HIGHWAY WORK PROPOSAL

Proposal Number: 1 3

Wisconsin Department of Transportation
DT1502 10/2010 s.66.29(7) Wis. Stats.

COUNTY	STATE PROJECT ID	FEDERAL PROJECT ID	PROJECT DESCRIPTION	HIGHWAY
Milwaukee	2380-02-70		Janesville Road (STH 24) Waukesha County Line to 108th St	STH 24

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

Proposal Guaranty Required, $ 75,000.00 Payable to: Wisconsin Department of Transportation	Attach Proposal Guaranty on back of this PAGE.
Bid Submittal Due Date: December 10, 2013 Time (Local Time): 9:00 AM	Firm Name, Address, City, State, Zip Code **SAMPLE** **NOT FOR BIDDING PURPOSES**
Contract Completion Time September 30, 2014	
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)

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

(Date Commission Expires)

Notary Seal

(Bidder Signature)

(Print or Type Bidder Name)

(Bidder Title)

For Department Use Only

Type of Work Excavation, aggregate base course, storm sewer, water main, sanitary sewer concrete base, asphaltic pavement, concrete curb and gutter, concrete sidewalk, bridges, permanent marking, lighting and traffic signals.	
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 2007 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://www.dot.wisconsin.gov/business/engrserv/bid-letting-information.htm. 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://www.dot.wisconsin.gov/business/engrserv/bid-letting-information.htm 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.

B Submitting Electronic Bids

B.1 On the Internet

(1) Do the following before submitting the bid:

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

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

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

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

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

(1) Download the latest schedule of items from the Wisconsin pages of the Bid Express™ web site reflecting the latest addenda posted on the department's web site at **http://www.dot.wisconsin.gov/business/engrserv/bid-letting-information.htm**. Use Expedite ™ software to prepare and print the schedule of items. Provide a valid amount for all price fields. Follow instructions and review the help screens provided on the Bid Express™ web site to assure that the schedule of items is prepared properly.

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

Bidder Name

BN00

Proposals: 1, 12, 14, & 22

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

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

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

1. The check code printed on the bottom of the printout of the Expedite™ generated schedule of items is not the same on each page.
2. The check code printed on the printout of the Expedite™ generated schedule of items is not the same as the check code for that proposal provided on the diskette or CD ROM.

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

C Waiver of Electronic Submittal

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

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

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

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

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

PROPOSAL BID BOND

Wisconsin Department of Transportation

DT1303 1/2006

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

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

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

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

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

PRINCIPAL

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

(Signature and Title)

(Company Name)

(Signature and Title)

(Company Name)

(Signature and Title)

(Company Name)

(Signature and Title)

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

(Signature of Attorney-in-Fact)

NOTARY FOR PRINCIPAL

(Date)

State of Wisconsin)
) ss.
_____ County)

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

(Signature, Notary Public, State of Wisconsin)

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

(Date Commission Expires)

Notary Seal

NOTARY FOR SURETY

(Date)

State of Wisconsin)
) ss.
_____ County)

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

(Signature, Notary Public, State of Wisconsin)

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

(Date Commission Expires)

Notary Seal

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

CERTIFICATE OF ANNUAL BID BOND

Wisconsin Department of Transportation

DT1305 8/2003

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

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

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

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

(Signature of Authorized Contractor Representative) (Date)

March 2010

LIST OF SUBCONTRACTORS

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

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

Name of Subcontractor	Class of Work	Estimated Value

DECEMBER 2000

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

Instructions for Certification

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Special Provisions

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SPECIAL PROVISIONS

1. General.

Perform the work under this construction contract for Project 2380-02-70, Janesville Road (STH 24), Waukesha County Line to 108th Street, Milwaukee County, Wisconsin as the plans show and execute the work as specified in the State of Wisconsin, Department of Transportation, Standard Specifications for Highway and Structure Construction, 2014 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 (20130615)

2. Scope of Work.

The work under this contract shall consist of asphalt milling, base patching, excavation common; storm sewer; base aggregate dense; HMA pavement; concrete base; concrete curb and gutter; permanent signing; pavement marking; lighting; traffic signals, bridge B-40-167, bridge B-40-764, bridge B-40-765, sanitary sewer, water main 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.

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.

Prior to beginning operations under this contract submit in writing a proposed schedule of operations and method of coordination and handling traffic to the engineer for approval.

The contractor is advised that there may be multiple mobilizations for such items as traffic control, detours, signing items, pavement markings and other incidental items

related to the staging. The department will make no additional payment for said mobilizations.

When engaged in roadway cleaning operations, use equipment having vacuum or water spray mechanisms to eliminate the dispersion of particulate matter into the atmosphere. If vacuum equipment is employed, it must have suitable self-contained particulate collectors to prevent discharge from the collection bin into the atmosphere.

Complete construction operations on Janesville Road (STH 24) to the stage necessary to reopen it to through traffic prior to 12:01 AM September 17, 2014. Do not reopen until completing the following work: milling, HMA pavement excavation, paving, curb and gutter, concrete sidewalk, B-40-167, B-40-764 and B-40-765.

Supplement standard spec 108.11 as follows:

If the contractor fails to complete the work necessary to reopen Janesville Road (STH 24) to through traffic prior to 12:01 AM September 17, 2014, the department will assess the contractor $1,605 in interim liquidated damages for each calendar day that the roadway remains closed after 12:01 AM, September 17, 2014. An entire calendar day will be charged for any period of time within a calendar day that the road remains closed beyond 12:01 AM.

Janesville Road (STH 24) Construction

Stage 1

- Construct median crossover from approximately 112th St. to 110th St.
- Construct median and left turn lanes from 110th St. to 108th St.
- Construct sign structure (S-40-987) at Station 82+50.

Stage 2A

- From approximately 122nd St. to 400’ west of 116th St., mill and pave lower and upper layers of HMA pavement on the inside lanes and construct the left turns.
- From approximately 400’ west of 116th St. to 400’ east of 116th St., construct the left turns east of 116th St.
- From approximately 400’ east of 116th St. to 112th St., mill and pave lower and upper layers of HMA pavement on the inside lanes.
- With approval from the engineer, a median opening may be closed for milling and paving operations; however, two consecutive median openings cannot be closed at the same time.
- From approximately. 112th St. to 110th St. mill and pave lower and upper layers of HMA pavement on the westbound lanes.
- Construct B-40-765.

Stage 2B

- From approximately 122nd St. to 400’ west of 116th St., mill and pave lower and upper layers of HMA pavement on the inside lanes and construct the left turns.

- From approximately 400’ west of 116th St. to 400’ east of 116th St., construct the left turn west of 116th St. and mill and pave lower and upper layers of HMA pavement on the inside lanes east of 116th St.
- From approximately 400’ east of 116th St. to 112th St., mill and pave lower and upper layers of HMA pavement on the inside lanes and construct the left turns.
- With approval from the engineer, a median opening may be closed for milling and paving operations; however, two consecutive median openings cannot be closed at the same time.
- From approximately. 112th St. to 110th St. mill and pave lower and upper layers of HMA pavement on the westbound lanes.
- Construct B-40-765.

Stage 2C

- From approximately 122nd St. to 112th St., mill and pave lower and upper layers of HMA pavement on the inside lanes and construct the left turns.
- With approval from the engineer, a median opening may be closed for milling and paving operations; however, two consecutive median openings cannot be closed at the same time.
- From approximately. 112th St. to 110th St. mill and pave lower and upper layers of HMA pavement on the westbound lanes.
- Complete B-40-765.

Stage 3

- From approximately 122nd St. to 112th St. mill and pave lower and upper layers of HMA pavement on the outside lanes.
- From approximately 112th St. to 110th St. mill and pave lower and upper layers of HMA pavement on the eastbound lanes.
- Construct right turn lanes at 116^{th} St.
- Construct B-40-764.
- Construct B-40-167.

Stage 4

- From approximately 112th St. to 110th St., remove median crossover, restore median and construct left turn lane at 110th St.
- Mill and pave lower and upper layers of HMA pavement on the inside lane in the westbound direction.

Stage 5

- From approximately 110th St. to 108th St., mill and pave lower and upper layers of HMA pavement on the inside and outside lanes during nighttime hours.

Definitions

The following definitions apply to this contract:

Peak Hours

- 6:00 AM – 9:00 AM Monday, Tuesday, Wednesday, Thursday, and Friday
- 3:00 PM – 6:30 PM Monday, Tuesday, Wednesday, Thursday, and Friday

Off-Peak Hours

- 9:00 AM – 3:00 PM Monday, Tuesday, Wednesday, Thursday, and Friday
- 6:30 PM – 8:00 PM Monday, Tuesday, Wednesday, Thursday, and Friday
- 6:00 AM – 8:00 PM Saturday and Sunday

Night Time Hours

- 8:00 PM – 6:00 AM (Sunday PM to Monday AM, Monday PM to Tuesday AM, Tuesday PM to Wednesday AM, Wednesday PM to Thursday AM, Thursday PM to Friday AM, Friday PM to Saturday AM, Saturday PM to Sunday AM)

The Hales Corners Health Department grants an exemption from the Hales Corners Municipal Code Chapter 15.02(4) for noise generating activities between the hours of 8:00 PM and 6:00 AM dated October 20, 2011.

Full Local Street Closure Hours

Full closure is complete closure of a directional roadway for any duration longer than 15 minutes. A full closure will be allowed only as provided in the traffic control plans for milling and paving operations.

Advance Notification

Provide the engineer with a schedule of lane, median and intersection closures for the following week by noon on Thursday of the previous week. In addition, provide the following minimum advance notification to the engineer for incorporation into the Wisconsin Lane Closure System.

Lane Closures	3 business days
Construction Stage Changes	14 calendar days
Detours	14 calendar days

Notify the engineer and WisDOT Southeast Region Work Zone Engineer, Bill Wondrachek, (262) 548-5669, if there are any changes in the schedule, early completions, or cancellations of scheduled work. Notify WisDOT Signal Operations at (414) 750-2605 and WisDOT Electrical Field Unit at (414) 266-1170 regarding changes for alternate routes and detours.

All fixed message signs shall be installed as shown on the plans at least 14 calendar days prior to commencing stage construction or as indicated elsewhere.

Closures

Post all lane, median opening and intersection closures three business days in advance of their closure with dates and time of closure. Do not close consecutive median openings or intersections.

Cancellations
Notify the WisDOT Southeast Region Work Zone Engineer of any closure cancellations or early completions as soon as possible.

Stage Changes
Traffic control for stage changes will only be allowed during night time hours.

Fish Spawning
There shall be no instream disturbance of Whitnall Park Creek as a result of construction activity under or for this contract, from March 1, 2014 to May 15, 2014 both dates inclusive, in order to minimize any potential impact on migrating and endemic fish species in the river. Maintain an unobstructed passageway through the construction area at all times to allow for continuous fish movements.

Any change to this limitation will require submitting a written request by the contractor to the engineer, subsequent review and concurrence by the Department of Natural Resources in the request, and final approval by the engineer. The approval will include all conditions to the request as mutually agreed upon by WisDOT and DNR.

Migratory Birds
Swallow and other migratory birds' nests have been observed on or under the existing bridge. All active nests (when eggs or young are present) of migratory birds are protected under the federal Migratory Bird Treaty Act.

The nesting season for swallows and other birds is usually between May 1 and August 30. Either prevent active nests from becoming established, or apply for a depredation permit from the US Fish and Wildlife Service for work that may disturb or destroy active nests. The need for a permit may be avoided by removing the existing bridge structure prior to nest occupation by birds, or clearing nests from all structures before the nests become active in early spring. As a last resort, prevent birds from nesting by installing a suitable netting device on the remaining structure prior to nesting activity. Include the cost for preventing nesting in the cost of Removing Old Structure Over Waterway with Minimal Debris.

4. Traffic.

Janesville Road (STH 24) Traffic

Submit any traffic control change request to the engineer at least 72 hours prior to an actual traffic control change. A request does not constitute approval.

Do not store materials or equipment within the clear zone of traffic lanes which are not protected by temporary precast barrier and remove materials from the clear zone prior to opening lane closures. Do not leave any slopes steeper than 3:1 within the clear zone which are not protected by temporary precast barrier prior to opening lane closures. Park equipment a minimum of 30-feet from the edge of the traveled way.

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

Restrict work zones on Janesville Road (STH 24) as allowed by the plans or engineer. Provide and utilize temporary access roads to access the work zones. Construction of temporary access shall be incidental to other items of work.

General

The construction sequence, including the associated traffic control, shall be substantially accomplished as detailed in the Traffic Control Plans, and as described herein.

Coordinate traffic requirements under this contract with other adjacent and concurrent Department of Transportation or local municipality projects. The contractor shall be responsible for implementing and coordinating with other contractors all traffic control as shown on the plans. Modifications to the traffic control plan may be required by the engineer to be safe and consistent with adjacent work by others.

Employ flaggers, signs, barricades, and drums necessary to safeguard and direct traffic at all locations where construction operations may interfere with or restrict the smooth flow of traffic.

Janesville Road (STH 24)

Stage 1

Daytime traffic:

- From approximately 112th St. to 108th St., close inside travel lane in the westbound direction only and maintain one travel lane on the existing outside lane. Maintain all travel lanes and left turn lanes in the eastbound direction.

Nighttime traffic:

- From approximately 112th St. to 108th St., close inside travel lanes and maintain one travel lane in both the westbound and eastbound direction on the existing outside lanes.

Stage 2A

Traffic:

- From approximately 122nd St. to 112th St., close inside travel lanes and maintain one travel lane in both the westbound and eastbound direction on the outside lane.
- From approximately 112th St. To 110th St. maintain one travel lane in both the westbound and eastbound direction on the eastbound lanes.
- Maintain access to median openings at all times. With approval from the engineer, a median opening may be closed for milling and paving operations; however, two consecutive median openings cannot be closed at the same time.

Stage 2B
Traffic:

- From approximately 122nd St. To 112th St. close inside travel lanes and maintain one travel lane in both the westbound and eastbound direction on the outside lane.
- from approximately 112th St. To 110th St. Maintain one travel lane in both the westbound and eastbound direction on the eastbound lanes
- Maintain access to median openings at all times. With approval from the engineer, a median opening may be closed for milling and paving operations; however, two consecutive median openings cannot be closed at the same time.

Stage 2C
Traffic:

- From approximately 122nd St. To 112th St. close inside travel lanes and maintain one travel lane in both the westbound and eastbound direction on the outside lane.
- From approximately 112th St. To 110th St. Maintain one travel lane in both the westbound and eastbound direction on the eastbound lanes
- Maintain access to median openings at all times. With approval from the engineer, a median opening may be closed for milling and paving operations; however, two consecutive median openings cannot be closed at the same time.

Stage 3
Traffic:

- From approximately 122nd St. To 112th St. close outside travel lanes and maintain one travel lane in both the westbound and eastbound direction on the inside lane.
- From approximately 112th St. To 110th St. maintain one travel lane in both the westbound and eastbound direction on the westbound lanes.
- Maintain access to intersections at all times. With approval from the engineer, an intersection may be closed for milling and paving operations; however, two consecutive intersections cannot be closed at the same time.

Stage 4
Traffic:

- From approximately 112th St. to 108th St., close inside travel lanes and maintain one travel lane in both the westbound and eastbound direction.

Stage 5
Traffic:

- From approximately 110th St. to 108th St. maintain one travel lane in both the westbound and eastbound direction.

5. Holiday Work Restrictions.

Do not perform work on, nor haul materials of any kind along or across any portion of the highway carrying Janesville Road (STH 24) 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, May 23, 2014 to 6:00 AM Tuesday, May 27, 2014 for Memorial Day;
- From noon Thursday, July 3, 2014 to 6:00 AM Monday, July 7, 2014 for Independence Day;
- From noon Friday, August 29, 2014 to 6:00 AM Tuesday, September 2, 2014 for Labor Day.

107-005 (20050502)

6. Utilities.

This contract comes under the provision of Administrative Rule Trans 220. 107-065 (20080501)

Underground and overhead utility facilities are located within the project limits. Utility adjustments are anticipated for this construction project. Coordinate construction activities with a call to Diggers Hotline or a direct call to the utilities that have facilities in the area as required per statutes. Use caution to insure the integrity of underground facilities and maintain code clearances from overhead facilities at all times.

When utility adjustments become necessary during construction, such as at intersections and culvert pipe extensions and/or replacements, coordinate with the utility owner. The utility owner will make the required adjustments in coordination with the contractor's construction operation.

Contact each utility company listed in the plans, prior to preparing bids, to obtain current information on the status of existing and any new utility relocation work.

The project contains numerous utility manholes located within the construction area. The utility companies have been advised of the requirement to coordinate adjusting their manhole covers in conjunction with the contractor’s operations. Provide a minimum of ten (10) days advance notice to each manhole owner before commencing construction operations over affected manholes. In addition, provide 10 days advance notice so utilities may set their covers to match final pavement elevations.

We Energies (Electric) anticipates no conflicts. However, it is imperative that the highway contractor contact We Energies before removing any electrical underground cables to verify that they have been abandoned and carry no electrical current. The contractor must not assume that the unmarked facilities have been abandoned. At no time is it acceptable to push, pull cut or drill an unmarked facility without explicit consent from We Energies. Contractor must call the We Energies 24 hour dispatch line to arrange for this verification.

We Energies Electric Dispatch # (800) 662-4797

We Energies Electric field contact- Ken Franecki, (414) 944-5531, mobile (414) 939-1039

AT&T Wisconsin has telecommunication facilities throughout the project (Station 26+04 to Station 85+76). The facilities shown on the table below are in conflict and will be relocated. The relocations will occur prior to and during construction.

CONFLICT AND LOCATION	RESOLUTION	COMPLETION
Buried duct packages conflict with proposed Structure B-40-765	Ducts from MH# 3A04 (Station 73+12.83, 39.92' LT.) to MH# 3A03 (Station 80+52.07, 39.72' LT.) will be relocated. 1. MH# 3A04 and MH# 3A03 will be rebuilt to accommodate new 8-duct package. 2. New 8-duct package to be built from MH# 3A04 and MH# 3A03. Open cut from MH #3A04 south to Station 73+12.83. Boring on STH 24 reference line from Station 73+12.83 to Station 80+52, approximately 15 to 20 feet deep. Open cut from Station 80+52 northerly to MH# 3A03. 3. Cables in the existing duct package from Reconstructed MH# 3A04 to Reconstructed MH# 3A03 will be removed prior to road construction.	Prior to construction
Proposed signal / lighting conflicts with buried conduit. Station 58+59.5	Conduit will be shifted to the north ±6' during construction for proposed lighting #5A2; Station 58+95.5, LT 9.0'. Removal of existing pole needs to be coordinated in order to relocate telephone ducts. This will be done during construction and take approximately 4 days to complete	During construction
Proposed signal / lighting conflicts with buried conduit. Station 60+06.5	Conduit will be shifted to the south ±6' during construction for proposed lighting #5A3; station 60+06.5' RT 8.5'. This will be done during construction and take approximately 4 days to complete	During construction
Proposed sidewalk conflicts with existing pole at Station 59+13, 70.43'RT	Pole will be shifted approximately 10' to the south. Due to existing trees within the aerial span, AT&T may bury and a new line will cross 116th St. or it will be put in to the underground. This will be updated as the job progresses.	During construction

AT&T Wisconsin field contact- Mark Eder, (262) 896-7434.

Time Warner Cable has overhead facilities throughout the project. The facilities are attached to AT&T Wis poles. The facilities will be relocated after pole is relocated by AT&T, prior to construction.

Time Warner Cable field contact- Jack Russert, (414) 277-4245.

Village of Hales Corners (Sewer and Median Lighting) have facilities throughout the project. Work to be performed is included in the project plans.

Village of Hales Corners Contacts:
- Mick Belifuss, DPW Foreman, mobile (414) 397-9081, office (414) 529-6167.
- Mike Martin, DPW Director, mobile (414) 333-0992, office (414) 529-6165.
- Hales Corners Police Dispatch Non-Emergency (414) 529-6140.

City of Milwaukee (Water) has facilities throughout the project. The facilities shown on the table below are in conflict and will be relocated. The relocations will be adjusted as part of this contract during construction.

CONFLICT AND LOCATION	RESOLUTION	COMPLETION
Existing hydrant conflicts with proposed curb radius. Station 58+91 52'RT	Relocate Hydrant. Perform work in accordance with the requirements of SPV.0060.007 Removing Hydrant; SPV.0060.008 Installing Hydrant; SPV.0090.003 Ductile Iron Hydrant Branch 6-Inch,	During construction
Existing 8" water main conflicts with Southeast Wing Wall of Structure B-40-765. Station 77+80 55'RT	Relocate 8" Ductile Iron water main. Perform work in accordance with the requirements of SPV.0090.004 Ductile Iron Water Main 8-Inch.	During construction
Existing valve boxes require adjustment to match new pavement.	14 water boxes will be adjusted during construction to match new pavement. Perform this work in accordance to the requirements of SPV.0060.006 Adjusting Water Boxes.	During construction

City of Milwaukee (Water) field contact, Dave Goldapp, (414) 286-6301.

Milwaukee Metropolitan Sewerage District (MMSD) (Sanitary Sewer) has facilities throughout the project. No conflicts with sanitary sewers are anticipated. Required adjustments of manholes will be performed by MMSD. Contact Robert Rebitski at (414) 225-2214 at least 3 days prior to commencement of work.

We Energies (Gas) has underground facilities throughout the project. The facilities shown on the table below are in conflict and will be relocated. The relocations will occur prior to construction.

CONFLICT AND LOCATION	RESOLUTION	COMPLETION
Existing gas main conflicts with proposed overhead sign base. Station 82+50, 51'RT	2" steel gas main will be relocated to 55'RT to avoid sign base.	Prior to construction
Existing gas main on south side of roadway conflicts with proposed signals. Station 59+00 to Station 60+00	2" steel gas main will be relocated to south right- of -way line to avoid signal base.	Prior to construction
Existing gas main on north of proposed Structure B-40-765.	We Energies does not anticipate conflict. Is doing additional investigation	Prior to construction

It is imperative that the highway contractor contact We Energies before removing any gas facilities to verify that they have been abandoned and carry no natural gas. The contractor must not assume that the unmarked facilities have been abandoned. At no time is it acceptable to push, pull cut or drill an unmarked facility without explicit consent from We Energies. Contractor must call the We Energies 24 hour dispatch line to arrange for this verification.

We Energies Gas Dispatch # (800) 261-5325
We Energies Gas Field Contact Dan Warren # (262) 763-1086, mobile (414) 939-3535.

TDS Metrocom has underground facilities throughout the project. They anticipate no conflict. Michael Johnson, (262-754-3052) is the field contact person for TDS Metrocom.

West Shore Pipe Line has an underground Petroleum Pipeline crossing at Station 26+25. They anticipate no conflict. Ken Belmore, (414) 788-6554, is the field contact person for West Shore Pipe Line.

7. Other Contracts.

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

Project 2030-11-70, STH 100 and Coldspring Road, HWY 100, Milwaukee County, Wisconsin under a department contract. Work under this contract is anticipated to be LET in February, 2014. Work area under contract 2030-11-70 is not expected to inhibit any construction under this contract. Project Contact: Jason Dahlgren, (262) 521-5349.

8. Hauling Restrictions.

Do not haul materials of any kind on any local roads.

At all times, conduct operations in a manner that will cause a minimum of disruption to traffic on existing roadways.

This provision does not reduce or eliminate the contractor responsibility from restoring local roads under the item maintenance and repair of haul roads.

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

The department has obtained a U.S. Army Corps of Engineers Section 404 permit. Comply with the requirements of the permit in addition to requirements of the special provisions. A copy of the permit is available from the regional office by contacting Karla Leithoff at (262) 548-6709.
107-054 (20080901)

10. 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 ~212º 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 (>104º F) application.

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

11. Construction Over or Adjacent to Navigable Waters.

Supplement standard spec 107.19 with the following:

The Whitnall Park Creek is classified as a navigable waterway.
107-060 (20040415)

12. Erosion Control.

Supplement standard spec 107.20 with the following:

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

Provide the ECIP 14 calendar days prior to the pre-construction conference. Provide 1 copy of the ECIP to WisDOT and 1 copy of the ECIP to the WDNR Liaison, Kristina Betzold, State of Wisconsin DNR, 2300 N. Dr. Martin Luther King Jr. Drive, Milwaukee, WI 53212, (414) 507-4946. Pursue operations in a timely and diligent manner, continuing all construction operations methodically from the initial removals and topsoil stripping

operations through the subsequent grading, paving, and re-topsoiling to minimize the period of exposure to possible erosion. Do not implement the ECIP until it has been approved by the department.

Re-topsoil of graded areas, as designated by the engineer, immediately after grading is completed within those areas. Seed, fertilize, and mulch/erosion mat top-soiled areas, as designated by the engineer, within 5 calendar days after placement of topsoil. If graded areas are left exposed for more than 14 calendar days, seed those areas with temporary seed.

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

Stockpile excess material or spoils on upland areas away from wetlands, floodplains and waterways. Stockpiled soil shall be protected against erosion. If stockpiled material is left for more than 14 calendar days, seed the stockpile with temporary seed.

13. Erosion Control Structures.

Within seven calendar days after the commencement of work on the bridge superstructure, place all permanent erosion control devices, including riprap, erosion mat, ditch checks, seed, fertilizer, mulch, soil stabilizer, or any other item required by the contract or deemed necessary by the engineer. These devices shall be in place in the area under the bridge and on both sides of the roadway, from the waterway to a point 100-feet behind the backwall of the abutment. Within said limits, place these devices to a height equivalent to the calculated water elevation resulting from a storm that occurs on the average of once every two years (Q2) as shown on the plan, or as directed by the engineer. Prior to initial construction operations, place silt screens and other temporary erosion control measures as shown on the plans, and remove them after the permanent erosion control devices are in place unless directed otherwise by the engineer.

In the event that construction activity does not disturb the existing ground below the Q2 elevation, the above timing requirements for permanent erosion control shall be waived.
107-070 (20030820)

14. Maintaining Drainage.

Maintain drainage at and through worksite during construction in accordance to standard spec 107.22, standard spec 204, and standard spec 520.

Use existing inlets, existing storm sewer, temporary inlets, temporary storm sewer pipe, and bypass drainage to maintain existing subsurface drainage.

15. 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 8:00 PM until the following 6:00 AM, unless prior written approval is obtained from the engineer. 107-001 (20060512)

16. Electrical Work, General.

Append standard spec 651.3.3 (3) with the following:

Request a signal inspection of the completed signal installation to the engineer at least five working days prior to the time of the requested inspection. Notify the department's Electrical Field Unit at (414) 266-1170 to coordinate the inspection. The department's Region Electrical personnel will perform the inspection.

17. Lighting Systems, General.

A General
Append standard specs 651, 652, 653, 654, 655, 657 and 659 as follows:

B Splices
Lighting units:
Typical splices shall accept four 14 AWG - 2 AWG conductors, be underground/overhead rated and include gel filled hinged splice closure. Utilize NSI Easy-Splice Gel Tap Splice Kit series connectors (ESGTS-2), or equal by Burndy or Thomas & Betts. Provide two wraps of electrical tape around closure. Split bolts are not allowed. Provide larger series kit where needed to accommodate larger conductors than 2 AWG.

Pull boxes:
Splices shall accept quantity and size of conductors required at individual pull boxes (which may be of differing configurations), be direct burial and submersible rated. Utilize multi-cable connectors encased in Scotchcast 85 multi-mold resin splice kit or equal. No splices are allowed in pull boxes, unless indicated on the plans.

C Threaded Fasteners
These special provisions require the corrosion preventative compound described in standard specs 657.3.1(3) and 657.3.5.

All threaded fasteners (i.e. anchor bolts, screws, bolts, etc.) shall be liberally coated with an approved anti-seize compound, excess shall be wiped off. Excepting fasteners inside control cabinets, fasteners up to half an inch in diameter shall be stainless steel.

D Circuit Identification
Color coding shall be accomplished by use of cable jackets' of the proper color or color coded electrical tape. All tails of all splices shall be coded. Secondary distribution circuits shall be color-coded to match existing; the ground conductor shall be green.

Each and every accessible location of underground cable in control cabinet, pull boxes and pole bases (handholes) shall have a permanent weatherproof white nylon tag with TYPED ¼" black lettering identifying the cabinet, conductor circuit number (i.e. "A-7").

18. Traffic Signals, General.

All traffic signal work shall be in accordance to the State of Wisconsin Department of Transportation Standard Specifications for Highway and Structure Construction, 2013 edition, and these plans and specifications.

Note that failure to comply with the state standards and specifications may result in the cost of the corrections to be made at the contractor's expense. Also, any additional disruption of State-owned facilities shall be repaired or relocated as needed at the contractors expense.

Notify the department's Electrical Field Unit at (414) 266-1170 at least three weeks prior to the beginning of the traffic signal work.

19. Municipality Acceptance of Sanitary Sewer and Water Main Construction.

Both the department and Village of Hales Corners personnel will inspect construction of sanitary sewer. Both the department and Milwaukee Water Works personnel will inspect construction of water main under this contract. However, construction staking, testing, and final acceptance of the sanitary sewer construction will be by the Village of Hales Corners. Construction staking, testing, and final acceptance of the water main construction will be by the Milwaukee Water Works.
105-001 (20061009)

20. Notice to Contractor, Notification of Demolition and/or Renovation No Asbestos Found.

John Roelke, License Number All-119523, inspected Structure C-40-028 for asbestos on June 8, 2010. No regulated Asbestos Containing Material (RACM) was found on this structure. A copy of the inspection report is available from: Gary Metzer, (262) 548-5685.

In accordance to NR447 and DHS159, ensure that DNR or DHS receives a completed Notification of Demolition and/or Renovation (DNR Form 4500-113 (R 4/11), or subsequent revision) via U.S. mail, hand-delivery, or using the online notification system at least 10 working days prior to beginning any construction or demolition. Pay all

associated fees. Provide a copy of the completed 4500-113 form to Gary Metzer, (262) 548-5685 and DOT BTS-ESS Attn: Hazardous Materials Specialist PO Box 7965, Madison, WI, 53707-7965. In addition, comply with all local or municipal asbestos requirements.

Use the following information to complete WisDNR form 4500-113:

- Site Name: Structure C-40-028, STH 24, Janesville Road over Root River Tributary
- Site Address: 0.1M W JCT STH 100
- Ownership Information: WisDOT Transportation Southeast Region, 414 NW Barstow Street, P.O. Box 798, Waukesha, WI 53187-0798
- Contact: Gary Metzer
- Phone: (262) 548-5685
- Age: 51 years old. This structure was constructed in 1962.
- Area: 1233 SF of deck

Insert the following paragraph in Section 6.g.:

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

107-125 (20120615)

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

John Roelke, License Number All-119523, inspected Structure B-40-167 for asbestos on June 8, 2010. No regulated Asbestos Containing Material (RACM) was found on this structure. A copy of the inspection report is available from: Gary Metzer, (262) 548-5685.

107-127 (20120615)

22. Coordination with Businesses.

The contractor shall arrange and conduct a meeting between the contractor, the department, local officials and business people to discuss the project schedule of operations including vehicular and pedestrian access during construction operations. Hold the first meeting prior to the start of work under this contract and hold two meetings per month thereafter.

108-060 (20030820)

23. Removing Old Structure Over Waterway With Minimal Debris Station 60+30, Item 203.0600.S.001; Station 77+94.8, Item 203.0600.S.002.

Conform to standard spec 203 as modified in this special provision.

Add the following to standard spec 203:

203.3.6 Removals Over Waterways and Wetlands
203.3.6.2 Removing Old Structure Over Waterway with Minimal Debris

(1) Remove the existing Structure B-40-167 and C-40-028 over the Whitnall Park Creek in large sections and conforming to the contractor's approved structure removal and clean-up plan. During superstructure removal, prevent all large pieces and minimize the number of small pieces from entering the waterway or wetland. Remove all reinforcing steel, all concrete, and all other debris that falls into the waterway or wetland. The contractor may leave limited amounts of small concrete pieces scattered over the waterway floor or wetland only if the engineer allows.

(2) Submit a structure removal and clean-up plan as part of the erosion control implementation plan required under standard spec 107.20. Do not start work under the structure removal and clean-up plan without the department's written approval of the plan. Include the following information in the structure removal and clean-up plan:

- Methods and schedule to remove the structure.
- Methods to control potentially harmful environmental impacts.
- Methods for superstructure removal that prevent all large pieces and minimize the number of small pieces from entering the waterway or wetlands.
- Methods to control dust and contain slurry.
- Methods for removing piers and abutments. If blasting in water, include restrictions that regulatory agencies and the contract require.
- Methods for cleaning the waterway or wetlands.

(3) If stockpiling spoil material, place it on an upland site an adequate distance from the waterway, wetland, or any open water created by excavation. Install silt fence between the spoil pile and the waterway, wetland, or excavation site.

Add the following Removing Old Structure bid item to standard spec 203.5.1:

ITEM NUMBER	DESCRIPTION	UNIT
203.0600.S.001	Removing Old Structure Over Waterway With Minimal Debris Station 60+30	LS
203.0600.S.002	Removing Old Structure Over Waterway With Minimal Debris Station 77+94.8	LS

203-020 (20080902)

24. Removing Concrete Surface Partial Depth, Item 204.0109.S.

A Description

This special provision describes removing a portion of the concrete surfaces as shown on the plans according to standard spec 204, and as hereinafter provided.

B (Vacant)

C Construction

C.1 Equipment

Use a machine that provides a surface finish acceptable to the engineer. Shroud the machine to prevent discharge of any loosened material into adjacent work areas or live traffic lanes.

Use a machine that is equipped with electronic devices that provide accurate depth, grade and slope control, and acceptable dust control system.

C.2 Methods

Remove existing concrete to the depths as shown on the plan by grinding, planing, chipping, sawing, milling, or by using other methods approved by the engineer.

Perform the removal operation in such a manner as to preclude damage to the remaining pavement and results in a reasonable uniform plane surface free of excessive large scarification marks and having a uniform transverse slope.

The sequence of removal operations shall be such that no exposed longitudinal joints 2 inches or more in depth remain during non-working hours. Windrowing or storing of the removed material on the roadway will only be permitted in conjunction with a continuous removal and pick-up operation. During non-working hours, clear the roadway of all materials and equipment.

The removed pavement shall become the property of the contractor. Properly dispose of it according to standard spec 204.3.1.3.

D Measurement

The department will measure Removing Concrete Surface Partial Depth in area by the square foot of surface area removed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
204.0109.S	Removing Concrete Surface Partial Depth	SF

Payment is in full compensation for removing the concrete; and for disposing of materials.
204-041 (20080902)

25. QMP Base Aggregate.

A Description

A.1 General

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

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

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

(4) Provide and maintain a quality control program, defined as all activities related to and documentation of the following:
1. Production and placement control and inspection.
2. Material sampling and testing.

(5) Chapter 8 of the department's construction and materials manual (CMM) provides additional detailed guidance for QMP work and describes required sampling and testing procedures. The contractor may obtain the CMM from the department's web site at:

http://roadwaystandards.dot.wi.gov/standards/cmm/index.htm

A.2 Contractor Testing for Small Quantities

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

(2) The requirements under this special provision apply equally to a small quantity for an individual bid item except as follows:
1. The contractor need not submit a full quality control plan but shall provide an organizational chart to the engineer including names, telephone numbers, and current certifications of all persons involved in the quality control program for material under affected bid items.

2. Divide the aggregate into uniformly sized sublots for testing as follows:

Plan Quantity	Minimum Required Testing
≤ 1500 tons	One test from production, load-out, or placement at the contractor's option[1]
> 1500 tons and ≤ 6000 tons	Two tests of the same type, either from production, load-out, or placement at the contractor's option[1]
> 6000 tons and ≤ 9000 tons	Three placement tests[2] [3]

[1] If using production tests for acceptance, submit test results to the engineer for review prior to incorporating the material into the work. Production test results are valid for a period of 3 years.

[2] For 3-inch material, obtain samples at load-out.

[3] If the actual quantity overruns 9000 tons, create overrun sublots to test at a rate of one additional placement test for each 3000 tons, or fraction of 3000 tons, of overrun.

3. No control charts are required. Submit aggregate load-out and placement test results to the engineer within one business day of obtaining the sample. Assure that all properties are within the limits specified for each test.
4. Department verification testing is optional for quantities of 6000 tons or less.

(3) Material represented by a sublot with any property outside the specification limits is nonconforming. The department may reject material or otherwise determine the final disposition of nonconforming material as specified in standard spec 106.5.

B Materials

B.1 Quality Control Plan

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

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

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

6. Locations of the QC laboratory, retained sample storage, and where control charts and other documentation is posted.
7. An outline for resolving a process control problem. Include responsible personnel, required documentation, and appropriate communication steps.

B.2 Personnel

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

Required Certification Level:	Sampling or Testing Roles:
Aggregate Technician IPP Aggregate Sampling Technician Aggregate Assistant Certified Technician (ACT-AGG)	Aggregate Sampling[1]
Aggregate Technician IPP Aggregate Assistant Certified Technician (ACT-AGG)	Aggregate Gradation Testing, Aggregate Fractured Particle Testing, Aggregate Liquid Limit and Plasticity Index Testing

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

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

B.3 Laboratory

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

Materials Management Section
3502 Kinsman Blvd.
Madison, WI 53704
Telephone: (608) 246-5388
http://www.dot.state.wi.us/business/engrserv/lab-qualification.htm

B.4 Quality Control Documentation

B.4.1 General

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

B.4.2 Records

(1) Document all placement observations, inspection records, and control adjustments daily in a permanent field record. Also include all test results in the project records. Provide test results to the engineer within 6 hours after obtaining a sample. For 3-inch

base, extend this 6-hour limit to 24 hours. Post or distribute tabulated results using a method mutually agreeable to the engineer and contractor.

B.4.3 Control Charts

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

(2) Provide control charts to the engineer within 6 hours after obtaining a sample. For 3-inch base, extend this 6-hour limit to 24 hours. Post or distribute charts using a method mutually agreeable to the engineer and contractor. Update control charts daily to include the following:

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

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

B.5 Contractor Testing

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

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

(3) Split each contractor QC sample and identify it according to CMM 8.30. Retain the split for 7 calendar days in a dry, protected location. If requested for department comparison testing, deliver the split to the engineer within one business day.

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

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

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

B.6 Test Methods

B.6.1 Gradation

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

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

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

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

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

B.6.2 Fracture

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

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

B.6.3 Liquid Limit and Plasticity

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

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

B.7 Corrective Action

B.7.1 General

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

B.7.2 Placement Corrective Action

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

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

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

(3) If corrective action improves the property in question such that the running average after 4 additional tests is within the warning limits, the contractor may return to the testing frequency specified in B.5.3. If corrective action does not improve the property in question such that the running average after 4 additional individual tests is still in the warning band, repeat the steps outlined above starting with engineer notification.

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

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

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

B.8 Department Testing

B.8.1 General

(1) The department will conduct verification testing to validate the quality of the product and independent assurance testing to evaluate the sampling and testing. The department will provide the contractor with a listing of names and telephone numbers of all QV and IA personnel for the project, and provide test results to the contractor within 2 business days after the department obtains the sample.

B.8.2 Verification Testing

B.8.2.1 General

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

(2) The department will conduct QV tests of each base aggregate size, source or classification, and type during placement conforming to the following:
1. One non-random test on the first day of placement.
2. At least one random test per 30,000 tons, or fraction of 30,000 tons, placed.

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

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

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

B.8.3 Independent Assurance

(1) Independence assurance is unbiased testing the department performs to evaluate the department's QV and the contractor's QC sampling and testing including personnel qualifications, procedures, and equipment. The department will perform an IA review

according to the department's independent assurance program. That review may include one or more of the following:

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

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

B.9 Dispute Resolution

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

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

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

C (Vacant)

D (Vacant)

E Payment

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

(2) For material represented by a running average exceeding a control limit, the department will reduce pay by 10 percent of the contract price for the affected Base Aggregate bid items listed in subsection A. The department will administer pay reduction under the Nonconforming QMP Base Aggregate Gradation or Nonconforming QMP Base Aggregate Fracture Administrative items. The department will determine the quantity of nonconforming material as specified in B.7.2.

301-010 (20100709)

26. Concrete Pavement Partial Depth Repair Joint Repair, Item 416.0750.S; Crack Repair, Item 416.0752.S.

A Description

This special provision describes removal of deteriorated concrete, furnishing, placing and curing concrete to the original slope and grade, and reestablishing cracks or joints at areas shown on the plans and as directed by the engineer, all according to the requirements of the plans, the standard specifications, and as hereinafter provided.

The item Concrete Pavement Partial Depth Repair Joint Repair consists of removing deteriorated concrete at the areas designated in the plans, furnishing, placing, and curing concrete to the original slope and grade, and reestablishing joints.

The item Concrete Pavement Partial Depth Repair Crack Repair consists of removing deteriorated concrete at the areas designated in the plans, furnishing, placing, and curing concrete to the original slope and grade, and reestablishing cracks.

A.1 General

In advance of the beginning of the rehabilitation operation, establish traffic control for rehabilitation surveys and marking of locations.

Any removal and replacement of existing asphaltic concrete pavement in conjunction with the concrete pavement operations shall be incidental work for which no direct payment will be made unless otherwise shown in the plan.

Perform the removal operation in a manner that precludes damage to the remaining pavement. Any damage to the in-place concrete pavement by the contractor's operations, shall be repaired prior to final acceptance as directed by the engineer and at no expense to the department.

Milling is generally completed with one pass of the milling machine. The nominal width of Joint Repair or Crack Repair shall not exceed 12 inches (305) mm). Any repair area required, beyond the nominal 12-inch (305 mm) width will be paid for as Surface Repair. The length of Full Depth Adjustment, along the transverse joint, from the nearest longitudinal joint, shall not be greater than 18 inches (458 mm).

If during removal operations it is determined that a full-lane width, full-depth repair its required, the contractor will receive partial payment for a measured quantity of the intended repair item, and the work shall be completed under the item of Concrete Pavement Repair, Item 416.0710. If after milling a transverse joint deteriorated concrete exists greater than 4 inches wide and 6 feet in length, the joint shall be converted to a full-depth Concrete Pavement Repair.

Do not place repair concrete when the ambient air temperature is below 50° F (10° C), except as permitted by the engineer. When the ambient air temperature is below 50° F (10° C) the engineer may require covering during the initial curing period.

Partial depth repair areas should be inspected for possible debonding, by chain dragging or other suitable procedure, before opening to public traffic. Debonded repairs must be removed and replaced.

Opening of pavement repairs to traffic will be controlled by cylinder tests, as set forth in standard spec 415.3.17.

Replace any area of the asphaltic shoulder damaged during the pavement removal operations under this item with a commercially produced asphaltic patching material to the elevation of the adjacent shoulder.

At no expense to the department, remove and replace any areas of failure that appear within one month of the original repair, or any subsequent repair, including traffic control. Failures include but may not be limited to loss of bonding to the in-place concrete, spalling, or crack apparent in the repair other than the desired crack in the newly constructed joint or reestablished crack.

A.2 Equipment

Use only concrete milling machines that are equipped with a device for stopping at preset depths to prevent damage to dowel bars. Additionally, shroud the equipment to prevent discharge of any loosened material into adjacent work areas or live traffic lanes.

Use air chippers or breakers for chipping the old concrete surface that have a total weight not exceeding 30 lb. (13.6 kg) and are equipped with flat, chisel-type points that have cutting edges not less than .75 inch (19 mm) or greater than 3 inches (76.2 mm) wide.

Use concrete mixing equipment that provides material of uniform consistency. Do not prepare site-mixed concrete more than ½ hour prior to placement. Do not prepare ready-mixed concrete more than 1 hour prior to placement.

Use mechanical vibrators that are capable of operating at frequencies sufficient to achieve thorough and uniform consolidation, but not less than 7000 impulses per minute. Have available at least one spare vibrator, in working order and of sufficient frequency, on the work site before concrete placement is started.

B Materials
All materials used in the work shall conform to the requirements specified for the class of material named.

B.1 Concrete
The replacement concrete shall comply with the standard specifications except as modified below. It shall be furnished, placed, and cured according to the provisions in the plans, specifications, and contract.

Use the following proportions for 1 cubic yard (cubic meter) of concrete:

850 lb. (505 kg) Portland Concrete	(Type 1 or Type III)
1338 lb. (794 kg) Fine Aggregate	(Per standard specifications except max'm P200=2.5%)
1338 lb. (794 kg) Coarse Aggregate	(See table below for gradation)

* These quantities assume a specific gravity of 2.65.

Coarse Aggregate Gradation

Sieve	% Passing	
3/8	(9.5 mm)	100
#4	(4.75 mm)	55-95
#50	(300 µm)	0-5
#200	(75 µm)	0-1.0

Maximum slump shall be 1 inch (25 mm).

Air Content shall be 6% ±1.5%

ASTM C494 Type A admixture shall be used, unless Type E is used.

ASTM C494 Type E admixture may be used, according to the manufacturer's recommendations, to achieve the required opening strength in the desired time period. Dosage will vary with ambient temperature and desired opening time.

The use of more than 50% of the maximum manufacturer's recommended dosage of Type E admixture will require the concrete to be sprayed with curing compound and covered with wet burlene.

B.2 Compression Relief Material
Provide compression relief material that is made of a rigid, compressible, non-absorbent material.

B.3 Bonding Agent
Use bonding grout that consists of equal portions of Portland cement and sand, mixed with sufficient water to form a slurry having the consistency of thick cream.

B.4 Concrete Curing Agent

Provide a concrete curing agent that is a resin of 100 percent poly-alpha-methylstyrene type curing compound meeting ASTM C309, Type 2, Class B specifications and conforming to all requirements according to the following table:

Properties	Minimum	Maximum
Total Solids, % by weight of compound	42	
Reflectance in 72 hours (ASTM E1347	65	
Loss of Water, kg/m2 in 24 hours (ASTM C156)		0.15
Loss of water, kg/m2 in 72 hours (ASTM C156)		0.40
Settling Test, ml/100 ml in 72 hours 1		2
V.O.C. Content, g/L		350
Infrared Spectrum, Vehicle2	100% alpha-methylstyrene	

[1] Test Method on file at the department's Materials Testing Lab.

[2] The infrared scan for the dried vehicle from the curing compound shall match the infrared scan on file at the department's Materials Testing Lab.

Shelf life of the product shall be six months from date of manufacture. The product may be re-tested by the department's Materials Testing Lab and re-approved, if the physical and chemical properties have not changed, for an additional six months. However, the maximum shelf life shall not exceed one year from manufacture date.

C Construction

Remove the concrete by milling to the depths and dimensions as shown on the plan or as determined by the engineer, or both.

Milling may be accomplished either longitudinally or transversely to the joint, crack, or edge. The removal process must not damage dowel bars. In the event a dowel bar exhibits excessive corrosion, cut, or burn-off the bar.

The removal of the concrete surface in the designated repair areas shall have a minimum depth of 2 inches (50.8 mm) with all deteriorated concrete removed to a maximum depth of one-half the pavement thickness, or the top of the dowel bars. Using air chippers, remove all cracked or deteriorated concrete exposed after milling to sound concrete. Chipping at the milled surface of the crack or joint shall be a minimum 2 inches wide and shall be at a 1:1 slope.

When dowel bars are present, take precaution not to disturb unsound concrete below the tops of the dowels. If some of this unsound material is accidentally blown out during the cleaning process, fill in the voids with clean, dry sand.

Use air chippers only for final preparation of the repair area.

Storage of the removed material on the roadway will only be permitted in conjunction with a continuous removal and pick-up operation. During non-working hours, clear the roadway of all materials and equipment.

The removed pavement shall become the property of the contractor and disposed of according to standard spec 204.3.1.3.

Install pavement ties according to standard spec 416.3.6.

Sandblast all exposed surfaces within 24 hours prior to concrete placement. If it rains prior to concrete placement, sandblast the repair areas again. Additionally, clean the repair areas of loose material by air blasting before applying the bonding grout.

Coat exposed surfaces of dowel bars to prevent bonding between the bar and the repair concrete. Take precaution to prevent contamination of existing concrete in the repair area.

Place compression relief material to maintain the continuity of the existing crack or to reestablish the joint in a full-depth adjustment. Install compression relief material such that it remains in position and is tight to all edges during placement of the repair concrete. During concrete placement and vibrating, keep the compression relief material in contact with the bottom of the repair area. To ensure that cracks are reestablished in their original locations, scribe their locations on the adjoining pavement outside the removal area, prior to removal operations.

Reestablish cracks and joints to a ¼-inch width, or to the existing crack or joint width, whichever is greater.

Immediately prior to placing the concrete, coat the repair surface with bonding grout. The surface shall be completely dry for at least one-half hour before coating with bonding grout. If the surface isn't completely dry, dry the surface using heat to remove all moisture from the repair surface. Mix the grout by mechanical means and thoroughly brush it over the prepared concrete surface to ensure that all parts receive an even coating. No excess grout shall be permitted to collect in pockets. Place grout within 1½ hours of mixing. If the grout whitens, sandblast, and re-grout.

Vibrate concrete as necessary to uniformly and thoroughly consolidate the entire mass of fresh concrete without causing segregation of the aggregates or the formation of localized areas of grout.

Concrete repairs shall not protrude beyond the original cross-section of the pavement by more than 3/8 inch (9.5 mm). The edges shall be formed or sawn full-depth.

Strike-off the surface of the repaired area flush with the adjacent concrete and finish the surface to a uniform texture, true to grade and cross section and free from porous areas. As a final finishing operation, float the concrete toward the edges of the repair.

While the concrete is still plastic, the repair shall be tested for trueness with a straightedge.

Reestablish cracks using compression relief material to or beyond the surface of the repair. Initially reestablish joints in plastic concrete by using a jointing tool. Establish tooled joints to a minimum depth of 2 inches. Tooled edges shall be provided, adjacent to all compression relief material, in fresh concrete. Complete the removal of excess compression relief material above the pavement surface without damage to the repair area. The method of removal will be reviewed and approved by the engineer prior to any removal.

Surface texturing, if required by the engineer, shall consist of a broomed finish in the long dimension direction of the repair.

Apply curing compound to the fresh concrete as soon as possible. Apply the compound uniformly, at a minimum rate of one gallon per 100 square feet (0.41 L/m^2).

Restore joints by sawing. Saw the joints in a single cut, to the width and depth shown on the plans, and according to standard spec 415.3.9.

Thoroughly clean the joint or crack after sawing to remove loose compressible material.

D Measurement

The department will measure Concrete Pavement Partial Depth Repair Joint Repair and Concrete Pavement Partial Depth Repair Crack Repair by the linear foot, completed according to the contract and accepted.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
416.0750.S	Concrete Pavement Partial Depth Repair Joint Repair	LF
416.0752.S	Concrete Pavement Partial Depth Repair Crack Repair	LF

If a Partial Depth Repair item is changed, by the engineer, to a full-depth repair, the contractor shall be paid at a measured quantity of 40 percent of the intended repair plus the full cost for Full Depth Repair.

Payment is full compensation for removing the concrete; disposing of materials; furnishing and placing sand where required; furnishing and placing compression relief material where required; furnishing and placing preformed joint filler where required; placement and curing of the concrete; and for reestablishing cracks or joints.

416-015 (20110615)

27. QMP Ride; Incentive IRI Ride, Item 440.4410.S.

A Description

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

(2) Profile the final riding surface of all mainline pavements**.** Include auxiliary lanes in Category I and II segments; crossroads with county, state or U.S. highway designations greater than 1500 feet in continuous length; bridges, bridge approaches; and railroad crossings. Exclude roundabouts and pavements within 150 feet of the points of curvature of roundabout intersections.

(3) The engineer may direct straightedging under standard spec 415.3.10 for pavement excluded from localized roughness under C.5.2 (1); for bridges; and for roundabouts and pavements within 150 feet of the points of curvature of roundabout intersections. Other surfaces being tested under this provision are exempt from straightedging requirements.

B (Vacant)

C Construction

C.1 Quality Control Plan

(1) Submit a written quality control plan to the engineer at or before the pre-pave meeting. Ensure that the plan provides the following elements:

1. An organizational chart with names, telephone numbers, current certifications and/or titles, and roles and responsibilities of all quality control personnel.
2. The process by which quality control information and corrective action efforts will be disseminated to the appropriate persons. Include a list of recipients, the communication means that will be used, and action time frames.
3. The methods and timing used for monitoring and/or testing ride quality throughout the paving process. Also indicate the approximate timing of acceptance testing in relation to the paving operations.
4. The segment locations of each profile run used for acceptance testing.
5. Traffic Control Plan

C.2 Personnel

(1) Have a profiler operator, certified under the department's highway technician certification program (HTCP), operate the equipment, collect the required data, and analyze the results using the methods taught in the HTCP profiling course. Ensure that an HTCP-certified profiler operator supervises data entry into the material records system (MRS).

C.3 Equipment

(1) Furnish a profile-measuring device capable of measuring IRI from the list of department-approved devices published on the department's web site:

http://roadwaystandards.dot.wi.gov/standards/qmp/index.htm

(2) Unless the engineer and contractor mutually agree otherwise, arrange to have a calibrated profiler available when paving the final riding surface.

(3) Perform daily calibration verification of the profiler using test methods according to the manufacturer's recommendations. Notify the engineer before performing the calibration verification. If the engineer requests, arrange to have the engineer observe the calibration verification and operation. Maintain records of the calibration verification activities, and provide the records to the engineer upon request.

C.4 Testing

C.4.1 Run and Reduction Parameters

(1) Enter the equipment-specific department-approved filter settings and parameters given in the approved profilers list on the department's QMP ride web site.

http://roadwaystandards.dot.wi.gov/standards/qmp/profilers.pdf

C.4.2 Contractor Testing

(1) Operate profilers within the manufacturer's recommended speed tolerances. Perform all profile runs in the direction of travel. Measure the longitudinal profile of each wheel track of each lane. The wheel tracks are 6.0 feet apart and centered in the traveled way of the lane.

(2) Coordinate with the engineer to schedule profile runs for acceptance. The department may require testing to accommodate staged construction or if corrective action may be required.

(3) Measure the profiles of each standard or partial segment. Define primary segments starting at a project terminus and running contiguously along the mainline to the other project terminus. Field-locate the beginning and ending points for each profile run. When applicable, align segment limits with the sublot limits used for testing under the QMP Concrete Pavement specification. Define segments one wheel path wide and distinguished by length as follows:

1. Standard segments are 500 feet long.
2. Partial segments are less than 500 feet long.

(4) Treat partial segments as independent segments.

The department will categorize each standard or partial segment as follows:

Segments with a Posted Speed Limit of 55 MPH or Greater	
Category	**Description**
HMA I	Asphalt pavement with multiple opportunities to achieve a smooth ride. The following operations performed under this contract are considered as opportunities: a layer of HMA, a leveling or wedging layer of HMA, and diamond grinding or partial depth milling of the underlying pavement surface.
HMA II	Asphalt pavement with a single opportunity to achieve a smooth ride.
HMA III	Asphalt pavement segments containing any portion of a bridge, bridge approach, railroad crossing, or intersection. An intersection is defined as the area within the points of curvature of the intersection radii.
PCC II	Concrete pavement.
PCC III	Concrete pavement segments containing any portion of a bridge, bridge approach, railroad crossing, intersection or gap. An intersection is defined as the area within the points of curvature of the intersection radii.

Segments with Any Portion Having a Posted Speed Limit Less Than 55 MPH	
Category	**Description**
HMA IV	Asphalt pavement including intersections, bridges, approaches, and railroad crossings.
PCC IV	Concrete pavement including gaps, intersections, bridges, approaches, and railroad crossings.

C.4.3 Verification Testing

(1) The department may conduct verification testing (QV) to validate the quality of the product. A HTCP certified profiler operator will perform the QV testing. The department will provide the contractor with a listing of the names and telephone numbers of all verification personnel for the project.

(2) The department will notify the contractor before testing so the contractor can observe the QV testing. Verification testing will be performed independent of the contractor's QC work using separate equipment from the contractor's QC tests. The department will provide test results to the contractor within 1 business day after the department completes the testing.

(3) The engineer and contractor will jointly investigate any testing discrepancies. The investigation may include additional testing as well as review and observation of both the department's and contractor's testing procedures and equipment. Both parties will document all investigative work.

(4) If the contractor does not respond to an engineer request to resolve a testing discrepancy, the engineer may suspend production until action is taken. Resolve disputes as specified in C.6.

C.4.4 Documenting Profile Runs

(1) Compute the IRI for each segment and analyze areas of localized roughness using the ProVAL software. Also, the contractor shall prepare the ProVAL Ride Quality Module Reports, showing the IRI for each segment and the areas of localized roughness exceeding an IRI of 200 in/mile. Use ride quality module report as follows:

	Fixed Interval	Continuous (Localized Roughness)
Base-length	500’	25’
Threshold	140”/Mile	200”/Mile

The ProVAL software is available for download at:

http://www.roadprofile.com.

(2) As part of the profiler software outputs and ProVAL reports, document the areas of localized roughness. Field-locate the areas of localized roughness prior to the engineer’s assessment for corrective actions. Document the reasons for areas excluded and submit to the engineer.

(3) Within 5 business days after completing profiling of the pavement covered under this special provision, unless the engineer and contractor mutually agree to a different timeline, submit the electronic ProVAL project file containing the .ppf files for each profiler acceptance run data and Ride Quality Module Reports, in .pdf format using the department’s Materials Reporting System (MRS) software available on the department’s web site:

http://www.atwoodsystems.com/mrs

Notify the engineer when the Profiler Acceptance Run data and the Ride Quality Report have been submitted to the MRS system.

C.5 Corrective Actions

C.5.1 General

(1) Analyze the data from the PROVAL reports and make corrective action recommendations to the department. The department will independently assess whether a repair will help or hurt the long-term pavement performance before deciding on corrective action. Correct the ride as the engineer directs in writing.

C.5.2 Corrective Actions for Localized Roughness

(1) Apply localized roughness requirements to all pavements, including HMA III, PCC III, HMA IV, and PCC IV; except localized roughness requirements will not be applied to pavements within 25 feet of the following surfaces if they are not constructed under this contract: bridges, bridge approaches, or railroad crossings. The department may direct the contractor to make corrections to the pavement within the 25-foot exclusionary zones.

(2) The engineer will review each individual wheel track for areas of localized roughness. The engineer will assess areas of localized roughness within 5 business days of receiving notification that the reports were uploaded. The engineer will analyze the report documenting areas that exceed an IRI of 200 in/mile and do one of the following for each location:

1. Direct the contractor to correct the area to minimize the effect on the ride.
2. Leave the area of localized roughness in place with no pay reduction.
3. Except for HMA IV and PCC IV segments, assess a pay reduction as follows for each location in each wheel path:

Localized Roughness IRI (in/mile)	Pay Reduction[1] (dollars)
> 200	(Length in Feet) x (IRI –200)

[1] A maximum $250 pay reduction may be assessed for locations of localized roughness that are less than or equal to 25 feet long. Locations longer than 25 feet may be assessed a maximum pay reduction of $10 per foot.

(3) The engineer will not direct corrective action or assess a pay reduction for an area of localized roughness without independent identification of that area as determined by physically riding the pavement. For corrections, use only techniques the engineer approves.

(4) Re-profile corrected areas to verify that the IRI is less than 140 in/mile after correction. Submit a revised ProVAL ride quality module report to the reference documents section of the MRS for the corrected areas to validate the results.

C.5.3 Corrective Actions for Excessive IRI

(1) If an individual segment IRI exceeds 140 in/mile for HMA I, HMA II, and PCC II pavements after correction for localized roughness, the engineer may require the contractor to correct that segment. Correct the segment final surface as follows:

HMA I:	Correct to an IRI of 60 in/mile using whichever of the following methods as approved by the engineer: Mill and replace the full lane width of the riding surface excluding the paved shoulder. Continuous diamond grinding or fine-tooth milling the full lane width, if required, of the riding surface including adjustment of the paved shoulders.
HMA II:	Correct to an IRI of 85 in/mile using whichever of the following methods as approved by the engineer: Mill and replace the full lane width of the riding surface excluding the paved shoulder. Continuous diamond grinding or fine-tooth milling of the full lane width, if required, of the riding surface including adjustment of the paved shoulders
PCC II:	Correct to an IRI of 85 in/mile using whichever of the following methods as approved by the engineer: Continuous diamond grinding of the full lane width, if required, of the riding surface including adjustment of the paved shoulders. Conform to sections C.1 through C.4 of Concrete Pavement Continuous Diamond Grinding Special provision contained elsewhere in the contract. Remove and replace the full lane width of the riding surface.

(2) Re-profile corrected segments to verify that the final IRI meets the above correction limits and there are no areas of localized roughness. Enter a revised ProVAL ride quality module report for the corrected areas to the reference documents section of the MRS. Segments failing these criteria after correction are subject to the engineer's right to adjust pay for non-conforming work under standard spec 105.3.

C.6 Dispute Resolution

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

(2) If the project personnel cannot resolve a dispute and the dispute affects payment or could result in incorporating nonconforming pavement, the department will use third party testing to resolve the dispute. The department's Quality Assurance Unit, or a mutually agreed on independent testing company, will provide this testing. The engineer and contractor will abide by the results of the third party tests. The party in

error will pay service charges incurred for testing by an independent tester. The department may use third party tests to evaluate the quality of questionable pavement and determine the appropriate payment.

D Measurement

(1) The department will measure Incentive IRI Ride by the dollar, adjusted as specified in E.2.

E Payment

E.1 Payment for Profiling

(1) Costs for furnishing and operating the profiler, documenting profile results, and correcting the final pavement surface are incidental to the contract. The department will pay separately for engineer-directed corrective action performed within the 25-foot exclusionary zones under C.5.2 as extra work.

E.2 Pay Adjustment

(1) The department will pay incentive for ride under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
440.4410.S	Incentive IRI Ride	DOL

(2) Incentive payment is not limited, either up or down, to the amount the schedule of items shows.

(3) The department will administer disincentives for ride under the Disincentive IRI Ride administrative item.

(4) The department will not assess disincentive on HMA III or PCC III segments. Incentive pay for HMA III and PCC III segments will be according to the requirements for the category of the adjoining segments.

(5) The department will adjust pay for each segment based on the initial IRI for that segment. If corrective action is required, the department will base disincentives on the IRI after correction for pavement meeting the following conditions:

All Pavement:	The corrective work is performed in a contiguous, full lane width section 500 feet long, or a length as agreed with the engineer.
HMA Pavements:	The corrective work is a mill and inlay or full depth replacement and the inlay or replacement layer thickness conforms to standard spec 460.3.2.
Concrete Pavements:	The corrective work is a full depth replacement and conforms to standard spec 415.

(6) The department will adjust pay for 500-foot long standard segments nominally one wheel path wide using equation “QMP 1.04” as follows:

HMA I	
Initial IRI (inches/mile)	**Pay Adjustment[1] (dollars per standard segment)**
< 30	250
≥ 30 to <35	1750 – (50 x IRI)
≥ 35 to < 60	0
≥ 60 to < 75	1000 – (50/3 x IRI)
≥ 75	-250

HMA II and PCC II	
Initial IRI (inches/mile)	**Pay Adjustment[1] [2] (dollars per standard segment)**
< 50	250
≥ 50 to < 55	2750 – (50 x IRI)
≥ 55 to < 85	0
≥ 85 to < 100	(4250/3) – (50/3 x IRI)
≥ 100	-250

HMA IV and PCC IV	
Initial IRI (inches/mile)	**Pay Adjustment[1] [2] (dollars per standard segment)**
< 35	250
≥ 35 to < 45	1125-(25xIRI)
≥ 45	0

[1] If the engineer directs placing upper layer asphaltic mixtures between October 15 and May 1 for department convenience as specified in standard spec 450.3.2.1(5), the department will not adjust pay for ride on pavement the department orders the contractor to place when the temperature, as defined in standard spec 450.3.2.1(2), is less than 36 F.

[2] If the engineer directs placing concrete pavement for department convenience, the department will not adjust pay for ride on pavement the department orders the contractor to place when the air temperature falls below 35 F.

(7) The department will prorate the pay adjustment for partial segments based on their length.

440-010 (20130615)

28. QMP HMA Pavement Nuclear Density.

A Description

Replace standard spec 460.3.3.2 (1) and standard spec 460.3.3.2 (4) with the following:

(1) This special provision describes density testing of in-place HMA pavement with the use of nuclear density gauges. Conform to standard spec 460 as modified in this special provision.

(2) Provide and maintain a quality control program defined as all activities and documentation of the following:
1. Selection of test sites.
2. Testing.
3. Necessary adjustments in the process.
4. Process control inspection.

(3) Chapter 8 of the department's construction and materials manual (CMM) provides additional detailed guidance for QMP work and describes required procedures. Obtain the CMM from the department's web site at:
http://roadwaystandards.dot.wi.gov/standards/cmm/index.htm

(4) The department's Materials Reporting System (MRS) software allows contractors to submit data to the department electronically, estimate pay adjustments, and print selected reports. Qualified personnel may obtain MRS software from the department's web site at:
http://www.atwoodsystems.com/mrs

B Materials

B.1 Personnel

(1) Perform HMA pavement density (QC, QV) testing using a HTCP certified nuclear technician I, or a nuclear assistant certified technician (ACT-NUC) working under a certified technician.

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

B.2 Testing

(1) Conform to ASTM D2950 and CMM 8.15 for density testing and gauge monitoring methods. Perform nuclear gauge measurements using gamma radiation in the backscatter position. Perform each test for 4 minutes of nuclear gauge count time.

B.3 Equipment

B.3.1 General

(1) Furnish nuclear gauges from the department's approved product list at http://www.dot.wisconsin.gov/business/engrserv/approvedprod.htm.

(2) Have the gauge calibrated by the manufacturer or an approved calibration service within 12 months of its use on the project. Retain a copy of the manufacturer's calibration certificate with the gauge.

(3) Prior to each construction season, and following any calibration of the gauge, the contractor must perform calibration verification for each gauge using the reference blocks located in the department's central office materials laboratory. To obtain information or schedule a time to perform calibration verification, contact the department's Radiation Safety Officer at:

Materials Management Section
3502 Kinsman Blvd.
Madison, Wisconsin 53704
Telephone: (608) 243-5998

B.3.2 Correlation of Nuclear Gauges

B.3.2.1 Correlation of QC and QV Nuclear Gauges

(1) Select a representative section of the compacted pavement prior to or on the first day of paving for the correlation process. The section does not have to be the same mix design.

(2) Correlate the 2 or more gauges used for density measurement (QC, QV). The QC and QV gauge operators will perform the correlation on 5 test sites jointly located. Record each density measurement of each test site for the QC, QV and back up gauges.

(3) Calculate the average of the difference in density of the 5 test sites between the QC and QV gauges. Locate an additional 5 test sites if the average difference exceeds 1.0 lb/ft^3. Measure and record the density on the 5 additional test sites for each gauge.

(4) Calculate the average of the difference in density of the 10 test sites between the QC and QV gauges. Replace one or both gauges if the average difference of the 10 tests exceeds 1.0 lb/ft^3 and repeat correlation process from B.3.2.1 (2).

(5) Furnish one of the QC gauges passing the allowable correlation tolerances to perform density testing on the project.

B.3.2.2 Correlation Monitoring

(1) After performing the gauge correlation specified in B.3.2.1, establish a project reference site approved by the department. Clearly mark a flat surface of concrete or asphalt or other material that will not be disturbed during the duration of the project. Perform correlation monitoring of the QC, QV, and all back-up gauges at the project reference site.

(2) Conduct an initial 10 density tests with each gauge on the project reference site and calculate the average value for each gauge to establish the gauge's reference value. Use the gauge's reference value as a control to monitor the calibration of the gauge for the duration of the project.

(3) Check each gauge on the project reference site a minimum of one test per day if paving on the project. Calculate the difference between the gauge's daily test result and its reference value. Investigate if a daily test result is not within 1.5 lb/ft^3 of its

reference value. Conduct 5 additional tests at the reference site once the cause of deviation is corrected. Calculate and record the average of the 5 additional tests. Remove the gauge from the project if the 5-test average is not within 1.5 lb/ft^3 of its reference value established in B.3.2.2(2).

(4) Maintain the reference site test data for each gauge at an agreed location.

B.4 Quality Control Testing and Documentation

B.4.1 Lot and Sublot Requirements

B.4.1.1 Mainline Traffic Lanes, Shoulders, and Appurtenances

(1) A lot consists of the tonnage placed each day for each layer and target density specified in standard spec 460.3.3.1. A lot may include partial sublots.

(2) Divide the roadway into sublots. A sublot is 1500 lane feet for each layer and target density.

(3) A sublot may include HMA placed on more than one day of paving. Test sublots at the pre-determined random locations regardless of when the HMA is placed. No additional testing is required for partial sublots at the beginning or end of a day's paving.

(4) If a resulting partial quantity at the end of the project is less than 750 lane feet, include that partial quantity with the last full sublot of the lane. If a resulting partial quantity at the end of the project is 750 lane feet or more, create a separate sublot for that partial quantity.

(5) Randomly select test locations for each sublot as specified in CMM 8.15 prior to paving and provide a copy to the engineer. Locate and mark QC density test sites when performing the tests. Perform density tests prior to opening the roadway to traffic.

(6) Use Table 1 to determine the number of tests required at each station, depending on the width of the lane being tested. When more than one test is required at a station, offset the tests 10 feet longitudinally from one another to form a diagonal testing row across the lane.

Lane Width	No. of Tests	Transverse Location
5 ft or less	1	Random
Greater than 5 ft to 9 ft	2	Random within 2 equal widths
Greater than 9 ft	3	Random within 3 equal widths

Table 1

B.4.1.2 Side Roads, Crossovers, Turn Lanes, Ramps, and Roundabouts

(1) A lot represents a combination of the total daily tonnage for each layer and target density.

(2) Each side road, crossover, turn lane, ramp, and roundabout must contain at least one sublot for each layer.

(3) If a side road, crossover, turn lane, or ramp is 1500 feet or longer, determine sublots and random test locations as specified in B.4.1.1.

(4) If a side road, crossover, turn lane, or ramp is less than 1500 feet long, determine sublots using a maximum of 750 tons per sublot and perform the number of random tests as specified in Table 2.

Side Roads, Turn Lanes, Crossovers, Ramps, Roundabouts: Sublot/Layer tonnage	Minimum Number of Tests Required
25 to 100 tons	1
101 to 250 tons	3
251 to 500 tons	5
501 to 750 tons	7

Table 2

B.4.2 Pavement Density Determination

B.4.2.1 Mainline Traffic Lanes and Appurtenances

(1) Calculate the average sublot densities using the individual test results in each sublot.

(2) If all sublot averages are no more than one percent below the target density, calculate the daily lot density by averaging the results of each random QC test taken on that day's material.

(3) If any sublot average is more than one percent below the target density, do not include the individual test results from that sublot when computing the lot average density and remove that sublot's tonnage from the daily quantity for incentive. The tonnage from any such sublot is subject to disincentive pay according to standard spec 460.5.2.2.

B.4.2.2 Mainline Shoulders

B.4.2.2.1 Width Greater Than 5 Feet

(1) Determine the pavement density as specified in B.4.2.1.

B.4.2.2.2 Width of 5 Feet or Less

(1) If all sublot test results are no more than 3.0 percent below the minimum target density, calculate the daily lot density by averaging all individual test results for the day.

(2) If a sublot test result is more than 3.0 percent below the target density, the engineer may require the unacceptable material to be removed and replaced with acceptable material or allow the nonconforming material to remain in place with a 50 percent pay reduction. Determine the limits of the unacceptable material according to B.4.3.

B.4.2.3 Side Roads, Crossovers, Turn Lanes, Ramps, and Roundabouts

(1) Determine the pavement density as specified in B.4.2.1.

B.4.2.4 Documentation

(1) Document QC density test data as specified in CMM 8.15. Provide the engineer with the data for each lot within 24 hours of completing the QC testing for the lot.

B.4.3 Corrective Action

(1) Notify the engineer immediately when an individual test is more than 3.0 percent below the specified minimum in standard spec 460.3.3.1. Investigate and determine the cause of the unacceptable test result.

(2) The engineer may require unacceptable material specified in B.4.3(1) to be removed and replaced with acceptable material or allow the nonconforming material to remain in place with a 50 percent pay reduction. Determine limits of the unacceptable area by measuring density of the layer at 50-foot increments both ahead and behind the point of unacceptable density and at the same offset as the original test site. Continue testing at 50-foot increments until a point of acceptable density is found as specified in standard spec 460.5.2.2(1). Removal and replacement of material may be required if extended testing is in a previously accepted sublot. Testing in a previously accepted sublot will not be used to recalculate a new lot density.

(3) Compute unacceptable pavement area using the product of the longitudinal limits of the unacceptable density and the full sublot width within the traffic lanes or shoulders.

(4) Retesting and acceptance of replaced pavement will be according to standard spec 105.3.

(5) Tests indicating density more than 3.0 percent below the specified minimum, and further tests taken to determine the limits of unacceptable area, are excluded from the computations of the sublot and lot densities.

(6) If 2 consecutive sublot averages within the same paving pass and same target density are more than one percent below the specified target density, notify the engineer and take necessary corrective action. Document the locations of such sublots and the corrective action that was taken.

B.5 Department Testing

B.5.1 Verification Testing

(1) The department will have a HTCP certified technician, or ACT working under a certified technician, perform verification testing. The department will test randomly at locations independent of the contractor's QC work. The department will perform verification testing at a minimum frequency of 10 percent of the sublots and a minimum of one sublot per mix design. The sublots selected will be within the active

work zone. The contractor will supply the necessary traffic control for the department's testing activities.

(2) The QV tester will test each selected sublot using the same testing requirements and frequencies as the QC tester.

(3) If the verification sublot average is not more than one percent below the specified minimum target density, use the QC tests for acceptance.

(4) If the verification sublot average is more than one percent below the specified target density, compare the QC and QV sublot averages. If the QV sublot average is within 1.0 lb/ft^3 of the QC sublot average, use the QC tests for acceptance.

(5) If the first QV/QC sublot average comparison shows a difference of more than 1.0 lb/ft^3 each tester will perform an additional set of tests within that sublot. Combine the additional tests with the original set of tests to compute a new sublot average for each tester. If the new QV and QC sublot averages compare to within 1.0 lb/ft^3, use the original QC tests for acceptance.

(6) If the QV and QC sublot averages differ by more than 1.0 lb/ft^3 after a second set of tests, resolve the difference with dispute resolution specified in B.6. The engineer will notify the contractor immediately when density deficiencies or testing precision exceeding the allowable differences are observed.

B.5.2 Independent Assurance Testing

(1) Independent assurance is unbiased testing the department performs to evaluate the department's verification and the contractor's QC sampling and testing including personnel qualifications, procedures, and equipment. The department will perform the independent assurance review according to the department's independent assurance program.

B.6 Dispute Resolution

(1) The testers may perform investigation in the work zone by analyzing the testing, calculation, and documentation procedures. The testers may perform gauge correlation according to B.3.2.1.

(2) The testers may use correlation monitoring according to B.3.2.2 to determine if one of the gauges is out of tolerance. If a gauge is found to be out of tolerance with its reference value, remove the gauge from the project and use the other gauge's test results for acceptance.

(3) If the testing discrepancy cannot be identified, the contractor may elect to accept the QV sublot density test results or retesting of the sublot in dispute within 48 hours of paving. Traffic control costs will be split between the department and the contractor.

(4) If investigation finds that both gauges are in error, the contractor and engineer will reach a decision on resolution through mutual agreement.

B.7 Acceptance

(1) The department will not accept QMP HMA Pavement Nuclear Density if a non-correlated gauge is used for contractor QC tests.

C (Vacant)

D (Vacant)

E Payment

E.1 QMP Testing

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

E.2 Disincentive for HMA Pavement Density

(1) The department will administer density disincentives according to standard spec 460.5.2.2.

E.3 Incentive for HMA Pavement Density

(1) Delete standard spec 460.5.2.3.

(2) If the lot density is greater than the minimum specified in standard spec table 460-3 and all individual air voids test results for that mixture are within +1.0 percent or -0.5 percent of the design target in standard spec table 460-2, the department will adjust pay for that lot as follows:

Percent Lot Density Above Minimum	Pay Adjustment Per Ton
From -0.4 to 1.0 inclusive	$0
From 1.1 to 1.8 inclusive	$0.40
More than 1.8	$0.80

(3) The department will adjust pay under the Incentive Density HMA Pavement bid item. Adjustment under this item is not limited, either up or down, to the bid amount shown on the schedule of items.

(4) If a traffic lane meets the requirements for disincentive, the department will not pay incentive on the integrally paved shoulder.

(5) Submit density results to the department electronically using the MRS software. The department will validate all contractor data before determining pay adjustments.

460-020 (20100709)

29. Concrete Staining Multi-Color B-40-167, Item 517.1015.S.001; B-40-764, Item 517.1015.S.002; B-40-765, Item 517.1015.S.003.

A Description

Furnish and apply a multi-color concrete stain to the exposed concrete surfaces of the structure, as detailed in the plans and as hereinafter provided.

B Materials

B.1 Mortar

Use mortar for sack rubbing the concrete surfaces as given in standard spec 502.3.7.5 or use one of the following products:

Preblended, Packaged Type II Cement:	Tri-Mix by TK Products
	Thoroseal Pearl Gray by Thoro Products

The mortar shall contain one of the following acrylic bonding admixtures mixed and applied in accordance to manufacturer's recommendations:

Acrylic Bonding Admixture:	TK-225 by TK Products
	Achro 60 by Thoro Products
	Achro Set by Master Builders

B.2 Concrete Stain

Use concrete stain manufactured for use on exterior concrete surfaces. Use the following products, or equal as approved by the department:

Tri-Sheen Concrete Surfacer, Smooth by TK Products
Tri-Sheen Acrylic by TK Products
TK-1450 Natural Look Urethane Anti-Graffiti Primers by TK Products
Safe-Cure & Seal EPX by Chem Masters
H + C Shield Plus by Sherwin-Williams

C Construction

C.1 General

Furnish, prepare, apply, cure, and store all materials in accordance to the product manufacturer's specifications for the type and condition of application required.

Match or exceed the stain manufacturer's minimum recommended curing time of the concrete or 28 days, whichever is greater, prior to staining.

C.2 Preparation of Concrete Surfaces

Provide a sack rubbed finish in accordance to standard spec 502.3.7.5, using mortar as indicated above on concrete surfaces with open voids or honeycombing.

Following the sack rubbing, clean all concrete surfaces that are to be coated to ensure that the surface is free of all laitance, dirt, dust, grease, efflorescence, and any foreign material and that the surface will accept the coating material according to product requirements. As a minimum, clean the surface using a 3000-psi water blast. Hold the nozzle of the water blaster approximately 6 inches from the concrete surface and move it continuously in a sweeping motion. Give special attention to smooth concrete surfaces to produce an acceptable surface texture. Correct any surface problems resulting from the surface preparation methods. Grit blasting of the concrete surface is not allowed.

C.3 Staining Concrete Surfaces
Apply the concrete stain in accordance to the manufacturer's recommendations.

Apply the concrete stain when the temperature of the concrete surface is 45º F or higher, or as given by the manufacturer.

The color of the staining shall produce a multi-color effect that consists of multiple colors replicating varying natural stone coloration. Stain the joints between stones produced by the form liner to create the appearance of grouted joints.

Do not begin staining the structure until earthwork operations are completed to a point where this work can begin without receiving damage. Where this work is adjacent to exposed soil or pavement areas, provide temporary covering protection from overspray or splatter.

C.4 Test Areas
Prior to applying stain to the structure, apply the stain to sample panels measuring a minimum of 48-inches x 48-inches and constructed to demonstrate workmanship in the use of the form liner specified on the structure if applicable. Match or exceed the stain manufacturer's minimum recommended curing time of the concrete or 28 days, whichever is greater, prior to staining. Submit color samples to the department prior to staining the sample panels. Prepare the concrete surfaces of the sample panels and apply stain using the same materials and in the same manner as proposed for the structure, including staining of the joints between stones produced by the form liner. Do not apply stain to the structure until the department approves the test panels.

C.5 Surfaces to be Coated.
Apply concrete stain to the surfaces in accordance to the plan.

D Measurement
The department will measure Concrete Staining Multi-Color (Structure) in area by the square foot of surface, acceptably prepared and stained.

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

ITEM NUMBER	DESCRIPTION	UNIT
517.1015.S.001	Concrete Staining Multi-Color B-40-167	SF
517.1015.S.002	Concrete Staining Multi-Color B-40-764	SF
517.1015.S.003	Concrete Staining Multi-Color B-40-765	SF

Payment is full compensation for furnishing and applying the coloring system; for preparing the concrete surface; and for constructing and staining the sample panels.
517-115 (20130615)

30. Architectural Surface Treatment B-40-167, Item 517.1050.S.001; B-40-764, Item 517.1050.S.002; B-40-765, Item 517.1050.S.003.

A Description

Construct a concrete masonry architectural surface treatment on the exposed concrete surfaces of the structure, as detailed in the plans and as hereinafter provided.

B Materials

Use form liners that attach easily to the forming system, and do not compress more than ¼-inch when poured at a rate of 10 vertical feet/hour.

Use a release agent that is compatible with the form liner and coloring materials.

Wall ties shall have set "break-backs" at a minimum of ¾-inches from the finished concrete surface.

C Construction

C.1 Equipment

Equipment and tools necessary for performing all parts of the work shall be satisfactory as to design, capacity, and mechanical condition for the purposes intended. Repair, improve, replace, or supplement all equipment that is not maintained in full working order, or which is proven inadequate to obtain the results prescribed.

C.2 Form Liner Preparation

Clean the form liner prior to each pour and ensure that it is free of any build-up. Visually inspect each liner for blemishes or tears, and repair if necessary per manufacturer's recommendations.

Apply form release per manufacturer's recommendations.

C.3 Form Liner Attachment

Place adjacent liners less than ¼-inch from each other, attach liner securely to forms in accordance to the manufacturer's recommendations, and coordinate wall ties with form liner and form manufacturer, e.g., diameter, size, and frequency.

C.4 Surface Finishing
Ensure that the textured surface is free of laitance; sandblasting is not permitted.

Grind or fill pouring blemishes.

D Measurement
The department will measure Architectural Surface Treatment (Structure) in area by the square foot of architectural surface, 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
517.1050.S.001	Architectural Surface Treatment B-40-167	SF
517.1050.S.002	Architectural Surface Treatment B-40-764	SF
517.1050.S.003	Architectural Surface Treatment B-40-765	SF

Payment is full compensation for producing the proposed architectural surface treatment including: preparing the foundation; finishing and protecting the surface treatment; and for properly disposing of surplus material.
517-150 (20110615)

31. Manhole, Inlet, and Catch Basin Adjusting Rings.

Complete adjustment of manhole, catch basin, and inlet structures in accordance to standard spec 611 and herein provided:

Adjustments of 4-inches or more in height shall be constructed using concrete grade rings. Grade rings less than 2-inches in thickness are not allowed.

32. Cover Plates Temporary, Item 611.8120.S.

A Description
This special provision describes furnishing, installing and removing a steel plate to cover and support asphaltic pavement and traffic loading at manholes, inlets and similar structures during milling and paving operations.

B Materials
Provide a 0.25-inch minimum thickness steel plate that extends to the outside edge of the existing masonry.

C (Vacant)

D Measurement
The department will measure Cover Plates Temporary as units, acceptably completed in place.

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

ITEM NUMBER	DESCRIPTION	UNIT
611.8120.S	Cover Plates Temporary	Each

Payment is full compensation for furnishing, installing, and removing the cover plates.

The steel plates shall become the property of the contractor when no longer needed in the contract work.
611-006 (20030820)

33. Fence Safety, Item 616.0700.S.

A Description
This special provision describes furnishing and installing a plastic fence at locations shown on the plans and as hereinafter provided.

B Materials
Furnish notched conventional metal "T" or "U" shaped fence posts.

Furnish fence fabric meeting the following requirements.

Color:	International orange (UV stabilized)
Roll Height:	4 feet
Mesh Opening:	1 inch min to 3 inch max
Resin/Construction:	High density polyethylene mesh
Service Temperature:	-60° F to 200° (ASTM D648)
Tensile Yield:	Avg. 2000 lb per 4 ft. width (ASTM D638)
Ultimate Tensile Strength:	Avg. 3000 lb per 4 ft. width (ASTM D638)
Elongation at Break (%):	Greater than 100% (ASTM D638)
Chemical Resistance:	Inert to most chemicals and acids

C Construction
Drive posts into the ground 12 to 18 inches. Space posts at 7 feet.

Use a minimum of three wire ties to secure the fence at each post. Weave tension wire through the top row of strands to provide a top stringer that prevents sagging.

Overlap two rolls at a post and secure with wire ties.

D Measurement
The department will measure Fence Safety by the linear foot along the base of the fence, center-to-center of posts.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
616.0700.S.	Fence Safety	LF

Payment is full compensation for furnishing and installing fence and posts; maintaining the fence and posts in satisfactory condition; and for removing and disposing of fence and posts at project completion.

616-030 (20070510)

34. Signs Type I and II.

Furnish and install mounting brackets per approved product list for type II signs on overhead sign supports incidental to sign. For type II signs on sign bridges use aluminum vertical support beams noted above incidental to sign.

Modify standard spec 637.2.4 with the following:

Use stainless steel bolts, washers and nuts for type I and type II signs mounted on sign bridges or type I signs mounted on overhead sign supports. Use clips on every joint for Sign Plate A 4-6 when mounted on a sign bridge or overhead sign support. Inspect installation of clips and assure bolts and nuts are tightened to manufacturers recommended torque values.

Use aluminum vertical sign support beams that have a 5-inch wide flange and weigh 3.7 pounds per foot, if the L-brackets are 4 inches wide then use 4 inch wide flange beams weighing 3.06 pounds per foot. Contractor shall measure the width of the L-brackets on existing structures of determine the width needed for sign support beams

Use beams a minimum of six feet in length or equal to the height of the sign to be supported, whichever is greater. Use U-bolts that are made of stainless steel, one-half inch diameter and of the proper size to fit the truss cords of each sign bridge. Install vertical sign support beams on each sign and use new U-bolts to attach each beam to the top and bottom cord of the sign bridge truss.

For type II signs on overhead sign supports follow the approved product list for mounting brackets.

Replace standard spec 637.2.4.1(2)2 with the following:

Clips may be either stainless steel or ASTM B 108, aluminum alloy, 356.0-T6.

Append standard spec 637.3.2.1(3) with the following:

Provide the engineer with 3 copies of drawings of the signs proposed to be furnished under this contract for approval.

Append standard spec 637.3.3.2(2) with the following:

Install Type I Signs at the offset stated in the plan, which shall be the clear distance between the edge of mainline pavement right edgeline and the near edge of the sign.

Append standard spec 637.3.3.3(3) with the following:

Furnish and install new aluminum vertical sign support beams on each sign and new U-bolts to attach each beam to the top and bottom cord of the sign bridge truss for Type I or Type II Signs and Type I signs on overhead sign supports incidental to sign.

35. Nighttime Work Lighting-Stationary.

A Description
Provide portable lighting as necessary to complete nighttime work. Nighttime operations consist of work specifically scheduled to occur after sunset and before sunrise.

B (Vacant)

C Construction
C.1 General
This provision shall apply when providing, maintaining, moving, and removing portable light towers and equipment-mounted lighting fixtures for nighttime stationary work operations, for the duration of nighttime work on the contract.

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

1. Layout, including location of portable lighting – lateral placement, height, and spacing. Clearly show on the layout the location of all lights necessary for every aspect of work to be done at night.

2. Specifications, brochures, and technical data of all lighting equipment to be used.

3. The details on how the luminaires will be attached.

4. Electrical power source information.

5. Details on the louvers, shields, or methods to be employed to reduce glare.

6. Lighting calculations. Provide illumination with average to minimum uniformity ratio of 5:1 or less throughout the work area.

7. Detail information on any other auxiliary equipment.

C.2 Portable Lighting
Provide portable lighting that is sturdy and free standing and does not require any guy wires, braces, or any other attachments. Furnish portable lighting capable of being moved as necessary to keep up with the construction project. Position the portable lighting and trailers to minimize the risk of being impacted by traffic on the roadway or by construction traffic or equipment. Provide lightning protection for the portable lighting. Portable lighting shall withstand up to 60 mph wind velocity.

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

C.3 Light Level and Uniformity
Position (spacing and mounting height) the luminaires to provide illumination with an average to minimum uniformity ratio of 5:1 or less throughout the work area.

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

C.4 Glare Control
Design, install, and operate all lighting supplied under these specifications to minimize or avoid glare that interferes with all traffic on the roadway or that causes annoyance or discomfort for properties adjoining the roadway. Locate, aim, and adjust the luminaires to provide the adequate level of illumination and the specified uniformity in the work area without the creation of objectionable glare.

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

1. Aim tower-mounted luminaires, either parallel or perpendicular to the roadway, so as to minimize light aimed toward approaching traffic.

2. Aim all luminaires such that the center of beam axis is no greater than 60 degrees above vertical (straight down).

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

C.5 Continuous Operation
Provide and have available sufficient fuel, spare lamps, generators, and qualified personnel to ensure that the lights will operate continuously during nighttime operation. In the event of any failure of the lighting system, discontinue the operation until the adequate level of illumination is restored. Move and remove lighting as necessary.

D (Vacant)

E Payment
Costs for furnishing a lighting plan, and for providing, maintaining, moving, and removing portable lighting, tower mounted lighting, and equipment-mounted lighting required under this special provision are incidental to the contract.
643-010 (20100709)

36. Pavement Marking Grooved Wet Reflective Tape 4-Inch, Item 646.0881.S; 8-Inch, Item 646.0883.S.

A Description
This special provision describes furnishing, grooving and installing preformed wet reflective pavement marking tape for grooved applications as shown on the plans, according to standard spec 646, and as hereinafter provided.

B Materials
Furnish grooved wet reflective pavement marking tape and adhesive material per manufacturer's recommendations, if required, from the department's approved products list.

Furnish a copy of the manufacturer's recommendations to the engineer before preparing the pavement marking grooves.

C Construction
C.1 General
For quality assurance, provide the engineer and the region's Marking Section evidence of manufacturer training in the proper placement and installation of pavement marking tape.

Plane the grooved lines according to details in the plan and per manufacturer's recommendations. Use grooving equipment with a free-floating, independent cutting head. Plane a minimum number of passes to create a grooved surface per manufacturer's recommendations.

C.2 Groove Depth
Cut the groove to a depth of 120 mils ± 10 mils from the pavement surface or, if tined, from the high point of the tined surface. To measure the depth, the contractor may use a depth plate placed in the groove and a straightedge placed across the plate and groove, or the contractor may use a straightedge placed perpendicular to the groove. The department may periodically check groove depths.

C.3 Groove Width – Longitudinal Markings
Cut the groove one-inch wider than the width of the tape.

C.4 Groove Position
Position the groove edge according to plan details. Groove a minimum of 4 inches, but not greater than, 12 inches from both ends of the tape segment. Achieve straight alignment with the grooving equipment.

C.5 Groove Cleaning
C.5.1 Concrete
Cooling the cutting head with water may be necessary for some applications and equipment. If cooling water is necessary, flush the groove immediately with high-pressure water after cutting to remove any build-up of cement dust and water slurry. If this is not done, the slurry may harden in the groove.

If water is used in the grooving process, allow the groove to dry a minimum of 24 hours after groove cleaning, and prior to pavement marking application. The groove surface shall be clean and dry before applying the adhesive, and pavement marking tape. Use a high-pressure air blower with at least 185 ft^3/min air flow and 120 psi air pressure to clean the groove; use of the air blower does not decrease the amount of time required for the groove to dry.

C.5.2 New Asphalt
Groove pavement five or more days after paving.

Use a high-pressure air blower with at least 185 ft^3/min air flow and 120 psi air pressure to clean the groove.

C.5.3 Existing Asphalt
Check for structural integrity in supporting grooving operations. If the structural integrity of the asphalt pavement is inadequate to support grooving operations, immediately notify the engineer.

Use a high-pressure air blower with at least 185 ft^3/min air flow and 120 psi air pressure to clean the groove.

C.6 Tape Application
Apply the wet reflective pavement marking tape when both the air and surface temperature are 40 degrees F and rising.

Apply tape in the groove as per manufacturer's recommendations. If manufacturer's recommendations require surface preparation adhesive:

1) For the Southeast Region and the ozone non-attainment Northeast Region counties of Sheboygan, Manitowoc, and Kewaunee:

    · Apply SPA-60 during May 1 to September 30, both dates inclusive due to Volatile Organic Compound Limitations.

- Apply P-50 during October 1 to April 30, both dates inclusive.

2) For the remainder counties:

- Apply either adhesive.

Refer to the manufacturer's instructions for determining when the surface preparation adhesive is set.

Tamp the wet reflective pavement marking tape with a tamper cart roller, with a minimum of a 200-lb load, cut to fit the groove. Tamp a minimum of three complete cycles (6 passes) with grooved modified tamper roller cart.

D Measurement
The department will measure Pavement Marking Grooved Wet Reflective Tape (Width) for grooved applications in length by the linear foot of tape placed according to the contract and accepted.

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

ITEM NUMBER	DESCRIPTION	UNIT
646.0881.S	Pavement Marking Grooved Wet Reflective Tape 4-Inch	LF
646.0883.S	Pavement Marking Grooved Wet Reflective Tape 8-Inch	LF

Payment is full compensation for cleaning and preparing the pavement surface; furnishing and installing the material; and for removing temporary pavement marking, if necessary.
646-018 (20120615)

37. Concrete Bases Type 5, Item 654.0105.

Supplement Standard Details Drawings with the following:

Provide quantity and size of conduit raceways in base as indicated on the plans; cap unused raceway(s).

This modifies a standard item.

Payment is full compensation for furnishing and installing all materials, including pull box, crushed aggregate; for excavation, backfill, disposal of surplus materials; and for furnishing all labor, tools, equipment, and incidentals necessary to

38. Electrical Service Meter Breaker Pedestal, STH 24 and 116th Street, Item 656.0200.001.

Append standard spec 656.3.2 with the following:

The department will be responsible for the electrical service installation request for any department maintained facility. Notify the maintaining authority if the signal is not state maintained that it is their responsibility to arrange for the electrical service installation.

Electrical utility company service installation and energy cost will be billed to and paid for by the maintaining authority.

Install the cabinet base and meter breaker pedestal first, so the electrical utility company can install the service lateral. Finish grade the service trench, replace topsoil that is lost or contaminated with other materials, fertilize, seed, and mulch all areas that are disturbed by the electrical utility company.

Append standard spec 656.5(3) with the following:

Payment is full compensation for grading the service trench; replacing topsoil; and for fertilizing, seeding, and mulching to restore the disturbed area of the service trench.

39. Traffic Signal Faces 3-12 Inch Vertical, Item 658.0110.

Append standard spec 658.3.2(3) with the following:

Connect all ungrounded conductors with wire nuts in the appropriate sections of the signal heads. Connect the neutral conductors to the terminal strip. Be certain to twist wires prior to installing the wire nuts. All wire nuts must be installed facing up to prevent the entrance of water.

40. Pedestrian Signal Face 16-Inch, Item 658.0416.

Append standard spec658.3.4(3) with the following:

Connect all ungrounded conductors with wire nuts in the appropriate sections of the signal heads. Connect the neutral conductors to the terminal strip. Be certain to twist wires prior to installing the wire nuts. All wire nuts must be installed facing up to prevent the entrance of water.

41. Pedestrian Push Buttons , Item 658.0500.

Append standard spec658.2.5 with the following:

The contractor shall place a Size 1, Type H reflective (R10-3EL, R, D) sign sticker (per state sign plate), message series – B, directly above each push button. Include a directional arrow or arrows on the sign as the plans show.

42. Temporary Traffic Signals for Intersections, STH 24 and 116th Street, Item 661.0200.001.

Append standard spec661.2.1 with the following:

The contractor shall furnish all temporary traffic signal equipment as shown on the plan. The signal controller shall be capable of operating with the video camera detection system and Emergency Vehicle Preemption (EVP) system. All wood poles shall be plumb and level. The contractor shall furnish luminaire arms 15-feet in length for all luminaires shown on the plan. All engineering requested timing changes shall be coordinated with the DOT electrical field unit, (262) 266-1170.

Replace standard spec 661.2.1 (3) with the following:

Contractor shall use existing underground electric service and meter breaker pedestal for the operation of the Temporary Traffic Signal at the existing intersection. The contractor will be responsible for arranging additional service connections to the temporary signals at the relocated ramp intersections. The department will pay for all energy costs for the operation of the Temporary Traffic Signals at the existing and relocated intersections.

Contractor shall contact the local electrical utility at least four days prior to making the switch from the existing Permanent Traffic Signal to the Temporary Traffic Signal. The contractor shall contact the local electrical utility at least four days prior to making the switch from the Temporary Traffic Signal to the new Permanent Traffic Signal.

Append standard spec 661.3.1.4 with the following:

(1) Arrange for monthly inspections with the engineer to check the height of the span wire above the roadways to ensure that the bottom of the traffic signal heads remain within the minimum and maximum heights allowed above the roadway. Make all height adjustments within 24-hours of an inspection indicating that adjustments are required. Notify the engineer in writing upon completion of all necessary adjustments. Maintain a written log to properly document the date of each monthly inspection, the heights above the roadway, the roadway clearance after adjustments have been made and acceptance by the engineer. The contractor shall provide all documentation related to the monthly span wire height checks as well as all records related to maintenance performed on the temporary traffic signal installations to the engineer prior to surrendering the temporary traffic signals.

(4) Maintain all video detection zones as the plans show. Video detection zones shall be checked on a weekly basis to ensure that they are working and/or are aimed properly. Periodic adjustment of the video detection zones may be required.

Replace standard spec 661.5 with the following:

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

ITEM NUMBER	DESCRIPTION	UNIT
661.0200.001	Temporary Traffic Signals for Intersections, STH 24 and 116th Street	LS

(2) Payment for the Temporary Traffic Signals for Intersections bid item is full compensation for providing, operating, maintaining, and repairing the complete temporary installation; and for removal. Payment also includes the following:

1. Furnishing and installing the replacement equipment.
2. The cost of delivery and pick-up of the cabinet assemblies.
3. Removal of service and site restoration.
4. Maintenance of the state-supplied video detection equipment

43. Adjusting Sanitary Manhole Covers, Item SPV.0060.002.

A Description

This work shall consist of adjusting sanitary manhole covers as shown on the Plans to final grade.

This work shall be in accordance to the pertinent provisions of the latest edition of the Standard Specifications for Sewer and Water Construction in Wisconsin (Sewer and Water Specifications) and standard spec 611, except as hereinafter modified.

B Materials

Adjusting rings for the adjustment of manhole covers shall conform to the requirements Chapter 839.11 of the latest edition of the Sewer and Water Specifications

Set adjusting rings with butyl rubber sealant troweled into a ¼-inch thick layer over the entire surface areas of the top of cone and all adjusting rings. The butyl rubber sealant shall be EZ-Stk of Kent Seal butyl base sealant in trowelable grade or equal.

C Construction

The contractor shall excavate and remove the existing internal chimney seal (if applicable). The contractor shall excavate and remove the manhole frame and cover for reuse or the temporary steel cover plate. Remove the existing bricks and/or precast concrete grade rings as necessary to set the frame to the new elevation or if they are deteriorated as directed by the engineer. The contractor shall conduct the removal operations in such a manner that no debris falls into the existing manhole or sewer. All manhole debris shall be removed from the project site.

Set manhole frames in accordance to standard spec 611.3.

D Measurement
The department will measure Adjusting Sanitary Manhole Covers by each individual unit for each cover adjusted, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.002	Adjusting Sanitary Manhole Covers	Each

Payment is full compensation for adjusting the manhole to grade, salvaging of existing frame and cover, removal of deteriorated bricks or rings, new precast concrete adjusting rings.

44. Reconstruct Sanitary Manhole, Item SPV.0060.003.

A Description
Reconstruct sanitary manhole in accordance to the plans and specifications, standard spec 611, and the 6th Edition Standard Specification for Sewer and Water Construction in Wisconsin.

B Materials
Salvage and reuse manhole cone sections. Salvage and reuse existing frames and covers.

Furnish concrete grade rings meeting the requirements of chapter 8.39.11 of the Standard Specifications for Sewer and Water Construction in Wisconsin. Minimum thickness for concrete rings shall be 2-Inches. Butyl joint sealant shall be placed between rings.

C Construction
Reconstruction includes removal of the frame, cover, casting, adjusting rings and reinstallation of the cone turned to avoid curb, placement of new undamaged adjusting rings, and resetting of the frame and cover. Remove existing frames, covers, castings and manhole cone sections with care to prevent damage. All joints shall be water tight at the time of construction.

Set adjusting rings with butyl rubber sealant troweled into a ¼-inch thick layer over the entire surface areas of the top of cone and all adjusting rings. The butyl rubber sealant shall be EZ-Stk of Kent Seal butyl base sealant in trowelable grade or equal.

D Measurement
The department will measure Reconstruct Sanitary Manhole by each individual unit, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.003	Reconstruct Sanitary Manhole	Each

Payment is full compensation for removal of existing manhole cone section, frames, covers and castings for furnishing all excavation and backfill; for reinstalling manhole cone section and steps; for installing adjustment rings; for disposal of surplus material, cleanup, and restoring site work. No additional monies will be paid to the contractor for replacement of existing manhole cone sections due to damage caused by the contractors removal operations.

45. Sanitary Manhole Internal Seals, Item SPV.0060.004.

A Description

This special provision describes sanitary manhole internal seals as shown on the plans, and as hereinafter provided.

B Materials

Furnish and install internal seal on the exposed interior surface of sanitary manholes.

Provide sanitary manhole with an internal manhole chimney seal as manufactured by Cretex Specialty Products, Waukesha, Wisconsin, or equal. Install the internal manhole seal in accordance to manufacturer's instructions. Seals shall span the entire chimney height.

Water test the seal for leaks after the bottom compression band is installed by adding water between the chimney seal and manhole. Visually inspect the bottom of the chimney seal for any water passing the bottom compression band. After the seal has successfully passed the leakage test, drain the water, and install the top band.

C (Vacant)

D Measurement

The department will measure Sanitary Manhole Internal Seals by each individual unit, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.004	Sanitary Manhole Internal Seals	Each

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

46. Remove and Replace Sanitary Manhole Lids, Item SPV.0060.005.

A Description
This special provision describes installing sanitary manhole lids by removing and replacing the existing lids as shown on the plans, and as hereinafter provided.

B Materials
Furnish and install sanitary manhole lids on existing sanitary manholes.

Lids shall be Type "B" indented top design, gasketed self – sealing with concealed pickholes as manufactured by Neenah Foundry, Neenah, Wisconsin or equal.

The contractor shall measure the existing castings to verify that the new lids will fit the existing castings correctly, before ordering the new lids. The contractor shall dispose of the existing lids.

C (Vacant)

D Measurement
The department will measure Remove And Replace Sanitary Manhole Lids by each individual unit, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.005	Remove and Replace Sanitary Manhole Lids	Each

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

47. Adjust Water Boxes, Item SPV.0060.006.

A Description
This special provision describes adjusting, protecting, and maintaining accessibility, for the duration of the paving project, to all city water service boxes, water gate valve boxes located within the project limits.

B Materials
All material for the adjustment of these facilities must meet City of Milwaukee specifications and will be provided by the City of Milwaukee by contacting Jesse Hernandez, Milwaukee Water Works, at (414) 708-2670 (or Dave Goldapp, Milwaukee Water Works at (414)286-6301). If there is contractor damage, the materials must still be provided by the City of Milwaukee, however, in this case, the contractor will be charged for all materials. Materials furnished by the City of Milwaukee and not used on the project shall be delivered back to DPW Field Headquarters – Infrastructure, Operations,

Water Works at 3850 N. 35th St. Materials being returned must be accompanied with a "surplus material" form completed by the Public Works Inspector assigned to the project.

C Construction

All water service boxes, water gate valve boxes within the project limits shall be adjusted to proposed elevations by the contractor using materials meeting city specifications.

The city will locate, mark, inspect and repair all water service boxes, water gate valve boxes within the limits of the project prior to commencement of work on the project.

Throughout the duration of the project, the contractor must ensure that all water service boxes, water gate valve boxes are adequately located and identified by blue paint, and that at all times, all water appurtenances remain accessible for operation by city forces. Exercise caution working adjacent to water facilities to avoid damage and ensure accessibility.

Upon completion of the contract, the city will inspect all water facilities to ensure the water boxes are clean, properly aligned, and accessible. The contractor shall be responsible to make identified repairs and adjustments, and if any repairs or adjustments are made by the city, the cost will be charged to the contractor.

D Measurement

The department will measure Adjust Water Boxes as each individual unit, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.006	Adjust Water Boxes	Each

Payment is full compensation for furnishing all excavation, backfilling, disposal of surplus materials, water box or manhole clean-out, restoration of the work site, and for adjusting.

48. Removing Hydrant SPV.0060.007; Installing Hydrant SPV.0060.008; Ductile Iron Hydrant Branch 6-Inch, Item SPV.0090.003.

A Description

This special provision describes removing existing hydrants, installing new hydrants and 6" diameter hydrant branch alterations.

A.1 General

Perform work under these items in accordance to the details as shown on the plans and the requirements of the City of Milwaukee Water Main Installation Specifications, dated January 2, 1987 (city water main specifications). Additionally, perform all work in

accordance to the "Milwaukee Water Works Standard Plan Notes for Water Main Construction", June 14, 2011. Notes 4, 6, 15, 16, 17 and 21 shall not apply to this project. In case of conflicts between the city water main specifications and the standard specifications or these special provisions, the requirements of the standard specifications and the special provisions shall govern. Contact Ms. Angela Baldwin at (414) 286-2813 to purchase copies of the required documents.

B Materials

B.1 General

The city will furnish hydrants for installation on this project. Contact Mr. Ricardo Lopez, Inventory Clerk, at (414) 286-6123 for material supplies. Provide all other water main materials conforming to the latest version of the City of Milwaukee's Material Specifications. Material specifications can be found at the following website, http://city.milwaukee.gov/water/business/standardspecs.htm. All materials will require inspection by the City of Milwaukee. Notify Mr. Mark Scheller, (414) 286-2427 or Mr. Steve Brengosz, (414) 708-2808, for materials inspection and the City of Milwaukee's Construction Section, (414) 286-2497, for construction inspection, four working days prior to starting construction.

The contractor shall return all abandoned hydrants to the DPW Field Headquarters – Infrastructure, Operations, Water Works at 3850 N. 35th Street. Contact Mr. Ben Glatzel at (414)708-2839 for additional information.

Milwaukee Water Works will test all pipe, in accordance to the City of Milwaukee Material Testing Specifications.

B.2 Valve Box Adapters

Install all valve boxes on gate valves with the use of valve box base adapters as detailed in the Standard Plan Notes Regarding Water Main Construction. Install the adapter in addition to the hardwood blocking.

C Construction

Unless shown otherwise, backfill all water main excavations with granular backfill as specified in Section 14 of the City of Milwaukee Standard Plan Notes Regarding Water Main Construction.

Consolidate all backfill by mechanical compaction per specification 2.6.14(B) of the Standard Specifications for Sewer and Water Construction in Wisconsin. Per specification, the initial compacted lift shall be 2 feet, and the specification shall be modified to read, "each subsequent compacted lift of material shall be 1 foot". Costs are to be included in the unit price bid for the water main. Settling the trench by flooding the backfill will not be allowed.

D Measurement

The department will measure Removing Hydrant as each individual hydrant, acceptably removed.

The department will measure Installing Hydrant as each individual hydrant, acceptably installed.

The department will measure Ductile Iron Hydrant Branch 6-Inch by the linear foot of water main, and hydrant branch of the type and diameter specified, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.007	Removing Hydrant	Each
SPV.0060.008	Installing Hydrant	Each
SPV.0090.003	Ductile Iron Hydrant Branch 6-inch	LF

Payment is full compensation for providing all materials (except hydrants provided by the city) including all valves, fittings, and accessories required; for furnishing all excavating, for sheeting and shoring; for forming foundation; for laying pipe; for concrete base, buttresses, and anchors; for bulkheading and abandoning existing water mains; for sealing joints and making connections to new or existing facilities; for providing granular backfill material, including bedding material; for backfilling; for removing sheeting and shoring; for cleaning out the site of the work and incidentals necessary to complete the work.

49. Removing Lighting Units, Item SPV.0060.009.

A Description

This special provision describes removing concrete base mounted aluminum lighting units in accordance to the pertinent provisions of standard spec 204 and as herein provided. The work under this item consists of removing lighting pole, arm(s) and luminaire(s), as shown in the plans, removing and reinstalling lighting unit mounted signs, splicing through the circuit if required at the given site, removing and/or rerouting associated direct buried cables, storing and protecting materials for re-installation or transporting or disposing. Removal of concrete bases will be paid under a separate pay item.

B (Vacant)

C Construction

Appurtenances such as existing street signs shall be removed.

Where luminaire or complete lighting unit is not to be reinstalled, verify if any excess lighting unit materials are to be salvaged and transported to the village. Any materials not desired by the village shall be disposed of in an appropriate manner.

The existing lighting units and appurtenances that are to be salvaged shall be transported to Village DPW Yard, 5365 South New Berlin Road, Hales Corners, WI, between the hours of 7:30 AM and 3:00 PM. The contractor shall transport pole shaft, mast arm,

luminaire, and appurtenances as appropriate. The pole wiring shall be disposed of off-site in an approved manner.

Properly store and protect all materials that are to be reinstalled. Any damage to removed materials that are to be re-installed or salvaged for village stock by the contractor shall be repaired or replaced as determined by the engineer, at no additional cost to the project.

Dispose of existing pole wiring in salvaged lighting units delivered to village yard off site in an appropriate manner.

Remove or re-route existing direct burial cables as indicated on the plans. Removed cables and conductors shall be disposed (recycle) off site in an appropriate manner.

Existing signs shall be removed from lighting units and marked for reinstallation based on location. The sign shall be reinstalled on closest proposed lighting unit. The sign shall be re-mounted using similar method to original method.

D Measurement
The department will measure Removing Lighting Units as each individual removed unit, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.009	Removing Lighting Units	Each

Payment is full compensation for removing, storing and protecting, transporting and/or disposing of the pole, arms, pole wiring, transformer bases and luminaires; removing and reinstalling lighting unit mounted signs; and splicing and removing the conductors in conduits.

50. Reinstalling Lighting Units, Item SPV.0060.010.

A Description
Work under this item consists of reinstalling stored lighting poles, mast arms, pole wiring/fusing and luminaires, as shown in the plans on a new concrete base.

New concrete base to be paid separately.

B (Vacant)

C Construction
Reinstall lighting unit on new concrete base.

Replace any missing hardware (i.e. handhole screws, etc.) on reinstalled units.

D Measurement
The department will measure Reinstalling Lighting Units as each individual reinstalled unit, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.010	Reinstalling Lighting Units	Each

Payment is full compensation for assembling and installing the pole, arms, and luminaires, pole wiring/fusing; hardware; and for furnishing and installing all incidentals necessary to complete the work.

51. Decorative Pole Concrete Bases, Item SPV.0060.011.

A Description
This work shall consist of construction of decorative lighting unit concrete foundations, including necessary hardware, as shown on the plans, in accordance to the pertinent provisions of standard spec 654 and as hereinafter provided.

B Materials
Materials shall be in accordance to standard spec 654 and as shown on the plans.

C Construction
Materials shall be in accordance to standard spec 654 and as shown on the plans.

Anchor bolts shall be cast into the base as shown on the plans. Bolt circle diameters shall be verified before constructing the bases.

Manufactured elbows shall be furnished and installed in all bases by the contractor, except as noted on the details. Elbows shall be installed to permit conduit to be installed in as nearly straight-line runs as possible, without unnecessary bends. Bases not installed to this standard will not be accepted.

D Measurement
The department will measure Decorative Pole Concrete Bases as each individual unit, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.011	Decorative Pole Concrete Bases	Each

Payment is full compensation for furnishing and installing all materials including conduit, bushings, caps and/or plugs, ground rod, anchor bolts, cadwelding, copper grounding wire; bar steel reinforcement, and concrete masonry; for providing openings through existing pavement where required; for excavation, including hand-digging as required, backfill, and disposal of surplus materials.

52. Standard Lighting Units Twin, Item SPV.0060.012.

A Description

This work includes providing lighting units including poles, mast arms, fusing, pole wiring, nut covers and all necessary appurtenances in accordance to the plans and stated herein.

Luminaires and concrete bases are paid for separately.

B Materials

B.1 Poles

Furnish satin finish aluminum poles in accordance to standard spec 657 with internal vibration dampener and as indicated on the plans. Poles shall be P&K RTA8M30AA-2-C-10444 to match existing units.

B.2 Mast Arms

Furnish bolt-on type satin finish aluminum mast arms, utilizing 3 stainless steel bolts to attach the arm to the pole in accordance to standard spec 657 and as indicated on the plans. Mast arms shall be P&K single member to match existing units.

B.3 Pole Wiring

Conductors from the underground cable network to the luminaire shall be #12 AWG Type USE (XLP) individual conductors. In each utilized phase conductor in the handhole, there shall be installed secondary inline 600 VAC fuse assembly as manufactured by BUSS Tron HEX-AA series fuseholder with weatherproof insulating boots, or approved equal, with 5 amp KTK fuses. Conductors shall have sufficient length to permit removal of the fuse assembly through the handhole of the pole.

C Construction

The lighting unit shall be assembled and installed per the manufacturer's instructions. The contractor shall install unit on a concrete base with proper luminaire orientation as indicated on the plans.

Install pole fusing as indicated on the plans.

D Measurement

The department will measure Standard Lighting Units Twin as each individual unit, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.012	Standard Lighting Units Twin	Each

Payment is full compensation for materials, including poles, arms, pole wiring, fusing, nut covers, hardware and providing appurtenances necessary to completely install the lighting unit.

53. Reinstalling Luminaires, Item SPV.0060.013.

A Description
The work under this item consists of installing salvaged luminaires to new a lighting unit.

B (Vacant)

C Construction
Install salvaged luminaire on new lighting unit mast arm and level.

D Measurement
The department will measure Reinstalling Luminaires as each individual unit, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.013	Reinstalling Luminaires	Each

Payment is full compensation for installing salvaged luminaires.

54. Removing Existing Lighting Pull Boxes, Item SPV.0060.014.

A Description
This work shall consist of removing and storing existing lighting pull boxes where indicated on the plans and as herein provided.

B (Vacant)

C Construction
Remove existing lighting pull box (box, cover and hardware) and store/protect for reinstallation.

Any damage to removed materials that are to be re-installed by the contractor shall be repaired or replaced as determined by the engineer, at no additional cost to the project.

D Measurement
The department will measure Removing Existing Lighting Pull Boxes as each individual unit, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.014	Removing Existing Lighting Pull Boxes	Each

Payment is full compensation for removal, storage and protection; for excavation, backfill, disposal of surplus materials.

55. Reinstalling Lighting Pull Boxes, Item SPV.0060.015.

A Description
This work shall consist of reinstalling stored lighting pull boxes where indicated on the plans and as herein provided.

B (Vacant)

C Construction
The pull boxes shall be set flush with the proposed grade and installed on aggregate as indicated on the plans.

Replace any missing hardware on reinstalled box covers.

D Measurement
The department will measure Reinstalling Lighting Pull Boxes as each individual unit, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.015	Reinstalling Lighting Pull Boxes	Each

Payment is full compensation for furnishing and installing all materials, including hardware, crushed aggregate; for excavation, backfill, disposal of surplus materials.

56. Lighting Pull Boxes, Item SPV.0060.016.

A Description
This work shall consist of furnishing and installing electrical pull boxes in accordance to standard spec 653, the plan details, and as herein provided.

B Materials
Lighting pull boxes shall be a composite enclosure as shown on the plans. The composite boxes shall be UL Listed, constructed of polymer concrete and reinforced by a heavy-weave fiberglass. The pull boxes shall be rated for 15,000 lbs. over a 10" x 10" area at a temperature of -50°F. The box shall be furnished with a cover having a "Lighting" logo, skid resistant surface with a minimum coefficient of friction of .5 and concrete gray color. The cover fasteners shall be stainless steel captive 3/8-inch hex head bolts with stainless steel inserts.

C Construction
The pull boxes shall be set flush with the proposed grade and installed on aggregate as indicated on the plans.

D Measurement
The department will measure Lighting Pull Boxes as each individual unit, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.016	Lighting Pull Boxes	Each

Payment is full compensation for furnishing and installing lighting pull boxes.

57. Traffic Signal Interconnect Vault, Item SPV.0060.017.

A Description
This special provision describes furnishing and installing a Traffic Signal Interconnect Vault and 2-piece vault lid.

B Materials
Furnish a communication vault and vault lid constructed of a combination of polymer concrete and fiberglass gray in color. All polymer concrete vaults are not acceptable.

Vault shall have an inside clear opening of 30” x 48” and the overall height shall be 48”. Stackable units are not acceptable.

The vault shall consist of a polymer concrete bottom ring with 4 corrugated fiberglass sidewalls and a polymer concrete top ring. The 4 corners of the vault shall be encapsulated in polymer concrete. No fiberglass taping of the sidewall panels will be accepted.

Furnish a vault lid with a minimum design load of 15,000 pounds and test load of 22,500 pounds. Testing shall be in accordance to SCTE-77- 2007, tested over a 10” x 10” plate. Tests utilizing a 10” x 20” plate are not acceptable. The vault lid shall consist of 2 interlocking pieces with each piece approximately 33” x 25.5”.

The vault lid shall have a permanent stamp that reads *WISDOT COMMUNICATIONS*. The manufactures name and load rating shall also be stamped on the lid cover. The vault lid shall have 2 slots measuring ½" x 4" to use as a cover lift out. The lid shall be secured utilizing four 4 1/2" stainless steel penta-head bolts with stainless steel washers.

Furnish manufactured gaskets to be placed between the lid and top of vault to resist water from entering the vault.

The vault and cover shall be designed with a field replaceable locking mechanism. The cover shall be able to be removed and the nut in the vault shall be able to be replaced without damaging the vault.

The vault sidewalls shall be manufactured of corrugated fiberglass and the spacing between each corrugation shall measure approximately 8" to facilitate conduit placement. The sidewalls shall have a smooth exterior and be gel-coated.

The vault shall have 4 1/2" bolts embedded on the underside of the top ring to be used for lifting purposes.

Furnish fiber optic cable support assembly consisting of multiple brackets, racks, and rails required to suspend the required surplus cabling and any splice enclosure for a single vault. The support assemblies shall be made from or coated with a weather resistant material to ensure no corrosion.

Furnish self-curing caulking to provide a permanent bond and made of flexible rubber that is not affected by sunlight, water, oils, mild acids, and alkali. Use mildew-resistant and non-flammable, gray caulk.

C Construction

Construct communications vault in accordance to standard spec 611.

Provide a manufacturer-approved knockout punch driver to provide openings in the vault for conduit if not provided. Voids between the conduit and vault shall not exceed 1/2". Caulk the interior and exterior of the communication vault. Cure caulking according to manufacturer's specifications before backfilling.

Secure vault lid to vault with the manufacturer supplied hardware.

Anchor the support assemblies of the existing vault using stainless steel hardware.

D Measurement

The department will measure Traffic Signal Interconnect Vault as each individual vault, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.017	Traffic Signal Interconnect Vault	Each

Payment is full compensation for furnishing and installing all materials including vaults, lids, bolts, washers, mounting hardware, and caulking; for excavating, bedding, backfilling and restoration of ground to original condition including sand, aggregate, concrete, or other required materials; and for disposing of surplus materials.

58. Section Corner Monuments Special, Item SPV.0060.018.

A Description

Coordinate with Southeast Wisconsin Regional Planning Commission (SEWRPC) and provide a backfilled hole for placement of a section corner monument.

B Materials

SEWRPC will provide a pre-cast monument for the section corners.

Furnish base aggregate dense materials that conform to standard spec 305

C Construction

SEWRPC will perpetuate existing section corner landmarks. The engineer will contact SEWRPC at (262) 547-6721 one week before starting construction operations to allow for section corner perpetuation.

Contact Information:

Attn: Don Simon and John Washburn
Southeastern Wisconsin Regional Planning Commission
W239 N1812 Rockwood Drive
P.O. Box 1607
Waukesha, WI 53187-1607
Phone (262) 547-6721
Fax (262) 547-1103
E-mail: sewrpc@sewrpc.org

SEWRPC will install a pre-cast monument for the section corners. The engineer will contact SEWRPC at (262) 547-6721 one week prior to paving operations to coordinate installation of the monument. The contractor shall provide a 2-foot diameter by 3-foot deep hole backfilled with base aggregate dense in the location of the section corner location.

D Measurement

The department will measure Section Corner Monuments Special by each individual unit, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.018	Section Corner Monuments Special	Each

Payment is full compensation for furnishing all excavating; for placing and compacting backfill material; for disposing of surplus materials; and for furnishing all coordination with SEWRPC.

59. Contractor Provided High-Strength Bolt Assemblies for Monotube Arms (Pole Type 12) Item SPV.0060.019.

A Description

This special provision describes furnishing and installing high-strength bolt assemblies for monotube mast arm to pole connection on type 12 signal poles as shown on the plans.

B Materials

Furnish same lot/heat high-strength bolts, hex nuts, two flat washers and also provide DTI (Direct Tension Indicator) washer of the size as given on the plans, per pole manufacturer design requirements and that conform to standard spec 506.2.5. Also submit "Buy America" provision compliance material certification.

C Construction

Provide high-strength bolts, hex nuts, two flat washers and DTI washer for connection of monotube arm to pole upright flange connection plates. Install per standard spec 506.3.12. Ensure that spare bolt, nuts and washer for ready for field test requirements and stored well not exposed the environments. Lubricate the bolt/nut before test and install. Follow the bolt field tests procedures per standard spec 506.2.5.6 and standard spec 506.3.12. Complete and submit DT2113 and DT2114 forms to project manager.

D Measurement

The department will measure Contractor Provided High Strength Bolt Assemblies for Monotube Arms (Pole Type 12) as each individual arm, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.019	Contractor Provided High-Strength Bolt Assemblies for Monotube Arms (Pole Type 12)	Each

Payment is full compensation for furnishing, installing and field testing high-strength bolt assemblies. All contractor provided high-strength bolt assemblies required for acceptable installation, field testing, and quality verification testing are incidental to this bid item.

60. Concrete Curb and Gutter 31-Inch Special, Type A, Item SPV.0090.001; Type D, Item SPV.0090.005.

A Description
This work consists of furnishing all materials and constructing concrete curb and gutter as shown on the plans, in accordance to standard spec 601, and as hereinafter provided.

B (Vacant)

C (Vacant)

D Measurement
The department will measure Concrete Curb and Gutter 31-Inch Special (Type) by the linear foot, acceptably completed, measured along the gutter flow line.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.001	Concrete Curb and Gutter 31-Inch Special, Type A	LF
SPV.0090.005	Concrete Curb and Gutter 31-Inch Special, Type D	LF

Payment is full compensation for excavating and preparing the foundation; for providing all materials, including concrete, and expansion joints; placing, finishing, protecting and curing concrete.

61. 8-Inch Sanitary Sewer Relay, Item SPV.0090.002.

A Description
This special provision describes 8-Inch sanitary sewer relay.

B Materials
Deflection testing and leakage testing are not required for sewer relays.

B.1 Sewer/Lateral Connections
Existing sanitary sewers and laterals are constructed of clay or PVC pipe. Connections of new sewers to existing sewer pipes shall be made with flexible non-shear couplings or approved adaptors. The ends of sewer pipes shall be saw-cut in a straight line perpendicular to the pipe, unless the spigot or bell end is in good condition. The maximum distance between pipes joined with flexible couplings shall be 1/2 inch.

Flexible non-shear couplings shall be as manufactured by Fernco, Inc.; Mission Rubber Co., Inc.; DFW/NPI; or equal. Clamps shall be stainless steel.

B.2 Bedding and Cover Material
Sanitary sewer bedding and cover material shall conform to the appropriate sections of the Standard Specifications for Sewer and Water Construction in Wisconsin, 6th Edition, with current amendments, as specified and/or modified below.

PVC pipe - Section 3.2.6(i), as modified below (Note that the bedding section is essentially Class "B" Bedding including placing a minimum of 12 inches of cover material over the top of the pipe.)

Crushed pea gravel will not be allowed for use as bedding material. Cover material shall be the same material as used for bedding and shall conform to Section 8.43.2(a).

Delete the following sentence from Paragraphs 3.2.6(b)2 and 3.2.6(i)1: "If crushed stone chips or other materials conforming to Section 8.43.2(a) are used as cover material, no compaction or staging is required."

B.2.1 Placement and Compaction
Place bedding material to the springline of the pipe and compact prior to placing cover material. Compaction of bedding material at the level of the pipe springline shall include working bedding material under the haunches of the pipe using shovels or other suitable methods. The contractor shall take care to completely work bedding material under the haunches of the pipe to provide adequate side support.

Place and compact cover material in one or more lifts after compacting bedding material. Place a minimum of 12 inches of cover material over the pipe.

B.3 Polyvinyl Chloride (PVC) Pipe
Sanitary sewer pipe material shall be polyvinyl chloride (PVC) pipe conforming to the following.

Polyvinyl chloride (PVC) sewer pipe (4 inch through 15 inch diameter) meeting the requirements of ASTM D3034, SDR 35, with a minimum pipe stiffness of 46 psi and having integral bell type flexible elastomeric joints meeting the requirements of ASTM D3212. Gaskets shall meet the requirements of ASTM F477. PVC material shall have a cell classification of 12454B, 12454C, 12364C, or 13364B, except that 12364C and 13364B shall have a minimum modulus of elasticity of 500,000 psi. (Option: SDR 26 with a minimum pipe stiffness of 115 psi.)

C Construction
C.1 8-Inch Sanitary Sewer Relay
The contractor shall excavate and expose sections of sewers to be repaired as shown on the plans. The dimensions shown are measured from sewer manholes and should be accurate to within 3 feet. The contractor shall carefully expose (by hand) and break into the damaged sewer pipe as directed by the engineer. After the sewer line has been broken into, the contractor will lamp the sewer line in both directions to determine the length of

sewer pipe to be replaced. The contractor shall provide suitable lighting equipment to allow inspection of sewer lines.

Carefully disconnect and reconnect any laterals that are connected to the portion of main being replaced.

Place granular backfill as specified in section 2.2.6 of the Standard Specifications for Sewer and Water Construction in Wisconsin. Place from the top of the cover material to the subgrade.

The contractor shall install the final surface to match the existing surface, including pavement, curb and gutter and sod.

C.2 Abandoning Sanitary Sewer Lines
Where the new sewer line coincides with the existing sewer, the existing sewer shall be removed and disposed of by the contractor.

Existing sewer lines located outside of the new sewer excavation may be abandoned in place. All cut ends of abandoned sewers, including manhole connections and laterals shall be plugged with a minimum 6 inch thick concrete bulkhead.

C.3 Bypass Pumping/Fluming
The contractor shall be responsible for maintaining sewage flow during sewer relay or repair. Sewage flow may be maintained by bypass pumping from upstream manholes or by other suitable means provided by the contractor and approved by the engineer. The contractor shall be responsible for damage to property resulting from sewer backups caused by his sewage bypass operations.

All bypassed sewage shall be discharged into downstream sanitary sewers. Sewage shall not be bypassed into storm sewers, ditches, or waterways.

C.4 Televising Sewers
The contractor shall televise all relays, after completing all backfilling operations.

The contractor shall provide the department and owner with a copy of the videotape and a written report by the video contractor. The report shall indicate all defects (i.e.; bad joints, cracked pipe, infiltration, standing water, etc.) and shall list locations of all laterals.

All defects shall be corrected and any dirt, gravel or foreign material removed from the sewer prior to acceptance by the owner.

C.5 Sanitary Sewer Service Disruption
Sanitary sewer service to properties directly affected by construction shall not be shut down or interrupted: 1) for a period longer than four (4) hours; 2) between the hours of 4:30 PM to 8:00 AM; or 3) on weekends without the department's permission.

The contractor shall notify homeowners and businesses at least 24 hours prior to shutting off sewage flow.

C.6 Pipe Flotation
Pipes installed below the groundwater elevation shall be protected against flotation. The contractor shall lower the groundwater elevation until after adequate cover has been placed to secure pipes.

D Measurement
The department will measure 8-Inch Sanitary Sewer Relay along the centerline of pipe by the linear foot, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.002	8-Inch Sanitary Sewer Relay	LF

Payment is full compensation for furnishing all sewer construction costs including, but not limited to, excavation, sewage pumping, removing pipes, inspecting lines, furnishing and installing new sewer lines, connecting to existing sewers or laterals, televising, backfill, surface restoration, abandoning sewers, laterals, and manholes, and compacted granular material.

62. Ductile Iron Water Main 8-Inch, Item SPV.0090.004.

A Description
This special provision describes the installation of 8-inch water main alterations as shown on the plans.

A.1 General
Perform work under these items in accordance to the details as shown on the plans and the requirements of the City of Milwaukee Water Main Installation Specifications, dated January 2, 1987 (city water main specifications). Additionally, perform all work in accordance to the "Milwaukee Water Works Standard Plan Notes for Water Main Construction", June 14, 2011. Notes 4, 6, 16 through 18, and 21 shall not apply to this project. In case of conflicts between the city water main specifications and the standard specifications or these special provisions, the requirements of the standard specifications and the special provisions shall govern. Contact Ms. Angela Baldwin, at (414) 286-2813 to purchase copies of the required documents.

A.2 Submittals

Address all required submittals to Milwaukee Water Works as follows:

Superintendent
Milwaukee Water Works
Zeidler Municipal Building
841 North Broadway, Room 409
Milwaukee, WI 53202

A.3 Sequence of Construction

Due to the nature of this work, including traffic staging and coordination with other work, the contractor is advised there may be multiple mobilizations to complete the water main work. No additional payment will be made by the department for said mobilizations.

Determine sequence and schedule for water main construction, subject to the requirements herein.

Prepare and submit for review by the Superintendent of Milwaukee Water Works a detailed construction schedule stating the anticipated dates and duration of all interruptions in water service necessary to complete the work under the contract, including the abandonment of existing water mains.

B Materials

B.1 General

The city shall furnish all fittings required for installation on this project. Contractor shall provide all ductile iron water main conforming to the latest version of the City of Milwaukee's Material Specifications. Material specifications can be found at the following website, http://city.milwaukee.gov/water/business/standardspecs.htm. All materials will require inspection by the City of Milwaukee. Notify Mr. Mark Scheller, (414) 286-2427 or Mr. Steve Brengosz, (414) 708-2808, for materials inspection and the City of Milwaukee's Construction Section, (414) 286-2497, for construction inspection, four working days prior to starting construction.

Milwaukee Water Works will test all pipe, in accordance to the City of Milwaukee Material Testing Specifications.

B.2 Valve Box Adapters

Install all valve boxes on gate valves with the use of valve box base adapters as detailed in the Standard Plan Notes Regarding Water Main Construction. Install the adapter in addition to the hardwood blocking.

C Construction

The Milwaukee Water Works will shut off the water main to be altered and provide temporary hose connections to affected services as required.

The contractor will be responsible for all surveying required to layout and construct the water main relocations.

D Measurement
The department will measure Ductile Iron Water Main 8-Inch by the linear foot of water main of the type and diameter specified, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.004	Ductile Iron Water Main 8-Inch	LF

Payment is full compensation for providing all labor, equipment, materials (except for fittings provided by the city)and accessories required; for furnishing all surveying; excavating, for sheeting and shoring; for forming foundation; for laying pipe; for removing valves; for installing all valves and fittings; for concrete base, buttresses, and anchors; for bulkheading and abandoning existing water mains; for sealing joints and making connections to new or existing facilities; for providing granular backfill material, including bedding material; for backfilling; for removing sheeting and shoring; for cleaning out the site of the work and incidentals necessary to complete the work.

64. Survey Project (2380-02-70), Item SPV.0105.001.

A Description
Perform work according to standard spec 105.6 and 650.

Standard spec 105.6 and standard spec 650 are modified to define the requirements for construction staking for this contract.

Replace standard spec 105.6.2 with the following:

The department will not perform any construction staking for this contract. The contractor shall perform all survey required to layout and construct the work under this contract, subject to engineer's approval.

The survey includes establishing horizontal and vertical position for all aspects of construction including but not limited to storm sewer, subgrade, base, curb, gutter, curb and gutter, pipe culverts, structure layout, pavement, barriers (temporary and permanent), electrical installations, supplemental control, slope stakes, ponds, ITS, FTMS, ramp gates, parking lots, utilities, landscaping elements, irrigation system layout, installation of community sensitive design elements, traffic control items, fencing, etc.

The department may choose to perform quality assurance survey during construction. This quality assurance survey does not relieve the contractor of the responsibility for furnishing all survey work required under this contract.

Delete standard spec 650.1.

B (Vacant)

C Construction
Survey required under this item shall be in accordance to all pertinent requirements of standard spec 650 and shall include all other miscellaneous survey required to layout and construct all work under this contract.

D Measurement
The department will measure Survey Project 2380-02-70 as a single lump sum unit, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.001	Survey Project (2380-02-70)	LS

Payment for Survey Project (2380-02-70) is full compensation for performing all survey work required to layout and construct all work under this contract.

65. Railing Steel Type C1 Galvanized B-40-167, Item SPV.0105.002; B-40-764, Item SPV.0105.003; B-40-765, Item SPV.0105.004.

A Description
This special provision describes fabricating, galvanizing, painting and installing railing in accordance to standard spec 506, 513 and 517 and the plan details, as directed by the engineer, and as hereinafter provided.

B Materials
All materials for railing shall be new stock, free from defects impairing strength, durability and appearance. Railing assemblies shall be galvanized and receive a two-coat paint system. Bubbles, blisters and flaking in the coating will be a basis for rejection.

B1 Coating System
B1.1 Galvanizing
After fabrication, blast clean steel railing assemblies per SSPC-SP6 and galvanize according to ASTM A123. Vent holes shall be drilled in members as required to facilitate galvanizing and drainage. Location and size of vent holes are to be shown on the shop drawings. All burrs at component edges, corners and at holes shall be removed and sharp edges chamfered before galvanizing. Condition any thermal cut edges before blast cleaning by shallow grinding or other cleaning to remove any hardened surface layer. Remove all evident steel defects exposed in accordance to AASHTO M 160 prior to blast cleaning. Lumps, projections, globules, or heavy deposits of galvanizing, which will provide surface conditions that when painted, will produce unacceptable aesthetic and/or visual qualities, will not be permitted.

B1.2 Two-Coat Paint System

After galvanizing, paint all exterior surfaces of steel railing assemblies and inside of rail elements at field erection and expansion joints as hereinafter provided. All galvanized surfaces to be painted shall be cleaned per SSPC-SP1 to remove chlorides, sulfates, zinc salts, oil, dirt, organic matter and other contaminants. The cleaned surface shall then be brush blast cleaned per SSPC-SP16 to create a slight angular surface profile per manufacturer's recommendation for adhesion of the tie coat. Blasting shall not fracture the galvanized finish or remove any dry film thickness. After cleaning, apply a tie coat from an approved coating system that is specifically intended to be used on a galvanized surface, per manufacturer's recommendations. The tie coat shall etch the galvanized rail and prepare the surface for the top coat. Apply a top coat per manufacturer's recommendations, matching the specified color shown on the plans. Use a preapproved top coat that is resistant to the effects of the sun and is suitable for a marine environment. The tie and top coats should be of contrasting colors, and come from the same manufacturer.

Ensure that the paint manufacturer reviews the process to be used for surface preparation and application of the paint coating system with the paint applier. The review shall include a visit to the facility performing the work if requested by the paint manufacturer. Provide written confirmation, from the paint manufacturer to the engineer, that the review has taken place and that issues raised have been addressed before beginning coating work under the contract.

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

Manufacturer	Coat	Products	Dry Film Minimum Thickness (mils)	Min. Time[1] Between Coats (hours)
Sherwin Williams 1051 Perimeter Drive Suite 710 Schaumburg, IL 60173 (847) 330-1562	Tie	Recoatable Epoxy Primer B67-5 Series / B67V5	2.0 to 4.0	6
	Top	Acrolon 218 HS Polyurethane, B65-650	2.0 to 4.0	NA
Carboline 350 Hanley Industrial St. Louis, MO 63144 (314) 644-1000	Tie	Rustbond Penetrating Sealer FC	1	36
	Tie	Carboguard 60	4.0 to 6.0	10
	Tie	Carboguard 635	4.0 to 6.0	1
	Top	Carbothane 133 LH(satin)	4	NA
Wasser Corporation 4118 B Place NW Suite B Auburn, WA 98001 (253) 850-2967	Tie	MC-Ferrox B 100	3.0 to 5.0	8
	Top	MC-Luster 100	2.0 to 4.0	NA

[1] Time is dependent on temperature and humidity. Contact manufacturer for more specific information.

B2 Shop Drawings

Submit shop drawings showing the details of railing construction. Show the railing height post spacing, rail location, weld sizes and locations and all dimensions necessary for the construction of the railing. Show location of shop rail splices, field erection joints and expansion joints. State the name of the paint manufacturer and the product name of the tie coat and top coat used along with the color. State the size and material type used for all components. Also show the size and location of any vent or drainage holes provided.

C Construction

C1 Delivery, Storage and Handling

Deliver material to the site in an undamaged condition. Upon receipt at the job site, all materials shall be thoroughly inspected to ensure that no damage occurred during shipping or handling and conditions of materials is in conformance with these specifications. If coating is damaged, contractor shall repair or replace railing assemblies to the approval of the engineer at no additional cost to the Owner. Carefully store the

material off the ground to ensure proper ventilation and drainage. Exercise care so as not to damage the coated surface during railing installation. No field welding, field cutting or drilling will be permitted without the approval of the engineer.

C2 Touch-up and Repair
For minor damage caused by shipping, handling or installation to coated surfaces, touch-up the surface in conformance with the manufacturer's recommendations. If damage is excessive, the railing assembly shall be replaced at no additional cost to the Owner. The contractor shall provide the engineer with a copy of the manufacturer's recommended repair procedure and materials before repairing damaged coatings.

D Measurement
The department will measure Railing Steel Type C1 Galvanized (Structure) as a single lump sum unit of work for each structure where railing is acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.002	Railing Steel Type C1 Galvanized B-40-167	LS
SPV.0105.003	Railing Steel Type C1 Galvanized B-40-764	LS
SPV.0105.004	Railing Steel Type C1 Galvanized B-40-765	LS

Payment is full compensation for fabricating, galvanizing, painting, transporting, and installing the railing, including any touch-up and repairs.

66. Temporary Infrared EVP System (STH 24 and 116th Street), Item SPV.0105.005.

A Description
This special provision describes furnishing, installing, and maintaining temporary infrared EVP systems at the temporary signalized intersection as shown in the plans.

B Materials
Furnish an infrared emergency vehicle preemption system compatible with the Village of Hales Corners' system and users. Contact the Village of Hales Corners Department of Public Works [Michael J. Martin, (414) 529-6165 office, (414) 333-0992 cell, email: mjmartin@halescorners.org] for information regarding the equipment needs and operational requirements of the emergency vehicle preemption system.

C Construction
The temporary infrared EVP system, as shown in the temporary traffic signal plans or as directed by the engineer, shall be complete in place, tested, and in full operation during each stage of construction.

Install the temporary infrared EVP system as shown in the plans and according to the manufacturer's recommendations. Detectors may be mounted on the temporary traffic signal span wire or wood poles. It shall be the contractor's responsibility to relocate the temporary infrared EVP detectors to a suitable location if there is impedance on the sensor operation. Arrange for testing of equipment prior to acceptance of the installation for each construction stage.

All cables associated with the temporary infrared EVP system shall be routed to the cabinet. Each lead shall be appropriately marked as to which EVP channel it is associated.

Periodic adjustment and/or moving of the temporary infrared EVP detectors may be required due to changes in traffic control, staging, or other construction operations.

Ensure that the temporary infrared EVP system stays in clean working order. Periodic cleaning of the equipment may be required due to dirt and dust build-up.

The temporary EVP system may not be used for the permanent installation.

D Measurement

The department will measure Temporary Infrared EVP System (Location), furnished, installed, and completely operational, as a single complete lump sum unit of work per intersection.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.005	Temporary Infrared EVP System (STH 24 and 116th Street)	LS

Payment is full compensation for furnishing and installing all required equipment, materials, and supplies; for maintaining and changing the EVP detectors to match the plans, traffic control, and construction staging; for relocating the temporary EVP detectors due to construction activities, if required; for testing the EVP system for each stage and sub-stage of construction; for periodically cleaning all temporary EVP detectors; and for cleaning up and properly disposing of waste.

67. Remove Traffic Signals (STH 24 and 116th Street), Item SPV.0105.006.

A Description

This special provision describes removing existing traffic signals at the intersection of STH 24 and 116th Street in accordance to the pertinent provisions of standard spec 204 and as hereinafter provided. Specific removal items are noted in the plans.

B (Vacant)

C Construction

Arrange for the de-energizing of the traffic signals with the local electrical utility after receiving approval from the engineer that the existing traffic signals can be removed.

Notify the department's Electrical Field Unit at (414) 266-1170 at least three working days prior to the removal of the traffic signals. Complete the removal work as soon as possible following shut down of this equipment.

The department assumes that all equipment is in good condition and in working order prior to the contractor's removal operation. Prior to removal, inspect and provide a list of any damaged or non-working traffic signal equipment to the engineer. Any equipment not identified as damaged or not working, prior to removal, will be replaced by the contractor at no cost to the department.

Remove all standards and poles per plan from their concrete footings and disassemble out of traffic. Remove the transformer bases from each pole. Remove the signal heads, mast arms, luminaires, wiring/cabling, and traffic signal mounting devices from each signal standard, arm or pole. Ensure that all access hand hole doors and all associated hardware remain intact. Dispose of the underground signal cable, internal wires and street lighting cable off the state right of way. Deliver the remaining materials to the West Allis Electrical Service Facility at 935 South 60th Street, West Allis, Milwaukee County. Contact the department's Electrical Field Unit at (414) 266-1170 at least three working days prior to delivery to make arrangements.

DOT forces shall remove the signal cabinet from the footing. The signal cabinet and associated signal cabinet equipment will be removed from the site by DOT forces and will remain the property of the department.

D Measurement

The department will measure Remove Traffic Signals as a single lump sum unit of work for each intersection, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.006	Remove Traffic Signals (STH 24 and 116th Street)	LS

Payment is full compensation for removing, disassembling traffic signals, scrapping of some materials, disposing of scrap material, for delivering the requested materials to the department, and incidentals necessary to complete the contract work.

68. Install State-Supplied Traffic Signal Cabinet (STH 24 and 116th Street), Item SPV.0105.007.

A Description

This special provision describes the transporting and installing of the state-furnished traffic signal cabinet, signal controller, and other cabinet equipment for traffic signals, and for making the cabinet fully operational as shown in the plans.

B Materials

Pick up the state-furnished materials at the department's Electrical Shop located at 935 South 60th Street, West Allis. Notify the department's Electrical Field Unit at (414) 266-1170 and make arrangements for picking up the state-furnished materials five working days prior to picking the materials up.

Provide all other needed materials in conformance with standard specs 651.2, 652.2, 653.2, 654.2, 655.2, 656.2, 657.2, 658.2 and 659.2.

C Construction

Perform work in accordance to standard specs 651.3, 652.3, 653.3, 654.3, 655.3, 656.3, 657.3, 658.3 and 659.3 except as specified below.

Install the state-furnished traffic signal cabinet on the concrete control cabinet base the same day it is delivered to the site location.

The department will not be responsible for project delays and costs due to the delays of delivery by the vendor or by the failure of the traffic signal cabinet to pass acceptance testing.

Make the traffic signal cabinet, signal controller, and all cabinet equipment fully operational to run all operations shown on the sequence of operations plan sheet.

D Measurement

The department will measure Install State-Furnished Traffic Signal Cabinet [Location] as a single lump sum unit of work in place, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.007	Install State-Furnished Traffic Signal Cabinet (STH 24 and 116th Street)	LS

Payment is full compensation for installing and testing the Traffic Signal Cabinet and cabinet equipment; for furnishing and installing all other items necessary (such as, wire nuts, splice kits and/or connectors, tape, insulating varnish, ground lug fasteners, etc.) to

make the proposed system complete from the source of supply to the most remote unit; and for clean-up and waste disposal.

69. Transporting and Installing State-Furnished Video Detection System, Item SPV.0105.008.

A Description

This special provision describes the transporting and installing of department furnished Traffic Signal Video Detection System on Monotubes and Luminaire arms at the intersection of STH 24 and 116th Street.

B Materials

The contractor shall pick up all the department furnished Iteris Video Detection System for all state maintained traffic signals for the project at the department's Electrical Shop located at 935 South 60th Street, West Allis. Notify the department's Electrical field unit at (414) 266-1170 to make arrangements for picking up the department furnished materials at least five working days prior to material pick-up.

C Construction

Install the Traffic Signal Power Cable, the camera manufacturer's connector cable whip, pole/arm mounting bracket, extension arm (if required) and camera as shown on the plans (the final determination of location will be made by the department's electrical personnel to ensure best line of sight). Cameras shall be mounted at a minimum 30' height. The department's Electrical Field Unit (EFU) shall install State-furnished video detection equipment in the traffic signal control cabinet with assistance from the vendor and contractor.

Install the Traffic Signal Power Cable to run continuously (without splices) from the traffic signal cabinet plus an additional 10 feet to the handhole or base. Leave 10 feet of cable in each pull box. Install the camera manufacturer's connector cable whip from the camera to the handhole or base.

Mark each end of the lead appropriately to indicate the equipment label (i.e. VID1, VID2, etc.). Splice, solder and shrink wrap the Terra power cable to the camera manufacturer's cable whip. Allow 3 feet of slack on each cable.

Notify department's Electrical Shop at (414) 266-1170 upon completion of the Monotube and Luminaire arm installation of the Traffic Signal Power Cable, cable whip and camera at each intersection. Camera programming will be performed by the vendor with assistance from the department and the contractor when operation of the permanent signal begins.

D Measurement

The department will measure Transporting and Installing State Furnished Video Detection System as a single lump sum unit of work for each intersection, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.008	Transporting and Installing State-Furnished Video Detection System	LS

Payment is full compensation for transporting and installing the State-furnished Video Detection System, Traffic Signal Power Cable, cable whips, mounting hardware, cameras and programming.

70. Removing Overhead Sign Support Station 85+20; Item SPV.0105.009.

A Description
Work under this item shall consist of removing the overhead sign structure and footing. The sign on the structure is paid for under a separate pay item, i.e Removing signs type II. See signing plans for location.

B (Vacant)

C Construction
Remove overhead sign supports and concrete footings, backfill the resulting holes, and dispose of all materials outside of the right-of-way in accordance to standard spec 204.3 and standard spec 638.3. Concrete footing shall be removed to 2' below the existing ground. The reinforcement shall be cut off flush with the top of the concrete. The footing shall be then covered with topsoil and seeded. This is all incidental to Remove Overhead Sign Structure.

D Measurement
The department will measure Removing Overhead Sign Support, as a single lump sum unit of work in place, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.009	Removing Overhead Sign Supports, Station 85+20	LS

Payment in full compensation for disassembling, removing, including concrete footings, backfilling, and disposal of all materials.

71. Time Clock Activated Flashing LED Beacon, SPV.0105.010.

A Description

Furnish and install a Time Clock activated and controlled solar powered LED Beacon unit at the locations shown on the plans and as hereinafter provided. The internal time clock will be based on school hours.

- Typically, ¾ hour before school begins in the morning.
- Between the end of the morning and the beginning of the afternoon session.
- For three-quarters of an hour after the end of the afternoon session.
- The beacon shall operate only on school days and arrangements shall be made so that the beacon will not operate on holidays.
- Actually hours to be determined following installation by conferring with WISDOT traffic operations and school.

B Materials

Furnish a solar powered and wirelessly controlled LED Beacon assembly. The assembly includes the following items:

1. Solar panel
    a. The solar panel shall be up to 13.5”x15” in size and provide up to 13.5 watts peak total output.
    b. The Solar panel shall be mounted to an aluminum plate and bracket at an angle of 45°- 60° to provide maximum output.
    c. All fasteners used shall be anti-vandal.
    d. All solar panel connectors shall conform to Ingress Protection, IP-67 rating, dust proof, and protected from temporary immersion in water up to 1 meter deep for 30 minutes. Connectors shall be Deutsch DTM series.

2. LED Beacon
    a. The signal beacon will consist of the head, amber lens, visor, signal closure cap, and mounting hardware for a 4.5” OD aluminum pole. The lens will be a 3-12VDC 12” amber LED .
    b. The head will be a one piece polycarbonate shell with the polycarbonate door using stainless steel hinge pins. Thumbscrews will hold the door against the body.
    c. The visor shall be a one piece polycarbonate unit which shall be attached at four points to the head door.
    d. Beacon shall include backplate and sun visor.

3. Control Circuit
    a. The control circuit shall have the capability of independently flashing up to two independent outputs. The LED light output and duty cycle shall be programmable.

b. The flashing output shall be 50 to 60 flashes per minute with a 100 – 500 millisecond duration on time. The output shall reach the output current as programmed for the duration of the pulse.
c. The control circuit shall automatically adjust LED output for maximum visibility for both day and night time operations. The day and night time mode will automatically be determined by solar panel charge input.
d. The control circuit shall be potted in an epoxy resin housing to be waterproof and housed in a 2 3/8" aluminum tube.
e. All circuit connectors shall conform to Ingress Protection, IP-67 rating, dust proof, and protected from temporary immersion in water up to 3 feet deep for 30 minutes. Connectors shall be Deutsch DTM series.

4. Time Clock Control Circuit
   a. The control circuit shall have the capability of independently flashing a single output or alternate a double sign. The flashing output level shall be user programmable with the use of a programming device.
   b. The flashing output shall be 50 to 60 flashes per minute with 100msec – 500msec duration on time. The outputs shall reach the output current as programmed for the duration of the programmed pulse.
   c. The output current shall be individually programmable for day and night time operation. The day time and night time flashing current ranges shall be from 0mA to 2000mA. The day and night time mode will automatically be determined by solar panel charge input.
   d. The control circuit shall be potted in a 4"x 2.5" epoxy resin housing to be waterproof.
   e. The control circuit shall operate between the temperatures of -40c and + 80c.
   f. All circuit connectors shall conform to Ingress Protection, IP-67 rating, dust proof, and protected from temporary immersion in water up to 1 meter deep for 30 minutes. Connectors shall be Deutsch DTM series.
   g. Time clock shall be programmed via a windows based software capable of holding a stored calendar set of two years.
   h. Time clock events shall have up to 7 unique day type settings with 16 events for each day type.
   i. Time clock controller shall be low power consumption for use in low voltage and operate from 3.6 vdc - 12vdc
   j. The software shall have the capability to synch time with time the time clock.
   k. The software shall be capable of save time clock profile to a data file.
   l. Software shall have a graphical user interface (GUI)

5. Battery
   a. Battery packs shall be 4.8 volt 14000mAH Nickel Metal Hydride (NiMH).
   b. All batteries shall be sealed in a plastic film to provide moisture and corrosion resistance. Battery dimensions shall be 10.5"x1.5" to be housed in 2 3/8" aluminum tube.
   c. All batteries shall operate between the temperatures of -40ºC and +80ºC.

d. All battery connectors shall conform to Ingress Protection, IP-67 rating, dust proff, and protected from temporary immersion in water up to 3 feet deep for 30 minutes. Connectors shall be Deutsch DTM series or equal.
e. Note: The battery packs shall be mounted behind the sign to meet breakaway standards and shall not be mounted on pole below the sign.

6. Pedestal Shaft - shall be a Traffic Signals Standards Aluminum 15-FT and base per SDD 9 E 7.
    a. Shall be a standard 4.5" OD aluminum pedestal pole. Supplied with one end threaded for easy installation into a pedestal base.
    b. Shall be a 373-1580 13’ - 15’ Schedule 80 pipe raw aluminum.
    c. Mounting to be per SDD 9 E 7.
    d. Back plate for beacon incidental.

7. Pedestal Base
    a. The pedestal base shall be cast aluminum pedestals mount on a concrete base attached by four internal anchor bolts imbedded in the base.
    b. The Base shall have a large 8.5" square hand hole cover allowing access to the interior of the base.

8. Anchor Bolts
    a. The anchor bolts shall be galvanized steel 1" x 42".
    b. Set of 4 includes lock washer and nut. Part Number 3177- 42 1" x 42" Anchor Bolt.

9. Concrete Base
    a. Shall be a Concrete Bases Type I per SDD 9 C 2.

C Construction

Install the Flashing LED Beacon Unit in accordance to the manufacturer’s specifications and instructions.

D Measurement

The department will measure Time Clock Activated Flashing LED Beacon Unit by each individual unit, acceptable furnished and installed complete with footing, and all incidentals as a turnkey installation and fully operational. Sign is paid for separately under signing miscellaneous quantities.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.010	Time Clock Activated Flashing LED Beacon	LS

Payment in full compensation for furnishing and installing Time Clock Activated Flashing LED Beacon Assemblies, for furnishing all mounting brackets and hardware, for transportation.

72. Temporary Vehicular Video Detection System (STH 24 and 116th Street), Item SPV.0105.011.

A Description

This work shall consist of furnishing, installing and placing into operation a temporary vehicular video detection system (VVDS) as shown on the plans, and as directed by the engineer in the field.

B Materials

This specification sets forth the minimum requirements for a system that detects vehicles on a roadway by processing video images and providing detection outputs to a traffic signal controller. The materials shall also include all brackets, mounting hardware, cable, terminations, interface panels, and all other incidentals for the installation of the video detection equipment. The cable furnished and installed must be suitable for aerial applications if installed on the temporary traffic signal span wire. This equipment shall meet the NEMA environmental, power and surge ratings as set forth in NEMA TS2 specifications.

All video detection equipment, components, and terminations supplied under this item shall be fully compatible with the temporary traffic signal controller supplied for the project. The system architecture shall fully support Ethernet networking of system components. All required interface equipment needed for transmitting and receiving data and video shall be provided with the VVDS.

The video detection system shall optimally detect vehicle passage and presence when the camera is mounted 30-feet or higher above the roadway, when the camera is adjacent to the desired coverage area, and when the distance to the farthest detection zone locations are not greater than 10 times the mounting height of the camera. The recommended deployment geometry for optimal detection also requires that there be an unobstructed view of each traveled lane where detection is required. Although optimal detection may be obtained when the camera is mounted directly above the traveled lanes, the camera shall not be required to be directly over the roadway. The camera shall be able to view either approaching or receding traffic or both in the same field of view. The camera placed at a mounting height that minimizes vehicle image occlusion shall be able to simultaneously monitor a maximum of 6 traffic lanes when mounted at the road-side or up to 8 traffic lanes when mounted in the center with 4 lanes on each side.

The video detection system shall provide flexible detection zone placement anywhere and at any orientation within the camera field of view. Preferred detector configurations shall be detection zones placed across lanes of traffic for optimal count accuracy, detection zones placed parallel to lanes of traffic for optimal presence detection accuracy of

moving or stopped vehicles. Detection zones shall be able to be overlapped for optimal road coverage.

C Construction

The temporary vehicular video detection system shall be installed by supplier factory-certified installers and as recommended by the supplier and documented in installation materials provided by the supplier.

The cameras shall be mounted to a luminaire arm, monotube arm, traffic signal pole, or other configuration as determined by the department's Electrical Field Unit (EFU). Contact the EFU at (414) 266-1170 a minimum of five days prior to installing the cameras.

The contractor shall install the cameras, the modular cabinet interface unit, the communication interface panel, LCD monitor, cable, and all other incidentals required to complete VVDS per the manufacturer's recommendations and as directed by the EFU. Incidentals may include, but not be limited to, brackets, adjustable camera mounts, rubber nipples, cable ties, solder, shrink tube, etc.

In the event, at installation or turn on date, a noticeable obstruction is present in line with the video detection zone(s), the contractor shall be obligated to advise the engineer before setting the zone.

The video detection system, as shown in the traffic signal construction plans, shall be complete, in place, tested, and in full operation during each stage of construction.

D Measurement

The department will measure Temporary Vehicular Video Detection System for Intersections (Location) as a single lump sum unit of work, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.011	Temporary Vehicular Video Detection System (STH 24 and 116th Street)	LS

Payment is full compensation for furnishing and installing the temporary vehicular video detection system, including cameras, cabling, mounting brackets, mounting hardware, terminations, interface panels, monitor, testing and set up; for periodic checking and resetting of video detection zones; for periodic cleaning for dirt and dust build-up; and for removing all equipment at the completion of the project.

73. Remove Loop Detector Wire and Lead-in Cable (STH 24 and 116th Street), Item SPV.0105.012; (STH 24 and STH 100), Item SPV.0105.013.

A Description

This special provision describes removing loop detector wire and lead-in cable at the intersection of STH 24 and 116th Street and the intersection of STH 24 and STH 100. Removal will be in accordance to standard spec 204, as shown in the plans, and as hereinafter provided.

B (Vacant)

C Construction

Notify the department's Electrical Field Unit at (414) 266-1170 at least three working days prior to the removal of the loop detector wire and lead-in cable.

Remove and dispose of detector lead-in cable including loop wire for abandoned loops off the right of way.

D Measurement

The department will measure Remove Loop Detector Wire and Lead-in Cable as a single lump sum unit of work for each intersection, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.012	Remove Loop Detector Wire and Lead-in Cable (STH 24 and 116th Street)	LS
SPV.0105.013	Remove Loop Detector Wire and Lead-in Cable, (STH 24 and STH 100)	LS

Payment is full compensation for removing, scrapping, and disposing of material and incidentals necessary to complete the contract work.

74. EVP Detector Head Installation (STH 24 and 116th Street), Item SPV.0105.014; (STH 24 and STH 100), Item SPV.0105.015.

A Description

This special provision describes the transporting and installing of department furnished Emergency Vehicle Preemption (EVP) Detector Heads at the intersection of STH 24 and 116th Street.

B Materials

Use materials furnished by the department including: Emergency Vehicle Preemption (EVP) Detector Heads. Pick up the department furnished materials at the department's Electrical Shop located at 935 South 60th Street, West Allis. Notify the department's

Electrical Field Unit at (414) 266-1170 and make arrangements for picking up the department furnished materials three working days prior to picking the materials up.

C Construction

Install the EVP detector heads as shown on the plans. The department will determine the exact location to ensure that the installation does not create a sight obstruction. The department will terminate the EVP cable ends and install the discriminators and card rack in the cabinet.

Notify the department's Electrical shop at (414) 266-1170 upon completion of the installation of the Emergency Vehicle Preemption (EVP) Detector Heads.

D Measurement

The department will measure EVP Detector Head Installation (Location) as a single lump sum unit of work, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.014	EVP Detector Head Installation (STH 24 and 116th Street)	LS
SPV.0105.015	EVP Detector Head Installation (STH 24 and STH 100)	LS

Payment is full compensation for transporting and installing of department furnished Emergency Vehicle Preemption (EVP) Detector Heads.

75. Vehicular Video Detection System Programming Unit and Training, Item SPV.0105.016.

A Description

This work shall consist of furnishing the Vehicular Video Detection System Programming Unit to the department and providing training and instruction relating to the operation, maintenance, programming, and installation of the Vehicular Video Detection System Programming Unit.

B Materials

Furnish the department a Vehicular Video Detection System Programming Unit with preinstalled software for programming the Vehicular Video Detection System. The semirugged laptop computer shall be capable of operating outdoors in all seasons.

B.1 Durability

The Vehicular Video Detection System Programming Unit shall have a spill-resistant keyboard and hard drive heater. The outer case of the programming unit shall have an integrated carrying handle.

B.2 Software
The Vehicular Video Detection System Programming Unit shall be pre-programmed with an operating system compatible with the Vehicular Video Detection software. The software required to program the Vehicular Video Detection System shall be pre-installed. All software manuals, documentation, CD's, etc. shall be provided to the department.

B.3 Storage and Memory
The Vehicular Video Detection System Programming Unit shall have a minimum 4GB SDRAM (2520 MHz) and minimum 500GB solid state drive.

B.4 Display
The Vehicular Video Detection System Programming Unit shall have a minimum 14-inch high definition (minimum 720p) LED 1366x768 monitor. The display shall have antiglare screen treatment.

B.5 Keyboard and Input
The Vehicular Video Detection System Programming Unit shall have an oversized electrostatic touchpad with multi touch support.

B.6 Multimedia Bay
The Vehicular Video Detection System Programming Unit shall have a DVD Super MULTI Drive.

B.7 Expansion Slots
The Vehicular Video Detection System Programming Unit shall have a minimum of one each of the following expansion slots:

- PC card type II
- SD card (SDXC)
- ExpressCard/54

B.8 Interface
The Vehicular Video Detection System Programming Unit shall have the following interfaces:

- Docking connector: dedicated 100-pin
- HDMI: Type A
- VGA: D-sub 15-pin
- Headphones/speaker: Mini-jack stereo
- Microphone/line in: Mini-jack stereo
- Serial: D-sub 9-pin
- USB 3.0 (x1), USB 2.0 (x3): 4-pin
- IEEE 1394a (FireWire): 4-pin
- 10/100/1000 Ethernet: RJ-45
- 10/100 2nd LAN Ethernet: RJ-45
- 56K Modem: RJ-11

B.9 Wireless
The Vehicular Video Detection System Programming Unit shall have the following wireless capabilities:

- 802.11a/b/g/n
- Security
- Authentication: LEAP, WPA, 802.1x, EAP-TLS, EAP-FAST, PEAP
- Encryption: CKIP, TKIP, 128-bit and 64-bit WEP, Hardware AES
- Slide on/off switch
- Bluetooth enabled

B.10 Power Supply
The Vehicular Video Detection System Programming Unit shall have a minimum battery life of 7-hours under normal operating conditions.

B.11 Accessories
The Vehicular Video Detection System Programming Unit shall have the following accessories:

- A 100V-240V 50/60Hz auto sensing/switching worldwide power supply 3-prong AC adapter.
- A large capacity protective carrying case.
- A 3-meter section of CAT-5E Ethernet cable.
- All cables required to connect the programming unit to the VVDS.
- A 3-button mouse.

B.12 Supplier Warranty
The supplier shall provide a minimum 1-year warranty on the Vehicular Video Detection System Programming Unit from the date of installation.

C Construction
Provide a competent representative capable of instructing the operators of the system in (a) theory of application and operation; (b) electronic circuitry; and (c) hands-on, trouble shooting of the equipment. Conduct instruction and training at the job site or other approved location and furnish an equivalent model of the programming unit to assist in teaching the operators in theory, assembly, operation, and maintenance.

Provide a minimum of 4 hours of training. Provide operations and maintenance manuals for all training participants, up to a maximum of 20. Electronic operation and maintenance manuals are sufficient.

D Measurement
The department will measure Vehicular Video Detection System Programming Unit and Training as a single complete lump sum unit of work, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.016	Vehicular Video Detection System Programming Unit and Training	LS

Payment is full compensation for furnishing the Vehicular Video Detection System Programming Unit; furnishing the instructor, programming unit model, and operations and maintenance manuals; and for providing training.

76. Transporting Traffic Signal and Intersection Lighting, Item SPV.0105.017.

A Description

This special provision describes the transporting of department furnished materials for traffic signals and intersection lighting for the intersection of STH 24 and 116th Street.

B Materials

Transport materials furnished by the department including: monotube arms, poles and luminaire arms (to be installed on monotube assemblies).

Pick up the department furnished materials at the department's Electrical Shop located at 935 South 60th Street, West Allis. Notify the department's Electrical Field Unit at (414) 266-1170 and make arrangements for picking up the department furnished materials three working days prior to picking the materials up.

Provide all other needed materials in conformance with standard specs 651.2, 652.2, 653.2, 654.2, 655.2, 656.2, 657.2, 658.2 and 659.2.

C Construction

Perform work in accordance to standard specs 651.3, 652.3, 653.3, 654.3, 655.3, 656.3, 657.3, 658.3 and 659.3 except as specified below.

D Measurement

The department will measure Transporting Traffic Signal and Intersection Lighting Materials [Location] as a single lump sum unit of work in place, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.017	Transporting Traffic Signal and Intersection Lighting Materials	LS

Payment is full compensation for transporting the monotube arms and luminaire arms (to be installed on monotubes). Installation of these materials is included under a separate pay item.

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 2014 edition of the standard specifications:

101.3 Definitions

Replace the definition of semi-final estimate with the following effective with the December 2013 letting:

Semi-final estimate An estimate indicating the engineer has measured and reported all contract quantities and materials requirements.

105.11.1 Partial Acceptance

Replace paragraph two with the following effective with the December 2013 letting:

(2) Partial acceptance will relieve the contractor of maintenance responsibility for the designated portion of the work. By relieving the contractor of maintenance, the department does not relieve the contractor of responsibility for defective work or damages caused by the contractor's operations. Do not construe partial acceptance to be conditional final acceptance or final acceptance of any part of the project, or a waiver of any legal rights specified under 107.16.

105.11.2 Final Acceptance

Retitle and replace the entire text with the following effective with the December 2013 letting:

105.11.2 Project Acceptance

105.11.2.1 Inspection

105.11.2.1.1 General

(1) Notify the engineer when the project is substantially complete as defined in 105.11.2.1.3. As soon as it is practical, the engineer will inspect the work and categorize it as one of the following:

1. Unacceptable or not complete.
2. Substantially complete.
3. Complete.

105.11.2.1.2 Unacceptable or Not Complete

(1) The engineer will identify, in writing, work that is unacceptable or not complete. Immediately correct or complete that work. The engineer will assess contract time until the work is corrected or completed.

(2) Proceed as specified in 105.11.2.1.1 until the engineer determines that the work is complete.

105.11.2.1.3 Substantially Complete

(1) The project is substantially complete and the engineer will no longer assess contract time if the contractor has completed all contract bid items and change order work, except for the punch-list. As applicable, the following must have occurred:

1. All lanes of traffic are open on a finished surface.
2. All signage and traffic control devices are in place and operating.
3. All drainage, erosion control, excavation, and embankments are completed.
4. All safety appurtenances are completed.

(2) The engineer will provide a written punch-list enumerating work the contractor must perform and documents the contractor must submit before the the engineer will categorize the work as complete.

1. Punch-list work includes uncompleted cleanup work required under 104.9 and minor corrective work. Immediately correct or complete the punch-list work. The engineer may restart contract time if the contractor does not complete the punch-list work within 5 business days after receiving the written punch-list. The engineer and contractor may mutually agree to extend this 5-day requirement.
2. Punch-list documents include whatever contract required documentation is missing. The engineer may restart contract time if the contractor does not submit the punch-list documents within 15 business days after receiving the written punch-list. The engineer and contractor may mutually agree to extend this 15-day requirement.

(3) Proceed as specified in 105.11.2.1.1 until the work is complete.

105.11.2.1.4 Complete

(1) The project is complete when the contractor has completed all contract bid items, change order work, and punch-list work including the submission of all missing documentation.

105.11.2.2 Conditional Final Acceptance

(1) When the engineer determines that the project is complete, the engineer will give the contractor written notice of conditional final acceptance relieving the contractor of maintenance responsibility for the completed work.

105.11.2.3 Final Acceptance

(1) The engineer will grant final acceptance of the project after determining that all contract is work complete; all contract, materials, and payroll records are reviewed and approved; and the semi-final estimate quantities are final under 109.7.

(2) Failure to discover defective work or materials before final acceptance does not prevent the department from rejecting that work or those materials later. The department may revoke final acceptance if the department discovers defective work or materials after it has accepted the work.

105.13.3 Submission of Claim

Replace paragraph one with the following effective with the December 2013 letting:

(1) Submit the claim to the project engineer as promptly as possible following the submission of the Notice of Claim, but not later than final acceptance of the project as specified in 105.11.2.3. If the contractor does not submit the claim before final acceptance of the project, the department will deny the claim.

107.17.3 Railroad Insurance Requirements

Replace paragraph one with the following effective with the December 2013 letting:

(1) If required by the special provisions, provide or arrange for a subcontractor to provide railroad protective liability insurance in addition to the types and limits of insurance required in 107.26. Keep railroad protective liability insurance coverage in force until completing all work, under or incidental to the contract, on the railroad right of way or premises of the railroad and until the engineer determines that the work is complete as specified in 105.11.2.1.4.

107.26 Standard Insurance Requirements

Replace paragraph one with the following effective with the December 2013 letting:

(1) Maintain the following types and limits of commercial insurance in force until the engineer determines that the work is complete as specified in 105.11.2.1.4.

TABLE 107-1 REQUIRED INSURANCE AND MINIMUM COVERAGES

TYPE OF INSURANCE	MINIMUM LIMITS REQUIRED[1]
1. Commercial general liability insurance endorsed to include blanket contractual liability coverage.[2]	$2 million combined single limits per occurrence with an annual aggregate limit of not less than $4 million.
2. Workers' compensation.	Statutory limits
3. Employers' liability insurance.	Bodily injury by accident: $100,000 each accident Bodily injury by disease: $500,000 each accident $100,000 each employee
4. Commercial automobile liability insurance covering all contractor-owned, non-owned, and hired vehicles used in carrying out the contract.[2]	$1 million-combined single limits per occurrence.

[1] The contractor may satisfy these requirements with primary insurance coverage or with excess/umbrella policies.

[2] The Wisconsin Department of Transportation, its officers, agents, and employees shall be named as an additional insured under the general liability and automobile liability insurance.

108.14 Terminating the Contractor's Responsibility

Replace paragraph one with the following effective with the December 2013 letting:

(1) The contractor's responsibilities are terminated, except as set forth in the contract bond and specified in 107.16, when the department grants final acceptance as specified in 105.11.2.3.

109.2 Scope of Payment

Replace paragraph two with the following effective with the December 2013 letting:

(2) The department will pay for the quantity of work acceptably completed and measured for payment as the measurement subsection for each bid item specifies. Within the contract provide means to furnish and install the work complete and in-place. Payment is full compensation for everything required to perform the work under the applicable bid items including, but not limited to, the work elements listed in the payment subsection. Payment also includes all of the following not specifically excluded in that payment subsection:

1. Furnishing and installing all materials as well as furnishing the labor, tools, supplies, equipment, and incidentals necessary to perform the work.
2. All losses or damages, except as specified in 107.14, arising from one or more of the following:
   - The nature of the work.
   - The action of the elements.
   - Unforeseen difficulties encountered during prosecution of the work.
3. All insurance costs, expenses, and risks connected with the prosecution of the work.
4. All expenses incurred because of an engineer-ordered suspension, except as specified in 104.2.2.3.
5. All infringements of patents, trademarks, or copyrights.
6. All other expenses incurred to complete and protect the work under the contract.

109.6.1 General

Replace paragraphs three and four with the following effective with the December 2013 letting:

(3) The department's payment of an estimate before conditional final acceptance of the work does not constitute the department's acceptance of the work, and does not relieve the contractor of responsibility for:

1. Protecting, repairing, correcting, or renewing the work.
2. Replacing all defects in the construction or in the materials used in the construction of the work under the contract, or responsibility for damage attributable to these defects.

(4) The contractor is responsible for all defects or damage that the engineer may discover on or before the engineer's conditional final acceptance of the work. The engineer is the sole judge of these defects or damage, and the contractor is liable to the department for not correcting all defects or damage.

109.7 Acceptance and Final Payment

Replace paragraphs one and two with the following effective with the December 2013 letting:

(1) After the engineer grants conditional final acceptance of the work as specified in 105.11.2.2 and reviews required document submittals and materials test reports, the engineer will issue the semi-final estimate.

(2) Within 30 calendar days after receiving the semi-final estimate, submit to the engineer a written statement of agreement or disagreement with the semi-final estimate. For an acceptable statement of disagreement, submit an item-by-item list with reasons for each disagreement. If the contractor does not submit this written statement within those 30 days, the engineer will process the final estimate for payment. The engineer and the contractor can mutually agree to extend this 30-day submission requirement.

450.3.3 Maintaining the Work

Replace paragraph one with the following effective with the December 2013 letting:

(1) Protect and repair the prepared foundation, tack coat, base, paved traffic lanes, shoulders, and seal coat. Correct all rich or bleeding areas, breaks, raveled spots, or other nonconforming areas in the paved surface.

455.3.2.5 Maintaining Tack Coat

Replace paragraph one with the following effective with the December 2013 letting:

(1) Protect and repair the existing surface and the tack coat. Correct areas with excess or deficient tack material and any breaks, raveled spots, or other areas where bond might be affected.

520.3.8 Protection After Laying

Delete the entire subsection.

614.2.1 General

Replace paragraphs five and six with the following effective with the December 2013 letting:

(5) Furnish zinc coated wire rope and fitting conforming to the plans and galvanized according to ASTM A741.

(6) Before installation store galvanized components above ground level and away from surface run off. The department may reject material if the zinc coating is physically damaged or oxidized.

(7) Provide manufacturer's drawings, and installation and maintenance instructions when providing proprietary systems.

614.2.3 Steel Rail and Fittings

Replace paragraph one with the following effective with the December 2013 letting:

(1) Furnish galvanized steel rail conforming to AASHTO M180 class A, type II beam using the single-spot test coating requirements. Furnish plates, anchor plates, post mounting brackets, and other structural steel components conforming to 506.2.2.1 and hot-dip galvanized according to ASTM A123.

614.2.7 Crash Cushions

Replace paragraph one with the following effective with the December 2013 letting:

(1) Furnish permanent and temporary crash cushions from the department's approved products list. Use cushions as wide or wider than the plan back-width. Furnish transitions conforming to the crash cushion manufacturer's design and specifications. Submit manufacturer crash cushion and transition design details to engineer before installing.

616.3.1 General

Replace paragraph six with the following effective with the December 2013 letting:

(6) Remove and dispose of all excess excavation and surplus materials from the fence site.

618.3.3 Restoration

Replace paragraph one with the following effective with the December 2013 letting:

(1) Upon termination of hauling operations and before conditional final acceptance, restore all haul roads, including drainage facilities and other components, to the equivalent of pre-hauling conditions.

627.3.1 General

Replace paragraph four with the following effective with the December 2013 letting:

(4) Maintain the mulched areas and repair all areas damaged by wind, erosion, traffic, fire or other causes.

637.3.2.1 General

Delete paragraph three effective with the December 2013 letting.

670.3.4.2 Post-Construction Work

Replace paragraph one with the following effective with the December 2013 letting:

(1) Submit 5 copies of ITS documentation including but not limited to the following:

- Operator's manual: for contractor furnished equipment, submit a manual containing detailed operating instructions for each different type or model of equipment and or operation performed.
- Maintenance procedures manuals: for contractor furnished equipment, submit a manual containing detailed preventive and corrective maintenance procedures for each type or model of equipment furnished.
- Cabinet fiber optic wiring diagram: submit a cabinet wiring diagram, identified by location for each cabinet. Include both electrical wiring and fiber optic conductor and cable connections. Place one copy of the fiber optic wiring diagram in a weatherproof holder in the cabinet. Deliver the other copies to the engineer.
- As-built drawings: submit final as-built drawings that detail the final placement of all conduit, cabling, equipment, and geometric modifications within the contract. Provide all documentation in an electronic format adhering to the region’s ITS computer aided drafting standards and according to the department’s as-built requirements. The department will review the as-built drawings for content and electronic format. Modify both the content and format of as-built drawings until meeting all requirements.
- Equipment inventory list: submit an inventory list including serial number, make, model, date installed, and location installed of all equipment installed under the contract.

Errata

Make the following corrections to the 2013 edition of the standard specifications:

415.3.14 Protecting Concrete

Correct errata by referencing the opening to service specification.

(1) Erect and maintain suitable barricades and, if necessary, provide personnel to keep traffic off the newly constructed pavement until it is opened for service as specified in 415.3.15. Conform to 104.6 for methods of handling and facilitating traffic.

501.2.9 Concrete Curing Materials

Correct errata by changing AASHTO M171 to ASTM C171.

(2) Furnish sheeting conforming to ASTM C171 for white opaque polyethylene film, except that the contractor may use clear or black polyethylene for cold weather protection.

607.2 Materials

Correct errata by changing AASHTO M198 to ASTM C990.

(1) Use materials conforming to the requirements for the class of material named and specified below.

Composite pipe, couplings, fittings and joint materials	ASTM D2680
Annular rubber and plastic gaskets for flexible, watertight joints	ASTM C990
External rubber gaskets, mastic, and protective film	ASTM C877
Mortar	519.2.3

637.2.1.3 Sheet Aluminum

Correct errata by changing ASTM B449 to B921 and eliminating the specification for coating thickness.

(4) Degrease, etch, and coat the sign blank on both sides with a chromate treatment conforming to ASTM B921, class 2.

637.3.3.4 Performance

Correct errata to reference to 105.11.2.3 as revised to implement changes to the finals process.

(1) Under 105.11.2.3 the department may revoke acceptance and direct the contractor to repair or replace previously accepted sign installations if the department subsequently discovers evidence of defective materials or improper installation. Deficiencies that warrant department action include but are not limited to the following:

- Sign posts more than five degrees out of plumb.
- Signs twisted by more than 5 degrees from plan orientation.
- Signs with delaminated or warped plywood.
- Signs with bubbling, fading, delaminating, or buckling sheeting.

646.3.3.4 Proving Period

Correct errata to reference to 105.11.2.3 as revised to implement changes to the finals process.

(4) Replace all marking within sections with a percent failing more than 10% and repair or replace all markings that, in the engineer's assessment, show evidence of improper construction. If post-acceptance inspections uncover evidence of defective materials or improper construction, the department may revoke acceptance under 105.11.2.3.

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.

ADDITIONAL SPECIAL PROVISION 9
Electronic Certified Payroll Submittal

(1) Use the department's Civil Rights Compliance System (CRCS) to submit certified payrolls electronically. Details are available online through the department's highway construction contractor information (HCCI) site on the Labor, Wages, and EEO Information page at: http://roadwaystandards.dot.wi.gov/hcci/labor-wages-eeo/index.shtm

(2) Ensure that all tiers of subcontractors, as well as all trucking firms, submit their weekly certified payrolls electronically through CRCS. These payrolls are due within seven calendar days following the close of the payroll period. Every firm providing physical labor towards completing the project is a subcontractor under this special provision.

(3) Upon receipt of contract execution, promptly make all affected firms aware of the requirements under this special provision and arrange for them to receive CRCS training as they are about to begin payrolls. The department will provide training either in a classroom setting at one of our regional offices or by telephone. Contact Tess Mulrooney at 608-267-4489 to schedule the training.

(4) The department will reject all paper submittals of forms DT-1816 and DT-1929 for information required under this special provision. All costs for conforming to this special provision are incidental to the contract.

(5) Firms wishing to export payroll data from their computer system into CRCS should have their payroll coordinator send several sample electronic files to Tess two months before a payroll needs to be submitted. Not every contractor's payroll system is capable of producing export files. For details, see pages 17-22 of the CRCS System Background Information manual available online on the Labor, Wages, and EEO Information page at: http://roadwaystandards.dot.wi.gov/hcci/labor-wages-eeo/crc-basic-info.pdf

APRIL 2013

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 2-28.4 to ensure compliance with this “Buy America” provision.

http://roadwaystandards.dot.wi.gov/standards/cmm/cm-02-28.pdf#cm2-28.4

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://roadwaystandards.dot.wi.gov/standards/forms/ws4567.doc

Effective with September 2004 Letting

WISCONSIN DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS AND TRANSPORTATION FACILITIES

SUPPLEMENTAL REQUIRED CONTRACT PROVISIONS

I. WAGE RATES, HOURS OF LABOR AND PAYMENT OF WAGES

The schedule of "Minimum Wage Rates" attached hereto and made a part hereof furnishes the prevailing wage rates that have been determined pursuant to Section 103.50 of the Wisconsin Statutes. These wage rates are the minimum required to be paid to the various laborers, workers, mechanics and truck drivers employed by contractors and subcontractors on the construction work embraced by the contract and subject to prevailing hours and wages under Section 103.50, Stats. If necessary to employ laborers, workers, mechanics or truck drivers whose classification is not listed on the schedule, they shall be paid at rates conformable to those listed for similar classifications. Apprentices shall be paid at rates not less than those prescribed in their state indenture contacts.

While the wage rates shown are the minimum rates required by the contract to be paid during its life, this in not a representation that labor can be obtained at these rates. It is the responsibility of bidders to inform themselves as to the local labor conditions and prospective changes or adjustments of wage rates. No increase in the contract price shall be allowed or authorized on account of the payment of wage rates in excess of those listed herein.

Pursuant to Section 103.50 of the Wisconsin Statutes, the prevailing hours of labor have been determined to be up to 10 hours per day and 40 hours per calendar week Monday through Friday. If any laborer, worker, mechanic or truck driver is permitted or required to work more than the prevailing number of hours per day or per calendar week on this contract, they shall be paid for all hours in excess of the prevailing hours at a rate of at least one and one-half (1 1/2) times their hourly rate of pay. All work on Saturday, Sunday and the following holidays is to be paid at time and a half: (1) January 1, (2) the last Monday in May, (3) July 4, (4) the first Monday in September, (5) the fourth Thursday in November, (6) December 25, (7) the day before if January 1, July 4 or December 25 falls on a Saturday and (8) the day following if January 1, July 4 or December 25 falls on a Sunday.

All laborers, workers, mechanics and truck drivers shall be paid unconditionally not less often than once a week. Persons who own and operate their own trucks must receive the prevailing truck driver rate for the applicable type of truck (i.e. 2 axle, 3 or more axle, articulated, eculid or dumptor) he or she operates, plus an agreed upon amount for the use of his or her truck. Every owner-operator MUST be paid separately for their driving and for the use of their truck.

For those projects subject to the requirements of the Davis-Bacon Act, the Secretary of Labor will also have determined "Minimum Wage Rates" for work to be performed under the contract. These rates are, for all or most of the labor, worker, mechanic or truck driver classifications, identical to those established under Section 103.50 of the Wisconsin Statutes. In the event the rates are not identical, the higher of the two rates will govern.

II. PAYROLL REQUIREMENTS

All contractors and subcontractors must submit weekly Certified Payrolls and Compliance Statement verifying that all laborers, workers, mechanics and truck drivers working on the project have been paid the prevailing wage rates for all work performed under the contract required by Section 103.50 of the Wisconsin Statutes.

III. POSTINGS AT THE SITE OF THE WORK

In addition to the required postings furnished by the Department, the contractor shall post the following in at least one conspicuous place at the site of work:

a. "NOTICE TO EMPLOYEES," which provides information required to be posted by the provisions of Section 103.50 of the Wisconsin Statutes.

b. A copy of the State of Wisconsin Minimum Wages Rates. (Four pages.)

c. A copy of the contractor's Equal Employment Opportunity Policy.

d. On any project involving federal aid, in addition to the furnished postings, the contractor shall post a copy of the "Davis-Bacon Act, Minimum Wage Rates". (Three pages.)

IV. WAGE RATE REDISTRIBUTION

The amount specified as the hourly basic rate of pay and the amount(s) specified as the fringe benefit contribution(s), for all classes of laborers, workers, mechanics or truck drivers may be redistributed, when necessary, to conform to those specified in any applicable collective bargaining agreement, provided that both parties to such agreement

request and receive the approval for any such redistribution from both the Department of Transportation and the Department of Workforce Development prior to the implementation of such redistribution.

V. ADDITIONAL CLASSIFICATIONS

Any unlisted laborer or mechanic classification that is needed to perform work on this project, and is not included within the scope of any of the classifications listed in the application prevailing wage rate determination, may be added after award only if all of the following criteria have been met:

1. The affected employer(s) must make a written request to WisDOT Central Office to utilize the unlisted classification on this project.

2. The request must indicate the scope of the work to be performed by the unlisted classification and must indicate the proposed wage/fringe benefit package that the unlisted classification is to receive.

3. The work to be performed by the unlisted classification must not be performed by a classification that is included in the applicable prevailing wage rate determination.

4. The unlisted classification must be commonly employed in the area where the project is located.

5. The proposed wage/fringe benefit package must bear a reasonable relationship to those set forth in the applicable prevailing wage rate determination.

6. The request should be made prior to the actual performance of the work by the unlisted classification.

7. DWD must approve the use of the unlisted classification and the proposed wage/fringe benefit package. USDOL also must approve the use of the unlisted classification and the proposed wage/fringe benefit package on federal aid projects.

8. WisDOT and DWD may amend the proposed wage/fringe benefit package, as deemed necessary, and may set forth specific employment ratios and scope of work requirements in the approval document.

The approved wage/fringe benefit package shall be paid to all laborers, workers, mechanics or truck drivers performing work within the scope of that performed by the unlisted classification, from the first day on which such work is performed. In the event that work is performed by the unlisted classification prior to approval, the wage/fringe benefit package to be paid for such work must be in conformance with the wage/fringe

benefit package approved for such work. Under this arrangement a retroactive adjustment in wages and/or fringe benefits may be required to be made to the affected laborers, workers, mechanics or truck drivers by the affected employer(s).

ANNUAL PREVAILING WAGE RATE DETERMINATION
FOR ALL STATE HIGHWAY PROJECTS
MILWAUKEE COUNTY

Compiled by the State of Wisconsin - Department of Workforce Development
for the Department of Transportation
Pursuant to s. 103.50, Stats.
Issued on September 1, 2013

CLASSIFICATION: Contractors are required to call the Department of Workforce Development if there are any questions reqarding the proper trade or classification to be used for any worker on a public works project.

OVERTIME: Time and one-half must be paid for all hours worked over 10 hours per day and 40 hours per calendar week and for all hours worked on Saturday, Sunday and the following six (6) holidays: January 1; the last Monday in May; July 4; the 1st Monday in September; the 4th Thursday in November; December 25; the day before if January 1, July 4 or December 25 falls on a Saturday; the day following if January 1, July 4 or December 25 falls on a Sunday.

FUTURE INCREASE: If indicated for a specific trade or occupation, the full amount of such increase MUST be added to the "TOTAL" indicated for such trade or occupation on the date(s) such increase(s) becomes effective.

PREMIUM PAY: If indicated for a specific trade or occupation, the full amount of such pay MUST be added to the "HOURLY BASIC RATE OF PAY" indicated for such trade or occupation, whenever such pay is applicable.

SUBJOURNEY: Wage rates may be available for some of the classifications indicated below. Any employer that desires to use any subjourney classification on a project MUST request the applicable wage rate from the Department of Workforce Development PRIOR to the date such classification is used on such project. Form ERD-10880 is available for this purpose and can be obtained by writing to the Department of Workforce Development, Equal Rights Division, P.O. Box 8928, Madison, WI 53708.

TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
	$	$	$
Bricklayer, Blocklayer or Stonemason	35.58	19.20	54.78
Carpenter	32.93	19.81	52.74
Future Increase(s): Add $.75/hr on 6/3/2013. Add $1.25/hr on 6/2/2014.			
Premium Pay: DOT PREMIUM: Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day.			
Cement Finisher	30.69	17.53	48.22
Future Increase(s): Add $1.87 on 6/1/13; Add $1.87 on 6/1/14; Add $1.87 on 6/1/15; Add $1.75 on 6/1/16.			
Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.40/hr when the Wisconsin Department of Transportation or responsible governing agency requires that work be performed at night under artificial illumination with traffic control and the work is completed after sunset and before sunrise.			
Electrician	31.54	21.14	52.68
Fence Erector	28.00	4.50	32.50
Ironworker	31.31	21.99	53.30
Line Constructor (Electrical)	31.29	15.34	46.63
Painter	29.22	16.69	45.91
Pavement Marking Operator	29.22	16.69	45.91
Piledriver	29.56	23.86	53.42
Roofer or Waterproofer	29.40	15.05	44.45
Teledata Technician or Installer	24.65	15.67	40.32
Tuckpointer, Caulker or Cleaner	34.35	11.13	45.48
Underwater Diver (Except on Great Lakes)	37.45	19.45	56.90
Heavy Equipment Operator - ELECTRICAL LINE CONSTRUCTION ONLY	29.64	17.06	46.70
Light Equipment Operator -ELECTRICAL LINE CONSTRUCTION ONLY	30.60	14.64	45.24
Premium Pay: DOT PREMIUM: Pay two times the hourly basic rate on Sunday, New Year’s Day, Memorial Day,			

TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
	$	$	$
Independence Day, Labor Day, Thanksgiving Day & Christmas Day.			
Heavy Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY	25.94	13.57	39.51
Light Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY	24.08	12.96	37.04
Groundman - ELECTRICAL LINE CONSTRUCTION ONLY	21.75	11.90	33.65
TRUCK DRIVERS			
Single Axle or Two Axle	33.22	18.90	52.12
Three or More Axle	23.31	17.13	40.44
Future Increase(s): Add $1.85/hr on 6/1/2013.			
Premium Pay: DOT PREMIUM: Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day.			
Articulated, Euclid, Dumptor, Off Road Material Hauler	27.77	19.90	47.67
Future Increase(s): Add $2/hr on 6/1/13; Add $1.75/hr on 6/1/14.			
Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.50/hr night work premium. See DOT's website for details about the applicability of this night work premium at: http://roadwaystandards.dot.wi.gov/hcci/labor- wages- eeo/ index. shtm.			
Pavement Marking Vehicle	23.84	14.90	38.74
Shadow or Pilot Vehicle	33.22	18.90	52.12
Truck Mechanic	22.50	16.19	38.69
LABORERS			
General Laborer	25.39	18.40	43.79
Future Increase(s): Add $1.70/hr on 6/1/2013; Add $1.60/hr on 6/1/2014.			
Premium Pay: Add $.15/hr for air tool operator, joint sawer and filler (pavement), vibrator or tamper operator (mechanical hand operated), chain saw operator and demolition burning torch laborer; Add $.35/hr for bituminous worker (raker and luteman), formsetter (curb, sidewalk and pavement) and strike off man; Add $.50/hr for line and grade specialist; Add $.65/hr for blaster and powderman; Add $2.01/hr for topman; Add $2.46/hr for bottomman; Add $3.23/hr for pipelayer. / DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.25/hr for work on projects involving temporary traffic control setup, for lane and shoulder closures, when work under artificial illumination conditions is necessary as required by the project provisions (including prep time prior to and/or cleanup after such time period).			
Asbestos Abatement Worker	18.00	0.00	18.00
Landscaper	25.39	18.40	43.79
Future Increase(s): Add $1.70/hr on 6/1/13; Add $1.60/hr on 6/1/14.			
Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.25/hr for work on projects involving temporary traffic control setup, for lane and shoulder closures, when work under artificial illumination conditions is necessary as required by the project provisions (including prep time prior to and/or cleanup after such time period).			
Flagperson or Traffic Control Person	21.88	18.40	40.28
Future Increase(s): Add $1.70/hr on 6/1/2013; Add $1.60/hr on 6/1/2014.			
Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year’s Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.25/hr when the Wisconsin Department of Transportation or responsible governing agency requires that work be performed at night under artificial illumination with traffic control and the work is completed after sunset and before sunrise.			

TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
	$	$	$
Fiber Optic Laborer (Outside, Other Than Concrete Encased)	17.24	15.03	32.27
Railroad Track Laborer	14.50	3.53	18.03
HEAVY EQUIPMENT OPERATORS			
Crane, Tower Crane, Pedestal Tower or Derrick, With Boom, Leads &/or Jib Lengths Measuring 176 Ft or Over; Crane, Tower Crane, Pedestal Tower or Derrick, With or Without Attachments, With a Lifting Capacity of Over 100 Tons, Self-Erecting Tower Crane With a Lifting Capacity Of Over 4,000 Lbs., Crane With Boom Dollies; Traveling Crane (Bridge Type). Future Increase(s): Add $2/hr on 6/1/13; Add $1.75/hr on 6/1/14. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.50/hr night work premium. See DOT's website for details about the applicability of this night work premium at: http://roadwaystandards.dot.wi.gov/hcci/labor- wages- eeo/ index. shtm.	35.22	19.90	55.12
Backhoe (Track Type) Having a Mfgr.'s Rated Capacity of 130,000 Lbs. or Over; Caisson Rig; Crane, Tower Crane, Portable Tower, Pedestal Tower or Derrick, With Boom, Leads &/or Jib Lengths Measuring 175 Ft or Under; Crane, Tower Crane, Portable Tower, Pedestal Tower or Derrick, With or Without Attachments, With a Lifting Capacity of 100 Tons or Under, Self-Erecting Tower Crane With A Lifting Capacity Of 4,000 Lbs., & Under; Dredge (NOT Performing Work on the Great Lakes); Licensed Boat Pilot (NOT Performing Work on the Great Lakes); Pile Driver. Future Increase(s): Add $2/hr on 6/1/13; Add $1.75/hr on 6/1/14. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.50/hr night work premium. See DOT's website for details about the applicability of this night work premium at: http://roadwaystandards.dot.wi.gov/hcci/labor- wages- eeo/ index. shtm.	34.72	19.90	54.62
Air Track, Rotary or Percussion Drilling Machine &/or Hammers, Blaster; Asphalt Heater, Planer & Scarifier; Asphalt Milling Machine; Asphalt Screed; Automatic Subgrader (Concrete); Backhoe (Track Type) Having a Mfgr.'s Rated Capacity of Under 130,000 Lbs., Backhoe (Mini, 15,000 Lbs. & Under); Bituminous (Asphalt) Plant & Paver, Screed; Boatmen (NOT Performing Work on the Great Lakes); Boring Machine (Directional, Horizontal or Vertical); Bridge (Bidwell) Paver; Bulldozer or Endloader; Concrete Batch Plant, Batch Hopper; Concrete Breaker (Large, Auto, VIbratory/Sonic, Manual or Remote); Concrete Bump Cutter, Grinder, Planing or Grooving Machine; Concrete Conveyor System; Concrete Laser/Screed; Concrete Paver (Slipform); Concrete Pump, Concrete Conveyor (Rotec or Bidwell Type); Concrete Slipform Placer Curb & Gutter Machine; Concrete Spreader & Distributor; Crane (Carry Deck, Mini) or Truck Mounted Hydraulic Crane (10 Tons or Under); Crane WIth a Lifting Capacity of 25 Tons or Under; Forestry Equipment, Timbco, Tree Shear, Tub Grinder, Processor; Gradall (Cruz-Aire Type); Grader or Motor Patrol; Grout Pump; Hydro-Blaster (10,000 PSI or Over); Loading Machine (Conveyor); Material or Stack Hoist; Mechanic or Welder; Milling Machine; Post Hole Digger or Driver; Roller (Over 5 Ton); Scraper (Self Propelled or Tractor Drawn) 5 cu yds or More Capacity; Shoulder Widener; Sideboom; Skid Rig; Stabilizing or Concrete Mixer (Self-Propelled or 14S or Over); Straddle Carrier or Travel Lift; Tractor (Scraper, Dozer, Pusher, Loader); Tractor or Truck Mounted Hydraulic Backhoe; Trencher (Wheel Type or Chain Type);	34.22	19.90	54.12

TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY $	HOURLY FRINGE BENEFITS $	TOTAL $
Tube Finisher; Tugger (NOT Performing Work on the Great Lakes); Winches & A- Frames. Future Increase(s): Add $2/hr on 6/1/13; Add $1.75/hr on 6/1/14. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.50/hr night work premium. See DOT's website for details about the applicability of this night work premium at: http://roadwaystandards.dot.wi.gov/hcci/labor- wages- eeo/ index. shtm.			
Belting, Burlap, Texturing Machine; Broom or Sweeper; Compactor (Self-Propelled or Tractor Mounted, Towed & Light Equipment); Concrete Finishing Machine (Road Type); Environmental Burner; Farm or Industrial Type Tractor; Fireman (Asphalt Plant, Pile Driver & Derrick NOT Performing Work on the Great Lakes); Forklift; Greaser; Hoist (Tugger, Automatic); Jeep Digger; Joint Sawer (Multiple Blade); Launch (NOT Performing Work on the Great Lakes); Lift Slab Machine; Mechanical Float; Mulcher; Power Subgrader; Robotic Tool Carrier (With or Without Attachments); Roller (Rubber Tire, 5 Ton or Under); Self Propelled Chip Spreader; Shouldering Machine; Skid Steer Loader (With or WIthout Attachments); Telehandler; Tining or Curing Machine. Future Increase(s): Add $2/hr on 6/1/13; Add $1.75/hr on 6/1/14. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.50/hr night work premium. See DOT's website for details about the applicability of this night work premium at: http://roadwaystandards.dot.wi.gov/hcci/labor- wages- eeo/ index. shtm.	33.96	19.90	53.86
Air Compressor (&/or 400 CFM or Over); Air, Electric or Hydraulic Jacking System; Augers (Vertical & Horizontal); Automatic Belt Conveyor & Surge Bin; Boiler (Temporary Heat); Concrete Proportioning Plant; Crusher, Screening or Wash Plant; Generator (&/or 150 KW or Over); Heaters (Mechanical); High Pressure Utility Locating Machine (Daylighting Machine); Mudjack; Oiler; Prestress Machine; Pug Mill; Pump (3 Inch or Over) or Well Points; Rock, Stone Breaker; Screed (Milling Machine); Stump Chipper; Tank Car Heaters; Vibratory Hammer or Extractor, Power Pack. Future Increase(s): Add $2/hr on 6/1/13; Add $1.75/hr on 6/1/14. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.50/hr night work premium. See DOT's website for details about the applicability of this night work premium at: http://roadwaystandards.dot.wi.gov/hcci/labor- wages- eeo/ index. shtm.	33.67	19.90	53.57
Fiber Optic Cable Equipment.	20.00	7.88	27.88
Work Performed on the Great Lakes Including Diver; Wet Tender or Hydraulic Dredge Engineer.	37.45	19.45	56.90
Work Performed on the Great Lakes Including 70 Ton & Over Tug Operator; Assistant Hydraulic Dredge Engineer; Crane or Backhoe Operator; Hydraulic Dredge Leverman or Diver's Tender; Mechanic or Welder.	37.45	19.45	56.90
Work Performed on the Great Lakes Including Deck Equipment Operator or Machineryman (Maintains Cranes Over 50 Tons or Backhoes 115,000 Lbs. or More); Tug, Launch or Loader, Dozer or Like Equipment When Operated on a Barge, Breakwater Wall, Slip, Dock or Scow, Deck Machinery.	27.75	19.15	46.90
Work Performed on the Great Lakes Including Deck Equipment Operator, Machineryman or Fireman (Operates 4 Units or More or Maintains Cranes 50 Tons or Under or Backhoes 115,000 Lbs. or Under); Deck Hand, Deck Engineer or Assistant Tug Operator; Off Road Trucks-Great Lakes ONLY.	27.75	19.15	46.90

SCHEDULE OF ITEMS REVISED:

CONTRACT: 20131210013 PROJECT(S): 2380-02-70 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
	SECTION 0001 ROADWAY ITEMS					
0010	203.0600.S REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS (STATION) 001. STA. 60+30	LUMP	LUMP			.
0020	203.0600.S REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS (STATION) 002. STA. 77+94.8	LUMP	LUMP			.
0030	204.0100 REMOVING PAVEMENT	2,000.000 SY		.		.
0040	204.0109.S REMOVING CONCRETE SURFACE PARTIAL DEPTH	431,000.000 SF		.		.
0050	204.0120 REMOVING ASPHALTIC SURFACE MILLING	47,900.000 SY		.		.
0060	204.0150 REMOVING CURB & GUTTER	5,700.000 LF		.		.
0070	204.0155 REMOVING CONCRETE SIDEWALK	720.000 SY		.		.
0080	204.0195 REMOVING CONCRETE BASES	59.000 EACH		.		.
0090	204.0210 REMOVING MANHOLES	2.000 EACH		.		.

CONTRACT: 20131210013 PROJECT(S): 2380-02-70 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0100	204.0220 REMOVING INLETS	3.000 EACH		.		.
0110	204.0245 REMOVING STORM SEWER (SIZE) 001. 12-INCH	32.000 LF		.		.
0120	204.0245 REMOVING STORM SEWER (SIZE) 002. 15-INCH	5.000 LF		.		.
0130	204.0245 REMOVING STORM SEWER (SIZE) 003. 18-INCH	55.000 LF		.		.
0140	204.0245 REMOVING STORM SEWER (SIZE) 004. 24-INCH	15.000 LF		.		.
0150	204.0245 REMOVING STORM SEWER (SIZE) 005. 30-INCH	25.000 LF		.		.
0160	205.0100 EXCAVATION COMMON	4,850.000 CY		.		.
0170	206.1000 EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 001. B-40-764	LUMP	LUMP			.
0180	206.1000 EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 002. B-40-765	LUMP	LUMP			.
0190	210.0100 BACKFILL STRUCTURE	632.000 CY		.		.

CONTRACT: 20131210013 PROJECT(S): 2380-02-70 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0200	213.0100 FINISHING ROADWAY (PROJECT) 001. 2380-02-70	1.000 EACH		.		.
0210	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH	5,860.000 TON		.		.
0220	320.0145 CONCRETE BASE 8-INCH	1,520.000 SY		.		.
0230	390.0303 BASE PATCHING CONCRETE	4,360.000 SY		.		.
0240	390.0403 BASE PATCHING CONCRETE SHES	435.000 SY		.		.
0250	415.0410 CONCRETE PAVEMENT APPROACH SLAB	265.000 SY		.		.
0260	416.0170 CONCRETE DRIVEWAY 7-INCH	20.000 SY		.		.
0270	416.0610 DRILLED TIE BARS	1,585.000 EACH		.		.
0280	416.0620 DRILLED DOWEL BARS	960.000 EACH		.		.
0290	416.0750.S CONCRETE PAVEMENT PARTIAL DEPTH REPAIR JOINT REPAIR	1,200.000 LF		.		.
0300	416.0752.S CONCRETE PAVEMENT PARTIAL DEPTH REPAIR CRACK REPAIR	1,200.000 LF		.		.

CONTRACT: 20131210013 PROJECT(S): 2380-02-70 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0310	440.4410.S INCENTIVE IRI RIDE	9,050.000 DOL	1.00000		9050.00	
0320	455.0115 ASPHALTIC MATERIAL PG64-22	700.000 TON	.		.	
0330	455.0605 TACK COAT	1,450.000 GAL	.		.	
0340	460.1103 HMA PAVEMENT TYPE E-3	12,100.000 TON	.		.	
0350	460.2000 INCENTIVE DENSITY HMA PAVEMENT	8,220.000 DOL	1.00000		8220.00	
0360	465.0105 ASPHALTIC SURFACE	15.000 TON	.		.	
0370	465.0125 ASPHALTIC SURFACE TEMPORARY	550.000 TON	.		.	
0380	465.0315 ASPHALTIC FLUMES	7.000 SY	.		.	
0390	502.0100 CONCRETE MASONRY BRIDGES	384.000 CY	.		.	
0400	502.3200 PROTECTIVE SURFACE TREATMENT	258.000 SY	.		.	
0410	502.6105 MASONRY ANCHORS TYPE S 5/8-INCH	10.000 EACH	.		.	

CONTRACT: 20131210013 PROJECT(S): 2380-02-70 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0420	505.0405 BAR STEEL REINFORCEMENT HS BRIDGES	12,265.000 LB		.		.
0430	505.0605 BAR STEEL REINFORCEMENT HS COATED BRIDGES	34,635.000 LB		.		.
0440	516.0500 RUBBERIZED MEMBRANE WATERPROOFING	48.000 SY		.		.
0450	517.1015.S CONCRETE STAINING MULTI-COLOR (STRUCTURE) 001. B-40-167	850.000 SF		.		.
0460	517.1015.S CONCRETE STAINING MULTI-COLOR (STRUCTURE) 002. B-40-764	695.000 SF		.		.
0470	517.1015.S CONCRETE STAINING MULTI-COLOR (STRUCTURE) 003. B-40-765	695.000 SF		.		.
0480	517.1050.S ARCHITECTURAL SURFACE TREATMENT (STRUCTURE) 001. B-40-167	850.000 SF		.		.
0490	517.1050.S ARCHITECTURAL SURFACE TREATMENT (STRUCTURE) 002. B-40-764	695.000 SF		.		.
0500	517.1050.S ARCHITECTURAL SURFACE TREATMENT (STRUCTURE) 003. B-40-765	695.000 SF		.		.

CONTRACT: 20131210013 PROJECT(S): 2380-02-70 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0510	520.8000 CONCRETE COLLARS FOR PIPE	10.000 EACH		.		.
0520	522.1015 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 15-INCH	1.000 EACH		.		.
0530	522.1024 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 24-INCH	1.000 EACH		.		.
0540	522.1030 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 30-INCH	1.000 EACH		.		.
0550	550.1100 PILING STEEL HP 10-INCH X 42 LB	1,470.000 LF		.		.
0560	601.0405 CONCRETE CURB & GUTTER 18-INCH TYPE A	300.000 LF		.		.
0570	601.0407 CONCRETE CURB & GUTTER 18-INCH TYPE D	530.000 LF		.		.
0580	602.0410 CONCRETE SIDEWALK 5-INCH	6,800.000 SF		.		.
0590	602.0420 CONCRETE SIDEWALK 7-INCH	150.000 SF		.		.
0600	602.0505 CURB RAMP DETECTABLE WARNING FIELD YELLOW	144.000 SF		.		.

CONTRACT: 20131210013 PROJECT(S): 2380-02-70 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0610	603.8000 CONCRETE BARRIER TEMPORARY PRECAST DELIVERED	362.500 LF		.		.
0620	603.8125 CONCRETE BARRIER TEMPORARY PRECAST INSTALLED	700.000 LF		.		.
0630	606.0300 RIPRAP HEAVY	199.000 CY		.		.
0640	608.0412 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 12-INCH	62.000 LF		.		.
0650	608.0415 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 15-INCH	154.000 LF		.		.
0660	608.0418 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 18-INCH	52.000 LF		.		.
0670	608.0424 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 24-INCH	8.000 LF		.		.
0680	608.0430 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 30-INCH	16.000 LF		.		.
0690	611.0430 RECONSTRUCTING INLETS	15.000 EACH		.		.
0700	611.0535 MANHOLE COVERS TYPE J-SPECIAL	2.000 EACH		.		.
0710	611.0612 INLET COVERS TYPE C	1.000 EACH		.		.

CONTRACT: 20131210013 PROJECT(S): 2380-02-70 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0720	611.0651 INLET COVERS TYPE S	5.000 EACH		.		.
0730	611.3003 INLETS 3-FT DIAMETER	1.000 EACH		.		.
0740	611.3220 INLETS 2X2-FT	7.000 EACH		.		.
0750	611.3225 INLETS 2X2.5-FT	3.000 EACH		.		.
0760	611.8115 ADJUSTING INLET COVERS	35.000 EACH		.		.
0770	611.8120.S COVER PLATES TEMPORARY	38.000 EACH		.		.
0780	611.9710 SALVAGED INLET COVERS	9.000 EACH		.		.
0790	612.0406 PIPE UNDERDRAIN WRAPPED 6-INCH	336.000 LF		.		.
0800	614.0150 ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	4.000 EACH		.		.
0810	614.2300 MGS GUARDRAIL 3	212.500 LF		.		.
0820	614.2500 MGS THRIE BEAM TRANSITION	78.000 LF		.		.

CONTRACT: 20131210013 PROJECT(S): 2380-02-70 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0830	614.2610 MGS GUARDRAIL TERMINAL EAT	2.000 EACH		.		.
0840	616.0700.S FENCE SAFETY	300.000 LF		.		.
0850	618.0100 MAINTENANCE AND REPAIR OF HAUL ROADS (PROJECT) 001. 2380-02-70	1.000 EACH		.		.
0860	619.1000 MOBILIZATION	1.000 EACH		.		.
0870	620.0100 CONCRETE CORRUGATED MEDIAN	400.000 SF		.		.
0880	620.0300 CONCRETE MEDIAN SLOPED NOSE	460.000 SF		.		.
0890	624.0100 WATER	100.000 MGAL		.		.
0900	625.0500 SALVAGED TOPSOIL	7,800.000 SY		.		.
0910	628.1504 SILT FENCE	500.000 LF		.		.
0920	628.1520 SILT FENCE MAINTENANCE	500.000 LF		.		.
0930	628.1905 MOBILIZATIONS EROSION CONTROL	5.000 EACH		.		.

CONTRACT: 20131210013 PROJECT(S): 2380-02-70 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0940	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL	5.000 EACH		.		.
0950	628.7005 INLET PROTECTION TYPE A	8.000 EACH		.		.
0960	628.7010 INLET PROTECTION TYPE B	90.000 EACH		.		.
0970	628.7020 INLET PROTECTION TYPE D	8.000 EACH		.		.
0980	629.0210 FERTILIZER TYPE B	5.000 CWT		.		.
0990	631.1100 SOD EROSION CONTROL	7,800.000 SY		.		.
1000	633.5200 MARKERS CULVERT END	3.000 EACH		.		.
1010	634.0616 POSTS WOOD 4X6-INCH X 16-FT	94.000 EACH		.		.
1020	634.0618 POSTS WOOD 4X6-INCH X 18-FT	32.000 EACH		.		.
1030	634.0816 POSTS TUBULAR STEEL 2X2-INCH X 16-FT	43.000 EACH		.		.
1040	637.2210 SIGNS TYPE II REFLECTIVE H	992.890 SF		.		.

CONTRACT: 20131210013 PROJECT(S): 2380-02-70 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1050	637.2215 SIGNS TYPE II REFLECTIVE H FOLDING	59.680 SF		.		.
1060	637.2230 SIGNS TYPE II REFLECTIVE F	223.250 SF		.		.
1070	638.2102 MOVING SIGNS TYPE II	8.000 EACH		.		.
1080	638.2602 REMOVING SIGNS TYPE II	128.000 EACH		.		.
1090	638.3000 REMOVING SMALL SIGN SUPPORTS	73.000 EACH		.		.
1100	641.8100 OVERHEAD SIGN SUPPORT (STRUCTURE) 001. S-40-987	LUMP	LUMP			.
1110	642.5001 FIELD OFFICE TYPE B	1.000 EACH		.		.
1120	643.0200 TRAFFIC CONTROL SURVEILLANCE AND MAINTENANCE (PROJECT) 001. 2380-02-70	187.000 DAY		.		.
1130	643.0300 TRAFFIC CONTROL DRUMS	56,130.000 DAY		.		.
1140	643.0410 TRAFFIC CONTROL BARRICADES TYPE II	697.000 DAY		.		.
1150	643.0420 TRAFFIC CONTROL BARRICADES TYPE III	7,659.000 DAY		.		.

CONTRACT: 20131210013 PROJECT(S): 2380-02-70 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1160	643.0500 TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER POSTS	7.000 EACH		.		.
1170	643.0600 TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER BASES	7.000 EACH		.		.
1180	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A	16,015.000 DAY		.		.
1190	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C	9,009.000 DAY		.		.
1200	643.0800 TRAFFIC CONTROL ARROW BOARDS	187.000 DAY		.		.
1210	643.0900 TRAFFIC CONTROL SIGNS	14,875.000 DAY		.		.
1220	643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II	6.000 EACH		.		.
1230	643.1000 TRAFFIC CONTROL SIGNS FIXED MESSAGE	112.000 SF		.		.
1240	643.1050 TRAFFIC CONTROL SIGNS PCMS	140.000 DAY		.		.
1250	645.0120 GEOTEXTILE FABRIC TYPE HR	291.000 SY		.		.
1260	646.0106 PAVEMENT MARKING EPOXY 4-INCH	10,515.000 LF		.		.

CONTRACT: 20131210013 PROJECT(S): 2380-02-70 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1270	646.0600 REMOVING PAVEMENT MARKINGS	18,300.000 LF		.		.
1280	646.0881.S PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 4-INCH	2,940.000 LF		.		.
1290	646.0883.S PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 8-INCH	4,080.000 LF		.		.
1300	647.0168 PAVEMENT MARKING ARROWS PREFORMED THERMOPLASTIC TYPE 2	10.000 EACH		.		.
1310	647.0358 PAVEMENT MARKING WORDS PREFORMED THERMOPLASTIC	10.000 EACH		.		.
1320	647.0456 PAVEMENT MARKING CURB EPOXY	625.000 LF		.		.
1330	647.0568 PAVEMENT MARKING STOP LINE PREFORMED THERMOPLASTIC 18-INCH	370.000 LF		.		.
1340	647.0606 PAVEMENT MARKING ISLAND NOSE EPOXY	18.000 EACH		.		.
1350	647.0768 PAVEMENT MARKING CROSSWALK PREFORMED THERMOPLASTIC 6-INCH	210.000 LF		.		.
1360	647.0793 PAVEMENT MARKING CROSSWALK PAINT 24-INCH	360.000 LF		.		.

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CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1370	649.0100 TEMPORARY PAVEMENT MARKING 4-INCH	29,200.000 LF		.		.
1380	649.2100 TEMPORARY RAISED PAVEMENT MARKERS	85.000 EACH		.		.
1390	650.8500 CONSTRUCTION STAKING ELECTRICAL INSTALLATIONS (PROJECT) 001. 2380-02-70	LUMP	LUMP			.
1400	652.0125 CONDUIT RIGID METALLIC 2-INCH	96.000 LF		.		.
1410	652.0215 CONDUIT RIGID NONMETALLIC SCHEDULE 40 1 1/4-INCH	12.000 LF		.		.
1420	652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	5,848.000 LF		.		.
1430	652.0235 CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH	1,641.000 LF		.		.
1440	652.0605 CONDUIT SPECIAL 2-INCH	490.000 LF		.		.
1450	652.0615 CONDUIT SPECIAL 3-INCH	130.000 LF		.		.
1460	652.0800 CONDUIT LOOP DETECTOR	118.000 LF		.		.
1470	653.0135 PULL BOXES STEEL 24X36-INCH	1.000 EACH		.		.

CONTRACT: 20131210013 PROJECT(S): 2380-02-70 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1480	653.0140 PULL BOXES STEEL 24X42-INCH	20.000 EACH		.		.
1490	653.0905 REMOVING PULL BOXES	20.000 EACH		.		.
1500	654.0101 CONCRETE BASES TYPE 1	7.000 EACH		.		.
1510	654.0102 CONCRETE BASES TYPE 2	4.000 EACH		.		.
1520	654.0105 CONCRETE BASES TYPE 5	34.000 EACH		.		.
1530	654.0113 CONCRETE BASES TYPE 13	2.000 EACH		.		.
1540	654.0217 CONCRETE CONTROL CABINET BASES TYPE 9 SPECIAL	1.000 EACH		.		.
1550	655.0230 CABLE TRAFFIC SIGNAL 5-14 AWG	790.000 LF		.		.
1560	655.0240 CABLE TRAFFIC SIGNAL 7-14 AWG	1,160.000 LF		.		.
1570	655.0260 CABLE TRAFFIC SIGNAL 12-14 AWG	984.000 LF		.		.
1580	655.0305 CABLE TYPE UF 2-12 AWG GROUNDED	643.000 LF		.		.

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CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1590	655.0515 ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG	1,410.000 LF		.		.
1600	655.0610 ELECTRICAL WIRE LIGHTING 12 AWG	702.000 LF		.		.
1610	655.0620 ELECTRICAL WIRE LIGHTING 8 AWG	3,108.000 LF		.		.
1620	655.0625 ELECTRICAL WIRE LIGHTING 6 AWG	4,221.000 LF		.		.
1630	655.0630 ELECTRICAL WIRE LIGHTING 4 AWG	5,036.000 LF		.		.
1640	655.0635 ELECTRICAL WIRE LIGHTING 2 AWG	1,082.000 LF		.		.
1650	655.0640 ELECTRICAL WIRE LIGHTING 1 AWG	4,940.000 LF		.		.
1660	655.0700 LOOP DETECTOR LEAD IN CABLE	509.000 LF		.		.
1670	655.0800 LOOP DETECTOR WIRE	326.000 LF		.		.
1680	655.0900 TRAFFIC SIGNAL EVP DETECTOR CABLE	1,830.000 LF		.		.

CONTRACT: 20131210013 PROJECT(S): 2380-02-70 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1690	656.0200 ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 001. STH 24 & 116TH STREET	LUMP	LUMP			.
1700	657.0100 PEDESTAL BASES	7.000 EACH		.		.
1710	657.0255 TRANSFORMER BASES BREAKAWAY 11 1/2-INCH BOLT CIRCLE	6.000 EACH		.		.
1720	657.0305 POLES TYPE 2	2.000 EACH		.		.
1730	657.0310 POLES TYPE 3	2.000 EACH		.		.
1740	657.0322 POLES TYPE 5-ALUMINUM	2.000 EACH		.		.
1750	657.0405 TRAFFIC SIGNAL STANDARDS ALUMINUM 3. 5-FT	1.000 EACH		.		.
1760	657.0420 TRAFFIC SIGNAL STANDARDS ALUMINUM 13-FT	2.000 EACH		.		.
1770	657.0430 TRAFFIC SIGNAL STANDARDS ALUMINUM 10-FT	4.000 EACH		.		.
1780	657.0609 LUMINAIRE ARMS SINGLE MEMBER 4-INCH CLAMP 6-FT	2.000 EACH		.		.

CONTRACT: 20131210013 PROJECT(S): 2380-02-70 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1790	657.0610 LUMINAIRE ARMS SINGLE MEMBER 4 1/2-INCH CLAMP 6-FT	4.000 EACH		.		.
1800	657.1355 INSTALL POLES TYPE 12	2.000 EACH		.		.
1810	657.1555 INSTALL MONOTUBE ARMS 55-FT	2.000 EACH		.		.
1820	658.0110 TRAFFIC SIGNAL FACE 3-12 INCH VERTICAL	16.000 EACH		.		.
1830	658.0215 BACKPLATES SIGNAL FACE 3 SECTION 12-INCH	16.000 EACH		.		.
1840	658.0416 PEDESTRIAN SIGNAL FACE 16-INCH	8.000 EACH		.		.
1850	658.0500 PEDESTRIAN PUSH BUTTONS	8.000 EACH		.		.
1860	658.0600 LED MODULES 12-INCH RED BALL	12.000 EACH		.		.
1870	658.0605 LED MODULES 12-INCH YELLOW BALL	12.000 EACH		.		.
1880	658.0610 LED MODULES 12-INCH GREEN BALL	12.000 EACH		.		.
1890	658.0615 LED MODULES 12-INCH RED ARROW	4.000 EACH		.		.

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CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1900	658.0620 LED MODULES 12-INCH YELLOW ARROW	8.000 EACH		.		.
1910	658.0635 LED MODULES PEDESTRIAN COUNTDOWN TIMER 16-INCH	8.000 EACH		.		.
1920	658.5069 SIGNAL MOUNTING HARDWARE (LOCATION) 001. STH 24 & 116TH STREET	LUMP	LUMP			.
1930	659.0802 PLAQUES SEQUENCE IDENTIFICATION	26.000 EACH		.		.
1940	659.1125 LUMINAIRES UTILITY LED C	6.000 EACH		.		.
1950	661.0200 TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS (LOCATION) 001. STH 24 & 116TH STREET	LUMP	LUMP			.
1960	690.0150 SAWING ASPHALT	630.000 LF		.		.
1970	690.0250 SAWING CONCRETE	12,100.000 LF		.		.
1980	SPV.0060 SPECIAL 002. ADJUSTING SANITARY MANHOLE COVERS	41.000 EACH		.		.
1990	SPV.0060 SPECIAL 003. RECONSTRUCT SANITARY MANHOLE	1.000 EACH		.		.

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
2000	SPV.0060 SPECIAL 004. SANITARY MANHOLE INTERNAL SEALS	48.000 EACH		.		.
2010	SPV.0060 SPECIAL 005. REMOVE AND REPLACE SANITARY MANHOLE LIDS	5.000 EACH		.		.
2020	SPV.0060 SPECIAL 006. ADJUST WATER BOXES	15.000 EACH		.		.
2030	SPV.0060 SPECIAL 007. REMOVING HYDRANT	1.000 EACH		.		.
2040	SPV.0060 SPECIAL 008. INSTALLING HYDRANT	1.000 EACH		.		.
2050	SPV.0060 SPECIAL 009. REMOVING LIGHT UNITS	47.000 EACH		.		.
2060	SPV.0060 SPECIAL 010. REINSTALLING LIGHTING UNITS	20.000 EACH		.		.
2070	SPV.0060 SPECIAL 011. DECORATIVE POLE CONCRETE BASES	1.000 EACH		.		.
2080	SPV.0060 SPECIAL 012. STANDARD LIGHTING UNITS TWIN	13.000 EACH		.		.
2090	SPV.0060 SPECIAL 013. REINSTALLING LUMINAIRES	26.000 EACH		.		.
2100	SPV.0060 SPECIAL 014. REMOVING EXISTING LIGHTING PULL BOXES	2.000 EACH		.		.

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
2110	SPV.0060 SPECIAL 015. REINSTALLING LIGHTING PULL BOXES	2.000 EACH		.		.
2120	SPV.0060 SPECIAL 016. LIGHTING PULL BOXES	5.000 EACH		.		.
2130	SPV.0060 SPECIAL 017. TRAFFIC SIGNAL INTERCONNECT VAULT	1.000 EACH		.		.
2140	SPV.0060 SPECIAL 018. SECTION CORNER MONUMENT SPECIAL	1.000 EACH		.		.
2150	SPV.0060 SPECIAL 019. CONTRACTOR PROVIDED HIGH-STRENGTH BOLT ASSY FOR MONOTUBE ARMS (POLE TY 12)	16.000 EACH		.		.
2160	SPV.0090 SPECIAL 001. CONCRETE CURB AND GUTTER 31-INCH TYPE A	2,120.000 LF		.		.
2170	SPV.0090 SPECIAL 002. 8-INCH SANITARY SEWER RELAY	22.000 LF		.		.
2180	SPV.0090 SPECIAL 003. DUCTILE IRON HYDRANT BRANCH 6-INCH	36.000 LF		.		.
2190	SPV.0090 SPECIAL 004. DUCTILE IRON WATER MAIN 8-INCH	21.000 LF		.		.
2200	SPV.0090 SPECIAL 005. CONCRETE CURB AND GUTTER 31-INCH TYPE D	4,000.000 LF		.		.

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
2210	SPV.0105 SPECIAL 001. SURVEY PROJECT 2380-02-70	LUMP	LUMP			.
2220	SPV.0105 SPECIAL 002. RAILING STEEL TYPE C1 GALVANIZED B-40-167	LUMP	LUMP			.
2230	SPV.0105 SPECIAL 003. RAILING STEEL TYPE C1 GALVANIZED B-40-764	LUMP	LUMP			.
2240	SPV.0105 SPECIAL 004. RAILING STEEL TYPE C1 GALVANIZED B-40-765	LUMP	LUMP			.
2250	SPV.0105 SPECIAL 005. TEMPORARY INFRARED EVP SYSTEM (STH 24 & 116TH STREET)	LUMP	LUMP			.
2260	SPV.0105 SPECIAL 006. REMOVE TRAFFIC SIGNALS (STH 24 & 116TH STREET)	LUMP	LUMP			.
2270	SPV.0105 SPECIAL 007. INSTALL STATE-SUPPLIED TRAFFIC SIGNAL CABINET (STH 24 & 116TH STREET)	LUMP	LUMP			.
2280	SPV.0105 SPECIAL 008. TRANSPORATING AND INSTALLING STATE-FURNISHED VIDEO DETECTION SYSTEM	LUMP	LUMP			.
2290	SPV.0105 SPECIAL 009. REMOVING OVERHEAD SIGN SUPPORT STATION 85+20	LUMP	LUMP			.
2300	SPV.0105 SPECIAL 010. TIME CLOCK ACTIVATED FLASHING LED BEACON	LUMP	LUMP			.

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
2310	SPV.0105 SPECIAL 011. TEMPORARY VEHICULAR VIDEO DETECTION SYSTEM (STH 24 & 116TH STREET)	LUMP	LUMP			.
2320	SPV.0105 SPECIAL 012. REMOVE LOOP DETECTOR AND LEAD-IN CABLE (STH 24 & 116TH STREET)	LUMP	LUMP			.
2330	SPV.0105 SPECIAL 013. REMOVE LOOP DETECTOR AND LEAD-IN CABLE (STH 24 & STH 100)	LUMP	LUMP			.
2340	SPV.0105 SPECIAL 014. EVP DETECTOR HEAD INSTALLATION (STH 24 & 116TH STREET)	LUMP	LUMP			.
2350	SPV.0105 SPECIAL 015. EVP DETECTOR HEAD INSTALLATION (STH 24 & STH 100)	LUMP	LUMP			.
2360	SPV.0105 SPECIAL 016. VEHICULAR VIDEO DETECTION SYSTEM PROGRAMMING UNIT AND TRAINING	LUMP	LUMP			.
2370	SPV.0105 SPECIAL 017. TRANSPORTING TRAFFIC SIGNALS AND INTERSECTION LIGHTING	LUMP	LUMP			.
	SECTION 0001 TOTAL					.
	TOTAL BID					.

PLEASE ATTACH SCHEDULE OF ITEMS HERE