HIGHWAY WORK PROPOSAL

Proposal Number: Ø 2

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

COUNTY	STATE PROJECT ID	FEDERAL PROJECT ID	PROJECT DESCRIPTION	HIGHWAY
Rock	1003-10-70		Illinois State Line - Madison Stateline Road To CTH O	IH 39
Rock	1005-10-70		Illinois State Line - Madison CTH O To North Rock County Line	IH 39
Dane	1007-10-70		Illinois State Line - Madison South Dane County Line To USH 12/18	IH 39

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: May 14, 2013 Time (Local Time): 9:00 AM	Firm Name, Address, City, State, Zip Code **SAMPLE** **NOT FOR BIDDING PURPOSES**
Contract Completion Time December 1, 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 Furnishing and installing Intelligent Transportation System (ITS) components, ITS sign structures, signs, and all incidental items.	
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)

FEBRUARY 1999

LIST OF SUBCONTRACTORS

Section 66.29(7), Wisconsin Statutes, provides that a bidder, as a part of his proposal, shall submit a list of the subcontractors he proposes to contract with and the class of work to be performed by each, provided that to qualify for such listing each subcontractor must first submit his bid in writing to the general contractor at least 48 hours prior to the time of bid closing. It further provides that a proposal of a bidder shall not be invalid if any subcontractor, and the class of work to be performed by such subcontractor, has been omitted from a proposal.

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

Table of Contents

SPECIAL PROVISIONS

1. General.

Perform the work under this construction contract for the following projects as the plans show:

Project 1003-10-70
Illinois State Line – Madison
Stateline Road To CTH O
IH 39
Rock County, Wisconsin

Project 1005-10-70
Illinois State Line – Madison
CTH O To North Rock County Line
IH 39
Rock County, Wisconsin

Project 1007-10-70
Illinois State Line – Madison
South Dane County Line To USH 12/18
IH 39
Dane County, Wisconsin

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.

2. Scope of Work.

The work under this contract shall consist of furnishing and installing Intelligent Transportation System (ITS) components, ITS sign structures, signs, and all incidental items necessary to complete the work as shown on the plans and included in the proposal and contract.
104-005 (20090901)

3. Prosecution and Progress.

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

Provide the start date to the engineer in writing within a month after executing the contract but at least 14 calendar days before the preconstruction conference. Upon approval, the engineer will issue the notice to proceed within ten calendar days before the approved start date.

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

Contractor Coordination
Hold bi-weekly scheduling meetings to discuss the near-term schedule activities, address any long-term schedule issues, and discuss any relevant technical issues. The field system integrator shall be present at each meeting. Develop a rolling month schedule identifying the upcoming month. Provide sufficient details to include actual and planned activities and all subcontractors for offsite and construction activities, addressing all activities including shoulder and lane closure schedules to be performed and identifying issues requiring engineering action or input. Submit plans for all traffic control for review by the engineer and approval a minimum of one week prior to implementation.

Freeway Work Restrictions
Stage work to conform to the lane and shoulder closure times shown in the Traffic and Holiday and Event Work Restrictions articles. Work not requiring lane or shoulder closures may be performed at times other than those listed in the Traffic and Holiday and Event Work Restrictions articles, subject to all other requirements in the specifications.

Delivery of equipment or materials to any location accessed from IH 39/90 requiring the use of a semi-tractor and trailer or a crane shall occur only during the permitted lane and shoulder closure times in the Traffic Article.

City of Beloit Coordination
Obtain a permit from the City of Beloit for work on city streets. Do not perform any work on city streets until the permit is approved. The permit application can be found at www.ci.beloit.wi.us. The city contact is Michael Flesch, City Engineer, (608) 364-6690.

Illinois Department of Transportation Coordination
Coordinate with the Illinois Department of Transportation to complete the ITS device installation at Prairie Hill Road, Winnebago County, Illinois. The contact is:

Masood Ahmad, Engineer
IDOT Region 2/ District 2
819 Depot Ave
Dixon, IL 61021
(815) 284-5510

Interim Liquidated Damages for Dynamic Message Sign Installation
Relocate and make operational the dynamic message sign (DMS) at STH 30 and Thompson Drive (bid items Salvage Cantilever Dynamic Message Sign and Install Cantilever Dynamic Message Sign) within 30 calendar days of beginning salvaging the DMS from STH 30 and Thompson Drive.

Supplement standard spec 108.11 as follows:

If the contractor fails to complete the work necessary to relocate and make operation the dynamic message sign at STH 30 and Thompson Drive within 30 calendar days, the department will assess the contractor $1,000 in interim liquidated damages for each calendar day in which the system remains down. An entire calendar day will be charged for any period of time within a calendar day which the system remains down beyond 12:01 AM.

Interim Liquidated Damages for CCTV-53-0048-S at Stateline Road
Relocate device CCTV-53-0048-S at Stateline Road and re-terminate the fiber connection within 14 calendar days of beginning salvaging the in-place CCTV at Stateline Road.

Supplement standard spec 108.11 as follows:

If the contractor fails to complete the work necessary to have device CCTV-53-0048-S operational within 14 calendar days, the department will assess the contractor $1,000 in interim liquidated damages for each calendar day in which the system remains down. An entire calendar day will be charged for any period of time within a calendar day which the system remains down beyond 12:01 AM.

Liquidated Damages for Lane Closures
No lanes shall be closed prior to or after the specified times provided in the Traffic article of these special provisions. If the contractor closes lanes of traffic prior to or fails to open lanes of traffic by the specified times, then a reduction based upon 15 minute increments will be assessed to the contractor. The total reductions assessed to the contractor will be cumulative based on an escalating scale of 15 minute increments and will be the summation of separate reductions for each traffic lane and each direction of traffic in violation.

Time Period in excess of specified time	Reduction per lane of traffic and per direction of traffic	Cumulative reduction of traffic and per direction of traffic
1st 15 minutes	$1,500	$1,500
2nd 15 minutes	$3,000	$4,500
3rd 15 minutes	$4,500	$9,000
4th 15 minutes	$6,000	$15,000

If the contractor fails to open lanes of traffic after 60 minutes from the specified times, a constant reduction of $6,000 for each additional 15 minute increment, for each lane and each direction of traffic, will be assessed until lanes are open to traffic.

The total reduction from monies due to the contractor shall be the summation of the separate reductions for each work restriction violation. The department will administer reduction assessments for the road not being open to traffic under the Failing to Open Road to Traffic administrative item.

4. Traffic.

Lane and Shoulder Closure Times
On IH 39/90, IH 43, STH 30, and USH 12/18, closures are allowed only at the times in the following tables and text. At all other times all lanes and shoulders shall be fully open to traffic.

Permitted Shoulder Closure Times

Day of the Week	IH 39/90 North of US 12/18 IH 43 STH 30	IH 39/90 South of US 12/18
Monday	9:00 AM-2:00 PM, 7:00 PM-11:59 PM	9:00 AM-2:00 PM, 8:00 PM-11:59 PM
Tuesday-Thursday	12:00 AM-5:00 AM, 9:00 AM-2:00 PM, 7:00 PM-11:59 PM	12:00 AM-5:00 AM, 9:00 AM-2:00 PM, 8:00 PM-11:59 PM
Friday	12:00 AM-5:00 AM	12:00 AM-5:00 AM
Saturday-Sunday	None	None

Permitted Lane Closure Times

Day of the Week	IH 39/90 North of US 12/18 IH 43 STH 30	IH 39/90 South of US 12/18
Monday	7:00 PM-11:59 PM	8:00 PM-11:59 PM
Tuesday-Thursday	12:00 AM-5:00 AM, 7:00 PM - 11:59 PM	12:00 AM-5:00 AM, 8:00 PM-11:59 PM
Friday	12:00 AM-5:00 AM	12:00 AM-5:00 AM
Saturday-Sunday	None	None

One full rolling closure of westbound STH 30 and southbound/eastbound IH 39/90 by the Wisconsin State Patrol is permitted between the hours of 2:00 AM to 4:00 AM for each of the following locations:

- Removal of the existing cantilever DMS sign and structure on westbound STH 30 at Thompson Drive in Dane County.
- The installation of overhead cable for CCTV-53-0106-C at Milepost 168.84 over southbound/ eastbound IH 39/90 between H-M Townline Road and Monogue Road in Rock County.

Coordinate with the State Patrol through Jeff Gustafson of the department's SW Region office, (608) 516-6400 and jeffrey.gustafson@dot.wi.gov.

One full closure of eastbound STH 30 is permitted from 12:00 AM to 4:00 AM for the installation stage of the cantilever DMS on STH 30 at Fair Oaks Avenue. For all other freeway closures, a maximum of one lane or one shoulder may be closed at any one time at a specific location. For example, the outside lane and the inside shoulder on the same freeway roadway direction shall not be closed at the same time. Freeway ramps and lanes on two-lane highways and local roads shall never be closed. All closures require prior review by the engineer.

Installing foundations, supports, mounted devices, and similar minor construction at non-freeway, state highway, and local road locations that does not require a lane closure and does not interfere with traffic movement is permitted from 9:00 AM to 2:00 PM and from 7:00 PM to 5:00 AM. Work described under this paragraph requires prior review and approval by the engineer.

Wisconsin Lane Closure System Advanced Notification

Provide the following minimum advance notification to the engineer for incorporation into the Wisconsin Lane Closure System.

Project Start	14 calendar days
Lane closures (without width, height, or weight restrictions)	3 business days
Lane closures (with width, height, or weight restrictions)	14 calendar days
Extended closure hours	3 business days
Construction stage changes	14 calendar days
Full Freeway closures (rolling and barricaded closures)	14 calendar days
Local street (side road) openings/ closings	7 calendar days
Intersection cross-traffic closures	14 calendar days

Notify the engineer and state traffic operations center (STOC), (414) 227-2142, if there are any changes in the schedule, early completions, or cancellations of scheduled work.

The department has the authority to disallow any requested closures or width restrictions.

5. Holiday and Event Work Restrictions.

Do not perform work on, nor haul materials of any kind along or across any portion of the highway carrying IH 39, IH 39 ramps and crossroads at interchanges, or STH 30 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, UW-Madison home football game, and special event periods:

- From noon Wednesday, July 3, 2013 to 6:00 AM Monday, July 8, 2013.
- From noon Friday, August 30, 2013 to 6:00 AM Tuesday, September 3, 2013.
- Saturday, September 7, 2013 (north of USH 12/18 only).
- From 5:00 AM Monday, September 16, 2013 to 6:00 AM Friday, September 20, 2013 (north of USH 12/18 only).
- Saturday, September 21, 2013 (north of USH 12/18 only).
- From noon on Monday, September 30, 2013 to 6:00 AM Monday, October 7, 2013 (north of USH 12/18 only).
- Saturday, October 12, 2013 (north of USH 12/18 only).
- Monday, October 14, 2013.
- Saturday, November 9, 2013 (north of USH 12/18 only).
- Monday, November 11, 2013.
- Saturday, November 16, 2013 (north of USH 12/18 only).
- From noon Friday, November 22, 2013 to 6:00 AM Monday, November 25, 2013.
- From noon Tuesday, November 26, 2013 to 6:00 AM Monday, December 2, 2013.
- From noon Monday, December 23, 2013 to 6:00 AM Thursday, December 26, 2013.
- From noon Monday, December 30, 2013 to 6:00 AM Thursday, January 2, 2014.

6. Utilities.

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

The following utility companies have facilities within the project area; however, no adjustments are anticipated. The department may move the ITS facility locations shown on the plans to avoid existing utilities.

Utility Name	Type of Utility	General Location	Underground/ Overhead/ Both
Alliant Energy (WPL)	Electrical	Crossing IH 39, along local roads	Both
Alliant Energy (WPL)	Gas	Along all local roads, crossing IH 39 at interchanges	Underground
ANR Pipeline	Gas	Crossing IH 39 at Dane CTH N, and in Rock Co. at STH 26 and at IH 43	Underground
ATC	Electrical Transmission	Crossing IH 39; Along west of IH 39 from Dane CTH MN to USH 12/18	Overhead
AT&T	Communication	Crossing IH 39 at interchanges and cross-streets	Underground
City of Beloit	Sanitary Sewer	Crossing IH 39 south of Welcome Ctr., and at RR tracks south of IH 43	Underground
City of Beloit	Water	Crossing IH 39 at Colley Rd, at RR tracks south of IH 43, and north of Beloit limit	Underground
Charter	Communication	Crossing IH 39 at cross-streets	Both
Consolidated Koshkonong Sanitary District	Sanitary Sewer	Crossing IH 39 at Rock River and at Eastman Road	Underground
Frontier	Communication	Crossing IH 39 at cross-streets	Underground
City of Janesville	Lighting	Lighting under overpasses	Overhead
City of Janesville	Traffic Signals	On Racine Street, on USH 14, on STH 26	Both
City of Janesville	Sanitary Sewer	Crossing Racine St, service from rest area, crossing IH 39 at cross-streets	Underground

Utility Name	Type of Utility	General Location	Underground/ Overhead/ Both
City of Janesville	Storm Sewer	Crossing IH 39 at cross-streets	Underground
City of Janesville	Water	Crossing IH 39 at cross-streets	Underground
Kentucky Data Link	Communication	Along USH 14, STH 26, Rock CTH J	Underground
Koch Pipeline	Gas	Crossing USH 12/18 then west under IH 39 and under USH 51	Underground
City of Madison Water	Water	Crossing IH 39 at Femrite Dr. crossing USH 12/18 at Marsh Rd and at Long Dr.	Underground
Madison Metropolitan Sewage District	Sanitary Sewer	Crossing IH 39 twice: 0.5 mile north and south of and USH 12/18	Underground
Madison Gas & Electric	Electrical	Crossing IH 39, and along STH 30	Overhead
Madison Gas & Electric	Gas	Crossing IH 39, and along STH 30	Underground
Northern Natural Gas	Gas	Crossing IH 39 north of Janesville Rest Area	Underground
Paetec/ McLeodUSA (f.k.a. Windstream)	Communication	Crossing IH 39 at interchanges and cross-streets	Underground
Rock County Energy Co-op	Electrical	Crossing IH 39	Overhead
Stoughton Electric Utility	Electrical	Crossing IH 39	Overhead
WE Energies	Gas	Along STH 26, Crossing IH 39	Underground
WisDOT Communications	Fiber Optic Cable	Along right-of-way east and west from USH 12/18 interchange to north	Underground

7. Other Contracts.

The department will have project 1001-03-74 under construction at the IH 39 and STH 11 (Racine Street) interchange in Janesville, and will have project 1003-10-86 under construction on IH 39/90 from the Illinois State Line to Avalon Road in Rock County. Coordinate traffic control, signing, and construction activities with these other projects.

The Racine Street Interchange reconstruction will be performed concurrently with this project (1003/1005/1007-10-70) and coordination between the projects is necessary. The contractor shall coordinate installation efforts with the Racine Street Interchange project team. The Racine Street Interchange contractor will install the 50' camera pole and the pole-mounted cabinet and the contractor for the 1005-10-70 project shall install the wireless mesh node assembly on the camera pole and make any necessary connections into the pole-mounted cabinet. The 1005-10-70 contractor shall coordinate the timing of these installations such that it does not obstruct or hinder the progression of the Racine Street Interchange Project.

The contractor shall coordinate regarding the installation of a Bluetooth reader on a dynamic message sign (DMS) at Prairie Hill Road and IH 39/90 that will be installed by others. The contractor shall install a Bluetooth sensor on the DMS either during or after the installation of the DMS. The timeframe of the DMS installation is expected to be in summer or fall of 2013.

Transmission of video and data to the STOC in Milwaukee and the department's southwest region office in Madison will depend upon the utilization of an in-place wireless communications system. The wireless communications system covers the IH 39/90 construction corridor and provides a means for ITS components installed under this contract to communicate with network devices located in the communications room at the southwest region office.

8. Concrete Staining S-13-408, Item 517.1010.S.001; S-53-73, Item 517.1010.S.002; S-53-74, Item 517.1010.S.003.

A Description

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

B Materials

B.1 Mortar

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

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

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

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

B.2 Concrete Stain

Use concrete stain manufactured for use on exterior concrete surfaces, consisting of a base coat and a pigmented sealer finish coat. Use the following products, or equal as approved by the department, as part of the two coat finish system:

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

C Construction

C.1 General

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

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

C.2 Preparation of Concrete Surfaces

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

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

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

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

The color of the stain shall be as given on the plan. Tint the base coat to match the finish coat; the two coats shall be compatible with each other.

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

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

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

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

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

ITEM NUMBER	DESCRIPTION	UNIT
517.1010.S.001	Concrete Staining S-13-408	SF
517.1010.S.002	Concrete Staining S-53-73	SF
517.1010.S.003	Concrete Staining S-53-74	SF

Payment is full compensation for furnishing and applying the two coat system; for preparing the concrete surface; and for preparing the sample panels.
517-110 (20100709)

9. Traffic Control.

Supplement standard spec 643 as follows:

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

Supply the name and 24-hour telephone number of a local contact person for traffic control repair at preconstruction conference.

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

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

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

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

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

a. Park or store no vehicles, equipment, or construction materials on the right-of-way without approval of the engineer.

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

c. All vehicles entering or leaving the live traffic lanes shall be equipped with a hazard identification beam (flashing yellow signal) capable of being visible on a sunny day when viewed without the sun directly on or behind the device from a distance of 1000 feet. The beam shall be activated when merging into or exiting a live traffic lane.

d. Do not disturb, remove or obliterate any traffic control signs, advisory signs, shoulder delineators or beam guard in place along the traveled roadways without the approval of the engineer. All damage done to the above during the construction operations shall be repaired or replaced at the contractor's expense.

10. 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 2-inch and 3-inch 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 Item 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)

11. Electrical Service Meter Breaker Pedestal.

Supplement standard spec 656 as follows:

C Construction
Supplement section 656.3.2, Service Lateral, paragraph (1) as follows:

Required breaker sizes are listed in the ITS construction detail sheets.

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 department 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.

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.

Ensure the electrical service is installed and energized a minimum of one week prior to the scheduled activation of each ITS facility.

Append 656.5(3) of the standard specifications 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.

The department SW Region utility permit person is:

Mark Goggin
2101 Wright Street
Madison, WI 53704
(608) 789-5955
mark.goggin@dot.wi.gov

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

Supplement standard spec 106 as follows:

Standard specification 106.2 – Supply Source and Quality
Supplement standard spec 106.2 as follows:

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

Department-Furnished Items
Detector, Serial Data Interface Microwave Radar
Pole, 50', Freeway, with Lowering System
Pole, 80', Freeway, with Lowering System
Camera, Traffic, Dome-Style, Outdoor
Cabinet, Base-Mounted Field, for Traffic Controller
Cabinet, Pole-Mounted, CCTV
Switch, 9-Port with Dual M Ports
Combination Ethernet Switch and Terminal Server with Fiber Ports – Single Mode
Encoder, Video MPEG 2/4 (Hardened) 1-Channel
Encoder, Internet Video
Sign, Dynamic Message, 18" Character
Sign, Dynamic Message, 14" Character
Controller, Dynamic Message Sign, All Signs
Hardwired Bluetooth Sensor
Solar-Powered Bluetooth Sensor
Solar Power System for ITS Non-Intrusive Wireless Vehicle Detector System
Cellular Communications Device – CDMA/EVDO
Antenna, Black, Roof-Mount Low Profile
Antenna, Directional, Cellular
IP Wireless Master (Point-to-Multipoint) 902-928 MHZ
IP Wireless Subscriber (Point-to-Multipoint) 902-928 MHZ
Bracket, Wood Pole Camera
Cable, fiber optic, 6 count dielectric

Coordinate delivery of department-furnished equipment with Graham Heitz of the WisDOT SW Region at (608) 246-5362.

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 detail for dynamic message signs.
- Any contractor-designed structure or foundation.
- Electrical Service Meter Breaker Pedestal.

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.

13. Intelligent Transportation Systems – General Requirements.

Supplement standard spec 670 as follows

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 STOC. Interruption of this service is not expected to be necessary to perform this work. If an interruption is determined necessary, it shall be done in a way that minimizes communication outages for the existing equipment. The contractor shall coordinate with the engineer and STOC. Notify the 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 shall 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 shall 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.4 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 between 5 percent and 90 percent, non-condensing, and with a temperature gradient of 9 degrees F per hour.

B.5 Cables and Wiring

All cables and wiring between devices installed in a single cabinet, in separate cabinets sharing a single concrete base, and in a pole-mounted cabinet and equipment sharing the same pole 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 Ethernet cables, serial cables between individual devices and terminal servers, and power cables between individual devices and power sources within the cabinets.

B.6 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 shall 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 shall 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.

C.4 System Operations
If the contractor's operations unexpectedly interrupt 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.

C.6 Coordination of Projects
The ITS work for IDs 1003-10-70, 1005-10-70, and 1007-10-70 is being administratively managed as three projects. In contrast to this, field system integration, testing, and ITS documentation shall each be performed and completed as a single operation across all three projects. The same field system integrator shall be engaged for all three projects, testing shall be for the entire ITS system as a unit, and documentation shall be completed for the entire ITS system as a unit.

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.

14. Intelligent Transportation Systems – Conduit.

Supplement standard spec 671.2 as follows:

671.2.4 Locate Wire
Furnish and install a No. 14 AWG stranded copper wire for future locate purposes through each conduit run. For conduit runs containing multiple conduit ducts with common points of termination, place a single locate wire in one of the conduit ducts (place locate wire in an empty duct if available). Connect the locate wire by using a wire nut at each pull box, manhole, or other access point. Alternatively, use a single wire through the access points. Furnish material under this item in accordance to section 655 of the standard specifications.

671.2.5 Duct Sealant
Furnish and install a climate appropriate duct sealant in all conduit openings within an environmentally protected enclosure in order to prevent vermin infestation. Environmentally protected enclosures include, but are not limited to, controller cabinets, dynamic message signs and communications huts.

15. Install ITS Field Cabinet, Item 673.0200.S.

A Description
This special provision describes installing a department-furnished type 170, size 334 field cabinet.

B Materials
The department will furnish the type 170, size 334 field cabinet. Provide all necessary miscellaneous mounting hardware and internal power cables. With the field cabinet, the department will furnish cabinet bolts to anchor the cabinet to the concrete base.

C Construction
Install the field cabinet on a new or existing concrete base paid separately. Make all power connections to the cabinet, isolating the neutral bus from the cabinet and equipment ground.

Effectively ground all cable grounding shields and any spare or unused conductors in the field cabinet to the equipment grounding terminal strip.

D Measurement
The department will measure Install ITS Field Cabinet by the unit, installed according to the contract and accepted.

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

ITEM NUMBER	DESCRIPTION	UNIT
673.0200.S	Install ITS Field Cabinet	Each

Payment is full compensation for installing the department-furnished field cabinet; making all connections; and grounding as necessary.
673-005 (20100630)

16. Install Pole Mounted Cabinet, Item 673.0225.S.

A Description
This special provision describes installing department furnished aluminum enclosures on poles for intelligent transportation systems equipment.

B Materials
Use stainless steel bolts, nuts, and washers unless otherwise specified.

All conductors, terminals, and parts that could be hazardous to maintenance personnel shall be protected with suitable insulating material.

The cabinet will be equipped with service panels. Two panels shall be provided and mounted on the cabinet sidewalls. The left side panel shall be designated as

"Input/Communications," and the right side panel shall be designated as the "Service Panel."

The service panel shall be equipped with a four-outlet handi-box. Wire the handi-box to the series portion of the filtering surge protector.

Furnish and install rigid metallic conduit from the pole mounted cabinet to the nearest pull box, wood pole riser or transition coupling, unless otherwise noted on the plans. A typical installation requires one 2-inch rigid metallic conduit, though certain sites may require additional conduits. Use metallic conduit according to standard spec 652.

C Construction

Fasten the field cabinet securely onto a pole. Provide bolted stainless steel connections with lock washers, locking nuts, or other engineer-approved means to prevent the connection nuts from backing off. Isolate dissimilar materials from one another using stainless steel fittings. Make all power connections to the cabinet as specified in standard spec 656.

Drill and tap the cabinet, as necessary, to mount the terminal blocks and other attachments to the service panel, to provide an entrance on the back of the cabinet for cable from the pole mounted intelligent transportation systems equipment, and to mount the service panel to the cabinet as shown in the details. Remove all sharp edges or burrs, or both, caused by the cutting or drilling process. Seal all openings to prevent water from entering the cabinet. Mount the surge protector to the service panel.

D Measurement

The department will measure Install Pole Mounted Cabinet as each individual assembly, 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
673.0225.S	Install Pole Mounted Cabinet	Each

Payment is full compensation for installing the pole mounted cabinet; for making all connections and conduit/wire entrances; for furnishing all testing; and for furnishing all incidentals necessary to complete the contract work.

17. Install Ethernet Switch, Item 675.0400.S.

A Description

This special provision describes installing an Ethernet switch, and providing all necessary associated wiring.

B Materials
The department will furnish the Ethernet switch. Provide all necessary cables between the Ethernet switch and terminal server or other device.

C Construction
Install the Ethernet switch in a new or existing field cabinet. Connect it to devices as shown on the plans, or as directed by the engineer.

D Measurement
The department will measure Install Ethernet Switch by the unit, installed according to the contract, tested, and accepted.

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

ITEM NUMBER	DESCRIPTION	UNIT
675.0400.S	Install Ethernet Switch	Each

Payment is full compensation for installing an Ethernet switch; furnishing all necessary incidental hardware; and making all necessary connections.
675-040 (20100630)

18. Install Video Encoder, Item 677.0300.S.

A Description
This special provision describes installing a department-furnished video encoder in a pole mounted cabinet or field cabinet as shown on the plans and as hereinafter provided.

B Materials
Provide Category 5 or better Ethernet cable to connect the Ethernet video encoder to the Ethernet switch. The department will furnish the video encoder or it will be an existing and salvaged encoder.

C Construction
Make the necessary electrical and communication network connections to the video encoder. Mount the video encoder in the pole mounted cabinet or field cabinet. Program the video encoder according to the manufacturer's instructions.

D Measurement
The department will measure Install Video Encoder by each individual assembly, 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
677.0300.S	Install Video Encoder	Each

Payment is full compensation for installing the video encoder in a pole mounted cabinet or field cabinet; for making all connections; and for furnishing all programming.
677-030 (20100630)

19. Salvage 50-Foot Camera Pole with Lowering System, Item 677.9050.S.

A Description
This special provision describes removing an existing camera pole with lowering system and salvaging the pole for reinstallation.

B (Vacant)

C Construction
Prior to salvaging, the engineer or delegated representative shall inspect the in-place 50-foot camera pole with lowering system for damage. If the in-place 50-foot camera pole with lowering system is found to be damaged, contact Graham Heitz of the department's SW Region at (608) 246-5362.

Disconnect all cables and wiring that are mounted on or in the poles, and remove the pole from the concrete footing. Salvage the camera pole, lowering system, and other equipment attached to the pole and deliver to the department's SW Region at 2101 Wright St, Madison, WI. Contact Graham Heitz at (608) 246-5362 at least 24 hours prior to delivery to determine the delivery location and time at the SW Region complex.

Storage of the salvaged materials prior to delivery to the SW Region is the responsibility of the contractor and is incidental to this item.

Any materials which are lost or damaged during salvaging, transport, or storage shall be repaired or replaced by the contractor at the expense of the contractor, or will be repaired or replaced by the department at the expense of the contractor, as determined by the engineer.

D Measurement
The department will measure Salvage 50-Foot Camera Pole with Lowering System as each unit, acceptably salvaged.

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

ITEM NUMBER	DESCRIPTION	UNIT
677.9050.S	Salvage 50-Foot Camera Pole with Lowering System	Each

Payment is full compensation for salvaging, safely storing and delivering the existing camera pole with lowering system; disconnecting any necessary wiring; removing equipment mounted on the pole; and properly disposing of cabling and wiring.

20. Install Overhead Freeway DMS Full Matrix, Item 678.0100.S.

A Description

This special provision describes installing a department-furnished, or an existing salvaged, dynamic message sign on a new sign structure.

B Materials

The department will provide the sign (or it will be salvaged), controller, and the control cable. The control cable will be multi-mode fiber optic cable.

Use an AWG #6 copper wire or equivalent bonding straps to bond the sign and cabinet to the structure. Use an AWG #6 solid, bare copper wire to bond the sign structure to the ground rod(s).

1. For the three wires carrying 120/240 VAC power from the cabinet to the sign, use single conductor, stranded copper, 120/240 VAC, XLP insulated, USE rated wire. Size the wire to carry the maximum amperage permitted by the main breakers in the sign.

C Construction

Install the load center so that the main breakers control all power to the sign and cabinet. Provide at least three branch circuits, one for the sign, one for the controller cabinet and one spare. Only protect the branch serving the controller cabinet with the second stage of the surge protector. Connect the power and control cables according to the manufacturer's recommendations. Run the cables in rigid metallic conduit or flexible metallic conduit, or combination of these, within the sign structure.

Bond the bottom of the sign structure to one or more ground rods. Use exothermic welding at each end of the ground wire, unless the steel structure has a suitable grounding lug. Use a device that measures resistance to ground using the three-point fall-of-potential method to ensure that the resistance from the sign's ground bar to ground does not exceed 4 ohms. Add more ground rods if necessary to achieve this requirement.

D Measurement

The department will measure Install Overhead Freeway DMS Full Matrix by each sign, acceptably installed and tested.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
678.0100.S	Install Overhead Freeway DMS Full Matrix	Each

Payment is full compensation for installing and testing the sign and controller; providing cables, conduits, and fittings; for testing the sign; and for transporting materials.

21. Tree Clearing, Item SPV.0005.001.

A Description

This special provision describes clearing and grubbing trees within camera viewing areas as shown on the plans. Final tree and brush clearing locations shall be determined as detailed in this specification.

B Materials

Furnish a two-person bucket truck and two operators to lift the engineer or delegated representative to the camera location to determine final tree clearing areas at each camera installation location. It is anticipated one operator will be in the bucket and one operator will be on the ground. Furnish two-way communication equipment for the engineer to communicate with a person on the ground from the bucket.

C Construction

Assist the engineer in determining trees and brush to be cleared at each camera location. Set up and operate the bucket truck to lift the engineer to the height and location of the camera. Provide a person(s) on the ground, with two-way communication equipment, to mark the trees and brush identified by the engineer to be removed. The engineer may identify additional trees and brush to be removed while on the ground.

Complete clearing and grubbing in accordance to standard spec 201. Preserve all trees, brush, and other vegetation not identified by the engineer to be removed.

D Measurement

The department will measure Tree Clearing by the acre, 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.0005.001	Tree Clearing	Acre

Payment is full compensation for providing and operating the bucket truck and two-way communication equipment, identifying removal items, clearing, and grubbing; handling, hauling, piling, burning, burying, trimming, chipping, wound treatment, rehandling, and disposing of waste and debris; and excavations made to bury clearing and grubbing material, backfilling these excavations, and disposing of excess excavated material.

22. Salvage Cantilever Dynamic Message Sign, Item SPV.0060.400.

A Description

This special provision describes salvaging an in-place cantilever mounted dynamic message sign assembly.

B (Vacant)

C Construction

Prior to salvaging, the engineer or delegated representative shall determine if all components of the dynamic message sign and dynamic message sign controller are fully functional. If any part of the dynamic message sign or controller is found to not meet original manufacturer's specifications, contact Graham Heitz of the department's SW Region at (608) 246-5362.

Keep the existing dynamic message sign in operation until authorized by the engineer to take it out of operation.

Carefully remove the in-place dynamic message sign assembly and dynamic message sign controller at the location indicated on the plans. Carefully remove all mounting hardware associated with the dynamic message sign. Remove all cables/wires connected to the dynamic message sign back to the ITS field cabinet.

Reinstall and make operational the cantilever dynamic message sign within 14 days of removal. Reinstallation of the dynamic message sign and controller, as indicated on the plans or as directed by the engineer, including any new materials required (potentially mounting hardware and cables for example) will be paid under the Install Cantilever Dynamic Message Sign bid item.

Any materials to be reinstalled which are lost or damaged during removal, transport, or storage shall be repaired or replaced by the contractor at the expense of the contractor, or will be repaired or replaced by the department at the expense of the contractor, as determined by the engineer.

D Measurement

The department will measure Salvage Cantilever Dynamic Message Sign as each individual unit, acceptably salvaged.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.400	Salvage Cantilever Dynamic Message Sign	Each

Payment is full compensation for salvaging, transporting, and storing the dynamic message sign assembly.

23. Salvage Mounted Controller Microwave Detector Assembly, Item SPV.0060.401.

A Description

This special provision describes salvaging an in-place mounted controller microwave detector assembly.

B (Vacant)

C Construction

Prior to salvaging, the engineer or delegated representative shall determine if all components of the microwave detector assembly are fully functional. If any part of the microwave detector assembly is found to not meet original manufacturer's specifications, contact Graham Heitz of the department's SW Region at (608) 246-5362.

Carefully remove the in-place microwave detector assembly at the location indicated on the plans. Salvage mounting hardware associated with the microwave detector assembly. Salvage cables/wires connected to the microwave detector assembly back to the control cabinet.

Reinstall and make operational microwave detector assemblies within 14 days of removal. Microwave detector assemblies to be reinstalled will be paid for under the Install Mounted Controller Microwave Detector Assembly bid item.

Any materials to be reinstalled which are lost or damaged during removal, transport, or storage shall be repaired or replaced by the contractor at the expense of the contractor, or will be repaired or replaced by the department at the expense of the contractor, as determined by the engineer.

Deliver microwave detector assemblies that will not be reinstalled to the department's SW Region at 2101 Wright St, Madison, WI. Contact Graham Heitz at (608) 246-5362 at least 24 hours prior to delivery to determine the delivery location and time at the SW Region complex.

Storage of the salvaged materials prior to reinstallation or delivery to the SW Region is the responsibility of the contractor and is incidental to this item.

D Measurement

The department will measure Salvage Mounted Controller Microwave Detector Assembly as each individual salvaged 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.0060.401	Salvage Mounted Controller Microwave Detector Assembly	Each

Payment is full compensation for salvaging, transporting, and storing the microwave detector assembly.

24. Salvage IP Radio, Item SPV.0060.402.

A Description

This special provision describes salvaging an in-place IP radio and associated antenna.

B Materials (Vacant)

C Construction

Prior to salvaging, the engineer or delegated representative shall determine if the IP radio and associated antenna are fully functional. If the IP radio and/or associated antenna are found to not meet original manufacturer's specifications, contact Graham Heitz of the department's SW Region at (608) 246-5362.

Carefully salvage the in-place IP radio and associated antenna at the location indicated on the plans. If applicable, salvage all mounting hardware associated with the IP radio and associated antenna. Salvage all cables/wires connected to the IP radio and associated antenna back to the next connected device.

Reinstall and make operational IP radios within 14 days of removal. IP radios to be reinstalled will be paid for under the Install IP Radio bid item.

Any materials to be reinstalled which are lost or damaged during removal, transport, or storage shall be repaired or replaced by the contractor at the expense of the contractor, or will be repaired or replaced by the department at the expense of the contractor, as determined by the engineer.

Deliver IP radios that will not be reinstalled to the department's SW Region at 2101 Wright St, Madison, WI. Contact Graham Heitz at (608) 246-5362 at least 24 hours prior to delivery to determine the delivery location and time at the SW Region complex.

Storage of the salvaged materials prior to reinstallation or delivery to the SW Region is the responsibility of the contractor and is incidental to this item.

Any salvaged materials which are found to be damaged will be repaired or replaced at the expense of the contractor.

D Measurement

The department will measure Salvage IP Radio as each individual salvaged 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.0060.402	Salvage IP Radio	Each

Payment is full compensation for salvaging, transporting, and storing the IP radio and associated antenna.

25. Remove Electrical Service Meter Breaker Pedestal, Item SPV.0060.403.

A Description
This special provision describes removing an in-place electrical service meter breaker pedestal and restoring the site to match surroundings.

B (Vacant)

C Construction
Prior to removing the meter breaker pedestal, contact Dena Dramm of the WisDOT SW Region at (608) 246-5360 to arrange for disconnection of the service lateral and salvaging/removal of the meter housing by the electrical utility.

After disconnection of the service lateral and salvaging/removal of the meter housing by the electrical utility, carefully remove the meter breaker pedestal including any base or foundation. Properly dispose of meter breaker pedestal components off the job site and off department right-of-way.

Backfill the removal site with material similar to surrounding material and match the surrounding grade.

D Measurement
The department will measure Remove Electrical Service Meter Breaker Pedestal as each individual removed unit, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.403	Remove Electrical Service Meter Breaker Pedestal	Each

Payment is full compensation for removing and disposing the meter breaker pedestal, and for backfilling and restoring the site to match surroundings.

26. Salvage Camera Assembly, Item SPV.0060.404.

A Description
This special provision describes salvaging an in-place camera assembly.

B (Vacant)

C Construction

Prior to salvaging, the engineer or delegated representative shall determine if the camera assembly is fully functional. If the camera assembly is found to not meet original manufacturer's specifications, contact Graham Heitz of the department's SW Region at (608) 246-5362.

Carefully remove the in-place camera assembly at the location indicated on the plans. If applicable, remove all mounting hardware associated with the camera assembly. Remove all cables/wires connected to the camera assembly back to the next connected device.

Reinstall and make operational camera assemblies within 14 days of removal. Camera assemblies to be reinstalled will be paid for under the Install Camera Assembly bid item.

Any materials to be reinstalled which are lost or damaged during removal, transport, or storage shall be repaired or replaced by the contractor at the expense of the contractor, or will be repaired or replaced by the department at the expense of the contractor, as determined by the engineer.

Deliver camera assemblies that will not be reinstalled to the department's SW Region at 2101 Wright St, Madison, WI. Contact Graham Heitz at (608) 246-5362 at least 24 hours prior to delivery to determine the delivery location and time at the SW Region complex.

Storage of the salvaged materials prior to reinstallation or delivery to the SW Region is the responsibility of the contractor and is incidental to this item.

D Measurement

The department will measure Salvage Camera Assembly as each individual salvaged 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.0060.404	Salvage Camera Assembly	Each

Payment is full compensation for salvaging, transporting, and storing the camera assembly.

27. Salvage Video Encoder, Item SPV.0060.405.

A Description

This special provision describes salvaging an in-place video encoder.

B (Vacant)

C Construction

Prior to salvaging, the engineer or delegated representative shall determine if the video encoder is fully functional. If the video encoder is found to not meet original manufacturer's specifications, contact Graham Heitz of the department's SW Region at (608) 246-5362.

Carefully salvage the in-place video encoder at the location indicated on the plans. If applicable, salvage all mounting hardware associated with the video encoder. Salvage all cables/wires connected to the video encoder back to the next connected device.

Reinstall and make operational video encoders within 14 days of removal. Video encoders to be reinstalled will be paid for under the Install Video Encoder bid item.

Any materials to be reinstalled which are lost or damaged during removal, transport, or storage shall be repaired or replaced by the contractor at the expense of the contractor, or will be repaired or replaced by the department at the expense of the contractor, as determined by the engineer.

Video encoders that will not be reinstalled shall be delivered to Graham Heitz of the department's SW Region at 2101 Wright St, Madison, WI. Contact Graham Heitz at (608) 246-5362 at least 24 hours prior to delivery. The department may determine alternate delivery locations at that time.

Storage of the salvaged materials prior to reinstallation or delivery to the SW Region is the responsibility of the contractor and is incidental to this item.

Any materials to be reinstalled which are lost or damaged during removal, transport, or storage shall be repaired or replaced by the contractor at the expense of the contractor, or will be repaired or replaced by the department at the expense of the contractor, as determined by the engineer.

D Measurement

The department will measure Salvage Video Encoder as each individual salvaged 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.0060.405	Salvage Video Encoder	Each

Payment is full compensation for salvaging, transporting, and storing the video encoder.

28. Salvage Pole Mounted Cabinet, Item SPV.0060.406.

A Description
This special provision describes salvaging an in-place pole mounted cabinet.

B (Vacant)

C Construction
Prior to salvaging, the engineer or delegated representative shall inspect the in-place pole mounted cabinet for damage. If the in-place pole mounted cabinet is found to be damaged, contact Graham Heitz of the department's SW Region at (608) 246-5362.

Carefully salvage the in-place pole mounted cabinet at the location indicated on the plans. Salvage all mounting hardware associated with the pole mounted cabinet. Salvage all cables/wires connected to the pole mounted cabinet in accordance to the plans.

Reinstall cabinets within 14 days of removal. Pole mounted cabinets to be reinstalled will be paid for under the Install Pole Mounted Cabinet bid item.

Any materials to be reinstalled which are lost or damaged during removal, transport, or storage shall be repaired or replaced by the contractor at the expense of the contractor, or will be repaired or replaced by the department at the expense of the contractor, as determined by the engineer.

Deliver pole mounted cabinets that will not be reinstalled to the department's SW Region at 2101 Wright St, Madison, WI. Contact Graham Heitz at (608) 246-5362 at least 24 hours prior to delivery to determine the delivery location and time at the SW Region complex.

Storage of the salvaged materials prior to reinstallation or delivery to the SW Region is the responsibility of the contractor and is incidental to this item.

D Measurement
The department will measure Salvage Pole Mounted Cabinet as each individual salvaged 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.0060.406	Salvage Pole Mounted Cabinet	Each

Payment is full compensation for salvaging, transporting, and storing the pole mounted cabinet.

29. Salvage Ethernet Switch, Item SPV.0060.407.

A Description
This special provision describes salvaging an in-place Ethernet switch.

B (Vacant)

C Construction
Prior to salvaging, the engineer or delegated representative shall determine if the Ethernet switch is fully functional. If the Ethernet switch is found to not meet original manufacturer's specifications, contact Graham Heitz of the department's SW Region at (608) 246-5362.

Carefully salvage the in-place Ethernet switch at the location indicated on the plans. If applicable, salvage all mounting hardware associated with the Ethernet switch. Salvage all cables/wires connected to the Ethernet switch back to the next connected device.

Reinstall and make operational Ethernet switches within 14 days of removal. Ethernet switches to be reinstalled will be paid for under the Install Ethernet Switch bid item.

Any materials to be reinstalled which are lost or damaged during removal, transport, or storage shall be repaired or replaced by the contractor at the expense of the contractor, or will be repaired or replaced by the department at the expense of the contractor, as determined by the engineer.

Deliver Ethernet switches that will not be reinstalled to the department's SW Region at 2101 Wright St, Madison, WI. Contact Graham Heitz at (608) 246-5362 at least 24 hours prior to delivery to determine the delivery location and time at the SW Region complex.

Storage of the salvaged materials prior to reinstallation or delivery to the SW Region is the responsibility of the contractor and is incidental to this item.

D Measurement
The department will measure Salvage Ethernet Switch as each individual salvaged 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.0060.407	Salvage Ethernet Switch	Each

Payment is full compensation for salvaging, transporting, and storing the Ethernet switch.

30. Salvage Termination Panel, Item SPV.0060.408.

A Description
This special provision describes salvaging an in-place termination panel.

B (Vacant)

C Construction
Salvage the in-place termination panel at the location indicated on the plans. If applicable, salvage all mounting hardware associated with the termination panel.

Reinstall salvaged terminations panels within 14 days of removal. Termination panels to be reinstalled will be paid for under the Install Termination Panel bid item.

Any materials to be reinstalled which are lost or damaged during removal, transport, or storage shall be repaired or replaced by the contractor at the expense of the contractor, or will be repaired or replaced by the department at the expense of the contractor, as determined by the engineer.

Deliver termination panels that will not be reinstalled to the department's SW Region at 2101 Wright St, Madison, WI. Contact Graham Heitz at (608) 246-5362 at least 24 hours prior to delivery to determine the delivery location and time at the SW Region complex.

Storage of the salvaged materials prior to reinstallation or delivery to the SW Region is the responsibility of the contractor and is incidental to this item.

D Measurement
The department will measure Salvage Termination Panel as each individual salvaged panel, 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.0060.408	Salvage Termination Panel	Each

Payment is full compensation for removing**,** salvaging, transporting, and storing termination panel.

31. Remove Communication Vault, Item SPV.0060.409.

A Description
This special provision describes removing an in-place communication vault and restoring the site to match surroundings.

B (Vacant)

C Construction
Prior to removal, the engineer or delegated representative shall verify that all salvageable items have been removed from the communication vault. Remove the in-place communication vault at the location indicated on the plans. Remove the entire communication vault, including any non-salvageable items still attached.

Properly dispose all removed materials off the job site and off department right-of-way. After the communication vault is removed, backfill the removal site with material similar to surrounding material and match the surrounding grade.

D Measurement
The department will measure Remove Communication Vault as each individual removed communication 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.0060.409	Remove Communication Vault	Each

Payment is full compensation for removing and disposing the communication vault and for backfilling and restoring the site to match surroundings.

32. Salvage Type 5 Pole, Item SPV.0060.410.

A Description
This special provision describes salvaging an in-place a type 5 pole.

B Materials
Provide all tools and equipment necessary to salvage an in-place type 5 pole.

C Construction
Prior to removal, the engineer or delegated representative shall inspect the in-place type 5 pole for damage. If the in-place type 5 pole is found to be damaged, contact Graham Heitz of the department's SW Region at (608) 246-5362.

Disconnect all cables and wiring that are mounted on or in the pole, and remove the pole from the transformer base. Salvage the type 5 pole and other equipment attached to the pole and deliver to the department's SW Region at 2101 Wright St, Madison, WI. Contact Graham Heitz at (608) 246-5362 at least 24 hours prior to delivery to determine the delivery location and time at the SW Region complex.

Storage of the salvaged materials prior to delivery to the SW Region is the responsibility of the contractor and is incidental to this item.

Any materials which are lost or damaged during salvaging, transport, or storage shall be repaired or replaced by the contractor at the expense of the contractor, or will be repaired or replaced by the department at the expense of the contractor, as determined by the engineer.

D Measurement
The department will measure Salvage Type 5 Pole as each individual salvaged 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.0060.410	Salvage Type 5 Pole	Each

Payment is full compensation for salvaging, storing, and transporting the type 5 poles.

33. Install Cantilever Dynamic Message Sign, Item SPV.0060.411.

A Description
This special provision describes installing a salvaged dynamic message sign on a sign structure installed in this project under separate bid items.

B Materials
The sign, controller and control cable shall be salvaged under bid item Salvage Cantilever Dynamic Message Sign. The control cable will be multi-mode fiber optic cable.

Use an AWG #6 copper wire or equivalent bonding straps to bond the sign to the structure. Use an AWG #6 solid, bare copper wire to bond the sign structure to the ground rod(s).

- For the three wires carrying 120/240 VAC power from the cabinet to the sign, use single conductor, stranded copper, 120/240 VAC, XLP insulated, USE rated wire. Size the wire to carry the maximum amperage permitted by the main breakers in the sign.

Cables not furnished by the department, nor associated with another bid item, will be considered incidental to Install Cantilever Dynamic Message Sign.

C Construction
Install the load center so that the main breakers control all power to the sign and cabinet. Provide at least three branch circuits, one for the sign, one for the controller cabinet and one spare. Only protect the branch serving the controller cabinet with the second stage of the surge protector. Connect the power and control cables according to the manufacturer's recommendations. Run the cables in rigid metallic conduit or flexible metallic conduit, or combination of these, within the sign structure.

Bond the bottom of the sign structure to one or more ground rods. Use exothermic welding at each end of the ground wire, unless the steel structure has a suitable grounding lug. Use a device that measures resistance to ground using the three-point fall-of-potential method to ensure that the resistance from the sign's ground bar to ground does not exceed 4 ohms. Add more ground rods if necessary to achieve this requirement.

D Measurement
The department will measure Install Cantilever Dynamic Message Sign by each individual sign, 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.0060.411	Install Cantilever Dynamic Message Sign	Each

Payment is full compensation for transporting, installing, and testing the sign and controller; providing cables, conduits, and fittings; for testing the sign; for transporting materials, and making the dynamic message sign fully operational..

34. Install Termination Panel, Item SPV.0060.412.

A Description
This special provision describes installing a department-furnished fiber optic termination panel.

B Materials
The department will furnish the fiber optic termination panel. Provide mounting hardware as necessary.

C Construction
Install the termination panel in a pole or base mounted field cabinet as indicated on the plans or as directed by the engineer.

D Measurement
The department will measure Install Termination Panel as each individual installation, 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.0060.412	Install Termination Panel	Each

Payment is full compensation for installation of the fiber optic termination panel, and furnishing and installing all necessary hardware.

35. Install Ground Mount Dynamic Message Sign, Item SPV.0060.413.

A Description

This special provision describes installing a department-furnished dynamic message sign and controller on structural steel sign supports (paid for separately), and integrating the sign and making it functional in the existing system.

B Materials

The department will furnish the dynamic message sign, dynamic message sign controller and communications cable between sign and controller.

Cables not furnished by the department, nor associated with another bid item, will be considered incidental to Install Ground Mount Dynamic Message Sign.

C Construction

Install the department-furnished sign as indicated on the plans. Install the department-furnished sign controller in the controller cabinet as indicated on the plans.

Connect the power and control cables in accordance to the manufacturer's recommendations.

Bond the bottom of the sign structure to one or more ground rods. Use exothermic welding at each end of the ground wire (unless the steel structure has a suitable grounding lug). Use an AWG # 6 solid, bare copper wire to bond the sign structure to the ground rod(s). Use a device that measures resistance to ground using the three-point fall-of-potential method to ensure that the resistance from the sign's ground bar to ground does not exceed 4 ohms. Add more ground rods if necessary to achieve this requirement. All grounding components will be considered incidental to Install Ground Mount Dynamic Message Sign.

D Measurement

The department will measure Install Ground Mount Dynamic Message Sign by each individual sign, 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.0060.413	Install Ground Mount Dynamic Message Sign	Each

Payment is full compensation for installation of the sign and controller, fabrication and installation of all mounting hardware, furnishing and installation of control/power cables and grounding components, testing the sign and controller, and making the sign and controller fully operational.

36. Install Hardwired Bluetooth Sensor, Item SPV.0060.414.

A Description

This special provision describes installing a department-furnished hardwired Bluetooth sensor including a cellular modem.

B Materials

The department will furnish the hardwired Bluetooth sensor and cellular modem.

Provide all necessary cables and connectors between the hardwired Bluetooth sensor and other devices.

C Construction

Install the hardwired Bluetooth sensor as indicated on the plans. Make connections between the hardwired Bluetooth sensor and other devices as shown on the plans, or as directed by the engineer. Mount the antenna in a way that maximizes signal strength.

D Measurement

The department will measure Install Hardwired Bluetooth Sensor by each individual unit, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.414	Install Hardwired Bluetooth Sensor	Each

Payment is full compensation for installation of the hardwired Bluetooth sensor and cellular modem, furnishing and installing all necessary hardware, making all necessary connections, and making the Bluetooth sensor fully operational, and for testing.

37. Install Solar-Powered Bluetooth Sensor, Item SPV.0060.415.

A Description

This special provision describes installing a department-furnished solar-powered Bluetooth sensor with onboard cellular modem, solar panel and soar panel mounting hardware.

B Materials

The department will furnish the solar-powered Bluetooth sensor with onboard cellular modem and solar panel with mounting hardware.

Provide all necessary cables and connectors between the solar-powered Bluetooth sensor and other devices.

C Construction
Install the solar-powered Bluetooth sensor as indicated on the plans and per the manufacturer's recommendations. Mount the antenna to maximize signal strength.

D Measurement
The department will measure Install Solar-Powered Bluetooth Sensor by each individual unit, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.415	Install Solar-Powered Bluetooth Sensor	Each

Payment is full compensation for installation of the solar-powered Bluetooth sensor and cellular modem, furnishing and installing all necessary hardware, making all necessary connections, and making the Bluetooth sensor fully operational, and for testing.

38. Install Solar Power System – Microwave Detector, Item SPV.0060.416.

A Description
This special provision describes installing a department-furnished solar power system on a pole as part of a system detector station at locations as shown on the plans.

B Materials
The department-furnished solar power system consists of 2-85W panels, 2-120 Amp-Hour batteries, a solar power controller, and 1-solar power cabinet to house the batteries and controller.

Contractor furnished materials include outdoor rate power cable between solar power system output and department-furnished microwave detector as well as mounting hardware for the solar power assembly.

C Construction
Install the microwave detector as required in standard spec 675. Additionally, integrate the microwave detector with communications equipment as shown on the plans.

Install the solar panels facing south on the pole with the devices to be powered. If a compass is used, a correction must be made for the difference between magnetic north and true north. Install the solar panels at a tilt angle of approximately 60 degrees. The tilt angle shall be considered the angle from horizontal to the front, or face of the solar panel.

Install the cabling, ensuring that cables enter the cabinet only through the bottom, and that strain relief fittings are used to seal cable entrance points. Connect the panel to the charge controller, connecting the white wire to the positive (+) terminal and the black wire to the negative terminal (-).

D Measurement
The department will measure Install Solar Power System – Microwave Detector 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.0060.416	Install Solar Power System – Microwave Detector	Each

Payment is full compensation for providing the contractor furnished materials, installing the department furnished solar power assembly, and making the solar power assembly functional with the microwave detector.

39. Install Cellular Modem, Item SPV.0060.417.

A Description
This special provision describes installing a department-furnished cellular modem and antenna.

B Materials
The department will furnish a cellular modem and antenna.

Provide all necessary cables and connectors between the cellular modem and antenna, as well as to other devices.

C Construction
Install the cellular modem and antenna as indicated on the plans. Make connections between the cellular modem and antenna, as well as to other devices as shown on the plans, or as directed by the engineer. The contractor shall mount the antenna in a way that maximizes signal strength.

D Measurement
The department will measure Install Cellular Modem by each individual unit, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.417	Install Cellular Modem	Each

Payment is full compensation for installation of the cellular modem and antenna, furnishing and installing all necessary hardware, making all necessary connections, and making the cellular modem fully operational; and for testing.

40. Install IP Radio, Item SPV.0060.418.

A Description

This special provision describes installing a department-furnished IP radio and associated antenna.

B Materials

The department will furnish the IP radio and antenna or will direct the contractor to use an existing and salvaged IP radio and antenna. Provide all necessary cabling between the IP radio and the associated antenna. Provide all necessary mounting hardware.

Provide an outdoor rated Category 5E or RS422 serial cable between the IP radio and control devices located in a controller cabinet.

C Construction

Mount the IP radio and antenna as indicated on the plans. Make connections between the IP radio and antenna, as well as other devices as shown on the plans, or as directed by the engineer.

D Measurement

The department will measure Install IP Radio 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.0060.418	Install IP Radio	Each

Payment is full compensation for installation of the IP radio and associated antenna, furnishing and installing all necessary hardware, making all necessary connections, and making the IP radio fully operational; and for testing.

41. Wireless Client Radio Assembly, Item SPV.0060.419.

A Description

This special provision describes furnishing and installing a Wi-Fi client radio assembly for communicating with the wireless mesh radio system. Client radio assemblies communicate with wireless mesh radio assemblies that serve as a Wi-Fi access point.

B Materials

Furnish and install a wireless client radio assembly and any necessary mounting hardware that allows Wi-Fi communication with the wireless mesh radio system. Assemblies include radio, antenna and antenna cabling equipment.

The manufacturer shall warrant the wireless mesh radio assembly for at least three years.

Wi-Fi client device shall support at a minimum the following network capabilities:

- IEEE 802.11 b/g with simultaneous support for both protocols
- Rapid Spanning Tree Protocol
- Quality of Service IEEE 802.1p
- VLAN 802.1Q (at least 255 VLANs)
- Link Aggregation 802.3ad

The device shall have at least two 10/100 Base-T Ethernet ports.

The Wi-Fi client device shall support at a minimum the following network management capabilities:

- IGMP Snooping
- SNMP
- Port-Based Network Access Control 802.1x
- Port Rate Limiting
- Broadcast Storm Filtering
- Event Logging and Alarms
- HTML Web Browser and Telnet User Interfaces
- Command Line Interface

The Wi-Fi client device shall support the following data rates:

- IEEE 802.11b: 11/5.5/2/1 Mbps with automatic fallback
- IEEE 802.11h: 54/58/36/24/18/12/9/6 Mbps with automatic fallback

The Wi-Fi client device shall support sustained throughput with a latency not to exceed 1.5 ms.

The Wi-Fi client device's power supply shall support 120 VAC and be internal to the device or shall be temperature rated for -40 to +85 degrees Celsius and 95% relative humidity if it is external to the device.

Wi-Fi device shall be rated for IP40 ingress protection. It shall be rated for operation from -40 to +85 degrees Celsius and 95% relative humidity.

C Construction

Install wireless client radio assembly as represented on the plans. Configure and integrate the wireless mesh radio assembly to function as shown in the plan communication schematic details.

D Measurement

The department will measure Wireless Client Radio Assembly 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.0060.419	Wireless Client Radio Assembly	Each

Payment is full compensation for furnishing and installing the wireless mesh radio assembly, and making the radio assembly fully operational.

42. Wireless Mesh Radio Assembly, Item SPV.0060.420.

A Description

This special provision describes furnishing and installing a wireless mesh radio assembly. The mesh network forms a backbone trunk communication network. Client radio assemblies communicate with wireless mesh radio assemblies that serve as a Wi-Fi access point.

B Materials

General Requirements

Furnish and install the wireless mesh radio assembly and any necessary mounting hardware. Field equipment shall incorporate both a wireless mesh network backhaul and a point-to-multipoint Wi-Fi access point capability. Assemblies include radio, antenna and antenna cabling equipment.

The wireless mesh backhaul network shall be self-forming and self-healing. Wireless mesh infrastructure shall provide a minimum of one link and/or node failure redundancy. Wireless mesh nodes shall comply with all Ethernet transport standards and shall be environmentally hardened for installation in outdoor environments. Wireless access points shall provide access functionality in the 2.4 GHz spectrum and shall be modular and physically separable from any backhaul wireless mesh device. The network shall include an access point controller or similar device to manage client authentication and roaming functions.

The manufacturer shall warrant the wireless mesh radio assembly for at least three years.

Networking Requirements

Mesh nodes shall support:

- IEEE 802.3 Ethernet transport standards
- IEEE 802.11 a/b/g/n standards on the radio
- IEEE 802.1p standards for Quality of Service and traffic prioritization
- Multicast filtering
- IGMP v2 (at a minimum)

The outdoor wireless mesh nodes shall have waterproof connectors. The outdoor wireless access point shall provide at least one weatherproof Ethernet interface consistent with IEEE 802.3af (PoE / Powered Device).

Wireless mesh nodes shall provide the ability to connect to each other over Ethernet, bridge multiple remote wireless mesh networks over IP and seamlessly integrate with a backbone fiber optic Ethernet/IP network. Wireless mesh shall support VLAN trunking and at least 255 VLANs. The wireless mesh network shall support configurations of static routes, manual configurations of links. The wireless access point shall support at least 16 independent VLANs, WDS (Wireless Distribution System) mode of operation and DHCP client as well as DHCP server functionality.

Wireless access point shall support 802.11e Wi-Fi Multimedia (WMM) quality of service standard, multicast traffic (voice, video and data), per user and per virtual access point rate limiting and it shall provide the infrastructure to support rate limiting on end user bandwidth allocation and policy management on client connections. The wireless mesh nodes shall support port based QoS and 802.1p standards based QoS and provide load balancing on alternative routing paths between source and destination MAC. Wireless mesh network shall have simultaneous support for video, voice and data multiservices.

The wireless mesh nodes shall support mesh networks of at least 50 nodes, support a minimum of three gateway interfaces and provide the ability to bridge multiple wireless mesh networks over IP. Wireless mesh networks shall provide the ability to have Ethernet interfaces as part of the routing domain.

Radio Requirements

The Wireless mesh nodes and wireless access point radios shall be FCC certified and shall support dynamic channel allocation for optimal RF performance. Wireless mesh nodes shall operate in 2.4 GHz, 5GHz and the licensed 4.9 GHz band. Wireless mesh nodes shall support IEEE 802.11a, 802.11b, 802.11g, 802.11n protocols, two radios dedicated for backhaul switching capability, shall provide software control over the two radios for different radio configurations and in the IEEE 802.11n shall be capable of a minimum of 2x2 MIMO with 2 streams.

The wireless mesh nodes and wireless access points shall support a maximum output power of at least 400 mW per stream and shall support the following minimum receive sensitivities at each stated throughput:

- 2.4 GHz, DSSS:
- 1 Mbps: -95 dBm;
- 11 Mbps: -88 dBm
- 2.4 GHz, OFDM
- 6 Mbps: -90 dBm
- 54 Mbps: -73 dBm

The wireless mesh nodes shall also support the following receive sensitivities:

- 5 GHz, OFDM
- 1. 6 Mbps: -90 dBm
- 2. 54 Mbps: -73 dBm

Wireless mesh nodes shall have a bonded mode that combines the operations of two radios for higher aggregate throughput, shall provide the ability to configure any channel in the specified frequency bands, shall support transmit power control (TPC) and shall provide the ability to self-configure recovery of neighbor radio nodes in different frequency bands. Wireless access points shall support manual transmit power control (TPC). They shall support at least 64 concurrent users simultaneously, shall have a minimum of 2 external antennas for receive diversity and shall provide the ability to configure any channel in the above frequency bands.

Performance Requirements

Wireless mesh nodes shall support a maximum data rate of at least 200 Mbps throughput in a bonded mode of operation in MIMO configuration between individual nodes under ideal design conditions and it shall support a maximum data rate of at least 100 Mbps sustained throughput across multiple hops within the MIMO mesh under ideal design conditions. The wireless mesh solution shall support sustained throughput performance for ten hops or more and the latency of the nodes shall not exceed 1.5 ms (average) per hop. Wireless mesh network shall support mobility for 802.11-clients across multiple Layer 3 domains and shall maintain session-persistent connections while mobile infrastructure nodes move at speeds from 0 to 80 miles per hour.

Management Requirements

Wireless mesh nodes and wireless access points shall provide management interfaces via an HTTP web-based interface, SNMP, Native GUI application and Telnet with command-line interface. The management infrastructure shall provide an alert mechanism, such as SMS or e-mail, to provide notifications of alarms. At a minimum, the field hardware shall provide system status LEDs for power; mesh status; wireless mesh node faults; and wireless access point uplink and access. The software shall provide statistics for alarms and events on a per device basis. Wireless mesh nodes and wireless access points shall support remote software upgradeability with the capability to group access points together in administrative domains to be able to configure groups of access points simultaneously.

The wireless access point shall support a minimum of 16 SSIDs per physical access point and shall support manual configuration of RTS-CTS thresholds for client communications. The wireless access points shall provide the ability to create virtual access points that span a minimum of three physical access points.

Security Requirements

The wireless mesh nodes and wireless access points shall support username and password security for all networking interfaces, MAC address filtering, 256-bit AES, 40/104 bit WEP, the ability to lockout malicious users as they try to access the network and the security encryption standards shall be FIPS certifiable. Wireless mesh nodes shall support hardware based encryption, ESSID encryption, broadcast rate limiting, the ability to remotely control (enable/disable) the Ethernet ports and the capability to distinguish between radios that are part of their network from radios that are not, even if those radios are from the same manufacturer and operate on the same radio channel.

Wireless access points shall support VPN tunneling and filtering, intra-cell blocking, 802.11i authentication, WPA2 authentication, RADIUS authentication, Rogue AP detection and isolation, SSID suppression, NAT and firewall functionality and Captive Portal management to allow users to connect to the access point using PCs or other computing devices.

Physical and Environmental Requirements

Outdoor devices shall be pole and/or wall mountable. Wireless mesh nodes and wireless access point enclosures shall be NEMA 4X/IP67 rated for outdoor deployment and shall have weatherproof antenna connectors (IP64 minimum). Wireless mesh nodes shall provide an optional sunshield for environmental protection, surge suppression protection, operate in temperatures from -40 to +60 degrees C and operate in non-condensing humidity of 10% to 90%. All hardware units shall support 90-240 VAC, 50/60 Hz, 0.9A or 12 V DC+/- 15%. Wireless mesh nodes shall support the 802.3af power over Ethernet (PoE) standard. Wireless access point shall support 90-240 VAC, 50/60 Hz, 16 VDC input and have an option of deriving PoE from any device that is capable of delivering PoE.

Access Point Controller Features

The wireless access point shall be configurable from a centralized workstation controller and be able to establish secure tunneled connectivity to the controller and support IAPP protocol IEEE 802.11f. The wireless access point controller shall support centralized channel allocation mechanisms and provide centralized transmit power control mechanisms.

C Construction

Install wireless mesh radio assembly as shown on the plans. Configure and integrate the wireless mesh radio assembly to function as shown in the plan schematics. Furnish and install communications and power cables from the cabinet to the wireless mesh radio assembly to the cabinet.

D Measurement

The department will measure Wireless Mesh Radio Assembly 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.0060.420	Wireless Mesh Radio Assembly	Each

Payment is full compensation for furnishing and installing the wireless mesh radio assembly and making the radio assembly fully operational. Power and communications cable is incidental to this item.

43. Wireless Mesh Radio Assembly, State Patrol Tower, Item SPV.0060.421.

A Description

This special provision describes furnishing and installing a wireless mesh radio assembly at the Wisconsin State Patrol Monogue Road communications tower site on IH 39/90 at MP 167.99. This radio assembly is the same as the equipment to be furnished and installed in the Wireless Mesh Radio Assembly article, but shall be mounted on a Wisconsin State Patrol Tower and thus has additional material and construction requirements.

B Materials

Furnish the wireless mesh radio assembly according to the specifications listed in the Wireless Mesh Radio Assembly article and furnish any necessary mounting hardware. Install an ice shield over the radio assembly to protect the radio assembly from falling ice from the tower. Use a non-rusting metal for the ice shield and securely fasten the shield to the tower.

C Construction

Install the wireless mesh radio assembly as shown on the plans. Configure and integrate the wireless mesh radio assembly to function as shown in the plan schematics. Provide a list of materials that will be installed at the State Tower Site to the Wisconsin State Patrol along with a schematic of how it will be affixed to the tower to get access to the site. Install wireless mesh radio assembly as represented on the plans. Furnish and install circuit breakers and power cables from the communications hut to the wireless mesh radio assembly.

To obtain access to the tower site, make a request to the engineer and provide to the engineer the following information a minimum of 10 working days before access is desired:

- A list of materials that will be installed at the tower site.
- A schematic of how they will be affixed to the tower.

The following terms and conditions apply to any work performed at the tower site and are agreed to by the contractor:

1. Provide the names and contact information of the contractors that will install equipment on the tower structure or in the building. Provide proof of insurance for any and all contractors involved.

2. All work done at the site is the responsibility of the contractor. Immediately correct any damage to existing equipment on the state tower site at the contractor’s expense.

3. Any contractor going on site shall contact the Wisconsin State Patrol DeForest tech shop at (608) 846-8524 during business hours or DeForest post dispatch at (608) 846-8500 during non-business hours prior to entering the site. The department may require the contractor to delay work until the department can provide an on-site representative to monitor work.

4. The department communications technicians will assist with mitigation of RF interference; however, it is the contractor's responsibility to resolve any issues. If there is harmful interference to equipment the department maintains at the site, the ITS wireless mesh radio assembly shall be shut down at the contractor's expense until the issue is resolved.

D Measurement

The department will measure Wireless Mesh Radio Assembly, State Patrol Tower 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.0060.421	Wireless Mesh Radio Assembly, State Patrol Tower	Each

Payment is full compensation for furnishing and installing the wireless mesh radio assembly and making the radio assembly fully operational. Circuit breakers and power cable are incidental to this item.

44. 30-Foot Wood Pole, Item SPV.0060.422.

A Description

This special provision describes furnishing and installing a 30-foot wood pole.

B Materials

Furnish a Class II wood pole conforming to the American Standard Specifications and Dimensions for Wood Poles (ANSI 2051).

Treat the wood pole in accordance to the requirements and recommendations of AWPA Standard C1 and the applicable AWPA Commodity Standards. Do not use creosote for treatment.

Furnish ground rod(s), wires and other components per National Electric Code.

Furnish and install conduit and equipment in accordance to the plans.

Furnish and install guy wires and support cables at all wood poles that have aerial power cables.

C Construction
Install the wood pole with 6 feet of the pole below ground or deeper as required by soil conditions.

Install all hardware as represented on the plans.

Install grounding components per National Electric Code.

D Measurement
The department will measure 30-Foot Wood Pole by each individual unit, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.422	30-Foot Wood Pole	Each

Payment is full compensation for furnishing and installing the wood pole, furnishing and installing all necessary hardware, and making all necessary connections. Grounding components, guy wires, support cables, and rigid metallic conduit are incidental to this item.

45. 50-Foot Wood Pole, Item SPV.0060.423.

A Description
This special provision describes furnishing and installing a 50-foot wood pole.

B Materials
Furnish a Class II wood pole conforming to the American Standard Specifications and Dimensions for Wood Poles (ANSI 2051).

Treat the wood pole in accordance to the requirements and recommendations of AWPA Standard C1 and the applicable AWPA Commodity Standards. Do not use Creosote for treatment.

Furnish ground rod(s), wires and other components per National Electric Code.

Furnish and install conduit and equipment in accordance to the plans.

Furnish and install guy wires and support cables at all wood poles that have aerial power cables.

C Construction
Install the wood pole with 10-feet of the pole below ground or deeper as required by soil conditions.

Install all hardware as represented on the plans.

Install grounding components per National Electric Code.

D Measurement
The department will measure 50-Foot Wood Pole by each individual unit, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.423	50-Foot Wood Pole	Each

Payment is full compensation for furnishing and installing the wood pole, furnishing and installing all necessary hardware, and making all necessary connections. Grounding components, guy wires, support cables, and rigid metallic conduit are incidental to this item.

46. 65-Foot Wood Pole, Item SPV.0060.424.

A Description
This special provision describes furnishing and installing a 65-foot wood pole.

B Materials
Furnish a Class II wood pole conforming to the American Standard Specifications and Dimensions for Wood Poles (ANSI 2051), unless otherwise specified by the engineer.

Treat the wood pole in accordance to the requirements and recommendations of AWPA Standard C1 and the applicable AWPA Commodity Standards. Do not use Creosote for treatment.

Furnish ground rod(s), wires and other components per National Electric Code.

Install conduit and equipment in accordance to the plans.

Furnish and install guy wires and support cables at all wood poles that have aerial power cables.

C Construction
Install the wood pole with 13 feet of the pole below ground or deeper as required by soil conditions.

Install all hardware as represented on the plans.

Install grounding components per National Electric Code.

D Measurement
The department will measure 65-Foot Wood Pole by each individual unit, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.424	65-Foot Wood Pole	Each

Payment is full compensation for furnishing and installing the wood pole, furnishing and installing all necessary hardware, and making all necessary connections. Grounding components, guy wires, support cables, and rigid metallic conduit are incidental to this item.

47. Antenna Riser, Item SPV.0060.425.

A Description
This special provision describes furnishing and installing of an antenna riser.

B Materials
The department will furnish the antenna. Provide antenna riser conduit, condulet, weatherhead, antenna cable, U-bolts and any other necessary mounting hardware. Use stainless steel hardware where available.

C Construction
Install antenna riser as represented on the plans. Make weatherproof connections between the antenna and other devices as shown on the plans, or as directed by the engineer.

D Measurement
The department will measure Antenna Riser 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.0060.425	Antenna Riser	Each

Payment is full compensation for furnishing and installing the antenna riser.

48. Incident Management Trailer, Item SPV.0060.426.

A Description

This special provision describes furnishing and delivering incident management trailers. The deployment of incident management trailers is expected to reduce response times during emergency traffic incidents. The incident management trailers will be used for traffic control and lane closures based on the Manual on Uniform Traffic Control Devices (MUTCD) standards. The trailers shall conform to MUTCD Chapter 6I which is dedicated to controlling traffic through incident management areas.

B Materials

Each trailer furnished for this project shall be the same size and have the same equipped features. Trailer specifications and additional equipment are listed below.

TRAILER SPECIFICATIONS

Length/type	20’ enclosed aluminum
Interior Width	8’ wide (interior)
Interior Height	7’ height (interior)
Gross Weight	7,000 lbs. (includes weight of the trailer)
Exterior	All metal exterior
Tongue Jack	Tongue jack with footpad
Exterior Color	Mustard Yellow
Interior walls	3/4” plywood walls
Interior floor	3/4” treated plywood floor
Interior studs	Studs 16” on center
Interior cabinets/storage	20’’ x 20’’ x 8’ footlocker/trunk along the front of trailer (opens from top; stay open/stay closed latches on trunk; battery to be stored in trunk with wiring connected to an exterior outlet on the trailer and trickle charger) 14’’ x 14’’ x 8’ overhead cabinets in front of trailer (stay open/stay closed latches on cabinets)
Interior lighting	3 interior switch LED lights – battery powered with the ability to be powered by the tow vehicle
Exterior lighting	2 exterior switch lights on curbside, 2 exterior switch lights on the back doors
Exterior Warning Lights	Orange/Amber LED warning lights on the exterior backdoor header. Lights are to be wired to the battery with a switch by the curbside door.
Brakes	Electric brakes
Back doors	Double swinging doors across the back of the trailer with a manual single slide out, camper style, step located below

	each door (30-inch wide step desired, 24-inch wide acceptable)
Side door(s)	36” wide curb side door near the front with grab bar and a manual single slide out, camper style, step located below the door (30-inch wide step desired, 24-inch wide acceptable)
Roof vents	3 vents
Axles	Tandem axles
Suspension	Leaf springs
Spare Tire and Accessories	1 spare tire, jack, and lug wrench
Hitch	2-5/16’’ ball hitch
Stone guard	Requested

ADDITIONAL EQUIPMENT

Item	Quantity
8’ Type Three Barricades	10
Complete Roadway Sign Set-up (Sign and Stand)	22
Two Right Lanes Closed Sign (with left covers)	4
Right Lane Closed (with left covers)	4
Detour Sign with Velcro Arrow	8
Emergency Scene Ahead Sign	6
Lane Ends Shift Right Sign (with left covers)	4
Type 2 SHRP Barricades with arrows and lights (includes manual on/off switch)	20
Type 2 SHRP Barricades with 48’’X 30’’ Road Closed Signs (R11-2)	5
36”, Weighted (10 lbs.) Reflectorized, 3-Band Cones	75
2-in-1 Convertible Hand Trunk (must support 550 lbs. in 2-wheel hand trunk mode and 770 lbs. in 4-wheel platform trunk mode)	1
24”x 24” Reflectorized Red Flags	2
Reflectorized, 24’’ Stop/Slow Paddle with 7-foot Staff	2
County Highway Maps and Emergency Alternate Route Maps	2
54’’ Square Nose Shovels	2
24’’-wide Stiff Push Brooms	2
LED 3 D Cell Traffic Wand	2
30-lbs. Weighted Rings for Signs and Barricades	36
NIMS/ICS Field Incident Command Vests Kit	1
Type III Safety Vests/Pants Sets– Specifications listed below	6
Vests/Pants Set (Large Size)	2
Vests/Pants Set (XL Size)	2
Vests/Pants Set (XXL Size)	2
8-lbs. Maul	1
Maglite LED 3 D Cell Flashlight	2
20’’ Bungee Cords	6

Cordless Hammer Drill/Driver – Specifications listed below	1
18-Volt ½-Inch Cordless Hammer Drill/Driver Kit	1
Vehicle Charger	1
14-Piece Titanium Drill Bit Set (minimum drill bit size of ¼-inch, minimum 1/16-inch size increments)	1
Diesel Containment (100 lbs. Oil Dry in Garbage Can)	1
Wheel Chocks	2
Hinged Metal Tool Box with Assorted Tools that Fit into Toolbox– Specifications listed below	1
Claw Hammer	1
Pliers (Long Nose, Diagonal, Slip Joint, Linesman, and Groove Joint)	5
Screwdrivers (6 Phillips and 6 Flat-head)	12
Vise Grip (Large and Small Size)	2
Utility Knife with 10 Extra Blades	1
Standard Wrench Set (Minimum 8-piece Set)	1
18-Piece 3/8-Inch Drive Socket Wrench Set	1
25-foot Tape Measure	1
Wire Stripper/Cutter	1
Straight, Compound Tin Snips	1
Roll of Duct Tape	2
Roll of Electrical Tape	3
Hack Saw with Extra Blade	1
Bow Saw	1
1-foot Pry Bar/Wonder Bar	1
5-lbs. Fire Extinguisher	1
Standard First Aid Kit (Case, 2 Absorbent Compress Dressings, 25 Adhesive Bandages of Assorted Sizes, 1 Roll of Adhesive Cloth Tape, 5 Antibiotic Ointment Packets, 5 Antiseptic Wipe Packets, 2 Packets of Aspirin, 1 Breathing Barrier with One-way Valve, 1 Instant Cold Compress, 2 Pair of Nonlatex Gloves, 2 Hydrocortisone Ointment Packets, 1 Pair of Scissors, 2 Roller Bandages, 10 Sterile Gauze Pads, 2 Triangular Bandages, Tweezers, and First Aid Instruction Booklet)	1
5-Gallon Plastic Buckets	4
32-Gallon Garbage Can	1
Box of Garbage Bags (32 Gallon Bags)	1

C Construction

Deliver four incident management trailers to the following locations, one at each location:

- Rock County Highway Shop at Shopiere – 3501 East CTH S, Beloit, WI 53511.
- Rock County Highway Shop at Newville – 11228 East Sherman Road, Edgerton, WI 53534.
- Safety and Weight Enforcement Facility on southbound/eastbound IH 39/90 between CTH N and CTH W in Dane County.
- Dane County Highway Shop located in the IH 39/90/94 and STH 30 (Badger) Interchange.

Deliver the trailers during normal shop working hours. Notify the engineer a minimum of three business days before delivering each trailer.

D Measurement

The department will measure Incident Management Trailer 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.0060.426	Incident Management Trailer	Each

Payment is full compensation for furnishing and delivering the incident management trailers.

49. Salvage Lighting Cabinet IH 43 and Hart Road, Item SPV.0060.427.

A Description

This special provision describes salvaging the in-place ground-mounted lighting cabinet at IH 43 and Hart Road.

B (Vacant)

C Construction

Prior to salvaging, the engineer or delegated representative will inspect the in-place cabinet for damage. If the in-place cabinet is found to be damaged, contact Graham Heitz of the department's SW Region at (608) 246-5362.

Obtain permission from the engineer before disconnecting any wiring in the cabinet or otherwise beginning salvage work. Do not take the lighting cabinet or ramp meters out of service until the new lighting cabinet is on site and ready for installation.

Before disconnecting wires or cable, label all wires and cables in both the lighting cabinet and in the electrical service meter breaker pedestal. Disconnect wires and cabling inside cabinet, pull the wires and cabling into the conduit, and protect from damage. Disconnect the ramp gates wiring from the electrical service meter breaker pedestal, pull into the conduit, and protect from damage. Carefully salvage the in-place cabinet and all equipment and materials in the cabinet. Salvage all mounting hardware associated with the cabinet and store for reuse in installing a new cabinet.

Any equipment or materials to be salvaged which are lost or damaged during removal, transport, or storage shall be repaired or replaced by the contractor at the expense of the contractor, or will be repaired or replaced by the department at the expense of the contractor, as determined by the engineer.

Deliver the lighting cabinet and all equipment to the department's SW Region at 2101 Wright St, Madison, WI. Contact Graham Heitz at (608) 246-5362 at least 24 hours prior to delivery to determine the delivery location and time at the SW Region complex.

Storage of the salvaged materials prior to reinstallation or delivery to the SW Region is the responsibility of the contractor and is incidental to this item. Any storage shall be in a secure location and shall not be on site.

D Measurement
The department will measure Salvage Lighting Cabinet IH 43 and Hart Road as each individual salvaged 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.0060.427	Salvage Lighting Cabinet IH 43 and Hart Road	Each

Payment is full compensation for disconnecting and protecting wire and cable; and for salvaging, transporting, and storing the lighting cabinet.

50. Lighting Cabinet IH 43 and Hart Road, Item SPV.0060.428.

A Description
This special provision describes furnishing and installing a lighting control cabinet onto an existing concrete base at the IH 43 and Hart Road northwest ramp terminal. Work under this item shall be in accordance to standard spec 654.

B Materials
Furnish the lighting control cabinet from the department qualified product list. Request the cabinet enclosure to be the same size as the existing lighting cabinet to enable reuse of the existing anchor bolts and anchor bolt hardware in the existing concrete base. Furnish all necessary wiring, miscellaneous accessories, and hardware to complete the cabinet installation. All exposed threaded equipment mounting hardware shall be stainless steel.

C Construction
Install the cabinet and make the interchange lighting system and the ramp gates lighting fully operational within 48 hours of making the lighting systems nonoperational for removing the existing lighting cabinet.

Install the lighting cabinet on the existing concrete base. Follow manufacturer's instructions regarding installation. All threaded stainless steel hardware and dissimilar metal threaded hardware shall be coated with an approved zinc-based anti-seize compound.

Make all power connections to the cabinet, isolating the neutral bus from the cabinet and equipment ground. Effectively ground all cable grounding shields and any spare or unused conductors in the cabinet to the equipment grounding terminal strip.

Connect all lighting wires and make the interchange lighting system fully operational. Connect all ramp gates wiring and make the ramp gates lighting fully operational. Label all wires and connections.

D Measurement
The department will measure Lighting Cabinet IH 43 and Hart Road by each individual unit, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.428	Lighting Cabinet IH 43 and Hart Road	Each

Payment is full compensation for furnishing and installing all materials, including cabinet, wiring, conduits, accessories, hardware, and fittings necessary to install the cabinet; for making all wire and cable connections; and for making the interchange lighting system and the ramp gates lighting fully operational.

51. Salvage Cantilever Sign Bridge S-13-190, Item SPV.0060.950.

A Description
This special provision describes removing cantilever sign bridge S-13-190 from the location shown in the plans, and reinstalling cantilever sign bridge S-13-190 at a new location as shown in the plans, in accordance to the applicable provisions of standard spec 204 and standard spec 641.

B (Vacant)

C Construction
Inspect the sign bridge prior to removing from the existing base. Inform the engineer of any items of concern or potential problems that may interfere with the reuse of the sign bridge. Minimize the time between removal from the existing sign support and reinstallation on the new sign support. Sign supports will be paid as separate items and are not included herein. Maintain the continuity of the circuit if the salvaged sign bridge is not at the end of the circuit.

D Measurement
The department will measure Salvage Cantilever Sign Bridge S-13-190 by each individual relocation, 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.0060.950	Salvage Cantilever Sign Bridge S-13-190	Each

Payment is full compensation for removing, hauling, storing, excavation and reinstalling cantilever sign bridge S-13-190, including supplying all required anchor rods, anchor plates, and connecting hardware, as set forth above.

52. Remove Concrete Sign Support, Item SPV.0060.951.

A Description
This special provision describes removing the existing concrete sign support associated with cantilever sign bridge S-13-190, from the location shown on the plans, and disposing of all materials in accordance to standard spec 204.

B (Vacant)

C Construction
Remove and dispose of existing concrete sign support in accordance to standard spec 204.3.2.1.

D Measurement
The department will measure Removing Concrete Sign Support by each individual removal, 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.0060.951	Removing Concrete Sign Support	Each

Payment is full compensation for removing, backfilling and disposing of existing concrete sign support as set forth above.

53. Conduit HDPE 1-Duct 2-Inch, Item SPV.0090.401.

A Description
This special provision describes furnishing and installing HDPE conduit in accordance to standard spec 671.

B Materials
Supply the material according to standard spec 671.2. Provide conduit blue in color.

C Construction
Install the conduit according to standard spec 671.3. Extend conduit into communication vaults to approximately the center of the vault.

D Measurement
The department will measure Conduit HDPE 1-Duct 2-Inch according to standard spec 671.4.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.401	Conduit HDPE 1-Duct 2-Inch	LF

Payment is full compensation for furnishing and installation in accordance to this special provision and standard spec 671.5.

54. Overhead Service Conductor Assembly 3-Wire, Item SPV.0090.402.

A Description
This special provision describes furnishing and installing an overhead service conductor assembly to provide electrical power to ITS facilities.

B Materials
The overhead service conductor assembly includes a messenger cable, insulated conductor wires, ground wires, a jacket, and conductor lashing as shown in the plan details.

Provide a messenger wire consisting of:

- Seven strands of extra high strength (EHS) grade, galvanized (zinc coating weight per ASTM A 90) steel wire
- 1/2 inch nominal diameter
- minimum strand break load 26,900 lbf
- critical tension25,000 lb
- meets or exceeds ASTM A 475 and ASTM A 363 standards

Provide annealed (soft) copper, type SE, 600 volt, conductor wires and ground wires, of the size noted in the plans. Provide sunlight resistant Type XHHW-2 insulation for the conductor wires. Provide wires in a jacket of sunlight resistant gray polyvinyl chloride.

Provide 0.375 X 0.030 copper binder tape for lashing the conductor assembly.

C Construction
Assemble and install the conductor assembly as shown in the plans and in the plan details. Maintain overhead clearances, including wire sag, as shown on the plans. Install wires in conduit on poles and make connections.

D Measurement
The department will measure Overhead Service Conductor Assembly 3-Wire by the linear foot, acceptably completed, measured from pole to pole, excluding wire sag and drip loops.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.402	Overhead Service Conductor Assembly 3-Wire	LF

Payment is full compensation for furnishing, lashing, and installation of the overhead service conductor assembly, and for furnishing and installation of electrical wire in conduit on the pole.

55. Overhead Service Conductor Assembly 4-Wire, Item SPV.0090.403.

A Description
This special provision describes furnishing and installing an overhead service conductor assembly to provide electrical power to ITS facilities.

B Materials
The overhead service conductor assembly includes a messenger cable, insulated conductor wires, ground wires, a jacket, and conductor lashing as shown in the plan details.

Provide a messenger wire consisting of:

- Seven strands of extra high strength (EHS) grade, galvanized (zinc coating weight per ASTM A 90) steel wire.
- 1/2 inch nominal diameter.
- Minimum strand break load 26,900 lbf.
- Critical tension 25,000 lb.
- Meets or exceeds ASTM A 475 and ASTM A 363 standards.

Provide annealed (soft) copper, type SE, 600 volt, conductor wires and ground wires, of the size noted in the plans. Provide sunlight resistant Type XHHW-2 insulation for the conductor wires. Provide wires in a jacket of sunlight resistant gray polyvinyl chloride.

Provide 0.375 X 0.030 copper binder tape for lashing the conductor assembly.

C Construction
Assemble and install the conductor assembly as shown in the plans and in the plan details. Maintain overhead clearances, including wire sag, as shown on the plans. Install wires in conduit on poles and make connections.

D Measurement
The department will measure Overhead Service Conductor Assembly 4-Wire by the linear foot, acceptably completed, measured from pole to pole, excluding wire sag and drip loops.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.403	Overhead Service Conductor Assembly 4-Wire	LF

Payment is full compensation for furnishing, lashing, and installation of the overhead service conductor assembly, and for furnishing and installation of electrical wire in conduit on the pole.

56. Survey Project 1003-10-70, SPV.0105.401; Survey Project 1005-10-70, SPV.0105.402; Survey Project 1007-10-70, SPV.0105.403.

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

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

Add the following to standard spec 105.6.1:

Horizontal and vertical control points, provided by the department, are generally at 1-mile intervals for horizontal control and at ½-mile intervals for vertical control. Control points will be provided in a hard copy and ASCII electronic format.

Replace standard spec 105.6.2 with the following:

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

The survey includes establishing horizontal and vertical position for all aspects of construction including but not limited to storm sewer, subgrade, base, curb, gutter, curb and gutter, pipe culverts, structure layout, pavement, barriers (temporary and permanent), electrical installations, supplemental control, slope stakes, ponds, ITS, FTMS, ramp gates, parking lots, utilities, landscaping elements, irrigation system layout, installation of community sensitive design elements, traffic control items, fencing, etc.

The department may choose to perform quality assurance survey during construction. This quality assurance survey does not relieve the contractor of the responsibility for furnishing all survey work required under this contract.

Delete standard spec 650.1.

B (Vacant)

C Construction
Survey required under this item shall be in accordance to all pertinent requirements of standard spec 650 and shall include all other miscellaneous survey required to layout and construct all work under this contract.

D Measurement
The department will measure Survey Project (ID) as a single lump sum unit of work for survey, 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.0105.401	Survey Project 1003-10-70	LS
SPV.0105.402	Survey Project 1005-10-70	LS
SPV.0105.403	Survey Project 1007-10-70	LS

Payment is full compensation for providing all equipment, providing all materials, coordinating, and performing all survey work required to lay out and construct all work under this contract.

57. Locate Utilities Safety and Weight Enforcement Facility, SPV.0105.404.

A Description
This special provision describes locating utilities for the construction of CCTV-53-0045-S and associated ITS facilities at the Safety and Weight Enforcement Facility on northbound/ westbound IH 39/90 between L-T Townline Road and Woodman Road.

B (Vacant)

C Construction
Locate all utilities within an area bounded by the SWEF building on the north, the southernmost SWEF electronic device along IH 39/90 on the south, the middle of the IH 39/90 median on the west, and the east SWEF property line. Conform locating to industry standards and all applicable regulations. Mark utilities with both paint and flags.

When the utilities are marked, notify the engineer and also notify Dan Ryan, AECOM, (608) 828-8166 so the utility locations may be surveyed by others.

D Measurement

The department will measure Locate Utilities Safety and Weight Enforcement Facility 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.0105.404	Locate Utilities Safety and Weight Enforcement Facility	LS

Payment is full compensation for providing all equipment, providing all materials, coordinating, and performing all locating work.

ADDITIONAL SPECIAL PROVISION 4

Payment to all Subcontractors. Within 10 calendar days of receipt by a contractor of a progress payment for work performed, materials furnished, or materials stockpiled by a subcontractor, the contractor shall pay that subcontractor for all work satisfactorily performed and for all materials furnished or stockpiled.

The contractor agrees further to release retainage amounts to each subcontractor within 10 calendar days after the subcontractor's work is satisfactorily completed. In addition, whenever the Department reduces the contract retainage amount, within 10 calendar days of receipt by a contractor of a retainage payment, the contractor must reduce the total amount retained from subcontractors to no more than remains retained by the Department.

The contractor shall pay the subcontractor within the time frames described above unless the contractor complies with both of the following within 10 calendar days of receiving the Department's progress payment:

1) The contractor notifies the subcontractor in writing that the work is not satisfactorily completed.
2) The contractor requests approval from the Department to delay payment because the subcontractor has not satisfactorily completed the work.

The contractor's request for approval should include the written notification to the subcontractor and shall provide sufficient documentation of good cause to assist the engineer in making a timely decision. If the engineer does not grant approval, the contractor shall pay the subcontractor within 10 calendar days of the Department's decision.

All subcontracting agreements made by a contractor shall include the above provisions and shall be binding on all contractors and subcontractors.

The contractor certifies compliance with the requirements of this Additional Special Provision by signing the contract. This clause applies to both DBE and non-DBE subcontractors.

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

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

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 portland cement and sufficient air-entraining admixture to produce concrete with the air content specified in 501.3.2.4.

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 portland cement. The contractor may replace up to 30 percent of type I, IL, II, or III portland 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 portland 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 portland 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 the no-passing zones as specified in section 648 for permanent marking.

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 portland 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

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.

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

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
ROCK 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	30.16	15.31	45.47
Cement Finisher	32.09	16.13	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	37.25	17.59	54.84
Fence Erector	28.00	4.50	32.50
Ironworker	35.00	28.90	63.90
Line Constructor (Electrical)	31.29	15.34	46.63
Painter	26.65	13.10	39.75
Pavement Marking Operator	29.22	16.82	46.04
Piledriver	30.66	15.31	45.97
Roofer or Waterproofer	29.40	18.81	48.21
Teledata Technician or Installer	21.26	11.75	33.01
Tuckpointer, Caulker or Cleaner	32.01	16.85	48.86
Underwater Diver (Except on Great Lakes)	37.45	19.45	56.90
Heavy Equipment Operator - ELECTRICAL LINE CONSTRUCTION ONLY	29.64	17.22	46.86
Light Equipment Operator -ELECTRICAL LINE CONSTRUCTION ONLY	35.50	15.09	50.59
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

TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
	$	$	$
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	14.70	38.54
Shadow or Pilot Vehicle	33.22	18.90	52.12
Truck Mechanic	22.50	16.19	38.69
LABORERS			
General Laborer	28.07	13.90	41.97
Future Increase(s): Add $1.70/hr on 6/1/2013; Add $1.60/hr on 6/1/2014. Premium Pay: Add $.10/hr for topman, air tool operator, vibrator or tamper operator (mechanical hand operated), chain saw operator and demolition burning torch laborer; Add $.15/hr for bituminous worker (raker and luteman), formsetter (curb, sidewalk and pavement) and strike off man; Add $.20/hr for blaster and powderman; Add $.25/hr for bottomman; Add $.35/hr for line and grade specialist; Add $.45/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	28.07	13.90	41.97
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	24.70	13.90	38.60
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.			
Fiber Optic Laborer (Outside, Other Than Concrete Encased)	17.81	12.22	30.03
Railroad Track Laborer	15.00	7.65	22.65

TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY $	HOURLY FRINGE BENEFITS $	TOTAL $
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); 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.	34.22	19.90	54.12

TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY $	HOURLY FRINGE BENEFITS $	TOTAL $
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.	33.96	19.90	53.86
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.			
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.	33.67	19.90	53.57
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.			
Fiber Optic Cable Equipment.	25.74	15.85	41.59

CONTRACT: 20130514002
PROJECT(S): 1003-10-70, 1005-10-70, 1007-10-70
FEDERAL ID(S): N/A, N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
	SECTION 0001 ROADWAY ITEMS					
0010	204.0165 REMOVING GUARDRAIL	150.000 LF		.		.
0020	204.0195 REMOVING CONCRETE BASES	3.000 EACH		.		.
0030	213.0100 FINISHING ROADWAY (PROJECT) 001. 1003-10-70	1.000 EACH		.		.
0040	213.0100 FINISHING ROADWAY (PROJECT) 002. 1005-10-70	1.000 EACH		.		.
0050	213.0100 FINISHING ROADWAY (PROJECT) 003. 1007-10-70	1.000 EACH		.		.
0060	517.1010.S CONCRETE STAINING (STRUCTURE) 001. S-13-408	455.000 SF		.		.
0070	517.1010.S CONCRETE STAINING (STRUCTURE) 002. CONCRETE STAINING S-53-73	530.000 SF		.		.
0080	517.1010.S CONCRETE STAINING (STRUCTURE) 003. CONCRETE STAINING S-53-74	510.000 SF		.		.
0090	614.0010 BARRIER SYSTEM GRADING SHAPING FINISHING	5.000 EACH		.		.

CONTRACT: 20130514002
PROJECT(S): 1003-10-70, 1005-10-70, 1007-10-70
FEDERAL ID(S): N/A, N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0100	614.0305 STEEL PLATE BEAM GUARD CLASS A	562.500 LF		.		.
0110	614.0370 STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL	3.000 EACH		.		.
0120	614.2300 MGS GUARDRAIL 3	387.500 LF		.		.
0130	614.2500 MGS THRIE BEAM TRANSITION	39.400 LF		.		.
0140	614.2610 MGS GUARDRAIL TERMINAL EAT	1.000 EACH		.		.
0150	614.2620 MGS GUARDRAIL TERMINAL TYPE 2	2.000 EACH		.		.
0160	619.1000 MOBILIZATION	1.000 EACH		.		.
0170	625.0500 SALVAGED TOPSOIL	21,935.000 SY		.		.
0180	627.0200 MULCHING	21,494.000 SY		.		.
0190	628.1504 SILT FENCE	9,180.000 LF		.		.

CONTRACT: 20130514002
PROJECT(S): 1003-10-70, 1005-10-70, 1007-10-70
FEDERAL ID(S): N/A, N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0200	628.1520 SILT FENCE MAINTENANCE	9,180.000 LF		.		.
0210	628.1905 MOBILIZATIONS EROSION CONTROL	23.000 EACH		.		.
0220	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL	9.000 EACH		.		.
0230	628.2002 EROSION MAT CLASS I TYPE A	441.000 SY		.		.
0240	628.6510 SOIL STABILIZER TYPE B	1.120 ACRE		.		.
0250	629.0205 FERTILIZER TYPE A	13.820 CWT		.		.
0260	630.0120 SEEDING MIXTURE NO. 20	592.000 LB		.		.
0270	633.5200 MARKERS CULVERT END	42.000 EACH		.		.
0280	634.0618 POSTS WOOD 4X6-INCH X 18-FT	250.000 EACH		.		.
0290	634.0620 POSTS WOOD 4X6-INCH X 20-FT	11.000 EACH		.		.

CONTRACT: 20130514002
PROJECT(S): 1003-10-70, 1005-10-70, 1007-10-70
FEDERAL ID(S): N/A, N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0300	634.0622 POSTS WOOD 4X6-INCH X 22-FT	47.000 EACH		.		.
0310	635.0200 SIGN SUPPORTS STRUCTURAL STEEL HS	10,190.000 LB		.		.
0320	636.0100 SIGN SUPPORTS CONCRETE MASONRY	128.000 CY		.		.
0330	636.1000 SIGN SUPPORTS STEEL REINFORCEMENT HS	3,350.000 LB		.		.
0340	636.1500 SIGN SUPPORTS STEEL COATED REINFORCEMENT HS	16,940.000 LB		.		.
0350	637.0202 SIGNS REFLECTIVE TYPE II	3,804.500 SF		.		.
0360	641.0600 SIGN BRIDGE SINGLE POLE SIGN SUPPORT TWO SIGNS (STRUCTURE) 001. S-13-408	LUMP	LUMP			.
0370	641.0600 SIGN BRIDGE SINGLE POLE SIGN SUPPORT TWO SIGNS (STRUCTURE) 002. S-53-73	LUMP	LUMP			.
0380	641.0600 SIGN BRIDGE SINGLE POLE SIGN SUPPORT TWO SIGNS (STRUCTURE) 003. S-53-74	LUMP	LUMP			.
0390	642.5001 FIELD OFFICE TYPE B	1.000 EACH		.		.

CONTRACT: 20130514002

PROJECT(S): 1003-10-70, 1005-10-70, 1007-10-70

FEDERAL ID(S): N/A, N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0400	643.0100 TRAFFIC CONTROL (PROJECT) 001. 1003-10-70	1.000 EACH		.		.
0410	643.0100 TRAFFIC CONTROL (PROJECT) 002. 1005-10-70	1.000 EACH		.		.
0420	643.0100 TRAFFIC CONTROL (PROJECT) 003. 1007-10-70	1.000 EACH		.		.
0430	643.0300 TRAFFIC CONTROL DRUMS	3,439.000 DAY		.		.
0440	643.0420 TRAFFIC CONTROL BARRICADES TYPE III	44.000 DAY		.		.
0450	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A	88.000 DAY		.		.
0460	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C	467.000 DAY		.		.
0470	643.0800 TRAFFIC CONTROL ARROW BOARDS	224.000 DAY		.		.
0480	643.0900 TRAFFIC CONTROL SIGNS	1,741.000 DAY		.		.
0490	643.1050 TRAFFIC CONTROL SIGNS PCMS	6.000 DAY		.		.

CONTRACT: 20130514002
PROJECT(S): 1003-10-70, 1005-10-70, 1007-10-70
FEDERAL ID(S): N/A, N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0500	649.0400 TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH	23,710.000 LF		.		.
0510	649.0801 TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH	2,400.000 LF		.		.
0520	652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	1,490.000 LF		.		.
0530	652.0235 CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH	440.000 LF		.		.
0540	652.0325 CONDUIT RIGID NONMETALLIC SCHEDULE 80 2-INCH	740.000 LF		.		.
0550	652.0605 CONDUIT SPECIAL 2-INCH	900.000 LF		.		.
0560	652.0615 CONDUIT SPECIAL 3-INCH	330.000 LF		.		.
0570	652.0690 CONDUIT SPECIAL (INCH) 001. 1 1/2-INCH	1,040.000 LF		.		.
0580	652.0700.S INSTALL CONDUIT INTO EXISTING ITEM	4.000 EACH		.		.
0590	653.0140 PULL BOXES STEEL 24X42-INCH	36.000 EACH		.		.

CONTRACT: 20130514002
PROJECT(S): 1003-10-70, 1005-10-70, 1007-10-70
FEDERAL ID(S): N/A, N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0600	653.0180 PULL BOXES STEEL COMMUNICATIONS (INCH) 001. 24X42-INCH	1.000 EACH		.		.
0610	653.0905 REMOVING PULL BOXES	1.000 EACH		.		.
0620	654.0105 CONCRETE BASES TYPE 5	1.000 EACH		.		.
0630	655.0615 ELECTRICAL WIRE LIGHTING 10 AWG	1,510.000 LF		.		.
0640	655.0625 ELECTRICAL WIRE LIGHTING 6 AWG	4,535.000 LF		.		.
0650	655.0630 ELECTRICAL WIRE LIGHTING 4 AWG	5,970.000 LF		.		.
0660	655.0635 ELECTRICAL WIRE LIGHTING 2 AWG	5,950.000 LF		.		.
0670	656.0100 ELECTRICAL SERVICE METER SOCKET (LOCATION) 001. CCTV-53-0104-C	LUMP	LUMP			.
0680	656.0100 ELECTRICAL SERVICE METER SOCKET (LOCATION) 002. CCTV-53-0106-C	LUMP	LUMP			.
0690	656.0100 ELECTRICAL SERVICE METER SOCKET (LOCATION) 003. DMS-13-0041-N	LUMP	LUMP			.

CONTRACT: 20130514002
PROJECT(S): 1003-10-70, 1005-10-70, 1007-10-70
FEDERAL ID(S): N/A, N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0700	656.0100 ELECTRICAL SERVICE METER SOCKET (LOCATION) 004. DMS-53-0042-S	LUMP	LUMP			.
0710	656.0100 ELECTRICAL SERVICE METER SOCKET (LOCATION) 005. DMS-53-0045-C	LUMP	LUMP			.
0720	656.0100 ELECTRICAL SERVICE METER SOCKET (LOCATION) 006. WMN-0068-S	LUMP	LUMP			.
0730	656.0200 ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 001. CCTV-53-0045-S	LUMP	LUMP			.
0740	656.0200 ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 002. CCTV-13-0100-N	LUMP	LUMP			.
0750	656.0200 ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 003. CCTV-13-0101-N	LUMP	LUMP			.
0760	656.0200 ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 004. CCTV-13-0102-N	LUMP	LUMP			.
0770	656.0200 ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 005. CCTV-13-0103-N	LUMP	LUMP			.

CONTRACT: 20130514002

PROJECT(S): 1003-10-70, 1005-10-70, 1007-10-70

FEDERAL ID(S): N/A, N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0780	656.0200 ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 006. CCTV-53-0107-C	LUMP	LUMP			.
0790	656.0200 ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 007. CCTV-53-0048-S	LUMP	LUMP			.
0800	656.0200 ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 008. DMS-53-0038-S	LUMP	LUMP			.
0810	656.0200 ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 009. DMS-13-0039-N	LUMP	LUMP			.
0820	656.0200 ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 010. DMS-13-0040-N	LUMP	LUMP			.
0830	656.0200 ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 011. DMS-13-0043-N	LUMP	LUMP			.
0840	656.0200 ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 012. DMS-53-0047-S	LUMP	LUMP			.
0850	656.0200 ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 013. DMS-13-0004-N	LUMP	LUMP			.

CONTRACT: 20130514002
PROJECT(S): 1003-10-70, 1005-10-70, 1007-10-70
FEDERAL ID(S): N/A, N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0860	656.0200 ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 014. WMN-0069-S	LUMP	LUMP			.
0870	656.0200 ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 015. WMN-0072-S	LUMP	LUMP			.
0880	656.0500 ELECTRICAL SERVICE BREAKER DISCONNECT BOX (LOCATION) 001. CCTV-13-0100-N	LUMP	LUMP			.
0890	656.0500 ELECTRICAL SERVICE BREAKER DISCONNECT BOX (LOCATION) 002. DMS-13-0039-N	LUMP	LUMP			.
0900	656.0500 ELECTRICAL SERVICE BREAKER DISCONNECT BOX (LOCATION) 003. CCTV-13-0101-N	LUMP	LUMP			.
0910	656.0500 ELECTRICAL SERVICE BREAKER DISCONNECT BOX (LOCATION) 004. CCTV-13-0102-N	LUMP	LUMP			.
0920	656.0500 ELECTRICAL SERVICE BREAKER DISCONNECT BOX (LOCATION) 005. CCTV-13-0103-N	LUMP	LUMP			.

CONTRACT: 20130514002
PROJECT(S): 1003-10-70, 1005-10-70, 1007-10-70
FEDERAL ID(S): N/A, N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0930	656.0500 ELECTRICAL SERVICE BREAKER DISCONNECT BOX (LOCATION) 006. DMS-13-0040-N	LUMP	LUMP			.
0940	656.0500 ELECTRICAL SERVICE BREAKER DISCONNECT BOX (LOCATION) 007. DMS-13-0041-N	LUMP	LUMP			.
0950	656.0500 ELECTRICAL SERVICE BREAKER DISCONNECT BOX (LOCATION) 008. CCTV-53-0104-C	LUMP	LUMP			.
0960	656.0500 ELECTRICAL SERVICE BREAKER DISCONNECT BOX (LOCATION) 009. CCTV-53-0105-C	LUMP	LUMP			.
0970	656.0500 ELECTRICAL SERVICE BREAKER DISCONNECT BOX (LOCATION) 010. CCTV-53-0106-C	LUMP	LUMP			.
0980	656.0500 ELECTRICAL SERVICE BREAKER DISCONNECT BOX (LOCATION) 011. CCTV-53-0107-C	LUMP	LUMP			.
0990	656.0500 ELECTRICAL SERVICE BREAKER DISCONNECT BOX (LOCATION) 012. DMS-53-0047-S	LUMP	LUMP			.

CONTRACT: 20130514002
PROJECT(S): 1003-10-70, 1005-10-70, 1007-10-70
FEDERAL ID(S): N/A, N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1000	656.0500 ELECTRICAL SERVICE BREAKER DISCONNECT BOX (LOCATION) 013. CCTV-53-0045-S	LUMP	LUMP			.
1010	656.0500 ELECTRICAL SERVICE BREAKER DISCONNECT BOX (LOCATION) 014. WMN-0069-S	LUMP	LUMP			.
1020	656.0500 ELECTRICAL SERVICE BREAKER DISCONNECT BOX (LOCATION) 015. WMN-0070-S	LUMP	LUMP			.
1030	656.0500 ELECTRICAL SERVICE BREAKER DISCONNECT BOX (LOCATION) 016. DMS-53-0042-S	LUMP	LUMP			.
1040	656.0500 ELECTRICAL SERVICE BREAKER DISCONNECT BOX (LOCATION) 017. WMN-0072-S	LUMP	LUMP			.
1050	656.0500 ELECTRICAL SERVICE BREAKER DISCONNECT BOX (LOCATION) 018. DMS-13-0004-N	LUMP	LUMP			.
1060	656.0500 ELECTRICAL SERVICE BREAKER DISCONNECT BOX (LOCATION) 019. CCTV-53-0047-S	LUMP	LUMP			.

CONTRACT: 20130514002
PROJECT(S): 1003-10-70, 1005-10-70, 1007-10-70
FEDERAL ID(S): N/A, N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1070	656.0500 ELECTRICAL SERVICE BREAKER DISCONNECT BOX (LOCATION) 020. CCTV-53-0048-S	LUMP	LUMP			.
1080	656.0500 ELECTRICAL SERVICE BREAKER DISCONNECT BOX (LOCATION) 021. CCTV-53-0108-C	LUMP	LUMP			.
1090	656.0500 ELECTRICAL SERVICE BREAKER DISCONNECT BOX (LOCATION) 022. DMS-53-0038-S	LUMP	LUMP			.
1100	656.0500 ELECTRICAL SERVICE BREAKER DISCONNECT BOX (LOCATION) 023. CCTV-53-0046-S	LUMP	LUMP			.
1110	656.0500 ELECTRICAL SERVICE BREAKER DISCONNECT BOX (LOCATION) 024. WMN-0068-S	LUMP	LUMP			.
1120	656.0500 ELECTRICAL SERVICE BREAKER DISCONNECT BOX (LOCATION) 025. DMS-13-0043-N	LUMP	LUMP			.
1130	656.0500 ELECTRICAL SERVICE BREAKER DISCONNECT BOX (LOCATION) 026. CCTV-53-0104-C POLE MOUNTED	LUMP	LUMP			.

CONTRACT: 20130514002
PROJECT(S): 1003-10-70, 1005-10-70, 1007-10-70
FEDERAL ID(S): N/A, N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1140	656.0500 ELECTRICAL SERVICE BREAKER DISCONNECT BOX (LOCATION) 027. CCTV-53-0106-C POLE MOUNTED	LUMP	LUMP			.
1150	656.0500 ELECTRICAL SERVICE BREAKER DISCONNECT BOX (LOCATION) 028. DMS-13-0041-N POLE MOUNTED	LUMP	LUMP			.
1160	656.0500 ELECTRICAL SERVICE BREAKER DISCONNECT BOX (LOCATION) 029. DMS-53-0042-S POLE MOUNTED	LUMP	LUMP			.
1170	656.0500 ELECTRICAL SERVICE BREAKER DISCONNECT BOX (LOCATION) 030. DMS-53-0045-C	LUMP	LUMP			.
1180	656.0500 ELECTRICAL SERVICE BREAKER DISCONNECT BOX (LOCATION) 031. WMN-0068-S POLE MOUNTED	LUMP	LUMP			.
1190	657.0255 TRANSFORMER BASES BREAKAWAY 11 1/2-INCH BOLT CIRCLE	1.000 EACH	.			.
1200	657.0322 POLES TYPE 5-ALUMINUM	1.000 EACH	.			.

CONTRACT: 20130514002

PROJECT(S): 1003-10-70, 1005-10-70, 1007-10-70

FEDERAL ID(S): N/A, N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1210	659.0802 PLAQUES SEQUENCE IDENTIFICATION	122.000 EACH		.		.
1220	670.0100 FIELD SYSTEM INTEGRATOR 001. PROJECT 1003-10-70	LUMP	LUMP			.
1230	670.0100 FIELD SYSTEM INTEGRATOR 002. PROJECT 1005-10-70	LUMP	LUMP			.
1240	670.0100 FIELD SYSTEM INTEGRATOR 003. PROJECT 1007-10-70	LUMP	LUMP			.
1250	670.0200 ITS DOCUMENTATION 001. PROJECT 1003-10-70	LUMP	LUMP			.
1260	670.0200 ITS DOCUMENTATION 002. PROJECT 1005-10-70	LUMP	LUMP			.
1270	670.0200 ITS DOCUMENTATION 003. PROJECT 1007-10-70	LUMP	LUMP			.
1280	671.0300 FIBER OPTIC CABLE MARKER	5.000 EACH		.		.
1290	672.0100 BASE ITS CONTROLLER CABINET	3.000 EACH		.		.
1300	672.0250 BASE CAMERA POLE 50-FT	2.000 EACH		.		.

CONTRACT: 20130514002
PROJECT(S): 1003-10-70, 1005-10-70, 1007-10-70
FEDERAL ID(S): N/A, N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1310	672.0280 BASE CAMERA POLE 80-FT	1.000 EACH		.		.
1320	673.0105 COMMUNICATION VAULT TYPE 1	5.000 EACH		.		.
1330	673.0200.S INSTALL ITS FIELD CABINET	3.000 EACH		.		.
1340	673.0225.S INSTALL POLE MOUNTED CABINET	25.000 EACH		.		.
1350	674.0200 CABLE MICROWAVE DETECTOR	605.000 LF		.		.
1360	674.0300 REMOVE CABLE	955.000 LF		.		.
1370	675.0300 INSTALL MOUNTED CONTROLLER MICROWAVE DETECTOR ASSEMBLY	11.000 EACH		.		.
1380	675.0400.S INSTALL ETHERNET SWITCH	31.000 EACH		.		.
1390	677.0100 INSTALL CAMERA POLE	3.000 EACH		.		.
1400	677.0200 INSTALL CAMERA ASSEMBLY	13.000 EACH		.		.

CONTRACT: 20130514002
PROJECT(S): 1003-10-70, 1005-10-70, 1007-10-70
FEDERAL ID(S): N/A, N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1410	677.0300.S INSTALL VIDEO ENCODER	13.000 EACH		.		.
1420	677.9050.S SALVAGE 50-FOOT CAMERA POLE WITH LOWERING SYSTEM	2.000 EACH		.		.
1430	678.0006 INSTALL FIBER OPTIC CABLE OUTDOOR PLANT 6-CT	935.000 LF		.		.
1440	678.0100.S INSTALL OVERHEAD FREEWAY DMS FULL MATRIX	6.000 EACH		.		.
1450	678.0200 FIBER OPTIC SPLICE ENCLOSURE	1.000 EACH		.		.
1460	678.0300 FIBER OPTIC SPLICE	6.000 EACH		.		.
1470	678.0400 FIBER OPTIC TERMINATION	6.000 EACH		.		.
1480	678.0500 COMMUNICATION SYSTEM TESTING 001. PROJECT 1003-10-70	LUMP	LUMP			.
1490	678.0500 COMMUNICATION SYSTEM TESTING 002. PROJECT 1005-10-70	LUMP	LUMP			.
1500	678.0500 COMMUNICATION SYSTEM TESTING 003. PROJECT 1007-10-70	LUMP	LUMP			.

CONTRACT: 20130514002
PROJECT(S): 1003-10-70, 1005-10-70, 1007-10-70
FEDERAL ID(S): N/A, N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
	SPV.0005 SPECIAL 001.					
1510	TREE CLEARING	9.460 ACRE		.		.
	SPV.0060 SPECIAL 400.					
1520	SALVAGE CANTILEVER DYNAMIC MESSAGE SIGN	1.000 EACH		.		.
	SPV.0060 SPECIAL 401.					
1530	SALVAGE MOUNTED CONTROLLER MICROWAVE DETECTOR ASSEMBLY	3.000 EACH		.		.
	SPV.0060 SPECIAL 402.					
1540	SALVAGE IP RADIO	6.000 EACH		.		.
	SPV.0060 SPECIAL 403.					
1550	REMOVE ELECTRICAL SERVICE METER BREAKER PEDESTAL	1.000 EACH		.		.
	SPV.0060 SPECIAL 404.					
1560	SALVAGE CAMERA ASSEMBLY	2.000 EACH		.		.
	SPV.0060 SPECIAL 405.					
1570	SALVAGE VIDEO ENCODER	1.000 EACH		.		.
	SPV.0060 SPECIAL 406.					
1580	SALVAGE POLE MOUNTED CABINET	1.000 EACH		.		.
	SPV.0060 SPECIAL 407.					
1590	SALVAGE ETHERNET SWITCH	1.000 EACH		.		.
	SPV.0060 SPECIAL 408.					
1600	SALVAGE TERMINATION PANEL	1.000 EACH		.		.

CONTRACT: 20130514002
PROJECT(S): 1003-10-70, 1005-10-70, 1007-10-70
FEDERAL ID(S): N/A, N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1610	SPV.0060 SPECIAL 409. REMOVE COMMUNICATION VAULT	1.000 EACH		.		.
1620	SPV.0060 SPECIAL 410. SALVAGE TYPE 5 POLE	1.000 EACH		.		.
1630	SPV.0060 SPECIAL 411. INSTALL CANTILEVER DYNAMIC MESSAGE SIGN	1.000 EACH		.		.
1640	SPV.0060 SPECIAL 412. INSTALL TERMINATION PANEL	1.000 EACH		.		.
1650	SPV.0060 SPECIAL 413. INSTALL GROUND MOUNT DYNAMIC MESSAGE SIGN	5.000 EACH		.		.
1660	SPV.0060 SPECIAL 414. INSTALL HARDWIRED BLUETOOTH SENSOR	6.000 EACH		.		.
1670	SPV.0060 SPECIAL 415. INSTALL SOLAR-POWERED BLUETOOTH SENSOR	22.000 EACH		.		.
1680	SPV.0060 SPECIAL 416. INSTALL SOLAR POWER SYSTEM - MICROWAVE DETECTOR	3.000 EACH		.		.
1690	SPV.0060 SPECIAL 417. INSTALL CELLULAR MODEM	15.000 EACH		.		.
1700	SPV.0060 SPECIAL 418. INSTALL IP RADIO	5.000 EACH		.		.

CONTRACT: 20130514002
PROJECT(S): 1003-10-70, 1005-10-70, 1007-10-70
FEDERAL ID(S): N/A, N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1710	SPV.0060 SPECIAL 419. WIRELESS CLIENT RADIO ASSEMBLY	5.000 EACH		.		.
1720	SPV.0060 SPECIAL 420. WIRELESS MESH RADIO ASSEMBLY	12.000 EACH		.		.
1730	SPV.0060 SPECIAL 421. WIRELESS MESH RADIO ASSEMBLY, STATE PATROL TOWER	1.000 EACH		.		.
1740	SPV.0060 SPECIAL 422. 30-FOOT WOOD POLE	31.000 EACH		.		.
1750	SPV.0060 SPECIAL 423. 50-FOOT WOOD POLE	5.000 EACH		.		.
1760	SPV.0060 SPECIAL 424. 65-FOOT WOOD POLE	14.000 EACH		.		.
1770	SPV.0060 SPECIAL 425. ANTENNA RISER	6.000 EACH		.		.
1780	SPV.0060 SPECIAL 426. INCIDENT MANAGEMENT TRAILER	4.000 EACH		.		.
1790	SPV.0060 SPECIAL 427. SALVAGE LIGHTING CABINET IH 43 AND HART RD	1.000 EACH		.		.
1800	SPV.0060 SPECIAL 428. LIGHTING CABINET IH 43 AND HART RD	1.000 EACH		.		.

CONTRACT: 20130514002

PROJECT(S): 1003-10-70, 1005-10-70, 1007-10-70

FEDERAL ID(S): N/A, N/A, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1810	SPV.0060 SPECIAL 950. SALVAGE CANTILEVER SIGN BRIDGE S-13-190	1.000 EACH		.		.
1820	SPV.0060 SPECIAL 951. REMOVE CONCRETE SIGN SUPPORT	1.000 EACH		.		.
1830	SPV.0090 SPECIAL 401. CONDUIT HDPE 1-DUCT 2-INCH	775.000 LF		.		.
1840	SPV.0090 SPECIAL 402. OVERHEAD SERVICE CONDUCTOR ASSEMBLY 3-WIRE	555.000 LF		.		.
1850	SPV.0090 SPECIAL 403. OVERHEAD SERVICE CONDUCTOR ASSEMBLY 4-WIRE	205.000 LF		.		.
1860	SPV.0105 SPECIAL 401. SURVEY PROJECT 1003-10-70	LUMP	LUMP			.
1870	SPV.0105 SPECIAL 402. SURVEY PROJECT 1005-10-70	LUMP	LUMP			.
1880	SPV.0105 SPECIAL 403. SURVEY PROJECT 1007-10-70	LUMP	LUMP			.
1890	SPV.0105 SPECIAL 404. LOCATE UTILITIES SAFETY AND WEIGHT ENFORCEMENT FACILITY	LUMP	LUMP			.
	SECTION 0001 TOTAL					.
	TOTAL BID					.

PLEASE ATTACH SCHEDULE OF ITEMS HERE