

HIGHWAY WORK PROPOSAL

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

Proposal Number: **018**

<u>COUNTY</u>	<u>STATE PROJECT</u>	<u>FEDERAL</u>	<u>PROJECT DESCRIPTION</u>	<u>HIGHWAY</u>
Pierce	1530-01-75	N/A	Hastings - Prescott; St Croix River Bridge B-47-0040	USH 010

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: \$40,000.00 Payable to: Wisconsin Department of Transportation	Attach Proposal Guaranty on back of this PAGE.
Bid Submittal Date: June 12, 2018 Time (Local Time): 9:00 am	Firm Name, Address, City, State, Zip Code
Contract Completion Time June 14, 2019	SAMPLE NOT FOR BIDDING PURPOSES
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: Bridge Rehabilitation	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:
<http://wisconsindot.gov/Pages/doing-bus/contractors/hcci/bid-let.aspx>

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

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

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

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

or by calling the department at (608) 266-1631. Addenda can ONLY be obtained from the departments web site listed above or by picking up the addenda at the Bureau of Highway Construction, Room 601, 4802 Sheboygan Avenue, Madison, WI, during regular business hours.

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

B Submitting Electronic Bids

B.1 On the Internet

- (1) Do the following before submitting the bid:
 1. Have a properly executed annual bid bond on file with the department.
 2. Have a digital ID on file with and enabled by Info Tech Inc. Using this digital ID will constitute the bidder's signature for proper execution of the bidding proposal.
- (2) In lieu of preparing, delivering, and submitting the proposal as specified in 102.6 and 102.9 of the standard specifications, submit the proposal on the internet as follows:
 1. Download the latest schedule of items reflecting all addenda from the Bid ExpressTM web site.
 2. Use ExpediteTM software to enter a unit price for every item in the schedule of items.
 3. Submit the bid according to the requirements of ExpediteTM software and the Bid ExpressTM 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 ExpressTM web site reflecting the latest addenda posted on the department's web site at:
<http://wisconsindot.gov/Pages/doing-bus/contractors/hcci/bid-let.aspx>
Use ExpediteTM 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 ExpressTM web site to assure that the schedule of items is prepared properly.
- (2) Staple an 8 1/2 by 11 inch printout of the ExpediteTM 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 ExpediteTM 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 ExpediteTM generated schedule of items is the governing contract document and must conform to the requirements of section 102 of the standard specifications. If a printout needs to be altered, cross out the printed information with ink or typewriter and enter the new information and initial it in ink. If there is a discrepancy between the printout and the diskette or CD ROM, the department will analyze the bid using the printout information.

- (5) In addition to the reasons specified in [section 102](#) of the standard specifications, proposals are irregular and the department may reject them for one or more of the following:
1. The check code printed on the bottom of the printout of the ExpediteTM generated schedule of items is not the same on each page.
 2. The check code printed on the printout of the ExpediteTM generated schedule of items is not the same as the check code for that proposal provided on the diskette or CD ROM.
 3. The diskette or CD ROM is not submitted at the time and place the department designates.

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

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SPECIAL PROVISIONS

1. General.

Perform the work under this construction contract for Project 1530-01-75, Hastings-Prescott, St. Croix River Bridge B-47-40, USH 10, Pierce County, Wisconsin as the plans show and execute the work as specified in the State of Wisconsin, Department of Transportation, Standard Specifications for Highway and Structure Construction, 2018 Edition, as published by the department, and these special provisions.

If all or a portion of the plans and special provisions are developed in the SI metric system and the schedule of prices is developed in the US standard measure system, the department will pay for the work as bid in the US standard system.

100-005 (20171130)

2. Scope of Work.

The work under this contract shall consist of bridge rehabilitation, concrete surface repair, seal replacement, aluminum flashing, polymer overlay, 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 start date to the engineer in writing within a month after executing the contract but at least 14 calendar days before the preconstruction conference. Upon approval, the engineer will issue the notice to proceed within ten calendar days before the approved start date. Construction must start on or after August 13, 2018.

To revise the start date, submit a written request to the engineer at least two weeks before the intended start date. The engineer will approve or deny that request based on the conditions cited in the request and its effect on the department's scheduled resources..

Contractor is required to coordinate with the United States Coast Guard (USCG) St. Louis, Missouri Office 30 days prior to starting work. A USCG approval letter must be received before work commences. Confirm the specific dates of the non-navigational season with the US Coast Guard during construction. Construction work shall be conducted with the bridge fully operational during the navigation season. During the navigation season, the bridge is in operation from 6:00 AM to 10:00 PM, Monday through Sunday. Channel restrictions are not allowed during navigation season. The bridge will be inoperable with the movable span in the down position during the non-navigational season for structural repairs.

United States Coast Guard Contact:

Commander, Eighth Coast Guard District
ATTN: Bridge Branch
1222 Spruce St, Room 2.102D
St Louis, MO 63103-2832

4. Traffic.

Accomplish the construction sequence, including the associated traffic control as detailed in the Traffic Control plan sheets and as described herein.

Unless detailed in the plans, do not begin or continue any work that closes traffic lanes outside the allowed time periods specified in this article.

Weekday and weekend closures will be allowed except during holidays and festivals. Refer to the “Holiday Work Restrictions” article.

Materials and equipment cannot be stored on the movable span during construction.

During navigation season traffic control devices cannot be placed on the movable span unless secured to the open grid deck. Signs, barricades, and drums must be adjusted in the field to maintain this requirement; a non-standard gap in device spacing is allowed. All devices must be cleared from the movable span prior to final testing as well. All traffic control device locations must be approved by the engineer in the field.

Submit any traffic control change request to the engineer at least 48 hours prior to an actual traffic control change. A request does not constitute approval.

Contact the department to arrange for traffic signal timing modifications. Implement a dynamic max for the eastbound phase with a 90-second dynamic max and a 10-second dynamic step. Notify David Fenske with WisDOT, (715) 836-2800, 7 days prior to the start of construction to make arrangements.

Staging

Staging shall conform to the traffic control plans. The project consists of three stages as follows, once in the fall for joint replacement and concrete surface repair and once in the spring for polymer overlay of the deck:

Maintain at least one lane of traffic in each direction during deck or joint work. Traffic control devices may only be used during active deck work or during required cure times. All traffic control devices must be removed outside of these times.

Stage 1: Close the eastbound outside shoulder and lane- 15' work zone. Maintain one eastbound and one westbound lane at 16' width each in the center of the bridge. Separate opposing traffic with flexible tubular markers.

Stage 2: Close the inside eastbound and westbound lane- 24' work zone. Maintain one eastbound and one westbound lane at 13'-8" width each on the outside edges of the bridge.

Stage 3: Close the westbound outside shoulder and lane- 15' work zone. Maintain one eastbound and one westbound lane at 16' width each in the center of the bridge. Separate opposing traffic with flexible tubular markers.

Parking, storing of equipment or materials is not allowed within the closed lanes during any stage of construction.

Portable Changeable Message Signs – Message Prior Approval

Notify the engineer, two business days prior to deploying or changing a message on a PCMS to obtain approval of the proposed message.

Notify all emergency services at least 10 days in advance of each traffic control staging change.

Wisconsin Lane Closure System Advance Notification

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

TABLE 108-1 CLOSURE TYPE AND REQUIRED MINIMUM ADVANCE NOTIFICATION

Closure type with height, weight, or width restrictions (available width, all lanes in one direction < 16')	MINIMUM NOTIFICATION
Lane and shoulder closures	7 calendar days
Full roadway closures	7 calendar days
Ramp closures	7 calendar days
Detours	7 calendar days
Closure type without height, weight, or width restrictions (available width, all lanes in one direction $\geq 16'$)	MINIMUM NOTIFICATION
Lane and shoulder closures	3 business days
Ramp closures	3 business days
Modifying all closure types	3 business days

Discuss LCS completion dates and provide changes in the schedule to the engineer at weekly project meetings in order to manage closures nearing their completion date.
stp-108-057 (20161130)

5. **Holiday Work Restrictions.**

Do not perform work on, nor haul materials of any kind along or across any portion of the highway carrying USH 10 traffic, and entirely clear the traveled way and shoulders of such portions of the highway of equipment, barricades, signs, lights, and any other material that might impede the free flow of traffic during the following holiday periods:

- From noon Friday, August 31, 2018 to 6:00 AM Tuesday, September 4, 2018, for Labor Day;
- From noon Friday, September 14, 2018 to 6:00 AM Monday, September 17, 2018;
- From noon Wednesday, November 21, 2018 to 6:00 AM Monday, November 26, 2018, for Thanksgiving;
- From noon Friday, December 21, 2018 to 6:00 AM Wednesday, December 26, 2018, for Christmas;
- From noon Friday, December 28, 2018 to 6:00 AM Wednesday, January 2, 2019, for New Year's Day;
- From noon Friday, April 19, 2019 to 6:00 AM Monday, April 22, 2019, for Easter;
- From noon Friday, May 24, 2019 to 6:00 AM Tuesday, May 28, 2019 for Memorial Day.

Event Periods

Pierce County Fair:	August 9-12, 2018
Minnesota State Fair:	August 23 - September 3, 2018
Prescott Daze:	September 7-9, 2018
Flood Run:	September 15, 2018 and April 20, 2019
Gobble Gait- Hastings, MN:	November 22, 2018

No work shall be performed, nor will material haul of any kind be allowed across or along any portion carrying USH 10 traffic during holidays and special events. Lane closures are not allowed when work is not being completed or after curing is completed.
stp-107-005 (20050502)

6. **Railroad Insurance and Coordination - BNSF Railway Company**

A Description

Comply with standard spec 107.17 for all work affecting BNSF Railway Company property and any existing tracks.

A.1 Railroad Insurance Requirements

In addition to standard spec 107.26, provide railroad protective liability insurance coverage as specified in standard spec 107.17.3.

Insurance is filed in the name of BNSF Railway Company. Requirements of the standard specifications are changed as follows:¹

Before the state issues its notice to proceed to the contractor or contractors (collectively, the contractor) awarded the contract for construction involving the project described in this stipulation (the project), the state shall require the contractor to provide certain insurance coverage to protect the railroad (as defined in this section) from loss for property and liability exposures relating to the construction activities on the PROJECT. The manner and process in which this will be accomplished is as detailed below.

TYPE OF INSURANCE	MINIMUM LIMITS REQUIRED
1. Commercial general liability insurance; shall be endorsed to include blanket contractual liability coverage; shall cover bodily injury and property damage, personal and advertising injury, and fire legal liability. There shall be no endorsements limiting coverage for the work to be performed pursuant to this Stipulation.	\$5,000,000 combined single limits per occurrence with an annual aggregate limit of not less than \$10,000,000.
2. Workers' compensation and employer's liability coverage.	Workers' compensation limits: statutory limits. Employers' liability limits: Bodily injury by accident \$100,000 each accident Bodily injury by disease \$500,000 each accident \$100,000 each employee
3. Commercial automobile liability insurance; shall cover all owned, non-owned, and hired vehicles used by the CONTRACTOR in carrying out the contract, and shall include coverage for	\$1,000,000 combined single limit per occurrence.
4. Railroad Protective Liability Insurance, issued on a standard ISO form 00 35 10 93 or its equivalent and endorsed to include the Pollution Exclusion Amendment (ISO form CG 28 31 10 93) and the Limited Seepage and Pollution Endorsement. No endorsements restricting FELA coverage may be added.	\$5,000,000 per occurrence \$10,000,000 in the aggregate

¹ As used in this section, "STATE" and "COMPANY" have the meanings assigned to them in the Stipulation to which this Exhibit is attached, "FELA" means the Federal Employment Liability Act, and "this Stipulation" means the Stipulation to which this Exhibit is attached.

² The CONTRACTOR may satisfy the requirements for insurance types 1, 2 and 3 through primary insurance coverage or through excess/umbrella policies.

1. The policies for insurance types 1, 2 and 3 may not contain an exclusion for punitive damages.

2. The commercial general liability policy shall include an endorsement that removes any restrictions on coverage regarding work being performed within 50 feet of a railroad or railroad property and an endorsement that removes any exclusion related to explosion, collapse or underground hazard.
3. The CONTRACTOR must waive its right of recovery against the RAILROAD for all claims and suits against the RAILROAD. In addition, the CONTRACTOR's insurers, through the terms of the policy or policy endorsement, must waive their right of subrogation against the RAILROAD for all claims and suits. The certificates of insurance must reflect the waiver of subrogation endorsement. The CONTRACTOR also must waive its right of recovery, and its insurers must also waive their right of subrogation, against the RAILROAD for loss of the CONTRACTOR's owned or leased property or property under the CONTRACTOR's care, custody or control.
4. The CONTRACTOR's insurance policies, except for excess liability/umbrella policies, through policy endorsement, must include wording to the effect that such policies are primary and non-contributing with respect to any insurance carried by the RAILROAD. The certificates of insurance must reflect that such wording is included in the evidenced policies.
5. The policies for insurance types 1 and 3, above, must include a severability of interest endorsement. The RAILROAD and Jones Lang LaSalle Global Services- RR, Inc. must be named as an additional insured with respect to work performed under this project. Severability of interest and naming the RAILROAD and Jones Lang LaSalle Global Services- RR, Inc. as additional insured must be indicated on the certificates of insurance.
6. The CONTRACTOR shall provide the original Railroad Protective Liability policy to the RAILROAD prior to performing any work on the PROJECT.
7. The CONTRACTOR shall only obtain coverage from insurance companies licensed to do business in the State of Wisconsin that have an AM Best rating of A- and Class VII or better.
8. The CONTRACTOR is not allowed to self-insure.
9. Prior to performing any work on the PROJECT, the CONTRACTOR shall provide the RAILROAD acceptable certificates of insurance, including original signatures of the authorized representatives evidencing the required coverages, endorsements, and amendments and referencing the RAILROAD's contract audit/folder number (if available), as evidence that required coverages for insurance types 1, 2 and 3 are in force.
10. The policies for insurance types 1, 2 and 3 must contain a provision that obligates the insurer to notify the RAILROAD at least 60 calendar days before a cancellation, non-renewal, substitution or material change in coverage, and such provision must be reflected on the insurance certificates.

11. The CONTRACTOR shall send the required insurance documentation to the RAILROAD at the following address:
- BNSF Risk Management
2500 Lou Menk Drive AOB-1
Fort Worth, TX 76131-2828
12. Acceptance by the RAILROAD of a certificate of insurance that does not comply with this section shall not operate as a waiver of the CONTRACTOR's obligation to provide the insurance required by this section.
13. If the RAILROAD notifies the STATE that the CONTRACTOR does not have the required insurance, the STATE's engineer shall immediately suspend work on the PROJECT until the matter is resolved.
14. The requirements for insurance types 1, 2, and 3 shall apply with equal force whether the CONTRACTOR or a subcontractor, or anyone directly or indirectly employed by either, performs work on the PROJECT. If any portion of the PROJECT work is subcontracted, the CONTRACTOR must require the subcontractor to provide and maintain insurance coverages for insurance types 1, 2, and 3 that meet the requirements of this section, except that the minimum limits required for the subcontractor's commercial general liability policy shall be \$2,000,000 per occurrence and \$4,000,000 in the aggregate.
15. The fact that the CONTRACTOR obtains insurance as required by this section shall not release or diminish the CONTRACTOR's liability. Damages recoverable by the RAILROAD will not be limited by the required insurance coverages.
16. Upon request from the RAILROAD, the CONTRACTOR will provide a certified duplicate original of any requested policy.
17. For purposes of this section references to the RAILROAD mean the COMPANY, Burlington Northern Santa Fe Corporation, and the subsidiaries, successors, assigns and affiliates of each.

Notify evidence of the required coverage, and duration to **Jamie L. Johnson**, BNSF Railway Company, 2500 Lou Menk Drive, Building AOB-1, Fort Worth, Texas 76132-2828, FAX (817)352-7207.

Notify evidence of the required coverage, and duration to Contact Calvin Nutt, Manager of Public Projects; 80 44th Avenue NE, Minneapolis, MN 55421; Telephone (763) 782-3495; E-mail calvin.nutt@BNSF.com to determine the applicable railroad rules and regulations. Once determined send the RPLI policy to Choose an item.. Approval of the policy will not take place until the Manager of Public Projects has been contacted.

Also, send a copy to the following: Anna Davey, NW Region Railroad Coordinator; 1701 N 4th Street, Superior, WI 54880; Telephone (715) 392-7960; E-mail: anna.davey@dot.wi.gov.

Include the following information on the insurance document:

Project ID: 1530-01-75

Project Location: Prescott, WI

Route Name: USH 10, Pierce County

Railroad Subdivision: Aurora Sub

Crossing ID: Bridge 407.72

Railroad Milepost: 407.72

Work Performed: Concrete surface repair and epoxy seal on the counter weights, aluminum flashing on vertical side of counter weight, concrete repair on the pits of east and west towers, polymer overlay on the spans 1, 2, 4 and 5.

A.2 Train Operation

Approximately 44 through freight trains operate daily at up to 50 mph. There may be switching movements at lower speeds.

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

Construction Contact

Calvin Nutt, Manager of Public Projects; 80 44th Avenue NE, Minneapolis, MN 55421; Telephone (763) 782-3495; E-mail Calvin.Nutt@BNSF.com for consultation on railroad requirements during construction.

Amend standard spec 108.4 to include the railroad in the distribution of the initial bar chart, and monthly schedule updates. The bar chart shall specifically show work involving coordination with the railroad.

Flagging Contact

Notify the Construction Contact above a minimum of 40 working days in advance to arrange for a railroad flagger. Reference the Crossing ID, Wisconsin Milepost and Subdivision found in A.1.

Cable Locate Contact

In addition to contacting Diggers Hotline, contact the BNSF Communications Network Control Center at (800) 533-2891, five working days before the locate is needed. Reference Wisconsin Milepost 407.72 on Line Segment 3.

BNSF will only locate railroad owned facilities located in the railroad right-of-way. The railroad does not locate any other utilities.

A.4 Work by Railroad

The railroad will perform the work described in this section, except for work described in other special provisions and will be accomplished without cost to the contractor. None

A.5 Temporary Grade Crossing

If a temporary grade crossing is desired, submit a written request to the railroad representative named in A.3 at least 40 days prior to the time needed. Approval is subject to the discretion of the railroad. The department has made no arrangements for a temporary grade crossing.

stp 107-026 (20170615)

7. Construction Over or Adjacent to Navigable Waters.

The St. Croix River is classified as a federal navigable waterway under standard spec 107.19.

stp-107-060 (20171130)

8. Utilities.

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

stp-107-065 (20080501)

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

Known utility work within the project area is as follows:

Prescott Water Utility (Water) has water facilities located within the project limits. The WisDOT water service lateral is attached to the southeast corner of the bridge and runs west to the operator's house. The contractor must notify the utility 3 working days prior to surface repair work to have them shut off the water. The contractor must detach the water lateral from the abutment prior to concrete surface repair and reattach it once work is complete, incidental to the bid item Concrete Surface Repair. The contractor is required to protect the existing facility during construction operations.

Contact: Hank Zwart, 800 Borner Street, Prescott, WI 54021, (715) 262-5544

The following utility owners have facilities within the project area; however, no adjustments are anticipated:

- **Comcast** (Communication Line)
- **CenturyLink** (Communication Line)
- **Prescott Wastewater Treatment Facility** (Sanitary Sewer)

9. 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 10:00 PM until the following 7:00 AM, unless prior written approval is obtained from the engineer.
stp-107-001 (20060512)

10. Environmental.

Environmental Protection

Supplement standard spec 107.18 follows:

The nesting season for swallows and other birds is usually between May 1 and August 30. If there is evidence of migratory bird nesting on the existing structure, please note that under the U.S. Migratory Bird Treaty Act, destruction of swallows and other migratory birds or their nests is unlawful unless a permit has been obtained from the U.S. Fish & Wildlife Service.

Peregrine Falcon (*Falco peregrinus*), is a bird listed as Endangered in Wisconsin, prefers relatively inaccessible rock ledges on the sides of steep bluffs and ledges on highrise buildings in urban areas. The recommended avoidance period is from March 1 through July 31.

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.

Environmental Protection, Aquatic Exotic Species Control.

Exotic invasive organisms such as VHS, zebra mussels, purple loosestrife, and Eurasian water milfoil are becoming more prolific in Wisconsin and pose adverse effects to waters

of the state. Wisconsin State Statutes 30.07, “Transportation of Aquatic Plants and Animals; Placement of Objects in Navigable Waters”, details the state law that requires the removal of aquatic plants and zebra mussels each time equipment is put into state waters.

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

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

1. Prior to leaving the contaminated site, wash machinery and ensure that the machinery is free of all soil and other substances that could possibly contain exotic invasive species;
2. Drain all water from boats, trailers, bilges, live wells, coolers, bait buckets, engine compartments, and any other area where water may be trapped;
3. Inspect boat hulls, propellers, trailers and other surfaces. Scrape off any attached mussels, remove any aquatic plant materials (fragments, stems, leaves, seeds, or roots), and dispose of removed mussels and plant materials in a garbage can prior to leaving the area or invested waters; and
4. Disinfect your boat, equipment and gear by either:
 - a. Washing with ~212° F water (steam clean), or
 - b. Drying thoroughly for five days after cleaning with soap and water and/or high pressure water, or
 - c. Disinfecting with either 200 ppm (0.5 oz per gallon or 1 Tablespoon per gallon) Chlorine for 10-minute contact time or 1:100 solution (38 grams per gallon) of Virkon Aquatic for 20- to 30-minute contact time. Note: Virkon is not registered to kill zebra mussel veligers nor invertebrates like spiny water flea. Therefore this disinfect should be used in conjunction with a hot water (>104° F) application.

Complete the inspection and removal procedure before equipment is brought to the project site and before the equipment leaves the project site.
stp-107-055 (20130615)

Properly contain all construction debris and avoid runoff into the canal. Dispose of all debris materials according to all applicable regulations. The contractor must submit an erosion control implementation plan for runoff prevention 14 days prior to the preconstruction conference.

Debris Control Measures

The contractor will be required to capture and prevent debris from falling onto the Lower St. Croix National Scenic Riverway (St. Croix River). Disposal of waste or excess materials in floodplains, wetlands, or waterways is not permitted.

Refer to item 517.4000.S Containment and Collection of Waste Materials B-47-40, for painting debris, containment, and disposal. All painting work will occur within the counterweight pit. Refer to item SPV.0180.02 Polymer Overlay Counterweight Pit Floor for cleaning of the sump and sump pump and adhere to the containment and collection article for disposal of sump materials.

Deck cleaning prior to polymer overlay work may include sweeping or air blasting to clear debris. All materials cleared must be vacuumed or shoveled off of the roadway and disposed of in a sealed container to prevent migration to the waterway. No materials can be swept or blown into the open grid deck. Blow or sweep materials away from the movable span and toward the roadway.

Inlet protection is included off of the structure to collect excess debris. Rock bags can be used near the open grid to provide a physical barrier for surface debris.

11. Notice to Contractor, Verification of Asbestos Inspection, No Asbestos Found.

John Roelke, License Number All-119523, inspected Structure B-47-0040 for asbestos on July 10, 2017. No regulated Asbestos Containing Material (RACM) was found on this structure. A copy of the inspection report is available from: Matt Pfeifer, WisDOT Project Manager, (715) 579-0789.
stp-107-127 (20120615)

12. Expansion Device, B-47-40.

A Description

This special provision describes furnishing and installing an expansion device as the plans show conforming to standard spec 502 as modified in this special provision.

B Materials

The minimum thickness of the polychloroprene strip seal shall be 1/4 inch for non-reinforced elastomeric glands and 1/8 inch for reinforced glands. Furnish the strip seal gland in lengths suitable for a continuous one-piece installation at each individual expansion joint location. Provide preformed polychloroprene strip seals that conform to the requirements ASTM D3542, and have the following physical properties:

Property Requirements	Value	Test Method
Tensile Strength, min.	2000 psi	ASTM D412
Elongation @ Break, min	250%	ASTM D412
Hardness, Type A, Durometer	55 ± 5 pts.	ASTM D2240
Compression Set, 70 hours @212°F, max.	35%	D395 Method B Modified
Ozone Resistance, after 70 hrs. at 100°F under 20% Strain with 100 pphm ozone	No Cracks	ASTM D1149 Method A
Mass Change in Oil 3 after 70 hr. 212°F Mass Change, max.	45%	ASTM D471

Install the elastomeric strip seal gland with tools recommended by the manufacturer, and with a lubricant adhesive conforming to the requirements of ASTM D4070.

The manufacturer and model number shall be one of the following approved strip seal expansion device products:

Model Number			
Strip Seal Gland Size^[1]			
Manufacturer	4-Inch	5-Inch	6-Inch
D.S. Brown	SSA2-A2R-400	SSA2-A2R-XTRA	SSA2-A2R-XTRA
R.J. Watson	RJA-RJ400	RJA-RJ500	RJA-RJ600
Watson	A-SE400	A-SE500	A-SE800
Bowman Acme			
Commercial Fabricators	A-AS400	-----	-----

^[1] Expansion device strip seal gland size requirement of 4", 5", and 6" shall be as the plans show.

Furnish manufacturer's certification for production of polychloroprene represented showing test results for the cured material supplied, and certifying that it meets all specified requirements.

The steel extrusion or retainer shall conform to ASTM designation A 709 grade 36 steel. After fabrication, steel shall be galvanized conforming to the requirements ASTM A123.

Manufacturer's certifications for adhesive and steel shall attest that the materials meet the specification requirements.

stp-502-020 (20171130)

13. Sawing Pavement Deck Preparation Areas, Item 509.0310.S.

A Description

This special provision describes sawing the boundaries of the existing concrete on the bridge deck that has been sounded and marked for deck preparation. These boundaries will be at least 2-inches and not greater than 6-inches outside of the unsound or disintegrated areas of concrete, as directed or marked by the engineer in the field.

B (Vacant)

C Construction

Make the saw cuts a minimum of 1 inch deep at the locations marked.

Use a diamond blade for sawing that will allow the concrete to be sawed dry. Upon completion of the daily sawing, remove the dust deposits from the deck.

D Measurement

The department will measure Sawing Pavement Deck Preparation Areas by the linear foot acceptably completed.

The department will not measure for payment over-cuts, cuts made beyond the limits marked in the field.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
509.0310.S	Sawing Pavement Deck Preparation Areas	LF

Payment is full compensation for making all saw cuts; and for debris disposal.
stp-509-070 (20171130)

14. Concrete Masonry Deck Repair, Item 509.2100.S.

A Description

This special provision describes providing concrete masonry on the sawed deck preparation areas of the concrete bridge deck and in full depth deck, curb, and joint repair areas. Conform to standard spec 502 and standard spec 509.

B Materials

B.1 Neat Cement

Furnish a neat cement bonding grout. Mix the neat cement in a water-cement ratio approximately equal to 5 gallons of water per 94 pounds of cement.

B.2 Concrete

Furnish grade C, C-FA, C-S, C-IS, C-IP, C-IT, or E concrete conforming to standard spec 501 for deck preparation, full-depth deck repair, curb repair and joint repair areas except as follows:

1. The contractor may increase slump of grade E concrete to 3 inches.
2. The contractor may use ready-mixed concrete.

C Construction

C.1 Neat Cement

Immediately before placing the concrete deck patching, coat the prepared surfaces with a neat cement mixture. Ensure the prepared concrete surfaces are moist without any standing water before coating with the neat cement mixture. Brush the neat cement mixture over the prepared concrete surfaces to ensure that all parts receive an even coating, and do not allow excess neat cement to collect in pockets. Apply the neat cement at a rate that ensures the cement does not dry out before being covered with the new concrete.

C.2 Placing Concrete

Place concrete conforming to standard spec 509. As determined by the engineer, consolidate smaller areas by internal vibration, strike them off, and finish the areas with hand floats to produce plane surfaces that conform to the grade and elevation of the adjoining surfaces. Give all deck patching areas a final hand float finish.

C.3 Curing Concrete

Cure the concrete masonry deck patching conforming to standard spec 502.2.6(1).

D Measurement

The department will measure the Concrete Masonry Deck Repair bid item by the cubic yard, acceptably completed.

The department will measure concrete used in deck preparation areas and in full depth deck, curb, and joint repair as part of the Concrete Masonry Deck Repair bid item.

The department will not measure wasted concrete.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
509.2100.S	Concrete Masonry Deck Repair	CY

Payment is full compensation for furnishing, hauling, preparing, placing, finishing, curing, and protecting all materials.

stp-509-060 (20170615)

15. Polymer Overlay, Item 509.5100.S.

A Description

This special provision describes furnishing and applying two layers of a two-component polymer overlay system to the bridge decks shown on the plans. The minimum total thickness of the overlay system shall be 1/4".

B Materials

B.1 General

Furnish materials specifically designed for use over concrete bridge decks. Furnish polymer liquid binders from the department's approved product list.

B.2 Polymer Resin

Furnish a polymer resin base and hardener composed of two-component, 100% solids, 100% reactive, thermosetting compound with the following properties:

Property	Requirements	Test Method
Gel Time ^A	15 - 45 minutes @ 73° to 75° F	ASTM C881
Viscosity ^A	7 - 70 poises	ASTM D2393, Brookfield RVT, Spindle No. 3, 20 rpm
Shore D Hardness ^B	60-75	ASTM D2240
Absorption ^B	1% maximum at 24 hr	ASTM D570
Tensile Elongation ^B	30% - 70% @ 7 days	ASTM D638
Tensile Strength ^B	2000 to 5000 psi @ 7 days	ASTM D638
Chloride Permeability ^B	<100 coulombs @ 28 days	AASHTO T277

^A Uncured, mixed polymer binder

^B Cured, mixed polymer binder

The required properties of the polymer resin when mixed with aggregate:

Property	Requirement ^C	Test Method
Minimum Compressive Strength	1,000 psi @ 8 hrs 5,000 psi @ 24 hrs	ASTM C579 Method B, Modified ^D
Thermal Compatibility	No Delaminations	ASTM C884
Minimum Pull-off Strength	250 psi @ 24 hrs	ASTM C1583

^C Based on samples cured or aged and tested at 75°F

^D Plastic inserts that will provide 2-inch by 2-inch cubes shall be placed in the oversized brass molds.

B.3 Aggregates

Furnish natural or synthetic aggregates that are non-polishing, clean, free of surface moisture, fractured or angular in shape; free from silt, clay, asphalt, or other organic materials; and meet the following properties and gradation requirements:

Aggregate Properties:

Property	Requirement	Test Method
Moisture Content*	½ of the measured aggregate absorption, %	ASTM C566
Hardness	³ 6.5	Mohs Scale
Fractured Faces	100% with at least 1 fractured face and 80% with at least 2 fractured faces of material retained on No.16	ASTM D5821
Absorption	≤1%	ASTM C128

* Sampled and tested by the department prior to placement.

Gradation:

Sieve Size	% Passing by Weight
No. 4	100
No. 8	30 – 75
No. 16	0 – 5
No. 30	0 – 1

B.5 Approval of Bridge Deck Polymer Overlay System

A minimum of 20 working days prior to application, submit product data sheets and specifications from the manufacturer, and a certified report of test or analysis from an independent laboratory to the engineer for approval. The department will sample and test the aggregates for gradation and moisture content prior to placement. If requested, supply the department with samples of the polymer for the purpose of acceptance testing.

B.5.1 Product Data Sheets and Specifications

Product data sheets and specifications from the manufacture consists of literature from the manufacturer showing general instructions, application recommendations/methods, product properties, general instructions, or any other applicable information.

B.5.2 Certified Report of Test or Analysis

Polymer Binder: Submit a certified report of test or analysis from an independent laboratory dated less than 3 years prior to the date of the project letting showing the polymer binder meets the requirements of section B.2.

Aggregates: Submit a certified report of test or analysis from an independent laboratory dated less than 6 months prior to the date of the project letting showing the aggregates meet the requirements of section B.3.

C Construction

C.1 General

Field Review: Conduct a field review of the existing deck to identify any possible surface preparation and material compatibility issues.

Pre-Installation Meeting: Conduct a pre-installation meeting with the manufacturer's representative and the engineer prior to construction. Discuss the field review findings, verification testing of the surface preparation and establish procedures for maintaining optimum working conditions and coordination of work. Furnish the engineer a copy of the recommended procedures and apply the overlay system according to the manufacturer's instructions. Supply for the engineer's use for the duration of the project, a Concrete Surface Profile (CSP) chip set of 10 from the International Concrete Repair Institute (ICRI).

Manufacturer's Representative: An experienced manufacturer's representative familiar with the overlay system installation procedures shall be present at all times during surface preparation and overlay placement to provide quality assurance that the work is being performed properly. This requirement may be reduced at the engineer's discretion.

Material Storage: Store and handle materials according to the manufacturer's recommendations. Store resin materials in their original containers in a dry area. Store all aggregates in a dry environment and protect aggregates from contaminants on the job site.

C.2 Deck Preparation

C.2.1. Deck Repair

Remove all asphaltic patches and unsound or disintegrated areas of the concrete decks as the plans show, or as the engineer directs. Work performed to repair the concrete deck will be paid for under other items. Ensure that products used for deck patching are compatible with the polymer overlay system.

NOTE: Some polymer systems require concrete patch material to be in place a minimum of 28-days before overlaying - contact polymer manufacturer before completing deck patching/repair.

C.2.2 Surface Preparation

Determine an acceptable shotblasting machine operation (size of shot, flow of shot, forward speed, and/or number of passes) that provides a surface profile meeting CSP 5 (medium-heavy shotblast) according to the ICRI Technical Guideline No. 310.2. If the engineer requires additional verification of the surface preparation, test the tensile bond strength according to ASTM C1593. The surface preparation will be considered acceptable if the tensile bond strength is greater than or equal to 250 psi or the failure area at a depth of ¼ inches or more is greater than 50% of the test area. Continue adjustment of the shotblasting machine and necessary testing until the surface is acceptable to the engineer or a passing test result is obtained.

Prepare the entire deck using the final accepted adjustments to the shotblasting machine as determined above. Thoroughly blast clean with hand-held equipment any areas inaccessible by the shotblasting equipment. Do not perform surface preparation more than 24 hours prior to the application of the overlay system.

Protect drains, expansion joints, access hatches, or other appurtenances on the deck from damage by the shot and sand blasting operations and from materials adhering and entering. Tape or form all construction joints to provide a clean straight edge.

Prior to shot blasting, remove pavement markings within the treatment area using an approved mechanical or blasting method.

Prepare the vertical concrete surfaces adjacent to the deck a minimum of 2" above the overlay according to SSPC-SP 13 (free of contaminants, dust, and loose concrete) by sand blasting, using wire wheels, or other approved method.

Just prior to overlay placement, clean all dust, debris, and concrete fines from the prepared surfaces including the vertical surfaces with compressed air. When using compressed air, the air stream must be free of oil. Any grease, oil, or other foreign matter that rests on or has absorbed into the concrete shall be removed completely. If any prepared surfaces (including the first layer of the polymer overlay) are exposed to rain or dew, lightly sandblast (brush/breeze blast) the exposed surfaces.

The engineer may consider alternate surface preparation methods per the overlay system manufacture's recommendations. The engineer will approve the final surface profile and deck cleanliness prior to the contractor placing the polymer overlay.

C.2.3 Transitional Area

If shown on the plans, create a transitional area approaching transverse expansion joints and ends of the deck using an approved mechanical or blasting method. Remove 1/4" to 5/16" of concrete adjacent to the joint or end of deck and taper a distance of 3 feet.

If shown on the plans, create a transitional area on the approach pavement. Prep and place the first lift 3' beyond the end of the deck the same width as the deck. Prep and place the second lift 6' beyond the end of the deck the same width as the deck.

C.3 Application of the Overlay

Perform the handling and mixing of the polymer resin and hardening agent in a safe manner to achieve the desired results according to the manufacturer's instructions. Do not apply the overlay system if any of the following exists:

- a. Ambient air temperature is below 50°F or above 100°F;
- b. Deck temperature is below 50°F;
- c. Moisture content in the deck exceeds 4.5% when measured by an electronic moisture meter or shows visible moisture after 2 hours when measured according to ASTM D4263;
- d. Rain is forecasted during the minimum curing periods listed under C.5;

- e. Materials component temperatures below 65°F or above 99°F;
- f. Concrete age is less than 28 days unless approved by the engineer.
- g. The deck temperature exceeds 100°F.
- h. If the gel time is 10 minutes or less at the predicted high air temperature for the day.

After the deck has been shotblasted or during the overlay curing period, only necessary surface preparation and overlay application equipment will be allowed on the deck. Provide appropriate protective measures to prevent contamination from equipment allowed on the deck during preparation and application operations. Begin overlay placement as soon as possible after surface preparation operations.

The polymer overlay shall consist of a two-course application of polymer and aggregate. Each of the two courses shall consist of a layer of polymer covered with a layer of aggregate in sufficient quantity to completely cover the polymer. Apply the polymer and aggregate according to the manufacturer's requirements. Apply the overlay using equipment designed for this purpose. The application machine shall feature positive displacement volumetric metering and be capable of storing and mixing the polymer resins at the proper mix ratio. Disperse the aggregate using a method that provides a uniform, consistent coverage of aggregate and minimizes aggregate rolling or bouncing into final position. First course applications that do not receive enough aggregate before the polymer gels shall be removed and replaced. A second course applied with insufficient aggregate may be left in place, but will require additional applications before opening to traffic.

After completion of each course, cure the overlay according to the manufacturer's instructions. Follow the minimum cure times listed under C.5 or as prescribed by the manufacturer. Remove the excess aggregate from the surface treatment by sweeping, blowing, or vacuuming without tearing or damaging the surface; the material may be re-used if approved by the engineer and manufacturer. Apply all courses of the overlay system before opening the area to traffic. Do not allow equipment or traffic on the treated area until directed by the engineer.

After the first layer of coating has cured to the point where the aggregate cannot be pulled out, apply the second layer. Prior to applying the second layer, broom and blow off the first layer with compressed air to remove all loose excess aggregate.

Prior to opening to traffic, clean expansion joints and joint seals of all debris and polymer. A minimum of 3 days following opening to traffic, remove loosened aggregates from the deck, expansion joints, and approach pavement.

C.4 Application Rates

Apply the polymer overlay in two separate courses according to the manufacturer's instructions, but not less than the following rate of application.

Course	Minimum Polymer Rate ^A (GAL/100 SF)	Aggregate ^B (LBS/SY)
1	2.5	10+
2	5.0	14+

^A The minimum total applications rate is 7.5 GAL/100 SF.

^B Application of aggregate shall be of sufficient quantity to completely cover the polymer.

C.5 Minimum Curing Periods

As a minimum, cure the coating as follows:

	Average temperature of deck, polymer and aggregate components in °F							
Course	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85-99
1	6 hrs.	5 hrs.	4 hrs.	3 hrs.	2.5 hrs	2 hrs	1.5 hrs.	1 hr.
2	8 hrs.	6.5 hrs.	6.5 hrs.	5 hrs.	4 hrs.	3 hrs.	3 hrs.	3 hrs.

If faster cure times are desired and achievable, submit to the engineer a certified test report from an independent laboratory showing the material is able to reach a compressive strength of 1000 psi as tested per ASTM C 579 Method B within the temperature ranges and cure times for which the product is proposed to be placed. Establish ambient air, material, and substrate temperatures from the manufacturer for field applications. Field applications will not be allowed below the documented temperatures.

C.6 Repair of Polymer Overlay

Repair all areas of unbonded, uncured, or damaged polymer overlay for no additional compensation. Submit repair procedures from the manufacturer to the engineer for approval. Absent a manufacturer's repair procedures and with the approval of the engineer, complete repairs according to the following: Saw cut the limits of the area to the top of the concrete; remove the overlay by scarifying, grinding, or other approved methods; shot blast or sand blast and air blast the concrete prior to placement of polymer overlay; and place the polymer overlay according to section C.3.

D Measurement

The department will measure Polymer Overlay in area by the square yard, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
509.5100.S	Polymer Overlay	SY

Payment is full compensation for preparing the surface; for tensile bond testing; for creating the transitional area; for providing the overlay; for cleanup; and for sweeping/vacuuming and disposing of excess materials. Concrete Deck Repair will be paid for separately.

stp-509-030 (20170615)

16. Epoxy Crack Sealing, Item 509.9020.S.

A Description

Seal vertical cracks in the interior walls of Pier 2 and Pier 3 according to the plan details and as hereinafter provided.

B Materials

Furnish a penetrating epoxy sealant manufactured by Sika, Adhesive Engineering, Technical Sealants, Dayton Superior, or equal. Before using, obtain the engineer's approval for the epoxy system which is proposed to seal the cracks.

C Construction

Before sealing, clean the cracks by chipping and by using high-pressure air.

After all of the cleaning is completed, inject epoxy sealant into the cracks to be sealed. Seal the cracks using the penetrating epoxy sealant as recommended by the sealant manufacturer.

D Measurement

The department will measure Epoxy Crack Sealing in length by the linear foot of crack, acceptably sealed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
509.9020.S	Epoxy Crack Sealing	LF

Payment is full compensation for cleaning the cracks; and for furnishing and placing the epoxy sealant.

17. Structure Repainting General.

A General

A.1 Inspection

On all structures in this contract, notify the engineer of any missing or broken bolts or nuts, any missing or broken rivets, or of any cracks or flaws in the steel members while cleaning or painting.

A.2 Date Painted

At the completion of all painting work, stencil in black paint or contrasting color paint the date of painting the bridge. The numbers shall be three inches (75 mm) in height and shall show the month and year in which the painting was completed: e.g., 11-95 (November 1995). On each bridge painted, stencil the date at two locations. On truss bridges, stencil the date on the cover plates of end posts near and above the top of the railings at the oncoming traffic end. On steel girder bridges, stencil the date on the **inside** of the outside stringers at the abutments. The date on grade separation bridges shall be readable when going under the structure or at some equally visible surface near the ends of the bridge, as designated by the engineer.

A.3 Graffiti Removal

Remove any graffiti on concrete abutments, piers, pier caps, parapet railings, slope paving or any other location at the direction of the engineer. Use a brush sandblast to remove graffiti.

The above work will not be measured and paid for separately, but will be considered incidental to other items in the contract.

B (Vacant)

C Construction

C.1 Repainting Methods

Do not perform blasting, cleaning and painting on days of high winds. Prevailing winds in excess of 15 mph (25 km/hr) shall be considered high winds.

Place the final field coat of paint on the exterior of the exterior beams as a continuous painting operation. Stop at splices, vertical stiffeners or other appropriate locations so that lap marks are not evident or noticeable.

Completely clean and remove spent abrasive and other waste materials resulting from the contractor's operation from bridge deck surfaces, gutter lines, drains, curbs, bridge seats, pier caps, slope paving, roadway below, and all structural members and assemblies.

C.2 Inspection

Add the following to standard spec 105.9:

Furnish, erect and move scaffolding and other appropriate equipment to permit the inspector the opportunity to closely observe all affected surfaces. The scaffolding, with appropriate safety devices, shall meet the approval of the engineer.

stp-517-005 (20150630)

18. Structure Overcoating Cleaning and Priming B-47-40, Item 517.3000.S.01.

A Description

This special provision describes cleaning and painting with two or three coats of paint the metal surfaces.

A.1 Areas to be Cleaned and Painted

Structure B-47-40

1. Two Coat Area: 0 SF with SP 1 cleaning.
2. Three Coat Area:
 - 60 SF with SP 2 cleaning
 - 400 SF with SP 3 cleaning
 - 800 SF with SP 11 cleaning
 - 0 SF with SP 15 cleaning
 - 1,260 SF total three-coat area

B (Vacant)

C Construction

C.1 Surface Preparation

Before overcoating or hand tool cleaning, solvent clean all surfaces to be coated according to SSPC-SP1. A SSPC-SP 2 hand Tool Cleaning according to Steel Structures Painting Council Specification 2 will be required on all metal surfaces to be painted with a three-coat system. Prime the same day, or re-clean before application, all metal surfaces receiving a No. 11 cleaning.

Remove all abrasive or paint residue from steel surfaces with a High Efficiency Particulate Abatement (HEPA-VAC) vacuum cleaner equipped with a brush-type cleaning tool, or by double blowing. If the double blowing method is used, vacuum the exposed top surfaces of all structural steel, including flanges, longitudinal stiffeners, splices, plates, and hangers, after the double blowing operations are completed. The air line used for blowing the steel clean shall have an inline water trap and the air shall be free of oil and water as it leaves the air line.

Take care to protect freshly coated surfaces from subsequent cleaning operations. Thoroughly wire brush damaged primed surfaces with a non-rusting tool. Clean and re-prime the brushed surfaces within the time recommended by the manufacturer.

C.2 Painting

Paint by applying two or three coats of an approved coating system as specified herein to the surfaces as described in A.1 from the department's approved products list.

C.3 Coating Application

Apply paint in a neat, workmanlike manner. The resultant paint film shall be smooth and uniform without skips or areas of excessive paint. Apply coating according to the manufacturer's recommendations.

Before applying the prime coat, coat with primer all edges, rivet and bolt heads, nuts and washers by using either a brush, roller, or spray application.

Dry Film Thickness per coat shall be a minimum of 3-mil. The dry film thickness shall be determined by use of a magnetic film thickness gage. The gage shall be calibrated for dry film thickness measurement according to SSPC-PA 2.

During surface preparation and coating application, the ambient and steel temperature shall be between 39 and 100 degrees F. The steel temperature shall be at least 5 degrees F above the dew point temperature, and the relative humidity shall not exceed 85%.

D Measurement

The department will measure Structure Overcoating Cleaning and Priming (Structure), completed according to the contract and accepted, as a single complete unit of work.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
517.3000.S.01	Structure Overcoating Cleaning and Priming B-47-40	LS

Payment is full compensation for preparing and cleaning the designated surfaces; and for furnishing and applying the paint.

stp-517-036 (20080501)

19. Containment and Collection of Waste Materials B-47-40, Item 517.4000.S.01.

A Description

This special provision describes furnishing and erecting tarpaulins to contain, collect and store the spent material from surface preparation of steel surfaces, collecting such spent material, and labeling and storing the spent material in waste containers according to the contract and as hereinafter provided.

B Materials

Provide 5-gallon lidded plastic containers for containing the spent material.

C Construction

Erect tarpaulins or other materials to collect all of the spent material from power tool cleaning. Consider and treat all spent material as hazardous waste because it contains lead.

Collect and store all waste material collected by this operation at the bridge site for disposal. Collect and store all waste materials at the end of each workday or more often if needed. Store materials in 5-gallon lidded plastic containers.

Label each container with the date the first waste was placed in the container and the words "Hazardous Waste – EPA Waste Code D008." Lock and secure all containers at the end of each workday. Keep the containers covered at all times except to add or remove waste material. Store the containers in an accessible and secured area, not located in a storm water runoff course, flood plain or exposed to standing water.

Collect the spent debris by vacuuming, shoveling, sweeping, or by channeling it directly to disposal containers. The enclosure shall be thoroughly cleaned at the end of each work day.

D Measurement

The department will measure Containment and Collection of Waste Materials (Structure), completed according to the contract and accepted, as a single complete unit of work for each structure designated in the contract.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
517.4000.S.01	Containment and Collection of Waste Materials B-47-40	LS

Payment is full compensation for designing, erecting, operating, maintaining and disassembling the containment devices; collecting, labeling and storing spent materials in appropriate containers.
stp-517-037 (20080902)

20. Concrete Masonry Counterweight Pit Floor Repair, Item SPV.0035.01.

A Description

This special provision describes providing concrete masonry for the counterweight pit floors. Conform to standard spec 502 and standard spec 509.

B Materials

B.1 Neat Cement

Furnish a neat cement bonding grout. Mix the neat cement in a water-cement ratio approximately equal to 5 gallons of water per 94 pounds of cement.

B.2 Concrete

Furnish grade C, C-FA, C-S, C-IS, C-IP, C-IT, or E concrete conforming to standard spec 501 for preparation and repair areas except as follows:

1. The contractor may increase slump of grade E concrete to 3 inches.
2. The contractor may use ready-mixed concrete.

C Construction

C.1 Neat Cement

Immediately before placing the concrete, coat the prepared surfaces with a neat cement mixture. Ensure the prepared concrete surfaces are moist without any standing water before coating with the neat cement mixture. Brush the neat cement mixture over the prepared concrete surfaces to ensure that all parts receive an even coating, and do not allow excess neat cement to collect in pockets. Apply the neat cement at a rate that ensures the cement does not dry out before being covered with the new concrete.

C.2 Placing Concrete

Place concrete conforming to standard spec 509. As determined by the engineer, consolidate smaller areas by internal vibration, strike them off, and finish the areas with hand floats to produce plane surfaces that conform to the grade and elevation of the adjoining surfaces. Give all patching areas a final hand float finish.

C.3 Curing Concrete

Cure the concrete masonry counterweight pit floor patching conforming to standard spec 502.2.6(1).

D Measurement

The department will measure the Concrete Masonry Counterweight Pit Floor Repair bid item by the cubic yard, acceptably completed.

The department will measure concrete used in counterweight pit floor preparation areas as part of the Concrete Masonry Counterweight Pit Floor Repair bid item.

The department will not measure discarded or unused concrete.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0035.01	Concrete Masonry Counterweight Pit Floor Repair	CY

Payment is full compensation for furnishing, hauling, preparing, placing, finishing, curing, and protecting all materials.

21. Embedded Galvanic Anodes, Item SPV.0060.01.

A Description

This special provision describes furnishing all labor, materials, and equipment necessary to properly install embedded galvanic anodes in concrete.

B Materials

Furnish pre-manufactured galvanic anodes designed for cathodic protection when embedded in concrete and tied to steel reinforcing. The core of the anode shall consist of a minimum of 1.3 ounces of electrolytic high grade zinc in compliance with ASTM B418

cast around a pair of steel tie wires and encased in a highly alkaline cementitious shell with a pH of 14. The anodes shall have one side that is less than 1½-inches in height.

Submit the product information to the engineer for approval. Supply a certification of compliance to the engineer before starting work. Deliver, store, and handle all materials according to the manufacturer's instructions.

Use one of the qualified galvanic anode products and manufacturers given below. An equivalent system may be used with the written approval of the engineer.

<u>Product Name</u>	<u>Manufacturer/Supplier</u>	<u>Telephone Number</u>
Galvashield	Vector Corrosion Technologies	(319) 364-5355
Sentinel	Euclid Chemical Company	(800) 321-7628
Emaco CP Intact	BASF Building Systems	(262) 227-4045

C Construction

C.1 Concrete Repair

Repair the concrete and prepare the exposed reinforcing steel according to standard spec 509. Use Portland cement based repair concrete materials with suitable electrical conductivity.

C.2 Galvanic Anode Installation

Install embedded galvanic anodes according to manufacturer's recommendations, as shown on the plans, and as listed in this specification.

C.2.2 Install galvanic anodes to existing reinforcement along the perimeter of the repair at spacing as specified on the plans. In no case shall the distance between anodes exceed 24 inches.

C.2.3 Provide ¾-inch clearance between anodes and substrate to allow repair material to encase anode.

C.2.4 Secure the galvanic anodes as close as possible to the patch edge using the anode tie wires. Tighten the tie wires to allow little or no free movement.

If the anode is to be tied onto a single bar, or if less than 1½-inch of concrete cover is expected, place anode beneath the uncoated bar and secure to reinforcing steel.

If 1½-inch concrete cover will exist over the anode, the anode may be placed at the intersection between two bars and secured to each bar.

C.3 Electrical Continuity

Confirm electrical connection between anode tie wire and uncoated reinforcing steel with a multi-meter. The maximum DC resistance shall be 1 Ohm. Confirm electrical continuity of the exposed uncoated reinforcing steel within the repair area. Steel reinforcement shall be

considered continuous when the DC resistance is 1 Ohm or less. If necessary, establish the electrical continuity with uncoated steel tie wire.

C.4 Inspection

The engineer will verify proper installation of the galvanic anodes prior to placement of the concrete.

D Measurement

The department will measure Embedded Galvanic Anodes as each individual anode, acceptably installed.

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.0060.01	Embedded Galvanic Anodes	EACH

Payment is full compensation for furnishing and for properly installing; and for establishing and checking electrical continuity.

Concrete repair work will be paid for separately.

22. Counterweight Protective Coating, Item SPV.0070.01.

A Description

This special provision describes cleaning the concrete on the concrete counterweight and applying an epoxy coating. Perform this work following the concrete counterweight repairs.

B Materials

Furnish non-pigmented epoxy conforming to AASHTO M-235, Type III, Grade 2, Class B or C.

C Construction

Thoroughly clean the counterweight concrete of all debris to the satisfaction of the engineer prior to application of the coating. Abrasively blast the surface to be coated. Determine an acceptable abrasive blasting operation that provides a surface profile meeting CSP 5 according to the International Concrete Repair Institute Technical Guideline No. 03732.

Clean and apply the epoxy coating to the repaired counterweight at least three days after completing the concrete surface repairs. Cleaning and protective coating areas include the concrete on the top of the counterweight below the rear break, the entire back face and the first five feet of the concrete underside of the counterweight.

D Measurement

The department will measure Counterweight Protective Coating by the gallon, 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.0070.01	Counterweight Protective Coating	GAL

Payment is full compensation for cleaning and applying the protective coating to the counterweight concrete.

23. Stainless Steel Flashing, Item SPV.0085.01.**A Description**

This special provision describes furnishing and installing stainless steel flashing under the rear break of each bascule leaf over the counterweight to deflect water and roadway debris away from the counterweight for the entire width of the break.

B Materials

Furnish 16-gauge Type 316 stainless steel sheet metal flashing conforming to ASTM A240.

Provide 3/8"-16 x 3/4" grade 8, stainless steel, self-threading screws to fasten the flashing to the bascule leaf steel rear break.

Furnish gray non-bituminous joint sealant according to standard spec 502.2.9.

C Construction

Install the flashing as required to completely cover and extend past the top of the counterweight at the rear break between the bascule leaf and bascule pier. Attach the stainless steel flashing to the rear break steel as shown in the plans with 3/8-inch stainless steel self-threading screws placed at 6-inch maximum centers. Drill a pilot hole in the steel rear break prior to installing the flashing and fasteners.

Place non-bituminous joint sealer across the entire width where the flashing contacts the rear break.

Details of the flashing system in the plans are conceptual in nature. Configure and install a flashing system so that the steel flashing extends the entire width of the rear break, with bends in the flashing as necessary to extend over the bascule girders and directs water and debris from the outside edges towards the center of the counterweight.

Submit drawings with details to the engineer for review and approval prior to installation. Do not install flashing until all counterweight concrete surface repair work is complete.

D Measurement

The department will measure Stainless Steel Flashing by the pound, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0085.01	Stainless Steel Flashing	LB

Payment is full compensation for all work required under this bid item including furnishing all labor, tools, equipment, materials, and incidentals necessary to complete the contract work.

24. Counterweight Calculations and Span Balancing, Item SPV.0105.01.**A Description**

This special provision describes the work required to rebalance the bascule bridge due to weight changes from the rehabilitation work. The present arrangement of counterweight adjustment blocks were considered to produce a desirable state of balance prior to the deterioration of the counterweight. The intent of the bridge balancing work is to restore this balance condition upon completion of the polymer overlay work on the concrete deck portion of the movable leaves and the concrete surface repair work on the counterweights. At no time shall the bridge be operated in an unbalanced state.

B Materials

Additional counterweight blocks are available on site if required to restore the balance condition of the bascule bridge. As part of balance testing, transport blocks to and from appropriate counterweight pockets. Store spare blocks in the bascule piers as directed by the engineer.

C Construction

Calculate a complete balancing weight take-off based on components being added to or removed from the movable span as a part of this contract. The goal of these calculations is to determine an accurate adjustment by addition or removal of counterweight blocks to the existing counterweight pockets. Submit these calculations to the engineer for review. Consider balance about the horizontal, vertical and longitudinal axis utilizing both upper and lower counterweight pockets as necessary. Make adjustments to the counterweights as required to bring each leaf to a slightly "leaf heavy" condition upon completion of the work affecting the span weight. Remove or add concrete counterweight blocks to the pockets to make the necessary adjustments. The contractor's calculations shall be used to determine the counterweight adjustments necessary.

It is the contractor's responsibility to determine and produce an accurate final balance condition. Determine the actual weight of the concrete polymer overlay to be used in the calculations by way of a physical test (scale weights) of a sample.

Prior to the start of any fieldwork, perform a series of “drift tests” in the presence of the engineer to document the existing balance condition. Make an accurate inventory of the number and position of existing balance blocks and void space available in the counterweight pockets. The existing balance condition shall be measured by recording the degrees of rotation it takes for each leaf to stop when power is removed from the hydraulic drive motors with the leaf moving at its normal speed and with the brakes released. This may require a means of energizing free-wheeling valves during operation to provide a “coasting” effect. During this operation the ability to promptly set brakes and stop “free-wheel” must be maintained in case of a “runaway” condition. Record the degrees of rotation required for the leaf to stop for both opening and closing cycles at various angles of opening. Perform these tests during times of calm weather with low wind velocities. If requested by the engineer, vary the specific methods of the test to produce the required information.

As the overlay work on the movable portion of the concrete roadway progresses, maintain an approximate balanced condition based on calculations. Upon completion of the bascule span work, measure and record the rehabilitated balance condition of each leaf and record per the same ‘drift test’ methods used to record the original balance condition. The final bridge balance condition shall be such that each leaf stops within 15° of rotation while free-wheeling and moving towards the closed position and stops within 5° of rotation while free-wheeling and moving towards the open position. If a leaf does not meet this criterion, add or remove concrete balance blocks from the counterweight pockets as necessary to achieve the specified balance condition. Check the balance condition again and repeat the process until this requirement and the engineer are satisfied.

The contractor shall be responsible to maintain and control the bridge balance throughout the entire contract duration and during all phases of work.

D Measurement

The department will measure Counterweight Calculations and Span Balancing, completed according to the contract and accepted, as a single complete lump sum unit of work.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.01	Counterweight Calculations and Span Balancing	LS

Payment is full compensation for making balancing calculations and counterweight adjustments and for furnishing all labor, tools, materials and equipment, both temporary and permanent, required to balance the movable leaves of the bridge. Performed work will only be paid for after final balancing has been completed and accepted.

25. Preparation Counterweight Pit Floors, Item SPV.0180.01.

A Description

This special provision describes cleaning or scarifying the counterweight pit floor to be overlaid under special provision Polymer Overlay Counterweight Pit Floor; removing and disposing of unsound concrete; the furnishing, placing and curing concrete as required according to standard spec 509.

B (Vacant)

C Construction

C.1 General

Repair damage to existing reinforcement remaining in place that is either uncovered by or damaged by the contractor's operations. Use engineer-approved repair materials compatible with the existing materials and inert in concrete.

C.2 Preparation

Remove and dispose of unsound and deteriorated concrete of the existing counterweight pit floor as the plans show, or as the engineer directs.

Use construction methods conforming to standard spec 203, 502, 509, and the following:

1. Remove unsound concrete from the counterweight pit floor.
2. Take necessary precautions while removing deteriorated concrete to preserve and reuse existing reinforcing steel. Clean, realign, and retie existing reinforcing steel, as the engineer considers necessary.
3. Blast clean corroded existing reinforcing steel. If additional reinforcement is required, use grade 60 steel conforming to AASHTO M31, and to standard spec 505.2.
4. Remove concrete to sound concrete or to one inch behind the existing reinforcing steel, whichever depth is greater, at locations the plans show or as the engineer directs. Where concrete removal exposes the existing bar steel reinforcement for more than 1/2 of its peripheral area, and where bond between existing concrete and reinforcing bar has been destroyed, remove the adjacent concrete to provide a minimum one-inch clearance around the bar.
5. For removing the deteriorated concrete, use air chippers or breakers that weigh no more than 35 pounds and are equipped with flat, chisel-type points with a cutting edge not less than 3/4 inch or greater than 3 inches wide.
6. Make a 1-inch deep saw cut at the limits of the concrete surface repair before removal of the deteriorated concrete to control concrete breakout.

7. Clean the surface receiving the new concrete by mechanically dislodging contamination or debris and removing loose particles and dust with high-pressure water using a high-pressure nozzle to remove loose particles and dust. Ensure that no free-standing water remains before placing grout and that cleaning water conforms to standard spec 501.2.4.
8. Dispose of removed material as specified in standard spec 509.3.4.
9. Immediately before placing concrete, coat the surfaces of the old concrete receiving new concrete with neat cement as specified for concrete overlays in standard spec 509.3.9.2.

D Measurement

The department will measure Preparation Counterweight Pit Floors by the square yard, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0180.01	Preparation Counterweight Pit Floors	SY

Payment is full compensation for completely removing the deteriorated and unsound concrete; for disposing of the waste material; for salvaging, blast cleaning and using the existing bar steel reinforcement.

Saw cutting is paid for separately under the Sawing Concrete bid item.

Repairing damage to existing reinforcement is incidental to the contract.

26. Polymer Overlay Counterweight Pit Floor, Item SPV.0180.02.

A Description

This special provision describes furnishing and applying two layers of a two-component polymer overlay system to the counterweight pit floor as shown on the plans. The minimum total thickness of the overlay system shall be 1/4".

B Materials

B.1 General

Furnish materials specifically designed for use over concrete bridge decks. Furnish polymer liquid binders from the department's approved product list.

B.2 Polymer Resin

Furnish a polymer resin base and hardener composed of two-component, 100% solids, 100% reactive, thermosetting compound with the following properties:

Property	Requirements	Test Method
Gel Time ^A	15 - 45 minutes @ 73° to 75° F	ASTM C881
Viscosity ^A	7 - 70 poises	ASTM D2393, Brookfield RVT, Spindle No. 3, 20 rpm
Shore D Hardness ^B	60-75	ASTM D2240
Absorption ^B	1% maximum at 24 hr	ASTM D570
Tensile Elongation ^B	30% - 70% @ 7 days	ASTM D638
Tensile Strength ^B	2000 to 5000 psi @ 7 days	ASTM D638
Chloride Permeability ^B	<100 coulombs @ 28 days	AASHTO T277

^A Uncured, mixed polymer binder

^B Cured, mixed polymer binder

The required properties of the polymer resin when mixed with aggregate:

Property	Requirement ^C	Test Method
Minimum Compressive Strength	1,000 psi @ 8 hrs 5,000 psi @ 24 hrs	ASTM C579 Method B, Modified ^D
Thermal Compatibility	No Delaminations	ASTM C884
Minimum Pull-off Strength	250 psi @ 24 hrs	ASTM C1583

^C Based on samples cured or aged and tested at 75°F

^D Plastic inserts that will provide 2-inch by 2-inch cubes shall be placed in the oversized brass molds.

B.3 Aggregates

Furnish natural or synthetic aggregates that are non-polishing, clean, free of surface moisture, fractured or angular in shape; free from silt, clay, asphalt, or other organic materials; and meet the following properties and gradation requirements:

Aggregate Properties:

Property	Requirement	Test Method
Moisture Content*	½ of the measured aggregate absorption, %	ASTM C566
Hardness	³ 6.5	Mohs Scale
Fractured Faces	100% with at least 1 fractured face and 80% with at least 2 fractured faces of material retained on No.16	ASTM D5821
Absorption	≤1%	ASTM C128

* Sampled and tested by the department prior to placement.

Gradation:

Sieve Size	% Passing by Weight
No. 4	100
No. 8	30 – 75
No. 16	0 – 5
No. 30	0 – 1

B.5 Approval of Polymer Overlay System

A minimum of 20 working days prior to application, submit product data sheets and specifications from the manufacturer, and a certified report of test or analysis from an independent laboratory to the engineer for approval. The department will sample and test the aggregates for gradation and moisture content prior to placement. If requested, supply the department with samples of the polymer for the purpose of acceptance testing.

B.5.1 Product Data Sheets and Specifications

Product data sheets and specifications from the manufacture consists of literature from the manufacturer showing general instructions, application recommendations/methods, product properties, general instructions, or any other applicable information.

B.5.2 Certified Report of Test or Analysis

Polymer Binder: Submit a certified report of test or analysis from an independent laboratory dated less than 3 years prior to the date of the project letting showing the polymer binder meets the requirements of section B.2.

Aggregates: Submit a certified report of test or analysis from an independent laboratory dated less than 6 months prior to the date of the project letting showing the aggregates meet the requirements of section B.3.

C Construction

C.1 General

Field Review: Conduct a field review of the existing counterweight pit floor to identify any possible surface preparation and material compatibility issues.

Pre-Installation Meeting: Conduct a pre-installation meeting with the manufacturer's representative and the engineer prior to construction. Discuss the field review findings, verification testing of the surface preparation and establish procedures for maintaining optimum working conditions and coordination of work. Furnish the engineer a copy of the recommended procedures and apply the overlay system according to the manufacturer's instructions. Supply for the engineer's use for the duration of the project, a Concrete Surface Profile (CSP) chip set of 10 from the International Concrete Repair Institute (ICRI).

Manufacturer's Representative: An experienced manufacturer's representative familiar with the overlay system installation procedures shall be present at all times during surface preparation and overlay placement to provide quality assurance that the work is being performed properly. This requirement may be reduced at the engineer's discretion.

Material Storage: Store and handle materials according to the manufacturer's recommendations. Store resin materials in their original containers in a dry area. Store all aggregates in a dry environment and protect aggregates from contaminants on the job site.

C.2 Counterweight Pit Floor Preparation

C.2.1. Floor Repair

Remove all unsound or disintegrated areas of the concrete floor as the plans show, or as the engineer directs. Work performed to repair the concrete floor will be paid for under other items. Ensure that products used for floor patching are compatible with the polymer overlay system.

NOTE: Some polymer systems require concrete patch material to be in place a minimum of 28-days before overlaying - contact polymer manufacturer before completing floor patching/repair.

C.2.2 Surface Preparation

Determine an acceptable shotblasting machine operation (size of shot, flow of shot, forward speed, and/or number of passes) that provides a surface profile meeting CSP 5 (medium-heavy shotblast) according to the ICRI Technical Guideline No. 310.2. If the engineer requires additional verification of the surface preparation, test the tensile bond strength according to ASTM C1593. The surface preparation will be considered acceptable if the tensile bond strength is greater than or equal to 250 psi or the failure area at a depth of ¼ inches or more is greater than 50% of the test area. Continue adjustment of the shotblasting machine and necessary testing until the surface is acceptable to the engineer or a passing test result is obtained.

Prepare the entire counterweight pit floor using the final accepted adjustments to the shotblasting machine as determined above. Thoroughly blast clean with hand-held equipment any areas inaccessible by the shotblasting equipment. Do not perform surface preparation more than 24 hours prior to the application of the overlay system.

Protect drains, conduit, mechanical components, joints, access hatches, or other appurtenances from damage by the shot and sand blasting operations and from materials adhering and entering. Tape or form all construction joints to provide a clean straight edge. Prevent all material from entering the sump or being ejected through the sump pump.

Prior to shot blasting, remove visible deposits of oil or grease according to SSPC-SP1.

Prepare the counterweight pit walls a minimum of 6" above the overlay according to SSPC-SP 13 (free of contaminants, dust, and loose concrete) by sand blasting, using wire wheels, or other approved method.

Just prior to overlay placement, clean all dust, debris, and concrete fines from the prepared surfaces including the pit walls with compressed air. When using compressed air, the air stream must be free of oil. Any grease, oil, or other foreign matter that rests on or has absorbed into the concrete shall be removed completely. If any prepared surfaces (including the first layer of the polymer overlay) are exposed to moisture, lightly sandblast (brush/breeze blast) the exposed surfaces.

The engineer may consider alternate surface preparation methods per the overlay system manufacturer's recommendations. The engineer will approve the final surface profile and cleanliness prior to the contractor placing the polymer overlay.

C.2.3 Transitional Area

Create a transition in the passageway to the Operator's House in Pier 3 using an approved mechanical or blasting method. Taper a distance of 3 feet into the passageway. At the end of the taper in the passageway remove 1/4" to 5/16" of concrete adjacent to the joint to be filled with the polymer overlay.

C.3 Application of the Overlay

Perform the handling and mixing of the polymer resin and hardening agent in a safe manner to achieve the desired results according to the manufacturer's instructions. Do not apply the overlay system if any of the following exists:

- a. Ambient air temperature is below 50°F or above 100°F;
- b. Concrete pit floor temperature is below 50°F;
- c. Moisture content in the concrete pit floor exceeds 4.5% when measured by an electronic moisture meter or shows visible moisture after 2 hours when measured according to ASTM D4263;
- d. Rain is forecasted, or potential for water rising into the pit during the minimum curing periods listed under C.5;
- e. Materials component temperatures below 65°F or above 99°F;
- f. Concrete age is less than 28 days unless approved by the engineer.
- g. The concrete floor temperature exceeds 100°F.
- h. If the gel time is 10 minutes or less at the predicted high air temperature for the day.

After the floor has been shotblasted or during the overlay curing period, only necessary surface preparation and overlay application equipment will be allowed on the pit floor. Provide appropriate protective measures to prevent contamination from equipment allowed on the floor during preparation and application operations. Begin overlay placement as soon as possible after surface preparation operations.

The polymer overlay shall consist of a two-course application of polymer and aggregate. Each of the two courses shall consist of a layer of polymer covered with a layer of aggregate in sufficient quantity to completely cover the polymer. Apply the polymer and aggregate according to the manufacturer's requirements. Apply the overlay using

equipment designed for this purpose. The application machine shall feature positive displacement volumetric metering and be capable of storing and mixing the polymer resins at the proper mix ratio. Disperse the aggregate using a method that provides a uniform, consistent coverage of aggregate and minimizes aggregate rolling or bouncing into final position. First course applications that do not receive enough aggregate before the polymer gels shall be removed and replaced. A second course applied with insufficient aggregate may be left in place, but will require additional applications.

After completion of each course, cure the overlay according to the manufacturer's instructions. Follow the minimum cure times listed under C.5 or as prescribed by the manufacturer. Remove the excess aggregate from the surface treatment by sweeping, blowing, or vacuuming without tearing or damaging the surface; the material may be re-used if approved by the engineer and manufacturer. Do not allow equipment on the treated area until directed by the engineer.

After the first layer of coating has cured to the point where the aggregate cannot be pulled out, apply the second layer. Prior to applying the second layer, broom and blow off the first layer with compressed air to remove all loose excess aggregate.

After the final layer has cured, clean all debris and loosened aggregates from the counterweight pit floor.

C.4 Application Rates

Apply the polymer overlay in two separate courses according to the manufacturer's instructions, but not less than the following rate of application.

Course	Minimum Polymer Rate ^A (GAL/100 SF)	Aggregate ^B (LBS/SY)
1	2.5	10+
2	5.0	14+

^A The minimum total applications rate is 7.5 GAL/100 SF.

^B Application of aggregate shall be of sufficient quantity to completely cover the polymer.

C.5 Minimum Curing Periods

As a minimum, cure the coating as follows:

	Average temperature of deck, polymer and aggregate components in °F							
Course	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85-99
1	6 hrs.	5 hrs.	4 hrs.	3 hrs.	2.5 hrs	2 hrs	1.5 hrs.	1 hr.
2	8 hrs.	6.5 hrs.	6.5 hrs.	5 hrs.	4 hrs.	3 hrs.	3 hrs.	3 hrs.

If faster cure times are desired and achievable, submit to the engineer a certified test report from an independent laboratory showing the material is able to reach a compressive strength of 1000 psi as tested per ASTM C 579 Method B within the temperature ranges and cure times for which the product is proposed to be placed. Establish ambient air,

material, and substrate temperatures from the manufacturer for field applications. Field applications will not be allowed below the documented temperatures.

C.6 Repair of Polymer Overlay

Repair all areas of unbonded, uncured, or damaged polymer overlay for no additional compensation. Submit repair procedures from the manufacturer to the engineer for approval. Absent a manufacturer's repair procedures and with the approval of the engineer, complete repairs according to the following: Saw cut the limits of the area to the top of the concrete; remove the overlay by scarifying, grinding, or other approved methods; shot blast or sand blast and air blast the concrete prior to placement of polymer overlay; and place the polymer overlay according to section C.3.

D Measurement

The department will measure Polymer Overlay Counterweight Pit Floor in area by the square yard, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0180.02	Polymer Overlay Counterweight Pit Floor	SY

Payment is full compensation for preparing the surface; for tensile bond testing; for creating the transitional area in Pier 3; for providing the overlay; for cleanup; and for sweeping/vacuuming and disposing of excess materials. Concrete Counterweight Pit Floor Repair will be paid for separately.

ADDITIONAL SPECIAL PROVISION 4

Payment to First-Tier Subcontractors

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

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

Payment to Lower-Tier Subcontractors

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

Release of Routine Retainage

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

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

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

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

ADDITIONAL SPECIAL PROVISION 6

ASP 6 - Modifications to the standard specifications

Make the following revisions to the standard specifications:

104.10.1 General

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

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

104.10.4.2 Payment for the CRI Work

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

- (1) The department will pay for completed CRI work as specified for progress payments under 109.6. The department will pay for CRI's under the Cost Reduction Incentive administrative item. When all CRI costs are determined, the department will execute a contract change order that does the following:
1. Adjusts the contract time, interim completion dates, or both.
 2. Pays the contractor for the unpaid balance of the CRI work.
 3. Pays the contractor 50 percent of the net savings resulting from the CRI, calculated as follows:

$$NS = CW - CRW - CC - DC$$

Where:

NS = Net Savings

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

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

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

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

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

108.11 Liquidated Damages

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

- (2) This deducted sum is not a penalty but is a fixed, agreed, liquidated damage due the department from the contractor for the added cost of engineering and supervision resulting from the contractor's failure to complete the work within the contract time.
- (3) Unless enhanced in the special provisions, the department will assess the following daily liquidated damages

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

203.3.2.2 Removal Operations

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

203.3.2.2.1 General

- (1) Except as specified below for closing culverts, remove the entire top slab of box culverts and the entire superstructure of other culverts and bridges designated for removal. Completely remove existing piles, cribs, or other timber construction within the limits of new embankments, or remove these structures to an elevation at least 2 feet below finished ground line. Remove sidewalls or substructure units in water to an elevation no higher than the elevation of the natural stream or lake bed, or, if grading the channel is required under the contract or the plans, to the proposed finished grade of the stream or lake bed. Remove sidewalls or substructure units not in water down to at least 2 feet below natural or finished ground line.
- (2) If extending or incorporating existing culverts and bridges in the new work, remove only those parts of the existing structure as necessary to provide a proper connection to the new work. Saw, chip, or trim the connecting edges to the required lines and grades without weakening or damaging the remaining part of the structure. During concrete removal, do not damage reinforcing bars left in place as dowels or ties incorporated into the new work.
- (3) Remove pipe culverts designated for salvage in a way that prevents damage to the culverts.
- (4) Dismantle steel structures or parts of steel structures designated for salvage in a way that avoids damage to the members. If the contract specifies removing the structure in a way that leaves it in a condition suitable for re-erection, matchmark members with durable white paint before dismantling. Mark pins, bolts, nuts, loose plates, etc., similarly to indicate their proper location. Paint pins, bolts, pinholes, and machined surfaces with a department-approved rust preventative. Securely wire loose parts to adjacent members, or label and pack them in boxes.
- (5) Remove timber structures or parts of timber structures designated for salvage in a way that prevents damage to the members.
- (6) If the engineer approves, the contractor may temporarily use materials designated for salvage in falsework used to construct new work. Do not damage or reduce the value of those materials through temporary use.

203.3.2.2.2 Deck Removal

- (1) Protect the work as specified in 107.14 during deck removal. Minimize debris falling onto water surfaces and wetlands as the contract specifies in 107.18 or in the special provisions. Also, minimize debris falling on the ground and roadway.
- (2) Do not damage existing bar steel reinforcement, girders, or other components that will be incorporated in new work. Remove decks on prestressed concrete girders using a hydraulic shear or other engineer-approved equipment. Thoroughly clean, realign, and retie reinforcement as necessary.
- (3) After deck removal is complete, notify the engineer to request a damage survey. Point out damage to the engineer. Allow one business day for the engineer to complete the damage survey. If damage is identified, the department will determine if repairs or girder restoration will be allowed.
- (4) If the department allows girder restoration, have a professional engineer registered in the State of Wisconsin analyze the effect of the damage to the bridge, make recommendations, and prepare signed and sealed computations and structural details required to restore girders to their previous structural capacity. Submit the restoration proposal, including analysis and structural details, to the department and design engineer of record. The department will accept or reject the restoration proposal within 3 business days. Do not begin restoration work until the department allows in writing.
- (5) The engineer will not extend contract time to assess or remediate contractor caused damage.

203.5.1 General

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

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

415.2.3 Expansion Joint Filler

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

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

415.3.20 Filling Joints

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

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

415.5.1 General

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

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

440.3.4.2 Contractor Testing

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

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

455.5.3 Tack Coat

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

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

460.2.7 HMA Mixture Design

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

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

TABLE 460-2 MIXTURE REQUIREMENTS

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

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

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

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

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

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

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

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

460.2.8.2.1.3.1 Contracts with 5000 Tons of Mixture or Greater

Replace paragraph six with the following:

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

502.2.7 Preformed Joint Filler

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

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

502.3.7.8 Floors

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

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

505.2.6 Dowel Bars and Tie Bars

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

505.2.6.1 General

- (1) Furnish bars coated in a plant certified by the Concrete Reinforcing Steel Institute. For dowel bars and straight tie bars, there is no requirement for bend tests. Ensure that the bars are the specified diameter and length the plans show.
- (2) The contractor need not coat or patch sawed ends, sheared ends, cut ends, ends left bare during the coating process, or ends with damaged coating.
- (3) The contractor need not repair circumferential coating damage from shipping, handling, or installation, if the following conditions are met:
 1. The damaged area is 1/4 inch square or smaller.
 2. The total damaged area in any one-foot length does not exceed 2 percent of the circumferential area in that length.
- (4) Repair areas of damaged circumferential coating larger than 1/4 inch square. Reject bars with total damage greater than 2 percent of the bar's circumferential area.

505.2.6.2 Dowel Bars**505.2.6.2.1 General**

- (1) Ensure that the bars are straight, round, smooth, and free from burrs or other deformations detrimental to the free movement of the bar in the concrete.
- (2) Saw bars to the required length. For solid bars, the department will allow shearing if no damage occurs to the coating and shearing distortions do not exceed the following:
 1. No distorted diameter is more than 0.04 inches greater than the true diameter.
 2. No distortion extends more than 0.40 inches from the sheared end.
- (3) Apply a surface treatment to loose dowels, or furnish manufacturer-treated bars in dowel bar baskets, capable of preventing bond between the epoxy-coated bars and the concrete. Apply field surface treatments when loading bars in the dowel bar magazine.

505.2.6.2.2 Solid Dowel Bars

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

505.2.6.2.3 Tubular Dowel Bars

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

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

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

505.2.6.2.4 High Performance Dowel Bars

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

505.2.6.3 Tie Bars

- (1) Furnish coated bars conforming to AASHTO M31 grade 40 or 60. Coat tie bars as specified in 505.2.4 for coated high-strength steel reinforcement. Ensure that the tie bars are the shape the plans show.
- (2) Repair, with compatible coating material, the bend location of field-straightened coated tie bars.

614.2.1 General

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

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

614.3.2.1 Installing Posts

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

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

614.5 Payment

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

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

641.2.9 Overhead Sign Supports

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

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

642.2.2.1 General

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

- (1) Provide each field office with two rooms, separated by an interior door with a padlock. Ensure that each room has a separate exterior door and its own air conditioner. Locate the office where a quality internet connection can be achieved.
- (2) Provide long distance telephone service via a land line for exclusive department use that has the following:
 - Two programmable touch-tone phones, one of which is cordless. Ensure that phone operations will not interfere with other telecommunications equipment.
 - Voice mail service or an answering machine.
- (3) Provide high-speed internet service for exclusive department use via cable or DSL connection with a modem/router and capable of supporting cloud enabled file sharing, voice over internet protocol (VoIP), video conferencing, and web based applications. Ensure that system meets the following:
 - Includes a wireless network for the field office.
 - Can accommodate IPSec based VPN products.
 - Has a bandwidth range as follows:
 - Field office with 1-5 staff: A minimum connection speed of 5 Mbps download and 1 Mbps upload. If a cable or DSL option is not available the contractor may provide a personal hotspot using cell phone tethering or other device able to achieve the specified minimum speeds inside the field office.
 - Field office with 6 or more staff: A minimum connection speed of 10 Mbps + 1/2 Mbps per user download and 5 Mbps upload.
 - Projects over 500 million dollars: A minimum connection speed of 20 Mbps + 1/2 Mbps per user download and 10 Mbps upload. Coordinate network setup at the leased office with the WisDOT network team.
- (4) Provide and maintain a Windows 7 and Windows 10 compliant multi-function device with copy, print, and scan capabilities that can accommodate both 8 1/2" x 11" and 11" x 17" paper. Replenish paper, toner cartridges, and other supplies before fully expended. Ensure that department staff can connect to the device either directly or through the field office wireless network.
- (5) Equip with a drafting table with a drafter's stool. Except as specified in 642.2.2.4, provide 2 ergonomically correct office chairs in working condition with, at a minimum, the following:
 1. Five-legged base with casters.
 2. Seat adjustable from 15 to 22 inches from the floor with a seamless waterfall, rounded, front edge.
 3. High backrest with no arms or adjustable arms.

643.3.1 General

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

- (1) Provide and maintain traffic control devices located where the plans show or engineer directs to maintain a safe work zone throughout the contract duration. Relocate as required to accommodate changing work operations. When not in use, place devices away from traffic outside of paved and gravel shoulder surfaces. Where there is barrier on the shoulder, the contractor may place devices not in use on the shoulder as close as possible to the barrier and delineated with drums. Lay signs and supports flat on the grade with uprights oriented parallel to and downstream from traffic. Do not stack devices or equipment. Promptly remove temporary devices from within the project limits as follows:
 - That will not be used within 14 consecutive calendar days.
 - Within 5 business days of substantial completion unless the engineer allows otherwise.

645.2.2.2 Geotextile, Type SAS (Subgrade Aggregate Separation)

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

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

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

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

645.2.2.4 Geotextile, Type DF (Drainage Filtration)

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

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

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

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

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

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

645.2.2.6 Geotextile, Type R (Riprap)

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

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

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

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

645.2.2.7 Geotextile, Type HR (Heavy Riprap)

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

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

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

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

645.2.2.8 Geotextile, Type C (Modified SAS)

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

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

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

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

646.3.1.1 General Marking

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

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

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

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

701.3 Contractor Testing

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

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

TABLE 701-2 TESTING STANDARDS

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

^[1] As modified in CMM 8-60.

^[2] As modified in CMM 8-70.

715.2.3.1 Pavements

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

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

715.3.1.1 General

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

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

715.3.1.3 Department Verification Testing

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

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

Errata

Make the following corrections to the standard specifications:

106.3.3.1 General

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

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

205.3.1 General

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

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

305.1 Description

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

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

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

521.2 Materials

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

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

614.3.2.2 Installing Rail

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

- (1) Install rail with lap splices in the direction of traffic. Ensure that the number and dimensions of holes and bolts conforms to the plan details for new splices. Place the round head of bolts on the traffic side.
 - (2) Cut rails to length by shearing or sawing; do not use cutting torches. Drill or punch bolt holes and slots; ensure that they are burr free. After installation, cut anchor bolts that project more than one inch from the nut to 1/2 inch from the nut; deburr the threaded end of cut bolts.
-

618.1 Description

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

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

643.3.5.2 Cellular Communication

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

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

646.3.1.2 Liquid Marking

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

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

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

654.5 Payment

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

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

ADDITIONAL SPECIAL PROVISION 7

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

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

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

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

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

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

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

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

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

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

Non-discrimination Provisions

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees as follows:

1. Compliance with Regulations: The contractor (hereinafter includes consultants) will comply with the Acts and the Regulations relative to Non-discrimination in Federally-assisted programs of the U.S. Department of Transportation, Federal Highway Administration, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.

2. Non-discrimination: The contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor will not participate directly or indirectly in the discrimination prohibited by the Acts and the Regulations, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR Part 21.

3. Solicitations for Subcontracts, Including Procurements of Materials and Equipment: In all solicitations, either by competitive bidding, or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the contractor of the contractor's obligations under this contract and the Acts and the Regulations relative to Non-discrimination on the grounds of race, color, or national origin.

4. Information and Reports: The contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Recipient or the Federal Highway Administration to be pertinent to ascertain compliance with such Acts, Regulations, and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the contractor will so certify to the Recipient or the Federal Highway Administration, as appropriate, and will set forth what efforts it has made to obtain the information.

5. Sanctions for Noncompliance: In the event of a contractor's noncompliance with the Non-discrimination provisions of this contract, the Recipient will impose such contract sanctions as it or the Federal Highway Administration may determine to be appropriate, including, but not limited to:

- a. Withholding payments to the contractor under the contract until the contractor complies; and/or
- b. Cancelling, terminating, or suspending a contract, in whole or in part.

6. Incorporation of Provisions: The contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The contractor will take action with respect to any subcontract or procurement as the Recipient or the Federal Highway Administration may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the contractor may request the Recipient to enter into any litigation to protect the interests of the Recipient. In addition, the contractor may request the United States to enter into the litigation to protect the interests of the United States.

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees to comply with the following non-discrimination statutes and authorities; including but not limited to:

Pertinent Non-Discrimination Authorities:

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d et seq., 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin); and 49 CFR Part 21.
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Federal-Aid Highway Act of 1973, (23 U.S.C. § 324 et seq.), (prohibits discrimination on the basis of sex);
- Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 et seq.), as amended, (prohibits discrimination on the basis of disability); and 49 CFR Part 27;
- The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 et seq.), (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982, (49 USC § 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131-12189) as implemented by Department of Transportation regulations at 49 C.F.R. parts 37 and 38;
- The Federal Aviation Administration's Non-discrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);

- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures Non-discrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of Limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);
- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. 1681 et seq).

Effective August 2015 letting

BUY AMERICA PROVISION

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

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

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

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

March 2017

**NOTICE TO BIDDERS
WAGE RATE DECISION**

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

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

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

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



Proposal Schedule of Items

Page 1 of 5

Proposal ID: 20180612018 Project(s): 1530-01-75

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	204.0115 Removing Asphaltic Surface Butt Joints	25.000 SY	_____.	_____.
0004	455.0605 Tack Coat	2.000 GAL	_____.	_____.
0006	465.0105 Asphaltic Surface	3.000 TON	_____.	_____.
0008	502.3100 Expansion Device (structure) 01. B-47-40	LS	LUMP SUM	_____.
0010	502.3200 Protective Surface Treatment	7.000 SY	_____.	_____.
0012	502.3210 Pigmented Surface Sealer	6.000 SY	_____.	_____.
0014	502.4204 Adhesive Anchors No. 4 Bar	336.000 EACH	_____.	_____.
0016	502.4205 Adhesive Anchors No. 5 Bar	55.000 EACH	_____.	_____.
0018	505.0400 Bar Steel Reinforcement HS Structures	480.000 LB	_____.	_____.
0020	505.0600 Bar Steel Reinforcement HS Coated Structures	1,770.000 LB	_____.	_____.
0022	505.0905 Bar Couplers No. 5	6.000 EACH	_____.	_____.
0024	505.0906 Bar Couplers No. 6	16.000 EACH	_____.	_____.
0026	509.0301 Preparation Decks Type 1	155.000 SY	_____.	_____.
0028	509.0302 Preparation Decks Type 2	62.000 SY	_____.	_____.
0030	509.0310.S Sawing Pavement Deck Preparation Areas	1,550.000 LF	_____.	_____.
0032	509.1000 Joint Repair	24.000 SY	_____.	_____.



Proposal Schedule of Items

Page 2 of 5

Proposal ID: 20180612018 Project(s): 1530-01-75

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	509.1500 Concrete Surface Repair	698.000 SF	_____.	_____.
0036	509.2000 Full-Depth Deck Repair	8.000 SY	_____.	_____.
0038	509.2100.S Concrete Masonry Deck Repair	21.000 CY	_____.	_____.
0040	509.5100.S Polymer Overlay	3,085.000 SY	_____.	_____.
0042	509.9020.S Epoxy Crack Sealing	400.000 LF	_____.	_____.
0044	517.3000.S Structure Overcoating Cleaning and Priming (structure) 01. B-47-40	LS	LUMP SUM	_____.
0046	517.4000.S Containment and Collection of Waste Materials (structure) 01. B-47-40	LS	LUMP SUM	_____.
0048	603.8000 Concrete Barrier Temporary Precast Delivered	400.000 LF	_____.	_____.
0050	603.8125 Concrete Barrier Temporary Precast Installed	800.000 LF	_____.	_____.
0052	614.0905 Crash Cushions Temporary	1.000 EACH	_____.	_____.
0054	618.0100 Maintenance And Repair of Haul Roads (project) 01. 1530-01-75	1.000 EACH	_____.	_____.
0056	619.1000 Mobilization	1.000 EACH	_____.	_____.
0058	628.1905 Mobilizations Erosion Control	4.000 EACH	_____.	_____.
0060	628.1910 Mobilizations Emergency Erosion Control	2.000 EACH	_____.	_____.
0062	628.7015 Inlet Protection Type C	6.000 EACH	_____.	_____.



Proposal Schedule of Items

Page 3 of 5

Proposal ID: 20180612018 Project(s): 1530-01-75

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
0064	628.7570 Rock Bags	120.000 EACH	_____.	_____.
0066	642.5001 Field Office Type B	1.000 EACH	_____.	_____.
0068	643.0300 Traffic Control Drums	4,263.000 DAY	_____.	_____.
0070	643.0420 Traffic Control Barricades Type III	177.000 DAY	_____.	_____.
0072	643.0500 Traffic Control Flexible Tubular Marker Posts	120.000 EACH	_____.	_____.
0074	643.0600 Traffic Control Flexible Tubular Marker Bases	120.000 EACH	_____.	_____.
0076	643.0705 Traffic Control Warning Lights Type A	308.000 DAY	_____.	_____.
0078	643.0715 Traffic Control Warning Lights Type C	1,684.000 DAY	_____.	_____.
0080	643.0900 Traffic Control Signs	1,979.000 DAY	_____.	_____.
0082	643.0920 Traffic Control Covering Signs Type II	2.000 EACH	_____.	_____.
0084	643.1000 Traffic Control Signs Fixed Message	56.000 SF	_____.	_____.
0086	643.1050 Traffic Control Signs PCMS	56.000 DAY	_____.	_____.
0088	643.1070 Traffic Control Cones 42-Inch	2,606.000 DAY	_____.	_____.
0090	643.5000 Traffic Control	1.000 EACH	_____.	_____.
0092	646.1020 Marking Line Epoxy 4-Inch	4,360.000 LF	_____.	_____.
0094	646.3020 Marking Line Epoxy 8-Inch	100.000 LF	_____.	_____.



Proposal Schedule of Items

Page 4 of 5

Proposal ID: 20180612018 Project(s): 1530-01-75

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
0096	646.5020 Marking Arrow Epoxy	2.000 EACH	_____.	_____.
0098	646.5120 Marking Word Epoxy	1.000 EACH	_____.	_____.
0100	646.6120 Marking Stop Line Epoxy 18-Inch	48.000 LF	_____.	_____.
0102	646.9010 Marking Removal Line Water Blasting 4-Inch	2,925.000 LF	_____.	_____.
0104	649.0150 Temporary Marking Line Removable Tape 4-Inch	3,600.000 LF	_____.	_____.
0106	690.0150 Sawing Asphalt	54.000 LF	_____.	_____.
0108	690.0250 Sawing Concrete	174.000 LF	_____.	_____.
0110	SPV.0035 Special 01. Concrete Masonry Counterweight Pit Floor Repair	28.000 CY	_____.	_____.
0112	SPV.0060 Special 01. Embedded Galvanic Anodes	672.000 EACH	_____.	_____.
0114	SPV.0070 Special 01. Counterweight Protective Coating	122.000 GAL	_____.	_____.
0116	SPV.0085 Special 01. Stainless Steel Flashing	650.000 LB	_____.	_____.
0118	SPV.0105 Special 01. Counterweight Calculations and Span Balancing	LS	LUMP SUM	_____.
0120	SPV.0180 Special 01. Preparation Counterweight Pit Floors	168.000 SY	_____.	_____.
0122	SPV.0180 Special 02. Polymer Overlay Counterweight Pit Floor	369.000 SY	_____.	_____.
Section: 0001			Total:	_____.

Total Bid: _____.

PLEASE ATTACH SCHEDULE OF ITEMS HERE