HIGHWAY WORK PROPOSAL

Proposal Number: Ø 8

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

COUNTY	STATE PROJECT ID	FEDERAL PROJECT ID	PROJECT DESCRIPTION	HIGHWAY
Milwaukee	1060-33-93		Zoo IC, 2013 TMP Projects, Various Locations	IH-94

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: August 13, 2013 Time (Local Time): 9:00 AM	Firm Name, Address, City, State, Zip Code **SAMPLE** **NOT FOR BIDDING PURPOSES**
Contract Completion Time December 29, 2013	
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 Mulitple locations of traffic signal equipment upgrades, pavement marking, signing, sidewalk replacement, mill and overlay, sawcutting, removal of pavement marking, erosion control, restoration items, and ITS components.	
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 Zoo IC, 2013 TMP Projects, Various Locations, IH-94, 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, 2013 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 (20120615)

2. Scope of Work.

The work under this contract shall consist of upgrading traffic signals, pavement marking, signing, overhead sign, sidewalk replacement, mill and overlay, sawcutting, removal of pavement marking, erosion control, ITS components, City of Milwaukee utilities, 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 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.

Indicate on the schedule of operations working with a sufficient force and adequate equipment to assure that the work will be completed within the established contract time.

Obtain any noise variance permits to complete work outside of standard hours. Any permits obtained must be provided to the engineer.

Maintain the integrity of the inlet protection throughout the project. Remove and dispose of any debris that may prevent the flow of water.

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 the atmosphere.

Interim Liquidated Damages
Supplement standard spec 108.11 as follows:

If the contractor fails to complete the work necessary to reopen the streets listed below and their respective deadlines to through traffic, the department will assess the contractor $2000 per calendar day in interim liquidated damages for each calendar day that the roadway work remains incomplete after the deadline given per intersection. An entire calendar day will be charged for any period of time within a calendar day that the road incomplete beyond 12:01 AM.

November 1, 2013 – Pavement Marking:

- W. North Avenue between N. 117th and STH 100
- W. North Avenue and W. Menomonee River Parkway
- W. Watertown Plank Road and N. Harwood Avenue
- W. Wisconsin Avenue and N. 87th Street
- W. O'Connor Street and S. 70th Street
- W. National Avenue and S. 70th Street
- W. National Avenue and S. 76th Street
- W. Cleveland Avenue and W. National Avenue
- STH 100 and W. Washington Street

November 15, 2013 – Concrete Work and/or Mill and Overlay:

- W. North Avenue and N. 116th Street
- W. Bluemound Road and N. 97th Street
- W. Bluemound Road and N. 95th Street
- W. Bluemound Road and N. 92nd Street
- W. National Avenue and S. 76th Street
- W. Cleveland Avenue and W. National Avenue

December 31, 2013 – Traffic Signals, Traffic Control Interconnect, and FTMS:

- W. North Avenue and N. 116th Street
- W. North Avenue and N. Menomonee River Parkway
- W. North Avenue and N. 92nd Street
- N. Glenview Avenue and N. Harwood Avenue
- W. Bluemound Road and N. 97th Street
- W. Bluemound Road and N. 95th Street
- W. Bluemound Road and N. 92nd Street

- W. Cleveland Avenue and W. National Avenue
- W. National Avenue between STH 100 and IH-894/USH 45
- IH-894 eastbound Ramps and W. National Avenue
- IH-894 westbound Ramps and W. National Avenue
- W. National Avenue and S. 76th Street
- W. National Avenue and S. 70th Street
- W. Bluemound Road and N. 97th Street
- W. Bluemound Road and N. 95th Street
- W. Bluemound Road and N. 92nd Street

The department will not grant time extensions to the interim completion dates specified above for the following:

- Severe weather as specified in standard spec 108.10.2.2.
- Labor disputes that are not industry wide.
- Delays in material deliveries.

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

Staging

W. North Avenue

W. North Avenue between N. 117th Street and STH 100; W. North Avenue and W. Menomonee River Parkway; W. North Avenue and N. 92nd Street; complete all removals, base aggregate, traffic signal upgrades, sidewalk replacements, pavement markings, signing, and restoration items per plan.

W. Watertown Plank Road and N. Harwood Avenue

Complete all pavement markings and signing per plan.

W. Wisconsin Avenue

W. Wisconsin Avenue and N. 87th Street complete all pavement markings and signing per plan.

W. Bluemound Road

W. Bluemound Road and N. 97th Street; W. Bluemound Road and N. 95th Street; and W. Bluemound Road and N. 92nd Street; complete all removals, base aggregate, traffic signal upgrades, sidewalk replacements, pavement markings, signing, and restoration items per plan.

W. O'Connor Street

W. O'Connor Street and S. 70th Street complete all pavement markings and signing per plan.

W. National Avenue
W. National Avenue and S. 70th Street complete all pavement markings and signing per plan.

W. National Avenue and S. 76th Street complete all removals, base aggregate, pavement markings, sidewalk replacement, curb and gutter replacements, signing, and restoration items per plan.

W. Cleveland Avenue and W. National Avenue
Stage 1
Close the eastbound direction of W. Cleveland Avenue between STH 100 and approximately 330' east of W. National Avenue for the minimum duration to complete all HMA pavement removals, placement of new HMA pavement, all pavement markings, and signing.

Stage 2
Close the westbound direction of W. Cleveland Avenue between STH 100 and approximately 330' east of W. National Avenue for the minimum duration to complete all HMA pavement removals, placement of new HMA pavement, all pavement markings, and signing.

STH 100
STH 100 and W. Washington Street complete all pavement markings and signing per plan.

Equipment, vehicles, or materials shall be parked or stored only at work sites approved by the engineer.

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

Definitions
The following definitions apply to this contract:

Peak Hours

6:00 AM – 9:00 PM	Monday, Tuesday, Wednesday, Thursday
6:00 AM – 9:00 PM	Friday
11:00 AM – 8:00 PM	Saturday
1:00 PM – 5:00 PM	Sunday

Off-Peak Hours

9:00 PM – 6:00 AM	Monday, Tuesday, Wednesday, Thursday
9:00 PM – 11:00 AM	Friday PM to Saturday AM
8:00 PM – 1:00 PM	Saturday PM to Sunday PM
5:00 PM – 6:00 AM	Sunday PM to Monday AM

Local Street Work Restrictions
Provide at least two lanes available to traffic during the peak hours unless approved by the engineer. One lane may be available to traffic during Off-Peak Hours only.

Comply with all local ordinances that apply to local street work operations, including those pertaining to working during night time hours. Furnish any ordinance variance issued by the municipality or required permits to the engineer in writing 3 days prior to performing such work.

Existing trees, street light poles, hydrants, and other utility poles are to remain in place during construction unless otherwise noted in the plan. Conduct an on-site visit prior to bidding to determine any special measures required for proper clearance between the trees, hydrants, and poles and the paving equipment.

4. Traffic.

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

Submit to the engineer for approval a detailed traffic control plan if different than the traffic control plan provided in the plan set. This plan is to be submitted ten days prior to the preconstruction conference.

W. North Avenue
Contractor shall not close both sides of pedestrian sidewalks at the same time to complete the traffic signal upgrade work. One side of the intersection must remain open while the other side is under construction.

All pavement markings shall be completed during off peak hours.

W. Watertown Plank Road and N. Harwood Avenue
All pavement markings shall be completed during off peak hours.

W. Wisconsin Avenue
All pavement markings shall be completed during off peak hours.

W. Bluemound Avenue
Contractor shall not close both sides of pedestrian sidewalks at the same time to complete the traffic signal upgrade work. One side of the intersection must remain open while the other side is under construction.

All pavement markings shall be completed during off peak hours.

W. O'Connor Street
All pavement markings shall be completed during off peak hours.

W. National Avenue
Contractor shall close the northbound right turn lane in order to complete the replacement of sidewalk and curb and gutter.

All pavement markings shall be completed during off peak hours.

W. Cleveland Avenue and W. National Avenue
Stage 1
Closure of W. Cleveland Avenue between STH 100 and 330' east of W. National Avenue will only be permitted during the off peak times unless otherwise allowed by the engineer. The off peak time for W. Cleveland Avenue has been designated to be 9:30 PM – 5:30 AM. Westbound direction will remain open, but the inside lane will be closed. Work shall be completed in one night for the eastbound direction.

Stage 2
Closure of W. Cleveland Avenue between STH 100 and 330' east of W. National Avenue will be only be permitted during the off peak times unless otherwise allowed by the engineer. The off peak time for W. Cleveland Avenue has been designated to be 9:30 PM – 5:30 AM. Eastbound direction will remain open, but the inside lane will be closed. Work shall be completed in one night for the westbound direction.

STH 100
All pavement markings shall be completed during off peak hours.

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

5. CPM Progress Schedule.

Submit a CPM Progress Schedule and updates in accordance to standard spec 108.4.4, and as hereinafter provided.

To ensure compatibility with the Master Program Schedule, use the latest version of Primavera Project Planner (P6), by Primavera Systems, Inc., Bala Cynwyd, PA to prepare the Initial CPM Progress Schedule, Monthly CPM Progress Updates and other CPM Progress Revisions requested by the engineer.

Within five business days after award, the department will provide its current standard Work Breakdown Structure and activity codes to use to develop the Initial CPM Progress Schedule.

Designate a Project Scheduler who will be responsible for scheduling the Work and submit for approval a professional resume describing a minimum of three years of scheduling experience on interstate-highway reconstruction work of similar size and complexity, including recent experience with P6.

With each Monthly CPM Progress Schedule Update also include:

- Activities underway and as-built dates for the past month.
- On a monthly basis, agree on the as-built dates with the department depicted in the Monthly CPM Progress Schedule Update or document any disagreements. Use the as-built dates from the Monthly CPM Progress Schedule Update for the month when updating the CPM schedule.
- Provide actual as-built dates for completed activities through final acceptance of the project.

6. Traffic Meetings and Traffic Control Scheduling.

Every Wednesday by 10:00 AM, submit a detailed proposed 2-week look-ahead traffic closure schedule to the engineer. Type the detailed proposed 2-week look-ahead closure schedule into an excel spreadsheet provided by the engineer. Enter information such as closure dates, duration, work causing the closure and detours to be used. Also enter information such as ongoing long-term closures, emergency contacts and general 2-month look-ahead closure information into the excel spreadsheet.

Meet with the engineer between 10:00 AM – 12:00 PM on Wednesdays at the Zoo Interchange project office at 2424 S. 102nd St. in West Allis to discuss and answer questions on the proposed schedule. Edit, delete and add closures to the detailed proposed 2-week look-ahead schedule, as directed by the engineer, so that proposed closures meet specification requirements. Other edits, deletions or additions unrelated to meeting specification requirements may also be agreed upon with the engineer during the 10:00 AM meeting.

Every Wednesday at 2:00 PM, or as scheduled by the engineer, attend a weekly traffic meeting. The meeting will bring local agencies, project stakeholders, owner managers, owner engineers, contractors, document control and construction engineering personnel together to discuss traffic staging, closures and general impacts. Upon obtaining feedback from the meeting attendees, edit, delete and add information to the detailed 2-week look-ahead closure schedule, as needed. Submit the revised 2-week look-ahead to the engineer.

Obtain approval from the engineer for any mid-week changes to the closure schedule. Revise the 2-week look-ahead as required and obtain engineer approval.

7. Holiday Work Restrictions.

Do not perform work on, nor haul materials of any kind along or across any portion of the highway carrying W. North Avenue (between N. 117th St. and STH 100), W. Watertown Plank Road and N. Harwood Avenue, W. Wisconsin Avenue and N. 87th Street, W. Bluemound Road between N. 97th Street and N. 92nd Street, W. O'Connor Street and S. 70th Street, W. National Avenue and S. 70th Street, W. National Avenue and S. 76th Street, W. National Avenue and W. Cleveland Avenue, STH 100 and W. Washington

Street 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 Wednesday, November 27, 2013 to 6:00 AM Monday, December 2, 2013 for Thanksgiving;
- From noon Monday, December 23, 2013 to 6:00 AM Thursday, December 26, 2013 for Christmas.

107-005 (20050502)

8. Utilities.

This contract comes under the provisions of Administrative Rule TRANS 220.

Underground and overhead utility facilities are located within the project limits. No 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 state statute. Use caution to ensure the integrity of underground facilities and maintain code clearances from overhead facilities at all times.

Adjust proposed facility locations as necessary to avoid conflict with existing utilities. Contact utility companies listed in the plans, prior to preparing bids, to obtain current information on the status of existing utilities, abandoned facilities and new utility construction or relocation work.

Utility working days shown herein are as defined in Wisconsin Administrative Code Chapter Trans 220.

Utility companies may be performing utility work and adjustments within the limits and throughout the life of the project. Cooperate and coordinate construction activities with these companies.

9. Subletting the Contract.

Replace standard spec 108.1.1 (3) with the following:

If proposing to have a party other than a subcontractor perform work, notify the engineer and submit details of this arrangement in writing. The engineer will determine if that arrangement constitutes subcontracting. Submit copies of all other agreements between any parties regarding the performance of work under the contract with the Request to Sublet.

10. Coordination With Other Projects.

Coordinate work in accordance to standard spec 105.5.

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

It is expected that routine maintenance by the city and county personnel may be required at certain times concurrently with the work being done under this contract.

Coordinate with the following projects:

- Contract #1060-33-70: Zoo IC, Mayfair Road, IH-94 to Watertown Plank, Milwaukee County. WisDOT contact person is Michael Burns, (414) 750-1413.
- Contract #1060-33-71 and 90: Zoo IC, Glenview Avenue, Bluemound Road to Wisconsin Avenue; Traffic Mitigation, 84th St, Adler Street to Bluemound Road, Milwaukee County. WisDOT contact person is Kurt Flierl, (414) 750-3085.
- Contract #1060-33-72: Zoo IC, Watertown Plank Interchange, Watertown Plank Interchange, Milwaukee County. WisDOT contact person is Kurt Flierl, (414)750-3085.
- Contract #1060-33-73: Zoo IC, Swan Boulevard, Watertown Plank Road to USH 45, Milwaukee County. WisDOT contact person is Kurt Flierl, (414) 750-3085.
- Contract #1060-33-74: Zoo IC, Greenfield Avenue Water Main, 101st Street to 97th Street, Milwaukee County. WisDOT contact person is Jay Obenberger, (414) 750-3259.
- Contract #1060-33-75: Zoo IC, UPRR and STH 100 Bridges over IH-94, Hast to Contract #IH-94 westbound Ramp Terminal, Milwaukee County. WisDOT contact person is Michael Burns, (414) 750-1413.
- Contract #1060-33-77: Zoo IC, Greenfield Avenue Bridge, 101st Street to 97th Street, Milwaukee County. WisDOT contact person is Jay Obenberger, (414) 750-3259.
- Contract #1060-33-78: Zoo IC, S. 76th Street Bridge over IH-94, Kearney St to O'Connor St, Milwaukee County. WisDOT contact person is Michael Burns, (414) 750-1413.
- Contract #1060-33-97: Zoo IC, Integrated Corridors 2, Various Intersections, Milwaukee and Waukesha Counties. WisDOT contact person is Jay Obenberger, (414) 750-3259.
- Contract #1090-07-73: Zoo Freeway – West Allis, Cleveland Avenue, B-40-0122, Milwaukee County. WisDOT contact person is Jay Obenberger, (414) 750-3259.

11. Hauling Restrictions.

Hauling shall not be permitted on the following streets for each site:

- W. North Avenue: N. 117th Street, N. 116th Street, N. 115th Street, N. 114th Street, and N. 113th Street.
- W. Watertown Plank Road and N. Harwood Avenue: Kavanaugh Place.
- W. Wisconsin Avenue: Bel Air Circle, N. 87th Street, Pleasant View Street, and Elm Spring Avenue.
- W. Bluemound Road: N. 94th Street, N. 93rd Street, and N. 91st Street.
- W. O'Connor Street: S. 69th Street and S. 68th Street.

- W. National Avenue: S. 71st Street, S. 69th Street, W. Mitchell Street, S. 77th Street, and S. 75th Street.
- W. Cleveland Avenue and W. National Avenue: S. 112th Street, S. 111th Street, S. 110th Street, S. 109th Street, S. Wildwood Drive, and S. 102nd Street.
- STH 100 and W. Washington Street: W. Madison Street, W. Washington Street, and W. Walker Street.

At all times, conduct operations in a manner that causes minimum disruption to traffic on existing roadways. Coordinate with the local authority.

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

12. Material and Equipment Staging.

Submit a map showing all proposed material stockpile or equipment storage locations to the engineer 14 days prior to either preconstruction or proposed use, whichever comes first. Identify the specific purposes for the location. Obtain written permits from the property owner, and submit two copies to the engineer before use. Do not stockpile or store materials or equipment on wetlands.

13. Information to Bidders, Use of Recovered Material.

The department encourages the use of waste materials and recovered industrial byproducts as material substitutions (106.2.1), provided they meet standard specification gradation requirements, conform to NR 538 requirements, and/or follow standard engineering practice for their intended use.

14. Available Documents.

The department will make all its information available to bidding contractors. The list of documents that are available for contractors' information includes but is not limited to:

- Design Study Report
- Exceptions to Standards Report
- Interstate Access Justification Report
- Pavement Type Selection Report
- Preliminary Plans
- Environmental Impact Statement
- As-Built Drawings
- Preconstruction survey

These documents are available from Chris Hager, PE at 141 NW Barstow Street, Waukesha, WI 53187. He may be reached at (262) 521-4433.

Reproduction costs will be applied to any copies requested.

15. Contractor Notification.

Replace standard spec 104.2.2.2(2) with the following:

If the contractor discovers the differing condition, provide a written notice, as specified in standard spec 104.3.3, of the specific differing condition before further disturbing the site and before further performing the affected work.

104.3.2 (Vacant)

104.3.3 Contractor Initial Written Notice
Replace standard spec 104.3.2 and 104.3.3 with the following:

If required by standard spec 104.2, or if the contractor believes that the department's action, the department's lack of action, or some other situation results in or necessitates a contract revision, promptly provide a written notice to the engineer. At a minimum, provide the following:

- A written description of the nature of the issue.
- The time and date of discovering the problem or issue.
- If appropriate, the location of the issue.

Provide the additional information specified in standard spec 104.3.5 as early as possible to assist the engineer in the timely resolution of an identified issue. The engineer will not require, in subsequent submissions, duplication of information already provided.

16. Labor Compliance Reporting – Payroll Requirements.

Submit weekly certified payrolls verifying prevailing wage rates for all work performed under the contract as directed in the civil rights and labor compliance management system manual. Submit weekly certified payrolls within 7 calendar days of the week covered by the weekly certified payroll.

17. Owner Controlled Insurance Program.

Section 107.26, "Standard Insurance Requirements" of the standard specifications is deleted in its entirety and the following section 107.26 is substituted thereof:

107.26 Standard Insurance Requirements

107.26(1)(a) Owner Controlled Insurance Program

1. Overview. The State of Wisconsin, Department of Transportation ("the WisDOT") has arranged with Aon Risk Solutions, (the "OCIP administrator") for this Project to be insured under its Owner Controlled Insurance Program ("OCIP"). The OCIP is more fully described in the Zoo Interchange manual for the Owner Controlled Insurance Program (the "Insurance Manual") and the Safety and Health Plan Manual that are incorporated in this

Special Provision and the Contract by this reference. Parties performing labor or services at the Project Site (as defined by the OCIP Policies) are eligible to enroll in the OCIP unless the party is an excluded party (as defined below). The OCIP will provide to enrolled parties(as defined below) workers' compensation and employer's liability insurance, commercial general liability insurance, Builders Risk and Excess Liability insurance as summarily described below in connection with the performance of the Work ("OCIP coverage's").

2. Enrolled Parties and Their Insurance Obligations. OCIP coverage applies only to Enrolled Parties. Enrolled Parties include the WisDOT and its employees, non-excluded Contractors and Subcontractors of all tiers who enroll in the OCIP, all employees of Enrolled Contractor's and Subcontractor's who perform Work at the Project Site, and such other persons or entities that the WisDOT, in its sole discretion, may designate (each such party who is insured under the OCIP is collectively referred to as an "Enrolled Party").

Enrolled Parties shall obtain and maintain, and shall require each of its Subcontractors to obtain and maintain, the insurance coverage specified in 107.26(1)(a) 8 below.

3. Excluded Parties and Their Insurance Obligations. OCIP coverage's do not apply to the following "Excluded Parties":

a. Hazardous materials remediation, removal and/or transport companies;

b. Vendors *, suppliers, fabricators, material dealers, truckers**, haulers, drivers and others who merely transport, pickup, deliver, or carry materials, personnel, parts or equipment or any other items or persons to or from the Project;

* WisDOT is requiring all vendors who perform maintenance on an enrolled contractor's equipment to be enrolled in the OCIP. Please see "WisDOT OCIP Enrollment Guidance Relating to Service Vendors" to determine whether they will be enrolled per project id number or on a Miscellaneous blanket basis.

** Truckers that come on site must remain in the cab of the vehicle.

Refer to the "Enrollment Matrix" which clearly outlines the requirements contingent upon the category that the entity falls under, such as: Contractor; Subcontractor; Consultant; Visitor; etc.

c. Sanitary disposal facility providers, if the only function is to drop off the units and pick them up later, they are material suppliers and are excluded. If the company also services/cleans the units on site, that is no longer being a material supplier. (Refer to "Enrollment Matrix", Vendors Providing Maintenance On Site).

d. Contractors and Subcontractors of any tier that do not perform any actual labor on the Project site.

e. Any party or entity not specifically identified in this special provision or excluded by the WisDOT as permitted by law, even if otherwise eligible.

f. If you are not employed by an Enrolled Party, but performing services of an Excluded Party, you are not covered by the OCIP.

Excluded Parties and parties not enrolled in the OCIP shall obtain and maintain, and shall require each of its excluded Subcontractors to obtain and maintain, the insurance coverage specified in Section 107.26(1)(a) 8 below and in the Insurance Manual. Excluded Parties shall comply with all of the safety requirements pursuant to 107.26(1)(a) 16.

4. OCIP Insurance Policies Establish OCIP coverage's. The OCIP coverage's and exclusions summarized in this special provision and the other contract documents are set forth in full in their respective insurance policy forms. The summary descriptions of the OCIP coverage's in this special provision or the Insurance Manual are not intended to be complete or to alter or amend any provision of the actual OCIP coverage's. In the event any provision of this special provision, the Insurance Manual, or the contract documents, conflicts with the OCIP insurance policies, the provisions of the actual OCIP insurance policies shall govern.

5. Summary of OCIP Coverage's. OCIP coverage's will apply only to those operations of each Enrolled Party performed at the Project Site (as defined in the OCIP insurance Policies) in connection with the Work and only to Enrolled Parties that are eligible for the OCIP.

The OCIP coverage's are primary insurance for all Enrolled Parties for occurrences during the policy period at the Project Site (as defined in the OCIP Policies). The OCIP will provide at least the following insurance to Enrolled Parties:

Summary of OCIP Coverages
This is a brief description of OCIP Insurance Coverage. Enrolled Parties should refer to the actual policies for details concerning coverage, exclusions and limitations.

a. Workers' Compensation Insurance -Statutory Limit including Jones Act and USL&H coverage, as applicable.

b. Employer's Liability Insurance $1,000,000 Bodily Injury by Accident, each accident $1,000,000 Bodily Injury by Disease, each employee $1,000,000 Bodily Injury by Disease, policy limits

c. Commercial General Liability (ISO Occurrence Form – Limits Shared By All Insureds) $2,000,000 Each Occurrence Limit (Annual Limit) $2,000,000 Personal/Advertising Injury Aggregate $4,000,000 General Aggregate Limit for all Enrolled Parties (Annual Limit)

$4,000,000 Products & Completed Operations Aggregate for all Enrolled Parties (Single Limit Applies to Entire Products & Completed Operations Extension)

10 yr. Products & Completed Operations Extension

d. The OCIP Commercial General Liability policy will not provide coverage for any claim that could be covered under a property policy or Builder's Risk policy.

e. Excess Liability insurance (over Employer's Liability & General Liability – Limits Shared by All Insureds)

$100,000,000 Each Occurrence Limit

$100,000,000 Aggregate (Annual Limit)

$100,000,000 Products & Completed Operations Aggregate Limit (Single Limit Applies to Entire Products & Completed Operations Extension).

f. Builder's Risk Insurance Coverage:

This is a brief description of Builder's Risk Insurance Coverage. Contractor should refer to the actual policies for details concerning coverage, exclusions and limitations.

The Builder's Risk insurance covers insures property, including materials, supplies, machinery, fixtures and equipment which will become a permanent part of the Work (excluding road work at grade level) in the course of construction.

The Builder's Risk coverage insures WisDOT and Enrolled Parties.

Builders Risk:

	Limit
Each Occurrence Limit	$100,000,000

Builder's Risk Obligation:

Contractor or Subcontractor shall pay to the WisDOT's designee within five (5) days written notice a maximum of up to twenty-five thousand dollars ($25,000.00) for each loss payable under the Builder's Risk Policy attributable to Contractor's Work, acts or omissions, or the Work, acts or omissions of any of Contractor's Subcontractors, or any other entity or party for whom Contractor may be responsible ("builder's risk obligation").

6. The WisDOT's Insurance Obligations.

a. The WisDOT will pay the costs of premiums for the OCIP coverage's and WisDOT will receive or pay, as the case may be, all adjustments to such costs, whether by way of

dividends, retroactive adjustments, return premiums, other moneys due, audits or otherwise.

b. The WisDOT assumes no obligation to provide insurance other than that specified in this special provision and the OCIP insurance policies.

c. Except as provided by applicable law, the WisDOT's furnishing of OCIP coverage's will in no way relieve or limit, or be construed to relieve or limit, Contractor or any of its Subcontractors of any responsibility, liability, or obligation imposed by the contract documents, the OCIP insurance policies, or by law, including without limitation any indemnification obligations which Contractor or any of its Subcontractors has to the WisDOT there under. The WisDOT reserves the right at its option, to furnish other insurance coverage of various types and limits provided that such coverage is not less than that specified in the contract documents.

7. Contractor's OCIP Obligations. Contractor shall:

a. Assign to WisDOT the right to receive all such adjustments, and shall require that each of its Subcontractors of every tier assigns to WisDOT the right to receive all such adjustments.

b. Incorporate the terms of this special provision in all subcontract agreements.

c. Enroll and maintain enrollment in the OCIP, and shall ensure that each non-Excluded subcontractor, enrolls and maintains enrollment in the OCIP. Enrollment shall take place within five (5) days of a receipt of a Notice to Proceed, and prior to commencement of work. Comply with all of the administrative, safety, insurance, and other requirements outlined in this special provision, the Insurance Manual, the OCIP insurance policies, the Safety and Health Plan Manual, or elsewhere in the contract documents.

d. Provide each of its Subcontractors with a copy of the Insurance Manual and ensure Subcontractor compliance with the provisions of the OCIP insurance policies, the Insurance Manual, this special provision, and the contract documents. The failure of (a) the WisDOT to include the Insurance Manual in the bid documents or (b) Contractor to provide each of its eligible Subcontractors with a copy of same shall not relieve Contractor or any of its Subcontractors from any of the obligations contained therein.

e. Acknowledge, and require all of its Subcontractors to acknowledge in writing, that the WisDOT and the OCIP administrator are not agents, partners or guarantors of the insurance companies providing coverage under the OCIP (each such insurer, an "OCIP insurer") and that the WisDOT is not responsible for any claims or disputes between or among Contractor, its Subcontractors, and any OCIP insurer(s). Any type of insurance coverage or limits of liability in addition to the OCIP coverage's that Contractor or any Subcontractor requires for its or their own protection, or that is required by applicable laws or regulations, shall be Contractor's or its Subcontractor's sole responsibility and expense and shall not be billed to the WisDOT.

f. Cooperate fully with the OCIP administrator and the OCIP insurers, as applicable, in its or their administration of the OCIP.

g. Provide, within five (5) business days of the WisDOT's or the OCIP administrator's request, all documents or information as requested of Contractor or its Subcontractors. Such information may include but not be limited to, payroll records, certified copies of insurance coverage's, declaration pages of coverage's, certificates of insurance, underwriting data, prior loss history information, insurance audits, safety records or history, OSHA citations, or such other data or information as the WisDOT, the OCIP administrator, or OCIP insurers may request in the administration of the OCIP, or as required by the Insurance Manual.

h. Pay to the WisDOT's designee within five (5) days of written notification, a sum of up to **$10,000** of each claim, including court costs, attorneys fees and costs of defense for property damage to the extent losses are insured under the OCIP Commercial General Liability policy for those losses that are attributable to Contractor's Work, acts or omissions, or the Work, acts or omissions of any of its Subcontractors, or any other entity or party for whom Contractor may be responsible ("contractor General Liability obligation"). The contractor General Liability obligation will not be insured by the OCIP Coverage's.

8. Additional Insurance Required From Enrolled Parties and Excluded Parties. Contractor shall obtain and maintain, and shall require each of its Subcontractors of every tier to obtain and maintain, the insurance coverage specified in this Section in a form and from insurance companies reasonably acceptable to the WisDOT. The insurance limits may be provided through a combination of primary and excess policies, including the umbrella form of policy. The insurance required by this Section shall conform to the WisDOT's requirements outlined in the Insurance Manual and be written by companies authorized to do business in the state of Wisconsin with an **A.M. Best rating of A-or better**. Contractor shall provide certificates of insurance coverage to the WisDOT as required below and by the Insurance Manual.

As to Enrolled Parties, the Workers' Compensation, Employer's Liability, and Commercial General Liability insurance required by this section shall only be for operations away from the Project Site (as defined by OCIP Policies). The cost of providing the required insurance coverage and limits is incidental to the contract. The department will make no additional or special payment for providing insurance.

TYPE OF INSURANCE MINIMUM LIMITS REQUIRED

1. Commercial General Liability insurance shall be endorsed to include Blanket Contractual Liability coverage.

a. $2,000,000 Combined Single Limits per occurrence with an annual aggregate limit of not less than $4,000,000.

b. The OCIP Coverages shall exclude blasting or explosion operations. If blasting or explosion operations are used in connection with the Work, Commercial General Liability insurance shall not contain an exclusion for blasting or explosion and shall be

provided in limits established by the WisDOT at the time such blasting or explosion methods are elected. Such coverage shall apply to operations whether the operations occur on the Project site or away from the Project site.

c. Wisconsin Department of Transportation, their respective officers, agents and employees, and any additional entities as the WisDOT may request as additional insureds must be named as an Additional Insured which shall include: i) liability arising out of the Work performed by the named insured; ii) liability arising out of the supervision of the Work performed by or operations of the named insured; and iii) liability of the acts or omissions of the Additional Insureds relating to Work performed by the named insured for the Project, except for sole negligence of the Additional Insureds iv) will state that coverage is afforded on a primary and non-contributory basis.

d. Ongoing Construction Operation(s) in effect at all times while work is being performed by Contractor;

e. Subcontractors and Independent Contractors (if any);

f. Products and Completed Operations, including coverage applicable to additional insureds (as required by this agreement) with Completed Operations coverage to remain in force, whether by endorsement or renewal of coverage, including the Contractor, any party required to be indemnified by this Contract and any other party required by this Contract to be named as an additional insured, for at least two (2) years from the date of final completion of the Project and WisDOT's acceptance of the work; and

g. Explosion, collapse, and underground hazards.

h. Contractual Liability (insured contract) coverage sufficient to meet the requirements of this Contract (including defense costs and attorney's fees assumed under contract);

i. Personal and Advertising Injury Liability coverage (with the standard contractual and employee exclusions deleted);

j. Notice and Knowledge of Occurrence conditions limited to the knowledge of relevant corporate officers or risk managers with an Unintentional Errors and Omissions provision (providing that the insurer may not deny coverage unless it can show that it has been prejudiced by a failure of the insured to comply with a condition of the policy); and

k. CG 22 79 07 98 (or equivalent) is the only acceptable Professional Liability Exclusion.

l. Operations performed within 50' of railroad

m. Contractors must provide their own insurance for owned, leased, rented and borrowed equipment, whether such equipment is located at a Project Site or "in transit". Contractors are solely responsible for any loss or damage to their personal property including, without limitation, property or materials created or provided under the Contract until installed at the Project Site, Contractor tools and equipment, scaffolding and temporary structures.

2. Workers' Compensation and Employer's Liability insurance.

a. Workers' Compensation Limits: Statutory Limits

b. Employer's Liability limits:
$1,000,000 Bodily Injury by Accident, each accident $1,000,000 Bodily Injury by Disease, each employee $1,000,000 Bodily Injury by Disease, policy limits

Terms and conditions shall include:
- USL&H – where applicable.
- Jones Act – where applicable.
- All states endorsement -where applicable.

3. Commercial Automobile Liability insurance as specified by Insurance Services Office (ISO), form CA 00 01, symbol 1 (any auto) with the following limits and endorsements:

a. No Trucking or Hauling: $1,000,000 Each Accident

b. Trucking or Hauling (Non Hazardous Materials): $2,000,000 Each Accident

c. Trucking or Hauling Hazardous Materials: $5,000,000 Each Accident with an MCS 90 Endorsement and ISO Endorsement CA 99 48.

4. For any work over water, whether deemed navigable or otherwise, Contractors Pollution Liability insurance with $2,000,000 per occurrence and $2,000,000 aggregate policy limits.

5. Aviation and/or Watercraft Liability insurance, as appropriate, including hull and protection and indemnity for watercraft, or other insurance, in form and with limits of liability and from an insuring entity reasonably satisfactory to the WisDOT.

Contractor's failure to procure or maintain the insurance required by this Section and to assure all its Subcontractors of every tier maintain the required insurance during the entire term of the contract shall constitute a material breach of this contract under which the WisDOT may immediately suspend or terminate this contract or, at its discretion, procure or renew such insurance to protect the WisDOT's interests and pay any and all premiums in connection therewith, and withhold or recover all monies so paid from the Contractor.

Contractor shall provide the WisDOT with certificates of insurance as evidence that required
coverage's for insurance detailed in this section are in force. The bidder shall provide certificates of insurance in their pre-qualification statement as specified in 102.1.

Contractor shall notify the WisDOT at least 60 calendar days before a cancellation or material change in coverage and only obtain coverage from insurance companies licensed to do business in the state that have an A.M. Best rating of A- or better. The cost of

providing the required insurance coverage and limits is incidental to the contract. The WisDOT will make no additional or special payment for providing insurance.

The above insurance requirements shall apply with equal force whether the Contractor or a Subcontractor, or anyone directly or indirectly employed by either, performs the work under the Project.

9. Additional Insureds:

All insurance required by this agreement (excluding only workers compensation insurance) shall name WisDOT, all parties required to be indemnified by this Contract and all other parties as reasonably requested by the WisDOT, as additional insureds. All policies (including primary, excess and/or umbrella) must provide that coverage shall be primary and non-contributory to any insurance maintained by the Contractor or the additional insured, all of which shall be stated on the Certificate of Insurance provided by the Contractor. The Additional Insured Endorsement shall be on Form CG 20 10 11/85, or CG 20 33 10/01 plus CG 20 37 10/01, or equivalent, and shall include ongoing and completed operations coverage, which shall not contain any restrictions**.**

IN THE EVENT THAT THE LAW OF THE STATE IN WHICH THE PROJECT IS LOCATED (OR APPLICABLE LAW) LIMITS THE ADDITIONAL INSURED COVERAGE THAT WISDOT MAY REQUIRE FROM THE CONTRACTOR, THEN THE CONTRACTOR SHALL BE REQUIRED TO OBTAIN ADDITIONAL INSURED COVERAGE TO THE FULLEST EXTENT OF COVERAGE AND LIMITS ALLOWED BY APPLICABLE LAW AND THIS CONTRACT SHALL BE READ TO CONFORM TO SUCH LAW.

10. Contractor Representations and Warranties to the WisDOT. Contractor represents and warrants to the WisDOT or behalf of itself and its Subcontractors:

a. That all information it submits to the WisDOT or the OCIP administrator shall be accurate and complete.

b. That Contractor, on behalf of itself and its Subcontractors, has had the opportunity to read and analyze copies of the OCIP binders and specimen policies that are on file in the WisDOT's office. Any reference or summary in the contract, this special provision, the Insurance Manual, or elsewhere in any other contract document as to amount, nature, type or extent of OCIP coverage's and/or potential applicability to any potential claim or loss is for reference only. Contractor and its Subcontractors have not relied upon said reference but solely upon their own independent review and analysis of the OCIP coverage's in formulating any understanding and/or belief as to amount, nature, type or extent of any OCIP coverage's and/or its potential applicability to any potential claim or loss.

c. That the costs of OCIP coverage's were not included in Contractor's bid or proposal for the Work, the contract price, and will not be included in any change order, change modification, or any request for payment for the Work or extra work. The "costs of OCIP coverage's" is defined as the dollar amount of premiums, costs and fees the

Contractor and its Subcontractors would have paid its insurance carrier to insure the operations and exposures which are being insured under the OCIP.

d. That Contractor acknowledges that the WisDOT will not pay or compensate Contractor or any Subcontractor, in any manner, for costs of OCIP coverage's or for "insurance costs" except as specifically required to be maintained by Contractor by the terms of this special provision.

11. Severability of Interests (Cross Liability):
All insurance required by this agreement (excluding only workers compensation insurance) shall include a provision or be endorsed to provide that, inasmuch as the policy is written to cover more than one insured, all terms, conditions, insuring agreements and endorsements, with the exception of limits of liability, shall operate in the same manner as if there were a separate policy covering each insured. No cross liability exclusions are permitted and there may not be any restrictions in any policies that limit coverage for a claim brought by an additional insured against a named insured. Also, there shall not be any provision in any insurance policy which excludes or conditions coverage on the existence of a contract or other agreement requiring insurance.

12. Breach of Insurance Requirements:
The Contractor's failure to obtain and maintain insurance coverages as required by this agreement shall constitute a material breach of the Contract. In such event WisDOT may at its option: (i) terminate the Contractor for default; or (ii) purchase such coverage and backcharge the premium and associated costs to the Contractor; or (iii) at their respective option, WisDOT and/or an additional insured can require the Contractor and/or its Subcontractors to pay for attorney's fees, expenses, damages and liability as a result of any claim or lawsuit to the extent coverage would have been provided to them under the Contractor's insurance but for the Contractor's breach WisDOT has the right to backcharge the Contractor for such sums. Furthermore, to the extent of their respective interest, the Insurers of those entities that were to be included as additional insureds are deemed to be third-party beneficiaries of the insurance procurement obligation.

13. **Subcontractor**:

Before permitting any Subcontractor to perform work under a subcontract, the Contractor shall require by written contract that the Subcontractor maintain insurance in like form and amounts to that required herein. The Contractor shall be responsible to ensure that each Subcontractor maintains insurance in like form and amounts and shall Provide evidence of same if requested. Contractor shall provide copies of its Subcontractor's certificates of insurance coverage to WisDOT or the OCIP Administrator upon request.

14. Notice of Cancellation:

All insurance coverages required by this agreement shall contain a provision that the coverage afforded thereunder cannot be cancelled, non-renewed, allowed to lapse, or have any restricted modifications added unless at least thirty (30) days prior written notice has been given to WisDOT. The Contractor is responsible to provide replacement

coverage conforming with the requirements of this agreement in the event of any cancellation, non-renewal or modification of any insurance coverages required by this agreement.

15. Limits of Insurance:

The Contractor's insurance coverage and any additional insured coverage provided to WisDOT and any additional insured shall be for the full amount of any loss up to the policy(s) limits of liability and shall not be limited to the minimum insurance requirements of this Contract. The Contractor is responsible for notifying its insurance carriers in the event of a loss or potential loss involving coverage for the additional insureds. However, this does not prohibit any additional insureds from reporting a claim directly to the Contractor's insurance carriers.

16. Deductibles/Denial of Claims:

The Contractor shall be responsible, at no additional cost to WisDOT, for the payment of any deductibles or self-insured retention in connection with the insurance coverages required by this agreement, both for itself and all additional insureds. Any self-insured retention or deductible must be declared in writing at the time the Contractor submits its bid and must be specifically approved by WisDOT prior to execution of the Contract. The Contractor shall be responsible for any loss arising out of coverage denial by its insurance carrier. The Contractor may not procure policies that limit who may pay the SIR or deductible; rather, any SIR shall be payable by either the Contractor or the Subcontractor and the Contractor may not have a policy that prevents WisDOT from accessing or triggering coverage unless the SIR is paid by the Contractor. Contractor shall also ensure that similar conditions are incorporated into all subcontracts. In the event that WisDOT is required to pay any deductible and/or SIR to access any insurance policy, Subcontractor shall promptly reimburse the Contractor for such payment.

17. No Waiver of Insurance Requirements:

IT IS EXPRESSLY AGREED BETWEEN WISDOT AND THE CONTRACTOR THAT THE FAILURE OF WISDOT TO REQUIRE OR VERIFY COMPLETE AND TIMELY PERFORMANCE OF THE CONTRACTOR'S OBLIGATIONS UNDER THIS CONTRACT SHALL NOT BE A WAIVER BY WISDOT OF ANY RIGHT OF WISDOT TO REQUIRE THE CONTRACTOR TO COMPLY WITH THESE INSURANCE REQUIREMENTS AND/OR TO SEEK DAMAGES BECAUSE OF THE CONTRACTOR'S FAILURE TO COMPLY WITH THE INSURANCE REQUIREMENTS IN THIS CONTRACT.

18. Audits. Contractor agrees that the WisDOT, the OCIP administrator, and/or any OCIP insurer may audit Contractor's or any of its Subcontractor's Project payroll records, books and records, insurance coverage's, insurance cost information, or any other information that Contractor provides to the WisDOT, the OCIP administrator, or the OCIP insurers to confirm their accuracy and to assure that costs of OCIP coverage's are not included in any payment for the work.

19. The WisDOT's Election to Modify or Discontinue OCIP. The WisDOT may, for any reason, modify the OCIP coverage's, discontinue the OCIP, or request that Contractor or any of its Subcontractors withdraw from the OCIP upon thirty (30) days written notice. Upon such notice Contractor and/or one or more of its Subcontractors, as specified by the WisDOT in such notice, shall obtain and thereafter maintain at the WisDOT's expense, Contractor Maintained Coverages (or a portion thereof as specified by the WisDOT) of the OCIP coverage's. The form, content, limits of liability, cost, and the insurer issuing such replacement insurance shall be subject to the WisDOT's approval.

20. Withhold of Payments. The WisDOT may withhold from any payment owing to Contractor the costs of OCIP coverage's if included in a request for payment. In the event the WisDOT audit of Contractor's records and information as permitted in the Contract, this special provision, or other contract documents reveals a discrepancy in the insurance, payroll, safety, or any other information required by the contract documents to be provided by Contractor to the WisDOT, or to the OCIP administrator, or reveals the inclusion of costs of OCIP coverage's in any payment for the work, the WisDOT will have the right to full deduction from the Contract Price of all such costs of OCIP coverage's and all audit costs. Audit costs will include but not be limited to the fees of the OCIP administrator, and the fees of attorneys and accountants conducting the audit and review. If the Contractor or its Subcontractors fail to timely comply with the provisions of this special provision or the requirements of the Insurance Manual, the WisDOT may withhold any payments due Contractor and its Subcontractors until such time as they have performed the requirements of this special provision. Such withholding by the WisDOT will not be deemed to be a default hereunder.

21. Waiver of Claim and Waiver of Subrogation:

Where permitted by law, Contractor hereby waives all rights of recovery under subrogation because of deductible clauses, inadequacy of limits of any insurance policy, limitations or exclusions of coverage, or any other reason against the WisDOT, the State of Wisconsin and any of its Agencies or Officer's, Agents or employees including without limitation, the OCIP administrator, its or their officers, agents, shareholders or employees of each, if any, and any other Contractor or Subcontractor performing work or rendering services on behalf of the WisDOT in connection with the planning, development and construction of the Project, and Contractor shall require that all Contractor maintained insurance coverage related to the work include clauses providing that each insurer shall waive all of its rights of recovery by subrogation for claims described above.

22. Waiver of Subrogation. Where permitted by law, Contractor shall also require that all Contractor maintained insurance coverage related to the work include clauses providing that each insurer shall waive all of its rights of recovery by subrogation against the WisDOT, the State of Wisconsin and any of its Agencies or Officer's, Agents or employees including without limitation, the OCIP administrator, its or their officers, agents, shareholders or employees of each, if any. Contractor shall require similar written

express waivers and insurance clauses from each of its Subcontractors. A waiver of subrogation shall be effective as to any individual or entity even if such individual or entity (a) would otherwise have a duty of indemnification, contractual or otherwise, (b) did not pay the insurance premium directly or indirectly, and (c) whether or not such individual or entity has an insurable interest in the property damaged.

23. Conflicts. In the event of a conflict, the provisions of this special provision shall govern, then the provisions of the contract and its other related contact documents, then the provisions of the Insurance Manual.

24. Safety. Contractor shall be solely responsible for safety on the Project and safety relating to the Work. Contractor shall establish a safety program that, at a minimum, complies with all local, state and federal safety standards, and any safety standards established by the WisDOT for the Project, including the Project Safety and Health Plan Manual.

18. Contractor Document Submittals.

A Description
This special provision describes minimum requirements for submitting project documents to the department. This special provision does not apply to shop drawing submittals.

B Contractor Submittals
Provide two paper originals and one electronic copy of all documents requiring department review, acceptance, or approval. Attach a completed engineer-provided transmittal sheet to each paper original and email submittal. The department will reject submittals with incomplete transmittal sheets and require re-submittal.

The department will return one reviewed, accepted, or approved paper original to the contractor. Additional return originals can be requested. Submit an additional original for each additional return original requested.

Submit electronic copies in Adobe Acrobat (.pdf) format via email to an account the engineer determines. If possible, translate original documents from their native format (e.g. Word, Excel, AutoCAD, etc.) using an Adobe Acrobat translation routine. Scan other documents to Adobe Acrobat format with a minimum resolution of 600 dpi.

All costs for contractor document submittals are incidental to the contract.

19. Field Facilities.

Replace standard spec 642 with the following:

The department has procured its own Field Facilities located at 2424 S. 102nd Street; West Allis, WI 53227.

20. Payment Tracking.

A Reporting Payments During Construction
Comply with reporting requirements specified in the department's civil rights and labor compliance management system manual.

Report payments to all first tier relationships including subcontractors, suppliers, and trucking 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 subcontractors, suppliers, and trucking firms. Report the payment as specified in A(1) for all work satisfactorily performed and for all materials furnished or stockpiled.

Require all first tier relationships including subcontractors, suppliers, and trucking firms in receipt of a progress payment by contractor to acknowledge receipt of payment as specified in A(1) and (2).

Include the provisions in A(1) and (3) in all agreements. Agreements will be binding on all first tier relationships including subcontractors, suppliers, and trucking firms on the project.

B (Vacant)

C (Vacant)

D (Vacant)

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

21. Traffic Control.

Supplement standard spec 643.3.1 with the following:

W. North Avenue
All intersections must remain open at all times during construction. All pavement markings shall be completed utilizing moving operations during off peak hours.

W. Watertown Plank Road and N. Harwood Avenue
All pavement markings shall be completed utilizing moving operations during off peak hours.

W. Wisconsin Avenue
All pavement markings shall be completed utilizing moving operations during off peak hours.

W. Bluemound Avenue
All pavement markings shall be completed utilizing moving operations during off peak hours.

W. O'Connor Street
All pavement markings shall be completed utilizing moving operations during off peak hours.

W. Cleveland Avenue
Stage 1
Place portable changeable message sign(s) three working days prior to the start of work for W. Cleveland Avenue. Only take the westbound inside lane portion of W. Cleveland Avenue between STH 100 and approximately 330' east of W. National Avenue when the eastbound portion has been completely closed to traffic.

Both northbound and southbound directions of the intersection of W. Cleveland Avenue and W. National Avenue shall remain open at all times during construction.

Stage 2
Place portable changeable message sign(s) three working days prior to the start of work for W. Cleveland Avenue. Only take the eastbound inside lane portion of W. Cleveland Avenue between STH 100 and approximately 330' east of W. National Avenue when the westbound portion has been completely closed to traffic.

Both northbound and southbound directions of the intersection of W. Cleveland Avenue and W. National Avenue shall remain open at all times during construction.

STH 100
All pavement markings shall be completed utilizing moving operations during off peak hours.

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

Do not proceed with an operation until all traffic control devices for such work are in the proper location, as approved by the engineer.

Provide the City of Milwaukee, City of West Allis, and City of Wauwatosa Police Departments and the engineer a current telephone number with which the contractor or his representative can be contacted during non-working hours in the event a safety hazard develops.

Do not park or store equipment, vehicles or construction materials within the clear zone as designated in the plans on any roadway carrying traffic during non-working hours except at locations and periods of time approved by the engineer.

All construction vehicles shall yield to all through traffic to all locations.

All construction vehicles and equipment operating on or near roadways open or closed to traffic, shall be equipped with at least one flashing amber light. The flashing amber light shall be activiated when vehicles or equipment are operated on the roadway, parked in close proximity to the roadway, and when entering or exiting live lanes of traffic. The flashing amber light shall be mounted approximately midway between the transverse extremities of the vehicles or machinery and at the highest practical point that provides visibility from all directions. The light shall be of the flashing strobe or revolving type meeting the following minimum requirements:

Flashing Strobe Type Light	**Revolving Type Light**
360-degree lens	360-degree lens
60 to 90 flashes per minute	45 to 90 flashes per minute
5-inch minimum height	4-5/8 inch minimum height
3-3/4 inch minimum diameter	3-3/4 inch minimum diameter

The light shall be equipped with bulbs of 50 candlepower minimum. Mounting shall be either magnetic or permanent. No compensation for furnishing and installing the flashing amber light to contractor owned construction equipment or vehicles will be provided for in the contract.

Locations of egress or ingress for construction vehicles other than as shown in the plans to prosecute the work shall be subject to approval from the engineer.

Employ such flag persons, signs, barricades, and drums as necessary to safeguard and direct traffic, including pedestrian traffic, at all locations where construction operations may interfere with or restrict the smooth flow of traffic. Supplying and performing flagging and guidance services will not be paid for separately, but will be considered incidental to other items in the contract.

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

Replace standard spec 643.3.1(6) with the following:

Provide 24-hour a day availability of equipment, forces and materials to promptly restore barricades, lights, or other traffic control devices that are damaged or disturbed. Restore any barricade, lights, or other traffic control so that the device is not out of service for more than two hours.

22. Project Site Air Quality.

Because fine particulate matter levels for Milwaukee, Racine and Kenosha Counties are typically close to $PM_{2.5}$ limits and the project is in a non-attainment area for the federal 8-hour ozone standard, contributions from construction activities can have a major impact

well beyond the project limits. Take practical measures to mitigate the impact of operating construction equipment on the air quality in and around the project site.

The department encourages the contractor to voluntarily establish staging zones for trucks waiting to load and unload. Locate staging zones where idling of diesel powered equipment will have minimal impact on abutting properties and the general public. The department will make signs available to the contractor to help identify these zones. Have truckers queue up in these zones whenever it is practical. The department further encourages drivers to shut down diesel trucks as soon as it appears likely that they will be queued up for more than ten minutes. Notify employees and sub-contractors about fueling and engine idling.

Portable Concrete Crusher Plants

Portable concrete crusher plants may need a NR 440 Concrete Crusher Plant Air Permit for air emissions. Please contact Mike Griffin, Wisconsin Department of Natural Resources, Air Compliance Engineer (414) 263-8554 to request additional information and permit application materials. Complete permit applications may take 3 months to process.

23. Erosion Control.

Supplement standard spec 107.20 with the following:

Provide the Erosion Control Implementation Plan (ECIP) 14 days prior to the pre-construction conference. 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.

Topsoil graded areas, as designated by the engineer, immediately after grading has been completed within those areas. Seed and mulch, or sod, and fertilize all topsoiled areas within 10 days after placement of topsoil.

Furnish and apply water to sodded areas. After staking and cleanup, moisten the sod thoroughly by sprinkling with water. Keep all sodded areas thoroughly moist by watering or sprinkling if rainfall is not sufficient to achieve sod rooting to the earth bed. Water for 30 days after placement, or as the engineer directs. Apply water in a manner to preclude washing or erosion.

Do not pump water from the construction site to a storm water conveyance without the water first passing through a sediment trap.

Construct temporary sediment traps at locations that do not interfere with construction operations.

Replace standard spec 107.20(3) with the following:

Prepare and submit an Erosion Control Implementation Plan (ECIP) for the project, including borrow sites and material disposal sites, in accordance to Chapter TRANS 401 requirements. The ECIP shall supplement information shown on the plans and shall not reproduce it. The erosion control implementation plan shall identify how the contractor intends to implement the project's erosion control plan. The erosion control plan shall include details for the methods of debris containment devices required, particularly during the removal of the old bridges and construction of the new structures.

24. Dust Control Implementation Plan.

A Description

Develop, update, and implement a detailed Dust Control Implementation Plan (DCIP) for all land-disturbing construction activities and associated impacts both within the project site boundaries and outside the project site boundaries. Incorporate contract bid items that this article specifies into the DCIP.

B (Vacant)

C Construction

C.1 General

Take responsibility for dust control on the project as specified in standard spec 107.18. Minimize dust emissions resulting from land disturbing activities. Do not generate excessive air borne particulate matter (PM) or nuisance dust conditions. Take direct responsibility for controlling dust at all times throughout the duration of the contract, 24 hours per day, 7 days per week, including non-working hours, weekends, and holidays.

Submit a DCIP to the engineer for review at least 14 calendar days before the preconstruction conference. Coordinate with the department, if requested, to resolve DCIP related issues before the preconstruction conference. The department will either approve the DCIP or request revisions. Do not initiate any land-disturbing activities without the department's approval of the DCIP.

C.2 Dust Control Implementation Plan Contents

Develop a DCIP tailored to the specific needs of the project. Consider potential impacts to businesses and residences adjacent to the job site. Describe in detail all land disturbing, dust generating activities. Identify strategies to prevent, mitigate, and collect excess dust. Establish clear lines of communication with the engineer to ensure that all dust control issues can be dealt with promptly.

The DCIP shall include, but not be limited to, all of the following:

1. A single contact person with overall responsibility for the DCIP development as well as surveillance and remediation of job related dust. Include the following:
    - Name, firm, address, and working-hours phone number.
    - Non-working-hours phone number.
    - Email address.
2. Individual contact persons and their respective areas of responsibility. Include the following:
    - Name, firm, address, and working-hours phone number.
    - Non-working-hours phone number.
    - Email address.
3. A site map locating project features, the job site boundaries, all ingress and egress points, air intakes and other dust-sensitive areas, and all public and private paved surfaces within and immediately adjacent to the job site. Show where specific land disturbing, dust generating activities will occur and, to the extent possible, where employing various dust control or prevention strategies.

4. A matrix showing, for each anticipated land disturbing, dust generating activity, the following:
    - Preventive measures that shall be employed.
    - The applicable contact person.
    - The contractor's timetable and/or surveillance measures used to determine when remediation is required.
    - The specific dust control and remediation measures that shall be employed. List the specific contract bid items that shall be used for payment. Also indicate costs that are incidental to the contract.
    - Both maintenance and cleanup schedules and procedures.
    - How excess and waste materials shall be disposed of.
5. A description of how off-site impacts shall be monitored and dealt with.

C.3 Updating the Dust Control Implementation Plan

Update the DCIP throughout the term of the contract as the engineer directs. Obtain the engineer's approval for all DCIP alterations. Also obtain the engineer's approval for DCIP routine adjustments for weather, job conditions, or emergencies that will have an impact on payment under the bid items listed in the approved DCIP.

C.4 Dust Control Deficiencies

Correct engineer identified dust control deficiencies within the time the engineer specifies. The engineer will allow from 30 minutes to 24 hours from the time the engineer notifies the contractor in writing of the deficiency. Deficiencies include, but are not limited to, actions or lack of actions resulting in excessive dust, failing to comply with the contractor's dust control implementation plan or associated special provisions, and failing to properly maintain equipment.

D Measurement

The department will measure the various bid items associated with dust control as specified in the applicable measurement subsections of either the standard specifications or other contract special provisions. The department will not measure work performed under a DCIP alteration unless the engineer specifically approves that alteration.

Measurement under the DCIP shall include, but is not limited to, the contract bid items listed below:

SPV.0105.0001 Pavement Cleanup

The department will measure work completed under other existing contract bid items if approved as a part of the DCIP. The department will consider new bid items to the contract if proposed under the DCIP. The department will not measure work required under the DCIP that is not included in contract bid items.

E Payment

All costs associated with the development and updating of the DCIP are incidental to the contract. The department will pay separately for the work required to implement the actions approved in the DCIP under the contract bid items approved as a part of the DCIP. All other costs associated with work approved under the DCIP are incidental to the contract.

25. 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.

26. Pay Plan Quantity.

A Bid Items Designated as Pay Plan Quantity

Replace standard spec 109.1.1.2 with the following:

If the schedule of items designates a bid item with a **P** in the title, the department will not measure that bid item. The department will use the plan quantity, the approximate quantity shown on the schedule of items, for payment unless a contract revision affects a designated bid item.

If the engineer revises the contract under standard spec 104.2, the department will adjust the quantity of designated items that are affected by the revised work. The engineer will adjust the affected quantity, with a contract modification as defined in standard spec 101.3, regardless of the magnitude of the revised work, which may result in either an increase or a decrease from the quantity shown on the schedule of items. The department will measure revised work as specified in standard spec 109.1.1.1. If the engineer revises the contract to eliminate a designated item, the engineer will not pay for the designated item, except as specified in standard spec 109.5.

The approximate quantity shown on the schedule of items for a designated item is for information only and only an estimate. The engineer makes no guarantee that the quantity, which can be determined by computations based on contract information, will equal the approximate quantity shown on the schedule of items. The engineer will not make a quantity adjustment for discrepancies.

27. Public Information Meetings.

Participate in department-sponsored public information meetings as the engineer requests. Ensure that representatives of subcontractors also participate in those meetings if the engineer requests.

28. 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)

29. 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)

30. Intelligent Transportation Systems (ITS) – Control of Materials.

Standard spec 106.2 – Supply Source and Quality
Supplement standard spec 106.2 with the following:

The department will furnish a portion of equipment to be installed by the contractor. This department-furnished equipment includes the following:

State-furnished Items
72-Count Fiber Optic Cable
Fiber Optic Splice Enclosure

Pick-up small department-furnished equipment, such as communications devices, cameras, and controllers, from the department's Statewide Traffic Operations Center (STOC), 433 W. St. Paul Ave., Milwaukee, WI 53203 at a mutually agreed upon time during normal state office hours. Contact the department's STOC at (414) 227-2166 to coordinate pick-up of equipment.

Large department-furnished equipment, such as camera poles will be delivered by the supplier to a contractor-controlled site within Milwaukee County. Delivery will not necessarily be in a "just in time" manner. Store the equipment until field installation. Provide location details and a contact for delivery coordination upon receiving the contract's Notice to Proceed.

Transportation of the equipment between the electric shop and the field or interim location(s) shall be the responsibility of the contractor.

Standard spec 106.3 – Approval of Materials
Supplement standard spec 106.3 with the following:

Design/Shop Drawings
Prior to the purchase and/or fabrication of any of the components listed herein, and for any non-catalog item shown on the Material and Equipment List specified above, and no more than 30 days after notice to proceed, submit five copies of design drawings and shop drawings, as required, to the department for review. The items and the drawings that represent them shall meet the requirements of the standard specifications.

Design drawing submissions shall consist of signed and certified designs, design drawings, calculations, and material specifications for required items.

Shop drawings will be required for, but not limited to the following:

- Mounting assemblies for the vehicle speed and classification sensors, including their attachment to the structure.
- Mounting LED warning signs to the sign structure.
- Mounting detail for dynamic message signs.
- Any contractor-designed structure or foundation.

The department will complete its review of the material within 30 days from the date of receipt of the submission, unless otherwise specified. The department will advise the contractor, in writing, as to the acceptability of the material submitted. The department may determine that if no exceptions were taken for the item, it is approved, and no further action is required by the contractor; or the item may be partially or totally rejected, in which case modify and/or amend the submittal as required by the department and resubmit the item within 14 days. At this time, the review and approval cycle described above will begin again.
670-005 (20100709)

31. Intelligent Transportation Systems – General Requirements.

A Description

A.1 General

This contract includes furnishing and installing elements for an Intelligent Transportation System (ITS) in or along the existing roadway as shown on the plans.

Unusual aspects of this project include:

- The project includes working on cables and equipment that are carrying data between roadside equipment and the department's Statewide Traffic Operations Center (STOC). Interruption of this service is not expected to perform this work. If an interruption is determined necessary, it must be done on a weekend, and must be done in a way that minimizes communication outages for the existing equipment. Notify the department's STOC at least 48 hours in advance of the planned interruption.
- The department will furnish some of the equipment to be installed. Make a reasonable effort to discover defects in that equipment prior to installing it.

A.2 Surge Protection

Equip every ungrounded conductor wire entering or leaving any equipment cabinet with a surge protector. For purposes of this section, multiple cabinets on a single pole or foundation are considered a single cabinet.

B Materials

B.1 General

Only furnish equipment and component parts for this work that are new and have high quality workmanship. All controls, indicators, and connectors shall be clearly and permanently labeled in a manner approved by the engineer. All equipment of each type shall be identical.

All electrical equipment shall conform to the standards and requirements of the Wisconsin Electrical Code, the National Electrical Manufacturers Association (NEMA), National Electric Safety Council (NESC), Underwriter's Laboratory Inc. (UL) or the Electronic Industries Association (EIA), when applicable. All materials and workmanship shall conform to the requirements of the National Electrical Code (NEC), Rural Electrification Administration (REA), Standards of the American Society for Testing and Materials (ASTM), American Association of State Highway and Transportation Officials (AASHTO), requirements of the plans these special provisions, the standard specifications, and to any other codes, standards, or ordinances that may apply. All system wiring, conduit, grounding hardware and circuit breakers shall be in conformance with the National Electrical Code. Whenever reference is made to any of the standards mentioned, the reference shall be considered to mean the code, ordinance, or standard that is in effect at the time of the bid advertisement.

B.2 Outdoor Equipment

All conductive connectors, pins (except pins connected by soldering), and socket contacts shall be gold plated. Acrylic conformal coating shall protect each circuit board side that has conductive traces. Except for integrated circuits containing custom firmware, all components shall be soldered to the printed circuit board.

To prevent galvanic corrosion, all connections between dissimilar metals shall incorporate a means of keeping moisture out of the connection. Where the connection need not conduct electricity, interpose a non-absorbing, inert material or washer between the dissimilar metals. Use nonconductive liners and washers to insulate fasteners from dissimilar metals. Where the connection must conduct electricity, use a conductive sealant between the dissimilar metals. Alternatively, use an insulating gasket and a bond wire connecting the two metal parts.

B.3 Custom Equipment

Equipment that is not part of the manufacturer's standard product line, or that is made or modified specifically for this project, shall conform to the following requirements:

Where practical, electronics shall be modular plug-in assemblies to facilitate maintenance. Such assemblies shall be keyed to prevent incorrect insertion of modules into sockets.

All components shall be available from multiple manufacturers as part of the manufacturers' standard product lines. All must be clearly labeled with the value, part number, tolerance, or other information sufficient to enable a technician to order an exact replacement part.

Lamps used for indicator purposes shall be light-emitting diodes.

The printed circuit boards shall be composed of "two-ounce" copper on 1/16-inch thick fiberglass epoxy or equivalent type construction. Holes that carry electrical connections from one side of the boards to the other shall be completely plated through. Multilayer printed circuit boards shall not be used. The name or reference number used for the board in the drawings and maintenance manuals supplied to the department shall be permanently affixed to each board.

All components shall be mounted so that the identifying markings are visible without moving or removing any part, if practical.

B.3 Environmental Conditions

Equipment shall continue to operate as specified under the following ranges of environmental conditions, except as noted in the specifications for individual pieces of equipment.

1. **Vibration and Shock:** Vehicle speed and classification sensors and any other equipment mounted atop poles or on structures shall not be impaired by the continuous vibration caused by winds (up to 90 mph with a 30 percent gust factor) and traffic.
2. **Duty Cycle:** Continuous
3. **Electromagnetic Radiation:** The equipment shall not be impaired by ambient electrical or magnetic fields, such as those caused by power lines, transformers, and motors. The equipment shall not radiate signals that adversely affect other equipment.
4. **Electrical Power:**
    a. **Operating power:** The equipment shall operate on 120-volts, 60-Hz, single-phase unless otherwise specified. It shall conform to its specified performance requirements when the input voltage varies from 89 to 135 volts and the frequency varies +3 Hz.
    b. **High frequency interference:** The equipment operation shall be unaffected by power supply voltage spikes of up to 150 volts in amplitude and 10 microseconds duration.
    c. **Line voltage transients:** The equipment operation shall be unaffected by voltage transients of plus or minus 20 percent of nominal line voltage for a maximum duration of 50 milliseconds. Equipment in the field shall meet the power service transient requirements of NEMA Standard TS-2 when connected to the surge protectors in the cabinets.

5. **Temperature and Humidity:**
    a. **Field equipment:** Equipment in the field shall meet the temperature and humidity requirements of NEMA Standard TS-2. Liquid crystal displays shall be undamaged by temperatures as high as 165 degrees F, and shall produce a usable display at temperatures up to 120 degrees F.
    b. **Equipment in Controlled Environments** shall operate normally at any combination of temperatures between 50 degrees F and 100 degrees F, and humidity's between 5 percent and 90 percent, non-condensing, and with a temperature gradient of 9 degrees F per hour.

B.4 Patch Cables and Wiring

All cables and wiring between devices installed in a single cabinet, or in separate cabinets sharing a single concrete base, will be considered incidental to the installation of the devices and no separate payment will be made for them. It is anticipated that this will include fiber optic patch cables between termination panels and Ethernet switches, 10 / 100 MBPS Ethernet cables, RS-232 cables between individual devices and terminal servers, and power cables between individual devices and power sources within the cabinets.

B.5 Surge Protection

Low-voltage signal pairs, including twisted pair communication cable(s) entering each cabinet shall be protected by two-stage, plug-in surge protectors and shall be installed on both ends of camera control cables. The protectors shall meet or exceed the following minimum requirements:

- The protectors shall suppress a peak surge current of up to 10k amps.
- The protectors shall have a response time less than one nanosecond.
- The protector shall clamp the voltage between the two wires at a voltage that is no more than twice the peak signal voltage, and clamp the voltage between each wire and ground at 50 volts.
- The first stage of protection shall be a three-element gas discharge tube, and the second stage shall consist of silicon clamping devices.
- The protector shall also contain a resettable fuse (PTC) to protect against excessive current.
- There shall be no more than two pairs per protector.
- It shall be possible to replace the protector without using tools.

Cables carrying power to curve signs shall be protected at the cabinet by grounded metal oxide varistors of appropriate voltages. The varistors must be at least 0.8 inch in diameter.

C Construction

C.1 Thread Protection

Provide rust, corrosion, and anti-seize protection at all thread assemblies of metallic parts by coating (non-spray) the mating surfaces with an approved compound. Failure to use an approved compound will result in no payment for the items to which coating was to have been applied.

C.2 Cable Installation

When installing new cables into conduits containing existing cables, remove the existing cables and reinstall the existing cables simultaneously with the new cables. Take every precaution necessary to protect the existing cables. In the event of avoidable damage to the existing cables, replace all damaged cables, in-kind, at no additional expense to the department. When cables are pulled into conduit, use a cable pulling lubricant approved by the cable manufacturer. Submit documentation supporting manufacturer approval of the lubricant to the engineer.

C.3 Wiring

Every conductor, except a conductor contained entirely within a single piece of equipment, must terminate either in a connector or on a terminal block. Provide and install the connectors and terminal blocks where needed, without separate payment. Use approved splice kits instead of connectors and terminal blocks for underground power cable splices.

Permanently label and key connectors to preclude improper connection. Obtain prior engineer approval for the labeling method(s) prior to use.

Terminal blocks must be affixed to panels that permanently identify the block and what wire connects to each terminal. This may be accomplished by silk screening or by installing a laminated printed card under the terminal block, with the labels on portions of the card that extend beyond the block. Installation of terminal blocks by drilling holes in the exterior wall of the cabinet is not acceptable.

Use barriers to protect personnel from accidental contact with all dangerous voltages.

Do not install conductors carrying AC power in the same wiring harness as conductors carrying control or communication signals.

Arrange wiring, including fiber optic pigtails, so that any removable assembly can be removed without disturbing wiring that is not associated with the assembly being removed.

Communication and control cables may not be spliced underground, except where indicated on the plans.

Cables in the Statewide Traffic Operations Center or in communication hubs, which are not contained within a single cabinet, shall have at least 10 feet of slack.

C.4 System Operations

If the contractor’s operations unexpectedly interrupt Intelligent Transportation Systems (ITS) service, notify the engineer immediately and restore service within 24 hours. Repair all damaged facilities to the condition existing before the interruption. If service is not

restored within 24 hours, the department may restore service to any operating device and deduct restoration costs from payments due the contractor.

C.5 Surge Protection
Arrange the equipment and cabinet wiring to minimize the distance between each conductor's point of entry and its protector. Locate the protector as far as possible from electronic equipment. Ensure that all wiring between the surge protectors and the point of entry is free from sharp bends.

D Measurement
No separate measurement will be made for the work described in this article.

E Payment
No separate payment will be made for the work described in this article. All work described in this article shall be included under the ITS items in the contract.

32. Intelligent Transportation System – Communication Vault.

Modify standard spec 673.2 Materials as follows:

(3) Furnish a vault lid with a minimum design load of 15,000 pounds and that has permanent stamp that reads WISDOT COMMUNICATIONS or as the plans show. The vault lid will have 2 slots measuring ½ inch by 4 inches to use as a pull out. The vault lid will also be detectable through the inclusion of detectable metal incorporated into the lid.

33. Notice to Contractor – Traffic Signal Equipment Lead Time.

Lead time for traffic signal equipment specified for this project has been ranging from 12-weeks to 18-weeks. Order equipment as soon as possible to assure the equipment is procured in a timely fashion and, therefore, installed, inspected, and ready for turn-on at the required date.

34. Traffic Signals - General.

All work shall be in accordance to the plans and the State of Wisconsin Department of Transportation Standard Specifications for Highway and Structure Construction, 2013 Edition, and these special provisions.

State Owned Traffic Signals
The existing temporary traffic signals at the intersections of IH 894/USH 45 eastbound Ramps and W. National Avenue and IH 894/USH 45 westbound Ramps and W. National Avenue are owned and operated by the contractor for I.D. 1060-33-92. The proposed traffic signal will be owned and operated by the department. The contractor for I.D. 1060-33-92 will maintain the temporary traffic signals until the permanent traffic signal is activated. The state will assume ownership of the permanent traffic signal upon acceptance of the work.

Work under this item shall consist of furnishing and installing all materials, except for the traffic signal cabinet, video detection system, and emergency vehicle preemption system for the department owned traffic signals. Install the traffic signal cabinet, video detection system, and emergency vehicle preemption system furnished by the department.

City of Milwaukee/State Owned Traffic Signals
The existing traffic signals at the intersections of USH 18 and N. 97th Street, USH 18 and N. 95th Street, and USH 18 and N. 92nd Street are owned and operated by the City of Milwaukee. The proposed traffic signal will be owned and operated by the department. The City of Milwaukee will maintain the existing traffic signals until the permanent traffic signals are activated. The state will assume ownership of the permanent traffic signal upon acceptance of the work.

Work under this item shall consist of furnishing and installing all materials, except for the traffic signal cabinet, video detection system, and emergency vehicle preemption system for the City of Milwaukee/department owned traffic signals. Install the traffic signal cabinet, video detection system, and emergency vehicle preemption system furnished by the department.

City of Wauwatosa Owned Traffic Signals
The existing traffic signals at the intersections of W. North Avenue and N. 116th Street, W. North Avenue and N. Menomonee River Parkway, W. North Avenue and N. 92nd Street, and STH 181 and Harwood Avenue are owned and operated by the City of Wauwatosa. Obtain the necessary electrical permits from the City of Wauwatosa Building Department prior to beginning the work. Pay any fines, penalties, damage done to property, etc., billed by the City of Wauwatosa. The installation includes the construction of underground and above ground equipment. Request any necessary electrical service relocations from the power company. Stake the proposed locations of traffic signal items and notify the City of Wauwatosa Public Works Department at (414) 471-8422 at least ten days prior to starting work so that the locations of the proposed facilities can be approved by the City of Wauwatosa. Any field changes regarding the location of the signal poles, pull boxes, etc. shall be approved by the City of Wauwatosa.

City of West Allis Owned Traffic Signals
The existing traffic signals at the intersections of W. Cleveland Avenue and W. National Avenue, W. National Avenue and S. 76th Street, and W. National Avenue and S. 70th Street are owned and operated by the City of West Allis. Obtain the necessary electrical permits from the City of West Allis prior to beginning the work. Pay any fines, penalties, damage done to property, etc., billed by the City of West Allis. The installation includes the construction of underground and above ground equipment. Request any necessary electrical service relocations from the power company. Stake the proposed locations of traffic signal items and notify the City of West Allis Public Works Department at (414) 302-8808 at least ten days prior to starting work so that the locations of the proposed facilities can be approved by the City of West Allis. Any field changes

regarding the location of the signal poles, pull boxes, etc. shall be approved by the City of West Allis.

35. Addition to Existing Emergency Vehicle Preemption (EVP) Systems.

Furnish EVP equipment for the City of Brookfield at the intersection of CTH M (North Avenue) and Calhoun Road where an existing EVP system is currently in place. The City of Brookfield will install the equipment under a separate project.

Verify that the equipment specified for this intersection is compatible with the existing EVP equipment. Advise the engineer prior to furnishing the equipment to the City of Brookfield if there in an inconsistency between the existing equipment and equipment specified.

36. General Requirements for Electrical Work.

Append standard spec 651.3.3 (3) with the following:

Notify the department's Electrical Field Unit at (414) 266-1170 to coordinate the inspection for state owned traffic signals. The department's Region Electrical personnel will perform the inspection for the state owned and maintained traffic signals.

Notify the City of Wauwatosa Public Works Department at (414) 471-8422 to coordinate the inspection for City of Wauwatosa owned traffic signals. The City of Wauwatosa will perform the inspection for the City of Wauwatosa owned and maintained traffic signals.

Notify the City of West Allis Public Works Department at (414) 302-8808 to coordinate the inspection for City of West Allis owned traffic signals. The City of West Allis will perform the inspection for the City of West Allis owned and maintained traffic signals.

37. Traffic Signal Faces.

Append standard spec 658.2.2.2 with the following:

Furnish black housings for the following intersections: W. North Avenue and Menomonee River Parkway, W. North Avenue and N. 92nd Street (N. Swan Boulevard), W. National Avenue and W. Cleveland Avenue, and W. National Avenue and S. 70th Street.

Append standard spec 658.3.2 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.

38. Pedestrian Signal Face 16-Inch.

Append standard spec 658.2.3.2(1) with the following:

Furnish 16 inch LED ready pedestrian signal housing, drilled for top/bottom pipe mount with the ability to rotate 270 degrees on poly mounting bracket.

Furnish black housings for the following intersections: W. North Avenue and Menomonee River Parkway, STH 181 (N. Glenview Avenue) and Harwood Avenue), W. National Avenue and W. Cleveland Avenue, W. National Avenue and S. 76th Street, and W. National Avenue and S. 70th Street.

Append standard spec 658.3.4 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.

39. Pedestrian Push Buttons.

Append standard spec 658.2.5 with the following:

Furnish vandal resistant, pressure activated, pedestrian push buttons, with die cast body type, in unfinished aluminum or yellow. Button constructed shall be constructed of stainless steel, with a Piezo driven solid state switch, momentary LED display and beeper that sounds simultaneously with button push.

Furnish low profile, unfinished cast aluminum, vandal resistant, and flush mounting pole mount.

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.

40. Temporary Traffic Signals for Intersections.

Append standard spec 661.2.1 with the following:

(1) 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. Provide primary and secondary temporary traffic signal contact names and phone numbers who will be responsible for implementing temporary traffic signal timing changes. The department may request traffic signal timing changes to an approved incident timing plan during the project. Implement any approved incident timing plan immediately upon notification of the change and immediately upon notification of

switching the timing plan back to normal operation. Record the times of operation of the incident timing and subsequent return to normal operation and provide this information to the department.

(5) Furnish a video image detector system consisting of video image detector cameras, mounting brackets and hardware, power cable, video image processor card, and auxiliary equipment to make the video detector system fully operational.

Append standard spec 661.3.1 with the following:

(4) Install temporary video detection cameras at the locations shown on the plans and according to the manufacturer's recommendations at a minimum 30-foot mounting height. Install power cable and signal cabinet equipment. Aim the video cameras to provide detection at the location shown on the plans and make the video detector system fully operational.

(5) In the event, at installation or turn on date, a noticeable obstruction is present in line with the video detection zone(s), advise the engineer before setting the zone.

(6) The video camera shall be mounted on a wooden pole. Relocate the video camera to a suitable location if there is impedance on the sensor operation, construction related or otherwise.

(7) 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 and sub-stage of construction.

Append standard spec 661.3.1.1 with the following:

(2) Place the pole in the ground to no less than 1/5 of the pole's length as the plans show. Sawcut existing pavement and concrete curb and gutter as needed to install the wood poles and guy wire anchors. Sawcut existing pavement in accordance to the pertinent provisions in standard spec 690.3, Construction. Remove pavement and concrete curb and gutter as shown on the plans and if needed to install the wood poles and guy wire anchors. Remove only as much pavement as needed to install the wood poles. Remove pavement and curb and gutter in accordance to the pertinent provisions in standard spec 204.3, Construction. Hold any wood poles in place and/or move wood poles during construction due to conflicts with proposed work.

Append standard spec 661.3.1.4 with the following:

(1) Arrange for every other week 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 1-hour 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 every other week inspection, the heights above the roadway, the roadway clearance after adjustments have been made and acceptance by the engineer. Provide all documentation related to the every other week span wire height checks as well as all records related to maintenance performed on the temporary traffic signal installations to the engineer.

(4) Maintain all temporary vehicle detection zones as the plans show or as the engineer directs. The temporary vehicle detection zones shall be set near the vicinity and within the approximate distance from the stop bar as shown on the plans. Check temporary vehicle detection zones every other week and at the opening of each stage of temporary traffic signal operation to ensure that they are working and are aimed properly. Periodic adjustment of the detection zones and/or moving of the temporary vehicle detection sensors may be required due to changes in traffic control, staging, or other construction operations.

Ensure that the temporary vehicular detection system stays in clean working order. Periodic cleaning of the equipment may be required due to dirt and dust build-up.

Append standard spec 661.3.2.6 with the following:

(6) Remove the video detection system from the temporary traffic signal poles and cabinet.

Append standard spec 661.5 with the following:

(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.

Payment is full compensation for drilling holes; furnishing and installing all materials, including bricks, and coarse aggregate; for excavation, bedding, and backfilling, including any sand or other required materials; furnishing and placing topsoil, fertilizer, seed, and mulch in disturbed areas; for properly disposing of surplus materials; for making inspections; for checking and/or adjusting the temporary detection zones on an every other week basis; for maintaining and changing the temporary detection zones to match the plans, traffic control, and construction staging; for relocating the temporary detection sensors due to construction activities, if required; for periodically cleaning all temporary vehicle detector equipment; for removing the temporary vehicle detector system; for cleaning up and properly disposing of waste; and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

41. 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)

42. Install Conduit Into Existing Item, Item 652.0700.S.

A Description
This special provision describes installing proposed conduit into an existing manhole, pull box, junction box, communication vault, or other structure.

B Materials
Use nonmetallic conduit, as provided and paid for under other items in this contract. Furnish backfill material, topsoil, fertilizer, seed, and mulch conforming to the requirements of pertinent provisions of the standard specifications.

C Construction
Expose the outside of the existing structure without disturbing existing conduits or cabling. Drill the appropriate sized hole for the entering conduit(s) at a location within the structure without disturbing the existing cabling and without hindering the installation of new cabling within the installed conduit. Fill void area between the drilled hole and conduit with an engineer-approved filling material to protect against conduit movement and entry of fill material into the structure. Tamp backfill into place.

D Measurement

The department will measure Install Conduit Into Existing System by the unit, acceptably installed. Up to five conduits entering a structure per entry point into the existing structure will be considered a single unit. Conduits in excess of five, or conduits entering at significantly different entry points into the existing pull box, manhole, or junction box will constitute multiple units of payment.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
652.0700.S	Install Conduit Into Existing Item	Each

Payment is full compensation for excavating, drilling holes; furnishing and installing all materials, including bricks, coarse aggregate, sand, bedding, and backfill; for excavating and backfilling; and for furnishing and placing topsoil, fertilizer, seed, and mulch in disturbed areas; for properly disposing of surplus materials; and for making inspections.
652-070 (20100709)

43. Electrical Service Meter Breaker Pedestal IH 894/USH 45 eastbound Ramps and W. National Avenue, Item 656.0200.3001; IH 894/USH 45 westbound Ramps and W. National Avenue, Item 656.0200.3002; USH 18 and N. 97th Street, Item 656.0200.3003; USH 18 and N. 95th Street, Item 656.0200.3004; USH 18 and N. 92nd Street, Item 656.0200.3005; W. North Avenue and N. 116th Street, Item 656.0200.3101; W. National Avenue and W. Cleveland Avenue, Item 656.0200.3102.

Append standard spec 656.2.3 with the following:

City of Milwaukee/State Owned Traffic Signals (IH 894/USH 45 Eastbound Ramps and W. National Avenue, Item 656.0200.3001; IH 894/USH 45 Westbound Ramps and W. National Avenue, Item 656.0200.3002; USH 18 and N. 97th Street, Item 656.0200.3003; USH 18 and N. 95th Street, Item 656.0200.3004; USH 18 and N. 92nd Street, Item 656.0200.3005)

The department will be responsible for the electric 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.

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

City of Wauwatosa Owned Traffic Signal (W. North Avenue and N. 116th Street, Item 656.0200.3101)

Arrange the electrical service installation in the name of City of Wauwatosa.

Electric utility company service installation and energy cost will be billed to and paid for by the City of Wauwatosa.

City of West Allis Owned Traffic Signal (W. National Avenue and W. Cleveland Avenue, Item 656.0200.3102)

Arrange the electrical service installation in the name of City of West Allis.

Electric utility company service installation and energy cost will be billed to and paid for by the City of West Allis.

Append standard spec 656.3.4 with the following:

Install the cabinet base and meter breaker pedestal first, so the electric 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 electric utility company.

Append standard spec 656.5(3) with the following:

Payment for grading the service trench, replacing topsoil, fertilizer, seed, and mulch will be incidental to this work unless the bid items are in the contract and then they will be paid for at the contract price.

44. Pavement Marking Grooved Preformed Thermoplastic Arrows Type 2, Item SPV.0060.0001; Arrows Type 3, Item SPV.0060.0002; Words, Item SPV.0060.0003; Arrows Type 1, Item SPV.0060.0004; Stop Line 18-Inch, Item SPV.0090.0001; Crosswalk 12-Inch, Item SPV.0090.0002; 4-Inch, Item SPV.0090.0003; 8-Inch, Item SPV.0090.0004; Diagonal 24-Inch, Item SPV.0090.0006; Stop Line 24-Inch, Item SPV.0090.0007; Crosswalk 6-Inch, Item SPV.0090.0008; Stop Line 12-Inch, Item SPV.0090.0009.

A Description

This special provision describes grooving the pavement surface, and furnishing and installing preformed thermoplastic pavement marking as shown on the plans, in accordance to standard spec 647, and as hereinafter provided.

B Materials
Furnish 125 mils preformed thermoplastic pavement marking from the department's approved products list. If required, furnish sealant material recommended by the manufacturer.

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 preformed thermoplastic pavement marking.

Plane the grooved lines in accordance to the plan details. Use grooving equipment with a free-floating, independent cutting or grinding head. Plane a minimum number of passes to create a smooth groove.

C.2 Groove Depth
Cut the groove to a depth of 120 mils ±10 mils deep from the pavement surface or, if tined, from the high point of the tined surface. Measure depth using a straightedge placed perpendicular to the groove. The department may periodically check groove depths.

C.3 Groove Width – Linear Markings
Cut the groove 1-inch wider than the width of the thermoplastic.

C.4 Groove Position
Position the groove edge in accordance to the plan details.

C.4.1 Linear Marking
Groove at a minimum of 4-inches, but not greater than, 12-inches from both ends of the line segment. Achieve straight alignment with the grooving equipment.

C.4.2 Special Marking
Groove at a minimum of 4-inches from the perimeter of the special marking. Groove separate areas for Word Items.

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 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, after removal of excess water, and prior to pavement marking application. Clean and dry the groove for proper application of the sealant, and placement of the pavement marking. Use a high-pressure air blower with at least 185 ft^3/min air flow and 90 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 Asphalt
Use a high-pressure air blower with at least 185 ft^3/min air flow and 90 psi air pressure to clean the groove.

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.

C.6 Preformed Thermoplastic Application
Preheat the surface if necessary based on manufacturer's recommendation.

Apply preformed thermoplastic in the groove as per manufacturer's recommendations. If manufacturer's recommendations require a sealant, apply a sealant lower than 91g/l VOC during the following period of time due to Volatile Organic Compound Limitations:

May 1 to September 30, both dates inclusive – the Southeast Region and the ozone non-attainment Northeast Region counties of Sheboygan, Manitowoc, and Kewaunee.

Use any sealant in the remainder counties and for the remainder of the year. The sealant must be wet.

D Measurement
The department will measure Pavement Marking Grooved Preformed Thermoplastic by each individual unit, acceptably completed, or in length by the linear foot of tape placed in accordance 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
SPV.0060.0001	Pavement Marking Grooved Preformed Thermoplastic Arrows Type 2	Each
SPV.0060.0002	Pavement Marking Grooved Preformed Thermoplastic Arrows Type 3	Each
SPV.0060.0003	Pavement Marking Grooved Preformed Thermoplastic Words	Each
SPV.0060.0004	Pavement Marking Grooved Preformed Thermoplastic Arrows Type 1	Each

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.0001	Pavement Marking Grooved Preformed Thermoplastic Stop Line 18-Inch	LF
SPV.0090.0002	Pavement Marking Grooved Preformed Thermoplastic Crosswalk 12-Inch	LF
SPV.0090.0003	Pavement Marking Grooved Preformed Thermoplastic 4-Inch	LF
SPV.0090.0004	Pavement Marking Grooved Preformed Thermoplastic 8-Inch	LF
SPV.0090.0006	Pavement Marking Grooved Preformed Thermoplastic Diagonal 24-Inch	LF
SPV.0090.0007	Pavement Marking Grooved Preformed Thermoplastic Sop Line 24-Inch	LF
SPV.0090.0008	Pavement Marking Grooved Preformed Thermoplastic Crosswalk 6-Inch	LF
SPV.0090.0009	Pavement Marking Grooved Preformed Thermoplastic Stop Line 12-Inch	LF

Payment is full compensation for cleaning and preparing the pavement surface, furnishing and installing the material; and for furnishing all labor, tools, equipment, and incidentals necessary to complete the contract work.

45. Bollards, Item SPV.0060.3001.

A Description

This special provision describes furnishing and installing bollards as shown on the plans and as hereinafter provided.

B Materials

Furnish galvanized steel pipe, standard weight, meeting ASTM A36. The pipe shall be 6-inch outside diameter by minimum 8-foot length.

Furnish grade A, A-FA, A-S, A-T, A-IS, or A-IP concrete conforming to standard spec 501.2.

C Construction

Construct bollards as shown in the plan detail and as specified in standard spec 501. Install the bollards plumb. Fill the pipe flush to the top with concrete. Provide the surface finish specified in standard spec 502.3.7.2.

Grind down to an approximate rolled edge any sharp points or edges at the top of the pipe. Repair all scratches, nicks, and bare spots on the pipe with galvanizing paint.

D Measurement

The department will measure Bollards 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.0060.3001	Bollards	Each

Payment is full compensation for providing all materials; for excavating, backfilling, and disposal of surplus materials.

46. Concrete Bases Type 1 Spread Footing, Item SPV.0060.3002.

A Description
Work under this specification shall be done in accordance to standard spec 654, contract plan detail, and these special provisions.

B Materials
Materials shall be in accordance to standard spec 654.

C Construction
Construction shall be in accordance to standard spec 654.

D Measurement
The department will measure Concrete Bases Type 1 Spread Footing bid item as each individual base, 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.0060.3002	Concrete Bases Type 1 Spread Footing	Each

Payment is full compensation for providing concrete bases; for embedded conduit and electrical components; for anchor rods, nuts, and washers; for bar steel reinforcement, if required; for excavating, backfilling, and disposing of surplus materials.

47. Remove and Salvage Traffic Signal Standard, Item SPV.0060.3101.

A Description
This special provision describes removing existing traffic signal standards in accordance to the pertinent provisions of standard spec 204 and as hereinafter provided and delivering them to the municipal owner.

B (Vacant)

C Construction
The City of Wauwatosa and City of West Allis assume 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. Replace any equipment not identified as damaged or not working, prior to removal at no cost to the City of Wauwatosa or City of West Allis.

Notify the municipality at least five working days prior to the removal of the traffic signal standard. Complete the removal work as soon as possible following de-energizing of the traffic signal standard. The remaining traffic signal equipment is to remain in operation during this removal. Ensure that at least two traffic signal heads are operational in each direction at all times.

Make any necessary traffic signal cable disconnections. Remove the standard per plan from the concrete footings and disassemble out of traffic. Remove wiring / cabling from each signal standard. Ensure that access doors and all associated hardware remain intact. Remove the mounting hardware and store in a safe location for reuse on the proposed traffic signal standard. Deliver the remaining materials to the municipality. Contact the municipality at least five (5) working days prior to delivery to make arrangements.

Reinstall the salvaged mounting hardware on the proposed traffic signal standards.

City of Wauwatosa Contact
City of Wauwatosa Public Works Department
(414) 471-8422

City of Wauwatosa Electrical Yard
11100 W. Walnut Road, Wauwatosa, WI.

City of West Allis Contact
City of West Allis Public Works Department
6300 W. McGeoch Avenue
West Allis, WI
(414) 302-8808

D Measurement
The department will measure Remove and Salvage Traffic Signal Standard 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.0105.3101	Remove and Salvage Traffic Signal Standard	Each

Payment is full compensation for removing and disassembling traffic signal standard; for scrapping of some materials; for disposing of scrap material; for delivering the requested materials to the municipality; and for removing, storing, and reinstalling mounting hardware.

48. Remove and Salvage Traffic Signal Head, Item SPV.0060.3102.

A Description
This special provision describes removing existing traffic signal heads in accordance to the pertinent provisions of standard spec 204 and as hereinafter provided and delivering them to the municipal owner.

B (Vacant)

C Construction
The City of Wauwatosa and City of West Allis assume 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 heads to the engineer. Replace any equipment not identified as damaged or not working, prior to removal at no cost to the City of Wauwatosa or City of West Allis.

Notify the municipality at least five working days prior to the removal of the traffic signal heads. Complete the removal work as soon as possible following de-energizing of the traffic signal heads. The remaining traffic signal equipment is to remain in operation during this removal.

Make any necessary traffic signal cable disconnections. Remove the traffic signal head and backplate, if present, per plan from the traffic signal standard. Leave the mounting hardware and cabling in place for the proposed traffic signal heads. Deliver the traffic signal heads to the municipality. Contact the municipality at least five working days prior to delivery to make arrangements.

City of Wauwatosa Contact
City of Wauwatosa Public Works Department
(414) 471-8422

City of Wauwatosa Electrical Yard
11100 W. Walnut Road, Wauwatosa, WI.

City of West Allis Contact
City of West Allis Public Works Department
6300 W. McGeoch Avenue
West Allis, WI
(414) 302-8808

D Measurement
The department will measure Remove and Salvage Traffic Signal Head 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.0105.3102	Remove and Salvage Traffic Signal Head	Each

Payment is full compensation for removing traffic signal heads; for delivering the requested materials to the municipality.

49. Remove, Salvage, and Reinstall Traffic Signal Head, Item SPV.0060.3103.

A Description
This special provision describes removing, salvaging, and reinstalling existing traffic signal heads in accordance to the pertinent provisions of standard spec 204, 655, and 658 and as hereinafter provided.

B (Vacant)

C Construction
The City of Wauwatosa and City of West Allis assume 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 heads to the engineer. Replace any equipment not identified as damaged or not working, prior to removal at no cost to the City of Wauwatosa or City of West Allis.

Notify the municipality at least five working days prior to the removal of the traffic signal heads. Complete the removal work as soon as possible following de-energizing of the traffic signal heads. The remaining traffic signal equipment is to remain in operation during this removal.

Make any necessary traffic signal cable disconnections. Remove the traffic signal head and backplate, if present, per plan from the traffic signal standard and store in a safe location for reuse on the proposed traffic signal standard.

Reinstall the salvaged traffic signal head and backplate, if present, on the proposed traffic signal standards using the existing mounting hardware. Perform all work in accordance to standard spec 658.

City of Wauwatosa Contact
City of Wauwatosa Public Works Department
(414) 471-8422

City of Wauwatosa Electrical Yard
11100 W. Walnut Road, Wauwatosa, WI.

City of West Allis Contact
City of West Allis Public Works Department
6300 W. McGeoch Avenue
West Allis, WI
(414) 302-8808

D Measurement
The department will measure Remove, Salvage, and Reinstall Traffic Signal Head 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.0105.3103	Remove, Salvage, and Reinstall Traffic Signal Head	Each

Payment is full compensation for removing, storing, and reinstalling traffic signal heads.

50. Concrete Bases Type 10 Contractor Supplied Anchor Bolts and Anchor Rod Template, Item SPV.0060.3104.

A Description
This special provision describes constructing concrete bases, including the use of contractor supplied anchor bolts and anchor rod templates.

B Materials
B1. Concrete Bases
Furnish grad A, A-FA, A-S, A-T, A-IS, or A-IP concrete conforming to standard spec 501.2 as modified in section 716 of the standard specification. Provide QMP for class III ancillary concrete as specified in standard spec 716.

Furnish bar steel reinforcement conforming to standard spec 505.2.

Use schedule 40 PVC electrical conduit conforming to the electrical conduit specified in standard spec 652.

B2. Anchor Bolts
Provide anchor bolts conforming to AASHTO M 314, grade 55 and Supplementary Specification S1, or ASTM F1554 Grade 55. Threads on bolts shall be formed by rolling.

Hot-dip galvanize the entire length of the anchor rods according to AASHTO M111. Hot-dip the nuts and washers according to AASHTO M232. Use zinc coated nuts manufactured with sufficient allowance to allow nuts to run freely on the threads.

B3. Anchor Rod Template
Furnish a steel top and bottom template conforming to ASTM A709, grade 36 as part of each anchor assembly. Provide a top template of sufficient gauge to hold the anchor rods securely in position at the top, and resist racking or twisting during the pour. Use a ½-inch thick bottom anchor plate-template and secure it to each anchor rod. Templates shall not be welded to the anchor rods.

C Construction
C1. Concrete Bases
Construct concrete bases, including necessary hardware, as specified in standard spec 501 and plan details, and provide the surface finish specified in standard spec 502.3.7.2. Inspect the forming and applicable reinforcement for concrete bases before pouring the concrete. Cure exposed portions of concrete bases as specified for concrete pavement in standard spec 415.3.12 except the contractor may use curing compound conforming to standard spec 501.2.9. Wait at least 7 days before installing poles.

C2. Anchor Bolts
Lubricate anchor bolt threads and nuts with bees wax or other high-wax lubricant. Set leveling nuts to the required elevation before installing the structure. Adjust top nuts and leveling nuts to align and plumb the structure. Ensure that all nuts are snug-tight with no gaps. Tighten each top nut 1/3 turn past snug for bolts 1 1/2 inch or smaller in diameter and 1/6 turn for larger diameter bolts conforming to the tightening sequence specified on department form DT 2321. If required, install jamb nuts wrench tight.

Complete department form DT 2321 for each structure. Indicate the parties responsible for the installation and submit the form to the engineer for inclusion in the permanent project record.

C3. Anchor Rod Templates
Secure the anchor rod template to all anchor rods at one time in its correct position as the plan details show. Ensure relative movement and misalignment does not occur. If any twisting, racking, or other movement of the anchor rods out of plumb, projection, or pattern, or any damage to the threads exists the engineer will reject the entire base.

Maintain the clear distance between the soil and the reinforcing steel cage using the means the plan detail shows. Do not weld the anchor rods to each other, the reinforcing steel cage, and the templates or to any other component of the foundation.

If an anchor rod template is located above the concrete surface, it may be removed 24 hours after placing the concrete.

D Measurement
The department will measure Concrete Bases (Type), Contractor Supplied Anchor Bolts and Anchor Rod Template by each individual unit, acceptably installed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.3104	Concrete Bases Type 10 Contractor Supplied Anchor Bolts and Anchor Rod Template	Each

Payment for the Concrete Bases (Type), Contractor Supplied Anchor Bolts and Anchor Rod Template is full compensation for providing concrete, reinforcing steel, and electrical conduit; for providing anchor rods, templates, nuts, and washers; for excavating; for driving steel piling, if required; for installing electrical conduit, electrical ground, templates; for placing and curing concrete; for backfilling; and for disposing of surplus material and restoring the site.

51. Poles Type 9, Item SPV.0060.3106.

A Description
Work under this item consists of furnishing and installing monotube poles.

B Materials
Design support structures conforming to the minimum wall thickness the plan details show and to AASHTO design and fabrication standards for structural supports for highway signs, luminaries, and traffic signals. Use a design life of 50 years. Design to withstand a 3 second gust wind speed of 90 mph (145 km/h). Do not use the methods of Appendix C of those AASHTO standards.

Use Category III criteria for Type 9 Poles.

For structures requiring a fatigue analysis, use 45 mph (72 km/h) for truck-induced gusts.

After welding and before zinc coating, clean the exterior surface of each steel pole free of all loose rust and mill scale, dirt, oil or grease, and other foreign substances.

Apply a zinc coating conforming to the process specified for steel sign bridges in standard spec 641.2.8. Ensure that the zinc coating is tight, free from rough areas or slag, and presents a uniform appearance.

After completing manufacturing, clean the exterior surfaces of each pole free of all loose scale, dirt, oil or grease, and other foreign substances.

Provide a reinforced hand hole measuring 4 inches by 6 inches (100 mm by 150 mm) as the plans show. Locate the hand hole 18 inches (450 mm) from the bottom of the pole base to the center of the door.

For the hand hole, include an access cover mounted to the pole by two ¼"-20 x ¾" (m6 x 1.00 x 19 mm) hex-head stainless steel bolts.

Provide a grounding lug complete with mounting hardware, as required, inside the pole as the plans show.

Provide access to the grounding lug from the hand hole. Weld the ground lug directly opposite the hand hole on the inside wall of the pole.

Equip the top of the shaft with a removable, ventilated cap held securely in place by at least 3 ¼" -20 x ¾" (m6 x 1.00 x 19 mm) hex-head stainless steel set screws.

Ensure that all castings are clean, smooth, and with all details well defined and true to pattern.

Attach base plates firmly to the pole shaft by welding or other approved method.

Provide anchor bolts meeting AASHTO standards applicable to the pole type and loading (see SDDs Type 9 Pole 15'-30' Monotube Arm and General Notes and Hardware Details for Type 9, 10, 12, 13 Poles with Monotube Arms for specific pole types).

Provide anchor bolt templates as shown on the standard detail drawings for the concrete base to ensure correct alignment of anchor bolts in foundation (see SDD Concrete Base Type 10 and Concrete Base Type 10 and Type 13 Extension for specific base types).

C Construction

Clean each pole before installation.

Install poles as specified in the plan details. Secure pole to anchor assembly and document tensioning procedures conforming to standard spec 641.3.1.2.

After completing erection using normal pole shaft raking techniques, ensure the centerline of the shaft is vertical.

Install identification plaques as the plans show.

D Measurement

The department will measure Poles (Type) as each individual pole, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.3106	Poles Type 9	Each

Payment is full compensation for providing and installing poles including all hardware and fittings necessary to install the poles; for installing identification plaques, if required.

52. Monotube Arms 25-FT, Item SPV.0060.3111; 30-FT, Item SPV.0060.3112.

A Description
Work under this item consists of furnishing and installing monotube arms.

B Materials
Design support structures conforming to the minimum wall thickness the plan details show and to AASHTO design and fabrication standards for structural supports for highway signs, luminaires, and traffic signals. Use a design life of 50 years. Design to withstand a 3 second gust wind speed of 90 mph (145 km/h). Do not use the methods of appendix C of those AASHTO standards.

Use category III criteria for 15 to 30-foot arms.

For structures requiring a fatigue analysis, use 45 mph (72 km/h) for truck-induced gusts.

Base the designs on the completed maximum loading configuration the standard detail drawing shows. Along with the materials list, submit a certificate of compliance certifying that the arms as furnished, conform to the above structural performance requirements. Ensure that the certificate of compliance is on the manufacturer's letterhead, signed by an authorized company officer, and notarized. Send a copy of the certificate and a copy of the monotube arm shop drawings to the department electrical engineer.

Furnish monotube arms conforming to the following:

1. Consist of zinc coated steel round or oval members.

2. Have a mounting device welded to the pole end of the monotube arm that allows the attachment of the arm to a pole as the plans show.

3. Have stiffeners or gussets if required between the arm tube and the arm mounting device to provide adequate strength to resist side loads.

4. Have a clean, uniform natural finish. No paint or other corrosion preventive maintenance coating is required.

After welding and before zinc coating, clean exterior surfaces of each arm free of all loose rust and mill scale, dirt, oil or grease, and other foreign substances.

Apply zinc coating as specified for sign bridge components in standard spec 641.2.8. Ensure that the zinc coating is tight, free from rough areas or slag, and presents a uniform appearance.

After manufacturing is complete, clean the exterior surfaces of each pole free of all loose scale, dirt, oil, or grease, and other foreign substances.

C Construction
Construction of the monotube arm shall be in accordance to standard spec 657.

D Measurement
The department will measure Monotube Arm (Length) as each individual arm, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.3111	Monotube Arms 25-FT	Each
SPV.0060.3112	Monotube Arms 30-FT	Each

Payment is full compensation for providing and installing all materials, including all hardware, fittings, mounting devices, shims, and attachments necessary to completely install the arms.

53. EVP Detector Type I, Item SPV.0060.3115.

A Description
This work shall consist of furnishing and installing EVP Detector Type I as shown on the plans and as hereinafter provided.

B Materials
The infrared EVP Detector Type I shall be lightweight, weatherproof device capable of sensing and transforming pulsed infrared energy into electrical signals for use by the signal discrimination equipment. The infrared EVP Detector Type I shall be designed for mounting at or near an intersection on mast arms, pedestals or pipes. Each infrared EVP Detector Type I shall be supplied with mounting hardware to accommodate installation on mast arms, poles, or traffic signal standards as shown in the plans. The EVP Detector Type I shall accept infrared signals from one direction and shall provide a single electrical output signal. The EVP Detector Type I shall have a built-in terminal block to simplify wiring connections. The infrared EVP Detector Type I shall receive power from the discriminator and shall have internal voltage regulation to operate from 18 to 37 volts DC. The infrared EVP Detector Type I shall respond to clear lens code secured emitter with 0.84 (+/- 10%) Joules of energy output per flash at a distance of 2,500 feet under clear atmospheric conditions. If the emitter is configured with a visible light filter, the EVP Detector Type I shall respond at a distance of 1,800 feet under clear atmospheric conditions. The noted

distances shall be comparable day and night. The infrared detector shall produce an electrical signal to the discriminator via a detector cable up to 1,000 feet in length.

The EVP Detector Type I shall be a GTT Opticom Model #711, or approved equal.

C Construction
Furnish and install EVP Detector Type I for traffic signals. Set the initial aim angle at a distance of 1,800 feet from the stop bar or as specified by the engineer. Final adjustment shall be under the direction of the engineer.

D Measurement
The department will measure EVP Detector Type I as each individual unit, acceptably completed.

E Payment
EVP Detector Type I will be paid for measured quantities at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.3115	EVP Detector, Type I	Each

Payment shall be full compensation for furnishing and installing the EVP Detector Type I on signal poles or mast arms as shown on the plans, including extensions to poles if required; and for aiming the detector.

54. EVP Discriminator Type IV, Item SPV.0060.3116.

A Description
This work shall consist of furnishing and installing an EVP Discriminator Type IV in the control cabinet as shown on the plans and as hereinafter provided.

B Materials
The EVP Discriminator Type IV shall be a plug-in, four channel, multiple priority device intended to be installed directly, into a rack located within the controller cabinet. The EVP Discriminator Type IV card edge connector shall include primary infrared detector inputs and power outputs. Two additional detector inputs per channel shall be provided on a front panel connector. An auxiliary function harness (#757) shall be included. The EVP Discriminator Type IV shall be powered from 115 volt (95 volts AC to 135 volts AC), 60 Hz mains and shall contain an internal, regulated power supply that supports up to four infrared detectors. The EVP Discriminator Type IV shall include several control timers that shall limit or modify the duration of a priority control condition and programmable security via jumper selection. The control timers shall be as follows:

- MAX CALL TIME: Shall set the maximum time a channel is allowed to be active. It can be set to 120, 240, or 65,535 seconds. Its factory default must be the maximum time.

- CALL HOLD TIME: Shall set the time a call is held on a channel after the priority signal is no longer being received. It can be set to either 6 or 12 seconds via jumper selects. Its factory default mist be 6 seconds.
- SECURITY ENCODED DATA: Shall require that an infrared signal contain an embedded vehicle ID code to be recognized as a valid request. The default jumper selection shall disable this requirement.

The EVP Discriminator Type IV default range values shall be re-settable by the operator using switches located on its front. The EVP Discriminator Type IV shall be capable of three levels of discrimination of security encoded infrared signals, as follows:

- Verification of the presence of the base infrared of either 14.03509 Hz +/- 0.01773 Hz for Command priority, or 9.63855 Hz +/- 0.00836 Hz for Advantage priority.
- Determination of when the vehicle is within the prescribed range.
- The EVP Discriminator Type IV card edge connector shall include primary infrared detector inputs and power outputs. The EVP Discriminator Type IV shall include one optoisolated NPN output per channel that provides the following electrical signal to the appropriate pin on the card edge connector:
- Hz +/- 0.1 Hz 50% on/duty square wave in response to an Advantage priority call.
- A steady ON in response to a Command priority call.

The EVP Discriminator Type IV shall accommodate two methods for setting intensity thresholds (emitter range) for high and low priority signals:

- Using an encoded emitter with range-setting capability.
- Using an encoded emitter while manipulating the front panel switches.

The EVP Discriminator Type IV shall have a solid state POWER ON LED indicator that flashes to indicate unit diagnostic mode and illuminates steadily to indicate proper operation. The EVP Discriminator Type IV shall have internal diagnostics to test for proper operation. If a fault is detected, the discriminator shall use the front panel LED indicators to display fault information. The EVP Discriminator Type IV shall have a Command (high) and Advantage (low) solid state LED indicator for each channel to display active calls. The EVP Discriminator Type IV shall have a test switch for each channel to test proper operation of Command or Advantage priority. The EVP Discriminator Type IV shall properly identify a Command priority call with the presence of 10 Advantage priority code secured emitter signals being received simultaneously on the same channel. The EVP Discriminator Type IV shall have write-on pads to allow identification of the phase and channel. The EVP Discriminator Type IV shall have the capability of functionally testing connected detector circuits and indicating via front panel LEDs non-functional detector circuits. An auxiliary interface panel shall be available to facilitate interconnections between the discriminator and traffic cabinet wiring.

Additional wiring harnesses may be required for auxiliary detector heads as shown on the plans.

The EVP Discriminator Type IV shall be a GTT Opticom Model #454, or approved equal.

C Construction
Furnish and install EVP Discriminator Type IV for traffic signals.

D Measurement
The department will measure EVP Discriminator Type IV as each individual unit, acceptably completed.

E Payment
EVP Discriminator Type IV will be paid for measured quantities at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.3116	EVP Discriminator Type IV	Each

Payment shall be full compensation for furnishing and installing the EVP Discriminator Type IV in the control cabinets and any additional wiring harnesses required for auxiliary heads.

55. EVP Confirmation Light Assembly Type I, Item SPV.0060.3117.

A Description
This work shall consist of furnishing and installing Confirmation Light Assemblies, Type I as shown on the plans and as hereinafter provided.

B Materials
Confirmation Light Assembly, Type I, shall consist of weatherproof, aluminum lamp holder with a single LED lamp as shown on the plans. In addition, mounting materials shall be provided as shown on the plans.

The Confirmation Light Assembly Type I shall be a GTT Opticom Model #575, or approved equal.

C Construction
Furnish and install Confirmation Light Assembly Type I for traffic signals.

D Measurement
The department will measure Confirmation Light Assembly Type I as each individual unit, acceptably completed.

E Payment
Confirmation Light Assembly Type I will be paid for measured quantities at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.3117	Confirmation Light Assembly Type I	Each

Payment shall be full compensation for furnishing and installing the Confirmation Light Assembly Type I.

56. EVP Card Rack, Item SPV.0060.3118.

A Description
This work shall consist of furnishing and installing EVP Card Rack in the traffic signal controller cabinet.

B Materials
The EVP Card Rack shall provide mounting and connections for the Discriminator. The EVP Card Rack shall be factory wired to one connector, located behind the card slot and a terminal block, located next to the discriminator slot, on the front of the EVP Card Rack. The EVP Card Rack connector on the front of the EVP Card Rack shall be provided for all connections to the traffic signal controller. The EVP Card Rack shall provide labeled terminal blocks for connecting the primary infrared detectors to a discriminator.

The EVP Card Rack shall be a GTT Opticom Model #760, or approved equal.

C Construction
Furnish and install EVP Card Rack for traffic signals. The EVP Card Rack shall be mounted inside the traffic signal controller cabinet, on the top shelf in the cabinet or as directed by the engineer in the field.

D Measurement
The department will measure EVP Card Rack as each individual unit, acceptably completed.

E Payment
EVP Card Rack, will be paid for measured quantities at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.3118	EVP Card Rack	Each

Payment shall be full compensation for furnishing and installing the EVP Card Rack in the control cabinet.

57. EVP Detector and Confirmation Light for Existing EVP System, Item SPV.0060.3119.

A Description
This work shall consist of furnishing and delivering an EVP Detector and Confirmation Light for an Existing EVP System to the City of Brookfield for installation by others.

B Materials

Optical detectors shall be manufactured from black glass-filled, UV stabilized polycarbonate suitable for all weather use. The detector shall be sealed and weatherproof.

Optical detectors shall sense and transform optical energy from optical emitters into electrical signals to be decoded by the optical signal processor.

The optical detector shall sense optical emitter signals over an adjustable range of 300 feet (90m) to 2500 feet (762m) in optimum atmospheric conditions.

Optical detectors shall transmit electrical signals to the optical signal processor via up to 1000 feet of optical detector cable.

Optical detectors shall have an internal terminal strip with wiring label for convenient positive connection to the detector cable.

Optical detectors shall have a nominal conical 7-degree field of view centered about the view-port normal axis. The optical detector shall be capable of operating with a standard length or optional short scope when a greater than 7 degree field of view is desired.

Optical detectors shall operate over a range of 12 to 30 VDC and current of up to 50 ma maximum.

Acceptable configurations for optical detectors shall be of one channel/one direction only with a 1/2"' FNPT mounting connection. Hardware shall be available from the manufacturer to allow mounting the optical detector to mast arm, span wire, and various other possible intersection mounting configurations.

The EVP Detector and Confirmation Light shall be a Tomar Model 2097 with White light color, or approved equal compatible with the existing equipment.

C Construction

Verify that the equipment specified is compatible with the existing equipment. Advise the engineer prior to installation if there in an inconsistency between the existing equipment and equipment specified.

Furnish and deliver the EVP Detector and Confirmation Light for Existing EVP System to the City of Brookfield for installation by others. Notify Natalie Schneider with the City of Brookfield at (262) 787-3543 at least three working days prior to delivering the equipment. Deliver the equipment to the City of Brookfield Department of Public Works, 2000 N. Calhoun Road, Brookfield, WI 53005.

D Measurement

The department will measure EVP Detector and Confirmation Light for Existing EVP System as each individual unit, acceptably completed.

E Payment

EVP Detector and Confirmation Light for Existing EVP System will be paid for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.3119	EVP Detector and Confirmation Light for Existing EVP System	Each

Payment shall be full compensation for furnishing the EVP Detector and Confirmation Light for Existing EVP Systems for installation by others; for delivering the equipment to the City of Brookfield.

58. Removing Traffic Signal Vault, Item SPV.0060.3120.

A Description

Work under this specification consists of removing the existing City of West Allis traffic signal vault. Work under this specification shall be done in accordance to Section 653 of the standard specifications and these special provisions.

B (Vacant)

Materials shall be in accordance to standard spec 204.

C Construction

Construction shall be in accordance to standard spec 653.3.

D Measurement

The department will measure Remove Traffic Signal 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.0060.3120	Removing Traffic Signal Vault	Each

Payment is full compensation for breaking down and removing; for hauling and disposing of materials; and for backfilling.

59. Removing Pavement Markings Water Blasting, Item SPV.0090.0010.

A Description

Remove pavement markings using ultra-high pressure water. Remove pavement markings from locations shown on the plans or as the engineer directs.

B (Vacant)

C Construction
Provide a truck or vehicle mounted ultra high pressure pump and water tank capable of delivering a minimum of 30,000 psi and up to 40,000 psi to waterjet nozzles. Furnish a water blaster with a vacuum recovery system to provide a clean, almost dry surface, without the use of a secondary cleanup process.

Remove pavement markings through means of water blasting. Do not damage the pavement during removal process.

Furnish equipment with a storage system that allows for the storage of the wastewater while retaining the debris.

D Measurement
The department will measure Removing Pavement Markings Water Blasting by the linear foot of 4-inch wide line, 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.0090.0010	Removing Pavement Markings Water Blasting	LF

Payment for Removing Pavement Markings Water Blasting is full compensation for removal, repairing associated damage, and disposal of residue.

60. Type UF Cable 2-Conductor No 14, Item SPV.0090.3101.

A Description
This work shall consist of furnishing and installing cable for confirmation lights and making all connections as shown on the plans and as hereinafter provided.

B Materials
Standard spec 655 is revised with the following:

Supplement standard spec 655.3.4 with the following:

When lighting is installed in conjunction with traffic signals, conductors from the traffic signal control cabinet to the confirmation light(s) shall be Cable Type UF, 2 conductor without ground, solid copper conductor, size No. 14.

C Construction
Furnish and install Cable Type UF 2-14 AWG for traffic signals.

D Measurement
The department will measure Type UF Cable 2-Conductor No 14 by the linear foot of cable complete in place.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.3101	Type UF Cable 2-Conductor No 14	LF

Payment shall be full compensation for furnishing and installing cable; for making all connections; for furnishing and installing all connectors, including wire nuts, splice kits, tape, insulating varnish or sealant and ground lug fasteners, and for testing.

61. EVP Detector Cable for Existing EVP System, Item SPV.0090.3102.

A Description

This work shall consist of furnishing and delivering EVP Detector Cable to the City of Brookfield for installation by others

B Materials

Three conductor shielded control cable, with foil shield overall and ground wire. Meets the requirements of IPCEA-S-61-402/NEMA WC5, Section 7.4, 600-Volt Control Cable, rated for 75 degrees Celsius, Type B, and the following:

B.1 Conductors

Quantity – 3
Gauge – AWG #20 (7 x 28) stranding
Conductor Material – Individually tinned copper strands
Insulation – PVC, 80C, 600V, 25mil minimum average thickness
Color – 1 Blue, 1 Orange, and 1 Yellow

B.2 Shield

Aluminized polyester film or approved equal, applied with a nominal 20% overlap to provide 100% shield coverage

B.3 Drain Wire

Gauge - AWG #20 (7 x 28) stranding
Material - Individually tinned copper strands
Non-insulated and in contact with the shield conductive surface

B.4 Electrical Characteristics

Drain and conductor DC resistance shall not exceed 11.0 ohms per thousand feet
Capacitance from 1 conductor to the other 2 conductors and shield shall not exceed 48 pf/ft at 1000 Hz.

B.5 Jacket

Minimum average wall thickness - .045”
Temperature rating - 80C
Voltage Rating - 600V
Material – black PVC
Nominal O.D. over jacket - .35” maximum

The optical detector cable shall be of durable construction to allow for direct-burial; conduit and mast arm pull; and exposed (overhead, as with span wire) installation.

The Detector Cable shall be Tomar Model M913 or other approved equal.

C Construction

Verify that the equipment specified is compatible with the existing equipment. Advise the engineer prior to installation if there in an inconsistency between the existing equipment and equipment specified.

Furnish and deliver the EVP Detector Cable for Existing EVP System to the City of Brookfield for installation by others. Notify Natalie Schneider with the City of Brookfield at (262) 787-3543 at least three working days prior to delivering the equipment. Deliver the equipment to the City of Brookfield Department of Public Works, 2000 N. Calhoun Road, Brookfield, WI 53005.

D Measurement

The department will measure EVP Detector Cable for Existing EVP System by the linear foot of cable furnished and delivered to the City of Brookfield.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.3102	EVP Detector Cable for Existing EVP System	LF

Payment shall be full compensation for furnishing the EVP Detector Cable for Existing EVP System for installation by others; for delivering the cable to the City of Brookfield.

62. Confirmation Light Cable for Existing EVP System, Item SPV.0090.3103.

A Description

This work shall consist of furnishing and delivering cable for confirmation lights to the City of Brookfield for installation by others

B Materials

Two conductor unshielded cable.

B.1 Conductors

Quantity – 2
Gauge – AWG #18 (16 3028) stranding
Conductor Material – Individually tinned copper strands
Insulation – Color-Coded PVC Insulation .0016", Gray PVC Jacket

B.2 Electrical Properties

Voltage Rating – 300 V rms
Capacitance – 33 pf/ft @ 1 kHz, nominal conductor to conductor
Inductance – 0.18 μH/ft, Nominal
Conductor DCR – 7.1 Ω/1000 feet @ 20° C, Nominal

B.3 Jacket

Minimum average wall thickness – .020"
Temperature rating – -20° C to +80° C
Voltage Rating – 300V
Material – Gray PVC
Nominal O.D. over jacket – 0.208" maximum

The confirmation light cable shall be of durable construction to allow for direct-burial; conduit and mast arm pull; and exposed (overhead, as with span wire) installation.

The Confirmation Light Cable for Existing EVP System shall be Tomar Model M3880 or other approved equal.

C Construction

Verify that the equipment specified is compatible with the existing equipment. Advise the engineer prior to installation if there in an inconsistency between the existing equipment and equipment specified.

Furnish and deliver the Confirmation Light Cable for Existing EVP System to the City of Brookfield for installation by others. Notify Natalie Schneider with the City of Brookfield at (262) 787-3543 at least three working days prior to delivering the equipment. Deliver the equipment to the City of Brookfield Department of Public Works, 2000 N. Calhoun Road, Brookfield, WI 53005.

D Measurement

The department will measure Confirmation Light Cable for Existing EVP System by the linear foot of cable furnished and delivered to the City of Brookfield.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.3103	Confirmation Light Cable for Existing EVP System	LF

Payment shall be full compensation for furnishing the Confirmation Light Cable for Existing EVP System for installation by others; for delivering the cable to the City of Brookfield.

63. Pavement Cleanup Project 1060-33-93, Item SPV.0105.0001.

A Description

This special provision describes cleanup of dust and debris from pavements within and adjacent to the job site.

B Materials

B.1 Pavement Cleanup

Furnish a vacuum-type street sweeper equipped with a power broom, water spray system, and a vacuum collection system.

Vacuum equipment shall have a self-contained particulate collector capable of preventing discharge from the collection bin into the atmosphere.

Use a vacuum-type sweeper as the primary sweeper, except as specified herein or approved by the engineer.

C Construction

C.1 Pavement Cleanup

Keep all pavements, curb lanes and gutters both closed and open to public traffic within the job-site boundaries free of dust and debris generated from any activity under the contract. Keep all pavements, curb lanes and gutters adjacent to the project free of dust and debris that are affected by land disturbing, dust generating activities, as defined in the contractor's dust control implementation plan.

Provide surveillance to identify if material is being tracked from the jobsite. Clean up spillage and material tracked from the project within an hour of occurrence or as directed by the engineer. Perform cleanup operations in a safe manner.

Provide routine sweeping of all pavements, curb lanes and gutters on local street active haul routes a minimum of once a day as defined in the Dust Control Implementation Plan (DCIP) or as directed by the engineer. Include street names for routine sweeping.

In addition to routine sweeping, conduct sweepings as the engineer directs or approves, to deal with dust problems that might arise during off-work hours or emergencies. Provide the engineer with a contact person available at all times to respond to requests for emergency sweeping. Respond to emergency sweeping requests within 4 hours.

If the vacuum-type sweeper breaks down, a mechanical broom sweeper may be substituted for no more than 24 hours total elapsed time. Repair the vacuum-type sweeper within that 24 hours or substitute a vacuum-type sweeper.

Skid steers with mechanical power brooms may only be utilized on sidewalks and driveways whose pavements will not support the weight of a street sweeper, unless otherwise approved by the engineer.

D Measurement
The department will measure Pavement Cleanup Project SPV.0105.0001 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.0105.0001	Pavement Cleanup Project 1060-33-93	LS

Payment schedule for this item will be in accordance to the percentage of contract value earned.

Payment is full compensation for surveillance, mobilization, sweeping, disposing of materials.

64. Survey Project 1060-33-93, Item SPV.0105.0002.

A Description
This special provision describes modifying standard spec 105.6 and 650 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. Perform all survey required to lay out 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, 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 surveys during the project. These quality assurance surveys do not relieve the responsibility for performing all survey work required to lay out and construct the work under this contract.

Delete standard spec 650.1.

B (Vacant)

C Construction

Conform to standard spec 650.3 and as modified in this special provision.

Replace standard spec 650.3.3.1 with the following:

Under the Survey Project bid item, global positioning system (GPS) machine guidance for conventional subgrade staking on all or part of the work may be substituted. The engineer may require reverting to conventional subgrade staking methods for all or part of the work at any point during construction if, in the engineer's opinion, the GPS machine guidance is producing unacceptable results.

Replace standard spec 650.3.3.3.4.1 with the following:

The department will provide the contractor staking packet as described in the Construction and Materials Manual (CMM) 7.10. At any time after the contract is awarded, the available survey and design information may be requested. The department will provide that information within 5 business days of receiving the contractor's request. The department incurs no additional liability beyond that specified in standard spec 105.6 or standard spec 650 by having provided this additional information.

Add the following to standard spec 650.3.3.3.6.2:

Record all subgrade elevation checks and submit a hard copy to the engineer at the completion of the project.

D Measurement

Replace standard spec 650.4 with the following:

The department will measure Survey Project 1060-33-93 as a separate single lump sum unit of work, acceptably completed.

E Payment

Replace standard spec 650.5 with the following:

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.0002	Survey Project 1060-33-93	LS

Payment is full compensation for performing all survey work required to lay out and construct all work under this contract. No additional payments will be made for restaking due to construction disturbance and knock-outs.

65. Transporting Signal and Lighting Materials IH 894/USH 45 Eastbound Ramps and W. National Avenue, Item SPV.0105.3001; USH 18 and N. 92nd Street, Item SPV.0105.3003.

A Description

This special provision describes the transporting of department furnished materials for traffic signals and intersection lighting.

B Materials

Transport materials furnished by the department including: monotube arms 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 at least five working days prior to picking the materials up.

C (Vacant)

D Measurement

The department will measure Transporting Signal and Lighting Materials (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.0105.3001	Transporting Signal and Lighting Materials IH 894/USH 45 Eastbound Ramps and W. National Avenue	LS
SPV.0105.3003	Transporting Signal and Lighting Materials USH 18 and N. 92nd Street	LS

Payment is full compensation for transporting the monotube poles, monotube arms and luminaire arms (to be installed on monotubes). Installation of these materials is included under a separate pay item.

66. Install State Furnished Traffic Signal Cabinet IH 894/USH 45 Eastbound Ramps and W. National Avenue, Item SPV.0105.3004; IH 894/USH 45 Westbound Ramps and W. National Avenue, Item SPV.0105.3005; USH 18 and N. 97th Street, Item SPV.0105.3006; USH 18 and N. 95th Street, Item SPV.0105.3007; USH 18 and N. 92nd Street, Item SPV.0105.3008.

A Description
This special provision describes the installing of the state furnished Traffic Signal Cabinet for traffic signals.

B Materials
Use materials furnished by the department including: the traffic signal controller and the traffic signal cabinet. The department will provide notification at the preconstruction meeting of the Traffic Signal Cabinet vendor and provide the vendor's contact information.

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 five working days prior to picking up the materials.

Provide all other needed materials in conformance with standard spec 651.2, 652.2, 653.2, 654.2, 655.2, 656.2, 657.2, 658.2 and 659.2.

Append standard spec 651.3.3 (6) with the following:

Operate the completed traffic signal installation for 30 days consecutively, using the specified signal sequence(s) and all special functions, such as preemption as the plans show or as specified by the engineer.

C Construction
Perform work in accordance to standard spec 651.3, 652.3, 653.3, 654.3, 655.3, 656.3, 657.3, 658.3 and 659.3 except as specified below.

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. The departments' Region Electrical personnel will perform the inspection.

Coordinate directly with the department's Traffic Signal Cabinet vendor to schedule the cabinet acceptance testing. Notify the department's Electrical Field Unit at (414) 266-1170 and participate in the acceptance testing. The department has the final determination of the cabinet acceptance testing date and time. The acceptance testing procedures will be provided by the department. The department shall 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.

D Measurement
The department will measure Install State Furnished Traffic Signal Cabinet [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.0105.3004	Install State Furnished Traffic Signal Cabinet IH 894/USH 45 Eastbound Ramps and W. National Avenue	LS
SPV.0105.3005	Install State Furnished Traffic Signal Cabinet IH 894/USH 45 Westbound Ramps and W. National Avenue	LS
SPV.0105.3006	Install State Furnished Traffic Signal Cabinet USH 18 and N. 97th Street	LS
SPV.0105.3007	Install State Furnished Traffic Signal Cabinet USH 18 and N. 95th Street	LS
SPV.0105.3008	Install State Furnished Traffic Signal Cabinet USH 18 and N. 92nd Street	LS

Payment is full compensation for installing and testing the Traffic Signal Cabinet; 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; for clean-up and waste disposal.

67. Transporting and Installing State Furnished Autoscope Video Detection System IH 894/USH 45 Eastbound Ramps and W. National Avenue, Item SPV.0105.3009; IH 894/USH 45 Westbound Ramps and W. National Avenue, Item SPV.0105.3010; USH 18 and N. 97th Street, Item SPV.0105.3011; USH 18 and N. 95th Street, Item SPV.0105.3012; USH 18 and N. 92nd Street, Item SPV.0105.3013.

A Description

This special provision describes the transporting and installing of department furnished Traffic Signal Autoscope Video Detection System on Trombone and Luminaire arms.

B Materials

Pick up all the department furnished Autoscope 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 Terra Power Cable 18/3, 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). The department Electrical Field Unit (EFU) shall install State-furnished Autoscope video detection equipment in the traffic signal control cabinet.

Install the Traffic Signal Terra Power Cable 18/3 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 Trombone and Luminaire arm installation of the Traffic Signal Terra Power Cable 18/3, cable whip and camera at each intersection.

The department will provide notification of the video detection system vendor and provide the vendor's contact information. Coordinate directly with the department's video detection system vendor to arrange for the vendor to program the video detection. Notify the department and vendor at least five working days prior to the date of programming.

D Measurement

The department will measure Transporting and Installing State Furnished Autoscope Video Detection System (Location) 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.0105.3009	Transporting and Installing State Furnished Autoscope Video Detection System IH 894/USH 45 Eastbound Ramps and W. National Avenue	LS
SPV.0105.3010	Transporting and Installing State Furnished Autoscope Video Detection System IH 894/USH 45 Westbound Ramps and W. National Avenue	LS
SPV.0105.3011	Transporting and Installing State Furnished Autoscope Video Detection System USH 18 and N. 97th Street	LS
SPV.0105.3012	Transporting and Installing State Furnished Autoscope Video Detection System USH 18 and N. 95th Street	LS
SPV.0105.3013	Transporting and Installing State Furnished Autoscope Video Detection System USH 18 and N. 92nd Street	LS

Payment is full compensation for transporting and installing the Intersection Autoscope Video Detection System, Traffic Signal Terra Power Cable 18/3, cable whips, mounting hardware, and cameras; arranging for and providing programming by the vendor.

68. Install State Furnished EVP Detector Heads IH 894/USH 45 Eastbound Ramps and W. National Avenue, Item SPV.0105.3014; IH 894/USH 45 Westbound Ramps and W. National Avenue, Item SPV.0105.3015; USH 18 and N. 97th Street, Item SPV.0105.3016; USH 18 and N. 95th Street, Item SPV.0105.3017; USH 18 and N. 92nd Street, Item SPV.0105.3018.

A Description

This special provision describes the transporting and installing of state furnished Emergency Vehicle Preemption (EVP) Detector Heads and EVP Detector Head Mounting Brackets.

B Materials

Use materials furnished by the department including: Emergency Vehicle Preemption (EVP) Detector Heads and EVP Detector Head Mounting Brackets.

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 at least five working days prior to picking the materials up.

C Construction

Install the EVP detector heads and EVP detector head mounting brackets 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 and EVP Detector Head Mounting Brackets.

D Measurement

The department will measure Install State Furnished EVP Detector Heads (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.0105.3014	Install State Furnished EVP Detector Heads IH 894/USH 45 Eastbound Ramps and W. National Avenue	LS
SPV.0105.3015	Install State Furnished EVP Detector Heads IH 894/USH 45 Westbound Ramps and W. National Avenue	LS
SPV.0105.3016	Install State Furnished EVP Detector Heads USH 18 and N. 97th Street	LS
SPV.0105.3017	Install State Furnished EVP Detector Heads USH 18 and N. 95th Street	LS
SPV.0105.3018	Install State Furnished EVP Detector Heads USH 18 and N. 92nd Street	LS

Payment is full compensation for transporting and installing of department furnished Emergency Vehicle Preemption (EVP) Detector Heads and EVP Detector head Mounting Brackets.

69. Install Fiber Optic Communications in Cabinet IH 894/USH 45 Eastbound Ramps and W. National Avenue, Item SPV.0105.3019; IH 94/USH 45 Westbound Ramps and W. National Avenue, Item SPV.0105.3020; USH 18 and N. 97th Street, Item SPV.0105.3021; USH 18 and N. 95th Street, Item SPV.0105.3022; USH 18 and N. 92nd Street, Item SPV.0105.3023; W. National Avenue and W. Cleveland Avenue, Item SPV.0105.3111.

A Description

This special provision describes installing fiber optic communications equipment in traffic signal cabinets.

B Materials

The department will furnish pre-terminated fiber optic patch panels and managed Ethernet switches. The materials will be provided with the traffic signal cabinet. The patch panels will have pre-terminated fiber optic cable pigtails. Provide two each 1-meter lengths of ST-ST single mode fiber jumper (2 fibers per jumper) from the patch panel to the Ethernet switch. Provide a 1-meter length of CAT-5e cable from the Ethernet switch to the controller. Provide a 1-meter length of CAT-5e cable from the Ethernet switch to the Interface Panel. CAT-5e patch cords shall have factory pre-terminated RJ45 / 8P8C connectors on both ends per TIA/EIA T568B. Provide all patch panel, Ethernet switch, and Interface Panel attachment hardware.

Provide a 14 AWG XLP insulated, stranded, copper, 600 volt AC locate wire through the conduit run from the communication vault to the traffic signal cabinet. Connect the locate wire by using a silicone filled wire nut at each pull box, vault or other access point. Alternatively, use a single wire through the access points, leaving a 6 foot coil in each

pull box, vault or other access point for splicing. All material under this item shall meet the requirements of standard spec 655.

C Construction

Install the patch panel and Ethernet switch on the side of the traffic signal cabinet opposite the electrical service at a location as approved by the engineer. With approval by the engineer, the Ethernet switch may be placed on a shelf near the patch panel. Install the pre-terminated fiber optic cable in conduit from the patch panel to the communication vault as specified in standard spec 678.3.1. Fiber optic cable ends shall be covered securely to protect open ends during installation in raceways. Leave the remainder of the fiber optic cable coiled in the communication vault.

Install the fiber jumpers and CAT-5e cable and provide a communications link from the communication vault to the controller. Install the CAT5-e cable from the Interface Panel to the Ethernet switch.

Connect the locate wire by using a wire nut at each access point. Alternatively, use a single wire through the access points.

D Measurement

The department will measure Install Fiber Optic Communications in Cabinet (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.0105.3019	Install Fiber Optic Communications in Cabinet IH 894/USH 45 Eastbound Ramps and W. National Avenue	LS
SPV.0105.3020	Install Fiber Optic Communications in Cabinet IH 894/USH 45 Westbound Ramps and W. National Avenue	LS
SPV.0105.3021	Install Fiber Optic Communications in Cabinet USH 18 and N. 97th Street	LS
SPV.0105.3022	Install Fiber Optic Communications in Cabinet USH 18 and N. 95th Street	LS
SPV.0105.3023	Install Fiber Optic Communications in Cabinet USH 18 and N. 92nd Street	LS
SPV.0105.3111	Install Fiber Optic Communications in Cabinet W. National Avenue and W. Cleveland Avenue	LS

Payment is full compensation for installing pre-terminated patch panels, Ethernet switches, and fiber optic cable in conduit; furnishing and installing attachment hardware, fiber jumpers, CAT-5e cable, and locate wire.

70. Remove Traffic Signals W. North Avenue and N. 116th Street, Item SPV.0105.3101; W. National Avenue and W. Cleveland Avenue, Item SPV.0105.3102.

A Description

This special provision describes removing existing traffic signals 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.

The City of Wauwatosa and City of West Allis assume 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. Replace any equipment not identified as damaged or not working, prior to removal at no cost to the City of Wauwatosa or City of West Allis.

City of Wauwatosa Owned Traffic Signals

Notify the City of Wauwatosa Public Works Department at (414) 471-8422 at least five working days prior to the removal of the traffic signal. Complete the removal work as soon as possible following shut down of this equipment.

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 access handhole doors and all associated hardware remain intact. Remove the traffic signal cabinet from the concrete footing. Dispose of the underground signal cable, internal wires, and street lighting cable. Deliver the remaining materials to the City of Wauwatosa Electrical Yard at 11100 W. Walnut Road, Wauwatosa, WI. Contact the City of Wauwatosa Public Works Department at (414) 471-8422 at least five working days prior to delivery to make arrangements.

City of West Allis Owned Traffic Signals

Notify the City of West Allis Public Works Department at (414) 302-8808 at least five working days prior to the removal of the traffic signal. Complete the removal work as soon as possible following shut down of this equipment.

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 access handhole doors and all associated hardware remain intact. Remove the traffic signal cabinet from the concrete footing. Dispose of the

underground signal cable, internal wires, and street lighting cable. Deliver the remaining materials to the City of West Allis. Contact the City of West Allis Public Works Department at (414) 302-8808 at least five working days prior to delivery to make arrangements.

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.0105.3101	Remove Traffic Signals W. North Avenue and N. 116th Street	LS
SPV.0105.3102	Remove Traffic Signals W. National Avenue and W. Cleveland Avenue	LS

Payment is full compensation for removing and disassembling traffic signals; for scrapping of some materials; for disposing of scrap material; for delivering the requested materials to the City of Wauwatosa or City of West Allis.

71. Remove Loop Detector Wire and Lead-in Cable W. National Avenue and W. Cleveland Avenue, Item SPV.0105.3104.

A Description
This special provision describes removing loop detector wire and lead-in cable. Removal shall be in accordance to standard spec 204, as shown in the plans, and as hereinafter provided.

B (Vacant)

C Construction
City of West Allis Owned Traffic Signals
Notify the City of West Allis Public Works Department at (414) 302-8808 at least five working days prior to the removal of the loop detector wire and lead-in cable.

Remove and dispose of detector lead-in cable and loop wire for abandoned loops. Detector lead-in cable and loop wire shall become property of the contractor and shall be disposed off of 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.0105.3104	Remove Loop Detector Wire and Lead-in Cable W. National Avenue and W. Cleveland Avenue	LS

Payment is full compensation for removing loop detector wire and lead-in cable; for scrapping of some materials; for disposing of scrap material.

72. Install Vendor Supplied Municipal Traffic Signal Cabinet W. North Avenue and N. 116th Street, Item SPV.0105.3105; W. National Avenue and W. Cleveland Avenue, Item SPV.0105.3106.

A Description

This special provision describes the installing of the vendor furnished Traffic Signal Cabinet for traffic signals.

B Materials

Arrange for the delivery of the vendor furnished Traffic Signal Cabinet to the project site and protect it from all damage and loss. The City of Wauwatosa and/or City of West Allis will provide notification at the preconstruction meeting of the Traffic Signal Cabinet vendor and provide the vendor's contact information.

Provide the project plans and specifications to the Traffic Signal Cabinet vendor a minimum of 70 calendar days prior to scheduled field installation. Coordinate directly with the Traffic Signal Cabinet vendor to schedule the cabinet delivery date and time to the project site location. Notify the City of Wauwatosa Public Works Department at (414) 471-8422 or the City of West Allis Public Works Department at (414) 302-8808 at least five working days prior to cabinet delivery.

Coordinate directly with the Traffic Signal Cabinet vendor to schedule the cabinet acceptance testing. Notify the City of Wauwatosa Public Works Department at (414) 471-8422 or the City of West Allis Public Works Department at (414) 302-8808 and participate in the acceptance testing. The City of Wauwatosa and the City of West Allis has the final determination of the cabinet acceptance testing date and time. The acceptance testing procedures will be provided by the City of Wauwatosa and the City of West Allis.

Append standard spec 651.3.3 (6) with the following:

Operate the completed traffic signal installation for 30 days consecutively, using the specified signal sequence(s) and all special functions, such as preemption as the plans show or as specified by the engineer.

The department shall 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.

Provide all other needed materials in conformance with standard spec 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 spec 651.3, 652.3, 653.3, 654.3, 655.3, 656.3, 657.3, 658.3 and 659.3 except as specified below.

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. The City of Wauwatosa and/or City of West Allis personnel will perform the inspection.

D Measurement

The department will measure Install Vendor Supplied Municipal Traffic Signal Cabinet [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.0105.3105	Install Vendor Supplied Municipal Traffic Signal Cabinet W. North Avenue and N. 116th Street	LS
SPV.0105.3106	Install Vendor Supplied Municipal Traffic Signal Cabinet W. National Avenue and W. Cleveland Avenue	LS

Payment is full compensation for installing and testing the Traffic Signal Cabinet; 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; for clean-up and waste disposal.

73. Video Vehicle Detection System W. North Avenue and N. 116th Street, Item SPV.0105.3107; W. National Avenue and W. Cleveland Avenue, Item SPV.0105.3108.

A Description

This specification sets forth the minimum requirements for a system that detects vehicles on a roadway using only video images of vehicle traffic. Work shall consist of furnishing and installing a video image detector system on all travel approaches.

The video detection camera system shall consist of the latest model video image detector cameras, mounting brackets and hardware, video monitor, video image processor card, power cable, and auxiliary equipment to make the video detector system fully

operational. The camera shall be an Iteris brand model and shall be equipped with a battery backup system.

B Materials

B.1 System Hardware

The video detection system shall consist of one to six video cameras, a video detection processor (VDP) capable of processing from one to six video sources, a video monitor, and a pointing device.

B.2 System Software

The system shall include software that detects vehicles in multiple lanes using only the video image. Detection zones shall be defined using only an on-board video menu and a pointing device to place the zones on a video image. Up to 144 detection zones shall be available. A separate computer shall not be required to program the detection zones. The VDP shall process video from up to 6 video sources simultaneously. The sources can be video cameras or S-VHS video tape players. The video shall be input to the VDP in RS170 format and shall be digitized and analyzed in real time. A separate microprocessor for each video input shall be used.

The VDP shall detect the presence of vehicles in up to 24 detection zones, per camera. A detection zone shall be approximately the width and length of one car. Detection zones shall be programmed via an on-board menu displayed on a video monitor and a pointing device connected to the VDP. The menu shall facilitate placement of the detection zones quickly and easily. A separate computer shall not be required for programming detection zones.

The VDP shall store up to three different detection zone patterns. The VDP can switch to any one of the three different detection patterns within 1 second of user request via menu selection with the pointing device.

The VDP shall detect vehicles in real time as they travel across each detection zone. The VDP shall have an RS-232 port for communications with an external computer. The VDP RS-232 port shall be multi-drop capable.

The VDP shall accept new detection patterns from an external computer through the RS-232 port when the external computer uses the correct communications protocol for downloading detection patterns.

The VDP shall send its detection patterns to an external computer through the RS-232 port when requested when the external computer uses the correct communications protocol for uploading detection patterns.

B.3 Vehicle Detection

Up to 144 detection zones shall be supported and each detection zone can be sized to suit the site and the desired vehicle detection region. Detection zones shall be capable of

being OR'ed or AND'ed together to indicate vehicle presence on a single detector output channel.

Placement of detection zones shall be done by using only a pointing device, and a graphical interface built into the VDP and displayed on a video monitor to draw the detection zones on the video image from each video camera. No separate computer shall be required to program the detection zones.

Up to three detection zone patterns shall be saved for each camera within the VDP memory and this memory shall prevent loss during power outages.

The selection of the detection zone pattern for current use shall be done through a menu. It shall be possible to activate a detection zone pattern from VDP memory and have that detection zone pattern available within 1 second of activation.

When a vehicle is detected crossing a detection zone, the corners of the detection zone will flash on the video overlay display to confirm the detection of the vehicle. Detection shall be at least 98% accurate in good weather conditions, with slight degradation possible under adverse weather conditions (e.g., rain, snow, or fog), which reduce visibility. Detection accuracy is dependent upon camera placement, camera quality and detection zone location, and these accuracy levels do not include allowances for occlusion or poor video due to camera location or quality. See the traffic signal installation plans for recommended camera placement.

The VDP shall provide 32 channels of detection through either a NEMA TS1 port or a NEMA TS2 port. The VDP shall provide dynamic zone reconfiguration (DZR). DZR enables normal operation of existing detection zones when one zone is being added or modified during the setup process. The VDP shall output a constant call on any detector channel corresponding to a zone being modified.

Detection zones shall be directional to reduce false detections from objects traveling in directions other than the desired direction of travel in the detection area. Detection zone setup shall not require site-specific information such as latitude and longitude to be entered into the system. Detection zone setup shall not require temporal information such as date and time.

The VDP shall process the video input from each camera using a separate microprocessor at 30 frames per second.

The VDP shall output a constant call for each enabled detector output channel if a loss of video signal occurs. The VDP shall output a constant call during the background learning period.

B.4 VDP Hardware

The VDP shall be housed in a durable metal enclosure suitable for shelf-mounting or rack mounting in a roadside traffic equipment cabinet. The VDP enclosure shall not exceed

7” high, 17.75” wide, and 10.5” deep. The VDP shall be modular in construction with plug-in field replaceable units (FRU’s) to minimize troubleshooting and repair time. The VDP shall operate satisfactorily in a temperature range from -30°F to +165°F and a humidity range from 0%RH to 95%RH, non-condensing as set forth in NEMA specifications.

The VDP shall be powered by 120 VAC 60 Hz single-phase power source. Surge ratings shall be as set forth in NEMA specifications. Power consumption shall not exceed 135 watts.

The VDP shall include an RS-232 port for serial communications with a remote computer. The VDP RS-232 port shall be multi-drop capable. This port shall be a 9-pin female “D” subminiature connector on the front of the VDP.

The VDP shall include ports for transmitting TS1 and TS2 detections to a traffic controller. The TS1 port shall be a 37-pin female “D” connector on the front of the VDP. The TS2 port shall be a 15-pin female “D” connector on the front of the VDP. The front of the VDP shall include up to six BNC video input connections suitable for RS-170 video inputs. Each video input shall include a switch selectable 75-ohm or high impedance termination to allow camera video to be routed to other devices, as well as input to the VDP for vehicle detection.

The front of the VDP shall include one BNC video output. Any one of the six video inputs shall be switch selectable for output on this BNC connection via the pointing device at the VDP, or through software and a personal computer connected through the RS-232 multi-drop port via a full duplex modem link.

The video inputs to the VDP shall include transient voltage suppression and isolation. Amplification that shall assure the 1-volt peak-to-peak video signal integrity is maintained despite video cabling losses and externally induced transients. The amplifier shall have a minimum common mode rejection at 60 Hz of 90 dB. The VDP enclosure shall include provisions to be bonded to a good earth ground.

The front face of the VDP shall contain indications, such as LED displays, to enable the user to view real time detections for up to 8 detector output channels at a time.

B.5 Camera

The video cameras used for traffic detection shall be furnished by the VDP supplier and shall be qualified by the supplier to ensure proper system operation.

The camera shall produce a useable video image of the bodies of vehicles under all roadway lighting conditions, regardless of time of day. The minimum range of scene luminance over which the camera shall produce a useable video image shall be the minimum range from nighttime to daytime, but not less than the range of 0.1 lux to 10,000 lux.

The camera shall use a CCD sensing element and shall output monochrome video with resolution of not less than 380 lines vertical and 380 lines horizontal. The camera shall include an electronic shutter control lens.

The camera shall include a variable focal length lens with variable focus that can be adjusted, without opening up the camera housing, to suit the site geometry. A single camera configuration shall be used for all approaches in order to minimize the setup time and spares required by the user.

The camera electronics shall include AGC to produce a satisfactory image at night. The camera shall be housed in a weather-tight sealed enclosure. The housing shall be field rotatable to allow proper alignment between the camera and the traveled road surface.

The camera enclosure shall be equipped with a sunshield. The sunshield shall include a provision for water diversion to prevent water from flowing in the camera's field of view. The camera enclosure with sunshield shall be less than 5" in diameter, less than 14" long, and shall weigh less than 5 pounds when the camera and lens are mounted inside of the enclosure.

The camera enclosure shall include a thermostatically controlled heater to assure proper operation of the lens shutter at low temperatures and prevent moisture condensation on the optical faceplate of the enclosure.

When mounted outdoors in the enclosure, the camera shall operate satisfactorily in a temperature range from -30°F to +140°F and a humidity range from 0% RH to 100% RH. The camera shall be powered by a 120 VAC 60 Hz power source. Power consumption shall be 15 watts or less, under all conditions.

Recommended camera placement height shall be 33 feet (or 10 meters) above the roadway, and over the traveled way on which vehicles are to be detected. For optimum detection, the camera should be centered above the traveled roadway. The camera shall view approaching vehicles at a distance not to exceed 350 feet for reliable detection (height to distance ratio of 10:100). Camera placement and field of view (FOV) shall be unobstructed and as noted in the installation documentation provided by the supplier.

The camera enclosure shall be equipped with separate, weather-tight connections for power and video cables at the rear of the enclosure. These connections may also allow diagnostic testing and viewing of video at the camera while the camera is installed on a mast arm or pole using a lens adjustment module (LAM) supplied by the VDP supplier.

Video and power shall not be connected within the same connector. The video signal output by the camera shall be black and white in RS-170 or CCIR format. The video signal shall be fully isolated from the camera enclosure and power cabling.

B.6 Manufacturer Warranty
The manufacturer / supplier shall provide a limited two-year warranty on the video detection system. Refer to the supplier's standard warranty included in the Terms and Conditions of Sale documentation.

During the warranty period, technical support shall be available from the supplier via telephone within 4 hours of the time a call is made by a user, and this support shall be available from factory-certified personnel or factory-certified installers.

During the warranty period, updates to VDP software shall be available from the supplier without charge.

B.7 Video Detection Coaxial Cable
The coaxial cable to be used between the camera and the VDP in the traffic cabinet shall be Belden 8281 or a 75 ohm, precision video cable with 20-gauge solid bare copper conductor (9.9 ohms/M), solid polyethylene insulating dielectric, 98% (min) tinned copper double-braided shield and black polyethylene outer covering. The signal attenuation shall not exceed 0.78 dB per 100 feet at 10 MHz. Nominal outside diameter is 0.304 inches.

This cable shall be suitable for installation in conduit or overhead with the appropriate span wires. 75-ohm BNC plug connectors shall be used at both the camera and cabinet ends. The coaxial cable, BNC connector, and crimping tool shall be approved by the supplier of the video detection system, and the manufacturer's instructions must be followed to ensure proper connection.

B.8 Video Detection Power Cable
The power cabling shall be 16 AWG three-conductor cable with a minimum outside diameter of 0.325 inch and a maximum diameter of 0.490 inch. The power cable shall be terminated at the camera per manufacturer's instructions and shall only require standard wire strippers and a screw driver for installation (no special connectors or crimping tools shall be used for installation). The cabling shall comply with the National Electric Code, as well as local electrical codes. Cameras may acquire power from the luminaire, if necessary.

B.9 Video Detection Monitor
The monitor shall be a flat screen color video monitor with a minimum 9" diagonal picture display. It shall support EIA standards RS-170 composite video signal (1.0 v p-p, 75 OHM).

It shall have a resolution of 900 lines at center. Video bandwidth shall be >11 MHz. Loop through connectors shall be provided, and both input and output connectors shall be BNCs.

The monitor power source shall be 120 VAC +/- 10%, 60 Hz. Power consumption shall not be greater than 18 W. Ambient operating temperature shall be +50 to +122 degrees Fahrenheit.

Located on the front panel, the controls shall be on/off, contrast, bright, vertical hold, and horizontal hold. Rear panel shall have controls for vertical size, vertical linearity and scan switch.

Dimensions shall not exceed 9" (W) and 10" (H). Weight shall not exceed 10 pounds.

C Construction

Install the Video Vehicle Detection System (Location) in accordance to the pertinent sections of the standard specifications and manufacturer's recommendations.

The coaxial cable and power cable shall be installed as a continuous unbroken run from the cameras to the VDP.

D Measurement

The department will measure Video Vehicle Detection System (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.0105.3107	Video Vehicle Detection System W. North Avenue and N. 116th Street	LS
SPV.0105.3108	Video Vehicle Detection System W. National Avenue and W. Cleveland Avenue	LS

Payment shall be full compensation for furnishing and installing the Video Detection Camera system on signal poles or mast arms as shown on the plans; for aiming the camera.

74. Temporary EVP System W. North Avenue and N. 116th Street, Item SPV.0105.3109; W. National Avenue and W. Cleveland Avenue, Item SPV.0105.3110.

A Description

This special provision describes furnishing, installing, and maintaining temporary EVP systems at the temporary signalized intersection as shown in the plans.

B Materials

Furnish an emergency vehicle preemption system compatible with the City of Wauwatosa and City of West Allis systems and users. Contact the City of Wauwatosa Public Works [Joe Kroll; (414) 471-8422; 11100 W. Walnut Road, Wauwatosa, WI;

jkroll@wauwatosa.net] for information regarding the equipment needs and operational requirements of the emergency vehicle preemption system. Contact the City of West Allis Public Works [Terry Meincke; (414) 302-8808] for information regarding the equipment needs and operational requirements of the emergency vehicle preemption system.

C Construction

The Temporary 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 and sub-stage of construction.

Install the temporary vehicle detection system as shown in the plans and according to the manufacturer's recommendations. Determine a suitable location for the temporary EVP detectors for each stage and sub-stage of construction. Detectors may be mounted on the temporary traffic signal span wire or wood poles. Relocate the temporary EVP detectors to a suitable location if construction activities and/or construction staging changes impede the detector operation. Arrange for testing of equipment prior to acceptance of the installation for each construction stage.

All cables associated with the temporary vehicle detection 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 EVP detectors may be required due to changes in traffic control, staging, or other construction operations.

Ensure that the temporary EVP system stays in clean working order. Periodic cleaning of the equipment may be required due to dirt and dust build-up.

Remove the temporary EVP system upon project completion.

Provide the engineer records of all EVP settings used during construction.

D Measurement

The department will measure Temporary EVP System (Location), furnished, installed, and completely operational, as a single complete lump sum unit of work per intersection, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.3109	Temporary EVP System W. North Avenue and N. 116th Street	LS
SPV.0105.3110	Temporary EVP System W. National Avenue and W. Cleveland Avenue	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; for removing the temporary EVP system; for cleaning up and properly disposing of waste.

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 the reasons for withholding payment.

The prime contractor may also withhold retainage from payments due subcontractors. Reduce the total amount retained from all first-tier subcontractors to no more than the department retains within 10 calendar days of the department releasing retainage.

Payment to Lower-Tier Subcontractors

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

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

Make the following revisions to the 2013 edition of the standard specifications:

104.4 Requests for Information

Replace paragraph one with the following effective with the July 2013 letting:

(1) Either the department or the contractor may request information that the other party must provide in order for the requesting party to fulfill its contract obligations. The requesting party shall submit requests for information (RFI) on department form DT2502 either in hard copy or via email. RFI must conform to the following:

- Be of reasonable scope.
- Explain why a response is necessary to fulfill contract obligations.
- Provide a requested response time, which must be reasonable in relation to its scope.

106.1 General

Replace the entire text with the following effective with the July 2013 letting:

106.1.1 Materials

(1) Provide materials conforming to the contract. Use new products and materials for items permanently incorporated into the work unless the contract specifies or allows otherwise. Use materials the contract specifies unless the engineer authorizes substitutes under 108.8. Monitor construction operations to identify potential nonconforming materials and prevent their incorporation into the work.

(2) All materials are subject to the engineer's approval before incorporation into the work. The engineer may inspect or test all materials at any time during their preparation, storage, and use. Notify the engineer of the proposed source of materials before delivering those materials to the project site. If the engineer requests, provide samples of material and access to facilities that the engineer needs to assess the acceptability of all materials. The department will, on request, share with the contractor available information on a source or material. The department will maintain a web-based list of approved aggregate sources. Aggregate producers must provide test results as required in the department policy for aggregate source approval to have their source approved and to keep that approval over time.

(3) For fabricated components, the materials and the fabricator are subject to the department's approval before delivery of those components to the project site. The engineer may require the contractor to obtain components from another department-approved source if the department determines a fabricator's product does not conform to the contract.

(4) Do not incorporate materials into the work until the engineer approves those materials. However, the contractor may request permission to incorporate materials not already approved. The engineer will grant this permission only if the contractor can provide convincing evidence that the engineer will subsequently find those materials conforming. Incorporation of materials before approval is at the contractor's risk and permission to do so does not imply that the department will subsequently approve those materials.

(5) Except as required under the contract, ensure that products incorporated into the work, either temporarily or permanently, do not display advertising or messages not directly related to the manufacturer, properties, or function of those products; or advertising or messages in violation of state statutes

106.1.2 Designated Materials Person

(1) Designate one person, either a member of the contractor's own organization or acting as an agent for the contractor responsible for the following:

- Communicating contract sampling and testing requirements to subcontractors at all tiers.
- Reporting out-of-specification test results to the department as soon as the information is available.

- Providing certified reports of test or analysis and manufacturers' certificates of compliance from subcontractors at all tiers and maintaining certification records as specified in 106.3.3.2.

(2) Ensure that the contractor-designated materials person submits materials information required under the contract to a person the engineer designates. Ensure that the contractor-designated materials person communicates with their department counterpart weekly.

106.3.4.3.1 General

Replace paragraph two with the following effective with the November 2012 letting:

(2) Required sampling and testing methodologies and documentation are specified in CMM chapter 8.

(3) If disputed, approval of materials and components, as well as acceptance of the work incorporating those materials or components, is subject to review under the QMP dispute resolution process.

107.17.3 Railroad Insurance Requirements

Replace the entire text with the following effective with the August 2012 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 department has accepted the work as specified in 105.11.2.4.

(2) Provide railroad protective liability insurance coverage written as specified in 23 CFR part 646 subpart A. Provide a separate policy for each railroad owning tracks on the project. Ensure that the railroad protective liability insurance policies provide the following minimum limits of coverage:

1. Coverage A, bodily injury liability and property damage liability; $2 million per occurrence.
2. Coverage B, physical damage to property liability; $2 million per occurrence.
3. An annual aggregate amount of $6 million that shall apply separately to each policy renewal or extension.

(3) Obtain coverage from insurance companies licensed to do business in Wisconsin that have an A.M. Best rating of A- or better. The cost of providing the required insurance coverage and limits is incidental to the contract. The department will make no additional or special payment for providing insurance.

(4) Submit the following to each railroad owning tracks on the project as evidence of that railroad's respective coverage:

1. A certificate of insurance for the types and limits of insurance specified in 107.26.
2. The railroad protective liability insurance policy or other acceptable documentation to the railroad company.

(5) Submit the following to the region as evidence of the required coverage:

1. A copy of the letter to the railroad company transmitting the submittal documents specified in 107.17.3(4).
2. A certificate of insurance for the required railroad protective liability coverages.

(6) Do not begin work on the right of way or premises of the railroad company until the region receives the submittals specified in 107.17.3(5) and notification from the railroad company that the contractor has provided sufficient insurance information to begin work.

(7) Notify the railroad and the region immediately upon cancellation or initiating cancellation, whichever is earlier, or any material change in coverage. Cease operations within 50 feet of the railroad right of way immediately if insurance is cancelled or reduced. Do not resume operations until the required coverage is in force.

460.2.8.3.1.4 Department Verification Testing Requirements

Replace paragraph four with the following effective with the December 2012 letting:

(4) The department will randomly test each design mixture at the following minimum frequency:

FOR TONNAGES TOTALING:	
Less than 501 tons	no tests required
From 501 to 5,000 tons	one test
More than 5,000 tons	add one test for each additional 5,000-ton increment

501.2.1 Portland Cement

Replace paragraph one with the following effective with the March 2013 letting:

(1) Use cement conforming to ASTM specifications as follows:

- Type I portland cement; ASTM C150.
- Type II portland cement; ASTM C150.
- Type III portland cement; ASTM C150, for high early strength.
- Type IP portland-pozzolan cement; ASTM C595, except maximum loss on ignition is 2.0 percent.
- Type IS portland blast-furnace slag cement; ASTM C595.
- Type IL portland-limestone cement; ASTM C595, except maximum nominal limestone content is 10 percent with no individual test result exceeding 12.0 percent.

501.2.5.5 Sampling and Testing

Replace the entire text with the following effective with the January 2013 letting:

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

Sampling aggregates	AASHTO T2
Lightweight pieces in aggregate	AASHTO T113
Material finer than No. 200 sieve	AASHTO T11
Unit weight of aggregate	AASHTO T19
Organic impurities in sands	AASHTO T21
Sieve analysis of aggregates	AASHTO T27
Effect of organic impurities in fine aggregate	AASHTO T71
Los Angeles abrasion of coarse aggregate	AASHTO T96
Freeze-thaw soundness of coarse aggregate	AASHTO T103
Sodium sulfate soundness of aggregates	AASHTO T104
Specific gravity and absorption of fine aggregate	AASHTO T84
Specific gravity and absorption of coarse aggregate	AASHTO T85
Flat & elongated pieces based on a 3:1 ratio	ASTM D4791[1]
Sampling fresh concrete	AASHTO R60
Making and curing concrete compressive strength test specimens	AASHTO T23
Compressive strength of molded concrete cylinders	AASHTO T22

[1] As modified in CMM 8-60.

501.2.6 Fly Ash

Replace paragraph three with the following effective with the March 2013 letting:

(3) Test fly ash using a recognized laboratory, as defined in 501.2.2(1), starting at least 30 days before its proposed use, and continuing at ASTM-required frequencies as the work progresses. The manufacturer shall test the chemical and physical properties listed in tables 1 and 2 of ASTM C618 at the frequencies and by the test methods prescribed in ASTM C311.

501.3.1.1.1 Air-Entrained Concrete

Replace paragraph one with the following effective with the March 2013 letting:

(1) Prepare air-entrained concrete with type I, IL, II, IS, or IP cement and sufficient air-entraining admixture to produce concrete with the air content specified in 501.3.2.4.

501.3.1.3.2 Special Restrictions

Replace paragraph one with the following effective with the July 2013 letting:

(1) If using coarse aggregate composed primarily of igneous or metamorphic materials, provide concrete for concrete pavement, approach slabs, barrier, surface drains, driveways, alleys, sidewalks, curb, gutter, and curb & gutter as follows:

Grade A, A-FA, A-S, and A-T :	If using type II portland cement, or if using Type IL blended cement where the base portland cement meets Type II chemical requirements.
Grade A-IS and A-IP :	If using type I/II blended portland cement.
Grade A-S2 :	If placing by a slip-formed process and using type II portland cement.
Grade C, C-FA, C-S, C-IS, and C-IP :	If using types I or III portland cement.

503.2.2 Concrete

Replace paragraph five with the following effective with the March 2013 letting:

(5) Furnish prestressed concrete members cast from air-entrained concrete, except I-type girders may use non-air-entrained concrete. Use type I, IL, IS, , IP, II, or III cement. The contractor may replace up to 30 percent of type I, IL, II, or III cement with an equal weight of fly ash, slag, or a combination of fly ash and slag, except for prestressed box girders and slabs, the contractor shall replace 20-30 percent of the cement with fly ash, slag, or a combination of fly ash and slag. Ensure that fly ash conforms to 501.2.6 and slag conforms to 501.2.7. Use only one source and replacement rate for work under a single bid item. Use a department-approved air-entraining admixture conforming to 501.2.2 for air-entrained concrete. Use only size No. 1 coarse aggregate conforming to 501.2.5.4.

506.3.22 Shop Inspection

Replace paragraph one with the following effective with the July 2010 letting:

(1) The engineer or an independent inspection agency under department contract may inspect all structural steel and miscellaneous metals furnished. The department will provide the contractor with monthly consultant inspection invoices and identify any quality deficiencies at the fabrication facility.

506.5 Payment

Add paragraph nine as follows effective with the June 2010 letting:

(9) The department will limit costs for inspections conducted under 506.3.2 to $0.05 per pound of material and deduct costs in excess of that amount from payment due the contractor. The department will determine costs for in-house inspections based on hourly rates for department staff plus overhead and use invoiced costs for contracted-out inspections. The department will administer deductions for the contractor's share of the total inspection cost under the Excess Costs For Fabrication Shop Inspection administrative item.

507.2.2.1 General

Replace paragraph four with the following effective with the December 2012 letting:

(4) Ensure that there are no unsound knots or knot holes. Also ensure that there are no tight knots of a diameter exceeding one-quarter of the greater dimension at the point where they occur. Measure a knot by taking its diameter at right angles to the length of the timber. Ensure that the sum of sizes of all

knots in any one-foot length does not exceed 2 times the size of the largest allowed single knot. The engineer will treat cluster knots as if they were a single knot. A cluster knot is 2 or more knots grouped together, with the fibers of the wood deflected around the entire unit.

512.3.1 Driving and Cutting Off

Replace the entire text with the following effective with the December 2012 letting:

512.3.1.1 General

(1) Coordinate driving operations to prevent damage or displacement of concrete in substructure units or damage to adjacent facilities due to vibrations.

(2) Drive sheeting with a variation of 1/4 inch or less per foot from the vertical or from the batter the plans show. Ensure that the sheetpiles are within 6 inches of the plan position after driving. Do not damage sheetpiles attempting to correct for misalignment.

(3) Remove and replace, or otherwise correct, sheetpiles the engineer deems unacceptable under 105.3. Submit details of planned corrections to the engineer for review and approval before initiating any corrective actions.

(4) Drive sheetpiles to or beyond the required tip elevation the plans show.

512.3.1.2 Driving System

(1) Furnish a sheetpile driving system capable of driving the sheetpiles to the required minimum tip elevation the plans show.

(2) The engineer may order the contractor to remove a pile driving system component from service if it causes insufficient energy transfer or damages the sheetpiles. Do not return a component to service until the engineer determines that it has been satisfactorily repaired or adjusted.

(3) Drive sheetpiles with diesel, air, steam, gravity, hydraulic, or vibratory hammers.

512.3.1.3 Cut-Offs

(1) Cut off sheetpiles at the elevations the plans show or as the engineer directs. Pile cut-offs become the property of the contractor. Dispose of cut-offs not incorporated into the work.

518.2.1 General

Replace paragraph one with the following effective with the March 2013 letting:

(1) Furnish portland cement and water as specified in 501.2. Unless the engineer allows an alternate, use either type I, IL, IS, or IP cement.

526.3.3 Temporary Structures

Replace paragraphs two through four with the following effective with the January 2013 letting:

(2) Inspect temporary structures conforming to the National Bridge Inspection Standards (NBIS) and the department's structure inspection manual before opening to traffic. Perform additional inspections, as the department's structure inspection manual requires, based on structure type and time in service. Submit inspection reports on department form DT2007 to the engineer and electronic copies to the department's bureau of structures maintenance section. Ensure that a department-certified active team leader, listed online in the department's highway structures information system (HSIS), performs the inspections.

(3) Maintain temporary structures and approaches in place until no longer needed. Unless the engineer directs otherwise, completely remove and dispose of as specified in 203.3.4. Contractor-furnished materials remain the contractor's property upon removal.

614.2.5 Wood Posts and Offset Blocks

Retitle and replace the entire text with the following effective with the July 2012 letting:

614.2.5 Posts and Offset Blocks

614.2.5.1 Wood Posts and Offset Blocks

(1) Furnish sawed posts and offset blocks of one of the following species:

Douglas fir	Southern pine	Ponderosa pine	Jack pine	White pine
Red pine	Western hemlock	Western larch	Hem-fir	Oak

(2) Ensure that posts are the size the plans show and conform to the nominal and minimum dimensions tabulated in 507.2.2.3. The contractor does not have to surface the posts. Provide posts of the net length the plans show after setting and cut off.

(3) Use stress graded posts rated at 1200 psi f_b or higher. Determine the stress grade rating for douglas fir, western larch, and southern pine as specified in 507.2.2.4.

(4) For hem-fir, hemlock, red pine, white pine, jack pine, ponderosa pine, and oak conform to the following:

TABLE 614-1 PROPERTIES FOR WOOD POSTS AND BLOCKS

SPECIES			WESTERN HEMLOCK, HEM-FIR, RED PINE, WHITE PINE, JACK PINE, PONDEROSA PINE		OAK	
MAXIMUM SLOPE OF GRAIN			1 in 15		1 in 12	
NOMINAL WIDTH OF FACE			6"	8"	6"	8"
SHAKES, CHECKS, AND SPLITS		GREEN	1"	1 3/8"	2 3/8"	3 1/8"
		SEASONED	1 1/2"	2"	2 5/8"	3 1/2"
MAXIMUM WANE			1"	1 3/8"	1 1/8"	1 5/8"
MAXIMUM ALLOWABLE KNOTS	NARROW FACE	MIDDLE 1/3 OF LENGTH	1 3/8"	1 5/8"	2 1/8"	2 3/8"
		END[1]	2 3/4"	3 1/4"	4 1/4"	4 3/4"
		SUM IN MIDDLE 1/2 OF LENGTH[2]	11"	13"	17"	19
	WIDE FACE	EDGE KNOT N MIDDLE 1/3 OF LENGTH	1 3/8"	1 5/8"		
		EDGE KNOT AT END[1]	2 3/4" 7	3 1/4"		
		CENTERLINE	1 3/8"	1 7/8"	2 1/4"	2 7/8"
		SUM IN MIDDLE 1/2 OF LENGTH	5 1/2"	7 1/2"	9"	11 1/2"

[1] But do not exceed the maximum allowable knot on the centerline of the wide face of the same piece.

[2] But do not exceed 4 times the maximum allowable knot on the centerline of the wide face of the same piece.

(5) Pressure treat posts and offset blocks as specified in 507.2.2.6. Use one of the oil-soluble preservatives or chromated copper arsenate conforming to 507.2.3. Use the same material for offset blocks and posts and treat material used in each continuous installation with the same type of preservative.

614.2.5.2 Steel Posts

(1) Furnish steel posts conforming to AASHTO M270 Grade 36 and galvanized according to AASTHO M111.

614.2.5.3 Plastic Offset Blocks

(1) Furnish plastic offset blocks from the department's approved products list.

614.3.1 General

Replace the entire text with the following effective with the July 2012 letting:

(1) Paint the ends of cut-off galvanized posts, rail, bolts, cut or drilled surfaces of galvanized components, and areas of damaged zinc coating with 2 coats of zinc dust/zinc oxide paint. Clean the damaged and adjacent areas thoroughly before applying paint.

(2) Apply 2 coats of wood preservative to cut surfaces of wood components. Use the same preservative originally used to treat that component or use a 2-percent solution of copper naphthenate conforming to AWPA Standard P8 or P36.

614.3.2.1 Installing Posts

Replace paragraph four with the following effective with the July 2012 letting:

(4) Cut post tops to the finished elevation the plans show.

628.2.13 Rock Bags

Replace paragraph one with the following effective with the November 2012 letting:

(1) Furnish rock bags made of a porous, ultraviolet resistant, high-density polyethylene or geotextile fabric that will retain 70% of its original strength after 500 hours of exposure according to ASTM D4355 and a minimum in-place filled size of 18-inches long by 12-inches wide by 6-inches high. Ensure that the fabric conforms to the following:

TEST REQUIREMENT	METHOD	VALUE
Minimum Tensile	ASTM D4632	
Machine direction		70 lb minimum
Cross direction		40 lb minimum
Elongation	ASTM D4632	
Machine direction		20% minimum
Cross direction		10 % min
Puncture	ASTM 4833	65 lbs minimum
Minimum Apparent Opening		0.0234 inches (No. 30 sieve)
Maximum Apparent Opening		0.0787 inches (No. 10 sieve)

639.2.1 General

Replace paragraph two with the following effective with the March 2013 letting:

(2) For grout use fine aggregate conforming to 501.2.5.3 and type I, IL, IS, or IP cement.

649.3.1 General

Replace paragraphs three and four with the following effective with the March 2013 letting:

(3) For pavements open to all traffic, apply centerline and no-passing barrier line markings as follows:

- On intermediate pavement layers, including milled surfaces, on the same day the pavement is placed or milled.
- On the upper layer of pavement, on the same day the pavement is placed unless the contractor applies permanent marking on the same day the pavement is placed.

If weather conditions preclude same-day application, apply as soon as weather allows. Do not resume next-day construction operations until these markings are completed unless the engineer allows otherwise.

(4) If required to apply no passing zone temporary pavement marking, reference the beginning and end of all existing no-passing barrier lines. Apply temporary no-passing barrier lines at those existing locations. If the contract contains the Locating No-Passing Zones bid item, relocate permanent no-passing zones as specified in section 648.

701.4.2 Verification Testing

Replace paragraph two with the following effective with the December 2012 letting:

(2) The department will sample randomly at locations independent of the contractor's QC tests and use separate equipment and laboratories. The department will conduct a minimum of one verification test for each 5 contractor QC tests unless specific QMP provisions specify otherwise.

715.2.3.1 Pavements

Replace paragraph two with the following effective with the March 2013 letting:

(2) Provide a minimum cement content of 565 pounds per cubic yard, except if using type I, IL, or III cement in a mix where the geologic composition of the coarse aggregate is primarily igneous or metamorphic materials, provide a minimum cement content of 660 pounds per cubic yard.

715.3.1.3 Department Verification Testing

Replace paragraph one with the following effective with the December 2012 letting:

(1) The department will perform verification testing as specified in 701.4.2 except as follows:

- Air content, slump, and temperature: a minimum of 1 verification test per lot.
- Compressive strength: a minimum of 1 verification test per lot.

Errata

Make the following corrections to the 2013 edition of the standard specifications:

102.12 Public Opening of Proposals

Correct 102.12(1) errata by changing htm to shtm in the web link.

(1) The department will publicly open proposals at the time and place indicated in the notice to contractors. The department will post the total bid for each proposal on the Bid Express web site beginning at 9:30 AM except as specified in 102.8. If a proposal has no total bid shown, the department will not post the bid. After verification for accuracy under 103.1, the department will post bid totals on the department's HCCI web site.

http://roadwaystandards.dot.wi.gov/hcci/bid-letting/index.shtm

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107.22 Contractor's Responsibility for Utility Facilities, Property, and Services

Correct errata by eliminating references to the department. Costs are determined by statute.

(3) If the contractor damages or interrupts service, the contractor shall notify the utility promptly. Coordinate and cooperate with the utility in the repair of the facility. Determine who is responsible for repair costs according to Wisconsin statutes 66.0831 and 182.0175(2).

204.3.2.2 Removing Items

Correct errata by changing the reference from 490.3.2 to 490.3.

(5) Under the Removing Asphaltic Surface Milling bid item, remove and dispose of existing asphaltic pavement or surfacing by milling at the location and to the depth the plans show. Mill the asphaltic pavement or surfacing as specified for milling salvaged asphaltic pavement in 490.3.

501.2.9 Concrete Curing Materials

Correct errata by changing AASHTO M171 to ASTM C171.

(4) Furnish polyethylene-coated burlap conforming to ASTM C171 for white burlap-polyethylene sheets.

506.2.6.5.2 Pad Construction

Correct errata by changing ASTM A570 to ASTM A1011.

(4) For the internal steel plates use rolled mild steel conforming to ASTM A36, or ASTM A1011 grade

512.3.3 Painting

Correct errata by changing 511.3.5 to 550.3.11.3.

(1) Paint permanent steel sheet piling as specified for painting steel piling in 550.3.11.3.

513.2.2.8 Toggle Bolts

Correct errata by changing ASTM A570 to ASTM A1011.

(1) Use toggle bolts made of steel, conforming to the plans. Make the assembly from the material specified below:

Toggle bolt and pin	Cold finished steel heat-treated Brinell 311-363 ASTM A354.
Toggle washer	Hot rolled steel ASTM A1011. Manufacturer's standard washer.
Spacer nut	Grade 1213, ASTM A108. Cold finished steel heat-treated ASTM A325.

614.2.1 General

Correct errata by changing the discontinued AASHTO M298 to ASTM B695.

(4) Furnish steel nuts conforming to ASTM A563, washers conforming to ASTM F436, grade 1, and bolts conforming to ASTM A307. Ensure that the nuts, washers, and bolts are either hot-dip coated according to AASHTO M232 class C or mechanically coated according to ASTM B695 class 50.

643.3.1 General

Correct errata by eliminating the word "continuously".

(6) Review all traffic signs and control devices furnished and erected for location, position, visibility, adequacy, and manner of use under specific job conditions immediately after each setup and at least once every 24 hours and more frequently as necessary, to ensure all the signs and control devices are in compliance with this section. Review the signs and devices from the same direction that approaching traffic views them.

660.2.1 General

Correct errata by changing section 511 to 550.

(1) Furnish materials conforming to the following:

Concrete	section 501
Concrete bridges	section 502
Luminaires	section 659

Steel piling ..... section 550
Steel reinforcement..... section 505

660.3.2.3 Pile Type Foundations

Correct errata by changing section 511 to 550.

(1) Drive piles as specified in for steel piling in section 550.

701.3 Contractor Testing

Correct errata by updating AASHTO T141 to AASHTO R60 and changing AASHTO T309 to ASTM C1064.

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

TABLE 701-2 TESTING STANDARDS

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

[1] As modified in CMM 8-60.

[2] As modified in CMM 8-70.

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/hidden/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 May 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 $1.25/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 $1.25/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 $1.25/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 $1.25/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 $1.25/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 $1.25/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

CONTRACT: 20130813008 PROJECT(S): 1060-33-93 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 TMP ROADWAY ITEMS					
0010	108.4400 CPM PROGRESS SCHEDULE	1.000 EACH		.		.
0020	204.0100 REMOVING PAVEMENT	48.000 SY		.		.
0030	204.0109.S REMOVING CONCRETE SURFACE PARTIAL DEPTH **P**	57,969.000 SF		.		.
0040	204.0120 REMOVING ASPHALTIC SURFACE MILLING **P**	6,450.000 SY		.		.
0050	204.0150 REMOVING CURB & GUTTER **P**	30.000 LF		.		.
0060	204.0155 REMOVING CONCRETE SIDEWALK **P**	701.000 SY		.		.
0070	204.0195 REMOVING CONCRETE BASES	18.000 EACH		.		.
0080	213.0100 FINISHING ROADWAY (PROJECT) 0001. 1060-33-93	1.000 EACH		.		.
0090	305.0115 BASE AGGREGATE DENSE 3/4-INCH	40.000 CY		.		.
0100	415.0080 CONCRETE PAVEMENT 8-INCH	47.000 SY		.		.

CONTRACT: 20130813008 PROJECT(S): 1060-33-93 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
0110	416.0610 DRILLED TIE BARS	26.000 EACH		.		.
0120	455.0105 ASPHALTIC MATERIAL PG58-28	81.000 TON		.		.
0130	455.0605 TACK COAT	170.000 GAL		.		.
0140	460.1103 HMA PAVEMENT TYPE E-3	1,480.000 TON		.		.
0150	460.2000 INCENTIVE DENSITY HMA PAVEMENT	100.000 DOL	1.00000		100.00	
0160	601.0322 CONCRETE CURB & GUTTER 22-INCH **P**	30.000 LF		.		.
0170	602.0410 CONCRETE SIDEWALK 5-INCH **P**	5,200.000 SF		.		.
0180	602.0420 CONCRETE SIDEWALK 7-INCH	1,130.000 SF		.		.
0190	602.0505 CURB RAMP DETECTABLE WARNING FIELD YELLOW	40.000 SF		.		.
0200	602.0515 CURB RAMP DETECTABLE WARNING FIELD NATURAL PATINA	104.000 SF		.		.
0210	618.0100 MAINTENANCE AND REPAIR OF HAUL ROADS (PROJECT) 0001. 1060-33-93	1.000 EACH		.		.

CONTRACT: 20130813008 PROJECT(S): 1060-33-93 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
0220	619.1000 MOBILIZATION	1.000 EACH		.		.
0230	625.0100 TOPSOIL	1,605.000 SY		.		.
0240	628.1905 MOBILIZATIONS EROSION CONTROL	2.000 EACH		.		.
0250	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL	2.000 EACH		.		.
0260	628.7015 INLET PROTECTION TYPE C	19.000 EACH		.		.
0270	631.0300 SOD WATER	58.000 MGAL		.		.
0280	631.1000 SOD LAWN	1,605.000 SY		.		.
0290	634.0618 POSTS WOOD 4X6-INCH X 18-FT	14.000 EACH		.		.
0300	634.0816 POSTS TUBULAR STEEL 2X2-INCH X 16-FT	9.000 EACH		.		.
0310	637.0202 SIGNS REFLECTIVE TYPE II	688.465 SF		.		.
0320	637.0402 SIGNS REFLECTIVE FOLDING TYPE II	112.000 SF		.		.

CONTRACT: 20130813008 PROJECT(S): 1060-33-93 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
0330	638.2102 MOVING SIGNS TYPE II	28.000 EACH		.		.
0340	638.2602 REMOVING SIGNS TYPE II	36.000 EACH		.		.
0350	638.3000 REMOVING SMALL SIGN SUPPORTS	9.000 EACH		.		.
0360	643.0100 TRAFFIC CONTROL (PROJECT) 0001. 1060-33-93	1.000 EACH		.		.
0370	643.0300 TRAFFIC CONTROL DRUMS	346.000 DAY		.		.
0380	643.0420 TRAFFIC CONTROL BARRICADES TYPE III	1,934.000 DAY		.		.
0390	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A	3,868.000 DAY		.		.
0400	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C	68.000 DAY		.		.
0410	643.0900 TRAFFIC CONTROL SIGNS	1,497.000 DAY		.		.
0420	643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II	7.000 EACH		.		.
0430	643.1050 TRAFFIC CONTROL SIGNS PCMS	6.000 DAY		.		.

CONTRACT: 20130813008 PROJECT(S): 1060-33-93 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
0440	646.0106 PAVEMENT MARKING EPOXY 4-INCH	4,027.000 LF		.		.
0450	646.0126 PAVEMENT MARKING EPOXY 8-INCH	1,077.000 LF		.		.
0460	646.0881.S PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 4-INCH	4,075.000 LF		.		.
0470	646.0883.S PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 8-INCH	3,355.000 LF		.		.
0480	647.0166 PAVEMENT MARKING ARROWS EPOXY TYPE 2	2.000 EACH		.		.
0490	647.0356 PAVEMENT MARKING WORDS EPOXY	2.000 EACH		.		.
0500	647.0566 PAVEMENT MARKING STOP LINE EPOXY 18-INCH	281.000 LF		.		.
0510	647.0726 PAVEMENT MARKING DIAGONAL EPOXY 12-INCH	888.000 LF		.		.
0520	647.0766 PAVEMENT MARKING CROSSWALK EPOXY 6-INCH	1,225.000 LF		.		.
0530	652.0215 CONDUIT RIGID NONMETALLIC SCHEDULE 40 1 1/4-INCH	90.000 LF		.		.

CONTRACT: 20130813008 PROJECT(S): 1060-33-93 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
0540	652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	1,051.000 LF		.		.
0550	652.0235 CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH	2,138.000 LF		.		.
0560	652.0605 CONDUIT SPECIAL 2-INCH	60.000 LF		.		.
0570	652.0615 CONDUIT SPECIAL 3-INCH	4,885.000 LF		.		.
0580	652.0700.S INSTALL CONDUIT INTO EXISTING ITEM	3.000 EACH		.		.
0590	653.0135 PULL BOXES STEEL 24X36-INCH	2.000 EACH		.		.
0600	653.0140 PULL BOXES STEEL 24X42-INCH	73.000 EACH		.		.
0610	653.0905 REMOVING PULL BOXES	11.000 EACH		.		.
0620	654.0101 CONCRETE BASES TYPE 1	45.000 EACH		.		.
0630	654.0102 CONCRETE BASES TYPE 2	18.000 EACH		.		.
0640	654.0110 CONCRETE BASES TYPE 10	6.000 EACH		.		.

CONTRACT: 20130813008 PROJECT(S): 1060-33-93 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
0650	654.0217 CONCRETE CONTROL CABINET BASES TYPE 9 SPECIAL	7.000 EACH		.		.
0660	655.0230 CABLE TRAFFIC SIGNAL 5-14 AWG	3,840.000 LF		.		.
0670	655.0240 CABLE TRAFFIC SIGNAL 7-14 AWG	3,907.000 LF		.		.
0680	655.0260 CABLE TRAFFIC SIGNAL 12-14 AWG	9,550.000 LF		.		.
0690	655.0270 CABLE TRAFFIC SIGNAL 15-14 AWG	1,017.000 LF		.		.
0700	655.0505 ELECTRICAL WIRE TRAFFIC SIGNALS 14 AWG	3,840.000 LF		.		.
0710	655.0515 ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG	10,386.000 LF		.		.
0720	655.0900 TRAFFIC SIGNAL EVP DETECTOR CABLE	6,616.000 LF		.		.
0730	656.0200 ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 3001. IH 894/USH 45 EB RAMPS & W. NATIONAL AVENUE	LUMP	LUMP			.

CONTRACT: 20130813008 PROJECT(S): 1060-33-93 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
0740	656.0200 ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 3002. IH 94/USH 45 WB RAMPS & NATIONAL AVENUE	LUMP	LUMP			.
0750	656.0200 ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 3003. USH 18 & N. 97TH STREET	LUMP	LUMP			.
0760	656.0200 ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 3004. USH 18 & N. 95TH STREET	LUMP	LUMP			.
0770	656.0200 ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 3005. USH 18 & N. 92ND STREET	LUMP	LUMP			.
0780	656.0200 ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 3101. W. NORTH AVENUE & N. 116TH STREET	LUMP	LUMP			.
0790	656.0200 ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 3102. W. NATIONAL AVENUE & W. CLEVELAND AVENUE	LUMP	LUMP			.
0800	657.0100 PEDESTAL BASES	49.000 EACH	.			.
0810	657.0255 TRANSFORMER BASES BREAKAWAY 11 1/2-INCH BOLT CIRCLE	18.000 EACH	.			.

CONTRACT: 20130813008 PROJECT(S): 1060-33-93 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
0820	657.0305 POLES TYPE 2	6.000 EACH		.		.
0830	657.0310 POLES TYPE 3	12.000 EACH		.		.
0840	657.0405 TRAFFIC SIGNAL STANDARDS ALUMINUM 3.5-FT	2.000 EACH		.		.
0850	657.0420 TRAFFIC SIGNAL STANDARDS ALUMINUM 13-FT	15.000 EACH		.		.
0860	657.0425 TRAFFIC SIGNAL STANDARDS ALUMINUM 15-FT	10.000 EACH		.		.
0870	657.0430 TRAFFIC SIGNAL STANDARDS ALUMINUM 10-FT	22.000 EACH		.		.
0880	657.0585 TROMBONE ARMS 15-FT	5.000 EACH		.		.
0890	657.0590 TROMBONE ARMS 20-FT	3.000 EACH		.		.
0900	657.0595 TROMBONE ARMS 25-FT	6.000 EACH		.		.
0910	657.0609 LUMINAIRE ARMS SINGLE MEMBER 4-INCH CLAMP 6-FT	12.000 EACH		.		.
0920	657.1345 INSTALL POLES TYPE 9	6.000 EACH		.		.

CONTRACT: 20130813008 PROJECT(S): 1060-33-93 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
0930	657.1525 INSTALL MONOTUBE ARMS 25-FT	1.000 EACH		.		.
0940	657.1530 INSTALL MONOTUBE ARMS 30-FT	5.000 EACH		.		.
0950	658.0103 TRAFFIC SIGNAL FACE 1-12 INCH VERTICAL	1.000 EACH		.		.
0960	658.0110 TRAFFIC SIGNAL FACE 3-12 INCH VERTICAL	74.000 EACH		.		.
0970	658.0115 TRAFFIC SIGNAL FACE 4-12 INCH VERTICAL	20.000 EACH		.		.
0980	658.0120 TRAFFIC SIGNAL FACE 5-12 INCH VERTICAL	2.000 EACH		.		.
0990	658.0210 BACKPLATES SIGNAL FACE 1 SECTION 12-INCH	2.000 EACH		.		.
1000	658.0215 BACKPLATES SIGNAL FACE 3 SECTION 12-INCH	74.000 EACH		.		.
1010	658.0220 BACKPLATES SIGNAL FACE 4 SECTION 12-INCH	20.000 EACH		.		.
1020	658.0225 BACKPLATES SIGNAL FACE 5 SECTION 12-INCH	2.000 EACH		.		.
1030	658.0416 PEDESTRIAN SIGNAL FACE 16-INCH	76.000 EACH		.		.

CONTRACT: 20130813008 PROJECT(S): 1060-33-93 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
1040	658.0500 PEDESTRIAN PUSH BUTTONS	46.000 EACH		.		.
1050	658.0600 LED MODULES 12-INCH RED BALL	70.000 EACH		.		.
1060	658.0605 LED MODULES 12-INCH YELLOW BALL	64.000 EACH		.		.
1070	658.0610 LED MODULES 12-INCH GREEN BALL	64.000 EACH		.		.
1080	658.0615 LED MODULES 12-INCH RED ARROW	26.000 EACH		.		.
1090	658.0620 LED MODULES 12-INCH YELLOW ARROW	60.000 EACH		.		.
1100	658.0625 LED MODULES 12-INCH GREEN ARROW	30.000 EACH		.		.
1110	658.0635 LED MODULES PEDESTRIAN COUNTDOWN TIMER 16-INCH	76.000 EACH		.		.
1120	658.5069 SIGNAL MOUNTING HARDWARE (LOCATION) 3001. IH 894/USH 45 EB RAMPS & W. NATIONAL AVENUE	LUMP	LUMP			.
1130	658.5069 SIGNAL MOUNTING HARDWARE (LOCATION) 3002. IH 894/USH 45 WB RAMPS & W. NATIONAL AVENUE	LUMP	LUMP			.

CONTRACT: 20130813008 PROJECT(S): 1060-33-93 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
1140	658.5069 SIGNAL MOUNTING HARDWARE (LOCATION) 3003. USH 18 & N. 97TH STREET	LUMP	LUMP			.
1150	658.5069 SIGNAL MOUNTING HARDWARE (LOCATION) 3004. USH 18 & N. 95TH STREET	LUMP	LUMP			.
1160	658.5069 SIGNAL MOUNTING HARDWARE (LOCATION) 3005. USH 18 & N. 92ND STREET	LUMP	LUMP			.
1170	658.5069 SIGNAL MOUNTING HARDWARE (LOCATION) 3101. W. NORTH AVENUE & N 116TH STREET	LUMP	LUMP			.
1180	658.5069 SIGNAL MOUNTING HARDWARE (LOCATION) 3102. W. NATIONAL AVENUE & W. CLEVELAND AVENUE	LUMP	LUMP			.
1190	658.5069 SIGNAL MOUNTING HARDWARE (LOCATION) 3103. W NORTH AVENUE AND 92ND ST (N SWAN BLVD)	LUMP	LUMP			.
1200	661.0200 TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS (LOCATION) 3101. W. NORTH AVENUE & N. 116TH STREET	LUMP	LUMP			.
1210	661.0200 TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS (LOCATION) 3102. W. NATIONAL AVENUE & W. CLEVELAND AVENUE	LUMP	LUMP			.
1220	661.0300 GENERATORS	4.000 DAY	.			.

CONTRACT: 20130813008 PROJECT(S): 1060-33-93 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
1230	670.0100 FIELD SYSTEM INTEGRATOR 0001. FTMS	LUMP	LUMP			.
1240	670.0100 FIELD SYSTEM INTEGRATOR 3001. TRAFFIC SIGNALS	LUMP	LUMP			.
1250	670.0100 FIELD SYSTEM INTEGRATOR 3002. INTERCONNECT	LUMP	LUMP			.
1260	670.0200 ITS DOCUMENTATION 0001. FTMS	LUMP	LUMP			.
1270	670.0200 ITS DOCUMENTATION 3001. TRAFFIC SIGNALS	LUMP	LUMP			.
1280	670.0200 ITS DOCUMENTATION 3002. INTERCONNECT	LUMP	LUMP			.
1290	671.0232 CONDUIT HDPE DIRECTIONAL BORE 3-DUCT 2-IN	3,790.000 LF		.		.
1300	673.0105 COMMUNICATION VAULT TYPE 1	9.000 EACH		.		.
1310	678.0072 INSTALL FIBER OPTIC CABLE OUTDOOR PLANT 72-CT	3,960.000 LF		.		.
1320	678.0300 FIBER OPTIC SPLICE	180.000 EACH		.		.
1330	678.0500 COMMUNICATION SYSTEM TESTING 0001. FTMS	LUMP	LUMP			.

CONTRACT: 20130813008 PROJECT(S): 1060-33-93 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
1340	678.0500 COMMUNICATION SYSTEM TESTING 3001. TRAFFIC SIGNALS	LUMP	LUMP			.
1350	678.0500 COMMUNICATION SYSTEM TESTING 3002. INTERCONNECT	LUMP	LUMP			.
1360	690.0150 SAWING ASPHALT	365.000 LF		.		.
1370	690.0250 SAWING CONCRETE	1,683.000 LF		.		.
1380	SPV.0060 SPECIAL 0001. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS TYPE 2	18.000 EACH		.		.
1390	SPV.0060 SPECIAL 0002. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS TYPE 3	9.000 EACH		.		.
1400	SPV.0060 SPECIAL 0003. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC WORDS	13.000 EACH		.		.
1410	SPV.0060 SPECIAL 0004. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS TYPE 1	2.000 EACH		.		.
1420	SPV.0060 SPECIAL 3001. BOLLARDS	3.000 EACH		.		.
1430	SPV.0060 SPECIAL 3002. CONCRETE BASES TYPE1 SPREAD FOOTING	2.000 EACH		.		.

CONTRACT: 20130813008 PROJECT(S): 1060-33-93 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
1440	SPV.0060 SPECIAL 3101. REMOVE AND SALVAGE TRAFFIC SIGNAL STANDARD	2.000 EACH		.		.
1450	SPV.0060 SPECIAL 3102. REMOVE AND SALVAGE TRAFFIC SIGNAL HEAD	34.000 EACH		.		.
1460	SPV.0060 SPECIAL 3103. REMOVE, SALVAGE, AND REINSTALL TRAFFIC HEAD	4.000 EACH		.		.
1470	SPV.0060 SPECIAL 3104. CONCRETE BASES TYPE 10 CONTRACTOR SUPPLIED ANCHOR BOLTS & ANCHOR ROD TEMPL	8.000 EACH		.		.
1480	SPV.0060 SPECIAL 3106. POLES TYPE 9	8.000 EACH		.		.
1490	SPV.0060 SPECIAL 3111. MONOTUBE ARMS 25-FT	3.000 EACH		.		.
1500	SPV.0060 SPECIAL 3112. MONOTUBE ARMS 30-FT	5.000 EACH		.		.
1510	SPV.0060 SPECIAL 3115. EVP DETECTOR TYPE I	12.000 EACH		.		.
1520	SPV.0060 SPECIAL 3116. EVP DISCRIMINATOR TYPE IV	3.000 EACH		.		.
1530	SPV.0060 SPECIAL 3117. EVP CONFIRMATION LIGHT ASSEMBLY TYPE I	12.000 EACH		.		.

CONTRACT: 20130813008 PROJECT(S): 1060-33-93 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
1540	SPV.0060 SPECIAL 3118. EVP CARD RACK	3.000 EACH		.		.
1550	SPV.0060 SPECIAL 3119. EVP DETECTOR AND CONFIRMATION LIGHT FOR EXISTING EVP SYSTEM	1.000 EACH		.		.
1560	SPV.0060 SPECIAL 3120. REMOVING TRAFFIC SIGNAL VAULT	1.000 EACH		.		.
1570	SPV.0090 SPECIAL 0001. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC STOP LINE 18-INCH	176.000 LF		.		.
1580	SPV.0090 SPECIAL 0002. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC CROSSWALK 12-INCH	1,159.000 LF		.		.
1590	SPV.0090 SPECIAL 0003. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC 4-INCH	1,555.000 LF		.		.
1600	SPV.0090 SPECIAL 0004. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC 8-INCH	691.000 LF		.		.
1610	SPV.0090 SPECIAL 0006. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC 24-INCH DIAGONAL	1,123.000 LF		.		.
1620	SPV.0090 SPECIAL 0007. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC STOP LINE 24-INCH	25.000 LF		.		.

CONTRACT: 20130813008 PROJECT(S): 1060-33-93 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
1630	SPV.0090 SPECIAL 0008. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC CROSSWALK 6-INCH	1,070.000 LF		.		.
1640	SPV.0090 SPECIAL 0009. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC STOP LINE 12-INCH	170.000 LF		.		.
1650	SPV.0090 SPECIAL 0010. REMOVING PAVEMENT MARKINGS WATER BLASTING	1,734.000 LF		.		.
1660	SPV.0090 SPECIAL 3101. TYPE UF CABLE 2 CONDUCTOR NO. 14	2,762.000 LF		.		.
1670	SPV.0090 SPECIAL 3102. EVP DETECTOR CABLE FOR EXISTING EVP SYSTEM	200.000 LF		.		.
1680	SPV.0090 SPECIAL 3103. CONFIRMATION LIGHT CABLE FOR EXISTING EVP SYSTEM	200.000 LF		.		.
1690	SPV.0105 SPECIAL 0001. PAVEMENT CLEANUP PROJ. 1060-33-93	LUMP	LUMP			.
1700	SPV.0105 SPECIAL 0002. SURVEY PROJECT 1060-33-93	LUMP	LUMP			.
1710	SPV.0105 SPECIAL 3001. TRANSPORTING SIGNAL AND LIGHTING MAT. IH894/USH45 EB RAMPS & W. NAT. AVE.	LUMP	LUMP			.

CONTRACT: 20130813008 PROJECT(S): 1060-33-93 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
1720	SPV.0105 SPECIAL 3003. TRANSPORTING SIGNAL AND LIGHTING MATERIALS USH 18 & N. 92ND STREET	LUMP	LUMP			.
1730	SPV.0105 SPECIAL 3004. INSTALL STATE FURN. TRAFFIC SIGNAL CAB. IH894/USH45 EB RAMPS & W. NAT. AVE.	LUMP	LUMP			.
1740	SPV.0105 SPECIAL 3005. INSTALL STATE FURN. TRAFFIC SIGNAL CAB. IH894/USH45 WB RAMPS & W. NAT. AVE.	LUMP	LUMP			.
1750	SPV.0105 SPECIAL 3006. INSTALL STATE FURNISHED TRAFFIC SIGNAL CABINET USH18 & N 97TH STREET	LUMP	LUMP			.
1760	SPV.0105 SPECIAL 3007. INSTALL STATE FURNISHED TRAFFIC SIGNAL CABINET USH 18 & N. 95TH STREET	LUMP	LUMP			.
1770	SPV.0105 SPECIAL 3008. INSTALL STATE FURNISHED TRAFFIC SIGNAL CABINET USH 18 & N. 92ND STREET	LUMP	LUMP			.
1780	SPV.0105 SPECIAL 3009. TRANS. AND INST. STATE FURN AUTO- SCOPE VIDEO DET SYS IH894/USH45 EB & NAT	LUMP	LUMP			.
1790	SPV.0105 SPECIAL 3010. TRANS. AND INST. STATE FURN AUTO- SCOPE VIDEO DET SYS IH894/USH45 WB & NAT	LUMP	LUMP			.

CONTRACT: 20130813008 PROJECT(S): 1060-33-93 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
1800	SPV.0105 SPECIAL 3011. TRANS. AND INST. STATE FURN. AUTO- SCOPE VIDEO DET SYS USH18 & N 97TH ST	LUMP	LUMP			.
1810	SPV.0105 SPECIAL 3012. TRANS. AND INST. STATE FURN. AUTO- SCOPE VIDEO DET SYS USH18 & N. 95TH ST	LUMP	LUMP			.
1820	SPV.0105 SPECIAL 3013. TRANS. AND INST. STATE FURN. AUTO- SCOPE VIDEO DET SYS USH 18 & N. 92ND ST	LUMP	LUMP			.
1830	SPV.0105 SPECIAL 3014. INST STATE FURN EVP DETECTOR HEADS 894/USH45 EB RAMPS & W. NATIONAL AVENUE	LUMP	LUMP			.
1840	SPV.0105 SPECIAL 3015. INST STATE FURN EVP DETECTOR HEADS 894/USH45 WB RAMPS & W. NATIONAL AVENUE	LUMP	LUMP			.
1850	SPV.0105 SPECIAL 3016. INST STATE FURN EVP DETECTOR HEADS 18 & N. 97TH STREET	LUMP	LUMP			.
1860	SPV.0105 SPECIAL 3017. INST STATE FURN EVP DETECTOR HEADS 18 & N. 95TH STREET	LUMP	LUMP			.

CONTRACT: 20130813008 PROJECT(S): 1060-33-93 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
1870	SPV.0105 SPECIAL 3018. INST STATE FURN EVP DETECTOR HEADS 18 & N. 92ND STREET	LUMP	LUMP			.
1880	SPV.0105 SPECIAL 3019. INSTALL FIBER OPTIC COMM. IN CAB. IH 894/USH45 EB RAMPS & W. NATIONAL AVE.	LUMP	LUMP			.
1890	SPV.0105 SPECIAL 3020. INSTALL FIBER OPTIC COMM. IN CAB. IH 894/USH45 WB RAMPS & W. NATIONAL AVE.	LUMP	LUMP			.
1900	SPV.0105 SPECIAL 3021. INSTALL FIBER OPTIC COMMUNICATIONS IN CABINET USH18 & N. 97TH STREET	LUMP	LUMP			.
1910	SPV.0105 SPECIAL 3022. INSTALL FIBER OPTIC COMMUNICATIONS IN CABINET USH 18 & N. 95TH STREET	LUMP	LUMP			.
1920	SPV.0105 SPECIAL 3023. INSTALL FIBER OPTIC COMMUNICATIONS IN CABINET USH 18 & N. 92ND STREET	LUMP	LUMP			.
1930	SPV.0105 SPECIAL 3101. REMOVE TRAFFIC SIGNALS W. NORTH AVENUS & N. 116TH STREET	LUMP	LUMP			.
1940	SPV.0105 SPECIAL 3102. REMOVE TRAFFIC SIGNALS W. NATIONAL AVENUE& W. CLEVELAND AVENUE	LUMP	LUMP			.

CONTRACT: 20130813008 PROJECT(S): 1060-33-93 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
	SPV.0105 SPECIAL 3104.					
1950	REMOVE LOOP DETECTOR AND LEAD-IN CABLE W. NATIONAL AVENUE & W. CLEVELAND	LUMP	LUMP			.
	SPV.0105 SPECIAL 3105.					
1960	INSTALL VENDOR SUPPLIED MUN. TRAFF SIGNAL CAB. W. NORTH AVE & N. 116TH ST.	LUMP	LUMP			.
	SPV.0105 SPECIAL 3106.					
1970	INSTALL VENDOR SUPP. MUN. TRAFFIC SIGNAL CAB. W. NAT. AVE & W. CLEVELAND	LUMP	LUMP			.
	SPV.0105 SPECIAL 3107.					
1980	VIDEO VEHICLE DETECTION SYSTEM W. NORTH AVENUE & N. 116TH STREET	LUMP	LUMP			.
	SPV.0105 SPECIAL 3108.					
1990	VIDEO VEHICLE DETECTION SYSTEM W. NATIONAL AVENUE & W. CLEVELAND AVENUE	LUMP	LUMP			.
	SPV.0105 SPECIAL 3109.					
2000	TEMPORARY EVP SYSTEM W. NORTH AVE & N. 116TH STREET	LUMP	LUMP			.
	SPV.0105 SPECIAL 3110.					
2010	TEMPORARY EVP SYSTEM W. NATIONAL AVENUE & W. CLEVELAND AVENUE	LUMP	LUMP			.
	SPV.0105 SPECIAL 3111.					
2020	INSTALL FIBER OPTIC COMMUNICATIONS IN CABINET W. NAT. AVENUE & W. CLEVELAND	LUMP	LUMP			.
	SECTION 0001 TOTAL					.
	TOTAL BID					.

PLEASE ATTACH SCHEDULE OF ITEMS HERE