior to installation.

**C Construction**

Install brackets as shown. Utilize epoxy anchors for the studs securing the brackets to the tunnel wall.

**D Measurement**

The department will measure Tunnel Lighting Mounting Brackets by each individual unit, acceptably completed.

**E Payment**

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.1004	Tunnel Lighting Mounting Brackets Tunnel Lighting	EACH

Payment is full compensation for design, furnishing and installation of the bracket inspection.

**23. Junction Boxes Steel 18x12x6-Inch Coated, Item SPV.0060.1005;  
Junction Boxes Steel 6x6x4-Inch Coated, Item SPV.0060.1006.**

**A Description**

This special provision describes junction boxes according to standard spec 653 and as hereinafter modified.

**B Material**

The material shall be according to standard bid item 653.0222 and the qualified product list with the exception of the additional items. The unit shall include an epoxy powder coat, anti-corrosive or corrosion free coating for junction box and protective cover and a solid copper ground rod, with a stranded bare copper for equipment grounding electrode conductor.

**C Construction**

Drive a 5/8-inch x 8-foot copper grounding electrode adjacent to the junction box. Bond the equipment grounding conductor and the enclosure to the grounding electrode with #4 AWG and connect to the ground rod with an exothermic weld. The anti-corrosive coating shall be factory applied.

**D Measurement**

The department will measure Junction Boxes Steel 18x12x6-Inch Coated and Junction Boxes Steel 6x6x4-Inch according to standard spec 653.4, acceptably completed.

**E Payment**

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.1005	Junction Boxes Steel 18x12x6-Inch Coated	EACH
SPV.0060.1006	Junction Boxes Steel 6x6x4-Inch Coated	EACH

Payment is full compensation according to standard spec 653.5.



## **24. Distribution Center Preventive Maintenance, Item SPV.0060.1007.**

### **A Description**

This special provision describes maintaining lighting cabinets and the site, including inspecting, cleaning, testing, adjusting, and keeping records. Major repairs or component replacement will not be included.

### **B Materials**

Furnish materials such as primer, paint, lubrication, anti-seize, electrical cleaning solvents, incandescent lamps, warning decals, small parts, and connectors. All items shall be suitable for electrical maintenance, as approved by the engineer. The department will furnish padlocks and WisDOT decals.

### **C Construction**

Perform the following tasks:

- Apply state-furnished WisDOT decals as needed to cabinets and to remote meters.
- Apply standard ANSI voltage warning decals (text varies by location; in most cases, "Warning 480 Volts") where needed to cabinets and to remote meters. These will be measured separately as Plaques Sequence Identification, generally 2 units per cabinet.
- Apply cabinet plaques where needed. These will be measured separately as Plaques Sequence Identification, generally 2 or 3 units per cabinet. Engineer to supply text.
- Spot prime and spot paint inside and out as needed, in colors to match the existing surfaces.
- Test the photo control circuit and other 120 VAC apparatus for proper function.
- Replace the incandescent lamp as necessary.
- Inspect all electrical components, including conductors. Inform the engineer of all reportable conditions.
- Tighten and otherwise make good all electrical connections, including grounding connections.
- Remove debris, animal nests, the accumulation of dirt, etc., from inside and near the cabinet.
- Trim weeds, saplings, and brush a reasonable distance around, including a sufficient distance to ensure access to the meter, the fence gate, the cabinet door, We Energies transformer (hot stick side) and the first pull box off the cabinet.
- Inspect the fence gate and its padlocks. Trim saplings that interfere with gate function.
- Wipe the photocell clean.
- In general, short of replacing any component or making any repair beyond these requirements, leave behind a clean, orderly and functioning cabinet, fence gate and site.

### **D Measurement**

The department will measure Distribution Center Preventive Maintenance by the unit, acceptably completed.

### **E Payment**

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.1007	Distribution Center Preventive Maintenance	EACH

Payment is full compensation for the required maintenance and adjustment of the distribution center, as well as recording and forwarding all reportable conditions.

## **25. Tunnel Cleaning – Marquette Interchange Tory Hill Tunnel, Item SPV.0060.1008; Tunnel Cleaning – Mitchell Interchange Tunnel 1, Item SPV.0060.1009; Tunnel Cleaning – Mitchell Interchange Tunnel 2, Item SPV.0060.1010.**

### **A Description**

This special provision describes cleaning the interior porcelain ceramic tile walls of tunnel Structures B-40-827, B-40-832 and B-40-1222 using high-pressure water blast.

## **B Materials**

Cleaning water shall conform to standard spec 501.2.4.

## **C Construction**

Clean the existing interior porcelain ceramic tile wall surfaces using a high-pressure water blast to mechanically dislodge and remove dirt, debris, dust and loose particles using a high-pressure water blast. Clean from the top to the bottom of the existing tile wall surface

Use a truck mounted or portable pressure washer capable of a minimum of 3,500 psi pressure. Use with a suitable high-pressure nozzle and adjust pressure as necessary to dislodge and remove dirt, debris, dust and loose particles from the tile wall surfaces without damage to the tile surface

Ensure that no standing water is allowed to collect in adjacent travel lanes open to traffic.

Provide filter fabric at catch basins and drainage inlets to retain debris from flowing into the drainage system.

## **D Measurement**

The department will measure Tunnel Lighting Mounting Bracket by each individual tunnel, acceptably completed.

## **E Payment**

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.1008	Tunnel Cleaning Marquette Interchange Tory Hill	EACH
SPV.0060.1009	Tunnel Cleaning Mitchel Interchange Tunnel 1	EACH
SPV.0060.1010	Tunnel Cleaning Mitchel Interchange Tunnel 2	EACH

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

## **26. Liquid Tight Flexible Metallic Conduit 3/4-Inch, Item SPV.0090.1001.**

### **A Description**

This special provision describes furnishing and installing liquid tight flexible metallic conduit between wireways utilized for tunnel lighting and the tunnel luminaires.

### **B Materials**

The flexible metallic conduit shall be liquid tight with a moisture, oil, and sunlight resistant polyvinyl chloride (PVC) jacket applied directly over the flexible metal conduit with wall thickness according to UL 360.

The flexible metallic conduit shall be UL listed for between -67° F and +221 ° F.

According to UL 360, the flexible metallic conduit shall meet all of the following performance tests:

- Resistance and High Current
- Fault Current
- Impact
- Tension
- Crushing
- Pipe Stiffness
- Flexibility
- Low Temperature Flexibility
- Zinc Coating
- Vertical Flame
- Physical Properties
- Deformation
- Mechanical Water Absorption

- Moisture Penetration
- Sunlight Resistance
- Test for Secureness of Fittings
- The fittings and adapters shall be of the same manufacturer as the conduit.

#### **C Construction**

Install the fittings, adapters, and conduit between the wireways used in conjunction with tunnel lighting and the tunnel lighting. Install per the manufacturer's instructions and as shown on the plans.

#### **D Measurement**

The department will measure Liquid Tight Flexible Metallic Conduit 3/4-Inch by the linear foot of conduit installed, acceptably completed.

#### **E Payment**

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.1001	Liquid Tight Flexible Metallic Conduit 3/4-Inch	LF

Payment is full compensation for furnishing and installing the conduit, including the connectors.

### **27. Rigid Galvanized Steel Conduit 1-Inch Coated, Item SPV.0090.1002; Rigid Galvanized Steel Conduit 1 1/4-Inch Coated, Item SPV.0090.1003**

#### **A Description**

This special provision describes providing and installing Rigid Galvanized Steel Conduit 1-Inch Coated and Rigid Galvanized Steel Conduit 1 1/4-Inch Coated according to standard spec 652 and as shown on the plans.

#### **B Materials**

Polyolefin Coated Galvanized Steel Conduit: Polyolefin coated rigid steel conduit shall meet UL Standard 6 AND NEMA RN-1. Coating shall be performed over the UL listed product and shall not disturb initial zinc coating.

Exterior polyolefin coating shall be minimum 40 mil.

Conduit interior shall have thermoset polymer coating of minimum 2 mil.

Conduit coating shall be environmentally safe and produce no Halogens or VOCs.

All conduit fittings, couplings, channel supports, and clamps shall be polyolefin coated. All other mounting hardware and appurtenances shall be stainless steel.

Conduit supports shall be galvanized or stainless steel.

#### **C Construction**

The contractor is advised that all of this type of conduit is installed attached to the structure of the freeway.

All nuts on supports shall be double nutted.

#### **D Measurement**

The department will measure Conduit Reinforced Thermosetting Resin 3/4-Inch by the linear foot, acceptably completed, measured along the conduit centerline from the centerline of fittings or, where there are no fittings, from the free ends of the conduit.

#### **E Payment**

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.1002	Rigid Galvanized Steel Conduit 1-Inch Coated	LF
SPV.0090.1003	Rigid Galvanized Steel Conduit 1 1/4-Inch Coated	LF

Payment is full compensation for providing the conduit, conduit bodies, and fittings; for providing all conduit hangers, clips, attachments, and fittings used to support conduit on structures; for pull wires or ropes; for expansion fittings and caps; for disposing of surplus materials; and for making inspections.

## **28. Control System Preventive and Maintenance, Item SPV.0105.1001.**

### **A Description**

This special provision describes control system preventive care and maintenance to ensure the tunnel lighting system functions at the intended level, and according to design standard after removing and replacing existing HPS luminaires with LEDs.

### **B (Vacant)**

### **C Construction**

Perform the following tasks:

- Interface with NYX Hemera Technologies (existing control system) personnel to determine how the removal and replacement of the existing HPS luminaire with LED might affect operation of the system.
- Work with NYX Hemera Technologies and conduct functional testing each time one side of the wall is completed before continuing to the next side for full functioning system.
- Test and replace any damaged or bad contactor.
- Test and reprogram the NYX Hemera controller and Nexlight control panel to ensure the system is functioning properly.
- Upon completion of the luminaire tunnel removal and replacement, conduct a final functional testing to demonstrate all features and functionalities of the Tunnel Lighting Addressable Control System (TLAC) and ensure that the system is fully operational.

### **D Measurement**

The department will measure Control System Preventive and Maintenance as a single lump sum unit of work, acceptably completed.

### **E Payment**

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.1001	Control System Preventive and Maintenance	LS

Payment is full compensation for Control System Preventive and Maintenance, adjustment of the distribution center, recording and forwarding all reportable conditions, providing specified expertise, assistance and documents and personnel costs.

## **29. Lighting System Integrator, Item SPV.0105.1002.**

### **A Description**

This special provision describes coordinating lighting with various parties; record keeping, and documentation. Where the department is responsible for freeway lighting operation, maintenance, or utility locates on existing systems or systems overlapping project boundaries, the contractor's freeway lighting integrator will serve as the contractor's liaison to the department's electrical operations unit.

### **B Personnel Qualifications**

Assign personnel experienced in underground utility construction and department lighting specifications and practices.

### **C Construction**

At any one time during the project, the contractor shall assign one individual person as the freeway lighting integrator.

The freeway lighting integrator shall:

1. Familiarize himself with the location and nature of existing lighting circuits. This familiarity shall include the extent of any lighting system that overlaps project limits.
2. Maintain a file of applicable permits or licenses issued to the contractor and convey copies to the engineer.
3. Keep with him at all times a contact list of affected lighting personnel.
4. Maintain a record of tagouts and the clearance of tagouts.
5. Interface with department electrical personnel to determine how contract limits might affect maintenance or operation of existing systems.
6. Maintain ongoing contact with the department's Diggers' Hotline Coordinator to ensure that each of the two persons knows that all requested utility locates are marked in the field by the appropriate party. The intent here is to assure coordination. This special provision does not transfer additional utility locating responsibilities to the contractor, beyond those responsibilities already assigned to him by other provisions of the contract.
7. Inform the department of any lighting outages, including outside the project limits where a lighting system crosses the project boundary.
8. Maintain in any format real-time records of existing, removed and new lighting facilities. Include utility service extensions. Additional required records will include temporary connections and their ultimate removal.
9. Maintain records of tests, including: "meg" tests, amperage draw per circuit leg, voltage reading at the disconnect, and voltage reading at the furthest pole per circuit leg. Convey these records at time of acceptance or partial acceptance.
10. At the time of acceptance or partial acceptance, convey as-built drawings in both the following formats: plan redlines and .dgn electronic. Include utility service extensions.
11. Secure copies of operator's manuals, tear sheets, etc. as may be provided by manufacturers of some lighting materials and convey a minimum of three sets to the department.
12. Work with the engineer to notify department electrical personnel of acceptance or partial acceptance.
13. Perform related duties as may be needed to ensure continuity of freeway lighting during construction, and orderly transfer upon completion.

#### **D Measurement**

The department will measure Lighting System Integrator as a single lump sum unit, acceptably completed.

#### **E Payment**

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105. 1002	Lighting System Integrator	LS

Payment will be full compensation for providing specified expertise, assistance and documents, and personnel costs.

SER-670.1 (20170407)

## **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:

---

#### 104.3 Contractor Notification

Replace the entire text with the following effective with the December 2019 letting:

##### 104.3.1 General

- (1) Subsection 104.3 specifies the step-by-step communication process to be followed to expedite the resolution of potential contract revisions identified by the contractor. Both contractor actions and department responses are outlined. The contractor's non-compliance with the requirements of 104.3 may constitute a waiver of entitlement to a pay adjustment under 109.4 or a time extension under 108.10. The department and contractor can mutually agree to extend any time frame specified throughout 104.3.

##### 104.3.2 Contractor Initial Oral Notification

- (1) If required by 104.2, or if the contractor believes that the department's action, the department's lack of action, or some other situation results in or necessitates a contract revision, the contractor must promptly provide oral notification to the project engineer. Upon notification, the project engineer will attempt to resolve the identified issue.

##### 104.3.3 Contractor 5-Day Written Statement

- (1) If the project engineer has not responded or resolved the identified issue within 5 business days after receipt of initial notification, provide a contractor written statement to the project engineer in the following format:

###### Part 1 - Executive Summary (label page 1.1 through page 1.x)

Include a detailed, factual statement of the request for additional compensation and contract time. Include the date the issue was identified, the date initial notification was given to the project engineer, and the dates and specific locations of work involved.

###### Part 2 - Contractor's Basis of Entitlement (label page 2.1 through page 2.x)

Include references to relevant contract provisions and a narrative summarizing how the contract provisions support the request for a revision to the original contract.

###### Part 3 - Contractor's Request for Damages (label page 3.1 through page 3.x)

When requesting additional compensation, include an itemized list of costs with a narrative supporting the requested amount and explaining how the costs are tied to the requested contract revision.

When requesting additional contract time, include a copy of the schedule that was in effect when the issue occurred and a detailed narrative explaining how the issue impacted controlling items of work. Provide a time impact analysis utilizing base and updated schedules.

If the full extent of either compensation or time is not known at the date of submittal of the contractor 5-Day written statement, provide a brief statement as to why, and include estimated compensation and time.

###### Part 4 - Supporting Documentation (label page 4.1 through page 4.x)

Include copies of the following:

- A. Relevant excerpts from specifications, special provisions, plans, change orders, or other contract documents.
  - B. Communication on the issue, including: letters, e-mails, meeting minutes, etc.
  - C. Any other documentation to support or clarify the contractor's position, including: daily work records, cost summary sheets, weigh tickets, test results, sketches, etc.
- (2) With the submittal of the written statement, the contractor may also request a meeting with the region.

##### 104.3.4 Region One-Day Written Acknowledgment

- (1) Within one business day after the contractor provides the 5-day written statement, the project engineer will provide a region one-day written acknowledgment to the contractor. The project engineer will continue to resolve the issue.

##### 104.3.5 Region 5-Day Written Response

- (1) Within 5 business days after receiving the contractor 5-day written statement, the project engineer may request specific additional information to allow the project engineer to decide whether item 1 or 2 of 104.3.6(1) applies. The project engineer will state the information needed and date it is to be

received for further review. Submit additional information as an amendment to the contractor 5-day written statement.

#### **104.3.6 Region Final Decision**

- (1) Within 10 business days after receiving the contractor 5-day written statement or additional information requested in 104.3.5(1), whichever comes last, the region will consider all information and provide a region final decision in writing to the contractor with one or more of the following responses:
    1. The region will confirm that the contractor is entitled to a contract revision and a contract change order is necessary as specified in 104.2. The project engineer will give direction concerning the potential change.
    2. The region will deny that the contractor is entitled to a contract revision. The project engineer will provide a statement as to why the issue is not a change to the contract. At a minimum, the project engineer will respond to the contractor's issues and refer to the contract to show why the issues are not a change from the original contract.
  - (2) If the contractor does not agree with the region's decision the contractor may pursue the issue as a claim as specified in 105.13. Alternatively, if the contractor and department mutually agree, the department will get a third-party advisory opinion according to the department's dispute resolution procedures.
  - (3) If a third party reviews the issue, their recommendation is not binding on either party. The region has 10 business days after receipt of the third party's written recommendation to render a decision. If the department fails to respond in writing within those 10 business days or the contractor disagrees with the region's decision, the contractor may pursue the issue as a claim as specified in 105.13.
- 

#### **104.6.1.2.1 General**

Replace paragraph one with the following effective with the December 2019 letting:

- (1) Conduct construction operations and provide facilities required to maintain the portion of the project open to the public in a condition that safely and adequately accommodates public traffic. Use barricades, signs, flaggers, and temporary barrier as specified in part VI, of the WMUTCD and ensure that the contractor's use of the right-of-way conforms to 107.9. Throughout the life of the contract, and as the engineer directs, conduct construction operations and provide facilities as follows:
    - Conduct flagging operations conforming to plan details and the department's flagging handbook.
    - Use drums, barricades, and temporary barrier to delineate and shield abrupt drop-offs and other hazards.
    - Furnish, erect, and maintain traffic control devices and facilities conforming to 643.
    - Furnish, erect, and maintain temporary pedestrian devices and facilities conforming to 644.
- 

#### **104.6.1.2.2 Flagging**

Replace paragraph three with the following effective with the December 2019 letting:

- (3) Provide associated advanced warning signs that meet the retroreflective requirements of 637.2.2.2. Provide temporary portable rumble strips from the department's APL installed according to manufacturer's instructions and as specified in the flagging plan details. Provide guidance service through the worksite using pilot vehicles if required.

Replace paragraph five with the following effective with the December 2019 letting:

- (5) Flagging is incidental to the contract and includes costs for advance signing, temporary portable rumble strips, and pilot vehicle guidance service.



---

**104.8 Rights in the Use of Materials Found on the Project**

Replace paragraph two with the following effective with the December 2019 letting:

- (2) Do not excavate or remove material from within the right-of-way that is not within the vertical and horizontal excavation limits the plans show except as follows:
- If the contract does not identify potential source areas, obtain written authorization from the engineer to use those sources. Complete required environmental documentation and obtain necessary permits. The department will reduce pay by \$1.50 per cubic yard under the Material from Right-of-Way administrative item for material obtained from those areas.
  - If the contract identifies potential source areas that were evaluated and permitted in the original environmental document, do not begin excavating in those areas until the engineer allows in writing. Additional environmental documentation and environmental permits are not required. The department will not reduce pay for material obtained from those areas.

The department may suspend use of these sources if the contractor's operation affects the essential functions or characteristics of the project.

---

**104.10.1 General**

Replace paragraph one with the following effective with the December 2019 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 for the following situations:
1. The contractor generates the original cost savings idea and formulates it into a concept.
  2. The department generates the original cost savings idea and obtains the contractor's assistance to formulate the idea into a concept.

Replace paragraph five with the following effective with the December 2019 letting:

- (5) The department will consider a CRI that changes but does not impair the essential functions or characteristics of the project. These functions or characteristics include, but are not limited to, appearance, service life, economy of operations, ease of maintenance, design, and safety of structures and pavements, construction phasing or procedures, or other contract requirements. The department will not consider a CRI that changes the following:
- Permanent pavement type.
  - Permanent structural cross section above the subgrade.
- 

**104.10.2 Submittal and Review of a CRI Concept**

Replace paragraphs five and six with the following effective with the December 2019 letting:

- (5) The department may consider a CRI concept that addresses a potential change under 104.2.
- (6) The department will not implement a contractor-initiated CRI concept, or portion of that concept, without sharing the cost savings with the contractor as specified in 104.10.4.2.
- (7) The savings generated by the CRI must be sufficient to warrant its review and processing and offset the level of risk. The department will assess the risk of the CRI relative to departmental design policies and criteria for the project. The department may reject a CRI concept for the following reasons:
1. It requires excessive time or costs for the contractor to develop the CRI proposal.
  2. It requires excessive time or costs for review, evaluation, investigation, or implementation.
  3. It introduces an inappropriate level of risk.

**104.10.4.2 Payment for the CRI Work**

Replace paragraph one with the following effective with the December 2019 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.

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

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

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

**105.13 Claims Process for Unresolved Changes**

Replace the entire text with the following effective with the December 2019 letting:

**105.13.1 General**

- (1) Before submitting a claim, the department and contractor can mutually agree to have the department get a third-party advisory opinion as specified in 104.3.6.
- (2) The department and contractor can mutually agree to extend any time frame specified throughout 105.13 and can mutually agree to utilize an alternative dispute resolution method at any point before the department renders its final decision.
- (3) The department and contractor share costs related to referral to a dispute review board (DRB) as prescribed in the department's dispute resolution procedures.

**105.13.2 Notice of Claim**

- (1) If the contractor has followed the procedures for revising the contract specified in 104.2 and provided the notification specified in 104.3, but still disagrees with the region, the contractor may pursue the issue as a claim. File a notice of claim with the project engineer concerning the disagreement within 14 calendar days of receiving the region's decision under 104.3.6(1).
- (2) The project engineer may deny the applicable portion of a claim if the contractor does not do the following:
  1. File the notice of claim within 14 calendar days as specified in 105.13.2(1).
  2. Give the project engineer sufficient access to keep a record of the actual labor, materials, and equipment used to perform the claimed work.

- (3) Upon filing the notice of claim, maintain records as specified for force account statements in 109.4.5. Unless the project engineer issues a suspension, continue to perform the disputed work. The department will continue to make progress payments to the contractor as specified in 109.6.

**105.13.3 Submission of Claim**

- (1) Submit the claim to the project engineer as promptly as possible following the submission of the Notice of Claim, but not later than the end of the time allowed under 109.7 for the contractor to respond in writing to the engineer-issued semi-final estimate. If the contractor does not submit the claim within that response time, the department will deny the claim.
- (2) The department will not accept the submission of a claim until the resolution process in 104.3 has been completed and the contractor makes no further requests to submit updated information that may affect the region's final decision.

**105.13.4 Content of Claim**

- (1) The final contractor written statement under 104.3.3 is considered the content of the claim. If the contractor makes a request to submit updated information that may affect the region's final decision under 104.3.6, submit the updated information as an amendment to the contractor written statement and continue the resolution process in 104.3 before submitting a claim.
- (2) The department may refer the claimant of a false claim to the appropriate authority for criminal prosecution. Certify the claim using the following form:

The undersigned is duly authorized to certify this claim on behalf of (the contractor).

(The contractor) certifies that this claim is made in good faith, that the supporting data are accurate and complete to the best of (the contractor's) knowledge and belief, and that the amount requested accurately reflects the contract adjustment for which (the contractor) believes that the department is liable.

(THE CONTRACTOR)

By: \_\_\_\_\_

(Name and Title)

Date of Execution: \_\_\_\_\_

**105.13.5 Department Final Decision**

- (1) The department will have up to 28 calendar days, from the contractor's submission of the claim, to perform a final review of the claim and conduct all meetings. The department may request, in writing, that the contractor submit additional information related to the claim. Submit that additional information, or notify the department in writing to base its decision on the information previously submitted. Either the contractor or region may request a meeting to present their views. Before the meeting, both parties will agree upon written ground rules for the meeting.
- (2) Upon completion of the 28 calendar days for the department's review and meetings, the department will have up to 21 calendar days to render a written decision. The department will consider written and oral submissions from the contractor and region, and may consider other relevant information in the project records.
- (3) The department will provide the following in its final decision:
  1. A concise description of the claim.
  2. A clear, contractual basis for its decision that includes a reference to 104.2 on revisions to the contract and as appropriate, specific reference to language regarding the bid items in question.
  3. Other facts the department relies on to support its decision.
  4. A concise statement of the circumstances surrounding the claim and reasons for its decision. If the department rejects the claim in whole or in part, the department will explain why the claimed work is not a change to the contract work.
  5. The amount of money or other relief, if any, the department will grant the contractor.
- (4) If the contractor disagrees with the department's final decision, the contractor may initiate a legal action pursuant to state statutes.

**106.3.4.2.2.2 Freeze-Thaw Soundness**

Replace paragraph one with the following effective with the December 2019 letting:

- (1) Perform freeze-thaw soundness testing according to AASHTO T103 as modified in CMM 8-60.2. Provide freeze/thaw soundness test results based on the fraction retained on the No. 4 sieve as follows:
  1. Using virgin crushed stone aggregates produced from limestone/dolomite sources in one or more of the following counties or from out of state:
 

Brown	Columbia	Crawford	Dane	Dodge
Fond du Lac	Grant	Green	Green Lake	Iowa
Jefferson	Lafayette	Marinette	Oconto	Outagamie
Rock	Shawano	Walworth	Winnebago	
  2. Using gravel aggregates produced from pit sources in one or more of the following counties or from out of state:
 

Dodge	Washington	Waukesha
-------	------------	----------

**108.10.3 Excusable Compensable Delays**

Replace paragraph two with the following effective with the June 2020 letting:

(2) The following are compensable delays:

1. A contract change for revised work as specified for extra work under 104.2.2.1, for a differing site condition under 104.2.2.2, or for significant changes in the character of the work under 104.2.2.4.
2. A contract change for an engineer-ordered suspension under 104.2.2.3.
3. The unexpected discovery of human remains, an archaeological find, or historical find consistent with 107.25.
4. The unexpected discovery of a hazardous substance consistent with 107.24.
5. The non-completion of work that utilities or other third parties perform, if the contract specifies a number of days or a completion date for that utility or third-party work. For delays covered under Trans 220 of the Wisconsin administrative code, the engineer will grant a time extension, but the contractor must seek recovery of delay costs from the utility.

**208.5 Payment**

Replace paragraph three with the following effective with the December 2019 letting:

- (3) The department will adjust pay for material obtained from within the project right-of-way limits but outside project excavation limits, furnished under 208.2.2, as specified in 104.8.

**301.2.3 Sampling and Testing**

Replace paragraph one with the following effective with the December 2019 letting:

(1) Department and contractor testing shall conform to the following:

Sampling <sup>[1]</sup> .....	AASHTO T2
Percent passing the 200 sieve .....	AASHTO T11
Gradation <sup>[1]</sup> .....	AASHTO T27
Gradation of extracted aggregate .....	AASHTO T30
Moisture content <sup>[1]</sup> .....	AASHTO T255
Liquid limit .....	AASHTO T89
Plasticity index .....	AASHTO T90
Wear .....	AASHTO T96
Sodium sulfate soundness (R-4, 5 cycles) .....	AASHTO T104
Freeze/thaw soundness <sup>[1]</sup> .....	AASHTO T103
Lightweight Pieces in Aggregate .....	AASHTO T113
Fracture .....	ASTM D5821 as modified in CMM 8-60
Moisture/density <sup>[1]</sup> .....	AASHTO T99 and AASHTO T180
In-place density <sup>[1]</sup> .....	AASHTO T191
Asphaltic material extraction .....	CMM 8-36 WisDOT Test Method 1560

<sup>[1]</sup> As modified in CMM 8-60.

**301.2.4.5 Aggregate Base Physical Properties**

*Replace paragraph one with the following effective with the December 2019 letting:*

- (1) Furnish aggregates conforming to the following:

**TABLE 301-2 AGGREGATE BASE PHYSICAL PROPERTIES**

PROPERTY	CRUSHED STONE	CRUSHED GRAVEL	CRUSHED CONCRETE	RECLAIMED ASPHALT	REPROCESSED MATERIAL	BLENDED MATERIAL
Gradation AASHTO T27						
dense	305.2.2.1	305.2.2.1	305.2.2.1	305.2.2.2	305.2.2.1	305.2.2.1 <sup>[1]</sup>
open-graded	310.2	310.2	<u>not allowed</u>	<u>not allowed</u>	<u>not allowed</u>	<u>not allowed</u>
Wear AASHTO T96 loss by weight	<=50%	<=50%	note <sup>[2]</sup>	—	note <sup>[2]</sup>	note <sup>[3]</sup>
Sodium sulfate soundness AASHTO T104 loss by weight						
dense	<=18%	<=18%	—	—	—	note <sup>[3]</sup>
open-graded	<=12%	<=12%	<u>not allowed</u>	<u>not allowed</u>	<u>not allowed</u>	<u>not allowed</u>
Freeze/thaw soundness AASHTO T103 <sup>[6]</sup> loss by weight						
dense	<=18%	<=18%	note <sup>[2]</sup>	—	—	note <sup>[3]</sup>
open-graded	<=18%	<=18%	<u>not allowed</u>	<u>not allowed</u>	<u>not allowed</u>	<u>not allowed</u>
Liquid limit AASHTO T89	<=25	<=25	<=25	—	—	note <sup>[3]</sup>
Plasticity AASHTO T90	<=6 <sup>[4]</sup>	<=6 <sup>[4]</sup>	<=6 <sup>[4]</sup>	—	—	note <sup>[3]</sup>
Fracture ASTM D5821 <sup>[6]</sup> min one face by count						
dense	58%	58%	58%	—	note <sup>[5]</sup>	note <sup>[3]</sup>
open-graded	90%	90%	<u>not allowed</u>	<u>not allowed</u>	<u>not allowed</u>	<u>not allowed</u>

<sup>[1]</sup> The final aggregate blend must conform to the specified gradation.

<sup>[2]</sup> No requirement for material taken from within the project limits. For material supplied from a source outside the project limits:

- LA wear maximum of 50 percent loss, by weight.
- Freeze thaw maximum of 42 percent loss, by weight.

<sup>[3]</sup> Required as specified for the individual component materials defined in columns 2 - 6 of the table before blending.

<sup>[4]</sup> For base placed between old and new pavements, use crushed stone, crushed gravel, or crushed concrete with a plasticity index of 3 or less.

<sup>[5]</sup> >=75 percent by count of non-asphalt coated particles.

<sup>[6]</sup> as modified in CMM 8-60.

**450.2.2 Aggregate Sampling and Testing**

Replace paragraph one with the following effective with the December 2019 letting:

- (1) The department and the contractor will sample and test according to the following methods, except as revised with the engineer's approval:
- |  |             |
|--|-------------|
| Sampling aggregates .....                                      | AASHTO T2   |
| Material finer than No. 200 sieve .....                        | AASHTO T11  |
| Sieve analysis of aggregates .....                             | AASHTO T27  |
| Mechanical analysis of extracted aggregate .....               | AASHTO T30  |
| Sieve analysis of mineral filler .....                         | AASHTO T37  |
| Los Angeles abrasion of coarse aggregate .....                 | AASHTO T96  |
| Freeze-thaw soundness of coarse aggregate <sup>[1]</sup> ..... | AASHTO T103 |
| Sodium sulfate soundness of aggregates (R-4, 5 cycles) .....   | AASHTO T104 |
| Extraction of bitumen .....                                    | AASHTO T164 |

<sup>[1]</sup> As modified in CMM 8-60.2.

**450.3.2.6.3 Compaction Roller Pattern Determined by Growth Curve**

Add 450.3.2.6.3 as a new subsection effective with the December 2019 letting:

**450.3.2.6.3 Compaction Roller Pattern Determined by Growth Curve**

- (1) When specified in 460.3.3.1, compact asphaltic mixture using the roller pattern established during construction of a control strip. Use 2 or more rollers per paver if placing more than 165 tons per hour.
- (2) On the first day of production, construct a control strip under the direct observation of department personnel. After compacting the control strip with a minimum of 3 passes, mark the gauge outline and take a one-minute wet density measurement using a nuclear density gauge in back scatter mode at a single location. Take a density measurement at the same location after each subsequent pass. Continue compacting and testing until the increase in density is less than 1 pcf for 3 consecutive passes. Submit the final roller pattern to the engineer in writing. Once the roller pattern is established do not change the pattern or decrease the number, type, or weight of rollers without the engineer's written approval.
- (3) After establishing the roller pattern, and under the direct observation of the engineer, cut at least one 4-inch diameter or larger core from the control strip density gauge outline. Prepare cores and determine density according to AASHTO T166. Dry cores after testing. Fill core holes and obtain engineer approval before opening to traffic. The department will maintain custody of cores throughout the entire sampling and testing process. The department will label cores, transport cores to testing facilities, witness testing, store dried cores, and provide subsequent verification testing.

**450.3.2.8 Jointing**

Replace paragraph three with the following effective with the December 2019 letting:

- (3) Construct notched wedge longitudinal joints for mainline paving of HMA layers 1.75 inches or greater. Extend the wedge beyond the normal lane width as the plans show or as the engineer directs.

Replace paragraph five with the following effective with the December 2019 letting:

- (5) Construct the wedge for each layer using an engineer-approved strike-off device that will provide a uniform slope and will not restrict the main screed. Shape and compact the wedge with a weighted steel side roller wheel or vibratory plate compactor the same width as the wedge. Apply a tack coat to the wedge surface and both notches before placing the adjacent lane.
- (6) Clean longitudinal and transverse joints coated with dust and, if necessary, paint with hot asphaltic material, a cutback, or emulsified asphalt to ensure a tightly bonded, sealed joint.

**455.2.5 Tack Coat**

Replace paragraph one with the following effective with the December 2019 letting:

- (1) Under the Tack Coat bid item, furnish type SS-1h, CSS-1h, QS-1h, CQS-1h, or modified emulsified asphalt with an "h" suffix, unless the contract specifies otherwise.

**460.2.2.3 Aggregate Gradation Master Range**

*Replace paragraph one with the following effective with the December 2019 letting:*

- (1) Ensure that the aggregate blend, including recycled material and mineral filler, conforms to the gradation requirements in table 460-1. The values listed are design limits; production values may exceed those limits.

**TABLE 460-1 AGGREGATE GRADATION MASTER RANGE AND VMA REQUIREMENTS**

SIEVE	PERCENT PASSING DESIGNATED SIEVES							
	NOMINAL SIZE							
	No. 1 (37.5 mm)	No. 2 (25.0 mm)	No. 3 (19.0 mm)	No. 4 (12.5 mm)	No. 5 (9.5 mm)	No. 6 (4.75 mm)	SMA No. 4 (12.5 mm)	SMA No. 5 (9.5 mm)
50.0-mm	100							
37.5-mm	90 - 100	100						
25.0-mm	90 max	90 - 100	100					
19.0-mm	___	90 max	90 - 100	100			100	
12.5-mm	___	___	90 max	90 - 100	100		90 - 97	100
9.5-mm	___	___	___	90 max	90 - 100	100	58 - 80	90 - 100
4.75-mm	___	___	___	___	90 max	90 - 100	25 - 35	35 - 45
2.36-mm	15 - 41	19 - 45	23 - 49	28 - 58	32 - 67	90 max	15 - 25	18 - 28
1.18-mm	___	___	___	___	___	30 - 55	___	___
0.60-mm	___	___	___	___	___	___	18 max	18 max
0.075-mm	0 - 6.0	1.0 - 7.0	2.0 - 8.0	2.0 - 10.0	2.0 - 10.0	6.0 - 13.0	8.0 - 11.0	8.0 - 12.0
% VMA	11.0 min	12.0 min	13.0 min	14.0 min <sup>[1]</sup>	15.0 min <sup>[2]</sup>	16.0 - 17.5	16.0 min	17.0 min

<sup>[1]</sup> 14.5 for LT and MT mixes.

<sup>[2]</sup> 15.5 for LT and MT mixes.

**460.2.7 HMA Mixture Design**

*Replace paragraph one with the following effective with the December 2019 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. Ensure that SMA mixture designs adhere to AASHTO R 46 and AASHTO M 325 in addition to the required test procedures outlined in CMM 8-66 table 1 and CMM 8-66 table 2. Determine the specific gravity of fines or super fines used as a mineral filler or additional stabilizer in SMA designs according to AASHTO T 100. 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
LA Wear (AASHTO T96)				
100 revolutions(max % loss)	13	13	13	13
500 revolutions(max % loss)	50	45	45	35
Soundness (AASHTO T104) (sodium sulfate, max % loss)	12	12	12	12
Freeze/Thaw (AASHTO T103 as modified in CMM 8-60.2) (specified counties, max % loss)	18	18	18	18
Fractured Faces (ASTM D5821 as modified in CMM 860) (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 <sup>[1]</sup>	43 <sup>[1]</sup>	45	45
Sand Equivalency (AASHTO T176, min)	40	40 <sup>[2]</sup>	45	50
Clay Lumps and Friable Particle in Aggregate (AASHTO T112)	<= 1%	<= 1%	<= 1%	<= 1%
Plasticity Index of Material Added to Mix Design as Mineral Filler (AASHTO T89/90)	<= 4	<= 4	<= 4	<= 4
Gyratory Compaction				
Gyrations for Nini	6	7	8	7
Gyrations for Ndes	40	75	100	65
Gyrations for Nmax	60	115	160	100
Air Voids, %Va (%Gmm Ndes)	4.0 (96.0)	4.0 (96.0)	4.0 (96.0)	4.5 (95.5)
% Gmm Nini	<= 91.5 <sup>[3]</sup>	<= 89.0 <sup>[3]</sup>	<= 89.0	___
% Gmm Nmax	<= 98.0	<= 98.0	<= 98.0	<= 98.0
Dust to Binder Ratio <sup>[4]</sup> (% passing 0.075/Pbe)	0.6 - 1.2 <sup>[5]</sup>	0.6 - 1.2 <sup>[5]</sup>	0.6 - 1.2 <sup>[5]</sup>	1.2 - 2.0
Voids filled with Binder (VFB or VFA, %)	68 - 80 <sup>[6] [8]</sup>	65 - 75 <sup>[6] [7] [9]</sup>	65 - 75 <sup>[6] [7] [9]</sup>	70 - 80
Tensile Strength Ratio (TSR) (AASHTO T283) <sup>[10] [11]</sup>				
no antistripping additive	0.75 min	0.75 min	0.75 min	0.80 min
with antistripping additive	0.80 min	0.80 min	0.80 min	0.80 min
Draindown (AASHTO T305) (%)	___	___	___	<= 0.30
Minimum Effective Asphalt Content, Pbe (%)	___	___	___	5.5

<sup>[1]</sup> For No 6 (4.75 mm) nominal maximum size mixes, the specified fine aggregate angularity is 43 for LT and 45 MT mixes.

<sup>[2]</sup> For No 6 (4.75 mm) nominal maximum size mixes, the specified sand equivalency is 43 for MT mixes.

<sup>[3]</sup> The percent maximum density at initial compaction is only a guideline.

<sup>[4]</sup> 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.

<sup>[5]</sup> For No 6 (4.75 mm) nominal maximum size mixes, the specified dust to binder ratio limits are 1.0 - 2.0 for LT mixes and 1.5 - 2.0 for MT and HT mixes.

<sup>[6]</sup> For No. 6 (4.75mm) nominal maximum size mixes, the specified VFB is 67 - 79 percent for LT mixes and 66 - 77 percent for MT and HT mixes.

<sup>[7]</sup> For No. 5 (9.5mm) and No. 4 (12.5 mm) nominal maximum size mixtures, the specified VFB range is 70 - 76 percent.

<sup>[8]</sup> For No. 2 (25.0mm) nominal maximum size mixes, the specified VFB lower limit is 67 percent.



<sup>[9]</sup> For No. 1 (37.5mm) nominal maximum size mixes, the specified VFB lower limit is 67 percent.

<sup>[10]</sup> WisDOT eliminates freeze-thaw conditioning cycles from the TSR test procedure.

<sup>[11]</sup> Run TSR at asphalt content corresponding to 3.0% air void regressed design, or 4.5% air void design for SMA, using distilled water for testing.

---

#### **460.2.8.2.1.3.1 Contracts with 5000 Tons of Mixture or Greater**

*Replace paragraph four with the following effective with the December 2019 letting:*

- (4) Use the test methods identified below, or other methods the engineer approves, to perform the following tests at the frequency indicated:

Blended aggregate gradations:

Drum plants:

- Field extraction by ignition oven according to AASHTO T308 as modified in CMM 8-36.6.3.6, chemical extraction according to AASHTO T-164 method A or B; or automated extraction according to ASTM D8159 as modified in CMM 8-36.6.3.1. Gradation of resulting aggregate sample determined according to AASHTO T30.
- Belt samples, optional for virgin mixtures, obtained from stopped belt or from the belt discharge using an engineer-approved sampling device and performed according to AASHTO T11 and T27.

Batch plants:

- Field extraction by ignition oven according to AASHTO T308 as modified in CMM 8-36.6.3.6, chemical extraction according to AASHTO T-164 method A or B; or automated extraction according to ASTM D8159 as modified in CMM 8-36.6.3.1. Gradation of resulting aggregate sample determined according to AASHTO T30.

Asphalt content (AC) in percent:

AC by ignition oven according to AASHTO T308 (CMM 8-36.6.3.6), by chemical extraction according to AASHTO T-164 method A or B; or by automated extraction according to ASTM D8159 as modified in CMM 8-36.6.3.1. Gradation of resulting aggregate sample determined according to AASHTO T30.

Bulk specific gravity of the compacted mixture according to AASHTO T166.

Maximum specific gravity according to AASHTO T209.

Air voids (Va) by calculation according to AASHTO T269.

VMA by calculation according to AASHTO R35.

---

#### **460.2.8.2.1.4.2 Control Charts**

*Replace paragraph one with the following effective with the December 2019 letting:*

- (1) Maintain standardized control charts at the laboratory. Record contractor test results on the charts the same day as testing. Record data on the standardized control charts as follows:
- Blended aggregate gradation tests in percent passing. Of the following, plot sieves required in table 460-1: 37.5-mm, 25.0-mm, 19.0-mm, 12.5-mm, 9.5-mm, 4.75-mm, 2.36-mm, 1.18-mm, 0.60-mm, and 0.075-mm.
  - Asphalt material content in percent.
  - Air voids in percent.
  - VMA in percent.
- (2) Plot both the individual test point and the running average of the last 4 data points on each chart. Show QC data in black with the running average in red. Draw the warning limits with a dashed green line and the JMF limits with a dashed red line. The contractor may use computer generated black-and-white printouts with a legend that clearly identifies the specified color-coded components.

**460.2.8.2.1.5 Control Limits**

*Replace paragraph one with the following effective with the December 2019 letting:*

- (1) Conform to the following control limits for the JMF and warning limits based on a running average of the last 4 data points:

ITEM	JMF LIMITS	WARNING LIMITS
Percent passing given sieve:		
37.5-mm	+/- 6.0	+/- 4.5
25.0-mm	+/- 6.0	+/- 4.5
19.0-mm	+/- 5.5	+/- 4.0
12.5-mm	+/- 5.5	+/- 4.0
9.5-mm	+/- 5.5	+/- 4.0
4.75-mm	+/- 5.0	+/- 4.0
2.36-mm	+/- 5.0	+/- 4.0
1.18-mm	+/- 4.0	+/- 3.0
0.60-mm	+/- 4.0	+/- 3.0
0.075-mm	+/- 2.0	+/- 1.5
Asphaltic content in percent	- 0.3	- 0.2
Air voids in percent <sup>[1]</sup>	+1.3/-1.0	+1.0/-0.7
VMA in percent <sup>[2]</sup>	- 0.5	- 0.2

<sup>[1]</sup> For SMA, JMF limits are +/-1.3 and warning limits are +/-1.0.

<sup>[2]</sup> VMA limits are based on requirements for each mix design nominal maximum aggregate size in table 460-1. For No. 6 (4.75mm) mixes, JMF limits are +/- 0.5 and warning limits are +/- 0.2.

**460.3.2 Thickness**

*Replace paragraph one with the following effective with the December 2019 letting:*

- (1) Provide the plan thickness for lower and upper layers limited as follows:

NOMINAL SIZE	MINIMUM LAYER THICKNESS (in inches)	MAX LOWER LAYER THICKNESS (in inches)	MAX UPPER LAYER THICKNESS (in inches)	MAX SINGLE LAYER THICKNESS <sup>[3]</sup> (in inches)
No. 1 (37.5 mm)	4.5	6	4.5	6
No. 2 (25.0 mm)	3.0	5	4	6
No. 3 (19.0 mm)	2.25	4	3	5
No. 4 (12.5 mm) <sup>[1]</sup>	1.75	3 <sup>[2]</sup>	2.5	4
No. 5 (9.5 mm) <sup>[1]</sup>	1.25	3 <sup>[2]</sup>	2	3
No. 6 (4.75 mm)	0.75	1.25	1.25	1.25

<sup>[1]</sup> SMA mixtures use nominal size No. 4 (12.5 mm) or No. 5 (9.5 mm).

<sup>[2]</sup> SMA mixtures with nominal sizes of No. 4 (12.5 mm) and No. 5 (9.5 mm) have no maximum lower layer thickness specified.

<sup>[3]</sup> For use on cross-overs and shoulders.

- (2) Place leveling layers using No. 4 (12.5 mm), No. 5 (9.5 mm), or No. 6 (4.75 mm) mixtures. Leveling layers may be thinner than the minimum lower layer thickness for the mixture used.
- (3) Place wedging layers as the contract specifies or engineer directs. Wedging layers have no specified minimum or maximum thickness.

**460.3.3.1 Minimum Required Density**

Replace paragraph one with the following effective with the December 2019 letting:

- (1) Compact No. 6 mixtures in lower layers as specified in 450.3.2.6.2 and in upper layers as specified in 450.3.2.6.3. For other HMA mixtures, compact all layers to the density table 460-3 specifies.

**TABLE 460-3 MINIMUM REQUIRED DENSITY<sup>[1]</sup>**

LOCATION	LAYER	PERCENT OF TARGET MAXIMUM DENSITY		
		MIXTURE TYPE		
		LT and MT	HT	SMA <sup>[5]</sup>
TRAFFIC LANES <sup>[2]</sup>	LOWER	93.0 <sup>[3]</sup>	93.0 <sup>[4]</sup>	—
	UPPER	93.0	93.0	93.0
SHOULDERS & APPURTENANCES	LOWER	91.0	91.0	—
	UPPER	92.0	92.0	92.0

<sup>[1]</sup> The table values are for average lot density. If any individual density test result falls more than 3.0 percent below the minimum required target maximum density, the engineer will investigate the acceptability of that material according to CMM 8-15.11.

<sup>[2]</sup> Includes side roads, crossovers, turn lanes, ramps, parking lanes, bike lanes, and park-and-ride lots as defined by the contract plans.

<sup>[3]</sup> Minimum reduced by 2.0 percent for a lower layer constructed directly on crushed aggregate or recycled base courses.

<sup>[4]</sup> Minimum reduced by 1.0 percent for a lower layer constructed directly on crushed aggregate or recycled base courses.

**460.3.3.2 Pavement Density Determination**

Replace paragraph three with the following effective with the December 2019 letting:

- (3) A lot is defined in CMM 8-15 and placed within a single layer for each location and target maximum density category indicated in table 460-3. The lot density is the average of all samples taken for that lot. The department determines the number of tests per lot according to CMM 8-15.

**460.5.2.1 General**

Replace paragraph six with the following effective with the December 2019 letting:

- (6) If during a QV dispute resolution investigation the department discovers unacceptable mixture defined by one or more of the following:
- Va less than 2.5 or greater than 6.5 percent for SMA, or for other mixes, less than 1.5 or greater than 5.0 percent.
  - VMA more than 1.0 percent below the minimum or above the maximum specified in table 460-1.
  - AC more than 0.5 % below the JMF target.

Remove and replace the material, or if the engineer allows the mixture to remain in place, the department will pay for the quantity of affected material at 50 percent of the contract price.

**501.2.5.5 Sampling and Testing**

*Replace paragraph one with the following effective with the December 2019 letting:*

- (1) Sample and test aggregates for concrete according to the following:

Sampling aggregates <sup>[1]</sup> .....	AASHTO T2
Lightweight pieces in aggregate .....	AASHTO T113
Material finer than No. 200 sieve <sup>[1]</sup> .....	AASHTO T11
Unit weight of aggregate .....	AASHTO T19
Organic impurities in sands .....	AASHTO T21
Sieve analysis of aggregates .....	AASHTO T27
Effect of organic impurities in fine aggregate .....	AASHTO T71
Los Angeles abrasion of coarse aggregate .....	AASHTO T96
Alkali Silica Reactivity of Aggregates .....	ASTM C1260
Alkali Silica Reactivity of Combinations of Cementitious Materials and Aggregates .....	ASTM C1567
Freeze-thaw soundness of coarse aggregate <sup>[1]</sup> .....	AASHTO T103
Sodium sulfate soundness of coarse aggregates (R-4, 5 cycles) .....	AASHTO T104
Specific gravity and absorption of fine aggregate .....	AASHTO T84
Specific gravity and absorption of coarse aggregate <sup>[1]</sup> .....	AASHTO T85
Flat & elongated pieces based on a 3:1 ratio <sup>[1]</sup> .....	ASTM D4791
Sampling fresh concrete .....	AASHTO R60
Making and curing concrete compressive strength test specimens .....	AASHTO T23
Compressive strength of molded concrete cylinders .....	AASHTO T22

<sup>[1]</sup> As modified in CMM 8-60.

**505.2.2 Bar Steel Reinforcement**

*Replace paragraph one with the following effective with the December 2019 letting:*

- (1) Conform to AASHTO M31, type S or type W.

**505.2.3 High-Strength Bar Steel Reinforcement**

*Replace paragraph one with the following effective with the December 2019 letting:*

- (1) Conform to AASHTO M31, grade 60, type S or type W.

**505.2.4.1 General**

*Replace paragraph one with the following effective with the December 2019 letting:*

- (1) Conform to AASHTO M31, grade 60, type S or type W. Ensure that the coating is applied in a CRSI certified epoxy coating plant. Bend bars that require bending before coating, unless the fabricator can bend the bar without damaging the coating.

**505.2.6.1 General**

*Replace paragraph one with the following effective with the December 2019 letting:*

- (1) 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.

**505.2.6.2.2 Solid Dowel Bars**

*Replace paragraph one with the following effective with the December 2019 letting:*

- (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 in a plant certified by the Concrete Reinforcing Steel Institute with a thermosetting epoxy conforming to AASHTO M254, type B.

---

**520.3.7 Deflection Testing**

Replace paragraphs three and four with the following effective with the June 2020 letting:

- (3) Test 100 percent of the installed length of pipe 24 inches or greater in diameter. Ensure that the mandrel passes through the entire section in one pass when pulled by hand without using excessive force. If the designated length of pipe fails, the engineer may require additional testing.
  - (4) For pipe less than 24 inches in diameter, the engineer will designate at least 10 percent of the installed length of pipe for testing. The mandrel must pass through the entire section in one pass when pulled by hand without using excessive force. If the designated length of pipe fails, engineer may require additional testing.
  - (5) Relay or replace pipe that does not pass deflection testing. Retest all relayed or replaced pipe.
- 

**608.3.7 Deflection Testing**

Replace paragraphs three and four with the following effective with the June 2020 letting:

- (3) Test 100 percent of the installed length of pipe 24 inches or greater in diameter. Ensure that the mandrel passes through the entire section in one pass when pulled by hand without using excessive force. If the designated length of pipe fails, the engineer may require additional testing.
  - (4) For pipe less than 24 inches in diameter, the engineer will designate at least 10 percent of the installed length of pipe for testing. The mandrel must pass through the entire section in one pass when pulled by hand without using excessive force. If the designated length of pipe fails, engineer may require additional testing.
  - (5) Relay or replace pipe that does not pass deflection testing. Retest all relayed or replaced pipe.
- 

**625.3.2 Processing Topsoil or Salvaged Topsoil**

Delete paragraph four effective with the December 2019 letting.

**701.3.1 General**

*Replace the entire text with the following effective with the December 2019 letting:*

- (1) Perform contract required QC tests for samples randomly located according to CMM 8-30. Use the test methods specified in table 701-1.

**TABLE 701-1 TESTING AND CERTIFICATION STANDARDS**

TEST	TEST STANDARD	MINIMUM REQUIRED CERTIFICATION (any one of the certifications listed for each test)
Random Sampling	CMM 8-30.9.2	Transportation Materials Sampling Technician (TMS) Aggregate Technician I (AGGTEC-I) AGGTEC-I Assistant Certified Technician (ACT-AGG) PCC Technician I (PCCTEC-I) PCCTEC-I Assistant Certified Technician (ACT-PCC) Grading Technician I (GRADINGTEC-I) Grading Assistant Certified Technician (ACT-GRADING)
Sampling Aggregates	AASHTO T2 <sup>[1][4]</sup>	TMS, AGGTEC-1, ACT-AGG
Percent passing the No. 200 sieve	AASHTO T11 <sup>[1]</sup>	AGGTEC-I, ACT-AGG
Fine and coarse aggregate gradation	AASHTO T27 <sup>[1]</sup>	
Aggregate moisture content	AASHTO T255 <sup>[1]</sup>	
Fractured faces	ASTM D5821 <sup>[1]</sup>	
Liquid limit	AASHTO T89	Aggregate Testing for Transportation Systems (ATTS) GRADINGTEC-I, or ACT-GRADING
Plasticity index	AASHTO T90 <sup>[3]</sup>	
Sampling freshly mixed concrete	AASHTO R60	PCCTEC-1 ACT-PCC
Air content of fresh concrete	AASHTO T152 <sup>[2]</sup>	
Air void system of fresh concrete	AASHTO TP118 <sup>[5]</sup>	
Concrete slump	AASHTO T119 <sup>[2]</sup>	
Concrete temperature	ASTM C1064	
Making and curing concrete cylinders	AASHTO T23	
Moist curing for concrete cylinders	AASHTO M201	
Concrete compressive strength	AASHTO T22	Concrete Strength Tester (CST) CST Assistant Certified Technician (ACT-CST)
Concrete flexural strength	AASHTO T97	
Profiling	—	PROFILER

<sup>[1]</sup> As modified in CMM 8-60.

<sup>[2]</sup> As modified in CMM 8-70.

<sup>[3]</sup> A plasticity check, if required under individual QMP provisions, may be performed by an AGGTEC-I in addition to the certifications listed for liquid limit and plasticity index tests.

<sup>[4]</sup> Plant personnel may operate equipment to obtain samples under the direct observation of a TMS or higher.

<sup>[5]</sup> Consolidate by rodding.

**715.2.1 General**

*Replace paragraph five with the following effective with the December 2019 letting:*

- (5) For new lab-qualified mixes, test the air void system of the proposed concrete mix. Include the SAM number as a part of the mix design submittal.

---

**715.3.1.1 General**

Replace paragraph two with the following effective with the December 2019 letting:

- (2) Test the air void system at least once per lot and enter the SAM number in the MRS for information only. SAM testing is not required for the following:
- For lots with less than 4 sublots.
  - High early strength (HES) concrete.
  - Special high early strength (SHES) concrete.
  - Concrete placed under the following bid items:
    - Concrete Pavement Approach Slab
    - Concrete Masonry Culverts
    - Concrete Masonry Retaining Walls
    - Steel Grid Floor Concrete Filled
    - Crash Cushions Permanent
    - Crash Cushions Permanent Low Maintenance
    - Crash Cushions Temporary
- 

**730.3.1 General**

Replace paragraph three with the following effective with the December 2019 letting:

- (3) Stockpile tests<sup>[1]</sup> can be used for multiple projects. If placement on a project does not begin within 120 calendar days after the date the stockpile sample was obtained, retest the stockpile before placement begins.

<sup>[1]</sup> Replace the stockpile test with an in-place production test for concrete pavement recycled and processed on-site; test on the first day of production.

---

**730.3.2 Contractor QC Testing**

Replace paragraph four with the following effective with the December 2019 letting:

- (4) Submit test results to the engineer within one business day of obtaining the sample, except any aggregate classification with recycled asphalt may be submitted within two business days.
- 

**730.3.4.1 Contractor QC Testing**

Replace the entire text with the following effective with the December 2019 letting:

- (1) For small quantity contracts with  $\leq 500$  tons, submit 2 production tests or 1 stockpile test. Production tests are valid for 3 years from the date the production sample was obtained. Begin placement within 3 years of the date sampled.
- (2) For small quantity contracts with  $\leq 6000$  tons and  $> 500$  tons, do the following:
1. Conduct one QC stockpile test before placement.
  2. Submit 2 production tests or conduct 1 loadout test instead of placement tests. Production tests are valid for 3 years from the date the production sample was obtained; the first day of placement must be within 3 years of the date sampled.
  3. If the actual quantity placed is more than 6000 tons, on the next day of placement perform one additional random QC test for each 3000 tons of overrun, or fraction thereof.
- 

**740.3.2 Contractor QC Testing**

Replace paragraph three with the following effective with the December 2019 letting:

- (3) Field-locate the beginning and ending points for each profile run. Measure the profiles of each standard and partial segment. Define primary segments starting at a project terminus and running contiguously along the mainline to the other project terminus. Define segments one wheel path wide and distinguished by length as follows:
1. Standard segments are 500 feet long.
  2. Partial segments are less than 500 feet long.

---

**Errata**

---

**104.6.1.2.3 Drop-Off and Hazard Protection**

Correct errata by changing 2 inches or greater to greater than 2 inches.

- (1) Eliminate vertical drop-offs greater than 2 inches and edge slopes steeper than 3:1 between adjacent lanes open to traffic.

---

**305.3.3.3 Shoulders Adjacent to Asphaltic Pavement or Surfacing**

Correct errata by changing 2-inch or more to greater than 2-inch.

- (2) If the roadway remains open to through traffic during construction and a greater than 2-inch drop-off occurs within 3 feet or less from the edge of the traveled way, eliminate the drop-off within 48 hours after completing that days paving. Unless the special provisions specify otherwise, provide aggregate shoulder material compacted to a temporary 3:1 or flatter cross slope from the surface of the pavement edge.

---

**501.3.2.2 Concrete Proportions**

Correct errata in footnote [8] by allowing either grade 100 or grade 120 slag in C-S concrete.

<sup>[8]</sup> For grade C-S concrete, use grade 100 or grade 120 slag.

---

**614.3.6 Thrie Beam Structure Approach Retro Fits**

Correct errata by deleting the galvanization reference already required under 614.3.1.

- (2) Install posts and drill holes into existing thrie beam conforming to 614.3.2.

---

**628.3.7 Mobilizations for Erosion Control**

Correct errata by clarifying that mobilizations for erosion control include proceeding with the work.

- (1) Move personnel, equipment, and materials to the project site and promptly proceed with construction of erosion control items at the stages the contract indicates or the engineer directs.



### ADDITIONAL SPECIAL PROVISION 7

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

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

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

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

## **ADDITIONAL SPECIAL PROVISION 9**

### **Electronic Certified Payroll or Labor Data Submittal**

(1) Use the department's Civil Rights Compliance System (CRCS) to electronically submit certified payroll reports for contracts with federal funds and labor data for contracts with state funds only. Details are available online through the department's highway construction contractor information (HCCI) site on the Labor, Wages, and EEO Information page at:

<https://wisconsindot.gov/Pages/doing-bus/civil-rights/labornwage/default.aspx>

(2) Ensure that all tiers of subcontractors, including all trucking firms, either submit their weekly certified payroll reports (contracts with federal funds) or labor data (contracts with state funds only) electronically through CRCS. These payrolls or labor data are due within seven calendar days following the close of the payroll period. Every firm providing physical labor towards completing the project is a subcontractor under this special provision.

(3) Upon receipt of contract execution, promptly make all affected firms aware of the requirements under this special provision and arrange for them to receive CRCS training as they are about to begin their submittals. The department will provide training either in a classroom setting at one of our regional offices or by telephone. Contact Paul Ndon at (414) 438-4584 to schedule the training.

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

(5) Firms wishing to export payroll/labor data from their computer system into CRCS should have their payroll coordinator contact Paul Ndon at [paul.ndon@dot.wi.gov](mailto:paul.ndon@dot.wi.gov). Not every contractor's payroll system is capable of producing export files. For details, see Section 4.8 CPR Auto Submit (Data Mapping) on pages 49-50; 66-71 of the CRCS Payroll Manual at:

<https://wisconsindot.gov/Documents/doing-bus/civil-rights/labornwage/crcs-payroll-manual.pdf>

## **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.

<https://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:

<https://wisconsindot.gov/hcciDocs/contracting-info/ws4567.doc>



## Proposal Schedule of Items

Page 1 of 3

Proposal ID: 20200811005 Project(s): 1000-13-75

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	204.9060.S Removing (item description) 1001. Luminaires Tunnel Lighting	1,378.000 EACH	_____.	_____.
0004	204.9060.S Removing (item description) 1002. Luminaires Underdeck Lighting	7.000 EACH	_____.	_____.
0006	619.1000 Mobilization	1.000 EACH	_____.	_____.
0008	643.0300 Traffic Control Drums	6,280.000 DAY	_____.	_____.
0010	643.0420 Traffic Control Barricades Type III	1,200.000 DAY	_____.	_____.
0012	643.0705 Traffic Control Warning Lights Type A	1,020.000 DAY	_____.	_____.
0014	643.0715 Traffic Control Warning Lights Type C	8,600.000 DAY	_____.	_____.
0016	643.0800 Traffic Control Arrow Boards	140.000 DAY	_____.	_____.
0018	643.0900 Traffic Control Signs	1,780.000 DAY	_____.	_____.
0020	643.0920 Traffic Control Covering Signs Type II	100.000 EACH	_____.	_____.
0022	643.1050 Traffic Control Signs PCMS	70.000 DAY	_____.	_____.
0024	643.1055.S Truck or Trailer Mounted Attenuator	70.000 DAY	_____.	_____.
0026	643.5000 Traffic Control	1.000 EACH	_____.	_____.
0028	652.0225 Conduit Rigid Nonmetallic Schedule 40 2-Inch	1,000.000 LF	_____.	_____.
0030	655.0610 Electrical Wire Lighting 12 AWG	14,000.000 LF	_____.	_____.
0032	655.0615 Electrical Wire Lighting 10 AWG	60,000.000 LF	_____.	_____.



## Proposal Schedule of Items

Page 2 of 3

Proposal ID: 20200811005 Project(s): 1000-13-75

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	655.0640 Electrical Wire Lighting 1 AWG	54.000 LF	_____.	_____.
0036	SPV.0060 Special 1001. Luminaires Tunnel Lighting LED (DAYTIME)	563.000 EACH	_____.	_____.
0038	SPV.0060 Special 1002. Luminaires Tunnel Lighting LED (NIGHTTIME)	52.000 EACH	_____.	_____.
0040	SPV.0060 Special 1003. Luminaires Probeam LED	7.000 EACH	_____.	_____.
0042	SPV.0060 Special 1004. Tunnel Lighting Mounting Brackets	615.000 EACH	_____.	_____.
0044	SPV.0060 Special 1005. Junction Boxes Steel 18x12x6-Inch Coated	20.000 EACH	_____.	_____.
0046	SPV.0060 Special 1006. Junction Boxes Steel 6x6x4-Inch Coated	20.000 EACH	_____.	_____.
0048	SPV.0060 Special 1007. Distribution Center Preventative Maintenance	3.000 EACH	_____.	_____.
0050	SPV.0060 Special 1008. Tunnel Cleaning - Marquette Interchange Tory Hill Tunnel	1.000 EACH	_____.	_____.
0052	SPV.0060 Special 1009. Tunnel Cleaning - Mitchell Interchange Tunnel 1	1.000 EACH	_____.	_____.
0054	SPV.0060 Special 1010. Tunnel Cleaning - Mitchell Interchange Tunnel 2	1.000 EACH	_____.	_____.
0056	SPV.0090 Special 1001. Liquid Tight Flexible Metallic Conduit 3/4-Inch	3,600.000 LF	_____.	_____.
0058	SPV.0090 Special 1002. Rigid Galvanized Steel Conduit 1-Inch Coated	500.000 LF	_____.	_____.





## Proposal Schedule of Items

Page 3 of 3

Proposal ID: 20200811005 Project(s): 1000-13-75

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
0060	SPV.0090 Special 1003. Rigid Galvanized Steel Conduit 1 1/4-Inch Coated	500.000 LF	_____.	_____.
0062	SPV.0105 Special 1001. Control System Preventive and Maintenance	LS	LUMP SUM	_____.
0064	SPV.0105 Special 1002. Lighting System Intergrator	LS	LUMP SUM	_____.
Section: 0001			Total:	_____.
			Total Bid:	_____.

**PLEASE ATTACH SCHEDULE OF ITEMS HERE**