HIGHWAY WORK PROPOSAL

Wisconsin Department of Transportation
DT1502 01/2020 s.66.0901(7) Wis. Stats

Proposal Number: 007

COUNTY	STATE PROJECT	FEDERAL	PROJECT DESCRIPTION	HIGHWAY
Milwaukee	2225-13-70	N/A	V Shorewood, N Lake Dr; Edgewood Ave to Kensington Blvd	STH 032

ADDENDUM REQUIRED

ATTACHED AT BACK

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: $270,000.00 Payable to: Wisconsin Department of Transportation	Attach Proposal Guaranty on back of this PAGE.
Bid Submittal Date: October 8, 2024 Time (Local Time): 11:00 am	Firm Name, Address, City, State, Zip Code **SAMPLE** **NOT FOR BIDDING PURPOSES**
Contract Completion Time October 24, 2025	
Assigned Disadvantaged Business Enterprise Goal 0%	This contract is exempt from federal oversight.

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

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

Subscribed and sworn to before me this date _____

_____ (Signature, Notary Public, State of Wisconsin)

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

_____ (Date Commission Expires)

Notary Seal

_____ (Bidder Signature)

_____ (Print or Type Bidder Name)

_____ (Bidder Title)

For Department Use Only

Type of Work:
Excavation, Grading, Storm Sewer, Concrete Pavement, Curb & Gutter, Sidewalk, Lighting, Pavement Markings.

Notice of Award Dated	Date Guaranty Returned

PLEASE ATTACH
PROPOSAL GUARANTY HERE

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.

BID PREPARATION

Preparing the Proposal Schedule of Items

A. General

(1) Obtain bidding proposals as specified in section 102 of the standard specifications prior to 11:45 AM of the last business day preceding the letting. Submit bidding proposals using one of the following methods:

1. Electronic bid on the internet.
2. Electronic bid on a printout with accompanying diskette or CD ROM.
3. Paper bid under a waiver of the electronic submittal requirements.

(2) Bids submitted on a printout with accompanying diskette or CD ROM or paper bids submitted under a waiver of the electronic submittal requirements govern over bids submitted on the internet.

(3) The department will provide bidding information through the department's web site at:

https://wisconsindot.gov/Pages/doing-bus/contractors/hcci/bid-let.aspx

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

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

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

(5) The department will address equipment and process failures, if the bidder can demonstrate that those failures were beyond their control.

(6) Contractors are responsible for checking on the issuance of addenda and for obtaining the addenda. Notice of issuance of addenda is posted on the department's web site at:

https://wisconsindot.gov/Pages/doing-bus/contractors/hcci/bid-let.aspx

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

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

B. Submitting Electronic Bids

B.1 On the Internet

(1) Do the following before submitting the bid:

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

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

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

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

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

(1) Download the latest schedule of items from the Wisconsin pages of the Bid Express web site reflecting the latest addenda posted on the department's web site at:

https://wisconsindot.gov/Pages/doing-bus/contractors/hcci/bid-let.aspx

Use Expedite™ software to prepare and print the schedule of items. Provide a valid amount for all price fields. Follow instructions and review the help screens provided on the Bid Express™ web site to assure that the schedule of items is prepared properly.

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

Bidder Name
BN00
Proposals: 1, 12, 14, & 22

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

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

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

1. The check code printed on the bottom of the printout of the Expedite™ generated schedule of items is not the same on each page.
2. The check code printed on the printout of the Expedite™ generated schedule of items is not the same as the check code for that proposal provided on the diskette or CD ROM.
3. The diskette or CD ROM is not submitted at the time and place the department designates.

B 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)

Effective with March 2010 Letting

LIST OF SUBCONTRACTORS

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

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

Name of Subcontractor	Class of Work	Estimated Value

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

Instructions for Certification

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Special Provisions

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SPECIAL PROVISIONS

1. General.

Perform the work under this construction contract for Project 2225-13-70, V Shorewood, N Lake Dr, Edgewood Ave to Kensington Blvd, STH 32, Milwaukee County, Wisconsin as the plans show and execute the work as specified in the State of Wisconsin, Department of Transportation, Standard Specifications for Highway and Structure Construction, 2024 Edition, as published by the department, and these special provisions.

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

100-005 (20240105)

2. Scope of Work.

The work under this contract shall consist of removals, grading, dense graded base, concrete pavement, concrete curb and gutter, concrete sidewalk, asphaltic surface, storm sewer, combined sewer, water main, erosion control, permanent signing, traffic signals, traffic control, pavement marking, street lighting, restoration, 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 10 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 10 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.

Be advised that there will be multiple mobilizations and/or remobilizations to complete construction operations. No additional payment will be made, by the department, for additional mobilizations.

Once construction has begun, work continuously, weather permitting, as not to delay the project completion. Notify engineer of delays occurring on any section of the project for greater than two days.

Property Owner Notification Requirements

Inform property owners at least 48 hours prior to performing work that will affect their homes or businesses. Notices shall be mailed or delivered in person. Provide the engineer a sample copy of the notice and a list of recipients indicating method of delivery, and delivery date. A new notice shall be provided to the residents to update them of the new construction schedule if work operations causing interruptions are delayed by more than two (2) days from the date stated on the notice. Work cannot commence until additional notifications are provided 48 hours in advance. The department will not allow any work affecting property owner access to continue until proper notice has been provided. Delays caused because the contractor failed to provide proper notice will not be grounds for a contract time extension.

- Examples of work which require notifications include, but are not limited to:
    - Work performed beyond the hours of operation listed in the Public Convenience and Safety article.
    - Driveway interruptions due to curb, driveway approach, or sidewalk removals and replacements.
    - Interruption of sewer and water service.

- Information to be included:
    - Reason for the interruption.
    - Start date, start time, and duration of the expected interruption.
    - Contractor contact information.

Driveway Interruption Requirements

- Driveway interruptions notifications shall additionally include:
    - Timeframe of when property owners will be able to access driveway.
    - Statement regarding temporary access.
    - A second notice meeting the requirements in this article is required prior to removing temporary access.
- Driveway interruptions due to curb, approach, or sidewalk replacement:
    - Access to driveways must be provided at the end of each day unless prior arrangements are made with property owners.
    - Provide temporary driveway access using base aggregate dense per the construction staging detail, “Local Traffic Work Zone Ramping,” until the time they are replaced.
    - Where two driveways serve the same property, do not close both driveways at the same time.

Final Completion

Final completion will be on or before October 24, 2025. Final completion for this project is defined as having all lanes of STH 32 (Lake Drive) traffic open; all pavement markings, drainage, combined sewer and water main, erosion control, and excavation completed; all safety appurtenances completed including street lighting, traffic signals, and rectangular rapid flashing beacons; all bid items and change order work completed; and punch-list and cleanup work completed. This includes removal of all temporary traffic control devices, and having completed restoration on all streets, as the project requires.

A Schedule of Operations

STH 32 will be closed to through traffic between Edgewood Avenue and Kensington Boulevard during the construction project. Maintain a minimum 11-foot travel lane for local and emergency access on existing or proposed pavement surfaces as shown on the plans.

Traffic shifts shown in a given stage may occur at different times during that stage depending on the controlling elements for a given traffic movement. Do not move to the next stage until all work in the current stage is completed or as approved by the engineer. The department anticipates that the schedule for each stage shall be as follows:

Stage 1

- Construct curb ramps to maintain pedestrian access via temporary pedestrian ramps, surfaces, and crossings as shown on the plans. Do not begin the next stage until the previous stage is complete and open to pedestrian access.
- Northbound roadway is under construction.
- Storm sewer, combined sewer (between Edgewood Avenue and Shorewood Boulevard) and water main are under construction.
- Storm sewer laterals, combined sewer catch basin and service laterals, and water service laterals are trenched across the southbound roadway with local access temporarily diverted east into the work zone. See construction staging detail, “Local Traffic Configuration for Lateral Trenching.” Construction of said laterals may occur on a block-by-block basis. Do not construct laterals on multiple blocks at the same time. Only utilize the “Local Traffic Configuration for Lateral Trenching” on normal workdays between the hours of 9:00 AM and 4:00 PM. Restore lateral trenches to the existing surface elevations as shown in the plans prior to shifting local traffic back to the existing southbound roadway.

- Combined sewer service laterals along the east side of STH 32 between Shorewood Boulevard and Capitol Drive (STH 190) are constructed and temporarily connected to the existing combined sewer main.
- Complete restoration of disturbed areas.

Stage 2

- Construct curb ramps to maintain pedestrian access via temporary pedestrian ramps, surfaces, and crossings as shown on the plans. Do not begin the next stage until the previous stage is complete and open to pedestrian access.
- Construction of northbound pavement north of Station 52+00 is complete.
- Construction of northbound roadway south of Station 52+00 continues.
- Capitol Drive and its intersection with STH 32 are under construction.
- Construction of southbound roadway north of Capitol Drive begins.

Stage 3

- Construct curb ramps to maintain pedestrian access via temporary pedestrian ramps, surfaces, and crossings as shown on the plans.
- Construction of all northbound pavement is complete.
- Construction of the Capitol Drive intersection with STH 32 is complete.
- Southbound roadway is under construction.
- Combined sewer between Shorewood Boulevard and Capitol Drive is under construction.
- An intersection closure will be allowed for up to 2 weeks to complete construction of Edgewood Avenue.
- An intersection closure will be allowed for up to 2 weeks to complete construction of Kensington Boulevard.
- Do not construct Edgewood Avenue and Kensington Boulevard at the same time.
- Complete restoration of disturbed areas.

B Contractor Coordination

Provide an individual to serve as the contractor's sole point of contact for field utility coordination, traffic closure coordination, and communication for the duration of the project.

Arrange and conduct weekly progress meetings. The contractor's superintendent or representative, designated materials representative, subcontractor's representatives for ongoing subcontract work or subcontract work expected to begin within the next three weeks shall attend. Provide and discuss the schedule and updates at the weekly progress meetings. Agenda items at the meeting shall include, but not be limited to, the following:

- Review of the contractor's and subcontractors' schedule. Indicate if the project is on, ahead or behind schedule. If behind indicate why, how much behind and how the project will get back on schedule.
- Utility conflicts and relocation schedule.
- Evaluation of progress to date.
- Outstanding Requests for Information (RFIs) or issues that may cause contract modifications.
- Shop drawing submittal status.
- Materials submittal status.
- Materials sampling and testing activities and results.
- Lane, road, and ramp closure schedules.
- Impacts to businesses and private properties.
- Impacts to bus routes, emergency services, postal services.
- Equipment status of orders and deliveries.

Obtain permission from the engineer a minimum of 48 hours prior to any construction schedule change.

Modifications to the traffic control plan may be required by the engineer to be safe and consistent with the adjacent work by others. The following project is anticipated to be under construction concurrently with the work under this contract:

Project 2225-15-70

C Milwaukee, N Lake Drive

Newberry Boulevard to Edgewood Avenue

WisDOT Contact Kurt Flierl, P.E.; (414) 750-3085; Kurt.Flierl@dot.wi.gov

C Portable Changeable Message Signs

Operate portable changeable message sign boards for a minimum of seven days prior to each traffic control stage. Obtain acceptance from the engineer regarding the wording of all messages on portable changeable message signs prior to placing the message.

D Local Street Work Restrictions (STH 32)

Provide access to property owners at all times.

Keep sidewalks, paths, and trails open as shown on the plans or as approved by the engineer. Provide adequate temporary sidewalk and bridging over obstructions as directed by the engineer.

Existing trees are to remain in place during construction. Conduct an on-site visit prior to bidding to determine any special measures required for proper clearance between the trees and construction equipment. No additional compensation will be made.

Do not use decorative light poles for traffic control and detour signing.

E All Work Restrictions

Excavation material and cleared and grubbed material should be stockpiled on upland areas an adequate distance away from wetlands, storm sewer and combined sewer structures, floodplains, and the waterways as determined by engineer.

Provide the Village of Shorewood Police Department, Village of Shorewood Public Works Department, and the engineer with a 24-hour emergency contact number for when maintenance is required.

During weekends in Stage 3, construction operations which impact northbound vehicular traffic flow and on-street parking along Atwater Park are prohibited.

Northern Long-eared Bat *(Myotis septentrionalis)*

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

Ensure all operators, employees, and subcontractors working in areas of known or presumed bat habitat are aware of environmental commitments and avoidance and minimization measures (AMMs) to protect both bats and their habitat.

Direct temporary lighting, if used, away from wooded areas during the bat active season: April 15 to October 31, both dates inclusive.

No tree clearing shall occur without prior approval from the engineer following coordination with the WisDOT REC. Tree removal will require consultation with the United States Fish and Wildlife Service (USFWS) and may require a bat presence/absence or visual emergence survey. Notify the engineer if additional clearing cannot be avoided to begin coordination with the WisDOT REC. The WisDOT REC will initiate consultation with the USFWS and determine if a survey is necessary.

F Interim Completion of Work June 10, 2025

Supplement standard spec 108.11 as follows:

If the contractor fails to complete Stage 1 work including concrete pavement, curb and gutter, sidewalk, and restoration between Station 52+00 and Station 92+57, switch to Stage 2 Traffic and open the northbound roadway between Station 52+00 and Station 92+57 to a single 11-foot travel lane and an 8-foot northbound parking lane along the east curb line for local and emergency access by June 10, 2025, the department will assess the contractor $5,000 in interim liquidated damages per day for each calendar

day after 12:01 AM on June 11, 2025 that Stage 1 work between Station 52+00 and Station 92+57 is not complete. An entire calendar day will be charged for any period of time within a calendar day that the Stage 1 work between Station 52+00 and Station 92+57 is not complete beyond 12:01 AM on June 11, 2025.

4. Traffic.

General

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

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

Do not store equipment, vehicles, or materials on adjacent streets beyond the project limits without specific approval of the engineer.

Maintain emergency vehicle access at all times.

Prior to any traffic control being placed, provide the engineer, Village of Shorewood Police Department, and Village of Shorewood Public Works Department with the name and telephone number of a local person responsible for the emergency maintenance of traffic control.

Coordinate all traffic handling with the engineer. Place roadway signing as detailed on the plans and in conformance with the Manual on Uniform Traffic Control Devices (MUTCD), latest edition.

Employ such flag person, signs, barricades, and drums as may be necessary to safeguard or protect hazards in the work zone, such as exposed manholes or drop-offs for vehicles and direct traffic at locations where construction operations may interfere or restrict the smooth flow of traffic. Make arrangements and be responsible for the prompt replacement of damaged or dislocated traffic control or guidance signs, day or night.

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

Always have sufficient experienced personnel available to promptly install, remove, and reinstall the required traffic control devices to reroute traffic during the construction operations. Maintain adequate turning provisions for vehicles, at the intersections that are to remain open during all construction operations.

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

Post parking restrictions at least three days prior to the start of construction.

Do not commence work under this contract until the required traffic control devices and markings are in place and the engineer approves the installations.

Provide temporary means to prevent grade differences greater than 1/4-inch at locations where pedestrian access is maintained. Bridge vertical differences using slopes of 12:1 or greater through temporary asphalt wedging or through other means approved by the engineer.

In no case may any barricade, light, sign, or other traffic control device be out of service for more than 2 hours. The cost to maintain and restore the above items is incidental to the bid item Traffic Control and no additional payment will be made.

Wisconsin Lane Closure System Advance Notification

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

TABLE 108-1 CLOSURE TYPE AND REQUIRED MINIMUM ADVANCE NOTIFICATION

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

Discuss LCS completion dates and provide changes in the schedule to the engineer at weekly project meetings in order to manage closures nearing their completion date.

Notify the engineer and Construction Program Work Zone and Traffic Engineer if there are any changes in the schedule, early completions, or cancellations of scheduled work.

Submit to the engineer for approval a detailed traffic control plan if different than the traffic control plan provided in the plan set. Submit this plan 10 days prior to the pre-construction conference.

Schedule of Operations

Traffic shifts shown in a given stage may occur at different times during that stage depending on the controlling elements for a given traffic movement as approved by the engineer. The department anticipates that the schedule of traffic shifts and roadway openings and closings for each stage shall be as follows, unless approved by the engineer:

Stage 1 Traffic

- Post detour route and close STH 32 to through traffic between Edgewood Avenue and Kensington Boulevard as shown on the plans. See Detour Plan.
- Local and emergency access is open to a single 11-foot southbound travel lane.
- Side road access is closed except at the STH 32 intersections with Edgewood Avenue, Capitol Drive, and Kensington Boulevard.
- Pedestrian access is maintained along the west side of STH 32.
- Pedestrian access to the Shorewood Nature Preserve and Atwater Park is maintained at all times.
- Access to driveways in the work zone is maintained. See construction staging detail, “Local Traffic Work Zone Ramping.”

Stage 2 Traffic

- STH 32 is closed to through traffic. See Detour Plan.
- Local and emergency access south of Capitol Drive is open to a single 11-foot southbound travel lane.
- Local and emergency access north of Capitol Drive is open to a single 11-foot northbound travel lane.
- An 8-foot parking lane is available along the east curb line, north of Capitol Drive.
- Side road access is closed except at the STH 32 intersections with Edgewood Avenue, Capitol Drive, and Kensington Boulevard.

- Capitol Drive is open to eastbound traffic.
- Pedestrian access south of Capitol Drive is maintained along the west side of STH 32.
- Pedestrian access north of Capitol Drive is maintained along the east side of STH 32.
- Pedestrian access to the Shorewood Nature Preserve and Atwater Park is maintained at all times.
- Access to driveways in the work zone is maintained. See construction staging detail, “Local Traffic Work Zone Ramping.”

Stage 3 Traffic

- STH 32 is closed to through traffic. See Detour Plan.
- Local and emergency access is open to a single 11-foot northbound travel lane.
- An 8-foot parking lane is available along the east curb line, except from Station 46+00 to Station 54+00.
- Side road access is closed except at the STH 32 intersections with Edgewood Avenue, Capitol Drive, and Kensington Boulevard.
- Edgewood Avenue may be closed for up to 2 weeks to complete intersection construction.
- Kensington Boulevard may be closed for up to 2 weeks to complete intersection construction.
- Do not close Edgewood Avenue and Kensington Boulevard at the same time.
- Pedestrian access is maintained along the east side of STH 32.
- Pedestrian access to the Shorewood Nature Preserve and Atwater Park is maintained at all times.
- Access to driveways in the work zone is maintained. See construction staging detail, “Local Traffic Work Zone Ramping.”
- After final restoration, signing, and pavement markings have been completed and accepted by the department, open STH 32 to all lanes of traffic in each direction.

5. Holiday and Special Event Work Restrictions.

Do not perform work on, nor haul materials of any kind along or across any portion of the highway carrying STH 32 and STH 190 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 and special event periods:

- From noon Friday, May 23, 2025 to 6:00 AM Tuesday, May 27, 2025 for Memorial Day;
- From noon Thursday, July 3, 2025 to 6:00 AM Monday, July 7, 2025 for Independence Day;
- From noon Friday, August 29, 2025 to 6:00 AM Tuesday, September 2, 2025 for Labor Day.

stp-107-005 (20210113)

6. Utilities.

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

The utility work plan includes additional detailed information regarding the location of known discontinued, relocated, or removed utility facilities. These can be requested from the Wisconsin Department of Transportation during the bid preparation process or from the project engineer after the contract has been awarded and executed.

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

stp-107-066 (20240703)

Any utility facility locations (stations, offsets, elevations, depths) listed in this article are approximate.

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

Known utilities in the project area are as follows:

The following utilities will require work during construction:

Milwaukee, City of – Sewer has existing underground combined sewer facilities within the project limits near Edgewood Avenue. Install new combined sewer structures and covers as shown in the plans and bid items.

Milwaukee, City of – Water has existing underground water facilities within the project limits near Edgewood Avenue. Adjust water valves and remove water meter pit as shown in the plans and bid items.

Shorewood, Village of – Sewer has existing underground combined sewer facilities within the project limits. Install new combined sewer facilities as shown in the plans and bid items.

Shorewood, Village of – Water has existing underground water facilities within the project limits. Install new water facilities and adjust existing water valves as shown in the plans and bid items.

We Energies – Electric has existing underground electric facilities within the project limits. We Energies – Electric plans to complete relocations prior to construction based on an anticipated contractor start of March 2025. However, during construction and in conjunction with grading and paving operations, We Energies – Electric will adjust manhole and vault covers to final grade. The manhole covers that are identified in the following table are all within paved areas. It is anticipated that We Energies will need 7 working days to complete this work.

Station	Structure	Work Proposed
26+67 6 LT	Manhole MH78-559	Adjust manhole cover during construction
29+16 17' RT	New Manhole	Adjust manhole cover during construction
31+26 24' RT	Manhole MH3627	Adjust manhole cover during construction
32+42 17' RT	New Manhole	Adjust manhole cover during construction
35+66 17' RT	New Manhole	Adjust manhole cover during construction
38+24 18' RT	New Manhole	Adjust manhole cover during construction
39+36 29' RT	Manhole MH3630	Adjust manhole cover during construction
41+93 18' RT	New Manhole	Adjust manhole cover during construction
46+02 13' RT	Manhole MH79-544	Adjust manhole cover during construction
47+40 37' RT & 47+56 37' RT	Vault MH79-520	Adjust vault covers (2) during construction
47+91 27' RT	Manhole MH3633	Adjust manhole cover during construction
63+18 25' RT	Manhole MH3641	Adjust manhole cover during construction
79+67 19' RT	Manhole MH8187	Adjust manhole cover during construction

We Energies electrical duct packages will be located in the proposed subgrade and select crushed material at the locations shown below. Use caution when working in these locations.

Station to Station	Approximate Depth from Existing/Finished Ground
27+15 to 27+56	23” to 34”
30+24 to 31+43	24” to 30”
32+14 to 34+34	24” to 34”
37+07 to 37+35	21” to 30”
38+78 to 39+03	24” to 30”
39+21 to 39+32	27” to 30”
40+23 to 40+66	24” to 30”
41+14 to 41+21	27” to 30”
42+46 to 47+51	24” to 34”
47+92 to 48+14	24” to 34”
50+11 to 50+16	24” to 34”
52+99 to 53+82	14” to 34”
58+84 to 58+88	24” to 34”
64+15 to 64+33	24” to 34”
67+80 to 67+87	14”
92+54 to 92+57	24” to 34”

In addition, We Energies has two 4” poly ducts crossing the proposed storm sewer at approximately station 58+88, 15’ RT. One of these ducts has one energized #4CU primary cable going through it. The bottom of these ducts are located approximately 2.5” above the top of the outside of the proposed storm sewer. At this location, the We Energies facilities will remain in place. Use caution and work safely around these facilities. We Energies will support their facility at station 58+88.

The following utility owners have facilities within the project limits that need adjustments:

AT&T Wisconsin has existing underground communications facilities within the project limits. AT&T Wisconsin plans to complete relocations prior to construction based on an anticipated contractor start of March 2025. AT&T Wisconsin is discontinuing their existing copper facilities and replacing them with new fiber optic facilities. The existing fiber facilities are to remain in place.

Aside from three locations where the new fiber optic line crosses the roadway to link to existing communications facilities in adjacent neighborhoods, the entirety of the proposed fiber optic line is on the east side of the roadway, typically between the sidewalk and edge of right-of-way. Those three crossings are at approximately Stations 26+93, 52+17, and 91+07 all at depths of 60”. AT&T Wisconsin is also lowering their existing facilities at two roadway crossings, located at approximately Stations 44+40 and 48+70. AT&T Wisconsin is participating in a joint trench with We Energies – Electric and Spectrum from approximately Station 36+15, 47’ RT to 37+86, 47.5’ RT. AT&T Wisconsin is replacing existing handholes at approximately Station 27+72, 46’ RT and station 44+31, 23’ RT. AT&T Wisconsin also plans to convert all customers’ services from copper to fiber prior to construction.

Spectrum has existing underground communications facilities within the project limits. Spectrum plans to complete relocations prior to construction based on an anticipated contractor start of March 2025. Spectrum is discontinuing all their existing facilities in the corridor and installing new facilities. Aside from three locations where their new television line crosses the roadway to tie into existing facilities in adjacent neighborhoods, the entirety of the new television line is located on the east side of the roadway, typically between the sidewalk and edge of right-of-way. Those three crossings are at approximately Stations 26+71, 39+27, and 67+94 all at depths of 60". Spectrum is participating in a joint trench with We Energies – Electric and AT&T Wisconsin from approximately Station 36+15, 47' RT to 37+86, 47.5' RT. Spectrum facilities cross existing and proposed storm sewer at the locations listed in the below table.

Station	Offset
28+76	46' RT
48+20	50' RT
67+34	38' RT
67+42	37' RT
89+60	40' RT
89+65	40' RT

We Energies – Gas has existing underground gas facilities within the project limits. We Energies – Gas plans to complete relocations prior to construction based on an anticipated contractor start of March 2025. We Energies – Gas is discontinuing in place its existing gas main on the west side of the roadway. It will be replaced by new laterals crossing under the roadway from the existing main on the east side of the roadway from approximately Station 26+08 to 52+91, as well as from approximately Station 71+62 to 91+73. Existing facilities will be replaced by a new main on the west side of the roadway from approximately Station 52+91 to 71+62, which crosses under Capitol Drive, Jarvis Street, and Wood Place. Approximate stationing and depths for these crossings are noted in the table below, as well as multiple locations where new gas mains cross the roadway to tie into existing facilities.

Stationing (Mainline, unless otherwise noted)	Approximate Depth from Existing Ground
26+38	52" to 55"
32+84	56" to 64"
9+26 (Shepard Avenue)	54"
14+23 (Menlo Boulevard)	48" or greater
53+13	51"
54+11 to 54+64	54"
64+39 to 64+72	54"
68+05 to 68+30	52"
64+83	51" to 60"
79+17	57"

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

Department personnel will inspect construction of Village of Shorewood sanitary sewer and water main under this contract. Testing and acceptance of the Village of Shorewood sanitary sewer and water main construction will be by the Village of Shorewood.

Both the department and City of Milwaukee Water Works personnel will inspect construction of water main under this contract. Testing and acceptance of the City of Milwaukee water main construction will be by the City of Milwaukee Water Works.

8. Referenced Construction Specifications.

Construct the work enumerated below conforming to the Standard Specifications for Sewer and Water Construction in Wisconsin. If there is a discrepancy or conflict between the referenced specification and the standard specifications regarding contract administration, part 1 of the standard specifications governs.

Conform to the referenced construction specifications for the following:

Combined sewer, water main, valves, hydrants, and water services

stp-105-002 (20130615)

9. Other Contracts.

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

The following project is anticipated to be under construction concurrently with the work under this contract:

Project 2225-15-70

C Milwaukee, N Lake Drive

Newberry Boulevard to Edgewood Avenue

WisDOT Contact Kurt Flierl, P.E.; (414) 750-3085; Kurt.Flierl@dot.wi.gov

For all projects, coordinate activities, detours, work zone traffic control, roadway, erosion control and lane closures, and other work items as required with other contracts.

SER-107-012 (20211227)

10. Hauling Restrictions.

Replace standard spec 107.2 with the following:

(1) Hauling will not be allowed on Downer Avenue and Maryland Avenue in the Village of Shorewood.

(2) Present to the department, five business days before proposed hauling, a proposed haul route plan detailing haul routes that are not part of the state trunk highway system. Include the months, days of the week, time of day, number of trucks, types of trucks and maximum loads of trucks anticipated to accomplish the project work in the haul route submittal.

(3) The department will review the submittal and either approve or provide a letter with comments and proposed revisions to the contractor within five business days of its receipt. If approved, the department will subsequently survey the existing condition of that haul route to establish a baseline for assessing damage that the contractor's hauling operations might cause.

(4) At all times, conduct operations in a manner that will cause a minimum of disruption to traffic on existing roadways. Obtain all permits required that may be required, including hauling of materials. Cost of all permits are incidental to the project.

11. Information to Bidders, WPDES Transportation Construction General Permit (TCGP) for Storm Water Discharges.

The department has obtained permit coverage through the Wisconsin Department of Natural Resources to discharge storm water associated with land disturbing construction activities under this contract. Conform to all permit requirements for the project.

This permit is the Wisconsin Pollutant Discharge Elimination System, Transportation Construction General Permit, (WPDES Permit No. WI-S066796-2). The permit can be found at:

https://widnr.widen.net/s/s5mwp2gd7s/finalsignedwisdotcsgp

A certificate of permit coverage is available from the regional office by contacting Debra Tarnow (Design Project Manager) at (262) 548-6766. Post the permit certificate in a conspicuous place at the construction site.

stp-107-056 (20230629)

12. Information to Bidders, Combined Sewer and Water Main Approvals.

The department has obtained combined sewer and water main plan and specification approvals through the Milwaukee Metropolitan Sewerage District (MMSD) and the Wisconsin Department of Natural Resources to construct the combined sewer and water main facilities as shown on the plans. Conform to all permit requirements for the project.

Copies of the approvals are available from the regional office by contacting Debra Tarnow, Design Project Manager, at (262) 548-6766.

13. Erosion Control.

Supplement standard spec 107.20 with the following:

Erosion control best management practices (BMPs) shown on the plans are at suggested locations. The actual locations will be determined by the contractor's ECIP and by the engineer. Include dust control and each dewatering or by-pass (mechanical pumping) operation in the ECIP submittal. The ECIP will supplement information shown on the plans and not reproduce it. The ECIP will identify how to implement the project's erosion control plan. ECIP will demonstrate timely and diligently staged operations, continuing all construction operations methodically from the initial removals and topsoil stripping operations through the subsequent grading, paving, re-application of top soil, and restoration of permanent vegetation to minimize the period of exposure to possible erosion.

Provide the ECIP 14 days prior to the pre-construction meeting. Provide 1 copy of the ECIP to the department and 1 copy of the ECIP to the WDNR Liaison Ryan Pappas, (414) 750-7495, ryan.pappas@wisconsin.gov. Do not implement the ECIP without department approval and perform all work conforming to the approved ECIP.

Maintain Erosion Control BMPs until permanent vegetation is established or until the engineer determines that the BMP is no longer required.

All disturbed areas, not surfaced, are to be covered with topsoil, then sodded, unless otherwise directed by the engineer. Place sod, as designated by the engineer, within 5 calendar days after placement of topsoil.

Stockpile excess material or spoils on upland areas away from wetlands, floodplains and waterways. Stockpiled soil shall be protected against erosion. If stockpiled material is left for more than 14 calendar days, seed the stockpile with temporary seed and mulch within 72 hours.

Re-topsoil graded areas, as designated by the engineer, immediately after grading is completed in those areas. Seed, fertilize, and sod topsoiled areas, as designated by the engineer, within 5 calendar days after placement of topsoil. If graded areas will be left not completed and exposed for more than 14 calendar days, seed those areas with temporary seed and mulch within 72 hours.

Dewatering (Mechanical Pumping) for Bypass Water (sediment-free) Operations

If dewatering bypass operations are required from one pipe structure to another downstream pipe structure or from the upstream to downstream end of a culvert and the bypass flow is not transporting sediments (sand, silt, and clay particles) from a tributary work site area, bypass pumping operations will be allowed provided that the department has been made aware of and approves operation. When pumping bypass flows, the discharge location will need to be stable and not produce any erosion from the discharge velocity that would cause release of sediment downstream. Dewatering is considered incidental to the contract.

Dewatering (Mechanical Pumping) for Treatment Water (sediment-laden) Operations

If dewatering operations require pumping of water containing sediments (sand, silt, and clay particles), the discharge will not be allowed to leave the work site or discharge to a storm water conveyance system without sediment removal treatment. Do not allow any excavation for; structures, utilities, grading, maintaining drainage that requires dewatering (mechanical pumping) of water containing sediments (sand, silt, and clay particles) to leave the work site or discharge to a storm water conveyance system without sediment removal treatment.

Prior to each dewatering operation, submit to the department a separate ECIP amendment for sediment removal. Guidance on dewatering can be found on the Wisconsin DNR website located in the Storm Water Construction Technical Standards, Dewatering Code #1061,

http://dnr.wi.gov/topic/stormwater/standards/const_standards.html.

Include reasoning, location, and schedule duration proposed for each operation. Per Code 1061, include all selection criteria: site assessment, dewatering practice selection, calculations, plans, specifications, operations, maintenance, and location of proposed treated water discharge. Provide a stabilized discharge area. If directing discharge towards or into an inlet structure, provide additional inlet protection for back-up protection. Dewatering is considered incidental to the contract.

Maintaining Drainage

Maintain drainage at and through worksite during construction conforming to standard spec 107.20, 204.3.2.1(3), 205.3.3 and 520.3.1(2). Use existing storm sewers, existing culvert pipes, existing drainage channels, temporary culvert pipes, or temporary drainage channels to maintain existing surface and pipe drainage. Pumps may be required to drain the surface, pipe, and structure discharges during construction. Costs for furnishing, operating, and maintaining the pumps is considered incidental to the contract.

14. Dust Control Implementation Plan.

A Description

This special provision describes developing, updating, and implementing a detailed Dust Control Implementation Plan (DCIP) for all land-disturbing construction activities and associated impacts both within the project site boundaries and outside the project site boundaries. Incorporate contract bid items that this article specifies into the DCIP.

B (Vacant)

C Construction

C.1 General

Control dust on the project as specified in standard spec 107.18. Minimize dust emissions resulting from land disturbing activities. Do not generate excessive air borne particulate matter (PM) or nuisance dust conditions. Control dust at all times during the contract.

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

C.2 DCIP Contents

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

Include all of the following:

1. A single contact person with overall responsibility for the DCIP development as well as surveillance and remediation of job related dust. Provide:
   - Name, firm, address, and working-hours phone number.
   - Non-working-hours phone number.
   - Email address.
2. A site map locating project features, the job site boundaries, all ingress and egress points, air intakes and other dust-sensitive areas, and all public and private paved surfaces within and adjacent to the job site. Show where specific land disturbing, dust generating activities will occur and, to the extent possible, where employing various dust control or prevention strategies.
3. A matrix, or plan, for each anticipated land disturbing, dust generating activity, showing the following:
   - Preventive measures that shall be employed.
   - The applicable contact person.
   - The contractor's timetable and surveillance measures used to determine when remediation is required.
   - The specific dust control and remediation measures that shall be employed. Identify the specific contract bid items that shall be used for payment. Indicate costs and practices that are incidental to the contract.
   - Both maintenance and cleanup schedules and procedures.
   - Excess and waste materials disposal strategy.
4. A description of monitoring and resolving off-site impacts.

C.3 Updating the DCIP

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

C.4 Dust Control Deficiencies

Coordinate with engineer to determine deadlines for resolving dust control deficiencies. Deficiencies include actions or lack of actions resulting in excessive dust, non-compliance with the contractor's DCIP or associated special provisions, and not properly maintaining equipment.

D Measurement

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

Measurement under the DCIP includes the contract bid items listed in this special provision:

623.0200	Dust Control Surface Treatment
624.0100	Water
628.7560	Tracking Pads
SPV.0075.01	Pavement Cleanup Project

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

E Payment

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

sef-107-005 (20170323)

15. Notice to Contractor – Safety.

All workers shall wear OSHA and ANSI compliant safety head protection, safety glasses, safety-toe protective footwear, and an ANSI 107-2015 Type R, Class 2 safety vest and at all times while within the project footprint. ANSI 107-2015 Type R, Class E safety pants will be required from dusk until dawn while in the project footprint.

The contractor and respective subcontractors shall provide a copy of their current Company Safety Plans to the department at the preconstruction meeting. All workers shall comply with the Safety Plans of their employer. The department will not issue a notice to proceed until all safety plans have been submitted.

Noncompliance with this contract provision may result in removal of contractor personnel from the project or suspension of work according to Wisconsin Department of Transportation standard spec 108.6 applicable under the contract.

16. Notice to Contractor – Construction Facilities.

Perform work in a fire-safe manner. Keep adequate fire-fighting equipment on site and comply with laws and regulations with respect to fire prevention.

Provide and maintain properly sheltered sanitary convenience for employees. Bathroom facilities shall be placed on grassed areas.

17. Notice to Contractor – Protection of Work.

Protect openings and surface obstructions with barricades, signs, or other devices.

Erect and maintain street barricades or other devices for public safety and convenience. Follow applicable laws, regulations, and the Manual on Uniform Traffic Control Devices. Mark hazards within work limits and on detours around work with well-painted, well-maintained barricades, reflectors, electric lights, flashers, and warning and directional signs in quantity and size to protect life and property. Locate and use safeguards to meet changing work conditions.

18. Notice to Contractor – Cleaning.

Clean up materials dropped or fallen from trucks in transit before the end of each workday, at a minimum, and more than once per day as needed.

Remove all dirt and extraneous materials from sewers, water mains and appurtenances affected by the work as the work progresses.

Clean inside and outside of structures and remove and dispose of all unused materials, wastes and debris.

Remove waste and surplus materials, rubbish and construction facilities from the site.

Clean ditches, curb & gutter, catch basins and storm sewers.

All cleaning items listed above are incidental to the contract.

19. Notice to Contractor – Saw Cut Slurry.

Saw cut slurry that may be generated as part of this contract shall be collected and actively managed. Prevent deposition of saw cut slurry into wetlands, drainage courses, and onto private property.

20. Notice to Contractor – Concrete Washout Containment.

All concrete trucks shall wash out into a containment system located sufficiently away from the work area to prevent runoff into wetlands and drainage courses. The contractor shall provide a construction detail and location of the containment system with the ECIP and reviewed by the engineer prior to use.

21. Notice to Contractor – Private Irrigation Sprinkler Systems.

Private irrigation sprinkler systems exist in the project area. Consult the engineer and village Director of Public Works prior to disturbing any private irrigation sprinkler systems.

22. Notice to Contractor – Protecting and Support Utilities.

Protect and support all water, sewer, and other pipes and structures, telephones, cable, fiber optic, communications, conduits, electrical services, gas, pavement, utilities, or other properties, public or private, during the execution of this Work.

In the event of any damage or injury to any property because of the Work under this Contract, promptly have the same repaired to the satisfaction of the utility facility at no additional cost to the department.

Existing sub-surface structures in the vicinity of the work to be done are shown on the plans according to the best information available. The department does not, however, guarantee the completeness or accuracy of this information. Any delay or extra cost to the contractor due to encountering structures differing from those shown on the plans shall not constitute a claim for extra payment.

No additional payment will be made for providing design, plans, documents, specifications, and coordination to support various utilities including but not limited to water, sewer, electrical conduits, electrical services, gas, fiber optic, cable, communications, and telephone. Protecting and supporting utilities as described above are considered part of appropriate construction bid item and no additional payment will be made.

23. Notice to Contractor – Protection of Existing Trees.

It is intended that all trees be saved during construction. Conduct work to protect all trees.

All cutting for the removal of sod and soil in order to establish a finished grade within 4 feet of existing trees must be done manually if necessary.

To protect the immediate portion of tree root zones, avoid placing and storing construction equipment or materials, sand, soil, concrete, or any other materials on the surface of any unpaved areas within the driplines of village trees. No chemical, rinsates, or petroleum products shall be deposited within the driplines of village trees.

For laterals or utilities located near terrace trees, use construction methods to minimize tree damage. Engineer may elect to terminate lateral installation prior to conflict with tree (normally terminate at the curb).

Trench widths for all underground utilities located adjacent to trees shall be minimized to prevent damage to trees.

All roots greater than 1 inch in diameter that are damaged shall be cleanly cut immediately in back of the damaged section on the same day of the excavation. Cuts may be made with lopping shears, chainsaw, stump grinder, Sawzall, or other means which produces a clean cut.

Cover exposed tree roots with mulch and water from a period immediately following curb and gutter removal and sidewalk or carriage walk removal, until the area is backfilled.

Root foundations must remain adequate to withstand heavy windstorms.

Do not rip or pull roots out towards the trunk of a tree while excavating with a backhoe. The use of a backhoe to clean cut roots is not acceptable.

Curb excavations shall be limited to 6 inches behind the proposed curb to reduce damage to the root system.

Sidewalk and Carriage Walk Construction

The root system on the walk side of the tree shall be cut not deeper than 9 inches below the finished grade of the new walks, and not more than 6 inches from the edge of the new walk. Roots in the walk area shall be removed only to a depth of 9 inches below finished grade of the new walk.

When replacing walks adjacent to trees, a slip or thin form must be used. Additionally, soil disturbance in the tree border should be limited to not more than 6" beyond the edge of the new walk.

Where sidewalks are to be narrowed, all old sidewalks should be removed prior to any root cutting. If necessary, the root system should be cut within 6" of the edge of the proposed new walk, and not more than 9" below the finished grade of the new walk.

Sidewalks are to be removed, and roots cut, by use of hand implements only.

24. Notice to Contractor – 0" Clearance Slip or Integral Paving Machine.

Due to the proximity of the existing trees to the existing and proposed new curb line of STH 32 on both the east and west sides of the roadway, a 0" clearance slip or integral paving machine shall be used. The root system on the curb side shall not be cut. Integral paving limits shall not exceed 6" of soil clearance behind the back of curb.

25. Notice to Contractor – Atwater Park.

Protect and avoid damage to any part of Atwater Park and surrounding areas to ensure the safety of its personnel, village staff, and all park users. Provide and install all safety devices, fence safety, barricades, signs, flag person(s) or other measures as needed to comply.

26. Notice to Contractor – Milwaukee County Transit System.

The Milwaukee County Transit System (MCTS) operates the following bus routes along the detour route: Red Line, Green Line, 40U, 44U, and 49U. Invite MCTS to all coordination meetings between the contractor, the department, local officials and business people to discuss the project schedule of operations including vehicular and pedestrian access during construction operations.

Notify MCTS at least 10 business days prior to beginning work. The MCTS contacts are:

Armond Sensabaugh
Transportation Coordinator (Detours)
Milwaukee County Transit System
Phone: (414) 343-1728
asensabaugh@mcts.org

David Locher
Transportation Manager (Bus Stops)
Milwaukee County Transit System
Phone: (414) 343-1727
dlocher@mcts.org

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

Lead time for traffic signal equipment specified for this project has been ranging from 24-weeks to 26-weeks. To assure the equipment is procured in a timely fashion the contractor shall submit shop drawings within 4 calendar days of contract notice to proceed. The contractor shall order the signal equipment within 5 calendar days of approved shop drawings.

No additional compensation will be considered for this lead time for permanent signal items and installation.

28. Available Documents.

The department will make its information available to bidding contractors. The list of documents that are available for contractors' information includes:

- Environmental Document
- Design Study Report
- Encroachment Report
- As-Built Drawings
- Geotechnical Engineering Report
- Traffic Management Plan

These documents are available from Debra Tarnow at 141 NW Barstow Street, Waukesha, WI 53187 (262) 548-6766.

Reproduction costs will be applied to all copies requested.

sef-102-005 (20170310)

29. Contractor Notification.

Replace standard spec 104.2.2.2(2) with the following:

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

Replace standard spec 104.3.2 and 104.3.3 with the following:

104.3.2 (Vacant)

104.3.3 Contractor Initial Written Notice

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

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

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

sef-104-005 (20141211)

30. Eliminated Work.

Replace standard spec 104.2.2.5 with the following:

104.2.2.5 Change Orders for Eliminated Work

(1) The department has the right to partially eliminate or completely eliminate work the engineer finds to be unnecessary for the project. If the department eliminates work, the engineer will send a Work Authorization Form (WAF) directing the contractor to eliminate the work. If the engineer partially eliminates or completely eliminates work, the engineer will issue a contract change order for a fair and equitable amount as specified in 109.5.

(2) If the department executes an equalizing change order for the purpose of matching the authorized quantity to the amount of units measured and paid for any bid item, this shall not be considered eliminated work.

Replace standard spec 109.5 with the following:

109.5 Eliminated Work

(1) If the department partially eliminates or completely eliminates work as specified in 104.2.2.5, the department will pay contractor costs incurred due to that elimination. The department will pay a fair and equitable amount covering all costs incurred as of the date the work was deleted. Immediately submit a certified statement covering all money expended for the eliminated work.

(2) The department will execute a contract change order for the following costs related to eliminated work:

1. Preparation expenses defined as follows:
    - If preparation for the eliminated work has no value to other contract work, the department will reimburse the contractor in full for that preparation.
    - If preparation for the eliminated work is distributed over other contract work, the department will prorate reimbursement based on the value of the eliminated work compared to the total value of associated contract work.
2. All restocking and cancellation charges.
3. A markup for applicable overhead and other indirect costs paid as 7 percent of the contract price of the work eliminated, except for the items in noted in 109.5*(2)4*. The engineer will issue a contract change order based on the net value of the eliminated work and any replacement work included in the change order.
4. If the following bid items are not used at all for the prosecution of the work, the department will eliminate them with a WAF and a contract change modification. A markup for applicable overhead and other indirect costs will be paid as 2 percent of the contract price of the bid item for the work eliminated:
    - 627.0200 Mulching
    - 628.1104 Erosion Bales
    - 629.1910 Mobilization Emergency Erosion Control
    - 629.1905 Mobilization Erosion Control
    - 630.0200 Seeding Temporary
    - 645.0120 Geotextile Type HR
    - 645.0220 Geogrid Type SR

(3) If the department partially eliminates or completely eliminates work, the department may pay for, and take ownership of, materials and supplies the contractor has already purchased.

31. Contractor Document Submittals.

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

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

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

Submit electronic copies in PDF format via email to accounts the engineer determines. If possible, create PDFs from original documents in their native format (e.g., Word, Excel, AutoCAD, etc.). Scan other documents to PDF format with a minimum resolution of 600 dpi.

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

sef-105-010 (20150619)

32. Material Stockpile and Equipment Storage.

Submit a map showing all proposed material stockpile and equipment storage locations to the engineer 14 calendar days before either the preconstruction conference or proposed use, whichever comes first. Identify the purpose; length, width & height; and duration of material stockpile or equipment storage at each location. Do not stockpile material or store equipment until the engineer approves.

SER-107-011 (20220412)

33. Pavement Breaking Equipment.

Do not use guillotine, drop hammer, falling weight, gravity impact breakers or equivalent equipment within 300 feet of any structure. A multi-head hydraulic hammer is allowed unless a structure is within 50 feet of the roadway.

SER-204-001 (20161123)

34. Public Involvement Meetings.

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

sef-999-040 (20160915)

35. Public Convenience and Safety.

Revise standard spec 107.8(6) as follows:

Check for and comply with local ordinances governing the hours of operation of construction equipment. Motorized construction equipment may be operated from 7:00 AM to 6:00 PM Monday through Friday. Motorized equipment may be operated from 7:00 AM to 6:00 PM Saturdays with the prior written approval of the engineer and the village manager with a minimum 48-hour prior notice. Do not operate motorized construction equipment on Sundays.

36. Abandoning Sewer, Item 204.0291.S.

A Description

This special provision describes abandoning existing sewer by filling it with cellular concrete as the plans show and conforming to standard spec 204 and standard spec 501 as modified in this special provision.

B Materials

Provide cellular concrete meeting the following specifications: 1 part cement, 1 part fly ash, 8 parts sand, or an approved equal, and water. Provide cement meeting the requirements of standard spec 501.2.4.1. Provide sand meeting the requirements of standard spec 501.2.7.2. Provide water meeting the requirements of standard spec 501.2.6.

C Construction

Fill the abandoned sewer pipe with cellular concrete as the engineer directs. In the event that the sewer cannot be completely filled from existing manholes, tap the sewer where necessary and fill from these locations.

D Measurement

The department will measure Abandoning Sewer in volume by the cubic yard as specified in standard spec 109.1.3.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
204.0291.S	Abandoning Sewer	CY

Payment is full compensation for furnishing all materials and excavating and backfilling where necessary.

37. Removing Traffic Signals, STH 32 & E Capitol Dr., Item 204.9060.S.01.

A Description

This special provision describes removing existing traffic signals at the intersection of STH 32 & E Capitol Dr. according to the pertinent provisions of standard spec 204 and as hereinafter provided. Specific removal items are noted in the plans.

B (Vacant)

C Construction

Arrange for the de-energizing of the traffic signals with the local electrical utility after receiving approval from the engineer that the existing traffic signals can be removed.

Notify the engineer at least five working days prior to the removal of the traffic signals. Complete the removal work as soon as possible following shut down of this equipment.

The department and Village of Shorewood assume that all equipment is in good condition and in working order prior to the contractor's removal operation. Prior to removal, inspect and provide a list of any damaged or nonworking traffic signal equipment to the engineer. Any equipment not identified as damaged or not working, prior to removal, will be replaced by the contractor at no cost to the department or Village of Shorewood.

Remove all standards and poles per plan from their concrete footings and disassemble out of traffic. Remove the transformer bases from each pole. Remove the signal heads, mast arms, wiring/cabling, and traffic signal mounting devices from each signal standard, arm, or pole. Ensure that all access hand hole doors and all associated hardware remain intact. Dispose of the underground signal cable, and internal wires off the right-of-way. Deliver the remaining materials to the Village of Shorewood Department of Public Works at 3801 N. Morris Boulevard, Shorewood, WI 53211. Contact Dan Heyen at (414) 487-2650 office or (414) 336-4590 mobile, at least five working days prior to delivery to make arrangements.

D Measurement

The department will measure Removing Traffic Signals as each individual item, 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
204.9060.S.01	Removing Traffic Signals, STH 32 & E Capitol Dr	EACH

Payment is full compensation for removing, disassembling traffic signals, scrapping of some materials, disposing of scrap material, for delivering the requested materials to the Village of Shorewood Public Works, and incidentals necessary to complete the contract work.

38. Excavation Common.

Add the following to standard spec 205.2.2:

Remove right-of-way encroachments in conflict with project grading including private irrigation sprinkler systems, decorative landscaping, and low-level wooden fences under the Excavation Common bid item. Removal and disposal of private irrigation sprinkler systems, decorative landscaping, and low-level wooden fences are incidental to the item, Excavation Common.

39. Concrete Curing Materials.

Supplement standard spec 501.2.8 with the following:

The liquid curing compound shall have a color equal to or lighter than Gardner Color Standard No. 2 when tested according to ASTM C 1315 8.7.6 Yellowing Resistance.

40. Existing Inlet Covers, Manhole Covers, and Hydrants.

Existing inlet covers, manhole covers (storm sewer, combined sewer), and hydrants that are not required to be reused on the project are property of the Village of Shorewood. Return these covers and hydrants palletized for handling with a forklift. Contact Leeann Butschlick, Village of Shorewood, at (414) 847-2650 at least 3 business days in advance to coordinate the shipment and drop-off location. The salvaging, palletizing, loading, hauling, and delivery of the existing inlet covers, manhole covers, and hydrants are incidental to the items Removing Catch Basins, Adjusting Manhole Covers, Adjusting Combined Sewer Manholes, and Hydrant Assembly.

41. Fence Safety, Item 616.0700.S.

A Description

This special provision describes providing plastic fence at locations the plans show.

B Materials

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

Furnish fence fabric meeting the following requirements.

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

C Construction

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

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

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

D Measurement

The department will measure Fence Safety by the linear foot along the base of the fence, center-to-center of posts, 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
616.0700.S	Fence Safety	LF

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

stp-616-030 (20160607)

42. Topsoil.

Replace standard spec 625.2 (1) with the following:

(1) Topsoil consists of loam, sandy loam, silt loam, silty clay loam, or clay loam humus-bearing soils adapted to sustain plant life, and ensure the topsoil consists of the following:

Topsoil Requirements	Minimum Range	Maximum Range
pH	6.0	8.0
Organic Matter*	5%	20%
Clay	5%	30%
Silt	10%	70%
Sand	10%	70%

*Organic matter determined by loss on ignition test of samples oven dried to constant weight at 212 F (100 C).

Add the following to standard spec 625.2:

(3) Furnish material that is free from large roots, sticks, weeds, brush, stones, litter, and waste products.

(4) Do not furnish surface soils from ditch bottoms, drained ponds, and eroded areas, or soils which are supporting growth of NR 40 listed plants and noxious weeds or other undesirable vegetation.

Replace standard spec 625.3.3 (3) with the following:

(3) Ensure that for the upper 2 inches, 100 percent of the material passes a 1-inch sieve and at least 90 percent passes the No. 10 sieve.

SER-625-001 (20221007)

43. Removing Signs Type II.

Replace standard spec 638.3.4 (2) with the following:

Type II signs that are not required to be reused on the project are the Village of Shorewood's property. Carefully stockpile these signs palletized for handling with a forklift. Contact Leeann Butschlick, Village of Shorewood, at (414) 847-2650 at least 3 business days in advance to arrange for village pick up.

44. Covering Signs.

Replace standard spec 643.2.3.3(2) with the following:

(2) Ensure that covers are flat black, blank, and opaque.

Add the following to standard spec 643.3.4.1 as paragraph four:

(4) If multiple messages on a single sign are required to be covered, minimize the number of holes created by covering the sign with a single rectangular shaped covering. Multiple coverings on a single sign is only permissible where necessary to avoid covering necessary content or as directed by the engineer. Submit sign covering plans to the engineer for single signs requiring multiple coverings 3 days before performing work. Obtain engineer approval before covering signs. Remove sign coverings before placing fixed messages signs unless otherwise directed by the engineer.

sef-643-005 (20180104)

45. Traffic Control.

Supplement standard spec 643.3.1 with the following:

Provide the Village of Shorewood Police Department, Village of Shorewood Public Works Department, and the engineer a current telephone number with which the contractor or their representative can be contacted during non-working hours in the event a safety hazard develops.

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

Yield to all through traffic at all locations. Equip all vehicles or equipment operating in the live traffic lanes with a hazard identification beam (flashing yellow signal light) that is visible from 360 degrees. Operate the flashing yellow beam only when merging or exiting live traffic lanes or when parked or operating on shoulders.

Obtain prior approval from the engineer for the locations of egress or ingress for construction vehicles to prosecute the work.

Do not disturb, remove or obliterate any traffic control signs, advisory signs, sand barrel array, shoulder delineators or beam guard in place along the traveled roadways without the approval of the engineer.

Flagging operations shall follow standard spec 104.6.1.(4) and chapter 6E of the WMUTCD.

Replace standard spec 643.3.1.(7) with the following:

Provide equipment, forces, and materials to promptly restore any traffic control devices or pavement markings damaged or disturbed within 2 hours of being contacted.

46. Temporary Pedestrian Surface Asphalt.

Replace standard spec 644.2.2.1 with the following:

(1) Furnish asphaltic surface conforming to standard spec 465.2; or pressure treated 2x4 framing lumber, pressure treated ¾ inch plywood with a skid resistant surface coating, and weather resistant deck screws 3 ½ inch or longer for framing and 1 5/8 inch or longer for fastening plywood; or ¼ inch or thicker steel plate or commercially available prefabricated plates with a skid resistant surface coating conforming to Americans with Disabilities Act Accessibility Guidelines; or prefabricated skid resistant mat from the department's Approved Products List.

47. General Requirements for Electrical Work.

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

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

48. Electrical Conduit.

Replace standard spec 652.5(2) with the following:

(2) Payment for Conduit Rigid Metallic, Conduit Rigid Nonmetallic, Conduit Reinforced Thermosetting Resin, and Conduit Special bid items is full compensation for providing the conduit, conduit bodies, and fittings; for providing all conduit hangers, clips, attachments, and fittings used to support conduit on structures; for pull wires or ropes; for expansion fittings and caps; for making necessary connections into existing pull box, manhole, junction box or communication vault; for excavating, bedding, and backfilling, including any sand, concrete, or other required materials; for disposing of surplus materials; and for making inspections.

Replace standard spec 652.5(5) with the following:

(5) Payment for Conduit Loop Detector is full compensation for providing all materials, including conduit, compacted backfill, surface sealer if required, pull wire if required, condulets, conduit fittings, and for making necessary connections into existing pull box, manhole, junction box or communication vault.

49. Pedestal Bases.

Append standard spec 657.2.5 with the following:

After complete fabrication, blast clean the item according to standard spec 506 before applying paint system. Paint items with a three-coat paint system referring to applicable provisions of standard spec 517. Provide surface finish to match as closely as possible to Sherwin Williams paint color 1403 F78

XXG15416-1403. At no cost to the department, provide the engineer and Village of Shorewood with a representative color sample prior to performing the work.

50. Poles Type 9, Item 657.0345.

Append standard spec 657.2.1.1 with the following:

After complete fabrication, blast clean the item according to standard spec 506 before applying paint system. Paint items with a three-coat paint system referring to applicable provisions of standard spec 517. Provide surface finish to match as closely as possible to Sherwin Williams paint color 1403 F78 XXG15416-1403. At no cost to the department, provide the engineer and Village of Shorewood with a representative color sample prior to performing the work.

51. Traffic Signal Standards Aluminum 3.5-FT, Item 657.0405; Traffic Signal Standards Aluminum 13-FT, Item 657.0420; Traffic Signal Standards Aluminum 15-FT, Item 657.0425.

Append standard spec 657.2.5 with the following:

After complete fabrication, blast clean the item according to standard spec 506 before applying paint system. Paint items with a three-coat paint system referring to applicable provisions of standard spec 517. Provide surface finish to match as closely as possible to Sherwin Williams paint color 1403 F78 XXG15416-1403. At no cost to the department, provide the engineer and Village of Shorewood with a representative color sample prior to performing the work.

52. Monotube Arms 25-FT, Item 657.0525; Monotube Arms 30-FT, Item 657.0530.

Append standard spec 657.2.2 with the following:

After complete fabrication, blast clean the item according to standard spec 506 before applying paint system. Paint items with a three-coat paint system referring to applicable provisions of standard spec 517. Provide surface finish to match as closely as possible to Sherwin Williams paint color 1403 F78 XXG15416-1403. At no cost to the department, provide the engineer and Village of Shorewood with a representative color sample prior to performing the work.

53. Signal Mounting Hardware (STH 32/STH 190), Item 658.5070.01.

Append standard spec 658.2.1 with the following:

Traffic signal mounting hardware shall have a black exterior finish.

If installing signal traffic signal equipment on Salvaged Decorative Light Pole, provide sufficient quantity modular mounting accessory Tracnut constructed of copper free cast aluminum and machined to a dove tail configuration to fit snugly in decorative traffic signal pole or light pole shaft channels. Tracnut provides mounting point for traffic signal equipment installation.

Provide Tracnut in black finish and threaded for owner preferred size bolt.

Append standard spec 658.3.1 with the following:

(7) If installing traffic signal equipment on Salvaged Decorative Light Pole use modular mounting accessory Tracnut to attach traffic signal equipment to pole following the manufacturer recommendations. If using 2 brackets with 2 mounting holes in each bracket, use both holes in the bracket to bolt the bracket to the pole using Tracnut. Mount brackets so that the traffic signal assemblies are immovable. Mount all other traffic signal and pedestrian assemblies so that they are immovable.

(8) If installing traffic signal equipment on Salvaged Decorative Light Pole furnish owner preferred size bolt to attach the traffic signal equipment to the decorative traffic signal pole or light poles following the manufacturer recommendations. Use a stainless-steel flat washer sized to properly cover the bolt hole in the bracket.

54. Temporary Audible Message Devices, Item SPV.0045.01.

A Description

This special provision describes providing, maintaining, and removing temporary audible message devices. These devices are used on temporary pedestrian facilities to guide individuals with sight disabilities.

B Materials

Furnish temporary audible message devices from the approved products devices.

C Construction

Provide and maintain temporary audible message devices. Maintain and repair devices within two hours of being notified by the engineer of an issue.

Record messages as approved by the engineer.

Mount temporary audible message devices on temporary pedestrian barricades, temporary sign supports, or other locations approved by the engineer. Locate motion detection areas that will be effective in activating the device to operate properly. Avoid locating motion detection areas that will cause activation by trees, traffic, or other known regular activity.

Move and adjust devices after disruptions by the work or the public.

Maintain devices in a working condition and replace batteries as need. Replace any devices that are not working properly.

Use tamper proof hardware for mounting.

D Measurement

The department will measure Temporary Audible Message Devices by the day, 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.0045.01	Temporary Audible Message Devices	DAY

Payment is full compensation for providing, installing, maintaining, moving, adjusting, and removing temporary audible pedestrian devices.

55. Salvage Historical Society Markers, Item SPV.0060.01.

A Description

The work under this item consists of removing and salvaging existing stone historical society markers at locations shown in the plans. The existing markers are in conflict with proposed grading and are generally located in grass areas adjacent to sidewalk, carriage walks, and driveway aprons.

B (Vacant)

C Construction

Coordinate with Leeann Butschlick, Village of Shorewood, at (414) 847-2650 at least 3 business days prior to performing the work. Carefully remove existing stone historical society markers and place them beyond the property line for the resident to retrieve. Units shall be uninstalled, handled, and delivered in a manner that does not result in damage.

D Measurement

The department will measure Salvage Historical Society Markers by each 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.0060.01	Salvage Historical Society Markers	EACH

Payment is full compensation for coordinating with the village, and for removing, handling, and transporting historical society markers.

56. Adjusting City of Milwaukee Water Valve Boxes, Item SPV.0060.02.

A Description

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

B Materials

All material for the adjustment of these facilities shall meet City of Milwaukee specifications and will be provided by the City of Milwaukee by contacting Kevin Zagrodnik, Milwaukee Water Works, at (414) 708-7033 or Syreeta Woodley, Milwaukee Water Works at (414) 286-6302. Milwaukee Water Works Distribution General Contact Number is (414) 286-3710.

If there is contractor damage, the materials must still be provided by the City of Milwaukee, however, in this case, the contractor will be charged for all materials. Materials furnished by the City of Milwaukee and not used on the project shall be delivered back to DPW Field Headquarters – Infrastructure, Operations, Water Works at 3850 N. 35th Street.

C Construction

The contractor, or authorized project representative, shall contact Milwaukee Water Works prior to the start of construction. The city will locate, mark, inspect and repair all water service boxes and water valve boxes within the limits of the project prior to commencement of work on the project.

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

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

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

D Measurement

The department will measure Adjusting City of Milwaukee Water Valve Boxes as each individual unit, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.02	Adjusting City of Milwaukee Water Valve Boxes	EACH

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

57. Combined Sewer Catch Basins, Item SPV.0060.31.

A Description

This work shall consist of design and construction of either a cast-in-place or precast combined sewer catch basin structure made of concrete with necessary reinforcement, metal frames, grates and lids, including required excavating and backfilling.

B Materials

Conform to standard spec 611.2 and the construction detail for Combined Sewer Catch Basins.

C Construction

Conform to standard spec 611.3 and the construction detail for Combined Sewer Catch Basins.

D Measurement

The department will measure Combined Sewer Catch Basins by each 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.0060.31	Combined Sewer Catch Basins	EACH

Payment is full compensation for structure design; providing all materials, including all masonry; conduit and combined sewer connections, steps and other fittings; for all excavating and backfill; disposing of surplus material; and for cleaning out and restoring the work site. The department will pay for covers, including frames, grates, and lids separately.

58. Combined Sewer Manhole Frame and Cover Special, Item SPV.0060.32.

A Description

This work consists of furnishing and installing the frame and cover as shown in the construction details on the plans for Combined Sewer Manhole 4-Ft Special. Work shall conform to the pertinent requirements of the Standard Specifications for Sewer and Water Construction in Wisconsin, latest edition.

B Materials

Lid and frame shall be Neenah Number R-1710 or equal. Cover shall be non-rocking. Within roadway or future roadway areas, iron castings shall conform to ASTM Spec. A 48, Class 30. All castings shall be true to pattern in form and dimensions, free from faults, sponginess, cracks, blowholes, and other defects affecting their strength. Bearing surfaces between cast frames, covers and grates shall be machined, fitting together and marked to prevent rocking.

All new combined sewer frames shall be made of gray cast iron.

C Construction

Install frame and cover according to the manufacturer's recommendation installation procedures.

D Measurement

The department will measure Combined Sewer Manhole Frame and Cover Special by each individual unit, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.32	Combined Sewer Manhole Frame and Cover Special	EACH

Payment is full compensation for all work herein specified; for all materials including lid and frame, disposing of surplus materials; setting frame and cover to finished grade, and for cleaning out and restoring the work site.

59. Combined Sewer Manhole 4-Ft Special, Item SPV.0060.33.

A Description

This work shall consist of construction of combined sewer manholes consisting of precast reinforced concrete, adjusting rings, watertight joints, internal manhole chimney sealers, precast concrete base, precast reinforced concrete eccentric cone tops, flat tops, cast iron steps, and all required excavation and granular backfill according to the construction details on the plans. Work shall conform to the pertinent requirements of the Standard Specifications for Sewer and Water Construction in Wisconsin, latest edition.

B Materials

Precast concrete manhole sections shall be 4-ft in diameter, unless stated otherwise as shown in the plans. The cone section shall be the eccentric type with a minimum clear opening of 24 inches. Compressive strength of the concrete shall be 4000 psi and shall conform to ASTM C478. Wall thicknesses of manholes conform to ASTM C76 for CLASS B concrete tongue and groove joint pipe.

Steps shall be Neenah Number R-1980-C or equal and securely and permanently set in the manhole wall. Set steps at 16-inch centers and have a 6-inch project from the wall. Steps must conform to ASTM and OSHA requirements.

Manhole joint materials shall be rubber ring gasket material. Plastic gaskets shall be preformed, high adhesion material. Packaged ready for use between protective paper strips conforming to Federal Specification SS-S-00210, Type I, Rope Form; Ram-Nek by Henry Company, El Segundo, CA: Kent Seal Number 2; or equal.

Use flexible, watertight, rubber wedge ring or O-ring compression seals for pipe entrance holes. Wedge ring type shall be Cast-A-Seal 964 by Press-Seal Gasket, Corporation, Fort Wayne, Indiana, or approved equal. O-ring type shall have cast iron compression flange; Cast-A-Seal 603 by Press-Seal Gasket, Corporation, Fort Wayne, Indiana, or equal.

Construct manholes with a Type I Frame/Chimney Joint per SWS.

Adjustment rings shall be Pro-Ring Expanded Polypropylene manufactured by Cretex Specialty Products, Waukesha, Wisconsin or approved equal. Build manholes so that a minimum of two, 2-inch rings are installed for adjustment. A maximum of 12 inches for adjustment will be allowed, but the top two rings shall be of 2-inch thickness. Dry fit all manholes before adhesive is placed to ensure proper height and frame angle.

Take care during backfilling to prevent rights from shifting off center. Place the adjustment rings in place using manufacturer’s recommended installation procedures. Follow link for video of proper installation methods: Manhole Adjustment Rings / PRO_RINGTM / Cretex (cretexseals.com). Verify that proper type ring types are used: grade rings, finish rings, and/or angle rings with proper upper and lower keyways (tongue and groove). Do not include ring types and thicknesses in submitted shop drawings. Concrete adjustment rings will not be allowed.

C Construction

Invert channels in combined sewer manholes shall be smooth, accurately shaped and according to the plans.

The invert through combined sewer manholes may be formed directly in concrete of the manhole base; or may consist of half tile laid in the concrete base; or be constructed by laying full section sewer pipe straight through the manhole and cutting out the top half after the concrete base is constructed and sufficiently set.

Do not leave horizontal surfaces on the inside side of the manhole floor. Shape floor to drain into the floor channel.

Build up manholes so that the frames and cover when placed, will be at the binder course grade. Use a Neenah Foundry R-1979 Series insert to bring the manhole elevation up to final pavement grade.

Precast reinforced bases may be used in lieu of cast-in-place bases. Place bases on a bed of material at least 6 inches in depth, which meets the requirements for granular backfill. Compact bedding material to provide uniform support for the entire area of the base.

Compact all granular backfill by means of mechanical vibration to achieve uniform consolidation in conformance with Section 2.16.14(b) of the SWS.

Granular backfill material shall conform to 1-1/4” Dense Graded Base per standard spec 305.2.2.1 under all roadways and drives.

D Measurement

The department will measure Combined Sewer Manhole 4-Ft Special by each individual unit, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.33	Combined Sewer Manhole 4-Ft Special	EACH

Payment is full compensation for structure design; providing all materials, including all masonry; combined sewer connections, outside drop steps and other fittings; for all excavating and backfill; disposing of surplus material; and for cleaning out and restoring the work site.

60. Inlet Cover Type MS 57, Item SPV.0060.34.

A Description

Perform work under these items according to the requirements of standard spec 611 and the details as shown on the plans.

B Materials

Furnish materials under these items according to the requirements of standard spec 611.2 and the details as shown on the plans.

C Construction

Conform to standard spec 611.3.

D Measurement

The department will measure Inlet Cover Type MS 57 by each 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.0060.34	Inlet Cover Type MS 57	EACH

Payment is full compensation for furnishing and installing the inlet covers; and for adjusting each cover.

61. Catch Basin Type 44A, Item SPV.0060.35.

A Description

This special provision describes providing work under these items according to the requirements of standard spec 611 and the details as shown on the plans.

B Materials

Conform to standard spec 611.2 and the construction detail for Catch Basin Type 44A.

C Construction

Conform to standard spec 611.3 and the construction detail for Catch Basin Type 44A.

D Measurement

The department will measure Catch Basin Type 44A by each 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.0060.35	Catch Basin Type 44A	EACH

Payment is full compensation for providing materials, including masonry, making sewer connections to new or existing facilities, and other fittings; for excavating, backfilling, disposing of surplus material; and for cleaning out and restoring the work site. The department will pay for covers, including frames, grates, and lids separately.

62. Adjusting Combined Sewer Manholes, Item SPV.0060.36.

A Description

This work includes adjusting combined sewer manholes to an elevation as determined by the engineer as well as installing frame and cover, internal frame/chimney seal, according to the Standard Specifications for Sewer and Water Construction in Wisconsin, latest edition and amendments (SSSW) and the “Special Provision Notes for Combined Sewer Work” as found in the plans.

Add or remove masonry adjusting rings as needed. This item applies to structures to be lowered less than 6 inches or raised less than 12 inches.

B Materials

B.1 Adjusting Rings

Adjustment rings shall be concrete with steel reinforcement in conformance with ASTM C-478. Precast concrete rings shall have an inside diameter to match the manhole opening, be not less than 2 inches nor more than 6 inches high and have a wall thickness of 6 inches unless otherwise specified. The rings shall contain a minimum of one No. 2 reinforcing rod centered within the ring. Do not use any cracked or broken rings. The top of precast manhole cones shall be set a maximum of 18 inches lower than established grade in unimproved areas, with the top of the manhole cover being ringed up flush with the existing ground. The minimum number of adjusting rings shall be one 2-inch ring. The maximum height of adjusting rings shall be 8 inches in paved areas. All joints between the adjusting rings shall be filled with grout or mortar, including between the cone and the adjusting ring and the adjusting ring and the frame. Rings shall be grooved to receive a step.

B.2 Manhole

Precast manholes and cones shall conform to ASTM Specifications, C478, latest revision.

B.3 Manhole Seal

Furnish new Cretex, NPC Flexrib, or approved equal internal frame/chimney Seal, as shown in the plans. The seal shall meet the material requirements of section 8.42.3 and the performance requirements of section 8.42.4 of the SSSW.

C Construction

C.1 General

The location of existing combined sewer manholes to be adjusted is indicated on the plans. Adjust these items as shown in the plans. Adjust manholes as necessary so that the frames and cover when placed will be at the established required grade. Install seals according to the manufacturer’s recommended installation procedures. Furnish and use Backfill Slurry in the manhole excavation area to existing surface or to appropriate depth for pavement restoration. Salvage the existing frame and cover.

C.2 Surface Preparation

Remove manhole cover and power wire brush the lower 3 inches of the manhole frame to remove any loose rust or scale and repair any imperfections by either grinding smooth or filling with mortar. A smooth, clean sealing surface is required. Realign the casting if it is offset more than approximately 2 inches from the chimney. Remove all loose and protruding mortar and brick from the upper 7-Inch chimney and clean surface by power wire brushing. Provide a 4-inch-wide sealing surface starting 2 inches down from the bottom of the frame.

All sealing surfaces must be circular, reasonably smooth, clean and free of any loose material or excessive voids. If such a surface does not exist for the bottom of the sleeve to seal against, use one-component, quick-set, high strength, non-shrink, polymer modified patching mortar which has been formulated for vertical or overhead use. If the bottom of the sleeve is to seal against the top of an eccentric (straight side) cone and an inadequately high vertical surface does not exist, contact the manufacturer to obtain details to build the required vertical surface.

Use caulk to fill minor irregularities in the bottom sealing surface. The caulk shall be a butyl rubber caulk conforming to AASHTO M 198, Type B. Apply a single bead of the caulk to the center portion of the lower sealing surface of the sleeve.

Any flaws in the manhole frame, such as minor cracks, pits or protrusions, shall be repaired by either filling with mortar or grinding smooth.

D Measurement

The department will measure Adjusting Combined Sewer Manholes by each 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.0060.36	Adjusting Combined Sewer Manholes	EACH

Payment is full compensation for furnishing and installing all materials including adjusting rings, masonry, and internal frame/chimney seals; for excavating, backfilling, and compacting; for disposing of surplus materials; and for cleaning out and restoring the structure.

63. Manhole Covers Type MS 58A, Item SPV.0060.37.

A Description

Perform work under these items according to the requirements of standard spec 611 and the details as shown on the plans.

B Materials

Furnish materials under these items according to the requirements of standard spec 611.2 and the details as shown on the plans.

C Construction

Conform to standard spec 611.3.

D Measurement

The department will measure Manhole Covers Type MS 58A by each 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.0060.37	Manhole Covers Type MS 58A	EACH

Payment is full compensation for removing and salvaging the existing covers, providing new covers, including frames and lids; and for installing and adjusting each cover.

64. Pipe Connection to Existing Structure, Item SPV.0060.38.

A Description

This special provision describes connecting new storm sewer pipe to existing structure.

B Materials

Conform to standard spec 608.2 and standard spec 611.2.

C Construction

Conform to standard spec 607.3 and standard spec 611.3.

D Measurement

The department will measure Pipe Connection to Existing Structure by each pipe connected, 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.0060.38	Pipe Connection to Existing Structure	EACH

Payment is full compensation for performing all work; excavation, backfilling, furnishing, masonry and fittings; disposing of surplus material, coring holes in existing structure to connect new pipe; and installing all materials, couplings, concrete collars, and pipe.

65. Hydrant Assembly, Item SPV.0060.40.

A Description

This special provision describes furnishing and installing hydrant lead according to Standard Specifications for Sewer and Water Construction in Wisconsin (SSSW), latest edition; applicable Village of Shorewood Municipal Codes; and as hereinafter provided.

B Materials

Fire hydrants provided under these Standard Specifications shall conform to AWWA C502 for Dry Barrel Fire Hydrants. Hydrants shall have the following features:

Nozzle Arrangement shall have two 2.5-inch outlets and one 4.5-inch outlet.

National standard fire hose coupling screw threads.

Drain port at base of hydrant barrel. Plug drain port when hydrant installed in area where groundwater level may rise above drain port.

Main Valve opening shall be 5.25-inch diameter.

Torque Requirement: Hydrant shall comply with AWWA C502 even if greater than 5-foot bury.

Hydrant shall have a breakable flange. Any extensions shall be installed below the breakable flange and shall be made of the same material as the hydrant.

Direction of operation shall be counterclockwise.

Hydrants shall have permanent markings identifying the manufacturer by name, initials, insignia, or abbreviations in common usage, and designating the size of the main valve, opening and the year of manufacture. Markings shall be so placed as to be readily discernible and legible after hydrants have been installed.

C Construction

Hydrants shall be constructed at locations shown on the plans. Hydrants shall be located as shown or as directed in a manner that the possibility of damage from vehicles or injury to pedestrians will be minimized.

Furnish all necessary fittings in the fire hydrant lead to install the fire hydrant in a plumb condition at locations shown on the Drawings and at the specified depth of bury. The pumper nozzle of all fire hydrants shall be installed with the nozzle pointing toward the street. Engineer reserves the right to alter the location of fire hydrants from that shown on the drawings.

Connect hydrant to auxiliary valve with 2-foot length of pipe.

All joints on fire hydrant leads shall be made using pipe restraint specified herein. Approximately 1/2 cubic yard of bedding stone shall be placed from the bottom of the trench around the hydrant elbow and up the hydrant barrel. Bedding stone shall be wrapped completely in filter fabric to prevent the in migration of fine materials.

Where a hydrant is set in soil that is pervious, drainage shall be provided at the base of the hydrant by placing coarse gravel or crushed stone mixed with coarse sand, from the bottom of the trench to at least 6 inches above the waste opening in the hydrant and to a distance of 12 inches around the elbow.

Wherever a hydrant is set in clay or other impervious soil, a drainage pit shall be 2 feet in diameter and 3 feet deep shall be excavated below each hydrant and filled compactly with coarse gravel or crushed stone mixed with coarse sand, under and around the elbow of the hydrant to a level of 6 inches above the waste opening.

The bowl of each hydrant shall be well braced against unexcavated earth at the end of the trench with concrete backing. Block or approved mechanical joint lugged retainer glands may be used.

Elevation of breakaway flange shall be set at a minimum of 1 inch and a maximum of 4 inches above proposed grade.

Provide drain pocket at base of hydrant of 1.5 cubic yards of crushed stone or rock conforming to requirements of ASTM C33, Gradation Number 2. Backfill and compact as specified for adjacent water main.

Hydrant inlet shall be a restrained joint designed for use with ductile iron, cast iron, HDPE, and PVC pipe materials.

Inlet shall incorporate a stab-fit design using a single Type 304 stainless steel fastener and heat-treated ductile iron grippers. The assembly of mechanical joint restrainers using multiple fastens or wedge bolts that point load the pipe are not permitted.

The joint design shall work with the pressure to achieve joint restraint. All accessories shall be factory installed.

Hydrants connected to the existing/abandoned watermain shall be removed and the hydrant lead bulkheaded. Removal of hydrants connected to the existing/abandoned watermain is incidental to the hydrant item.

D Measurement

The department will measure Hydrant Assembly 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.0060.40	Hydrant Assembly	EACH

Payment is full compensation for furnishing labor, materials, excavation, bedding, cover, backfill, pipe laying, plugs, fittings, tracer wire, warning tape, bulkheads, thrust restraint, sheathing, shoring, dewatering, cutting, cleanup, disinfection, restoration, and incidentals necessary to complete the work.

66. Gate Valve & Valve Box 6-Inch, Item SPV.0060.41; Gate Valve & Valve Box 8-Inch, Item SPV.0060.42.

A Description

This special provision describes furnishing and installing Gate Valve and Valve Box according to Standard Specifications for Sewer and Water Construction in Wisconsin (SSSW), latest edition; and applicable Village of Shorewood Municipal Codes; and as hereinafter provided.

B Materials

Shutoff valves in potable and non-potable water lines 4-inch diameter and larger shall be AWWA C515, ductile iron AWWA C509, cast iron, resilient seat, nonrising stern, 150 psi working pressure with O-ring packing box, Kennedy, American, American AVK, or equal.

Mechanical joint ends shall conform to section 4.4.1.4.2 of AWWA C-509.

Flange Ends shall conform to section 4.4.1.4.1 of AWWA C-509.

Push on joints shall conform to AWWA C-111 and shall be furnished with suitable gaskets and sufficient lubricant.

All exterior fasteners shall be made from 300 series 18-8 stainless steel or approved equal corrosion resilient material.

Valve shall have guides in compliance with section 4.4.3 of AWWA C-509.

Valves shall be designed for an input torque of 450-foot pounds at the fully opened or fully closed positions, without distortion of any kind to the valve or its components.

Valves shall open by turning right (clockwise).

Both inside and outside of the valve shall receive a minimum of 6 mil thick fusion bonded epoxy coating in compliance with AWWA C-550.

C Construction

All gate valves shall be constructed at the locations shown on the plans.

The valve box shall be centered and plumb over the wrench nut of the valve with the box cover flush with the finished ground elevation. Solid 4-inch concrete blocks shall be placed under the base of valve boxes so that the bottom of the base is about 2 inches away from contact with the valve bonnet. The valve box shall not transmit shock or stress to the valve.

Existing valve boxes connected to the existing/abandoned watermain shall be removed. Removal of existing valve boxes connected to the existing/abandoned watermain is incidental to the valve item.

Adjustment of existing active and proposed valves is incidental to the valve item.

D Measurement

The department will measure Gate Valve & Valve Box (Size) 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.0060.41	Gate Valve & Valve Box 6-Inch	EACH
SPV.0060.42	Gate Valve & Valve Box 8-Inch	EACH

Payment is full compensation for furnishing labor, materials, excavation, bedding, cover, backfill, pipe laying, fittings, tracer wire, warning tape, bulkheads, thrust restraint, sheathing, shoring, dewatering, cutting, cleanup, disinfection, restoration, and incidentals necessary to complete the work.

67. Remove Water Meter Pit, Item SPV.0060.43.

A Description

This special provision describes removing an existing City of Milwaukee water meter pit according to Standard Specifications for Sewer and Water Construction in Wisconsin (SSSW), latest edition; Milwaukee Water Works Water Main Installation Specifications; applicable Village of Shorewood Municipal Codes; and as hereinafter provided.

B Materials

Backfill material shall conform to SSSW 8.43.4 for granular backfill.

C Construction

Contractor shall remove existing water meter pit along with any piping, valve, etc. in the pit.

Contractor shall properly dispose of the pit and material inside the pit.

Contractor shall backfill pit with granular material conforming to SSSW 8.43.4. Granular backfill material shall be mechanically compacted in 18-inch lifts.

D Measurement

The department will measure Remove Water Meter Pit 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.0060.43	Remove Water Meter Pit	EACH

Payment is full compensation for excavating, removing, and backfilling the existing water meter pit; for proper disposal of materials; for mechanical compaction; and for restoration.

68. Decorative Luminaire, Item SPV.0060.50.

A Description

This special provision describes providing furnishing and installing decorative luminaries with all required accessories as shown on the plans, and as hereinafter provided.

B Materials

Furnish decorative luminaires with the following specifications:

AEL Valiant Full Cutoff LED Series AVPCL2-P452-XVOLT-276-R5-BK-SCC-NR-LDR

Factory Installed Ladder Rest options are included in the model number above.

C Construction

The installation of the Decorative Luminaire shall be according to the manufacturer's instructions.

D Measurement

The department will measure Decorative Luminaire 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.0060.50	Decorative Luminaire	EACH

Payment is full compensation for providing all materials including luminaries, lamps, fittings, hardware and attachments; and for luminaries fusing if required.

69. Decorative Pole, Item SPV.0060.51.

A Description

This special provision describes providing furnishing and installing decorative poles with all required accessories as shown on the plans, and as hereinafter provided.

B Materials

Furnish decorative poles with the following specifications:

Traditional Concrete Shorewood Pole model number D113-SG-EA-3T

Poles shall be Sky Gray, 13'-0" AFG, 17'-6" in total height, etched with acrylic waterseal and 3" tenon as noted in the model number above.

C Construction

The installation of the Decorative Pole shall be according to the manufacturer's instructions.

D Measurement

The department will measure Decorative Pole 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.0060.51	Decorative Pole	EACH

Payment is full compensation for providing all materials including poles, fittings, hardware and attachments; and for luminaries fusing if required.

70. Remove and Salvage Municipal Lighting Units, Item SPV.0060.52.

A Description

This special provision describes removing, salvaging, storing, and transporting of existing municipal lighting units according to the pertinent provisions of standard spec 204 and as hereinafter provided.

Specific removal items are noted in the plans.

B (Vacant)

C Construction

Arrange for the de-energizing of the lighting with the local electrical utility after receiving approval from the engineer that the existing lighting can be removed.

Notify the Village of Shorewood, Dan Heyen at (414) 847-2650, at least seven days prior to the removal of the village lighting equipment. Complete the removal work as soon as possible following shut down of this equipment. Inspect salvaged equipment for damage or defects.

The village assumes that all equipment is in good condition and in working order prior to the contractor's removal operation. Prior to removal, inspect and provide a list of any damaged or nonworking lighting equipment to the engineer and village.

Remove all standards and poles per plan, cabling/wiring, luminaires, and mounting devices. Dispose of non-salvaged materials off the project site and off the right-of-way. Deliver the salvaged village light poles and luminaires to the Village of Shorewood Department of Public Works. Contact Dan Heyen at (414) 847-2650 at least seven days prior to delivery to make arrangements.

D Measurement

The department will measure Remove and Salvage Municipal Lighting Units by each 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.0060.52	Remove and Salvage Municipal Lighting Units	EACH

Payment is full compensation for removing, disassembling lighting equipment, scrapping of some materials, disposing of scrap material and cabling/wiring, protecting from damage, and for delivering the salvaged materials to the village.

71. Furnish and Install Traffic Signal Controller Items at STH 32/STH 190, Item SPV.0060.62.

A Description

This special provision describes furnishing and installing traffic signal controllers in the existing cabinet as shown on the plans and as hereinafter provided.

The contractor shall deliver all required traffic signal control equipment, and any auxiliary equipment, wiring diagrams, and manuals as called for in the specifications, to each location specified in the plans.

For each traffic signal controller furnished and installed, the contractor shall submit two copies of as-built drawings to the engineer of the following: detection wiring diagrams, cable and routing diagrams, pole to pull box wiring diagrams, conductor layout standards and the associated head arrangements and other pertinent details.

B Materials

The controller shall be McCain ATC FLeX controller and fully compatible with ATC, CALTRANS and NEMA cabinets. The controller shall be equipped with an oversized,16-line screen that features auto-contrast, making the screen legible in all conditions. Split-screen options allow users to view the operational status of the intersection and make timing adjustments simultaneously.

The controller shall have the following interfaces:

Communication Interfaces:

- SDLC ports (2)
- Serial (ASYNC) on front panel (3)
- ENET 1: 100 Base-T Ethernet switch, 1 uplink, and 1 additional port
- ENET 2: 100 Base-T Ethernet port dedicated for local communications
- Wi-Fi enabled (optional); uses ENET 2

Front Panel Interfaces:

- Display: 16 lines x 40 characters
- Keyboard: 7 x 4 keypad (28 key)
- Datakey
- USB ports (2)
- SD Card Slot

Cabinet Interfaces:

- ATC cabinets
- Caltrans cabinets
- ITS cabinets
- NEMA cabinets

The controller should be available in both TS2 type 1 and type 2 configurations.

C Construction

Install traffic signal controller and auxiliary equipment according to the manufacturer's instructions.

D Measurement

The department will measure Furnish and Install Traffic Signal Controller Items at STH 32/STH 190 by each 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.0060.62	Furnish and Install Traffic Signal Controller Items at STH 32/STH 190	EACH

Payment is full compensation for furnishing and installing the signal controller and fittings as are necessary to assure that the controller will perform the said functions.

72. Furnish and Install Audible Pedestrian Push Button System at STH 32/STH 190, Item SPV.0060.63.

A Description

This special provision describes providing vandal resistant Audible Pedestrian Signal (APS) push button assemblies that provides a vibro-tactile ADA compliant 2-Inch push button with a raised directional arrow and custom message sounds during the walk cycle. During the "ped clearance" and "don't walk" intervals locating sounds are emitted from inside the unit via a weatherproof speaker. The unit shall use 2-pair push button wires and interface with a single control unit located in the traffic control cabinet.

B Materials

B.1 General

Ensure APS complies with US Access Board's Guidelines for Accessible Public Rights of Way (PROWAG) Section R306. In addition, ensure that the APS complies with and provides operation consistent with requirements of Sections 4E.09 through 4E.13 of the 2009 Edition of the Federal Highway Administration publication, Manual on Uniform Traffic Control Devices and conforms to all of the following requirements:

1. The Audible Pedestrian Push Button System shall be the Polara iCCU-S2 model with an iDS2 Push Button.
2. Sunlight visible “Red LED” lights when the button is pushed and remains on until the walk phase goes into effect.
3. Audible “Tick” sound is heard each time the button is pushed, as well as tactile feedback given.
4. Extended push button can turn on boost volumes, and/or mute all sounds except those on actuated crosswalk.
5. All audible sounds automatically adjust in volume in relation to ambient noise level.
6. Audio Amplifier Power Output: 15 W, 8 ohm, weatherproof.
7. Provide separate volume controls for locator tone, walk message, Clearance and extended button volumes.
8. Volume Control Automatic Adjustment Range: 35 dB max.
9. Microphone For Ambient Noise approximate frequency range: 170 Hz to 2.3 kHz.
10. Jumper Selectable Options: Chirp, Cuckoo, Walk Message, Rest In Walk, Location Message, Extended Push of Activation and Locating Tone.
11. Audible Locating Tone: 880 Hz plus harmonic, 0.1-second duration, 1-second interval. Operates during ped clearance and don’t walk interval. All tones shall meet MUTCD requirements.
12. Option standard locating tone, custom sound or verbal count down during PED Clearance and multiple voice message languages. Provide custom walk message, direction of travel and/or emergency vehicle warning message.
13. All sounds are synchronized. Sound alternate in front of the pedestrian and behind the pedestrian during the walking and/or ped clearance phase (“Ping Pong” feature).
14. Temperature Range: -40 degrees F to 165 degrees F.
15. Wind sensor to prevent runaway volume during windy conditions.
16. System can self-test and fault report to a remote site for real-time monitoring and system maintenance. Conflict Detect: WALK indication is ignored in the event of a WALK/DON’T WALK conflict.
17. Pedestrian Push Button Interface accepts 12 to 48 AC/DC. Capable of global configuration changes and/or single unit changes.
18. Dimensions: Length: 14.09-Inch, Width: 5.4-Inch, Depth: 2.2-Inch.
19. Frame: cast aluminum, powder coated yellow.
20. Face Plate: aluminum, powder coated, painted black background.
21. Arrow Push Button: aluminum, powder coated. Direction of arrow can adjust to one of four directions.
22. Push Button: ADA compliant, cast aluminum, nickel plated, powder coated. Vibrator Power shall be 15 VDC pulsed. Operates during walk interval only. Speaker: 8 ohm, 15 W MAX, weather proof.
23. Include a Pedestrian Push Button sign that shall be mounted to each push button assembly.

B.2 Central Control Unit

The control unit is the power supply and signaling interface between the existing intersection traffic controller and the pedestrian push button unit. The pedestrian control unit shall control up to 12 push button units and 4 pedestrian phases. The pedestrian control unit shall be housed inside the existing traffic controller cabinet and powered by the AC supply mains (115 VAC). The interface cable shall be included and considered incidental to the contract.

1. Pedestrian Walk/Don’t Walk Inputs; Optically Isolated 80 – 150 Volts AC/DC 5mA Maximum.
2. General Purpose Outputs and Pedestrian Outputs; Optically Isolated 36 Volts AC/DC Peak, .3A Solid State Fused Contact Closure.
3. Fault Output; Normally Open and Closed Relay Contacts 125 Volts AC/DC 1A Maximum.

4. 4 Phase Pedestrian Push Button Power Output; Nominal 22 Volts DC, Short Circuit Protected – Auto Recovering.
5. General Purpose Inputs; 10 – 36 Volts AC/DC Peak 10mA Maximum, Optically Isolated.

C Construction

Install the Audible Pedestrian Push Button System as a complete unit per manufacturer installation requirements and install pedestrian push button sign onto push button assembly.

D Measurement

The department will measure Furnish and Install Audible Pedestrian Push Button System at STH 32/STH 190 by each 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.0060.63	Furnish and Install Audible Pedestrian Push Button System at STH 32/STH 190	EACH

Payment is full compensation for furnishing and installing all APS and pedestrian push button sign materials; and for cleaning up and properly disposing of waste.

73. Furnish and Install Emergency Vehicle Preemption System at STH 32/STH 190, Item SPV.0060.64.

A Description

This special provision describes furnishing and installing an Emergency Vehicle Preemption (EVP) System at a single intersection, as shown on the plans and as hereinafter provided.

B Materials

The Emergency Vehicle Preemption System shall include Tomar DETOC21-1IC-W detectors with integrated white confirmation LED. This equipment shall be furnished and installed by the contractor.

EVP Detector Cable will be paid for separately under Standard Pay Item 655.0900 Traffic Signal EVP Detector Cable.

Detectors shall be mounted on the mast arms and signal poles as shown on the Plans.

The traffic signal mast arms and poles shall be drilled and tapped to accommodate the mounting of the detector units as shown in the Plans. The installation method shall be approved by the village or their consultant who maintains their signal systems.

In the event, at installation, a noticeable obstruction is present in line with the detector, the contractor shall be obligated to advise the engineer before installation.

Unless otherwise directed by the village, the detector shield tube shall be installed with the drain hole at the bottom.

There shall be NO detector cable splices from the detector assembly to the controller terminations.

The EVP detector cables shall be routed to the controller. Each lead shall be appropriately marked as to which street or avenue it is associated. The contractor will perform all terminations inside the cabinet.

The EVP as specified and shown in the Plans shall be complete in place, tested, and in full operation.

C Construction

Install the EVP detector heads with confirmation lights and mounting brackets as shown on the plans. The department will determine the exact location to ensure that the installation does not create a sight obstruction. The contractor will terminate the EVP cable ends and install the discriminators and card rack in the cabinet.

D Measurement

The department will measure Furnish and Install Emergency Vehicle Preemption System at STH 32/STH 190 by each 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.0060.64	Furnish and Install Emergency Vehicle Preemption System at STH 32/STH 190	EACH

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

74. Remove and Reinstall Decorative Light Pole, Item SPV.0060.67.

A Description

This special provision describes removing, salvaging, and storing of existing municipal decorative light pole and luminaire arm according to the pertinent provisions of standard spec 204 and as hereinafter provided and for installing the existing decorative light pole with new luminaire on a new concrete base as noted in the plans.

B Materials

Reuse decorative light pole and luminaire arm.

Provide sufficient quantity modular mounting accessory Tracnut constructed of copper free cast aluminum and machined to a dove tail configuration to fit snugly in decorative light pole shaft channels. Tracnut provides mounting point for traffic signal equipment installation and traffic control signs.

Provide Tracnut in black finish and threaded for owner preferred size bolt.

C Construction

Arrange for the de-energizing of the lighting with the local electrical utility after receiving approval from the engineer that the existing lighting can be removed.

Complete the removal work as soon as possible following shut down of this equipment. Inspect salvaged equipment for damage or defects.

The village assumes that all equipment is in good condition and in working order prior to the contractor's removal operation. Prior to removal, inspect and provide a list of any damaged or nonworking lighting equipment to the engineer and village. Any equipment not identified as damaged or not working, prior to removal, shall be replaced by the contractor at no cost to the department.

Reuse the existing traffic control splice box system located inside decorative signal pole which shall provide complete separation between traffic signal control and roadway lighting conductors in light poles.

Remove all standards and poles per plan, and remove transformer bases, cabling/wiring, arms, luminaires, signal heads, and mounting devices. Dispose of non-salvaged materials off the project site.

D Measurement

The department will measure Remove and Reinstall Decorative Light Pole by each 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.0060.67	Remove and Reinstall Decorative Light Pole	EACH

Payment is full compensation for removing, salvaging, disposing of scrap material and cabling/wiring, protecting from damage, and for providing all materials, fittings, hardware and attachments necessary for installing the decorative light pole on a new concrete base.

75. Battery Backup System for Traffic Intersection at STH 32/STH 190, Item SPV.0060.68.

A Description

This special provision describes furnishing and installing a Field Hardened Battery Backup System to be mounted to the south side of the existing traffic controller cabinet.

B Materials

B.1 General

This specification establishes the minimum requirements for a complete emergency battery back-up system for use at traffic signals utilizing Light Emitting Diodes (LED) signals and pedestrian heads.

The Battery Back-up System (BBS) shall include, but not be limited to the following:

1. UPS with Inverter, Charger, Tap Switching Transformer and Internal Power Transfer Switch
2. Automatic / Manual Bypass Transfer Switch unit
3. Batteries
4. Battery Management System
5. Cabinet
6. Mounting hardware
7. Wiring

The BBS shall provide reliable emergency power to a traffic signal in the event of a power failure or interruption.

B.2 Operation

The BBS shall provide the following operational modes when operating on battery power:

1. Full operation of all traffic signal devices
2. Flash operation
3. Combination of full and flash operation

The BBS shall provide a minimum run time of 8.0 hours of full time operation with a 450-watt load. The minimum battery size requirement is listed in section 7.0, Battery Type.

The BBS shall be compatible with Model 332, 336, and 337 cabinets; the ITS cabinet; model 170 and 2070 controllers and any NEMA style cabinet and enclosures; the advanced transportation controller; and all cabinet components for full time operation.

The BBS shall provide a minimum of 1100W/1100VA@25°C active output capacity with 83 percent minimum inverter efficiency with 30% minimum loading.

When operating in backup mode, the BBS output shall be 120VAC ± 2%, pure sine wave output, ≤3%THD, 60Hz ± 0.3 Hz.

The BBS DC system voltage shall be 48VDC nominal.

The maximum transfer time allowed, from disruption of normal utility line voltage to stabilized inverter line voltage from batteries, shall be 5 milliseconds (ms). The same maximum allowable time shall also apply when switching from the inverter line voltage to utility-line voltage. Transfers to and from battery operation shall not interfere with the operation of the other equipment in the intersection.

The BBS and all components shall operate without performance degradation over a temperature range of -40°C (-40°F) to +74°C (+165°F) with a maximum load of 70% of rated output of the BBS inverter. The BBS feedback level shall be tested and certified to Electrical Standards UL 1778 and CSA 107.3. The BBS shall have surge protection compliant with IEEE/ANSI C.62.41 Cat. A and B.

The BBS system shall have a Mean-Time-Before-Failure (MTBF) of 174,955 hours at a temperature of 25ºC (77ºF) and 103,030 hours at a temperature of 50ºC (122ºF) per Telcordia SR-232, 100% duty cycle, full load.

The BBS shall be easily installed, replaced, or removed by using easily removable cables for AC input, AC output, DC input, external transfer control/alarm and battery temperature sense.

The AC input and output shall hard wired connections.

The DC connection shall be a recessed one-piece Anderson Style connector rated to handle the maximum DC current required by the inverter while running on batteries.

The battery temperature probe connection inputs shall be panel-mounted Telco style connector. In the event of inverter/charger failure, battery failure or complete battery discharge, the automatic bypass transfer switch shall revert to Normally Closed (NC) (de-energized) state, where utility line power is connected to the cabinet.

The BBS Inverter Module shall be able to shut down in order to protect against internal damage in the event of an overload at the output. The Inverter shall support an overload up to 115% for 2 minutes and then turn off the inverter output. The fault recovers when the overload is removed and line power returns.

The BBS shall provide a (2) time-of-day schedule settings programmable by the user.

1. The time-of-day schedule shall allow the user to program schedule operational modes as required, per intersection.
2. The BBS time-of-day function when programmed shall automatically change operational modes based on the time-of-day schedule. Operational modes shall be Red Flash or Full Operation.
3. The BBS shall not switch from Flash Operation to Full Operation mode when the remaining battery capacity is ≤40 percent.

The BBS shall prevent a malfunction feedback to the cabinet or from feeding back to the utility service.

In the event of BBS failure (inverter/charger or battery) or complete battery discharge, the internal power transfer relay shall revert to Normally Closed (de-energized) state and provide utility power to the intersection when utility line power is available to the cabinet.

The BBS shall initiate an automatic shutdown when battery output reaches 42.0VDC.

The BBS shall be equipped with an integral system to prevent the battery from destructive discharge or overcharge.

B.3 Automatic Bypass Transfer Switch

The BBS shall include an Automatic/Manual Transfer Switch rated at 120VAC/30 amps.

The Automatic Bypass Transfer Switch shall be a combination automatic/manual bypass switch. Placing the bypass switch in the “Bypass” mode shall transfer the intersection load from the UPS output directly to commercial power. AC commercial power must still be available to the UPS input, allowing the UPS to keep the batteries charged. An Inverter Input breaker shall be provided and located on the Bypass Switch so to shut off commercial power to the UPS input, allowing safely disconnecting and removing the inverter. With the inverter turned off, the batteries can be safely disconnected from the system.

The Automatic Bypass Transfer Switch shall include a bypass indicator light that automatically notifies the user when the Manual bypass switch is in Bypass position. The indicator light shall be illuminated when in UPS mode.

The Automatic Transfer Switch shall have an optional bypass status relay with normally open, dry contacts that automatically close when the Manual bypass switch is in Bypass position.

The manual bypass switch and the automatic transfer relay shall be integrated together within the Automatic Bypass Transfer Switch allowing the manual bypass switch to be rated at 15 Amp and to be integrated with the bypass indicator light.

The Automatic Bypass Transfer Switch shall have terminal blocks capable of accepting #6 AWG wiring for the AC input and output with #10 AWG from the Automatic Bypass Transfer Switch to inverter/charger module.

B.4 Functionality

The BBS shall be Double Buck/Double Boost – Line-Interactive, True UPS.

1. The Double Buck/Double Boost mode shall have a minimum range of 85 - 175 VAC.
2. There shall not be any user definable transfer set points for the buck boost mode.
3. Whenever AVR mode is selected the output of the system shall be regulated between 108-130VAC. When the output of the system can no longer be maintained with this range, the BBS shall transfer to Backup Mode.

4. The BBS shall be equipped with an AC Input circuit breaker that protects both the UPS and the loads connected to the output. Should the AC Input breaker on the UPS trip, it shall allow the UPS to go to inverter mode to power the intersection off of batteries. Should an overload condition still exist when the inverter is energized the inverter will revert to its internal electronic protection, preventing damage to the inverter due to the overload or short circuit condition, on the output. Once this overload condition is cleared the inverter will energize and power the intersection utilizing the available battery power. If the condition does not clear itself, the inverter will stay in the standby mode until manually cleared by a technician.
5. The BBS shall have a flush mounted Battery circuit breaker installed on the front panel of the BBS inverter module.

The BBS shall have a user definable line qualify time. The user shall be able to select a minimum of six (6) possible settings. The settings shall be 3, 10, 20, 30, 40 and 50 seconds. The default line qualify time shall be 3 seconds.

The BBS shall have an integral charger that is compatible with Gel and AGM battery topology. The charger shall be an intelligent charger with control systems that automatically incorporates bulk, absorption and float charging modes.

1. The integral intelligent charger shall use temperature compensation. The charging system shall compensate over a range of 2.5 - 6.0mV/°C per cell, user adjustable when required.
2. A temperature probe which plugs into the front panel of the BBS shall be used to monitor the internal temperature of the batteries. The Temperature sensor shall be 2 meter in length, external to the inverter/charger module and taped to the side of a center battery within the battery string.
3. The batteries shall not be recharged whenever the battery temperature exceeds 50°C (122°F).
4. The recharge time for the batteries from “protective low-cutoff” to 90 percent or more of full charge capacity shall not exceed 2-4 hours, subject to temperature compensation. The BBS charger shall be capable of providing 15 amps at 54VDC.

B.5 User Interfaces and Displays

The BBS inverter/charger unit shall include a backlit LCD display for viewing all status and configuration information. The screen shall be easily viewable in both bright sunlight and in darkness.

The screen shall be large enough to display the following information with the use of menu scrolling buttons to read required information. All active readings shall be real time.

i. Operating Mode (Line, Standby, Backup, Buck / Boost)
ii. Utility input voltage
iii. BBS output voltage and current
iv. Battery Temperature
v. Input Frequency
vi. Output Power
vii. Battery Voltage
viii. Charger Current
ix. Shed Timer Relays time to activation
x. Ethernet MAC Address and IP Address
xi. Accumulated output power in kW hours
xii. Battery Runtime Remaining
xiii. Unit Serial number
xiv. Unit Firmware Version
xv. Any alarms and faults
xvi. Keypad

The BBS inverter/charger unit shall include a keypad for navigating system information.

The BBS shall be provided with a web-based-interface for user configuration and management through a web browser.

The BBS shall allow the user to do the following through the web browser:

i. View Logs
ii. Change modes of operation
iii. Configure email alarms
iv. Adjust line qualify time
v. Program relay contacts
vi. Configure network parameters.
vii. Inverter/charger firmware to be upgradeable remotely via Ethernet.
viii. Communication module firmware upgradeable remotely.

The BBS shall have discrete status LED indications on the front of the inverter/charger. Green Output LED shall be ON any time that the output of the BBS is in normal mode. When the BBS output is either in Backup Mode or AVR Modes the LED will flash On and Off. Red Fault LED shall be Solid On any time that there are any faults in the system. Red Flashing Alarm LED shall Flash On and Off any time that there are any alarms in the system.

The BBS shall maintain an event log containing a minimum of 200 of the most recent events recorded by the BBS. These events shall be down loadable remotely via Ethernet and automatically reported to the central monitoring software. The Events Log shall be date and time stamped.

The BBS shall display and log the following events, alarms, and faults.

i. Operating Mode
ii. Weak Battery
iii. Overload
iv. High and Low Temperatures
v. User Input, S2 is shorted
vi. Line Frequency out of specifications
vii. No temperature probe
viii. Low Battery
ix. Battery Breaker Open
x. BBS is performing a Self-Test
xi. Fan Fail
xii. Incorrect Firmware
xiii. AC Input Breaker Open
xiv. Short Circuit
xv. Output Voltage High
xvi. Output Voltage Low
xvii. Battery Voltage High
xviii. Battery Voltage Low
xix. Isolation Relay Fail
xx. Temperature High
xxi. Counters

The BBS shall keep track of the following:

i. The number of times that the unit was in Backup Mode.

ii. The accumulated number of hours and minutes that the unit has operated in Backup mode since the last reset.

The BBS shall provide the user six programmable dry relay contacts and one 48VDC relay contact. As a minimum, the programmable options shall be On Battery, Low Battery, Timer, Alarm, Fault, and Off. The BBS shall also have three input dry relay contacts. BBS Self-Test, User Alarm, and BBS Shutdown.

The relay contacts shall be made available on the front panel of the BBS via 6, 3 position plug-in terminal blocks with screw down wiring connections.

Each relay, C-1 through C-5 shall have their own common and their own set of normally open (NO) and normally closed (NC) terminals. The terminals for each relay shall be oriented as NO-C-NC on the terminal block. C-6 shall provide continuous 48 VDC voltage for powering of enclosure DC fan.

The contacts on the terminal block shall be labeled 1-18, left to right. Additionally, each set of contact shall be labeled with the NO-C-NC designation, as well as C1 to C6 from left to right. Printed labels noting all alarms and faults shall be provided with the BBS Inverter/Charger to be installed when required.

1. The relay contacts shall be rated at a minimum of 1 amp @ 250 VAC.
2. The dry relay contacts that are configured for “on battery” shall only energize when the Inverter is operating in Backup Mode.
3. The BBS shall include a timer that will energize the “timer” configured dry relay contact after the user configured time has elapsed. The timer is started when the BBS enters Backup Mode. The user shall be able to configure the timer to the required time. The format shall be Hours, Minutes, Seconds.
4. The BBS shall have an adjustable low battery relay setting. This setting shall be adjustable so that the user can set the point at which the low battery relay contact is energized.

B.6 Communications

The BBS shall be equipped with an industry standard RS-232 serial connection for user configuration and management. The serial port shall be an EIA-232 (DB9-Female) connector.

The BBS shall have an internal Ethernet communication interface for user configuration and management. The Ethernet Port shall be an RJ-45, EIA 568B Pin Out Connector.

The BBS shall include remote monitoring and alarms transmission capabilities through the Ethernet RJ-45 IP Addressable Port, using SNMP protocol. System shall have the capability of notifying Operations, Maintenance or TMC via e-mail of any alarms, faults or events, user selectable. E-mail set up must allow for different levels of notifications based on the criticalness of the alarms. Email notifications shall support 6 different users.

All BBS configuration and System menus shall be accessible and programmable from the RS-232 and Ethernet Port. The BBS shall support TCP and UDP over IP protocol communications. The BBS shall support FTP, Telnet, and HTTP. The BBS shall be SNMP compliant.

B.7 Batteries

The battery shall be comprised of extreme temperature, float cycle, GEL VRLA (Valve Regulated Lead Acid). Individual batteries shall meet the following specifications:

1. Voltage Rating: 12V
2. Amp-hour rating: 109 AH, at the 20-hour rate, to 1.75 Volts per cell, minimum battery rating. Larger AH batteries are acceptable providing they do not exceed the group size listed below.
3. Group size: Case 31

Batteries shall be easily replaced and commercially available off the shelf.

Batteries shall provide 100% runtime capacity out-of-box. Each battery must meet its specification without the requirement of cycling upon initial installation and after the initial 24-hour top off charge.

Batteries used for the BBS shall consist of 4 batteries configured for a 48 VDC battery buss system.

The battery system shall consist of one or more strings of extreme temperature; float cycle GEL VRLA (Valve Regulated Lead Acid) batteries. Batteries shall be certified to operate at extreme temperatures from –40°C to +71°C.

The batteries shall have maintenance-free threaded insert terminals eliminating annual torqueing. Battery terminals that require annual torqueing of each post connection shall not be permitted.

An integral lifting handle shall be provided on the batteries for ease of removal/installation.

B.8 Cabinet

The dimensions for the BBS cabinet shall not exceed 50 inches in height, 17 inches in width and 17 inches in depth mounted to the south side of the existing cabinet and painted black.

1. The Inverter/Charger Unit shall be shelf or rack mounted on a standard EIA19” rack.
2. The Automatic Transfer switch shall be mounted on EIA 19” Rail.
3. All interconnect wiring shall be provided and shall be UL Style 1015 CSA TEW.

The BBS equipment and batteries shall be easily replaced and shall not require any special tools for installation.

The BBS inverter and batteries shall be hot swappable. There shall be no disruption to the Traffic Signal when removing the inverter or batteries for maintenance.

All inverter and battery connections shall be of the quick disconnect type for ease of maintenance.

All necessary installation hardware (bolts, fasteners, washers, shelves, racks, etc.) shall be included.

The external cabinet shall be capable of housing batteries up to a group 31 size, inverter/charger power module, automatic transfer switch, control panels, wiring, wiring harnesses, and all other ancillary equipment.

The BBS shall be side-mounted to a Traffic Controller cabinet with no mounting brackets required.

All external cabinets shall be NEMA 3R rated. The enclosure shall be made of 0.125 inch (5052-H32) aluminum.

All external seams must be continuously welded or sealed in an engineer approved method. The door opening must have a double flange for weather sealing purposes.

The external cabinet shall be ventilated through the use of louvered vents, filter, and a minimum of one thermostatically controlled fan. The filter shall be the re-usable type and matching the dimensions of the louver with both located on the bottom half of the door.

The cabinet fan shall be DC operated for longer reliability.

The BBS cabinet shall come with all bolts, washers, nuts required to mount it to a Controller cabinet. All components, terminations, terminal blocks, relays, etc. shall be fully accessible.

Battery shelves shall be located in the bottom half of the enclosure. The bottom battery shelf shall be removable, and the top battery shelf will be welded to the enclosure sides. Air must be allowed for flow from the bottom of the cabinet and up the back internal wall. Neither the top battery shelf nor the Power Module shelf shall inhibit the airflow to the top of the cabinet.

The cabinet shall include a 3 point locking system, including a Type 2 Corbin lock and utilize a handle with pad locking capability.

The following options shall be available for the cabinet:

1. On-Battery lamp mounted externally on the top of the cabinet that illuminates when the BBX is operating in inverter mode.
2. Battery Heater Mats to increase battery capacity in cold climates.
3. Receptacle plate assembly that mounts on the transfer switch panel to provide utility power to the battery heater mats.
4. Automatic Generator Transfer switch that senses a generator is connected and automatically switches to the generator source.

5. Internal lamp with door push-button switch to illuminate the interior of the cabinet.
6. Status monitoring dry contacts for the Automatic Transfer Switch and the Generator Transfer Switch.

B.9 Maintenance

The BBS shall provide voltmeter standard probe input-jacks (+) and (-) to read the exact battery voltage drop at the inverter input.

The BBS Inverter Module shall be programmable to perform automatic self-testing, programmed in weekly intervals and programmed by the user to meet their specific requirements or manufacturer's recommendation. During self-test the BBS Inverter Module shall identify a weak battery or multiple batteries in the string that have reached a weak state and notify maintenance by initiating a Weak Battery Alarm.

B.10 Remote Battery Monitoring

A remote battery monitor system (RBMS) shall be permanently installed into the UPS/Battery cabinet to monitor the four UPS batteries (4-12V battery blocks). The RBMS shall have the ability to monitor, read and record both the battery string and individual battery voltages, admittance (internal battery resistance), individual battery temperatures and to provide a real-time evaluation of the battery bank health.

The RBMS shall have a built-in web interface for communications over Ethernet. The device shall be hardened and operate at a temperature range of -40C to +65C. The device shall include individual 12-volt battery sensors and operate in the range of -40C to +80C. Communications shall be SNMP via TCP/IP.

The RBMS shall include software to automatically poll each intersection, up to 100 per software program, reading individual battery voltage, admittance and temperature, confirming each is within its user programmable parameters. The system shall have the ability to program the intervals as to when each reading is taken, by days, weeks or months. The software shall be provided as part of the system cost.

The RBMS shall also perform as a battery balancer, continuously monitoring all batteries in the string and to interface with the UPSs charger voltage/current to keep the batteries equal with all batteries within the battery string. The RBMS shall allow for any single 12V battery within the battery string to be replaced without replacing all batteries in the string during the battery warranty period.

B.11 Warranty

The BBS System shall include a five-year manufacturer's warranty on parts and labor on the entire BBS System, including batteries, to the Agency when utilizing the BBS Manufacturers own designed enclosure, meeting the above cabinet specifications.

Should the agency decide not to use the enclosure provided by the BBS Manufacturer, the manufacturer shall provide a three-year warranty on parts and labor on the BBS Inverter Module only.

The BBS Manufacturer shall provide a 5-year unconditional full replacement warranty for every battery sold to the Agency with the BBS under this specification. Under the warranty time period, the battery must provide a minimum of 70% of its original capacity, otherwise it will be considered to be non-compliant to the warranty and replaced at no cost to the Agency or DOT by the BBS manufacturer.

B.12 Vendor Support

The BBS manufacturer shall provide at no charge, a toll-free technical support phone number. The toll-free phone number shall be included in the BBS manual.

Equipment manuals shall be provided for each BBS cabinet. Equipment manuals shall include installation, operation, programming, maintenance and troubleshooting.

B.13 Quality Assurance

Each BBS shall be manufactured according to a written manufacturer's Quality Assurance program. The QA program shall include, as a minimum, specific design and production QA procedures.

The BBS Power Module manufacturer shall be ISO 9001or ISO 9002 certified. The BBS Power Module shall be Telcordia SR-232 certified.

The manufacturer shall be certified to carry out the CSA and UL standards testing on the BBS system.

C Construction

Install Battery Backup System on the south side of the existing traffic controller cabinet per manufacturer's instructions. The UPS enclosure must not interfere with the opening of the traffic cabinet door.

D Measurement

The department will measure Battery Backup System for Traffic Intersection at STH 32/STH 190 by each 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.0060.68	Battery Backup System for Traffic Intersection at STH 32/STH 190	EACH

Payment is full compensation for furnishing and installing the battery backup system with cabinet, fittings as are necessary to assure that the battery backup system will perform the said functions.

76. EVP Card, Item SPV.0060.69.

A Description

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

B Materials

The Card shall provide all the necessary hardware and harnessing required to allow the wiring of the EVP System to the detector outputs and controller inputs.

The Card Cage shall be equipped with two 60" long cables which are wired to the controller. The first cable shall carry all 115 VAC power wiring, safety ground, and card outputs. The second cable shall be terminated to a 12 point terminal block which is mounted in the wiring compartment of the cabinet. The detectors shall then be connected to the terminal block.

The Card Cage shall be a Tomar Model OSPOCV2-4 card.

C Construction

Install EVP Card for traffic signals. The Card shall be mounted inside the traffic signal controller cabinet, on the top shelf in the cabinet or as directed by the engineer in the field.

D Measurement

The department will measure EVP Card by each 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.0060.69	EVP Card	EACH

Payment is full compensation for furnishing and installing the EVP Card in the control cabinet.

77. GPS Device with GPS Receiver for Resetting Clock Time in Traffic Signal Controller, Item SPV.0060.70.

A Description

This specification sets forth the minimum acceptable design requirements for a GPS device with a GPS receiver. The GPS device and receiver shall be designed to reset the clock time in NEMA type traffic signal controllers using the time reference received from Global Positioning Satellites (GPS). It is intended for use in traffic control systems and shall be of all solid-state construction except for the relay output. All components shall be made available to the Village of Shorewood for servicing for five years after expiration of the manufacturer's warranty or shall be so identified that they may be purchased from industrial electronics suppliers. The GPS unit shall have the ability to operate from both 115VAC and 12VDC power sources.

B Materials

B.1 GPS Device

1. The GPS device shall be equipped with a means for mounting to a suitable back plane. Mounting holes that provide clearance for at least a No. 10 screw will be acceptable.
2. The GPS device shall not exceed 3.7"w x 7.5"h x 1.55"d. A case shall be provided to protect the GPS device from dust. The GPS device shall fasten securely to the case and must be easily removable from the case with the use of simple tools. The case need not be dust proof or rain tight since the GPS device will be installed in a new or existing traffic signal cabinet.
3. Interface to the power source and to the traffic signal controller shall be provided by means of a quick disconnect connector with a 48" mating harness. The AC and DC power inputs shall each be protected with a fuse and MOV. The harness shall include an AC power cord with a standard 3 prong plug, wires for the relay output and wires for the optional RS-232 serial output.
4. The GPS receiver shall not exceed 1.2”h x 3.5”w when mounted on the top or side of a traffic signal cabinet. The GPS receiver shall connect to the GPS device inside the traffic signal cabinet using a 48” wiring harness.

B.2 Timing

1. The GPS device shall operate from a nominal 115 VAC, 60HZ power source, and shall operate satisfactorily between 95 and 135 VAC. The GPS device shall also operate from a 12VDC, +/- 2VDC. The GPS device shall operate satisfactorily between -30 and +74 degrees C.
2. Timing of the GPS device shall be derived from data received from the GPS receiver when the GPS receiver is locked on to at least three satellites. During a power failure, or when the GPS receiver is locked on to fewer than three satellites, the GPS device shall disable its outputs. Upon resumption of power, the GPS device shall automatically re-enable its outputs when the GPS receiver has again locked on to at least three satellites.

B.3 Programming

All programming shall be accomplished via rotary switches and jumpers that are an integral part of the GPS device circuit board. GPS devices that require external programmers such as a PDA or PC computer will not be accepted.

Provision shall be made for the user to set the hour of the day that the GPS device resets the traffic signal controller time. The user shall select the hour via a rotary switch or other acceptable means. If the hour rotary switch is set incorrectly, the LCD display shall indicate HOUR ERROR.

Provision shall be made for the user to select whether the GPS device resets the traffic signal controller time on the hour or on the half-hour. This selection shall be made with a push-on jumper or other acceptable means.

Changeover from standard time to daylight savings time or vice versa shall be accomplished automatically. The user shall be able to defeat the daylight savings time feature with a push-on jumper or other acceptable means. The unit shall automatically adjust for the new 2007 DST law.

Provision shall be made for the user to select the time zone in which the GPS device will be operating. The user shall select the time zone via a rotary switch or other acceptable means. The GPS device shall be programmable to the following time zones:

AST - Atlantic Standard Time

EST - Eastern Standard Time

CST - Central Standard Time

MST - Mountain Standard Time

PST - Pacific Standard Time

AST - Alaska Standard Time

HST - Hawaii Standard Time

If the time zone rotary switch is set incorrectly, the LCD display shall indicate ZONE ERROR.

Provision shall be made for the user to select the day or days of the week that the GPS device resets the traffic signal controller time. The user shall select the day or days of the week via a rotary switch or other acceptable means. The day or days of the week shall be selectable as follows:

EDAY - Every day of the week

SUN - Sunday

MON - Monday

TUE - Tuesday

WED - Wednesday

THU - Thursday

FRI - Friday

SAT – Saturday

If the day/s rotary switch is set incorrectly, the LCD display shall indicate DAYS ERROR.

A software package shall be available that will simulate the GPS signal from a PC or laptop. The operator shall be able to program the software to start the simulated GPS signal at any time-of-day, month, day and year.

B.4 Display

Integral with the GPS device shall be an easy to read 16 character alphanumeric liquid crystal display (LCD). When the GPS receiver is locked on to at least three satellites, this display shall provide a clear indication of the day-of-week and the time-of-day. When the GPS receiver is not locked on to at least three satellites, the display shall indicate “acquiring sats”.

Provision shall be made to allow the user to review the setup of the GPS device. The user shall review the GPS device program by pressing a push-button located on the front of the GPS device. By pressing this button, the user shall view 1) the day or days of the week and the time of day that the GPS device is programmed to reset the traffic signal controller time, 2) the time zone selected and 3) whether the GPS device is programmed to adjust for daylight savings time. This program review shall not affect the current operation of the GPS device.

B.5 Outputs

The GPS device shall have a single-pole, double-throw relay output with a contact rating of at least 15 amps at 120 VAC resistive load. The common and normally open contacts of this relay shall be used with traffic signal controllers that can reset their clock when logic ground is applied to a selected pin in the “D” (or other) connector.

The GPS device shall have a RS-232 serial output. This serial output shall be used with traffic signal controllers that reset their clock using a data string through its RS-232 input.

B.6 Warranty

Each GPS device and GPS receiver shall be warranted to be free from defects in materials for a period of 15 months from the date of shipment from the factory.

Service information shall be available to the Village of Shorewood consisting of at least schematics, parts locators and parts lists.

C Construction

Install GPS Device with GPS Receiver for Resetting Clock Time in Traffic Signal Controller per manufacturer’s instructions and connect serial output of GPS Device to traffic controller.

Drill a hole in the cabinet at engineer approved location that receives adequate GPS Signal and mount the GPS Receiver to top or side of cabinet. The hole shall be continuously sealed in an engineer approved method.

D Measurement

The department will measure GPS Device with GPS Receiver for Resetting Clock Time in Traffic Signal Controller by each 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.0060.70	GPS Device with GPS Receiver for Resetting Clock Time in Traffic Signal Controller	EACH

Payment is full compensation for furnishing and installing the GPS Device with GPS Receiver for Resetting Clock Time in Traffic Signal Controller in the control cabinet; and for drilling and sealing any holes necessary to mount GPS Receiver.

78. Retroreflective Backplate 3S, Item SPV.0060.71; Retroreflective Backplate 4S, Item SPV.0060.72.

A Description

This special provision describes installing 2-inch yellow retroreflective borders on traffic signal backplates, as shown in the plans.

B Materials

Provide 2-inch retroreflective sheeting or tape. Ensure material is approved by the Village of Shorewood or their representative prior to use.

C Construction

Install the retroreflective border on signal heads as shown in the plans. Follow all manufacturer installation instructions. The retroreflective border must be installed inside a controlled environment.

D Measurement

The department will measure Retroreflective Backplate 3S and 4S as each individual backplate, 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.0060.71	Retroreflective Backplate 3S	EACH
SPV.0060.72	Retroreflective Backplate 4S	EACH

Payment is full compensation for furnishing and installing the retroreflective borders.

79. Remove, Protect, and Reconnect Fiber Optic Cable, Item SPV.0060.73.

A Description

This special provision describes removing the fiber optic cable from the existing cabinet, pulling the fiber optic cable back through the existing conduit to the west side of the roadway, protecting the cable during construction, and reconnecting the cable.

B Materials

Reuse existing fiber optic cable and engineer approved device to protect fiber optic cable from damage during construction.

Supply materials and equipment necessary to perform the tests as described in these specifications. Test equipment will remain contractor's property. Use equipment consisting of, but not limited to, the following:

- Optical time domain reflectometer (OTDR)
- Optical source/power meter
- Patch cabling
- OTDR software

C Construction

Prior to removal, inspect and provide a list of any damaged or nonworking fiber optic cable and equipment to the engineer. Any equipment or cable not identified as damaged or not working, prior to removal, will be replaced by the contractor at no cost to the department or Village of Shorewood.

Disconnect existing fiber optic cable from within the traffic signal control cabinet. Pull fiber optic cable through existing conduit as directed below, pull boxes, and handholes to EPB1 on the west side of the intersection. Protect fiber optic cable from being damaged during construction. After new conduit and traffic signal controller have been installed, route fiber optic cable through new conduit into the existing traffic signal control cabinet and reconnect fiber optic cable.

Follow installation and testing methods in standard spec 678.3.

D Measurement

The department will measure Remove, Protect, and Reconnect Fiber Optic Cable by each 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.0060.73	Remove, Protect, and Reconnect Fiber Optic Cable	EACH

Payment is full compensation for removing, protecting, and reconnecting the fiber optic cable; for testing; and for providing all materials, fittings, hardware, and attachments.

80. RRFB System STH 32 NB at Menlo Blvd Assembly, Item SPV.0060.75; RRFB System STH 32 SB at Menlo Blvd Assembly, Item SPV.0060.76; RRFB System STH 32 NB at Jarvis St (NE Corner) Assembly, Item SPV.0060.77; RRFB System STH 32 NB at Jarvis St (SE Corner) Assembly, Item SPV.0060.78; RRFB System STH 32 SB at Jarvis St (NW Corner) Assembly, Item SPV.0060.79; RRFB System STH 32 SB at Jarvis St (SW Corner) Assembly, Item SPV.0060.80.

A Description

This work shall consist of furnishing and installing to the department a solar powered rectangular rapid flashing beacon (RRFB) system consisting of multiple assemblies as described herein and as shown in the plans. Each assembly shall be solar powered and pedestrian activated and shall provide crosswalk illumination. The assemblies shall be wirelessly controlled and multiple units shall be synchronized. This specification is according to requirements contained in FHWA interim approval 1A-21 dated March 20, 2018 for flashing requirements and beacon operation.

B Materials

Furnish an RRFB system with multiple assemblies. Each assembly may consist of, but not limited to, light indications, and electrical components (wiring, solid-state circuit boards, etc.). An assembly may include the following items:

B.1 Light Indications

1. Each indication shall be a minimum size of approximately 7” wide x 3” high with 8 high power LEDs.
2. Two indications shall be installed on an assembly facing in the direction of approaching vehicular traffic. The two indications shall be aligned horizontally, with the longer dimension of the indication horizontal, and a minimum space between the two indications of approximately 7” measured from inside edge of one indication to inside edge of second indication.
3. A 6 LED indication shall be installed on an assembly facing in the direction of approaching pedestrian traffic to serve as a confirmation for the pedestrian that the system has been activated.
4. The outside edges of the two indications, including any housing, shall not protrude beyond the outside edges of the integral signage of the assembly.

5. The light intensity of the indications shall be certified to meet the minimum specifications of the Society of Automotive Engineers (SAE) standard J595 Class 1 (Directional Flashing Optical Warning Devices for Authorized Emergency, Maintenance, and Service Vehicles) dated January 2005 and be available upon request.
6. Each indication shall be located between the bottom of the crossing warning sign and the top of the supplemental downward diagonal arrow plaque.
7. All exposed hardware shall be anti-vandal.
8. All individual components of the system shall be replaceable to allow for easy field repair and maintenance.
9. To minimize excessive glare during nighttime conditions, an automatic signal dimming device should be used to reduce the brilliance of the RRFB indications during nighttime conditions.

B.2 Signs

All signs shall be supplied and installed under a separate bid item in signing plan quantities. However, the assemblies must be constructed to allow the appropriate space for the installation of the signs in the field. The R10-25 9” x 12” push button sign is incidental to this assembly.

B.3 Control Circuit

The control circuit shall have the capability of independently flashing up to two independent outputs. The LED light outputs and flash pattern shall be FHWA approved and engineer programmed.

The controller shall be one of the following:

- Web enabled to allow for remote programming and system diagnostics. Including flash time, flash pattern and report system information, such as battery voltage, and temperature.
- On-board user interface that provides system diagnostics and allows system setting changes.
- Approved equal.

The flashing output shall have 75 flashing sequences per minute during each 800 millisecond flashing sequence, the left and right RRFB indications shall operate using the following sequence:

1. The RRFB indication on the left-hand side shall be illuminated for approximately 50 milliseconds. Both RRFB indications shall be dark for approximately 50 milliseconds.
2. The RRFB indication on the right-hand side shall be illuminated for approximately 50 milliseconds. Both RRFB indications shall be dark for approximately 50 milliseconds.
3. Both RRFB indications shall be illuminated for approximately 50 milliseconds. Both RRFB indications shall be dark for approximately 50 milliseconds.
4. Flash rates with the frequencies of 5 to 30 flashes/second shall not be used to avoid inducing seizures.
5. The control circuit shall be installed in an IP67 NEMA rated enclosure or NEMA 3R.
6. All circuit connectors shall conform to Ingress Protection, IP-67 rating, dust proof, and protected from temporary immersion in water up to 3 feet deep for 30 minutes. Connectors shall be Deutsch DTM series, Carmanah RRFB or approved equal.
7. All individual components of the system shall be replaceable to allow for easy field repair and maintenance.

Beacon Operation:

1. The RRFB shall be normally dark, shall initiate operation only upon pedestrian actuation, and shall cease operation at a predetermined time after the pedestrian actuation or, with passive detection, after the pedestrian clears the crosswalk.
2. All RRFB units associated with a given crosswalk (including those with an advance crossing sign, if used) shall, when actuated, simultaneously commence operation of their rapid-flashing indications and shall cease operation simultaneously.
3. If pedestrian pushbutton detectors (rather than passive detection) are used to actuate the RRFB indications, a Push Button To Turn On Warning Lights (R10-25) sign shall be installed explaining the purpose and use of the pedestrian pushbutton detector. See signing plan.

4. The duration of a predetermined period of operation of the RRFBs following each actuation should be based on the procedures provided in Section 4E.06 of the 2009 MUTCD for the timing of pedestrian clearance times for pedestrian signals.
5. The predetermined flash period shall be immediately initiated each and every time that a pedestrian pressing a pushbutton detector.

A small pilot light may be installed integral to the RRFB or pedestrian pushbutton detector to give confirmation that the RRFB is in operation.

B.4 Battery

1. The battery shall be a 12VDC Absorbed Glass Mat (AGM) sealed lead-acid, maintenance-free battery.
2. The battery shall be rated at 45Ah minimum and shall conform to Battery Council International (BCI) specifications, or battery system that is 14Ah or 48AR Gel Battery and is suitable for usage model and system autonomy requirements or approved equal. All batteries shall be sealed in a plastic film to provide moisture and corrosion resistance.
3. The battery shall have a minimum operating temperature range of -76º to 140ºF (-60º to 60ºC).
4. All battery connectors shall conform to Ingress Protection, IP-67 rating, dust proof, and protected from temporary immersion in water up to 3 feet deep for 30 minutes. Connectors shall be Deutsch DTM series or approved equal.
5. The battery shall be solar charged with a capacity up to 30 days of autonomy without sunlight, varying with ambient temperature and number of activations. Solar calculations shall be provided.

B.5 Wireless Radio

1. Radio control shall operate on 900 MHz frequency hopping spread spectrum network, or 2.4 GHz FCC ISM brand mesh network radio, or approved equal.
2. Radio shall integrate with communication of RRFB system control circuit to activate light indications from pushbutton input.
3. The radio shall synchronize all the remote light indications so they will turn on within 120 msec of each other and remain synchronized through-out the duration of the flashing cycle.
4. Radio systems shall operate from 3.6VDCto 15VDC.
5. The radio unit shall have an LCD display to program flash time and communicate system information, such as battery voltage, battery temperature and solar charge level as part of onboard diagnostics display.
6. All individual components of the system shall be replaceable to allow for easy field repair and maintenance.

B.6 Solar Panel

1. The solar panel shall provide a minimum of 10 watts and maximum of 55 watts at peak total output or approved equal.
2. The solar panel shall be affixed to an aluminum plate and bracket, a minimum angle of 45° to allow for maximum solar collection and optimal battery strength or approved equal.
3. The solar panel assembly (panel, plate and bracket) shall be mounted on a pole cap mount, or aluminum mounting bracket to allow for maximum solar collection and optimal bather strength or approved equal.

The solar panel shall have a minimum operating temperature range of -40º to 185ºF (-40º to 85ºC).

B.7 Push Button

1. Ensure APS push button complies with US Access Board’s Guidelines for Accessible Public Rights of Way (PROWAG) Section R306. In addition, ensure that the APS complies with and provides operation consistent with requirements of Sections 4E.09 through 4E.13 of the 2009 Edition of the Federal Highway Administration publication, Manual on Uniform Traffic Control Devices and conforms to all of the following requirements.
2. The push button shall be the Polara iNX

3. Sunlight visible “yellow LED” lights when the button is pushed and remains on until the RRFB stops flashing.
4. Audible “Tick” sound is heard each time the button is pushed, as well as tactile feedback given.
5. Extended push button can turn on boost volumes.
6. All audible sounds automatically adjust in volume in relation to ambient noise level.
7. Audio Amplifier Power Output: 10 W, 8 ohm, weatherproof.
8. Provide separate volume controls for locator tone, walk message, and extended button volumes.
9. Volume Control Automatic Adjustment Range: 35 dB max.
10. Microphone For Ambient Noise approximate frequency range: 170 Hz to 2.3 kHz.
11. Audible Locating Tone: 880 Hz plus harmonic, 0.1-second duration, 1-second interval. All tones shall meet MUTCD requirements.
12. Optional standard locating tone, and multiple voice message languages.
13. All sounds are synchronized. Sound alternate in front of the pedestrian and behind the pedestrian during the walking and/or ped clearance phase (“Ping Pong” feature).
14. Temperature Range: -50 degrees F to 185 degrees F.
15. Pedestrian Push Button Interface accepts 10-24 V DC.
16. Dimensions: Length: 14.0-Inch, Width: 9-Inch, Depth: 2.6-Inch.
17. Frame: cast aluminum, powder coated yellow.
18. Face Plate: aluminum, powder coated, painted black background.
19. Arrow Push Button: aluminum, powder coated. Direction of arrow can adjust to one of four directions.
20. Push Button: ADA compliant, cast aluminum, nickel plated, powder coated. Speaker: 8 ohm, 10 W MAX, weather proof.
21. Include a Pedestrian Push Button sign that shall be mounted to each push button assembly.
22. The pushbutton shall be capable of continuous operation over a temperature range of -30 degrees F to 165 degrees F (-34 degrees C to 74 degrees C).
23. Pushbutton facing sidewalk area that is accessible to wheelchair person.

B.8 Pedestal Shaft

1. Shall meet the requirements as set forth in standard spec 657 for highway and structure construction.
2. Shall be a standard 4.5" OD aluminum pedestal pole. Supplied with one end threaded for easy installation into a pedestal base.
3. Shall be a 13’ Schedule 80 pipe raw aluminum.
4. Shall be per SDD 09E07-06.
5. Incidental to RRFB.
6. See signing plan for locations.

B.9 Pedestal Base

1. Shall meet the requirements as set forth in standard spec 657.2.5 for highway and structure construction.
2. The pedestal base shall be a cast aluminum pedestals mount on a concrete base attached by four internal anchor bolts imbedded in the base.
3. The Base shall have a large 8.5" square hand hole cover allowing access to the interior of the base.
4. Shall be per SDD 9C3-4.
5. Incidental to RRFB.

B.10 Concrete Base

1. Shall meet the requirements as set forth in standard spec 654.2 for highway and structure construction, as applicable.
2. The concrete base shall be a Type 1 base per SDD 09C02-09 type 1 base.
3. Drilling of shaft is incidental to base.
4. Incidental to RRFB.

B.11 Anchor Bolts

1. The anchor bolts shall be galvanized steel 1" x 42".
2. Set of 4 includes lock washer and nut.
3. Incidental to RRFB.

C Construction

The RRFB system will consist of multiple assemblies to be constructed by the contractor as shown on the plans. **NOTE: The RRFB's back-to-back assemblies include an RRFB facing both NB and SB.**

D Measurement

The department will measure RRFB System (Location) Assembly by each 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
SPV.0060.75	RRFB System STH 32 NB at Menlo Blvd Assembly	EACH
SPV.0060.76	RRFB System STH 32 SB at Menlo Blvd Assembly	EACH
SPV.0060.77	RRFB System STH 32 NB at Jarvis St (NE Corner) Assembly	EACH
SPV.0060.78	RRFB System STH 32 NB at Jarvis St (SE Corner) Assembly	EACH
SPV.0060.79	RRFB System STH 32 SB at Jarvis St (NW Corner) Assembly	EACH
SPV.0060.80	RRFB System STH 32 SB at Jarvis St (SW Corner) Assembly	EACH

Payment is full compensation for providing and installing a fully operational RRFB system, including components necessary to synchronize each assembly with the overall system at the intersection.

81. Pavement Cleanup Project, Item SPV.0075.01.

A Description

This special provision describes cleanup of dust and debris from pavements within and adjacent to the job site. Pavement Cleanup includes surveillance and reporting of all active haul routes.

B Materials

B.1 Pavement Cleanup

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

Use vacuum equipment with a self-contained particulate collector capable of preventing discharge from the collection bin into the atmosphere.

Use a vacuum-type sweeper as the primary sweeper, except as specified in this special provision or approved by the engineer.

C Construction

C.1 Surveillance

Provide daily surveillance of active haul routes to identify if material is being tracked from the jobsite. Document the condition of the roads and all sweeping recommendations in a daily report. Submit reports to the engineer daily, including hourly metered tickets for that day's sweeping activities.

C.2 Pavement Cleanup

Keep all pavements, sidewalks, driveways, curb lanes and gutters within the project boundaries, free of dust and debris generated from all activity under the contract. Keep all pavements, sidewalks, driveways, curb lanes, and gutters adjacent to the project free of dust and debris that are caused by land disturbing, dust generating activities, as defined in the contractor's Dust Control Implementation Plan (DCIP). Provide routine sweeping of all pavements, sidewalks, driveways, curb lanes and gutters on local-street active haul routes as defined in the DCIP or as directed by the engineer. Include the following roadways for routine sweeping:

- STH 32 (Lake Drive)
- STH 190 (Capitol Drive)
- And all other roadways approved by the department

In addition to routine sweeping, conduct sweepings as the engineer directs or approves, to eliminate dust problems that might arise during off-work hours or emergencies. Provide the engineer with a contact person available at all times to respond to requests for emergency sweeping. Coordinate with engineer to determine deadlines for responding to emergency sweeping requests and cleaning up spillage and material tracked to/from the project.

Skid steers with mechanical power brooms may only be used on sidewalks and driveways whose pavements will not support the weight of a street sweeper, unless otherwise approved by the engineer. Do not dry sweep. Ensure all broomed equipment used for sweeping has a functioning water bar.

D Measurement

The department will measure Pavement Cleanup Project by the hour, acceptably completed.

Tickets shall include:

- Date
- Company
- Operator name
- Equipment make/model
- Routes swept
- Total hours.

Total hours shall be to the nearest 0.25 hour that work under this item was performed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0075.01	Pavement Cleanup Project	HRS

Payment is full compensation for daily surveillance; preparing and submitting the daily surveillance report with hourly metered tickets; mobilization; sweeping; and disposing of materials.

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82. Concrete Curb & Gutter Integral 31-Inch, Item SPV.0090.01.

A Description

This special provision describes constructing mandatory integral concrete curb and gutter work that shall be in accordance with the pertinent provisions of standard specification 601, the plan details and as hereinafter provided.

B Materials

Conform to section 601.2 of the standard specifications.

C Construction

Conform to section 601.3 of the standard specifications. Use 4% gutter cross slope unless otherwise noted in the plans.

D Measurement

The department will measure Concrete Curb & Gutter Integral 31-Inch by the linear foot, acceptably completed, measured along the flowline of the gutter.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.01	Concrete Curb & Gutter Integral 31-Inch	LF

Payment is full compensation for preparing the foundation; all special construction required at driveway entrances or curb ramps; for providing all materials, including concrete, expansion joints, and tie bars in unhardened concrete; for placing, finishing, protecting, and curing concrete; and for sawing joints.

83. Combined Sewer 6-Inch PVC, Item SPV.0090.30; Combined Sewer 12-Inch PVC, Item SPV.0090.31; Combined Sewer 15-Inch PVC, Item SPV.0090.32; Combined Sewer 18-Inch PVC, Item SPV.0090.33; Combined Sewer 24-Inch PVC, Item SPV.0090.34.

A Description

Perform work under these items according to the details as shown in the plans and the requirements of the Standard Specifications for Sewer and Water Construction in Wisconsin, latest Edition.

Notify the Milwaukee Metropolitan Sewerage District (MMSD) and Village of Shorewood prior to construction at least three business days in advance. Notify, in writing, all businesses and property owners/occupants within the project limits to inform them of the project and to inform them of any temporary sewer service disconnections. Provide and maintain all necessary bypass pumping for combined sewer relay.

B Materials

B.1 General

All materials and work required to install the combined sewer will conform to the Standard Specifications for Sewer and Water.

B.2 PVC Pipe

The pipe shall be polyvinylchloride Pipe (PVC), ASTM D-3034 SDR-35. All fittings, including bends, shall be of the same material as the proposed combined sewer main. Material joining the fitting to the pipe shall be free from cracks and shall adhere tightly to each joining surface.

B.3 Pipe Gaskets

Combined sewer pipes shall have rubber gaskets conforming to ASTM F-477.

C Construction

C.1 General

Construct 6-Inch, 12-inch, 15-inch, 18-Inch, and 24-inch pipe as shown in the plans.

C.2 Laying of Pipe

C.2.1 Bedding, Cover, Foundation and Backfill Material

All sewer pipe shall be laid in a Standard Section, Class "C" bedding conforming to File No. 3 with modifications as specified in Section 3.2.6(i) for PVC pipe of the Standard Specifications for Sewer and Water, unless otherwise noted on the plans. Cover material for PVC pipe shall be the same as that specified in the Standard Specifications for Sewer and Water for bedding.

Compact granular backfill mechanically to a minimum of 95% maximum density as determined by ASTM D1557, Method D (Modified Proctor Test) from the top of the pipe cover material to the surface of the trench. Special compaction equipment and measures are required where standard compaction equipment cannot be utilized. Flooding of backfill will not be allowed. Compact native backfill mechanically to a minimum of 90% maximum density as determined by ASTM D1557 (Modified Proctor Test) from top of

pipe cover material to trench surface. Compaction of the excavated and granular backfill material shall be compacted to achieve uniform consolidation in conformance with section 2.6.14(b) of the “SWS”.

C.2.2 Joints Between Dissimilar Pipe Materials

Connect dissimilar pipe materials by means of a nonshear flexible compression coupling. Install couplings in strict accordance with the manufacturer's recommendations. Joints on combined sewers between dissimilar pipe shall be either a non shear coupling as manufactured by DFW/HPI or shall be made with flexible mechanical compression joint coupling conforming to ASTM C 594 Type B with stainless steel bands and shear ring conforming to ASTM A 167 as manufactured by Joints, Inc. (Calder) of Gardena, CA; Fernco Joint Sealer Co. of Ferndale, MI., or equal and in addition, using a transitional bushing conforming to ASTM C 594 Type B when pipe with different outside diameters are to be connected.

The cost of connecting dissimilar pipe materials with nonshear flexible compression coupling is incidental to the cost of combined sewer pipe.

D Measurement

The department will measure Combined Sewer (Size) PVC by the linear foot of sewer, acceptably completed. The pipe will be measured horizontally to the nearest foot, from center-to-center of manholes, to the end of the new pipe, or to the outside face of structures, whichever is applicable.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.30	Combined Sewer 6-Inch PVC	LF
SPV.0090.31	Combined Sewer 12-Inch PVC	LF
SPV.0090.32	Combined Sewer 15-Inch PVC	LF
SPV.0090.33	Combined Sewer 18-Inch PVC	LF
SPV.0090.34	Combined Sewer 24-Inch PVC	LF

Payment is full compensation for providing all materials including all pipe materials, fittings, and accessories required; for furnishing all asphaltic pavement removal and excavating; for providing and placing pipe bedding and cover material; for laying pipe; for sealing joints and making connections to new or existing facilities; for backfilling and compaction; for leakage testing; for providing and maintaining all necessary bypass pumping for combined sewer relay; for removing existing pipe, for cleaning out and restoring the work site; and for furnishing all labor, tools, equipment, and incidentals necessary to complete contract work.

84. Pipe Underdrain Exploration, Item SPV.0090.35; Storm Sewer Lateral Exploration, Item SPV.0090.36; Sanitary Sewer Lateral Exploration, Item SPV.0090.37.

A Description

This special provision describes performing the exploratory trenching in sufficient advance of the grading, storm sewer construction, and combined sewer (between Shorewood Boulevard and Capitol Drive) operations to allow uninterrupted progress of these operations.

B (Vacant)

C Construction

Construct the trench a minimum 12 inches wide and deep enough to intercept all existing pipes (underdrain pipes, storm sewer laterals, or sanitary laterals). Do not backfill trench until approved by the engineer. Backfill with suitable fill material conforming to standard spec 209.

D Measurement

The department will measure Pipe Underdrain Exploration, Storm Sewer Lateral Exploration, and Sanitary Sewer Lateral Exploration by the linear foot, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.35	Pipe Underdrain Exploration	LF
SPV.0090.36	Storm Sewer Lateral Exploration	LF
SPV.0090.37	Sanitary Sewer Lateral Exploration	LF

Payment is full compensation for furnishing all excavating, for placing and compacting backfill material, and for restoring the work site.

85. PVC Hydrant Lead 6-Inch, Item SPV.0090.40.

A Description

This special provision describes furnishing and installing hydrant lead according to Standard Specifications for Sewer and Water Construction in Wisconsin (SSSW), latest edition; applicable Village of Shorewood Municipal Codes; and as hereinafter provided.

B Materials

Hydrant leads shall be 6-inch diameter PVC pipe. Refer to special provision for PVC Water Main, materials section.

C Construction

Lay hydrant lead according to special provisions for water main, construction section.

Restrain all hydrants leads that are greater than 20 feet in length.

D Measurement

The department will measure PVC Hydrant Lead 6-Inch along centerline of pipe from centerline of water main to centerline of hydrant by the linear foot, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.40	PVC Hydrant Lead 6-Inch	LF

Payment is full compensation for furnishing labor, materials, excavation, bedding, cover, backfill, pipe laying, plugs, fittings, tracer wire, warning tape, bulkheads, thrust restraint, sheathing, shoring, dewatering, connections to existing facilities where indicated on drawings, testing, disinfection, cleanup, restoration, and incidentals necessary to complete work.

86. PVC Water Main 6-Inch, Item SPV.0090.41; PVC Water Main 8-Inch, Item SPV.0090.42.

A Description

This special provision describes furnishing and installing PVC water main according to Standard Specifications for Sewer and Water Construction in Wisconsin (SSSW), latest edition; applicable Village of Shorewood Municipal Codes; and as hereinafter provided.

B Materials

A valve box shall be provided for fire hydrant auxiliary valves and for valves in the main. The valve box shall be centered and plumb over the wrench nut of the valve with the box cover flush with the finished ground elevation. Solid 4-inch concrete blocks shall be placed under the base of valve boxes so that the bottom of the base is about 2 inches away from contact with the valve bonnet. A Gate Valve Adaptor by Adaptor Inc., or equal, shall be provided. The valve box shall not transmit shock or stress to the valve.

Valve boxes shall be made of cast iron conforming to ASTM A48. The castings shall be free from blowholes, porosity, hard spots, shrinkage defects or cracks, or other injurious defects and shall have a normal smooth casting finish. The castings shall be thoroughly coated with a 1 mil minimum thickness bituminous coating. Valve boxes shall be 5 1/4 inches in diameter. Valve boxes shall have a maximum length of 7 feet when extended without extension sections. Extensions shall be provided for deeper mains.

Valve boxes shall be Tyler/Union 6850 Series, 4 inches through 12 inches, or equal. Extension heights shall be provided as required. Lids shall be marked for appropriate use. CONTRACTOR shall verify that all valve boxes are large enough to accommodate all operating nuts and wrenches. Provide one "Tee" valve key operator for each valve manhole and one for each tank with tank or channel drain.

Furnish PVC water main pipe with integral elastomeric bell and spigot joints conforming to AWWA C900, Class 150 pressure pipe with DR 18 or less, AWWA C-605, AWWA C-905, AWWA C-909, and AWWA M-23.

Pipe shall have an equivalent outside diameter as cast iron pipe.

All tapping of PVC Water Main shall be done with the use of a tapping saddle.

Provide minimum 10-gauge solid insulated copper tracer wire with buried PVC pressurized pipe. Wire shall be continuous, terminate, and be accessible at fire hydrants or at test stations as specified by engineer. Tracer wire shall be taped to the pipe at 4-foot intervals. Any splices in copper wire shall be soldered and fitted with a Raco, or equal, insulated watertight boot or spliced using a mechanical split bolt compression fitting sealed with silicone sealant, aqua seal or equal, covered Fittings shall meet the requirements of SSSW 8.22.0. Buried joints shall be mechanical and joints within structures shall be flanged. Compact fittings shall be Class 52 ductile iron and shall conform to ANSI 21.10 AWWA C-110. Fittings shall have bituminous exterior coatings per ANSI/AWWA C110/A21.10. Cement lined and bituminous coated interior per ANSI/AWWA C104/A21.4. Fittings shall have an inside profile such that a seal can be made between the machined pipe end and the fitting bell with a rubber ring. Install mega lug retainer glands at all fittings locations. Connections to existing watermain shall be with a 2-bolt mechanical coupling. The cost for fittings shall be incidental to the overall cost of construction.

Tracer wire test stations shall be SnakePit magnetized tracer boxes by Copperhead Industries, or equal. Tracer box shall be corrosion-resistant brass wire lugs and wax pad to cover wire connection. Cover shall be color-coded according to APWA standards for fluid conveyed. Provide SnakePit Lite Duty Box in unpaved areas and Roadway Box in paved areas. Provide Rhino Triview Marker Posts, or equal, at all test stations. Provide custom decals to identify fluid in piping. The tracer wire shall be accessible at a minimum of every 500 feet along the pipeline.

Bolts and nuts shall be high-strength, low-alloy, corrosion-resistant steel conforming to AWWA C-111.

2-bolt mechanical coupling shall conform to AWWA C-219.

All bedding and cover material shall be 3/8-inch crushed stone chips conforming to SSSW 8.43.2(a). Cover material shall extend 1-foot above the top of pipe.

Backfill material from 1-foot above the top of pipe to the proposed subgrade shall be granular material conforming to the Standard Specifications for Sewer and Water Construction in Wisconsin, latest edition. Adhere to SSSW 8.43.4 for Granular Backfill.

Buttress concrete shall meet SSSW 8.35.3 Class F and shall be either ready-mixed or mixed on the job site above grade.

Strapping shall follow SSSW 4.9.0.

C Construction

General: All construction shall be done in conformance with AWWA C900 for PVC water main.

Installation: Have sufficient and adequate equipment on the site of the work for unloading and lowering pipe and fittings into the trench. Exercise extreme care in handling all pipe, fittings and special castings so as to prevent breakage. Do not drop into the trench or so handled as to receive hard blows or jolts when being moved.

Field Inspection of Materials: Inspect fitting for defects before lowering and while suspended. All materials used in the work must pass field inspection.

Direction of Laying: Unless otherwise ordered, lay pipe with the bell ends facing the direction of laying. Bells face upgrade when the grade exceeds 30 feet of rise per one hundred feet of trench.

Joining of Pipe: Take precautions to prevent foreign material from entering the pipe while it is being placed in the line.

Promptly repair any and all damage caused by dewatering the work.

Accomplish compaction of the backfill material by mechanical compaction to achieve uniform consolidation in conformance with Section 2.6.14(b) of the Standard Specifications for Sewer and Water Construction in Wisconsin, latest edition.

The minimum length of watermain to be restrained shall be based upon the table below. This table assumes horizontal orientation of fittings, 150 psi test pressure plus a 100 psi water hammer allowance, ductile iron pipe, and a 3-foot bury. Lengths shall be adjusted for other conditions and fittings.

Fitting	Minimum Length-Ft
90 Degree Bend (<= 6 inches)	36
90 Degree Bend (8 inches to 10 inches)	54
90 Degree Bend (12 inches to 14 inches)	72
90 Degree Bend (16 inches)	84
45 Degree Bend (<= 8 inches)	18
45 Degree Bend (10 inches to 16 inches)	36
22 1/2 Degree Bend <=16 inches	18
11 1/4 Degree Bend <=16 inches	9
Fire Hydrant Leads	All Joints
End of Line Tees (<= 4 inches)*	18 (Along Branch)
End of Line Tees (6 inches to 8 inches)*	36 (Along Branch)
End of line Tees (10 inches to 12 inches)*	54 (Along Branch)
End of Line Tees (14 inches to 16 inches)*	72 (Along Branch)
Dead End and Valves (8 inches)	66

Cutting of Pipe: Cut pipe at right angles to the centerline of the pipe. Cutting shall be done in a neat workmanlike manner without damage to the pipe and so as to leave smooth ends. Cut all pipes with an approved mechanical cutter. The cut end of the pipe to be used with a rubber gasket joint shall be tapered by grinding or filing about 1/8" back at an angle of approximately 30 degrees with the centerline of the pipe and remove any sharp or rough edges.

Obstructions in Line or Grade: Whenever it becomes necessary to lay a main over, under or around an unknown obstruction, the contractor will furnish and install the required fittings. The laying of such fittings will be paid for at the unit price bid for each size of main. No additional compensation will be paid to the contractor for any expenses incurred because of such obstruction.

Buttresses and Lugged Retainer Glands: Approved mechanical joint lugged retainer glands may be used with PVC water main. The gland shall be such that it can replace the standardized mechanical joint gland and can be used with the standardized mechanical joint bell conforming to ANSI/AWWA C111/A21.11 and ANSA/ AWWA C153/A21.53 of latest revision. Use twist off nuts, sized same as tee-head colts, to ensure proper actuating of restraining devices. The retainer glands shall have a pressure rating equal to that of the pipe on which it is used.

Joint Deflection: The maximum allowable deflection will be as described in the standard specifications. If excess deflection is required, special bends shall be furnished to provide angular deflections.

Setting Valves: Valves in water mains shall be provided and installed in locations where shown on the plans. A valve box and valve box adapter shall be provided for every valve. The valve box shall not transmit shock or stress to the valve and shall be centered and plumb over the wrench nut of the valve, with the box cover flush with the surface of the finished grade or such level as may be directed.

Tracer Wire: Install insulated copper tracer wire installed along all water main. A sufficient length of tracer wire shall be run up inside all valve boxes to enable the owner easy hook-up of locating equipment. Tracer wire shall be installed up the length of all hydrants and terminated in a terminal box installed flush with the ground.

Protective Coating: Apply a protective coating of one heavy coat of Koppers Bitumastic 50 or 505 or equal to all straps, the rods, bolts, nuts and washers after installation. The coating shall be smooth, tough, tenacious and impervious to water without any tendency to scale off and should not be brittle. Care should be taken that the coating shall be complete without bare spots.

Polyethylene Wrap: Corrosion protection shall be provided for all ductile iron tees, crosses, bends, etc. and all valves by use of polyethylene wrap. The polyethylene wrap shall conform to AWWA C105 or ANSA A21.5. Wrap shall be Class "C" - black, with a minimum nominal thickness of 0.008 inches (8 mils). Tape for securing the wrap shall be a thermoplastic material with a pressure sensitive adhesive face capable of bonding to metal, bituminous coating, polyethylene and PVC water main. Tape shall have a minimum thickness of 9 mils, and a minimum width of 2 inches.

Extend the wrap approximately 18 inches beyond all joints. Tape all seams securely. Place the cover material with care so as to prevent damage to the polyethylene wrap. Immediately repair any rips or punctures in the wrap.

Expose utilities that cross proposed facility prior to construction to allow engineer to check for conflicts. Protect utilities from disturbance throughout work.

Whenever water mains cross over sewers, the water main shall be laid at such an elevation that the bottom of the water main is at least 6 inches above the top of the sewer. Whenever water mains cross under sewers, a minimum vertical separation of 18 inches shall be maintained between the top of the water main and the bottom of the sewer. At crossings, center one full length of water pipe on the sewer so that both joints will be as far from the sewer as possible.

Where hydrant leads and water mains are to be abandoned, plug end, according to section 4.14.0., of abandoned hydrant lead or water main with class D concrete. Support valves, hydrants, and special fittings in vertical position on solid concrete block or concrete support.

A 2-bolt mechanical coupling shall be used for all connections to the existing water main. The space between the ends of the existing and proposed water main shall be minimized. Contractor shall use Hymax Grip coupling, Macro HP Two-Bolt Extended Range Coupling, or approved equal.

Test water main, including hydrants and valves, according to SSSW 4.15.0.

Furnish and operate all equipment required by hydrostatic testing subject to the approval of the engineer.

Disinfect all new water mains prior to placing in service according to SSSW 4.16.0. Maintain disinfection solution in mains a minimum of 24 hours. Bacteriological testing shall be done after successful pressure test by the contractor with a Wisconsin DNR-certified independent laboratory. Notify Village of Shorewood 48 hours in advance of taking a safe water sample. Water main safe sample test reports shall be submitted to the engineer and the Village of Shorewood.

All pipe shall be clean at time of installation, which should result in a prompt safe water sample. Delays in disinfection shall in no way create liability on the part of the owner. Flush new water main under engineer's supervision. Do not drain disinfecting solution into storm sewer or wetland.

D Measurement

The department will measure PVC Water Main (Size) by the linear foot in place and quantity measured for payment shall be number of linear feet of various sizes and types, completed and accepted according to contract, measured along centerline of pipe, center to center of junctions and fittings. Footage to be paid for shall include construction through valves and other fittings.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.41	PVC Water Main 6-Inch	LF
SPV.0090.42	PVC Water Main 8-Inch	LF

Payment is full compensation for furnishing labor, materials, excavation, bedding, cover, backfill, pipe laying, plugs, fittings, tracer wire, warning tape, bulkheads, thrust restraint, sheathing, shoring, dewatering, cutting, connections to existing facilities where indicated on drawings, testing, disinfection, cleanup, restoration, and incidentals necessary to complete work.

87. Copper Water Service 1-Inch, Item SPV.0090.43; Copper Water Service 2-Inch, Item SPV.0090.44; Copper Water Service 3-Inch, Item SPV.0090.45.

A Description

This special provision describes furnishing and installing copper water services according to Standard Specifications for Sewer and Water Construction in Wisconsin (SSSW), latest edition; applicable Village of Shorewood Municipal Codes; and as hereinafter provided.

B Materials

Water services shall be cooper, I-inch, 2-Inch, or 3-Inch in diameter meeting requirements of the Standard Specifications for Sewer and Water Construction in Wisconsin, latest edition.

Copper laterals installed within trenches shall be Type K soft annealed seamless copper tubing and shall conform to the Specifications of ASTM B88. All other copper shall be Type K hard copper conforming to ASTM B88.

Fittings shall be of the flared or compression type.

Water service couplings and unions are prohibited for new water service lateral installations. Installation of a new water service lateral shall be a continuous length of pipe from the water main to the curb stop and from the curb stop to the meter setting.

The name or trademark of the manufacturer and a mark indicating the type shall be permanently and plainly marked on tubing.

Fittings for copper tubing shall be copper alloy meeting the requirements of AWWA CB00-14. The maximum lead content shall be 0.25%. They shall have uniformity in wall thickness and strength and shall be free from any defect that may affect their serviceability.

Each fitting shall be permanently and plainly marked with the name or trademark of the manufacturer.

Corporation stops shall be A.Y. McDonald 74701Q for 1-inch or approved equal and shall conform to AWWA C800 Figures 2 and 3 for use with threaded service lines. Curb stops shall be A.Y. McDonald 76104Q or approved equal for use with threaded service lines and shall be provided with a curb box. The curb stop shall be on a 2-inch piece of hardwood. For new services, a 12-inch to 18-inch tailpiece of pipe shall extend out of the curb stop and have a peened end. Curb boxes shall be A.Y. McDonald 5614 or equal and have threaded lower section and 1.25-inch upper section. Extended length shall be 6.5 feet.

Tapping saddles shall be 304 stainless steel conforming to AWWA C-800.

C Construction

Install copper water services from the proposed water main to the proposed curb stop box, as shown on the plans, or as directed by the engineer. Install water service laterals with minimum amount of service interruption. Replace curb box for each water service reconnected. All curb boxes shall be installed at location shown on the plans or as directed by the engineer.

Give 48-hour notice to customers prior to any disconnection and/or reconnection of their service. Immediately prior to the time of disconnection, the contractor shall notify customers and allow them sufficient time to obtain any needed water. All water service customers shall have their water service restored within four hours of the shutdown, or by 5 PM, whichever comes first.

Water service laterals shall be installed according to AWWA C600. The service tubing shall be continuous and shall be placed at a minimum depth of 6.5 feet. Each service shall include a corporation stop at the main, copper service tubing, curb stop, curb box, couplings, and all other appurtenances necessary for a complete installation. Where existing services in the street are being reconstructed, the new service shall be connected to the existing service at the property line unless otherwise shown or specified. Taps in the main shall be at an angle of 45 degrees above the horizontal.

Install tapping saddle according to manufacturer recommendations.

All installation of water service piping shall meet the requirements and specifications of the manufacturer. Water service piping supplied shall be free of kinks, defects, and abrasions. Any pipe not meeting these requirements will be rejected and shall be immediately removed from the site and replaced with pipe that conforms to these requirements.

Twelve gauge solid copper tracer wire shall be installed and secured directly above all polyethylene water services installed on this Project. This copper wire shall be securely wrapped around the corporation a minimum of three turns and extended above and along the entire length of the polyethylene lateral to the outside of the stop box, then wrapped a minimum of six turns up to and terminating at the surface of the ground. At no time shall the copper wire be placed below the polyethylene lateral or wrapped beneath the base of the stop box. The costs for the installation of the copper wire shall be merged into the unit prices bid for polyethylene water services and no additional compensation shall be allowed.

Backfill and compact as specified for adjacent water main.

D Measurement

The department will measure Copper Water Service (Size) along centerline of pipe from corporation stop to connection to existing water service by the linear foot, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.43	Copper Water Service 1-Inch	LF
SPV.0090.44	Copper Water Service 2-Inch	LF
SPV.0090.45	Copper Water Service 3-Inch	LF

Payment is full compensation for furnishing labor, materials, excavation, bedding, cover, backfill, pipe laying, fittings, tapping saddle, corporation stop, curb stop, curb box, tracer wire, thrust restraint, sheathing, shoring, dewatering, connections to existing facilities where indicated on drawings, magnesium anode bag, testing, disinfection, cleanup, restoration, and incidentals necessary to complete work.

88. Construction Staking Water Main, Item SPV.0090.46.

A Description

This special provision describes contractor-performed construction staking required to establish the horizontal and vertical position for water main, including hydrants, gate valves, valve boxes, water main pipe, and water services according to the pertinent provisions of standard spec 650 and as hereinafter provided.

B (Vacant)

C Construction

Conform to standard spec 650.3.

D Measurement

The department will measure Construction Staking Water Main by the linear foot, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.46	Construction Staking Water Main	LF

Payment is according to the pertinent provisions of standard specification 650.5 and also includes setting construction stakes as necessary for water main construction and installation, including hydrants, gate valves, valve boxes, water main pipe, and water services.

89. Salvage and Relay Brick Paver Driveway, Item SPV.0165.01.

A Description

This special provision describes removing and installing existing brick pavers on a base aggregate dense base and sand setting bed. The base aggregate dense base shall be per the pertinent provision of standard spec 305.

B Materials

Utilize the salvaged brick pavers removed from the existing driveway.

Furnish granular material base course according to standard spec 350. Leveling Course shall be natural sand or sand manufactured from crushed rock and conform to the grading requirements of ASTM C 33 as shown below.

Leveling Course Grading Requirements:

- ASTM C33
- Sieve Size Percent Passing
  9.5 mm 100
  4.75 mm 95 to 100
  2.36 mm 85 to 100
  1.18 mm 50 to 85
  600 um 25 to 60
  300 um 10 to 30
  150 um 2 to 10

Joint Sand shall be clean, non-plastic, and free from deleterious or foreign matter. The sand shall be natural or manufactured from crushed rock and shall conform to the grading requirements of ASTM C 144 as shown below:

Joint Sand Grading Requirements:

- ASTM C 144

Natural Sand Manufactured Sand:

- Sieve Size Percent Passing Percent Passing
  4.75 mm 100 100
  2.36 mm 95 to 100 95 to 100
  1.18 mm 70 to 100 70 to 100
  600 um 40 to 75 40 to 75
  300 um 10 to 35 20 to 40
  150 um 2 to 15 10 to 25
  75 um 0 0 to 10

C Construction

Install geotextile over base aggregate dense base surface and wrap up edges one inch. Spread leveling course evenly and screed. Set pavers high enough to allow for settling that will occur during final compaction. The screeded leveling course shall not be disturbed. Place sufficient leveling course in order to stay ahead of the laid pavers. Do not use leveling course to fill depressions in the base surface.

Pavers shall be free of foreign material before installation. Lay the pavers in the patterns that matches with the existing pattern and make adjustments allow for whole paver use as often as possible. Maintain straight pattern lines. Joints between the pavers shall be between 1/16 inch and 5/32 inch wide. Pavers shall be cut with a double blade paver splitter or masonry saw.

Sweep the paver surface clean of all debris before compacting, in order to avoid damage from point loads. Use low amplitude, high frequency plate compactor with compactive effort of 3000 lbs. to compact the pavers into the leveling course. Compact the pavers and sweep dry joint sand and joint sand stabilizer additive into the joints according to manufacturer’s recommendations. All work to within 3 feet of the laying fact must be left fully compacted with sand-filled joints at the completion of each day.

D Measurement

The department will measure Salvage and Relay Brick Paver Driveway by square foot, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0165.01	Salvage and Relay Brick Paver Driveway	SF

Payment is full compensation for removing pavers from the area shown on plans, furnishing all incidental materials, including granular (sand) leveling course material, geotextile, joint sand and additive, cleaning and storing removed pavers, installing, and finishing. The department will pay for base aggregate dense separately.

ADDITIONAL SPECIAL PROVISION 4

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

Payment to First-Tier Subcontractors

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

The prime contractor is not allowed to withhold retainage from payments due subcontractors.

Payment to Lower-Tier Subcontractors

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

Acceptance and Final Payment

Within 30 calendar days of receiving the semi-final estimate from the department, submit written certification that subcontractors at all tiers are paid in full for acceptably completed work.

ADDITIONAL SPECIAL PROVISIONS 5
FUEL COST ADJUSTMENT

A Description

Fuel Cost Adjustments will be applied to partial and final payments for work items categorized in Section B as a payment to the contractor or a credit to the department. ASP-5 shall not apply to any force account work.

B Categories of Work Items

The following items and Fuel Usage Factors shall be used to determine Fuel Cost Adjustments:

(1) Earthwork.		Unit	Gal. Fuel Per Unit
205.0100	Excavation Common	CY	0.23
205.0200	Excavation Rock	CY	0.39
205.0400	Excavation Marsh	CY	0.29
208.0100	Borrow	CY	0.23
208.1100	Select Borrow	CY	0.23
209.1100	Backfill Granular Grade 1	CY	0.23
209.1500	Backfill Granular Grade 1	Ton	0.115
209.2100	Backfill Granular Grade 2	CY	0.23
209.2500	Backfill Granular Grade 2	Ton	0.115
350.0102	Subbase	CY	0.28
350.0104	Subbase	Ton	0.14
350.0115	Subbase 6-Inch	SY	0.05
350.0120	Subbase 7-Inch	SY	0.05
350.0125	Subbase 8-Inch	SY	0.06
350.0130	Subbase 9-Inch	SY	0.07
350.0135	Subbase 10-Inch	SY	0.08
350.0140	Subbase 11-Inch	SY	0.09
350.0145	Subbase 12-Inch	SY	0.09

C Fuel Index

A Current Fuel Index (CFI) in dollars per gallon will be established by the Department of Transportation for each month. The CFI will be the price of No. 2 fuel oil, as reported in U.S. Oil Week, using the first issue dated that month. The CFI will be the average of prices quoted for Green Bay, Madison, Milwaukee and Minneapolis.

The base Fuel Index (BFI) for this contract is $2.55 per gallon.

D Computing the Fuel Cost Adjustment

The engineer will compute the ratio CFI/BFI each month. If the ratio falls between 0.85 and 1.15, inclusive, no fuel adjustment will be made for that month. If the ratio is less than 0.85 a credit to the department will be computed. If the ratio is greater than 1.15 additional payment to the contractor will be computed. Credit or additional payment will be computed as follows:

(1) The engineer will estimate the quantity of work done in that month under each of the contract items categorized in Section B.

(2) The engineer will compute the gallons of fuel used in that month for each of the contract items categorized in Section B by applying the unit fuel usage factors shown in Section B.

(3) The engineer will summarize the total gallons (Q) of fuel used in that month for the items categorized in Section B.

(4) The engineer will determine the Fuel Cost Adjustment credit or payment from the following formula:

$$FA = \left(\frac{CFI}{BFI} - 1\right) x\ Q\ x\ BFI$$

(plus is payment to contractor; minus is credit to the department)

Where	FA	=	Fuel Cost Adjustment (plus or minus)
	CFI	=	Current Fuel Index
	BFI	=	Base Fuel Index
	Q	=	Monthly total gallons of fuel

E Payment

A Fuel Cost Adjustment credit to the department will be deducted as a dollar amount each month from any sums due to the contractor. A Fuel Cost Adjustment payment to the contractor will be made as a dollar amount each month.

Upon completion of the work under the contract, any difference between the estimated quantities and the final quantities will be determined. An average CFI, calculated by averaging the CFI for all months that fuel cost adjustment was applied, will be applied to the quantity differences. The average CFI shall be applied in accordance with the procedure set forth in Section D.

Additional Special Provision 6 (ASP-6)
Modifications to the standard specifications

Make the following revisions to the standard specifications:

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108 Prosecution and Progress

Add subsection 108.9.4.1 effective with the November 2023 letting:

108.9.4.1 Winter Suspension for Completion Date Contracts

(1) The contractor may request a winter suspension for a completion date contract. If the department determines weather conditions do not allow for the completion of the remaining work, the department may approve the contractor's request and determine the start date of the winter suspension. The end date of the winter suspension is March 31 or a date mutually agreed upon by both parties. For multi-year contracts, the department will only consider winter suspension for the final year of the contract.

(2) During winter suspension, store all materials in a manner that does not obstruct vehicular and pedestrian traffic and protect the materials from damage. Install traffic control and other safety devices necessary to protect the traveling public and pedestrians. Provide suitable drainage and install temporary erosion control where necessary. If the winter suspension begins when liquidated damages are being assessed, or when the work has not progressed as scheduled and would not have been completed prior to the completion date, the cost of necessary pre-suspension work is incidental. If the winter suspension begins prior to the contract completion date, and the work has progressed as scheduled and would have been completed prior to the completion date, the cost of pre-suspension work will be paid as specified under 109.4.

(3) For a winter suspension that begins prior to the contract completion date and the work has progressed as scheduled and would have been completed prior to the completion date, the engineer will extend contract time to correspond with the end of the winter suspension and liquidated damages will not be assessed during the winter suspension.

(4) For a winter suspension that begins when liquidated damages are being assessed or when the work has not progressed as scheduled and would not have been completed prior to the completion date, the engineer will not extend contract time. Time will be suspended until the end of the winter suspension. Liquidated damages will not be assessed during the winter suspension and liquidated damages will resume at the end of the winter suspension.

108.10.2 Excusable, Non-Compensable Delays

108.10.2.1 General

Replace entire section with the following effective with the January 2024 letting:

(1) Non-compensable delays, 108.10.2.1(3), are excusable delays not the contractor's or the department's fault. The engineer will not pay for the delay costs listed in 109.4.7 for non-compensable delays.

(2) For non-compensable delays under calendar day and completion date contracts, the engineer will extend contract time if the conditions specified in 108.10.1 are met. The department will relieve the contractor from associated liquidated damages, as specified in 108.11, if the engineer extends time under 108.10.1.

(3) The following are non-compensable delays:

1. Delays due to earthquakes, other cataclysmic phenomena of nature the contractor cannot foresee and avoid, severe weather or job conditions caused by recent weather as specified in 108.10.2.2.
2. Extraordinary delays in material deliveries the contractor or their suppliers cannot foresee and forestall resulting from strikes, lockouts, freight embargoes, industry-wide shortages, governmental acts, or sudden disasters.
3. Delays due to acts of the government, a political subdivision other than the department, or the public enemy.
4. Delays from fires or epidemics.
5. Delays from strikes beyond the contractor's power to settle not caused by improper acts or omissions of the contractor, their subcontractors, or their suppliers.
6. Altered quantities as specified in 109.3.

108.10.3 Excusable Compensable Delays

Replace entire section with the following effective with the January 2024 letting:

(1) Compensable delays are excusable delays due to the department's actions or lack of actions. The engineer will grant a time extension for a compensable delay if the conditions specified in 108.10.1 are met.

(2) The following are compensable delays:

1. A contract change for revised work as specified for extra work under 104.2.2.1, for a differing site condition under 104.2.2.2, or for significant changes in the character of the work under 104.2.2.4.
2. A contract change for an engineer-ordered suspension under 104.2.2.3.
3. The unexpected discovery of human remains, an archaeological find, or historical find consistent with 107.25.
4. The unexpected discovery of a hazardous substance consistent with 107.24.
5. The non-completion of work that utilities or other third parties perform, if that work is not completed as specified in the contract.

(3) For a compensable delay or a time extension, the department will relieve the contractor from associated liquidated damages under 108.11, and will pay the contractor for delay costs determined as follows:

1. Adjust the contract price as specified in 109.4.2 through 109.4.5 for delays under item 1 of 108.10.3(2).
2. Adjust the contract price as specified in 109.4.7 for delays under items 2 through 5 of 108.10.3(2).

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310 Open Graded Base

310.2 Materials

Replace paragraph two with the following effective with the November 2023 letting:

(2) The contractor may substitute material conforming to the gradation requirements for crushed aggregate specified in Table 310-01 if that material conforms to the fracture requirements for open-graded crushed gravel specified in 301.2.4.5.

TABLE 310-01 COARSE AGGREGATE (% passing by weight)

AASHTO No. 67[1]

SEIVE	COARSE AGGREGATE (% PASSING by WEIGHT) AASHTO No. 67
2-inch	-
1 1/2-inch	-
1-inch	100
3/4-inch	90 – 100
1/2-inch	-
3/8-inch	20 – 55
No. 4	0 – 10
No. 8	0 – 5
No. 16	-
No. 30	-
No. 50	-
No. 100	-
No. 200	<=1.5

[1] Size according to AASHTO M43.

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390 Base Patching

390.4 Measurement

Replace entire section with the following effective with the November 2023 letting:

(1) The department will measure Removing Pavement for Base Patching by the cubic yard acceptably completed. Measure the depth from the bottom of the adjacent pavement to the top of the patch.

(2) The department will measure Base Patching Asphaltic by the ton acceptably completed as specified for asphaltic pavement in 450.4.

(3) The department will measure Base Patching Concrete HES and Base Patching Concrete SHES by the cubic yard acceptably completed. Measure the depth from the bottom of the adjacent pavement to the top of the patch.

390.5 Payment

Replace entire section with the following effective with the November 2023 letting:

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

ITEM NUMBER	DESCRIPTION	UNIT
390.0100	Removing Pavement for Base Patching	CY
390.0201	Base Patching Asphaltic	TON
390.0305	Base Patching Concrete HES	CY
390.0405	Base Patching Concrete SHES	CY

(2) Payment for Removing Pavement for Base Patching is full compensation for removing old pavement; for preparing the foundation and bringing up to grade. If the engineer orders the contractor to excavate yielding or unstable subgrade materials and backfill with suitable materials, the department will pay for that work with contract bid items or as agreed upon using 109.4.

(3) Payment for Base Patching Asphaltic is full compensation for providing and compacting asphaltic mixture including asphaltic binder.

(4) Payment for Base Patching Concrete HES and Base Patching Concrete SHES is full compensation for providing, curing, and protecting concrete. Payment also includes providing tie bars and dowel bars in unhardened concrete and steel within the patch. For tie bars and dowel bars provided in concrete not placed under the contract, the department will pay separately under the Drilled Tie Bars and Drilled Dowel Bars bid items as specified in 416.5.

(5) Payment for Base Patching SHES also includes providing test data to the engineer as specified in 416.2.4.

(6) The department will pay for sawing existing concrete pavement for removal under the Sawing Concrete bid item as specified in 690.5.

---

460 Hot Mix Asphalt Pavement

460.2.8.2.1.3.1 Contracts with 5000 Tons of Mixture or Greater

Replace paragraph four with the following effective with the November 2023 letting:

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

Blended aggregate gradations:

Drum plants:

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

Batch plants:

- Field extraction by ignition oven according to WTM T308, chemical extraction according to AASHTO T-164 method A or B; or automated extraction according to WTM D8159. Gradation of resulting aggregate sample determined according to WTM T30.

Asphalt content (AC) in percent:

Determine AC using one of the following methods:

- AC by ignition oven according to WTM T308.
- AC by chemical extraction according to AASHTO T-164 method A or B.
- AC by automated extraction according to WTM D8159.
- If the department is using an ignition oven to determine AC, conform to WTP H003.
- If the department is not using an ignition oven to determine AC, ignition oven correction factor (IOCF) must still be reverified for any of the reasons listed in WTP H003 Table 2 and conform to WTP H-003 sections 3 through 6.
- Gradation of resulting aggregate sample determined according to WTM T30.

Bulk specific gravity of the compacted mixture:

According to WTM T166.

Theoretical maximum specific gravity:

According to WTM T209.

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

VMA by calculation according to WTM R35.

460.2.8.3.1.4 Department Verification Testing Requirements

Replace paragraph three with the following effective with the November 2023 letting:

(3) The department will perform testing conforming to the following standards:

Bulk specific gravity (G_{mb}) of the compacted mixture according to WTM T166.

Maximum specific gravity (Gmm) according to WTM T209.

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

VMA by calculation according to WTM R35.

Asphalt content by ignition oven according to WTM T308, chemical extraction according to AASHTO T-164 method A or B, or automated extraction according to WTM D8159. If using an ignition oven to determine AC, conform to WTP H-003.

460.3.3.2 Pavement Density Determinations

Replace entire section with the following effective with the February 2024 letting:

(1) The engineer will determine the target maximum density using department procedures described in WTM T355. The engineer will determine density according to CMM 815 and WTM T355 as soon as practicable after compaction and before placement of subsequent layers or before opening to traffic.

(2) Do not re-roll compacted mixtures with deficient density test results. Do not operate continuously below the specified minimum density. Stop production, identify the source of the problem, and make corrections to produce work meeting the specification requirements.

(3) A lot is defined as one day's production for each sublot type or one production shift if running 24 hours per day and placed within a single layer for each location and target maximum density category indicated in table 460-3. The lot density is the average of the tests taken for that lot. The department determines the number of tests per lot according to WTP H-002.

(4) An HTCP-certified Nuclear Density Technician I (NUCDENSITYTEC-I) or a nuclear density ACT working under a NUCDENSITYTEC-I technician, will locate samples and perform the testing. A NUCDENSITYTEC-I technician will coordinate and take responsibility for the work an ACT performs. No more than one ACT can work under a single NUCDENSITYTEC-I technician. The responsible NUCDENSITYTEC-I technician will ensure that sample location and testing is performed correctly, analyze test results, and provide density results to the contractor weekly.

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503 Prestressed Concrete Members

503.2.2 Concrete

Replace paragraph five with the following effective with the November 2023 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, IT, II, or III cement. The contractor may replace up to 30 percent of type I, IL, II, or III cement with an equal weight of fly ash, slag, or a combination of fly ash and slag. Ensure that fly ash conforms to 501.2.4.2.2 and slag conforms to 501.2.4.2.3. Use only one source and replacement rate for work under a single bid item. Use a department-approved air-entraining admixture conforming to 501.2.5.2 for air-entrained concrete. Use only coarse aggregate conforming to 310.2(2).

---

604 Slope Paving

604.2 Materials

Replace paragraph three with the following effective with the November 2023 letting:

(3) Under the Slope Paving Crushed Aggregate bid item, furnish crushed stone or crushed gravel conforming to the gradation in Table 604-01, but with the additional requirements that at least 75 percent of the particles, by count, have at least one fractured face. Determine fracture according to WTM D5821.

TABLE 604-01 COARSE AGGREGATE (% passing by weight)

AASHTO No. 4[1]

SEIVE	COARSE AGGREGATE (% PASSING by WEIGHT) AASHTO No. 4
2-inch	100
1 1/2-inch	90 - 100
1-inch	20 - 55
3/4-inch	0 - 15
1/2-inch	-
3/8-inch	0 - 5
No. 4	-
No. 8	-
No. 16	-
No. 30	-
No. 50	-
No. 100	-
No. 200	<=1.5

[1] Size according to AASHTO M43.

---

612 Underdrains

612.3.9 Trench Underdrains

Replace paragraph one with the following effective with the November 2023 letting:

(1) Under the Underdrain Trench bid item, excavate and backfill underdrain trenches. Backfill with coarse aggregate gradation conforming to 604.2(3). Before backfilling place geotextile as the plans show.

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614 Semi-rigid Barrier Systems and End Treatments

614.2.6 Sand Barrel Arrays

Replace paragraph one with the following effective with the November 2023 letting:

(1) Furnish sand barrels from the APL. Use fine aggregate conforming to gradation shown in Table 614-2 mixed with sodium chloride conforming to AASHTO M143. Apply an object marker to front-most barrel in the array.

TABLE 614-2 FINE AGGREGATE GRADATION

SEIVE	FINE AGGREGATE (% PASSING by WEIGHT)
3/8-inch	100
No. 4	90 - 100
No. 8	-
No. 16	45 - 85
No. 30	-
No. 50	5 - 30
No. 100	0 - 10
No. 200	<=3.5

628 Erosion Control

628.2.13 Rock Bags

Replace paragraph two with the following effective with the November 2023 letting:

(2) Fill the bags with a clean, sound, hard, durable, engineer-approved coarse aggregate conforming by visual inspection to the gradation specified for coarse aggregate gradation in 604.2(3).

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639 Drilling Wells

639.2.1 General

Replace paragraph two with the following effective with the November 2023 letting:

(2) For grout use fine aggregate conforming to 501.2.7.2; and gradation conforming to 614.2.6(1); and type I, IL, IS, IP, or IT cement.

---

652 Electrical Conduit

652.3.1.2 Installing Underground

Replace paragraph two with the following effective with the November 2023 letting:

(2) Excavate trenches true to line and grade to provide the conduit uniform bearing throughout its length. Do not backfill the trench before inspecting the conduit. Carefully tamp the backfill in place as specified for placing backfill in layers in 651.3. Place at least 0.7 cubic feet of coarse aggregate gradation conforming to 604.2(3) directly under each drainage hole.

ERRATA

390.3.4 Special High Early Strength Concrete Patching

Correct errata link in paragraph (1) by changing from 416.3.8 to 416.3.7.

(1) Construct as specified for special high early strength repairs under 416.3.7 except as follows:

- The contractor may delay removal for up to 14 calendar days after cutting the existing pavement.
- Open to traffic as specified for concrete base in 320.3.

ADDITIONAL SPECIAL PROVISION 7

A. Reporting 1st Tier and DBE Payments During Construction

1. Comply with reporting requirements specified in the department's Civil Rights Compliance, Contractor's User Manual, Sublets and Payments.
2. Report payments to all DBE firms within 10 calendar days of receipt of a progress payment by the department or a contractor for work performed, materials furnished, or materials stockpiled by a DBE firm. Report the payment as specified in A(1) for all work satisfactorily performed and for all materials furnished or stockpiled.
3. Report payments to all first tier subcontractor relationships within 10 calendar days of receipt of a progress payment by the department for work performed. Report the payment as specified in A(1) for all work satisfactorily performed.
4. All tiers shall report payments as necessary to comply with the DBE payment requirement as specified in A(2).
5. DBE firms must enter all payments to DBE and non-DBE firms regardless of tier.
6. 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).
7. All agreements made by a contractor shall include the provisions in A(1), (2), (3), (4), (5), and (6), and shall be binding on all first tier subcontractor relationships, all contractors and subcontractors utilizing DBE firms on the project, and all payments from DBE firms.

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

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

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

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

ADDITIONAL SPECIAL PROVISION 9

Electronic Certified Payroll or Labor Data Submittal

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

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

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

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

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

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

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

NON-DISCRIMINATION PROVISIONS

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

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

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

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

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

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

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

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

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

Pertinent Non-Discrimination Authorities:

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d et seq., 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin); and 49 CFR Part 21.
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Federal-Aid Highway Act of 1973, (23 U.S.C. § 324 et seq.), (prohibits discrimination on the basis of sex);
- Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 et seq.), as amended, (prohibits discrimination on the basis of disability); and 49 CFR Part 27;
- The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 et seq.), (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982, (49 USC § 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131-12189) as implemented by Department of Transportation regulations at 49 C.F.R. parts 37 and 38;
- The Federal Aviation Administration's Non-discrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures Non-discrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of Limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);
- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. 1681 et seq).

BUY AMERICA PROVISION

Buy America (as documented in 88 FR 57750 (2 CFR part 184 and 200) from the Office of Management and Budget: Federal Register: Guidance for Grants and Agreements) shall be domestic products and permanently incorporated in this project as classified in the following three categories, and as noted in the Construction and Materials Manual (CMM):

1. Iron and Steel

   All iron and steel manufacturing and coating processes (from the initial melting stage through the application of coatings) must have occurred within the United States. Coating includes epoxy coating, galvanizing, painting and any other coating that protects or enhances the value of a material subject to the requirements of Buy America.

   The exemption of the iron and steel manufacturing and coating processes Buy America requirement is the minimal use of foreign materials if the total cost of such material permanently incorporated in the product does not exceed one-tenth of one percent (1/10 of 1%) of the total contract cost or $2,500.00, whichever is greater. For purposes of this paragraph, the cost is that shown to be the value of the subject products as they are delivered to the project.

2. Manufactured Product

   All manufactured products (as defined in CMM 228.5) are covered under a previous waiver from 1983 and are currently exempt from Buy America.

3. Construction Material

   All construction materials (as defined in 88 FR 57750 (2 CFR part 184 and 200) and as referenced in CMM 228.5) must comply with Buy America. All manufacturing process of construction materials must occur in the United States.

88 FR 55817 (DOT-OST-2022-0124) allows a limited waiver of Buy America requirements for de minimis costs and small grants.

- The Total value of the non-compliant products is no more than the lesser of $1,000,000 or 5% of total applicable costs for the project[1]; or
- The total amount of Federal financial assistance applied to the project, through awards or subaward, is below $500,000[2]

The contractor shall take actions and provide documentation conforming to CMM 228.5 to ensure compliance with this Buy America provision.

https://wisconsindot.gov/rdwy/cmm/cm-02-28.pdf

Upon completion of the project, certify to the engineer, in writing using department form DT4567 that all iron and steel, manufactured products, and construction materials conform to this Buy America provision.

Form DT4567 is available at: https://wisconsindot.gov/Documents/formdocs/dt4567.docx

Attach a list of iron or steel and construction material exemptions and their associated costs to the certification form.

1 The de minimis public interest waiver does not apply to iron and steel subject to the requirements of 23 U.S.C. 313 on financial assistant administered by FHWA. The de minimis threshold in 23 CFR 635.410(b)(4) continues to apply for iron and steel.
2 The small grant portion of the waiver does not apply to iron, steel, and manufactured goods subject to the requirements of 49 U.S.C. 22905(a).

Proposal ID: 20241008007 **Project(s):** 2225-13-70

Federal ID(s): N/A

SECTION: 0001 Proposal Items

Alt Set ID: **Alt Mbr ID:**

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0002	204.0100 Removing Concrete Pavement	37,453.000 SY	_____.____	_____.____
0004	204.0150 Removing Curb & Gutter	421.000 LF	_____.____	_____.____
0006	204.0155 Removing Concrete Sidewalk	1,793.000 SY	_____.____	_____.____
0008	204.0195 Removing Concrete Bases	8.000 EACH	_____.____	_____.____
0010	204.0210 Removing Manholes	31.000 EACH	_____.____	_____.____
0012	204.0215 Removing Catch Basins	41.000 EACH	_____.____	_____.____
0014	204.0245 Removing Storm Sewer (size) 01. 6-Inch	796.000 LF	_____.____	_____.____
0016	204.0245 Removing Storm Sewer (size) 02. 8-Inch	51.000 LF	_____.____	_____.____
0018	204.0245 Removing Storm Sewer (size) 03. 10-Inch	24.000 LF	_____.____	_____.____
0020	204.0245 Removing Storm Sewer (size) 04. 12-Inch	1,793.000 LF	_____.____	_____.____
0022	204.0245 Removing Storm Sewer (size) 05. 15-Inch	2,718.000 LF	_____.____	_____.____
0024	204.0245 Removing Storm Sewer (size) 06. 18-Inch	1,167.000 LF	_____.____	_____.____
0026	204.0250 Abandoning Manholes	3.000 EACH	_____.____	_____.____
0028	204.0291.S Abandoning Sewer	32.000 CY	_____.____	_____.____
0030	204.9060.S Removing (item description) 01. Traffic Signals STH 32 & E Capitol Dr	1.000 EACH	_____.____	_____.____

Proposal ID: 20241008007 **Project(s):** 2225-13-70

Federal ID(s): N/A

SECTION: 0001 Proposal Items

Alt Set ID: **Alt Mbr ID:**

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0032	205.0100 Excavation Common	36,915.000 CY	_____.____	_____.____
0034	209.1100 Backfill Granular Grade 1	1,216.000 CY	_____.____	_____.____
0036	213.0100 Finishing Roadway (project) 01. 2225-13-70	1.000 EACH	_____.____	_____.____
0038	305.0120 Base Aggregate Dense 1 1/4-Inch	18,864.000 TON	_____.____	_____.____
0040	310.0110 Base Aggregate Open-Graded	139.000 TON	_____.____	_____.____
0042	312.0110 Select Crushed Material	37,535.000 TON	_____.____	_____.____
0044	415.0080 Concrete Pavement 8-Inch	30,986.000 SY	_____.____	_____.____
0046	416.0610 Drilled Tie Bars	7.000 EACH	_____.____	_____.____
0048	416.0620 Drilled Dowel Bars	181.000 EACH	_____.____	_____.____
0050	465.0120 Asphaltic Surface Driveways and Field Entrances	19.000 TON	_____.____	_____.____
0052	520.8000 Concrete Collars for Pipe	2.000 EACH	_____.____	_____.____
0054	601.0319 Concrete Curb & Gutter 19-Inch	51.000 LF	_____.____	_____.____
0056	601.0331 Concrete Curb & Gutter 31-Inch	1,513.000 LF	_____.____	_____.____
0058	601.0600 Concrete Curb Pedestrian	299.000 LF	_____.____	_____.____
0060	602.0410 Concrete Sidewalk 5-Inch	16,155.000 SF	_____.____	_____.____

Proposal ID: 20241008007 **Project(s):** 2225-13-70

Federal ID(s): N/A

SECTION: 0001 Proposal Items

Alt Set ID: **Alt Mbr ID:**

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0062	602.0515 Curb Ramp Detectable Warning Field Natural Patina	816.000 SF	_____.____	_____.____
0064	602.0810 Concrete Driveway 6-Inch	2,688.000 SY	_____.____	_____.____
0066	608.0312 Storm Sewer Pipe Reinforced Concrete Class III 12-Inch	166.000 LF	_____.____	_____.____
0068	608.0324 Storm Sewer Pipe Reinforced Concrete Class III 24-Inch	540.000 LF	_____.____	_____.____
0070	608.0412 Storm Sewer Pipe Reinforced Concrete Class IV 12-Inch	696.000 LF	_____.____	_____.____
0072	608.0424 Storm Sewer Pipe Reinforced Concrete Class IV 24-Inch	1,389.000 LF	_____.____	_____.____
0074	611.0420 Reconstructing Manholes	1.000 EACH	_____.____	_____.____
0076	611.0535 Manhole Covers Type J-Special	29.000 EACH	_____.____	_____.____
0078	611.0648 Inlet Covers Type R	55.000 EACH	_____.____	_____.____
0080	611.1004 Catch Basins 4-FT Diameter	38.000 EACH	_____.____	_____.____
0082	611.1230 Catch Basins 2x3-FT	2.000 EACH	_____.____	_____.____
0084	611.2004 Manholes 4-FT Diameter	11.000 EACH	_____.____	_____.____
0086	611.2005 Manholes 5-FT Diameter	4.000 EACH	_____.____	_____.____
0088	611.8110 Adjusting Manhole Covers	8.000 EACH	_____.____	_____.____
0090	612.0106 Pipe Underdrain 6-Inch	1,682.000 LF	_____.____	_____.____

Proposal ID: 20241008007 **Project(s):** 2225-13-70

Federal ID(s): N/A

SECTION: 0001 Proposal Items

Alt Set ID: **Alt Mbr ID:**

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0092	616.0700.S Fence Safety	679.000 LF	_____.____	_____.____
0094	618.0100 Maintenance and Repair of Haul Roads (project) 01. 2225-13-70	1.000 EACH	_____.____	_____.____
0096	619.1000 Mobilization	1.000 EACH	_____.____	_____.____
0098	623.0200 Dust Control Surface Treatment	78,534.000 SY	_____.____	_____.____
0100	624.0100 Water	352.000 MGAL	_____.____	_____.____
0102	625.0100 Topsoil	15,542.000 SY	_____.____	_____.____
0104	627.0200 Mulching	15,542.000 SY	_____.____	_____.____
0106	628.1104 Erosion Bales	130.000 EACH	_____.____	_____.____
0108	628.1905 Mobilizations Erosion Control	4.000 EACH	_____.____	_____.____
0110	628.1910 Mobilizations Emergency Erosion Control	4.000 EACH	_____.____	_____.____
0112	628.7010 Inlet Protection Type B	3.000 EACH	_____.____	_____.____
0114	628.7015 Inlet Protection Type C	20.000 EACH	_____.____	_____.____
0116	628.7020 Inlet Protection Type D	82.000 EACH	_____.____	_____.____
0118	628.7560 Tracking Pads	4.000 EACH	_____.____	_____.____
0120	629.0210 Fertilizer Type B	14.000 CWT	_____.____	_____.____
0122	630.0200 Seeding Temporary	426.000 LB	_____.____	_____.____

Proposal ID: 20241008007 **Project(s):** 2225-13-70

Federal ID(s): N/A

SECTION: 0001 Proposal Items

Alt Set ID: **Alt Mbr ID:**

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0124	630.0500 Seed Water	785.000 MGAL	_____.____	_____.____
0126	631.0300 Sod Water	491.000 MGAL	_____.____	_____.____
0128	631.1000 Sod Lawn	15,542.000 SY	_____.____	_____.____
0130	634.0818 Posts Tubular Steel 2x2-Inch X 18-FT	94.000 EACH	_____.____	_____.____
0132	637.2210 Signs Type II Reflective H	599.970 SF	_____.____	_____.____
0134	637.2215 Signs Type II Reflective H Folding	22.380 SF	_____.____	_____.____
0136	637.2230 Signs Type II Reflective F	465.000 SF	_____.____	_____.____
0138	638.2102 Moving Signs Type II	40.000 EACH	_____.____	_____.____
0140	638.2602 Removing Signs Type II	120.000 EACH	_____.____	_____.____
0142	638.3000 Removing Small Sign Supports	100.000 EACH	_____.____	_____.____
0144	642.5001 Field Office Type B	1.000 EACH	_____.____	_____.____
0146	643.0300 Traffic Control Drums	38,837.000 DAY	_____.____	_____.____
0148	643.0420 Traffic Control Barricades Type III	38,186.000 DAY	_____.____	_____.____
0150	643.0705 Traffic Control Warning Lights Type A	76,371.000 DAY	_____.____	_____.____
0152	643.0715 Traffic Control Warning Lights Type C	1,170.000 DAY	_____.____	_____.____
0154	643.0900 Traffic Control Signs	105,509.000 DAY	_____.____	_____.____

Proposal ID: 20241008007 **Project(s):** 2225-13-70

Federal ID(s): N/A

SECTION: 0001 Proposal Items

Alt Set ID: **Alt Mbr ID:**

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0156	643.0920 Traffic Control Covering Signs Type II	10.000 EACH	_____.____	_____.____
0158	643.1000 Traffic Control Signs Fixed Message	70.000 SF	_____.____	_____.____
0160	643.1050 Traffic Control Signs PCMS	56.000 DAY	_____.____	_____.____
0162	643.1070 Traffic Control Cones 42-Inch	108.000 DAY	_____.____	_____.____
0164	643.3105 Temporary Marking Line Paint 4-Inch	6,701.000 LF	_____.____	_____.____
0166	643.3150 Temporary Marking Line Removable Tape 4-Inch	12,064.000 LF	_____.____	_____.____
0168	643.3350 Temporary Marking Crosswalk Removable Tape 6-inch	1,900.000 LF	_____.____	_____.____
0170	643.3850 Temporary Marking Stop Line Removable Tape 18-Inch	24.000 LF	_____.____	_____.____
0172	643.5000 Traffic Control	1.000 EACH	_____.____	_____.____
0174	644.1410 Temporary Pedestrian Surface Asphalt	510.000 SF	_____.____	_____.____
0176	644.1601 Temporary Pedestrian Curb Ramp	978.000 DAY	_____.____	_____.____
0178	644.1605 Temporary Pedestrian Detectable Warning Field	60.000 SF	_____.____	_____.____
0180	644.1810 Temporary Pedestrian Barricade	321.000 LF	_____.____	_____.____
0182	645.0111 Geotextile Type DF Schedule A	1,002.000 SY	_____.____	_____.____
0184	645.0120 Geotextile Type HR	204.000 SY	_____.____	_____.____

Proposal ID: 20241008007 **Project(s):** 2225-13-70

Federal ID(s): N/A

SECTION: 0001 Proposal Items

Alt Set ID: **Alt Mbr ID:**

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0186	645.0220 Geogrid Type SR	4,500.000 SY	_____.____	_____.____
0188	646.1020 Marking Line Epoxy 4-Inch	26,557.000 LF	_____.____	_____.____
0190	646.2020 Marking Line Epoxy 6-Inch	8,458.000 LF	_____.____	_____.____
0192	646.3020 Marking Line Epoxy 8-Inch	374.000 LF	_____.____	_____.____
0194	646.5020 Marking Arrow Epoxy	51.000 EACH	_____.____	_____.____
0196	646.5120 Marking Word Epoxy	1.000 EACH	_____.____	_____.____
0198	646.5220 Marking Symbol Epoxy	63.000 EACH	_____.____	_____.____
0200	646.6120 Marking Stop Line Epoxy 18-Inch	222.000 LF	_____.____	_____.____
0202	646.7020 Marking Diagonal Epoxy 6-Inch	1,924.000 LF	_____.____	_____.____
0204	646.7420 Marking Crosswalk Epoxy Transverse Line 6-Inch	719.000 LF	_____.____	_____.____
0206	646.7520 Marking Crosswalk Epoxy Block Style 24-Inch	558.000 LF	_____.____	_____.____
0208	646.9000 Marking Removal Line 4-Inch	717.000 LF	_____.____	_____.____
0210	650.4000 Construction Staking Storm Sewer	93.000 EACH	_____.____	_____.____
0212	650.4500 Construction Staking Subgrade	7,356.000 LF	_____.____	_____.____
0214	650.7000 Construction Staking Concrete Pavement	7,356.000 LF	_____.____	_____.____

Proposal ID: 20241008007 **Project(s):** 2225-13-70

Federal ID(s): N/A

SECTION: 0001 Proposal Items

Alt Set ID: **Alt Mbr ID:**

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0216	650.8501 Construction Staking Electrical Installations (project) 01. 2225-13-70	1.000 EACH	_____.____	_____.____
0218	650.9000 Construction Staking Curb Ramps	69.000 EACH	_____.____	_____.____
0220	650.9500 Construction Staking Sidewalk (project) 01. 2225-13-70	1.000 EACH	_____.____	_____.____
0222	650.9911 Construction Staking Supplemental Control (project) 01. 2225-13-70	1.000 EACH	_____.____	_____.____
0224	650.9920 Construction Staking Slope Stakes	7,356.000 LF	_____.____	_____.____
0226	652.0225 Conduit Rigid Nonmetallic Schedule 40 2-Inch	400.000 LF	_____.____	_____.____
0228	652.0235 Conduit Rigid Nonmetallic Schedule 40 3-Inch	2,457.000 LF	_____.____	_____.____
0230	652.0605 Conduit Special 2-Inch	13,425.000 LF	_____.____	_____.____
0232	652.0615 Conduit Special 3-Inch	656.000 LF	_____.____	_____.____
0234	652.0800 Conduit Loop Detector	601.000 LF	_____.____	_____.____
0236	653.0135 Pull Boxes Steel 24x36-Inch	4.000 EACH	_____.____	_____.____
0238	653.0140 Pull Boxes Steel 24x42-Inch	57.000 EACH	_____.____	_____.____
0240	653.0905 Removing Pull Boxes	13.000 EACH	_____.____	_____.____
0242	654.0101 Concrete Bases Type 1	7.000 EACH	_____.____	_____.____
0244	654.0107 Concrete Bases Type 7	1.000 EACH	_____.____	_____.____

Proposal ID: 20241008007 **Project(s):** 2225-13-70

Federal ID(s): N/A

SECTION: 0001 Proposal Items

Alt Set ID: **Alt Mbr ID:**

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0246	654.0110 Concrete Bases Type 10	2.000 EACH	_____.____	_____.____
0248	655.0230 Cable Traffic Signal 5-14 AWG	847.000 LF	_____.____	_____.____
0250	655.0240 Cable Traffic Signal 7-14 AWG	58.000 LF	_____.____	_____.____
0252	655.0260 Cable Traffic Signal 12-14 AWG	1,196.000 LF	_____.____	_____.____
0254	655.0515 Electrical Wire Traffic Signals 10 AWG	994.000 LF	_____.____	_____.____
0256	655.0610 Electrical Wire Lighting 12 AWG	3,830.000 LF	_____.____	_____.____
0258	655.0615 Electrical Wire Lighting 10 AWG	2,650.000 LF	_____.____	_____.____
0260	655.0625 Electrical Wire Lighting 6 AWG	44,601.000 LF	_____.____	_____.____
0262	655.0630 Electrical Wire Lighting 4 AWG	6,232.000 LF	_____.____	_____.____
0264	655.0700 Loop Detector Lead In Cable	2,581.000 LF	_____.____	_____.____
0266	655.0800 Loop Detector Wire	1,668.000 LF	_____.____	_____.____
0268	655.0900 Traffic Signal EVP Detector Cable	488.000 LF	_____.____	_____.____
0270	657.0100 Pedestal Bases	7.000 EACH	_____.____	_____.____
0272	657.0345 Poles Type 9	2.000 EACH	_____.____	_____.____
0274	657.0405 Traffic Signal Standards Aluminum 3.5-FT	2.000 EACH	_____.____	_____.____
0276	657.0420 Traffic Signal Standards Aluminum 13-FT	4.000 EACH	_____.____	_____.____

Proposal ID: 20241008007 **Project(s):** 2225-13-70

Federal ID(s): N/A

SECTION: 0001 Proposal Items

Alt Set ID: **Alt Mbr ID:**

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0278	657.0425 Traffic Signal Standards Aluminum 15-FT	1.000 EACH	_____.____	_____.____
0280	657.0525 Monotube Arms 25-FT	1.000 EACH	_____.____	_____.____
0282	657.0530 Monotube Arms 30-FT	1.000 EACH	_____.____	_____.____
0284	658.0173 Traffic Signal Face 3S 12-Inch	11.000 EACH	_____.____	_____.____
0286	658.0416 Pedestrian Signal Face 16-Inch	6.000 EACH	_____.____	_____.____
0288	658.5070 Signal Mounting Hardware (location) 01. STH 32/STH 190	1.000 EACH	_____.____	_____.____
0290	690.0150 Sawing Asphalt	597.000 LF	_____.____	_____.____
0292	690.0250 Sawing Concrete	14,079.000 LF	_____.____	_____.____
0294	715.0720 Incentive Compressive Strength Concrete Pavement	9,296.000 DOL	1.00000	9,296.00
0296	740.0440 Incentive IRI Ride	5,013.000 DOL	1.00000	5,013.00
0298	SPV.0045 Special 01. Temporary Audible Message Devices	11,123.000 DAY	_____.____	_____.____
0300	SPV.0060 Special 01. Salvage Historical Society Markers	19.000 EACH	_____.____	_____.____
0302	SPV.0060 Special 02. Adjusting City of Milwaukee Water Valve Boxes	4.000 EACH	_____.____	_____.____
0304	SPV.0060 Special 31. Combined Sewer Catch Basins	17.000 EACH	_____.____	_____.____

Proposal ID: 20241008007 **Project(s):** 2225-13-70

Federal ID(s): N/A

SECTION: 0001 Proposal Items

Alt Set ID: **Alt Mbr ID:**

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0306	SPV.0060 Special 32. Combined Sewer Manhole Frame and Cover Special	21.000 EACH	_____.____	_____.____
0308	SPV.0060 Special 33. Combined Sewer Manhole 4-Ft Special	17.000 EACH	_____.____	_____.____
0310	SPV.0060 Special 34. Inlet Covers MS 57	2.000 EACH	_____.____	_____.____
0312	SPV.0060 Special 35. Catch Basins Type 44A	3.000 EACH	_____.____	_____.____
0314	SPV.0060 Special 36. Adjusting Combined Sewer Manholes	35.000 EACH	_____.____	_____.____
0316	SPV.0060 Special 37. Manhole Covers Type MS 58A	1.000 EACH	_____.____	_____.____
0318	SPV.0060 Special 38. Pipe Connection to Existing Structure	18.000 EACH	_____.____	_____.____
0320	SPV.0060 Special 40. Hydrant Assembly	16.000 EACH	_____.____	_____.____
0322	SPV.0060 Special 41. Gate Valve & Valve Box 6-Inch	11.000 EACH	_____.____	_____.____
0324	SPV.0060 Special 42. Gate Valve & Valve Box 8-Inch	30.000 EACH	_____.____	_____.____
0326	SPV.0060 Special 43. Remove Water Meter Pit	1.000 EACH	_____.____	_____.____
0328	SPV.0060 Special 50. Decorative Luminaire	62.000 EACH	_____.____	_____.____
0330	SPV.0060 Special 51. Decorative Pole	62.000 EACH	_____.____	_____.____
0332	SPV.0060 Special 52. Remove and Salvage Municipal Lighting Units	61.000 EACH	_____.____	_____.____

Proposal ID: 20241008007 **Project(s):** 2225-13-70

Federal ID(s): N/A

SECTION: 0001 Proposal Items

Alt Set ID: **Alt Mbr ID:**

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0334	SPV.0060 Special 62. Furnish & Install Traffic Signal Controller Items at STH 32/STH 190	1.000 EACH	_____.____	_____.____
0336	SPV.0060 Special 63. Furnish & Install Audible Pedestrian Push Button System at STH 32/STH 190	1.000 EACH	_____.____	_____.____
0338	SPV.0060 Special 64. Furnish & Install EVP System at STH 32/STH 190	1.000 EACH	_____.____	_____.____
0340	SPV.0060 Special 67. Remove and Reinstall Decorative Light Pole	1.000 EACH	_____.____	_____.____
0342	SPV.0060 Special 68. Battery Backup Sys for Traffic Inter at STH 32/STH 190	1.000 EACH	_____.____	_____.____
0344	SPV.0060 Special 69. EVP Card	1.000 EACH	_____.____	_____.____
0346	SPV.0060 Special 70. GPS Device w/GPS Rec for Resetting Clock Time in Traf Signal Controller	1.000 EACH	_____.____	_____.____
0348	SPV.0060 Special 71. Retroreflective Backplate 3S	9.000 EACH	_____.____	_____.____
0350	SPV.0060 Special 72. Retroreflective Backplate 4S	2.000 EACH	_____.____	_____.____
0352	SPV.0060 Special 73. Remove, Protect, and Reconnect Fiber Optic Cable	1.000 EACH	_____.____	_____.____
0354	SPV.0060 Special 75. RRFB System STH 32 NB at Menlo Blvd Assembly	1.000 EACH	_____.____	_____.____
0356	SPV.0060 Special 76. RRFB System STH 32 SB at Menlo Blvd Assembly	1.000 EACH	_____.____	_____.____
0358	SPV.0060 Special 77. RRFB System STH 32 NB at Jarvis St (NE Corner) Assembly	1.000 EACH	_____.____	_____.____

Proposal ID: 20241008007 **Project(s):** 2225-13-70

Federal ID(s): N/A

SECTION: 0001 Proposal Items

Alt Set ID: **Alt Mbr ID:**

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0360	SPV.0060 Special 78. RRFB System STH 32 NB at Jarvis St (Se Corner) Assembly	1.000 EACH	_____.____	_____.____
0362	SPV.0060 Special 79. RRFB System STH 32 NB at Jarvis St (NW Corner) Assembly	1.000 EACH	_____.____	_____.____
0364	SPV.0060 Special 80. RRFB System STH 32 NB at Jarvis St (SW Corner) Assembly	1.000 EACH	_____.____	_____.____
0366	SPV.0075 Special 01. Pavement Cleanup Project 2225-13-70	550.000 HRS	_____.____	_____.____
0368	SPV.0090 Special 01. Concrete Curb & Gutter Integral 31-Inch	12,365.000 LF	_____.____	_____.____
0370	SPV.0090 Special 30. Combined Sewer 6-Inch PVC	793.000 LF	_____.____	_____.____
0372	SPV.0090 Special 31. Combined Sewer 12-Inch PVC	788.000 LF	_____.____	_____.____
0374	SPV.0090 Special 32. Combined Sewer 15-Inch PVC	1,376.000 LF	_____.____	_____.____
0376	SPV.0090 Special 33. Combined Sewer 18-Inch PVC	147.000 LF	_____.____	_____.____
0378	SPV.0090 Special 34. Combined Sewer 24-Inch PVC	624.000 LF	_____.____	_____.____
0380	SPV.0090 Special 35. Pipe Underdrain Exploration	100.000 LF	_____.____	_____.____
0382	SPV.0090 Special 36. Storm Sewer Lateral Exploration	100.000 LF	_____.____	_____.____
0384	SPV.0090 Special 37. Sanitary Sewer Lateral Exploration	715.000 LF	_____.____	_____.____

Proposal ID: 20241008007 **Project(s):** 2225-13-70

Federal ID(s): N/A

SECTION: 0001 Proposal Items

Alt Set ID: **Alt Mbr ID:**

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0386	SPV.0090 Special 40. PVC Hydrant Lead 6-Inch	460.000 LF	_____._____	_____._____
0388	SPV.0090 Special 41. PVC Water Main 6-Inch	175.000 LF	_____._____	_____._____
0390	SPV.0090 Special 42. PVC Water Main 8-Inch	7,110.000 LF	_____._____	_____._____
0392	SPV.0090 Special 43. Cooper Water Service 1-Inch	3,173.000 LF	_____._____	_____._____
0394	SPV.0090 Special 44. Copper Water Service 2-Inch	237.000 LF	_____._____	_____._____
0396	SPV.0090 Special 45. Copper Water Service 3-Inch	100.000 LF	_____._____	_____._____
0398	SPV.0090 Special 46. Construction Staking Water Main	7,285.000 LF	_____._____	_____._____
0400	SPV.0165 Special 01. Salvage and Relay Brick Paver Driveway	26.000 SF	_____._____	_____._____

Section: 0001 **Total:** _____._____

Total Bid: _____._____

PLEASE ATTACH ADDENDA HERE

Wisconsin Department of Transportation

Division of Transportation Systems Development
Bureau of Project Development
4822 Madison Yards Way, 4th Floor South
Madison, WI 53705

Telephone: (608) 266-1631
Facsimile (FAX): (608) 266-8459

October 3, 2024

NOTICE TO ALL CONTRACTORS:

Proposal #07: 2225-13-70
V Shorewood, N Lake Dr
Edgewood Ave to Kensington Blvd
STH 32
Milwaukee County

Letting of October 8, 2024

This is Addendum No. 01, which provides for the following:

Special Provisions:

Revised Special Provisions	
Article No.	Description
6	Utilities

The responsibility for notifying potential subcontractors and suppliers of these changes remains with the prime contractor.

Sincerely,

Mike Coleman

Proposal Development Specialist
Proposal Management Section

ADDENDUM NO. 01

2225-13-70

October 3, 2024

Special Provisions

6. Utilities.

Replace entire section titled **Spectrum** *with the following:*

Spectrum has existing underground communications facilities within the project limits. Spectrum plans to complete relocations prior to construction based on an anticipated contractor start of March 2025. Spectrum is discontinuing all their existing facilities in the corridor and installing new facilities. Aside from two locations where their new television line crosses the roadway to tie into existing facilities in adjacent neighborhoods and one location where facilities to be discontinued were recently installed, the entirety of the new television line is located on the east side of the roadway, typically between the sidewalk and edge of right-of-way. The two new crossings are at approximate stations 39+27 and 67+94, and the recently installed facilities to be discontinued cross the roadway at approximate station 26+71, all at depths of 60". Spectrum is participating in a joint trench with We Energies – Electric and AT&T Wisconsin from approximate station 36+15, 47' RT to 37+86, 47.5' RT. Spectrum facilities cross existing and proposed storm sewer at the locations listed in the below table.

Station	**Offset**
28+76	46' RT
48+20	50' RT
67+34	38' RT
67+42	37' RT
89+60	40' RT
89+65	40' RT

END OF ADDENDUM

Wisconsin Department of Transportation

Division of Transportation Systems Development
Bureau of Project Development
4822 Madison Yards Way, 4th Floor South
Madison, WI 53705

Telephone: (608) 266-1631
Facsimile (FAX): (608) 266-8459

October 4, 2024

NOTICE TO ALL CONTRACTORS:

Proposal #07: 2225-13-70
V Shorewood, N Lake Dr
Edgewood Ave to Kensington Blvd
STH 32
Milwaukee County

Letting of October 8, 2024

This is Addendum No. 02, which provides for the following:

Schedule of Items:

Added Bid Item Quantities					
Bid Item	Item Description	Unit	Proposal Total Prior to Addendum	Quantity Added	Proposal Total After Addendum
415.4100	Concrete Pavement Joint Filling	SY	0	34,984	34,984

Plan Sheets:

Revised Plan Sheets	
Plan Sheet	Plan Sheet Title (brief description of changes to sheet)
5	Existing Typical Section (updated existing concrete pavement thickness)
249	Miscellaneous Quantities (updated 'Earthwork Summary' table)
250	Miscellaneous Quantities (updated 'Concrete Pavement' table)
440	Earthwork Data (updated 'Salvaged/Unusable Pavement Material')
441	Earthwork Data (updated 'Salvaged/Unusable Pavement Material')
442	Earthwork Data (updated 'Salvaged/Unusable Pavement Material')
443	Earthwork Data (updated 'Salvaged/Unusable Pavement Material')
444	Earthwork Data (updated 'Salvaged/Unusable Pavement Material')

Schedule of Items
Attached, dated October 4, 2024, are the revised Schedule of Items Page 14.

Plan Sheets
The following 8½ x 11-inch sheets are attached and made part of the plans for this proposal:
Revised: 5, 249, 250, 440, 441, 442, 443, 444.

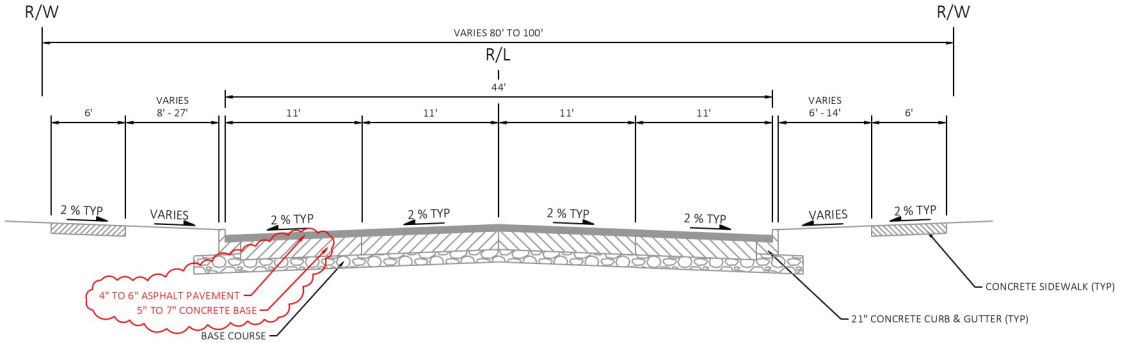
The responsibility for notifying potential subcontractors and suppliers of these changes remains with the prime contractor.

Sincerely,

Mike Coleman

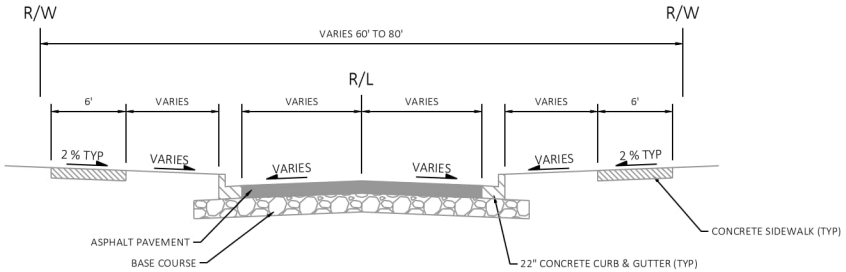
Proposal Development Specialist
Proposal Management Section

END OF ADDENDUM



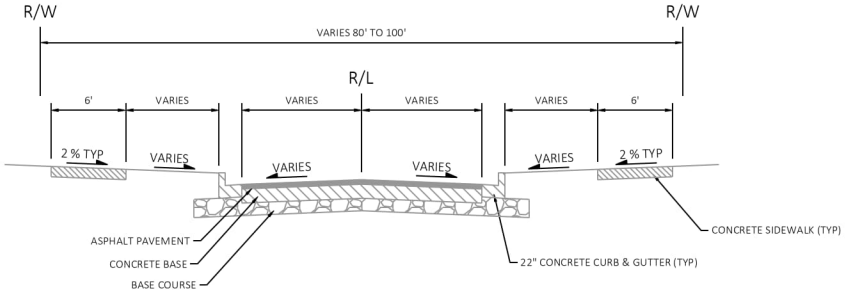
EXISTING TYPICAL SECTION

STH 32/LAKE DRIVE
STA 26+40 TO STA 92+57



EXISTING TYPICAL SECTION

E EDGEWOOD AVE - STA 4+07+83 TO STA 4+79.40
N SHEPARD AVE - STA 9+25.00 TO STA 9+80.00
E JARVIS ST - STA 39+22.97 TO STA 39+80.00
E WOOD PL- STA 44+29.89 TO STA 44+80.00
E OLIVE ST - STA 49+32.38 TO STA 49+80.00
E MARION ST - STA 54+43.15 TO STA 54+80.00
E LAKE BLUFF BLVD - STA 59+32.22 TO STA 59+79.98
E KENSINGTON BLVD - STA 64+24.31 TO STA 64+73.36



EXISTING TYPICAL SECTION

E BEVERLY RD - STA 24+00.00 TO STA 24+79.92
E SHOREWOOD BLVD - STA 29+50.00 TO STA 29+79.92

Addendum No. 02
ID 2225-13-70
Revised Sheet 5
October 4, 2024

PROJECT NO: 2225-13-70	HWY: STH 32	COUNTY: MILWAUKEE	EXISTING TYPICAL SECTION	SHEET 5	E

EARTHWORK SUMMARY

DIVISION	FROM/TO STATION	205.0100 EXCAVATION COMMON (1) CUT (2)	205.0100 EXCAVATION COMMON (1) EBS EXCAVATION (3)	SALVAGED/ UNUSABLE PAVEMENT MATERIAL (4)	AVAILABLE MATERIAL (5)	UNEXPANDED FILL	EXPANDED FILL (13) FACTOR 1.00	MASS ORDINATE +/- (14)	WASTE	COMMENT
DIVISION 1										
STH 32 / LAKE DR	26+40.00/92+57.00	32,639	--	10,058	22,581	312	312	22,269	22,269	
EDGEWOOD	4+07.83/4+76.56	297	--	34	263	1	1	262	262	
SHEPARD	9+25.38/9+80.00	234	--	23	211	--	--	211	211	
MENLO	14+31.80/14+79.90	206	--	44	162	1	1	161	161	
NEWTON	19+47.90/19+76.84	124	--	27	97	2	2	95	95	
BEVERLY	24+00.00/24+77.20	332	--	71	261	--	--	261	261	
SHOREWOOD	29+50.10/29+76.74	123	--	29	94	1	1	93	93	
CAPITOL	34+20.20/34+53.88	149	--	33	116	2	2	114	114	
JARVIS	39+23.00/39+79.90	251	--	25	226	--	--	226	226	
WOOD	44+30.00/44+79.96	182	--	16	166	1	1	165	165	
OLIVE	49+32.50/49+79.92	191	--	16	175	--	--	175	175	
MARION	54+43.20/54+79.90	152	--	12	140	--	--	140	140	
LAKE BLUFF	59+32.30/59+78.58	215	--	19	196	--	--	196	196	
KENSINGTON	64+24.35/64+54.77	120	--	13	107	--	--	107	107	
CURB RAMPS		500						500	500	
UNDISTRIBUTED			1,200					1,200	1,200	
DIVISION 1 SUBTOTAL		35,715	1,200	10,420	24,795	320	320	26,175	26,175	
GRAND TOTAL		35,715	1,200	10,420	24,795	320	320	26,175	26,175	
TOTAL EXCAVATION COMMON CAT 0020		36,915								

NOTES:

(1) EXCAVATION COMMON IS THE SUM OF THE CUT AND EBS EXCAVATION COLUMNS. ITEM NUMBER 205.0100

(2) SALVAGED/UNSUABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.

(3) EBS EXCAVATION TO BE BACKFILLED WITH SELECT CRUSHED MATERIAL.

(4) SALVAGED/UNUSABLE PAVEMENT MATERIAL - ASSUMED DEPTHS AS NOTED:
STH 32/LAKE DR, MENLO, NEWTON, BEVERLY, SHOREWOOD - 11 INCH (5 INCH HMA OVER 6 INCH CONCRETE)
EDGEWOOD, SHEPARD, JARVIS, WOOD, OLIVE, MARION, LAKE BLUFF, KENSINGTON - 5 INCH ASPHALT
CAPITOL - 9 INCH CONCRETE

(5) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSUABLE PAVEMENT MATERIAL

(13) EXPANDED FILL FACTOR = 1.00

EXPANDED FILL = (UNEXPANDED FILL) * FILL FACTOR

(14) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.

(15) FACTORS USED TO COMPUTE ANTICIPATED WASTE AND THE COMPUTED WASTE VOLUME IDENTIFIED ARE FOR GENERAL INFORMATION ONLY.

(16) COMBINED SEWER, STORM SEWER, AND WATER MAIN EXCAVATION ARE NOT INCLUDED IN THIS TABLE AND SHOULD BE CONSIDERED ADDITIONAL WASTE. EXCAVATION FOR THESE ITEMS IS INCIDENTAL TO THE RESPECTIVE BID ITEMS.

Addendum No. 02
ID 2225-13-70
Revised Sheet 249
October 4, 2024

AGGREGATES - CAT 0010

CATEGORY	STAGE	LOCATION	STATION	TO	STATION		310.0110 BASE AGGREGATE OPEN-GRADED TON
0010	1	UNDERDRAIN	26+40	-	38+50		22
0010	1	UNDERDRAIN	38+50	-	53+50		9
0010	1	UNDERDRAIN	53+50	-	68+50		30
0010	1	UNDERDRAIN	68+50	-	83+50		9
						SUBTOTAL STAGE 1	70
0010	3	UNDERDRAIN	26+40	-	38+50		32
0010	3	UNDERDRAIN	38+50	-	53+50		9
0010	3	UNDERDRAIN	53+50	-	68+50		28
						SUBTOTAL STAGE 3	69
						TOTAL 0010	139

FINISHING ROADWAY

CATEGORY	PROJECT	213.0100.01 FINISHING ROADWAY (2225-13-70) EACH
0010	2225-13-70	1
	TOTAL 0010	1

AGGREGATES - CAT 0020

CATEGORY	STAGE	LOCATION	STATION	TO	STATION		305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	312.0110 SELECT CRUSHED MATERIAL TON
0020	1	TEMP DRIVEWAY ACCESS					1,428	--
0020	1	LATERAL TRENCH RESTORATION					688	--
0020	1	PAVEMENT	26+40	-	38+50		1,314	3,327
0020	1	SIDEWALK/DRIVEWAY	26+40	-	38+50		108	--
0020	1	PAVEMENT	38+50	-	53+50		1,586	4,018
0020	1	SIDEWALK/DRIVEWAY	38+50	-	53+50		193	--
0020	1	PAVEMENT	53+50	-	68+50		1,575	3,989
0020	1	SIDEWALK/DRIVEWAY	53+50	-	68+50		256	--
0020	1	PAVEMENT	68+50	-	83+50		1,699	4,304
0020	1	SIDEWALK/DRIVEWAY	68+50	-	83+50		226	--
0020	1	PAVEMENT	83+50	-	92+57		999	2,530
0020	1	SIDEWALK/DRIVEWAY	83+50	-	92+57		110	--
						SUBTOTAL STAGE 1	10,182	18,168
0020	2	PAVEMENT	53+75	-	55+07		255	645
0020	2	SIDEWALK	53+75	-	55+07		23	--
						SUBTOTAL STAGE 2	278	645
0020	1	TEMP DRIVEWAY ACCESS					1,397	--
0020	3	PAVEMENT	26+40	-	38+50		1,245	3,152
0020	3	SIDEWALK/DRIVEWAY	26+40	-	38+50		91	--
0020	3	PAVEMENT	38+50	-	53+50		1,563	3,959
0020	3	SIDEWALK/DRIVEWAY	38+50	-	53+50		178	--
0020	3	PAVEMENT	53+50	-	68+50		1,350	3,420
0020	3	SIDEWALK/DRIVEWAY	53+50	-	68+50		134	--
0020	3	PAVEMENT	68+50	-	83+50		1,380	3,496
0020	3	SIDEWALK/DRIVEWAY	68+50	-	83+50		151	--
0020	3	PAVEMENT	83+50	-	92+57		819	2,073
0020	3	SIDEWALK/DRIVEWAY	83+50	-	92+57		96	--
						SUBTOTAL STAGE 3	8,404	16,100
0020		UNDISTRIBUTED - EBS - LOCATIONS DETERMINED BY ENGINEER					--	2,622
						SUBTOTAL UNDISTRIBUTED	--	2,622
						TOTAL 0020	18,864	37,535

Addendum No. 02
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CONCRETE PAVEMENT

CATEGORY	STAGE	STATION	TO	STATION		415.0080 CONCRETE PAVEMENT 8-INCH SY	415.4100 CONCRETE PAVEMENT JOINT FILLING SY
0020	1	26+40	-	38+50		3,009	3,359
0020	2	38+50	-	53+50		3,427	3,859
0020	3	53+50	-	68+50		3,592	4,024
0020	4	68+50	-	83+50		3,914	4,348
0020	5	83+50	-	92+57		2,293	2,555
					STAGE 1 SUBTOTAL	16,235	18,145
0020	2	53+75	-	55+07		607	654
					STAGE 2 SUBTOTAL	607	654
0020	3	26+40	-	38+50		2,764	3,168
0020	3	38+50	-	53+50		3,517	3,986
0020	3	53+50	-	68+50		3,009	3,439
0020	3	68+50	-	83+50		3,044	3,510
0020	3	83+50	-	92+57		1,810	2,082
					STAGE 3 SUBTOTAL	14,144	16,185
					TOTAL 0020	30,986	34,984

DRILLED BAR ITEMS

CATEGORY	STAGE	LOCATION	416.0610 DRILLED TIE BARS EACH	416.0620 DRILLED DOWEL BARS EACH
0010	1	LAKE DR - SOUTH END	--	19
0010	1	LAKE DR - NORTH END	--	16
		STAGE 1 SUBTOTAL	--	35
0010	2	CAPITOL DR	7	25
		STAGE 2 SUBTOTAL	7	25
0010	3	LAKE DR - SOUTH END	--	13
0010	3	MENLO BLVD	--	22
0010	3	NEWTON AVE	--	22
0010	3	BEVERLY RD	--	22
0010	3	SHOREWOOD BLVD	--	26
0010	3	LAKE DR - NORTH END	--	16
		STAGE 3 SUBTOTAL	--	121
		TOTAL 0010	7	181

ASPHALTIC SURFACE

CATEGORY	STAGE	STATION	TO	STATION	OFFSET	465.0120 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES TON
0010	1	37+35	-	37+49	42' RT	5
0010	1	41+54	-	41+77	38' RT	5
0010	1	53+76	-	53+97	43' RT	3
0010	1	89+84	-	89+99	42' RT	6
					STAGE 1 SUBTOTAL	19
					TOTAL 0010	19

DIVISION 1 - STH32

STATION	REAL STATION	DISTANCE	AREA (SF)						INCREMENTAL VOL (CY) (UNADJUSTED)				CUMULATIVE VOL (CY)				
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	MARSH EXC	ROCK EXC	EBS	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	EBS	CUT	EXPANDED FILL	EXPANDED EBS BACKFILL	REDUCED EBS IN FILL	MASS ORDINATE
									NOTE 1	NOTE 2	NOTE 3		1.00 NOTE 1	1.00	1.00 NOTE 5	1.00 NOTE 7	NOTE 8
26+40.00	2640.00	0.00	126.16	41.25	0.41	0.00	0.00	0.00	0	0	0	0	0	0	0	0	0
26+50.00	2650.00	10.00	124.72	41.25	0.28	0.00	0.00	0.00	46	15	0	0	46	0	0	0	31
27+00.00	2700.00	50.00	90.38	41.25	5.86	0.00	0.00	0.00	199	76	6	0	245	6	0	0	148
27+50.00	2750.00	50.00	97.96	41.25	5.23	0.00	0.00	0.00	174	76	10	0	419	16	0	0	236
28+00.00	2800.00	50.00	140.09	41.25	0.00	0.00	0.00	0.00	220	76	5	0	639	21	0	0	375
28+50.00	2850.00	50.00	166.37	41.25	0.00	0.00	0.00	0.00	284	76	0	0	923	21	0	0	583
29+00.00	2900.00	50.00	141.24	41.25	0.82	0.00	0.00	0.00	285	76	1	0	1,208	22	0	0	791
29+50.00	2950.00	50.00	140.84	41.25	1.19	0.00	0.00	0.00	261	76	2	0	1,469	24	0	0	974
30+00.00	3000.00	50.00	142.93	41.25	0.64	0.00	0.00	0.00	263	76	2	0	1,732	26	0	0	1,159
30+50.00	3050.00	50.00	143.21	41.25	0.48	0.00	0.00	0.00	265	76	1	0	1,997	27	0	0	1,347
31+00.00	3100.00	50.00	141.47	41.25	0.00	0.00	0.00	0.00	264	76	0	0	2,261	27	0	0	1,535
31+50.00	3150.00	50.00	144.13	41.25	0.00	0.00	0.00	0.00	264	76	0	0	2,525	27	0	0	1,723
32+00.00	3200.00	50.00	151.36	41.25	0.00	0.00	0.00	0.00	274	76	0	0	2,799	27	0	0	1,921
32+50.00	3250.00	50.00	153.20	41.25	0.00	0.00	0.00	0.00	282	76	0	0	3,081	27	0	0	2,127
33+00.00	3300.00	50.00	136.95	41.25	0.00	0.00	0.00	0.00	269	76	0	0	3,350	27	0	0	2,320
33+50.00	3350.00	50.00	135.44	41.25	1.20	0.00	0.00	0.00	252	76	1	0	3,602	28	0	0	2,495
34+00.00	3400.00	50.00	132.36	41.25	0.68	0.00	0.00	0.00	248	76	2	0	3,850	30	0	0	2,665
34+50.00	3450.00	50.00	129.61	41.25	0.17	0.00	0.00	0.00	243	76	1	0	4,093	31	0	0	2,831
35+00.00	3500.00	50.00	139.74	41.25	0.13	0.00	0.00	0.00	249	76	0	0	4,342	31	0	0	3,004
35+50.00	3550.00	50.00	124.75	41.25	1.65	0.00	0.00	0.00	245	76	2	0	4,587	33	0	0	3,171
36+00.00	3600.00	50.00	119.72	41.25	1.54	0.00	0.00	0.00	226	76	3	0	4,813	36	0	0	3,318
36+50.00	3650.00	50.00	105.70	41.25	1.08	0.00	0.00	0.00	209	76	2	0	5,022	38	0	0	3,449
37+00.00	3700.00	50.00	113.90	41.25	2.29	0.00	0.00	0.00	203	76	3	0	5,225	41	0	0	3,573
37+50.00	3750.00	50.00	163.33	41.25	0.00	0.00	0.00	0.00	257	76	2	0	5,482	43	0	0	3,752
38+00.00	3800.00	50.00	136.49	41.25	0.69	0.00	0.00	0.00	278	76	1	0	5,760	44	0	0	3,953
38+50.00	3850.00	50.00	136.71	41.25	0.45	0.00	0.00	0.00	253	76	1	0	6,013	45	0	0	4,129
39+00.00	3900.00	50.00	126.36	41.25	0.00	0.00	0.00	0.00	244	76	0	0	6,257	45	0	0	4,297
39+50.00	3950.00	50.00	143.39	41.25	0.63	0.00	0.00	0.00	250	76	1	0	6,507	46	0	0	4,470
40+00.00	4000.00	50.00	137.48	41.25	0.01	0.00	0.00	0.00	260	76	1	0	6,767	47	0	0	4,653
40+50.00	4050.00	50.00	134.48	41.25	0.00	0.00	0.00	0.00	252	76	0	0	7,019	47	0	0	4,829
41+00.00	4100.00	50.00	132.08	41.25	0.13	0.00	0.00	0.00	247	76	0	0	7,266	47	0	0	5,000
41+50.00	4150.00	50.00	133.43	41.25	0.84	0.00	0.00	0.00	246	76	1	0	7,512	48	0	0	5,169
42+00.00	4200.00	50.00	124.70	41.25	1.62	0.00	0.00	0.00	239	76	2	0	7,751	50	0	0	5,330
42+50.00	4250.00	50.00	126.48	41.25	0.02	0.00	0.00	0.00	233	76	2	0	7,984	52	0	0	5,485
43+00.00	4300.00	50.00	137.16	41.25	0.22	0.00	0.00	0.00	244	76	0	0	8,228	52	0	0	5,653
43+50.00	4350.00	50.00	131.63	41.25	0.18	0.00	0.00	0.00	249	76	0	0	8,477	52	0	0	5,826
44+00.00	4400.00	50.00	136.63	41.25	0.03	0.00	0.00	0.00	248	76	0	0	8,725	52	0	0	5,998
44+50.00	4450.00	50.00	156.95	41.25	0.84	0.00	0.00	0.00	272	76	1	0	8,997	53	0	0	6,193
45+00.00	4500.00	50.00	132.89	41.25	0.14	0.00	0.00	0.00	268	76	1	0	9,265	54	0	0	6,384
45+50.00	4550.00	50.00	147.38	41.25	0.00	0.00	0.00	0.00	260	76	0	0	9,525	54	0	0	6,568
46+00.00	4600.00	50.00	119.73	41.25	0.34	0.00	0.00	0.00	247	76	0	0	9,772	54	0	0	6,739
46+50.00	4650.00	50.00	127.58	41.25	1.13	0.00	0.00	0.00	229	76	1	0	10,001	55	0	0	6,891
47+00.00	4700.00	50.00	133.61	41.25	2.56	0.00	0.00	0.00	242	76	3	0	10,243	58	0	0	7,054
47+50.00	4750.00	50.00	120.35	41.25	3.08	0.00	0.00	0.00	235	76	5	0	10,478	63	0	0	7,208
48+00.00	4800.00	50.00	117.97	41.25	2.26	0.00	0.00	0.00	221	76	5	0	10,699	68	0	0	7,348

(TABLE CONTINUED ON NEXT PAGE)

NOTES:	
1 - CUT	CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
2 - SALVAGED/UNUSABLE PAVEMENT MATERIAL	THIS DOES NOT SHOW UP IN CROSS SECTIONS
3 - FILL	DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME
5 - EXPANDED EBS	WILL BE BACKFILLED WITH SELECT CRUSHED MATERIAL
7 - REDUCED EBS IN FILL	REDUCED EBS EXCAVATION THAT CAN BE USED IN FILL
8 - MASS ORDINATE	CUT - SALVAGED PAVT - ((FILL - EXPANDED ROCK) * FILL FACTOR)

Addendum No. 02
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Revised Sheet 440
October 4, 2024

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PROJECT NO: 2225-13-70	HWY: STH 32	COUNTY: MILWAUKEE	EARTHWORK DATA	SHEET 440	E

FILE NAME : S:\DOT\DOT_SE\200447_STH 32 SHOREWOOD\22251300\SHEETSPLAN\090101-EW.DWG
LAYOUT NAME - 01

PLOT DATE : 10/3/2024 1:34 PM PLOT BY : WALTER A. WOLAK II PLOT NAME : PLOT SCALE : 1" = 1'

DIVISION 1 - STH32

STATION	REAL STATION	DISTANCE	AREA (SF)						INCREMENTAL VOL (CY) (UNADJUSTED)				CUMULATIVE VOL (CY)				
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	MARSH EXC	ROCK EXC	EBS	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	EBS	CUT	EXPANDED FILL	EXPANDED EBS BACKFILL	REDUCED EBS IN FILL	MASS ORDINATE
									NOTE 1	NOTE 2	NOTE 3		1.00 NOTE 1	1.00	1.00 NOTE 5	1.00 NOTE 7	NOTE 8
48+50.00	4850.00	50.00	122.56	41.25	1.15	0.00	0.00	0.00	223	76	3	0	10,922	71	0	0	7,492
49+00.00	4900.00	50.00	121.19	41.25	3.64	0.00	0.00	0.00	226	76	4	0	11,148	75	0	0	7,638
49+50.00	4950.00	50.00	121.97	41.25	2.92	0.00	0.00	0.00	225	76	6	0	11,373	81	0	0	7,781
50+00.00	5000.00	50.00	119.56	41.25	2.21	0.00	0.00	0.00	224	76	5	0	11,597	86	0	0	7,924
50+50.00	5050.00	50.00	130.17	41.25	1.28	0.00	0.00	0.00	231	76	3	0	11,828	89	0	0	8,076
51+00.00	5100.00	50.00	119.42	41.25	2.19	0.00	0.00	0.00	231	76	3	0	12,059	92	0	0	8,228
51+50.00	5150.00	50.00	119.68	41.25	3.75	0.00	0.00	0.00	221	76	6	0	12,280	98	0	0	8,367
52+00.00	5200.00	50.00	135.10	41.25	1.14	0.00	0.00	0.00	236	76	5	0	12,516	103	0	0	8,522
52+50.00	5250.00	50.00	133.90	41.25	5.25	0.00	0.00	0.00	249	76	6	0	12,765	109	0	0	8,689
53+00.00	5300.00	50.00	129.75	41.25	1.01	0.00	0.00	0.00	244	76	6	0	13,009	115	0	0	8,851
53+50.00	5350.00	50.00	121.49	41.25	3.89	0.00	0.00	0.00	233	76	5	0	13,242	120	0	0	9,003
54+00.00	5400.00	50.00	121.20	41.25	2.84	0.00	0.00	0.00	225	76	6	0	13,467	126	0	0	9,146
54+50.00	5450.00	50.00	121.78	41.25	1.95	0.00	0.00	0.00	225	76	4	0	13,692	130	0	0	9,291
55+00.00	5500.00	50.00	123.27	41.25	0.94	0.00	0.00	0.00	227	76	3	0	13,919	133	0	0	9,439
55+50.00	5550.00	50.00	123.97	41.25	0.93	0.00	0.00	0.00	229	76	2	0	14,148	135	0	0	9,590
56+00.00	5600.00	50.00	121.93	41.25	1.17	0.00	0.00	0.00	228	76	2	0	14,376	137	0	0	9,740
56+50.00	5650.00	50.00	121.82	41.25	1.20	0.00	0.00	0.00	226	76	2	0	14,602	139	0	0	9,888
57+00.00	5700.00	50.00	119.04	41.25	1.28	0.00	0.00	0.00	223	76	2	0	14,825	141	0	0	10,033
57+50.00	5750.00	50.00	126.53	41.25	0.42	0.00	0.00	0.00	227	76	2	0	15,052	143	0	0	10,182
58+00.00	5800.00	50.00	108.58	41.25	3.72	0.00	0.00	0.00	218	76	4	0	15,270	147	0	0	10,320
58+50.00	5850.00	50.00	104.07	41.25	4.47	0.00	0.00	0.00	197	76	8	0	15,467	155	0	0	10,433
59+00.00	5900.00	50.00	100.31	41.25	5.88	0.00	0.00	0.00	189	76	10	0	15,656	165	0	0	10,536
59+50.00	5950.00	50.00	97.65	41.25	4.27	0.00	0.00	0.00	183	76	9	0	15,839	174	0	0	10,634
60+00.00	6000.00	50.00	107.54	41.25	1.17	0.00	0.00	0.00	190	76	5	0	16,029	179	0	0	10,743
60+50.00	6050.00	50.00	144.52	41.25	2.00	0.00	0.00	0.00	233	76	3	0	16,262	182	0	0	10,897
61+00.00	6100.00	50.00	131.27	41.25	0.32	0.00	0.00	0.00	255	76	2	0	16,517	184	0	0	11,074
61+50.00	6150.00	50.00	162.72	41.25	0.10	0.00	0.00	0.00	272	76	0	0	16,789	184	0	0	11,270
62+00.00	6200.00	50.00	131.96	41.25	0.80	0.00	0.00	0.00	273	76	1	0	17,062	185	0	0	11,466
62+50.00	6250.00	50.00	136.06	41.25	1.11	0.00	0.00	0.00	248	76	2	0	17,310	187	0	0	11,636
63+00.00	6300.00	50.00	136.81	41.25	0.47	0.00	0.00	0.00	253	76	1	0	17,563	188	0	0	11,812
63+50.00	6350.00	50.00	148.91	41.25	0.00	0.00	0.00	0.00	265	76	0	0	17,828	188	0	0	12,001
64+00.00	6400.00	50.00	129.92	41.25	2.64	0.00	0.00	0.00	258	76	2	0	18,086	190	0	0	12,181
64+50.00	6450.00	50.00	109.55	41.25	5.05	0.00	0.00	0.00	222	76	7	0	18,308	197	0	0	12,320
65+00.00	6500.00	50.00	115.26	41.25	3.98	0.00	0.00	0.00	208	76	8	0	18,516	205	0	0	12,444
65+50.00	6550.00	50.00	131.95	41.25	1.49	0.00	0.00	0.00	229	76	5	0	18,745	210	0	0	12,592
66+00.00	6600.00	50.00	157.91	41.25	0.00	0.00	0.00	0.00	268	76	1	0	19,013	211	0	0	12,783
66+50.00	6650.00	50.00	144.11	41.25	0.93	0.00	0.00	0.00	280	76	1	0	19,293	212	0	0	12,986
67+00.00	6700.00	50.00	136.90	41.25	0.08	0.00	0.00	0.00	260	76	1	0	19,553	213	0	0	13,169
67+50.00	6750.00	50.00	144.20	41.25	0.74	0.00	0.00	0.00	260	76	1	0	19,813	214	0	0	13,352
68+00.00	6800.00	50.00	123.61	41.25	0.98	0.00	0.00	0.00	248	76	2	0	20,061	216	0	0	13,522
68+50.00	6850.00	50.00	138.73	41.25	0.17	0.00	0.00	0.00	243	76	1	0	20,304	217	0	0	13,688
69+00.00	6900.00	50.00	145.31	41.25	0.33	0.00	0.00	0.00	263	76	0	0	20,567	217	0	0	13,875
69+50.00	6950.00	50.00	144.66	41.25	0.05	0.00	0.00	0.00	268	76	0	0	20,835	217	0	0	14,067
70+00.00	7000.00	50.00	127.08	41.25	1.74	0.00	0.00	0.00	252	76	2	0	21,087	219	0	0	14,241
70+50.00	7050.00	50.00	137.78	41.25	0.45	0.00	0.00	0.00	245	76	2	0	21,332	221	0	0	14,408

(TABLE CONTINUED ON NEXT PAGE)

NOTES:	
1 - CUT	CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
2 - SALVAGED/UNUSABLE PAVEMENT MATERIAL	THIS DOES NOT SHOW UP IN CROSS SECTIONS
3 - FILL	DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME
5 - EXPANDED EBS	WILL BE BACKFILLED WITH SELECT CRUSHED MATERIAL
7 - REDUCED EBS IN FILL	REDUCED EBS EXCAVATION THAT CAN BE USED IN FILL
8 - MASS ORDINATE	CUT - SALVAGED PAVT - ((FILL - EXPANDED ROCK) * FILL FACTOR)

Addendum No. 02
ID 2225-13-70
Revised Sheet 441
October 4, 2024

9

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PROJECT NO: 2225-13-70	HWY: STH 32	COUNTY: MILWAUKEE	EARTHWORK DATA	SHEET 441	E

FILE NAME : S:\DOT\DOT_SE\200447_STH 32 SHOREWOOD\22251300\SHEETSPLAN\090101-EW.DWG
LAYOUT NAME - 02
PLOT DATE : 10/3/2024 1:34 PM
PLOT BY : WALTER A. WOLAK II
PLOT NAME :
PLOT SCALE : 1" = 1'

DIVISION 1 - STH32

STATION	REAL STATION	DISTANCE	AREA (SF)					INCREMENTAL VOL (CY) (UNADJUSTED)				CUMULATIVE VOL (CY)				
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	MARSH EXC	ROCK EXC	EBS	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	EBS	CUT	EXPANDED FILL	EXPANDED EBS BACKFILL	REDUCED EBS IN FILL	MASS ORDINATE
									NOTE 1	NOTE 2	NOTE 3		1.00 NOTE 1	1.00	1.00 NOTE 5	1.00 NOTE 7	NOTE 8
71+00.00	7100.00	50.00	128.57	41.25	0.56	0.00	0.00	0.00	247	76	1	0	21,579	222	0	0	14,578
71+50.00	7150.00	50.00	112.00	41.25	5.22	0.00	0.00	0.00	223	76	5	0	21,802	227	0	0	14,720
72+00.00	7200.00	50.00	105.24	41.25	6.46	0.00	0.00	0.00	201	76	11	0	22,003	238	0	0	14,834
72+50.00	7250.00	50.00	137.84	41.25	1.67	0.00	0.00	0.00	225	76	8	0	22,228	246	0	0	14,975
73+00.00	7300.00	50.00	127.46	41.25	1.74	0.00	0.00	0.00	246	76	3	0	22,474	249	0	0	15,142
73+50.00	7350.00	50.00	132.23	41.25	0.37	0.00	0.00	0.00	240	76	2	0	22,714	251	0	0	15,304
74+00.00	7400.00	50.00	131.25	41.25	0.25	0.00	0.00	0.00	244	76	1	0	22,958	252	0	0	15,471
74+50.00	7450.00	50.00	131.65	41.25	0.97	0.00	0.00	0.00	243	76	1	0	23,201	253	0	0	15,637
75+00.00	7500.00	50.00	140.83	41.25	1.15	0.00	0.00	0.00	252	76	2	0	23,453	255	0	0	15,811
75+50.00	7550.00	50.00	122.25	41.25	0.74	0.00	0.00	0.00	244	76	2	0	23,697	257	0	0	15,977
76+00.00	7600.00	50.00	135.06	41.25	0.09	0.00	0.00	0.00	238	76	1	0	23,935	258	0	0	16,138
76+50.00	7650.00	50.00	132.99	41.25	0.53	0.00	0.00	0.00	248	76	1	0	24,183	259	0	0	16,309
77+00.00	7700.00	50.00	132.61	41.25	1.21	0.00	0.00	0.00	246	76	2	0	24,429	261	0	0	16,477
77+50.00	7750.00	50.00	156.86	41.25	1.23	0.00	0.00	0.00	268	76	2	0	24,697	263	0	0	16,667
78+00.00	7800.00	50.00	124.77	41.25	2.59	0.00	0.00	0.00	261	76	4	0	24,958	267	0	0	16,848
78+50.00	7850.00	50.00	123.36	41.25	0.29	0.00	0.00	0.00	230	76	3	0	25,188	270	0	0	16,999
79+00.00	7900.00	50.00	121.08	41.25	2.76	0.00	0.00	0.00	226	76	3	0	25,414	273	0	0	17,146
79+50.00	7950.00	50.00	129.59	41.25	1.54	0.00	0.00	0.00	232	76	4	0	25,646	277	0	0	17,298
80+00.00	8000.00	50.00	144.83	41.25	0.03	0.00	0.00	0.00	254	76	1	0	25,900	278	0	0	17,475
80+50.00	8050.00	50.00	151.33	41.25	0.00	0.00	0.00	0.00	274	76	0	0	26,174	278	0	0	17,673
81+00.00	8100.00	50.00	157.47	41.25	0.00	0.00	0.00	0.00	286	76	0	0	26,460	278	0	0	17,883
81+50.00	8150.00	50.00	154.62	41.25	0.00	0.00	0.00	0.00	289	76	0	0	26,749	278	0	0	18,096
82+00.00	8200.00	50.00	150.58	41.25	0.94	0.00	0.00	0.00	283	76	1	0	27,032	279	0	0	18,302
82+50.00	8250.00	50.00	178.36	41.25	0.68	0.00	0.00	0.00	305	76	2	0	27,337	281	0	0	18,529
83+00.00	8300.00	50.00	148.87	41.25	0.78	0.00	0.00	0.00	303	76	1	0	27,640	282	0	0	18,755
83+50.00	8350.00	50.00	138.58	41.25	1.04	0.00	0.00	0.00	266	76	2	0	27,906	284	0	0	18,943
84+00.00	8400.00	50.00	155.10	41.25	0.12	0.00	0.00	0.00	272	76	1	0	28,178	285	0	0	19,138
84+50.00	8450.00	50.00	156.20	41.25	0.28	0.00	0.00	0.00	288	76	0	0	28,466	285	0	0	19,350
85+00.00	8500.00	50.00	142.29	41.25	1.60	0.00	0.00	0.00	276	76	2	0	28,742	287	0	0	19,548
85+50.00	8550.00	50.00	146.13	41.25	0.01	0.00	0.00	0.00	267	76	1	0	29,009	288	0	0	19,738
86+00.00	8600.00	50.00	139.78	41.25	0.95	0.00	0.00	0.00	265	76	1	0	29,274	289	0	0	19,926
86+50.00	8650.00	50.00	141.71	41.25	1.26	0.00	0.00	0.00	261	76	2	0	29,535	291	0	0	20,109
87+00.00	8700.00	50.00	148.01	41.25	0.00	0.00	0.00	0.00	268	76	1	0	29,803	292	0	0	20,300
87+50.00	8750.00	50.00	139.62	41.25	0.25	0.00	0.00	0.00	266	76	0	0	30,069	292	0	0	20,490
88+00.00	8800.00	50.00	132.30	41.25	1.54	0.00	0.00	0.00	252	76	2	0	30,321	294	0	0	20,664
88+50.00	8850.00	50.00	131.98	41.25	2.50	0.00	0.00	0.00	245	76	4	0	30,566	298	0	0	20,829
89+00.00	8900.00	50.00	142.01	41.25	0.16	0.00	0.00	0.00	254	76	2	0	30,820	300	0	0	21,005
89+50.00	8950.00	50.00	146.73	41.25	0.00	0.00	0.00	0.00	267	76	0	0	31,087	300	0	0	21,196
90+00.00	9000.00	50.00	171.11	41.25	0.11	0.00	0.00	0.00	294	76	0	0	31,381	300	0	0	21,414
90+50.00	9050.00	50.00	133.47	41.25	0.09	0.00	0.00	0.00	282	76	0	0	31,663	300	0	0	21,620
91+00.00	9100.00	50.00	123.38	41.25	0.01	0.00	0.00	0.00	238	76	0	0	31,901	300	0	0	21,782
91+50.00	9150.00	50.00	134.09	41.25	1.31	0.00	0.00	0.00	238	76	1	0	32,139	301	0	0	21,943
92+00.00	9200.00	50.00	128.66	41.25	2.36	0.00	0.00	0.00	243	76	3	0	32,382	304	0	0	22,107
92+50.00	9250.00	50.00	116.61	41.25	5.44	0.00	0.00	0.00	227	76	7	0	32,609	311	0	0	22,251
92+57.00	9257.00	7.00	115.40	41.25	4.75	0.00	0.00	0.00	30	11	1	0	32,639	312	0	0	22,269

NOTES:	
1 - CUT	CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
2 - SALVAGED/UNUSABLE PAVEMENT MATERIAL	THIS DOES NOT SHOW UP IN CROSS SECTIONS
3 - FILL	DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME
5 - EXPANDED EBS	WILL BE BACKFILLED WITH SELECT CRUSHED MATERIAL
7 - REDUCED EBS IN FILL	REDUCED EBS EXCAVATION THAT CAN BE USED IN FILL
8 - MASS ORDINATE	CUT - SALVAGED PAVT - ((FILL - EXPANDED ROCK) * FILL FACTOR)

Addendum No. 02
ID 2225-13-70
Revised Sheet 442
October 4, 2024

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PROJECT NO: 2225-13-70	HWY: STH 32	COUNTY: MILWAUKEE	EARTHWORK DATA	SHEET 442	E

FILE NAME : S:\DOT\DOT_SE\200447_STH 32 SHOREWOOD\22251300\SHEETSPLAN\090101-EW.DWG
LAYOUT NAME - 03

PLOT DATE : 10/3/2024 1:35 PM PLOT BY : WALTER A. WOLAK II PLOT NAME : PLOT SCALE : 1" = 1'

WISDOT/CADDS SHEET 49

DIVISION 1 - (EDGEWOOD)

STATION	REAL STATION	DISTANCE	AREA (SF)				INCREMENTAL VOL (CY) (UNADJUSTED)				CUMULATIVE VOL (CY)				
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	EBS	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	EBS	CUT	EXPANDED FILL 1.00	EXPANDED EBS BACKFILL 1.00	REDUCED EBS IN FILL 1.00	MASS ORDINATE
							NOTE 1	NOTE 2	NOTE 3		NOTE 1		NOTE 5	NOTE 7	NOTE 8
4+07.83	407.83	0.00	95.67	13.33	0.00	0.00	0	0	0	0	0	0	0	0	0
4+50.00	450.00	42.17	104.85	13.33	0.15	0.00	157	21	0	0	157	0	0	0	136
4+76.56	476.56	26.56	180.08	13.33	2.03	0.00	140	13	1	0	297	1	0	0	262

DIVISION 1 - (SHEPARD)

STATION	REAL STATION	DISTANCE	AREA (SF)				INCREMENTAL VOL (CY) (UNADJUSTED)				CUMULATIVE VOL (CY)				
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	EBS	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	EBS	CUT	EXPANDED FILL 1.00	EXPANDED EBS BACKFILL 1.00	REDUCED EBS IN FILL 1.00	MASS ORDINATE
							NOTE 1	NOTE 2	NOTE 3		NOTE 1		NOTE 5	NOTE 7	NOTE 8
9+25.38	925.38	0.00	81.51	11.25	0.43	0.00	0	0	0	0	0	0	0	0	0
9+50.00	950.00	24.62	89.98	11.25	0.01	0.00	78	10	0	0	78	0	0	0	68
9+80.00	980.00	30.00	190.62	11.25	0.00	0.00	156	13	0	0	234	0	0	0	211

DIVISION 1 - (MENLO)

STATION	REAL STATION	DISTANCE	AREA (SF)				INCREMENTAL VOL (CY) (UNADJUSTED)				CUMULATIVE VOL (CY)				
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	EBS	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	EBS	CUT	EXPANDED FILL 1.00	EXPANDED EBS BACKFILL 1.00	REDUCED EBS IN FILL 1.00	MASS ORDINATE
							NOTE 1	NOTE 2	NOTE 3		NOTE 1		NOTE 5	NOTE 7	NOTE 8
14+31.80	1431.80	0.00	81.21	24.75	0.90	0.00	0	0	0	0	0	0	0	0	0
14+50.00	1450.00	18.20	85.28	24.75	0.65	0.00	56	17	1	0	56	1	0	0	38
14+79.90	1479.90	29.90	185.52	24.75	0.00	0.00	150	27	0	0	206	1	0	0	161

DIVISION 1 - (NEWTON)

STATION	REAL STATION	DISTANCE	AREA (SF)				INCREMENTAL VOL (CY) (UNADJUSTED)				CUMULATIVE VOL (CY)				
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	EBS	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	EBS	CUT	EXPANDED FILL 1.00	EXPANDED EBS BACKFILL 1.00	REDUCED EBS IN FILL 1.00	MASS ORDINATE
							NOTE 1	NOTE 2	NOTE 3		NOTE 1		NOTE 5	NOTE 7	NOTE 8
19+47.90	1947.90	0.00	82.16	24.75	0.81	0.00	0	0	0	0	0	0	0	0	0
19+50.00	1950.00	2.10	82.07	24.75	0.89	0.00	6	2	0	0	6	0	0	0	4
19+76.84	1976.84	26.84	154.86	24.75	2.97	0.00	118	25	2	0	124	2	0	0	95

DIVISION 1 - (BEVERLY)

STATION	REAL STATION	DISTANCE	AREA (SF)				INCREMENTAL VOL (CY) (UNADJUSTED)				CUMULATIVE VOL (CY)				
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	EBS	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	EBS	CUT	EXPANDED FILL 1.00	EXPANDED EBS BACKFILL 1.00	REDUCED EBS IN FILL 1.00	MASS ORDINATE
							NOTE 1	NOTE 2	NOTE 3		NOTE 1		NOTE 5	NOTE 7	NOTE 8
24+00.00	2400.00	0.00	83.68	24.75	0.27	0.00	0	0	0	0	0	0	0	0	0
24+50.00	2450.00	50.00	122.46	24.75	0.00	0.00	191	46	0	0	191	0	0	0	145
24+77.20	2477.20	27.20	157.69	24.75	0.03	0.00	141	25	0	0	332	0	0	0	261

NOTES:	
1 - CUT	CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
2 - SALVAGED/UNUSABLE PAVEMENT MATERIAL	THIS DOES NOT SHOW UP IN CROSS SECTIONS
3 - FILL	DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME
5 - EXPANDED EBS	WILL BE BACKFILLED WITH SELECT CRUSHED MATERIAL
7 - REDUCED EBS IN FILL	REDUCED EBS EXCAVATION THAT CAN BE USED IN FILL
8 - MASS ORDINATE	CUT - SALVAGED PAVT - ((FILL - EXPANDED ROCK) * FILL FACTOR)

Addendum No. 02
ID 2225-13-70
Revised Sheet 443
October 4, 2024

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PROJECT NO: 2225-13-70	HWY: STH 32	COUNTY: MILWAUKEE	EARTHWORK DATA	SHEET 443	E

DIVISION 1 - (SHOREWOOD)

STATION	REAL STATION	DISTANCE	AREA (SF)				INCREMENTAL VOL (CY) (UNADJUSTED)				CUMULATIVE VOL (CY)				
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	EBS	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	EBS	CUT	EXPANDED FILL	EXPANDED EBS BACKFILL	REDUCED EBS IN FILL	MASS ORDINATE
							NOTE 1	NOTE 2	NOTE 3		NOTE 1	1.00	1.00 NOTE 5	1.00 NOTE 7	NOTE 8
29+50.10	2950.10	0.00	93.85	29.33	2.13	0.00	0	0	0	0	0	0	0	0	0
29+76.74	2976.74	26.64	155.13	29.33	0.09	0.00	123	29	1	0	123	1	0	0	93

DIVISION 1 - (CAPITOL)

STATION	REAL STATION	DISTANCE	AREA (SF)				INCREMENTAL VOL (CY) (UNADJUSTED)				CUMULATIVE VOL (CY)				
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	EBS	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	EBS	CUT	EXPANDED FILL	EXPANDED EBS BACKFILL	REDUCED EBS IN FILL	MASS ORDINATE
							NOTE 1	NOTE 2	NOTE 3		NOTE 1	1.00	1.00 NOTE 5	1.00 NOTE 7	NOTE 8
34+20.20	3420.20	0.00	99.13	26.25	0.13	0.00	0	0	0	0	0	0	0	0	0
34+50.00	3450.00	29.80	133.84	26.25	2.91	0.00	129	29	2	0	129	2	0	0	98
34+53.88	3453.88	3.88	149.89	26.25	0.19	0.00	20	4	0	0	149	2	0	0	114

DIVISION 1 - (JARVIS)

STATION	REAL STATION	DISTANCE	AREA (SF)				INCREMENTAL VOL (CY) (UNADJUSTED)				CUMULATIVE VOL (CY)				
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	EBS	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	EBS	CUT	EXPANDED FILL	EXPANDED EBS BACKFILL	REDUCED EBS IN FILL	MASS ORDINATE
							NOTE 1	NOTE 2	NOTE 3		NOTE 1	1.00	1.00 NOTE 5	1.00 NOTE 7	NOTE 8
39+23.00	3923.00	0.00	84.00	11.67	0.43	0.00	0	0	0	0	0	0	0	0	0
39+50.00	3950.00	27.00	96.39	11.67	0.00	0.00	90	12	0	0	90	0	0	0	78
39+79.90	3979.90	29.90	194.52	11.67	0.00	0.00	161	13	0	0	251	0	0	0	226

DIVISION 1 - (WOOD)

STATION	REAL STATION	DISTANCE	AREA (SF)				INCREMENTAL VOL (CY) (UNADJUSTED)				CUMULATIVE VOL (CY)				
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	EBS	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	EBS	CUT	EXPANDED FILL	EXPANDED EBS BACKFILL	REDUCED EBS IN FILL	MASS ORDINATE
							NOTE 1	NOTE 2	NOTE 3		NOTE 1	1.00	1.00 NOTE 5	1.00 NOTE 7	NOTE 8
44+30.00	4430.00	0.00	66.22	8.75	1.42	0.00	0	0	0	0	0	0	0	0	0
44+50.00	4450.00	20.00	68.74	8.75	0.42	0.00	50	6	1	0	50	1	0	0	43
44+79.96	4479.96	29.96	168.92	8.75	0.00	0.00	132	10	0	0	182	1	0	0	165

NOTES:	
1 - CUT	CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
2 - SALVAGED/UNUSABLE PAVEMENT MATERIAL	THIS DOES NOT SHOW UP IN CROSS SECTIONS
3 - FILL	DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME
5 - EXPANDED EBS	WILL BE BACKFILLED WITH SELECT CRUSHED MATERIAL
7 - REDUCED EBS IN FILL	REDUCED EBS EXCAVATION THAT CAN BE USED IN FILL
8 - MASS ORDINATE	CUT - SALVAGED PAVT - ((FILL - EXPANDED ROCK) * FILL FACTOR)

Addendum No. 02
ID 2225-13-70
Revised Sheet 444
October 4, 2024

9

9

PROJECT NO: 2225-13-70	HWY: STH 32	COUNTY: MILWAUKEE	EARTHWORK DATA	SHEET 444	E

FILE NAME : S:\DOT\DOT_SE\200447_STH 32 SHOREWOOD\22251300\SHEETSPLAN\090101-EW.DWG
LAYOUT NAME - 05

PLOT DATE : 10/3/2024 1:36 PM PLOT BY : WALTER A. WOLAK II PLOT NAME : PLOT SCALE : 1" = 1'

WISDOT/CADDS SHEET 49

Proposal ID: 20241008007 **Project(s):** 2225-13-70

Federal ID(s): N/A

SECTION: 0001 Proposal Items

Alt Set ID: **Alt Mbr ID:**

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0386	SPV.0090 Special 40. PVC Hydrant Lead 6-Inch	460.000 LF	_____.____	_____.____
0388	SPV.0090 Special 41. PVC Water Main 6-Inch	175.000 LF	_____.____	_____.____
0390	SPV.0090 Special 42. PVC Water Main 8-Inch	7,110.000 LF	_____.____	_____.____
0392	SPV.0090 Special 43. Cooper Water Service 1-Inch	3,173.000 LF	_____.____	_____.____
0394	SPV.0090 Special 44. Copper Water Service 2-Inch	237.000 LF	_____.____	_____.____
0396	SPV.0090 Special 45. Copper Water Service 3-Inch	100.000 LF	_____.____	_____.____
0398	SPV.0090 Special 46. Construction Staking Water Main	7,285.000 LF	_____.____	_____.____
0400	SPV.0165 Special 01. Salvage and Relay Brick Paver Driveway	26.000 SF	_____.____	_____.____
0402	415.4100 Concrete Pavement Joint Filling	34,984.000 SY	_____.____	_____.____
	Section: 0001		**Total:**	_____.____

Total Bid: **_____.____**