

BID OF _____

2024

PROPOSAL, CONTRACT, BOND AND SPECIFICATIONS

FOR

LAKE STREET SANITARY SEWER REPLACEMENT

CONTRACT NO. 9501

MUNIS NO. 15045

IN

MADISON, DANE COUNTY, WISCONSIN

AWARDED BY THE COMMON COUNCIL
MADISON, WISCONSIN ON _____

CITY ENGINEERING DIVISION
1600 EMIL STREET
MADISON, WISCONSIN 53713

<https://bidexpress.com/login>

**LAKE STREET SANITARY SEWER REPLACEMENT
CONTRACT NO. 9501**

INDEX

SECTION A: ADVERTISEMENT FOR BIDS AND INSTRUCTIONS TO BIDDERSA-1

SECTION B: PROPOSAL SECTIONB-1

SECTION C: SMALL BUSINESS ENTERPRISE C-1

SECTION D: SPECIAL PROVISIONS D-1

SECTION E: BIDDER'S ACKNOWLEDGEMENTE-1

SECTION F: BEST VALUE CONTRACTINGF-1

SECTION G: BID BOND G-1

SECTION H: AGREEMENT H-1

SECTION I: PAYMENT AND PERFORMANCE BONDI-1

This Proposal, and Agreement have
been prepared by:

**CITY ENGINEERING DIVISION
CITY OF MADISON
MADISON, DANE COUNTY, WISCONSIN**



James M. Wolfe, P.E., City Engineer

JMW: kf

SECTION A: ADVERTISEMENT FOR BIDS AND INSTRUCTIONS TO BIDDERS

REQUEST FOR BID FOR PUBLIC WORKS CONSTRUCTION CITY OF MADISON, WISCONSIN

A BEST VALUE CONTRACTING MUNICIPALITY

PROJECT NAME:	LAKE STREET SANITARY SEWER REPLACEMENT
CONTRACT NO.:	9501
SBE GOAL	8%
BID BOND	5%
SBE PRE BID MEETING (1:00 P.M.)	3/28/2024
PREQUALIFICATION APPLICATION DUE (2:00 P.M.)	3/28/2024
BID SUBMISSION (2:00 P.M.)	4/4/2024
BID OPEN (2:30 P.M.)	4/4/2024
PUBLISHED IN WSJ	3/21 & 3/28/2024

SBE PRE BID MEETING: Pre-Bid Meetings are being held virtually. Advance registration is required. Visit the SBE Meeting web page on Engineering's web site:

<https://www.cityofmadison.com/engineering/developers-contractors/contractors/how-to-bid-public-works-contracts/small-business>.

Questions regarding SBE Program requirements may be directed to Tracy Lomax, Affirmative Action Division. Tracy may be reached at (608) 267-8634, or by email, TLomax@cityofmadison.com.

PREQUALIFICATION APPLICATION: Forms are available on our website, www.cityofmadison.com/engineering/developers-contractors/contractors/how-to-get-prequalified. If not currently prequalified in the categories listed in Section A, an amendment to your Prequalification will need to be submitted prior to the same due date. Postmark is not applicable.

BIDS TO BE SUBMITTED: by hand to 1600 EMIL ST., MADISON, WI 53713 or online at www.bidexpress.com.

Bids may be submitted on line through Bid Express or in person at 1600 Emil St. The bids will be posted on line after the bid opening. If you have any questions, please call Alane Boutelle at (608) 267-1197, or John Fahrney at (608) 266-9091.

STANDARD SPECIFICATIONS

The City of Madison's Standard Specifications for Public Works Construction - 2024 Edition, as supplemented and amended from time to time, forms a part of these contract documents as if attached hereto.

These standard specifications are available on the City of Madison Public Works website, www.cityofmadison.com/engineering/developers-contractors/standard-specifications.

The Contractor shall review these Specifications prior to preparation of proposals for the work to be done under this contract, with specific attention to Article 102, "BIDDING REQUIREMENTS AND CONDITIONS" and Article 103, "AWARD AND EXECUTION OF THE CONTRACT." For the convenience of the bidder, below are highlights of three subsections of the specifications.

SECTION 102.1: PRE-QUALIFICATION OF BIDDERS

In accordance with Wisconsin State Statutes 66.0901 (2) and (3), all bidders must submit to the Board of Public Works proof of responsibility on forms furnished by the City. The City requires that all bidders be qualified on a biennial basis.

Bidders must present satisfactory evidence that they have been regularly engaged in the type of work specified herein and they are fully prepared with necessary capital, materials, machinery and supervisory personnel to conduct the work to be contracted for to the satisfaction of the City. All bidders must be pre-qualified by the Board of Public Works for the type of construction on which they are bidding prior to the opening of the bid.

In accordance with Section 39.02(9)(a)l. of the General Ordinances, all bidders shall submit in writing to the Affirmative Action Division Manager of the City of Madison, a Certificate of Compliance or an Affirmative Action Plan at the same time or prior to the submission of the proof of responsibility forms.

The bidder shall be disqualified if the bidder fails to or refuses to, prior to opening of the bid, submit a Certificate of compliance, Affirmative Action Plan or Affirmative Action Data Update, as applicable, as defined by Section 39.02 of the General Ordinances (entitled Affirmative Action) and as required by Section 102.11 of the Standard Specifications.

SECTION 102.4 PROPOSAL

No bid will be accepted that does not contain an adequate or reasonable price for each and every item named in the Schedule of Unit Prices.

A lump sum bid for the work in accordance with the plans and specifications is required. The lump sum bid must be the same as the total amounts bid for the various items and it shall be inserted in the space provided.

All papers bound with or attached to the proposal form are considered a part thereof and must not be detached or altered when the proposal is submitted. The plans, specifications and other documents designated in the proposal form will be considered a part of the proposal whether attached or not.

A proposal submitted by an individual shall be signed by the bidder or by a duly authorized agent. A proposal submitted by a partnership shall be signed by a member/partner or by a duly authorized agent thereof. A proposal submitted by a corporation shall be signed by an authorized officer or duly authorized registered agent of such corporation, and the proposal shall show the name of the State under the laws of which such corporation was chartered. The required signatures shall in all cases appear in the space provided thereof on the proposal.

Each proposal shall be placed, together with the proposal guaranty, in a sealed envelope, so marked as to indicate name of project, the contract number or option to which it applies, and the name and address of the Contractor or submitted electronically through Bid Express (www.bidexpress.com). Proposals will be accepted at the location, the time and the date designated in the advertisement. Proposals received after the time and date designated will be returned to the bidder unopened.

SECTION 102.5: BID DEPOSIT (PROPOSAL GUARANTY)

All bids, sealed or electronic, must be accompanied with a Bid Bond (City of Madison form) equal to at least 5% of the bid or a Certificate of Annual/Biennial Bid Bond or certified check, payable to the City Treasurer. Bid deposit of the successful bidders shall be returned within forty-eight (48) hours following execution of the contract and bond as required.

MINOR DISCREPENCIES

Bidder is responsible for submitting all forms necessary for the City to determine compliance with State and City bidding requirements. Notwithstanding any language to the contrary contained herein, the City may exercise its discretion to allow bidders to correct or supplement submissions after bid opening, if the minor discrepancy, bid irregularity or omission is insignificant and not one related to price, quality, quantity, time of completion or performance of the contract.

Bidders for this Contract(s) must be Pre-Qualified for at least one of the following type(s) of construction denoted by an

Building Demolition

- 101 Asbestos Removal
- 120 House Mover

- 110 Building Demolition

Street, Utility and Site Construction

- 201 Asphalt Paving
- 205 Blasting
- 210 Boring/Pipe Jacking
- 215 Concrete Paving
- 220 Con. Sidewalk/Curb & Gutter/Misc. Flat Work
- 221 Concrete Bases and Other Concrete Work
- 222 Concrete Removal
- 225 Dredging
- 230 Fencing
- 235 Fiber Optic Cable/Conduit Installation
- 240 Grading and Earthwork
- 241 Horizontal Saw Cutting of Sidewalk
- 242 Hydro Excavating
- 243 Infrared Seamless Patching
- 245 Landscaping, Maintenance
- 246 Ecological Restoration
- 250 Landscaping, Site and Street
- 251 Parking Ramp Maintenance
- 252 Pavement Marking
- 255 Pavement Sealcoating and Crack Sealing
- 260 Petroleum Above/Below Ground Storage Tank Removal/Installation
- 262 Playground Installer

- 265 Retaining Walls, Precast Modular Units
- 270 Retaining Walls, Reinforced Concrete
- 275 Sanitary, Storm Sewer and Water Main Construction
- 276 Sawcutting
- 280 Sewer Lateral Drain Cleaning/Internal TV Insp.
- 285 Sewer Lining
- 290 Sewer Pipe Bursting
- 295 Soil Borings
- 300 Soil Nailing
- 305 Storm & Sanitary Sewer Laterals & Water Svc.
- 310 Street Construction
- 315 Street Lighting
- 318 Tennis Court Resurfacing
- 320 Traffic Signals
- 325 Traffic Signing & Marking
- 332 Tree pruning/removal
- 333 Tree, pesticide treatment of
- 335 Trucking
- 340 Utility Transmission Lines including Natural Gas, Electrical & Communications
- 399 Other _____

Bridge Construction

- 501 Bridge Construction and/or Repair

Building Construction

- 401 Floor Covering (including carpet, ceramic tile installation, rubber, VCT)
- 402 Building Automation Systems
- 403 Concrete
- 404 Doors and Windows
- 405 Electrical - Power, Lighting & Communications
- 410 Elevator - Lifts
- 412 Fire Suppression
- 413 Furnishings - Furniture and Window Treatments
- 415 General Building Construction, Equal or Less than \$250,000
- 420 General Building Construction, \$250,000 to \$1,500,000
- 425 General Building Construction, Over \$1,500,000
- 428 Glass and/or Glazing
- 429 Hazardous Material Removal
- 430 Heating, Ventilating and Air Conditioning (HVAC)
- 433 Insulation - Thermal
- 435 Masonry/Tuck pointing

- 437 Metals
- 440 Painting and Wallcovering
- 445 Plumbing
- 450 Pump Repair
- 455 Pump Systems
- 460 Roofing and Moisture Protection
- 464 Tower Crane Operator
- 461 Solar Photovoltaic/Hot Water Systems
- 465 Soil/Groundwater Remediation
- 466 Warning Sirens
- 470 Water Supply Elevated Tanks
- 475 Water Supply Wells
- 480 Wood, Plastics & Composites - Structural & Architectural
- 499 Other _____

State of Wisconsin Certifications

- 1 Class 5 Blaster - Blasting Operations and Activities 2500 feet and closer to inhabited buildings for quarries, open pits and road cuts.
- 2 Class 6 Blaster - Blasting Operations and Activities 2500 feet and closer to inhabited buildings for trenches, site excavations, basements, underwater demolition, underground excavations, or structures 15 feet or less in height.
- 3 Class 7 Blaster - Blasting Operations and Activities for structures greater than 15' in height, bridges, towers, and any of the objects or purposes listed as "Class 5 Blaster or Class 6 Blaster".
- 4 Petroleum Above/Below Ground Storage Tank Removal and Installation (Attach copies of State Certifications.)
- 5 Hazardous Material Removal (Contractor to be certified for asbestos and lead abatement per the Wisconsin Department of Health Services, Asbestos and Lead Section (A&LS).) See the following link for application: www.dhs.wisconsin.gov/Asbestos/Cert. State of Wisconsin Performance of Asbestos Abatement Certificate must be attached.
- 6 Certification number as a Certified Arborist or Certified Tree Worker as administered by the International Society of Arboriculture
- 7 Pesticide application (Certification for Commercial Applicator For Hire with the certification in the category of turf and landscape (3.0) and possess a current license issued by the DATCP)
- 8 State of Wisconsin Master Plumbers License.

SECTION B: PROPOSAL

Please refer to the
Bid Express Website
at <https://bidexpress.com>
look up contract number
and go to
Section B: Proposal Page

You can access all City of Madison bid solicitations for FREE at www.bidexpress.com

Click on the “Register for Free” button and follow the instructions to register your company and yourself. You will be asked for a payment subscription preference, since you may wish to bid online someday. Simply choose the method to pay on a ‘per bid’ basis. This requires no payment until / unless you actually bid online. You can also choose the monthly subscription plan at this time. You will, however, be asked to provide payment information. Remember, you can change your preference at anytime. You will then be able to complete your free registration and have full access to the site. Your free access does not require completion of the ‘Digital ID’ process, so you will have instant access for viewing and downloading. To be prepared in case you ever do wish to bid online, you may wish to establish your digital ID also, since you cannot bid without a Digital ID.

If you have any problems with the free registration process, you can call the bidexpress help team, toll free at 1-888-352-2439 (option 1, option1).

SECTION C: SMALL BUSINESS ENTERPRISE

Instructions to Bidders City of Madison SBE Program Information

2 Small Business Enterprise (SBE) Program Information

2.1 Policy and Goal

The City of Madison reaffirms its policy of nondiscrimination in the conduct of City business by maintaining a procurement process which remains open to all who have the potential and ability to sell goods and services to the City. It is the policy of the City of Madison to allow Small Business Enterprises (SBE) maximum feasible opportunity to participate in City of Madison contracting. The bidder acknowledges that its bid has been submitted in accordance with the SBE program and is for the public's protection and welfare.

Please refer to the "ADVERTISEMENT FOR BIDS" for the goal for the utilization of SBEs on this project. SBEs may participate as subcontractors, vendors and/or suppliers, which provide a commercially useful function. The dollar value for SBE suppliers or 'materials only' vendors shall be discounted to 60% for purposes of meeting SBE goals.

A bidder which achieves or exceeds the SBE goal will be in compliance with the SBE requirements of this project. In the event that the bidder is unable to achieve the SBE goal, the bidder must demonstrate that a good faith effort to do so was made. Failure to either achieve the goal or demonstrate a good faith effort to do so will be grounds for the bidder being deemed a non-responsible contractor ineligible for award of this contract.

A bidder may count towards its attainment of the SBE goal only those expenditures to SBEs that perform a commercially useful function. For purposes of evaluating a bidder's responsiveness to the attainment of the SBE goal, the contract participation by an SBE is based on the percentage of the total base bid proposed by the Contractor. The total base bid price is inclusive of all addenda.

Work performed by an SBE firm in a particular transaction can be counted toward the goal only if it involves a commercially useful function. That is, in light of industry practices and other relevant considerations, does the SBE firm have a necessary and useful role in the transaction, of a kind for which there is a market outside the context of the SBE Program, or is the firm's role a superfluous step added in an attempt to obtain credit towards goals? If, in the judgment of the Affirmative Action Division, the SBE firm will not perform a commercially useful function in the transaction, no credit towards goals will be awarded.

The question of whether a firm is performing a commercially useful function is completely separate from the question of whether the firm is an eligible SBE. A firm is eligible if it meets the definitional criteria and ownership and control requirements, as set forth in the City of Madison's SBE Program.

If the City of Madison determines that the SBE firm is performing a commercially useful function, then the City of Madison must then decide what that function is. If the commercially useful function is that of an SBE vendor / supplier that regularly transacts business with the respective product, then the City of Madison will count 60% of the value of the product supplied toward SBE goals.

To be counted, the SBE vendor / supplier must be engaged in selling the product in question to the public. This is important in distinguishing an SBE vendor / supplier, which has a regular trade with a variety of customers, from a firm which performs supplier-like functions on an ad hoc basis or for only one or two contractors with whom it has a special relationship.

A supplier of bulk goods may qualify as an eligible SBE vendor / supplier if it either maintains an inventory or owns or operates distribution equipment. With respect to the distribution equipment; e.g., a fleet of trucks, the term "operates" is intended to cover a situation in which the supplier leases the equipment on a regular basis for its entire business. It is not intended to cover a situation in which the firm simply provides drivers for trucks owned or leased by another party; e.g., a prime contractor, or leases such a party's trucks on an ad hoc basis for a specific job.

If the commercially useful function being performed is not that of a qualified SBE vendor / supplier, but rather that of delivery of products, obtaining bonding or insurance, procurement of personnel, acting as a broker or manufacturer's representative in the procurement of supplies, facilities, or materials, etc., only the fees or commissions will apply towards the goal.

For example, a business that simply transfers title of a product from manufacturer to ultimate purchaser; e. g., a sales representative who re-invoices a steel product from the steel company to the Contractor, or a firm that puts a product into a container for delivery would not be considered a qualified SBE vendor / supplier. The Contractor would not receive credit based on a percentage of the cost of the product for working with such firms.

Concerning the use of services that help the Contractor obtain needed supplies, personnel, materials or equipment to perform a contract: only the fee received by the service provider will be counted toward the goal. For example, use of a SBE sales representative or distributor for a steel company, if performing a commercially useful function at all, would entitle the Contractor receiving the steel to count only the fee paid to the representative or distributor toward the goal. This provision would also govern fees for professional and other services obtained expressly and solely to perform work relating to a specific contract.

Concerning transportation or delivery services: if an SBE trucking company picks up a product from a manufacturer or a qualified vendor / supplier and delivers the product to the Contractor, the commercially useful function it is performing is not that of a supplier, but simply that of a transporter of goods. Unless the trucking company is itself the manufacturer or a qualified vendor / supplier in the product, credit cannot be given based on a percentage of the cost of the product. Rather, credit would be allowed for the cost of the transportation service.

The City is aware that the rule's language does not explicitly mention every kind of business that may contribute work on this project. In administering these programs, the City would, on a case-by-case basis, determine the appropriate counting formula to apply in a particular situation.

2.2 Contract Compliance

Questions concerning the SBE Program shall be directed to the Contract Compliance Officer of the City of Madison Department of Civil Rights, Affirmative Action Division, 210 Martin Luther King, Jr. Blvd., Room 523, Madison, WI 53703; telephone (608) 266-4910.

2.3 Certification of SBE by City of Madison

The Affirmative Action Division maintains a directory of SBEs which are currently certified as such by the City of Madison. Contact the Contract Compliance Officer as indicated in Section 2.2 to receive a copy of the SBE Directory or you may access the SBE Directory online at www.cityofmadison.com/civil-rights/contract-compliance/targeted-business-enterprise-programs/targeted-business-enterprise.

All contractors, subcontractors, vendors and suppliers seeking SBE status must complete and submit the **Targeted Business Certification Application** to the City of Madison Affirmative Action Division by the time and date established for receipt of bids. A copy of the Targeted Business Certification Application is available by contacting the Contract Compliance Officer at the address and telephone indicated in Section 2.2 or you may access the Targeted Business Certification Application online at www.cityofmadison.com/civil-rights/contract-compliance/targeted-business-enterprise-programs/targeted-business-enterprise. Submittal of the Targeted Business Certification Application by the time specified does not guarantee that the applicant will be certified as a SBE eligible to be utilized towards meeting the SBE goal for this project.

2.4 Small Business Enterprise Compliance Report

2.4.1 Good Faith Efforts

Bidders shall take all necessary affirmative steps to assure that SBEs are utilized when possible and that the established SBE goal for this project is achieved. A contractor who self performs a portion of the work, and is pre-qualified to perform that category of work, may subcontract that portion of the work, but shall not be required to do so. When a bidder is unable to achieve the established SBE goal, the bidder must demonstrate that a good faith effort to do so was made. Such a good faith effort should include the following:

- 2.4.1.1 Attendance at the pre-bid meeting.
- 2.4.1.2 Using the City of Madison's directory of certified SBEs to identify SBEs from which to solicit bids.
- 2.4.1.3 Assuring that SBEs are solicited whenever they are potential sources.
- 2.4.1.4 Referring prospective SBEs to the City of Madison Affirmative Action Division for certification.
- 2.4.1.5 Dividing total project requirements into smaller tasks and/or quantities, where economically feasible, to permit maximum feasible SBE participation.
- 2.4.1.6 Establishing delivery schedules, where requirements permit, which will encourage participation by SBEs.
- 2.4.1.7 Providing SBEs with specific information regarding the work to be performed.
- 2.4.1.8 Contacting SBEs in advance of the deadline to allow such businesses sufficient time to prepare a bid.
- 2.4.1.9 Utilizing the bid of a qualified and competent SBE when the bid of such a business is deemed reasonable (i.e. 5% above the lowest bidder), although not necessarily low.
- 2.4.1.10 Contacting SBEs which submit a bid, to inquire about the details of the bid and confirm that the scope of the work was interpreted as intended.
- 2.4.1.11 Completion of Cover Page (page C-6), Summary Sheet (page C-7) and SBE Contact Reports (pages C-8 and C9) if applicable.

2.4.2 Reporting SBE Utilization and Good Faith Efforts

The Small Business Enterprise Compliance Report is to be submitted by the bidder with the bid: This report is due by the specified bid closing time and date. Bids submitted without a completed SBE Compliance Report as outlined below may be deemed non-responsible and the bidder ineligible for award of this contract. Notwithstanding any language to the contrary contained herein, the City may exercise its discretion to allow bidders to correct or supplement submissions after bid opening, if the minor discrepancy, bid irregularity or omission is insignificant and not one related to price, quality, quantity, time of completion, performance of the contract, or percentage of SBE utilization.

2.4.2.1 If the Bidder meets or exceeds the goal established for SBE utilization, the Small Business Enterprise Compliance Report shall consist of the following:

- 2.4.2.1.1 **Cover Page**, Page C-6; and
- 2.4.2.1.2 **Summary Sheet**, C-7.

2.4.2.2 If the bidder does not meet the goal established for SBE utilization, the Small Business Enterprise Compliance Report shall consist of the following:

- 2.4.2.2.1 **Cover Page**, Page C-6;
- 2.4.2.2.2 **Summary Sheet**, C-7; and
- 2.4.2.2.3 **SBE Contact Report**, C-8 and C-9. (A separate Contact Report must be completed for each applicable SBE which is not utilized.)

2.5 Appeal Procedure

A bidder which does not achieve the established goal and is found non-responsible for failure to demonstrate a good faith effort to achieve such goal and subsequently denied eligibility for award of contract may appeal that decision to the Small Business Enterprises Appeals Committee. All appeals shall be made in writing, and shall be delivered to and received by the City Engineer no later than 4:30 PM on the third business day following the bidder's receipt of the written notification of ineligibility by the Affirmative Action Division Manager. Postmark not acceptable. The notice of appeal shall state the basis for the appeal of the decision of the Affirmative Action Division Manager. The Appeal shall take place in accordance with Madison General Ordinance 33.54.

2.6 SBE Requirements After Award of the Contract

The successful bidder shall identify SBE subcontractors, suppliers and vendors on the subcontractor list in accordance with the specifications. The Contractor shall submit a detailed explanation of any variances between the listing of SBE subcontractors, vendors and/or suppliers on the subcontractor list and the Contractor's SBE Compliance Report for SBE participation.

No change in SBE subcontractors, vendors and/or suppliers from those SBEs indicated in the SBE Compliance Report will be allowed without prior approval from the Engineer and the Affirmative Action Division. The contractor shall submit in writing to the City of Madison Affirmative Action Division a request to change any SBE citing specific reasons which necessitate such a change. The Affirmative Action Division will use a general test of reasonableness in approving or rejecting the contractor's request for change. If the request is approved, the Contractor will make every effort to utilize another SBE if available.

The City will monitor the project to ensure that the actual percentage commitment to SBE firms is carried out.

2.7 SBE Definition and Eligibility Guidelines

A Small Business Enterprise is a business concern awarded certification by the City of Madison. For the purposes of this program a Small Business Enterprise is defined as:

- A. An independent business operated under a single management. The business may not be a subsidiary of any other business and the stock or ownership may not be held by any individual or any business operating in the same or a similar field. In determining whether an entity qualifies as a SBE, the City shall consider all factors relevant to being an independent business including, but not limited to, the date the business was established, adequacy of its resources for the work in which it proposes to involve itself, the degree to which financial, equipment leasing and other relationships exist with other ineligible firms in the same or similar lines of work. SBE owner(s) shall enjoy the customary incidents of ownership and shall share in the risks and profits commensurate with their enjoyment interests, as demonstrated by an examination of the substance rather than form or arrangements that may be reflected in its ownership documents.
- B. A business that has averaged no more than \$4.0 million in annual gross receipts over the prior three year period and the principal owner(s) do not have a personal net worth in excess of \$1.32 million.

Firm and/or individuals that submit fraudulent documents/testimony may be barred from doing business with the City and/or forfeit existing contracts.

SBE certification is valid for one (1) year unless revoked.

**LAKE STREET SANITARY SEWER REPLACEMENT
CONTRACT NO. 9501**

Small Business Enterprise Compliance Report

**This information may be submitted electronically through
Bid Express or submitted with bid in sealed envelope.**

Cover Sheet

Prime Bidder Information

Company: _____

Address: _____

Telephone Number: _____ Fax Number: _____

Contact Person/Title: _____

Prime Bidder Certification

I, _____, _____ of
Name Title

_____ certify that the information
Company

contained in this SBE Compliance Report is true and correct to the best of my knowledge and belief.

Witness' Signature

Bidder's Signature

Date

**LAKE STREET SANITARY SEWER REPLACEMENT
CONTRACT NO. 9501**

Small Business Enterprise Compliance Report

Summary Sheet

SBE Subcontractors Who Are NOT Suppliers

Name(s) of SBEs Utilized	Type of Work	% of Total Bid Amount
		%
		%
		%
		%
		%
		%
		%
		%
		%
		%
		%
		%
		%
		%
		%
		%
Subtotal SBE who are NOT suppliers:	_____	%

SBE Subcontractors Who Are Suppliers

Name(s) of SBEs Utilized	Type of Work	% of Total Bid Amount
		%
		%
		%
		%
		%
		%
		%
Subtotal Contractors who are suppliers:	_____ % x 0.6 = _____	% (discounted to 60%)
Total Percentage of SBE Utilization:	_____ %.	

**LAKE STREET SANITARY SEWER REPLACEMENT
CONTRACT NO. 9501**

Small Business Enterprise Compliance Report

SBE Contact Report

Submit separate copy of this form for each SBE which you are not able to utilize towards meeting the SBE goal for this project. Attach separate sheets if necessary.

SBE Information

Company: _____

Address: _____

Telephone Number: _____

Contact Person/Title: _____

1. Outline below all efforts to solicit a bid from the above SBE. Include date, means of contact, who from your company made this contact and the result.

2. Describe the information provided to the aforementioned SBE regarding the scope of work for which he/she was to provide a bid.

Is this the same scope of work on which the subcontractor you intend to utilize based his/her bid?

Yes No

3. Did this SBE submit a bid? Yes No

4. Is the General Contractor pre-qualified to self-perform this category of work?

Yes No

5. If you responded "Yes" to Question 3, please check the items below which apply and provide the requested detail. If you responded "No" to Question 3, please skip ahead to item 6 below.

The SBE listed above is unavailable for work on this project for the following reasons. Provide specific detail for this conclusion.

The SBE listed above is unqualified for work on this project. Provide specific details for this conclusion.

The SBE listed above provided a price that was unreasonable (i.e. more than 5% above the lowest bidder). Provide specific detail for this conclusion including the SBE's price and the price of the subcontractor you intend to utilize.

A contract with the SBE listed above may constitute a breach of the bidder's collective bargaining agreements. Provide specific detail for this conclusion including, but not limited to, correspondence from the SBE indicating it will not sign a project labor agreement and/or correspondence from the applicable trade union indicating a project labor agreement will not be allowed at the time of project bidding.

Other; please specify reason(s) other than listed above which made it impossible for you to utilize this SBE on this project.

6. Describe any other good faith efforts:

SECTION D: SPECIAL PROVISIONS

LAKE STREET SANITARY SEWER REPLACEMENT CONTRACT NO. 9501

It is the intent of these Special Provisions to set forth the final contractual intent as to the matter involved and shall prevail over the Standard Specifications and plans whenever in conflict therewith. In order that comparisons between the Special Provisions can be readily made, the numbering system for the Special Provisions is equivalent to that of the Specifications.

Whenever in these Specifications the term "Standard Specifications" appears, it shall be taken to refer to the City of Madison Standard Specifications for Public Works Construction and Supplements thereto.

SECTION 102.11: BEST VALUE CONTRACTING

This Contract shall be considered a Best Value Contract if the Contractor's bid is equal to or greater than \$75,500 for a single trade contract; or equal to or greater than \$369,500 for a multi-trade contract pursuant to MGO 33.07(7).

ARTICLE 104 SCOPE OF WORK

This project generally consists of removal and installation of sanitary sewer pipes and structures, reconnection of sanitary laterals, trench dewatering, and trench patching of the affect streets.

The project limits for the work are on N. Lake St, from 100' south of University Avenue to 350' north of University Avenue.

The Contractor shall view the site prior to bidding to become familiar with the existing conditions. It will be the responsibility of the Contractor to work with the utilities located in the right of way to resolve conflicts during the construction process.

SECTION 105.12 COOPERATION BY THE CONTRACTOR

The Contractor shall use care around all existing trees, planter walls, plantings, fences, walls, buildings, utilities, streetlights, traffic signals, and any other items that are to remain. Any items not specifically called out for removal are to remain. Damage to these items during construction, including any concrete residue, shall be repaired, remedied, or replaced at the Contractor's expense. No trees shall be cut without the approval of the Engineer and the City Forester; the abutting property owners shall be notified in accordance with the City's Administrative Procedure Memorandum No. 6-2.

Property 415 N. Lake St is currently under construction and will be for the duration of the sanitary sewer replacement. Currently, 415 N. Lake St is occupying a portion of N. Lake St where the sanitary sewer will need to be replaced. The Contractor shall not begin work in front of 415 N Lake St until August 1st, 2024. After August 1, 2024, 415 N. Lake St will be performing concrete pours approximately one (day) per week in the morning hours (subject to change) which will require an area in the City right of way to stage equipment for the concrete pours. The Contractor shall coordinate with the development at 415 N. Lake St to provide an acceptable area for the concrete pour to continue to be performed during the sanitary installation. It is expected that the concrete pour equipment can be stage near the north end of the property while sanitary installation occurs on the south end of the property and this staging will be flipped once the sanitary is installed far enough that the concrete pour on the north end is no longer possible.

Contacts for the 415 N. Lake St construction:
Stevens Construction – Tyler Welch, twelch@stevensconstruction.com

During installation of the sanitary sewer, the Contractor will need to cross and expose ATC facilities. The Contractor shall be required to comply with ATC guides GDE-0265 and GDE-2500 for excavation around ATC 138kV High Pressure Fluid Filled (HPFF) pipe (these guides can be found at the end of these

Special Provisions). All work near ATC underground transmission pipe cable shall be supervised by an ATC representative. Contractor shall be required to provide five-day (5) prior notification to arrange for ATC presence on site during construction (call Jeff Vanderwerff @ 262-206-4966 or jvanderwerff@atcllc.com). Care shall be taken during excavation around the pipe. If it is necessary to expose the HPFF pipe cable, it must be exposed using small hand tools or vacuum excavation. The HPFF pipe cable must be inspected for defects in the coating while it is exposed. ATC HPFF pipe is surrounded by thermal backfill. Typically the fill extends at least 1 foot from the face of the pipe on all sides. This fill can be thermal sand if newer or appear as a concrete duct. Backfill must be replaced with approved material as stated in ATC Guide GDE-2500 and will be paid for under BID ITEM 90000 – THERMAL BACKFILL.

During installation of the sanitary sewer, the Contractor will need to cross and expose a MGE high pressure gas main. A MGE watchdog shall be onsite to observe the crossing and excavating around the high pressure gas main.

Contacts for the utility coordination are as follows:
MG&E Gas – John Wichern, JWichern@mge.com
MG&E Electric – Mark Bohm, mbohm@mge.com
AT&T – Matt Vachalik, mv5616@att.com
TDS – Jerry Myers, Jerry.Myers@tdstelecom.com
ATC – Jeff Vanderwerff, jvanderwerff@atcllc.com

SECTION 107.6 DUST PROOFING

The Contractor shall take all necessary steps to control dust arising from operations connected with this contract. When ordered by the Engineer, the Contractor shall dust proof the construction area by using power sweepers and water. Dust proofing shall be incidental with operations connected with this contract.

SECTION 107.7 MAINTENANCE OF TRAFFIC

Traffic Lanes to maintain at all times. “Traffic lane” is defined as hard pavement, with a minimum 10’ lane width:

Recommended Construction Phasing:

Phase 1:

- Close NB Lake St starting at Johnson St.
- Close eastern most thru lane from SB Lake St thru University Ave.
- Close EB counterflow bike lane on University Ave.
- Maintain access to Lake & Johnson Parking Garage from Johnson St.
- Maintain access to University Square Parking Garage from Johnson St.
- Maintain two general traffic lanes for WB University Ave.
- Maintain one combined bus & bike traffic lane for WB University Ave.
- Detour Bikes using crosswalks around work zone.

Phase 2 (Off-Peak Hours) Weekdays:

- Close NB thru lane from Lake St thru University Ave.
- Close eastern most thru lane from SB Lake St thru University Ave.
- Maintain left turn from NB Lake St to WB University Ave.
- Maintain one general traffic lane for WB University Ave.

- Maintain one combined bus & bike traffic lane for WB University Ave.
- Maintain EB counterflow bike lane on University Ave.

Phase 2 (Peak Hours – 7am to 8:30am & 3pm to 7pm) Weekdays:

- Close NB thru lane from Lake St thru University Ave.
- Close eastern most thru lane from SB Lake St thru University Ave.
- Maintain left turn from NB Lake St to WB University Ave.
- Maintain two general traffic lane for WB University Ave.
- Maintain one combined bus & bike traffic lane for WB University Ave.
- Maintain EB counterflow bike lane on University Ave.

Phase 2 (8:30am Friday to 7am Monday) Weekend:

- Close NB lake St starting at Johnson St to Langdon St
- Maintain southern most WB travel lane on University Ave
- Maintain 5’ bike lane for WB bikes on University Ave
- Maintain EB counterflow bike lane on University Ave

Phase 3:

- Close SB Lake St from Langdon St to University Ave
- Maintain 5’ SB bike lane from Langdon St to University Ave
- Maintain Thru and Left turn from NB Lake St using shared lane.
- Maintain two general traffic lanes for WB University Ave.
- Maintain one combined bus & bike traffic lane for WB University Ave.
- Maintain EB counterflow bike lane on University Ave.

Contractor shall install and maintain University Ave alternate route signs directing motorists to use E. Gorham St., Wisconsin Ave, Langdon St, and Park St as an alternative route to University Ave.

On-street Parking Removal:

The existing on-street parking may be restricted within the project limits. Posting of temporary “No Parking” signs is the responsibility of the Contractor. To obtain “No Parking” signs, call John Villarreal, City Parking Utility, 608-267-8756. The temporary signs need to be in place at least 48 hours in advance of the parking removal and verified by City Parking Enforcement in order for vehicles to be towed.

Metro Transit: Metro Transit will detour regular Routes 80, 81, & 82 bus service on Lake St during phase 1 and phase 2.

Maintain access to temporary or regular bus stops at the following locations:

Phase 1 & 2 (Temporary Bus Stop):

- On northbound Lake St, far side of University Ave intersection

Phase 3 (Regular Bus Stop):

- On northbound Lake St, nearside University Ave intersection.

Notify Metro Transit at least seven days in advance of starting street work or any changes to bus routes or relocations/closures of bus stops by emailing metronotice@cityofmadison.com . This advanced notice allows Metro Transit to publicize the route changes and post bus stop signs.

Portable, Changeable Message Signs (PCMS):

The following PCMS's are required:

- Facing WB University Ave at Frances St for seven days prior to start of construction – 7 Days.
- Facing NB Lake St at Johnson St for seven days prior to start of construction – 7 Days.
- Facing WB University Ave east of Gilman St at all times during construction warning of lane shifts – 35 days.
- Facing SB Lake St at Langdon St for seven days prior to SB Lake St Closure (Phase 3)
- Facing NB Lake St at Johnson St for seven days prior to NB Lake Closure (Phase 2 weekend work) if needed.

Contact Lukas Collins prior to placing message boards for specific messages to be displayed.

The Contractor shall submit an acceptable Traffic Control Plan, including all necessary phases, to Lukas Collins, lcollins@cityofmadison.com, prior to the pre-construction meeting. The Traffic Control Plan shall address all requirements of this section of the Special Provisions. The Contractor shall not start work on this project until the Traffic Engineering Division has approved a traffic control plan and traffic control devices have been installed, in accordance with the approved plan. Failure of the Contractor to obtain approval of a Traffic Control Plan, as specified above, may prevent the Contractor from starting work and shall be considered a delay of the project, caused by the Contractor.

The traffic control plan may need to be altered as conditions change in the field or as unexpected conditions occur. This may include relocating existing traffic control or providing additional traffic control. The Contractor shall install and maintain any necessary modifications or additions to the traffic control, as directed by the City Traffic Engineer, at no cost to the City. All signing and barricading shall conform to the Federal Highways Administrations "Manual on Uniform Traffic Control Devices" (MUTCD).

Traffic Control shall be measured as a lump sum. Payment for the Traffic Control is full compensation for constructing, assembling, hauling, erecting, re-erecting, maintaining, restoring, and removing non-permanent traffic signs, drums, barricades, and similar control devices, including arrow boards, for providing, placing, and maintaining work zone. Maintaining shall include replacing damaged or stolen traffic control devices. Traffic control necessary to install temporary or permanent pavement markings shall be included in the Traffic Control Lump Sum Bid Item.

Type A warning lights shall be installed on all barricades used in the project per State of Wisconsin S.D.D. 15C2-4B.

An electronic, flashing arrow board is required for any traffic lane closure which requires drivers to merge into the adjacent traffic lane.

Emergency vehicle access shall be maintained at all times.

Maintain a pedestrian walk route on at least one side of each street at all times. Any closure of sidewalk shall be approved by the Construction Engineer and shall conform to City of Madison standard detail drawing 6.36.

Do not remove existing street signs. Contact Lukas Collins, lcollins@cityofmadison.com, (608) 261-9625, for sign removals at least 48 hours prior to needing signs removed. There is no charge to the Contractor for this service.

Construction equipment and materials are not to be stored within the street right-of-way that is outside the project limits.

The work areas shall be backfilled, plated, or protected by traffic control devices during non-working hours. If steel plates are used, the Contractor shall notify the City of Madison Streets Division, 266-4681, one working day prior to placement of the plates.

Contact Lukas Collins, Traffic Engineering Division, lcollins@cityofmadison.com, 608-261-9625, with any questions concerning these traffic control specifications.

SECTION 108.2 PERMITS

The City of Madison has submitted a DNR Sanitary Sewer Submittal.

The Contractor shall meet the conditions of the permits by properly installing and maintaining the erosion control measures shown on the plans, specified in these Special Provisions, or as directed by the Construction Engineer or his designees. This work will be paid for under the appropriate contract bid items or, if appropriate items are not included in the contract, shall be paid for as Extra Work. A copy of the permit is available at the City of Madison, Engineering Division office.

This permit covers trench dewatering to a maximum of 70 gallons/minute from the project, provided appropriate control measures are in place. The City's obtaining this permit is not intended to be exhaustive of all permits that may be required to be obtained by the Contractor for construction of this project. It shall be the responsibility of the Contractor to identify and obtain any other permits needed for construction.

SECTION 109.2 PROSECUTION OF WORK

The Contractor shall begin work by **JUNE 24, 2024**. Work may only proceed after the contract is fully signed and the start work letter is received. All work under this contract shall be completed by **AUGUST 30, 2024**. This contract also includes interim completion dates as noted below.

If the Contractor fails to complete all work by the specified completion date or specified interim completion dates, Liquidated Damages will be enforced in accordance with Section 109.9 of these Special Provisions.

The Contractor shall complete all work in University Avenue and have the road surface restored with all traffic control measures removed by **July 26, 2024**.

The Contractor shall not begin work in front of the property at 415 N. Lake Street until **August 1, 2024**.

The Contractor shall not perform any work and shall have all travel lanes open for traffic from **August 13, 2024** to **August 17, 2024** for apartment turn over and student move in.

The City will have obtain a Noise Ordinance variance to allow the Contractor to work outside of the standard working hours of 7:00 AM to 7:00 PM as stated in the Standard Specifications. The Contractor will not be required to work outside of these hours, but the ability will be available to the Contractor to do so. Work outside of the standard working hours shall be limited to crossing University Ave and shall not begin work before 5:00 AM and 11:00 PM. The Engineer shall be provided with a schedule of work hours for approval two (2) weeks prior to construction starting.

The Contractor shall notify the Engineer four (4) weeks in advance of the selected start date. If notice is not provided, the start date may be delayed, and no additional compensation or time extensions will be granted for failure to provide the required notice.

SECTION 109.9 LIQUIDATED DAMAGES

The fixed, agreed, and liquidated damages due the City from the Contractor for failure to complete all work by the specified completion date for the entire contract shall be calculated per the standard specifications.

The fixed, agreed, and liquidated damages due the City from the Contractor for failure to complete all work by any of the interim completion date (noted under Prosecution of Work) shall be \$600 per calendar day for each day that work is not completed by any of the interim dates. In the event that the Contractor fails to meet multiple interim dates at the same time, the liquidated damages for each interim date missed will be summed until the necessary work is completed.

SECTION 210.1(d) STREET SWEEPING

When required, either by the erosion control plan or the Construction Engineer, the Contractor shall perform mechanical street sweeping on all streets or paved surfaces affected by construction equipment, hauling or related construction activities that result in mud tracking or siltation. Mechanical street sweeping shall be completed as directed by the Construction Engineer and shall remove all loose material to the satisfaction of the Construction Engineer. Depending on site conditions, construction activities, and hauling methods utilized by the Contractor mechanical street sweeping may be required multiple times throughout the day with an absolute minimum that all streets are clean at the end of the work day. Areas not accessible by mechanical street sweepers may require hand scraping with shovels.

BID ITEM 20336 – PIPE PLUG

With regard to the City of Madison Standard Specifications for Public Works Construction Latest Edition Article 203.2(c), any pipe found in a trench that is less than 10" in diameter while installing a sewer facility shall be considered incidental to the pipe being installed.

Any pipe plugs required to abandon or remove sewer access structure (pipes directly connected to the structure) shall be considered incidental to abandoning or removing the structure regardless of the size of the pipe being abandoned.

ARTICLE 500 SEWER AND SEWER STRUCTURES GENERAL

The sewer designer for the project is Kyle Frank. He may be contacted at (608) 266-4098 or kfrank@cityofmadison.com.

SANITARY SEWER GENERAL

This project shall include installing approximately 514 feet of new 24" PVC SDR-35/26 and C900 sewer main and the reconnection of approximately 6 sanitary laterals.

ASTM D3034 SDR-35 sewer main and lateral as called for on the plan set shall be payable under Sanitary Sewer Main (Bid Item 50301) and Sanitary Lateral (Bid Item 50353). No additional compensation will be granted for ASTM D3034 SDR-26 pipe material

All new sanitary sewer access structures shall include Neenah R-1550 castings with the new City of Madison casting detail (see S.D.D. 5.7.16) of the City of Madison Standard Specifications for Public Works Construction Latest Edition. All new sewer main connections may be factory cored and shall be included in the structure. All existing main connections shall be field cored to accommodate existing conditions and shall be compensated under BID ITEM 50791 SANITARY SEWER TAP. All sewer main and/or laterals not slated for replacement that are damaged during the installation of a structure shall be replaced by the Contractor and shall be considered incidental to the project. All benches and flowlines shall have a smooth trowel finish.

Contractors shall have a locator device on-site if they intend to start laying lateral pipe at the property line to minimize the amount of extra sidewalk removal. Each sanitary lateral shall have a maximum of 4 sidewalk squares removed and replaced. No additional compensation shall be awarded beyond this amount for the replacement of a sewer lateral. If laterals called for reinstatement on the plans are to be plugged under the direction of the engineer on-site, Contractors are required to use a sonde device to confirm that the laterals are not active.

All sanitary sewer laterals on this project were located by television inspection of the main and from City records.

It is advised that the Contractor visit the site prior to bidding to determine the type of trench protection that will be necessary for the sanitary sewer main installation.

BID ITEM 50390 – SEWER ELECTRONIC MARKERS

With regard to the City of Madison Standard Specifications for Public Works Construction Latest Edition Section 503.3(c), each sanitary lateral shall have a minimum of two (2) electronic markers with the City providing the Contractor with the required number of electronic markers. For sanitary laterals, which only include the installation of a wye, a marker ball shall be installed directly above the wye connection to the main.

BID ITEM 60894 – SKID/SLIP RESISTANT PREFORMED THERMOPLASTIC PAVEMENT MARKING, BIKE LANE GREEN

DESCRIPTION

This work consists of furnishing and installing a durable, high skid and slip resistant preformed thermoplastic bike lane green pavement marking material for use on asphalt or Portland cement concrete pavement surfaces.

MATERIALS

General

Preformed thermoplastic pavement marking to be produced of the materials and by methods described below as manufactured by Ennis-Flint or approved equal.

The material must be produced in the United States, and the manufacturer must be ISO 9001:2008 certified for design, development, and manufacturing of preformed thermoplastic pavement markings, and provide proof of current certification.

The material shall be capable of being applied on bituminous and/or Portland cement concrete pavements by the use of a handheld heat torch, and/or infrared heater without preheating the surface.

The material shall be capable of being applied in temperatures down to 45°F (7.2°C) without any special storage, preheating or treatment of the material before application.

The material must be a resilient light green color preformed thermoplastic product which contains a minimum of thirty percent (30%) intermixed anti-skid/anti-slip elements with a hardness range of 7-9 (Mohs scale), and where the top surface contains anti-skid/anti-slip elements with a hardness of 9 (Mohs scale).

Material shall be composed of an ester-modified rosin impervious to degradation by motor fuels, lubricants, etc., in conjunction with aggregates, pigments, binders, and anti-skid/anti-slip elements uniformly distributed throughout the material. The thermoplastic material shall conform to AASHTO designation M249, with the exception of the relevant differences due to the material being supplied in a preformed state, being non-reflective, and being of a color different from white or yellow.

Pigment Color

The bike lane green color shall be manufactured with appropriate pigment to ensure that the resulting colors complies with the Light Green color as specified in the FHWA Memorandum dated April 15th, 2011: Interim Approval for Optional Use of Green Colored Pavement for Bike Lanes (IA-14).

The pigment system must not contain heavy metals or any carcinogen, as defined in 29 CFR 1910.1200 in amounts exceeding permissible limits as specified in relevant Federal Regulations.

Heating Indicators

The top surface of the material shall have regularly spaced indents. The closing of these indents during application shall act as a visual cue that the material has reached a molten state, allowing for satisfactory adhesion and proper embedment of the anti-skid/anti-slip elements, and a post-application visual cue that proper application procedures have been followed.

Skid Resistance

The surface of the preformed thermoplastic material shall contain factory applied anti-skid elements with a minimum hardness of 9 (Mohs scale). Upon application, the material shall provide a minimum skid resistance value of 60 BPN when tested according to ASTM E 303.

Slip Resistance

The surface of the preformed thermoplastic material shall contain factory applied anti-skid elements with a minimum hardness of 9 (Mohs scale). Upon application the material shall provide a minimum static coefficient of friction of 0.6 when tested according to ASTM C 1028 (wet and dry), and a minimum static coefficient of friction of 0.6 when tested according to ASTM D 2047.

Thickness

The material must be supplied at a minimum thickness of 90 mils (2.29 mm) or 125 mils (3.15 mm).

Environmental Resistance

The material shall be resistant to deterioration due to exposure to sunlight, water, salt, or adverse weather conditions and impervious to oil and gasoline.

CONSTRUCTION METHODS

Install preformed thermoplastic pavement marking in accordance with manufactures specifications.

PERFORMANCE REQUIREMENTS

Preformed thermoplastic pavement marking shall be installed per plans and specification. The Engineer will notify the Contractor within 48 hours of installation regarding any pavement marking not installed to specification or to the satisfaction of the Engineer. Non-conforming preformed thermoplastic pavement marking shall be removed at no charge to the City and replaced with a conforming product.

METHOD OF MEASUREMENT

Will be measured by the squared foot (SF) of preformed thermoplastic pavement marking installed and accepted.

BASIS OF PAYMENT

Payment for this work, measured as provided above, will be made under at the contract unit price per each square foot (SF) of thermoplastic pavement marking, which shall be full compensation for all work, materials, labor, and incidentals required to complete the work as specified, including any re-application or repair required under the performance requirements as provided herein.

BID ITEM 90000 – TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER POSTS

DESCRIPTION

This bid item includes all work, materials, equipment and labor necessary to install Traffic Control Flexible Tubular Marker Posts. All work under this bid item shall be in accordance with Section 633 of the current edition of the WISDOT standard specs. Rev. 03/29/2017-7848specs_06262017.doc D-21

METHOD OF MEASUREMENT

Traffic Control Flexible Tubular Marker Posts shall be measured as set forth in Section 633.4 of the Wisconsin DOT Standard Specifications, which shall be measured on a per unit basis acceptably installed.

BASIS OF PAYMENT

Traffic Control Flexible Tubular Marker posts will be paid at the contract unit price, which shall be full compensation for all work as provided in the description.

BID ITEM 90001 – TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER BASES

DESCRIPTION

This bid item includes all work, materials, equipment and labor necessary to install Traffic Control Flexible Tubular Marker Bases. All work under this bid item shall be in accordance with Section 633 of the current edition of the WISDOT standard specs.

METHOD OF MEASUREMENT

Traffic Control Flexible Tubular Marker Bases shall be measured as set forth in Section 633.4 of the Wisconsin DOT Standard Specifications, which shall be measured on a per unit basis acceptably installed.

BASIS OF PAYMENT

Traffic Control Flexible Tubular Marker posts will be paid at the contract unit price, which shall be full compensation for all work as provided in the description.

BID ITEM 90002 – RECONSTRUCT SEWER ACCESS STRUCTURE FLOOR AND BENCH

DESCRIPTION

This bid item shall include removal of a portion of the structure bench and floor to allow new pipe to be installed through the structure, excavation of material below structure to install pipe at elevations shown on the plan, placing of pipe bedding material, tap new holes to structure, pour concrete around the pipe to build structure floor and bench, make watertight connection around the pipe at the structure wall, cutting off of the top of the new pipe, and all other work required to create a water tight floor around new pipe in SAS #4850-013 as shown on the plans and in accordance with the City of Madison Standard Specifications for Public Works Construction, Latest Edition, and these special provisions.

METHOD OF MEASUREMENT

RECONSTRUCT SEWER ACCESS STRUCTURE FLOOR shall be measured as each completed unit. The contract price shall include furnishing all materials necessary to perform the work; excavation; backfilling excavation and compacting of the backfill material; construction of the new floor; connection of the pipe to the structure, and all other work incidental to removal and installation of new structure floor and bench.

BASIS OF PAYMENT

RECONSTRUCT SEWER ACCESS STRUCTURE FLOOR shall be measured as described above which shall be full compensation for all work, materials, and incidentals required to complete the work in accordance with the description.

APPENDIX A

**SOIL BORING LOCATION MAP
LOGS OF TEST BORINGS (3)
LOG OF TEST BORING-GENERAL NOTES
UNIFIED SOIL CLASSIFICATION SYSTEM**



Legend

⊕ Denotes Boring Location



Scale: Reduced

Notes

1. Soil borings performed by America's Drilling Co. in September 2023 (B3) or J&J Soil Testing in November 2009 (B1&B2)
2. Boring locations are approximate

Job No. C23051-14
Date: 10/2023



SOIL BORING LOCATION MAP
Hawthorne, Lake & Dayton Streets
Madison, Wisconsin



LOG OF TEST BORING

Project Hawthorne, Lake and Dayton
Hawthorne: 195'N of University, 4'W of Centerline.
 Location Madison, Wisconsin

Boring No. 1
 Surface Elevation (ft) 859±
 Job No. C23051-14
 Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES					
No.	TYPE	Rec (in.)	Moist	N		Depth (ft)	qu (qa) (tsf)	w	LL	PL	LOI
					X	6 in. Asphalt Pavement/4 in. Brown Sand/2 in. Asphalt Pavement					
1		18	M	17		FILL: Medium Dense Brown Sand with Silt, Gravel and Scattered Cobbles Trace Cinders at 2 ft					
2		6	W	50/6"		Numerous Cobbles/Rubble Near 3.5 ft					
3		18	M	7		Very Stiff to Stiff, Gray and Brown (Mottled) Lean CLAY, Trace to Little Sand, Trace Plant Fibers (CL)					
					5						
4		18	M	8							
					10						
					10	Medium Dense, Gray SILT, Little to Some Sand (ML)					
5A 5B		14	M/W	25		Medium Dense, Brown Fine to Medium SAND, Some Silt and Gravel (SM)	(2.0)				
					15	End of Boring at 15 ft Borehole Backfilled with Bentonite Chips	(1.6)				
					20						

WATER LEVEL OBSERVATIONS

GENERAL NOTES

While Drilling ∇ 3.5' Upon Completion of Drilling _____
 Time After Drilling _____
 Depth to Water _____
 Depth to Cave in _____

Start 11/27/09 End 11/27/09
 Driller J&J Chief JP Rig CME-45
 Logger JP Editor ESF
 Drill Method 2 1/4" HSA; Autohammer

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.



LOG OF TEST BORING

Project Hawthorne, Lake and Dayton
 Lake: 170'N of University, 13'W of Centerline
 Location Madison, Wisconsin

Boring No. 2
 Surface Elevation (ft) 862±
 Job No. C23051-14
 Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N		Depth (ft)	qu (qa) (tsf)	w	LL	PL
					5.5 in. Asphalt Pavement/10 in. Base Course					
1A 1B		18	M	38	FILL: Dense Orange and Brown Sand with Silt, Gravel and Traces Asphalt to 3.5 ft					
2		0	M	30/0"	Recycled Concrete with Gravel and Sand to 5.5 ft Very Dense/Rubble Near 3.5 ft					
3		18	M	7	Medium Stiff to Stiff, Brown and Gray (Mottled) Sandy Lean CLAY (CL)	(1.0)				
4		18	M/W	9	Loose, Light Brown Sandy SILT, Trace Clay and Gravel (ML)					
5		18	M	32	Dense, Brown Fine to Medium SAND, Little to Some Gravel, Trace Silt (SP)					
					End of Boring at 15 ft					
					Borehole Backfilled with Bentonite Chips					

WATER LEVEL OBSERVATIONS

GENERAL NOTES

While Drilling ∇ 9.0' Upon Completion of Drilling _____
 Time After Drilling _____
 Depth to Water _____
 Depth to Cave in _____

Start 11/27/09 End 11/27/09
 Driller J&J Chief JP Rig CME-45
 Logger JP Editor ESF
 Drill Method 2 1/4" HSA; Autohammer

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.



LOG OF TEST BORING

Project Hawthorne, Lake and Dayton
Dayton: 200'W of Frances, Near Centerline
 Location Madison, Wisconsin

Boring No. 3
 Surface Elevation (ft) 855±
 Job No. C23051-14
 Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES					
No.	TYPE	Rec (in.)	Moist	N		Depth (ft)	q _u (qa) (tsf)	w	LL	PL	LOI
					5	5 in. Asphalt Pavement/11 in. Base Course					
1		10	M	29		FILL: Medium Dense to Loose Brown Sand with Variable Silt and Gravel Contents					
2		6	M	9							
					5	Medium Stiff, Gray Lean CLAY, Trace Sand and Plant Fibers (CL)					
3		14	M	5			(0.75)				
4		12	M	19		Medium Dense, Brown Silty Fine SAND, Trace Gravel, Scattered Thin (<2") Clay Seams (SM)					
					10						
5		12	M	15							
					15	Loose, Gray Sandy SILT, Trace Clay (ML)					
6		14	M/W	7							
					15	End of Boring at 15 ft					
						Backfilled with Bentonite Chips and Asphalt Patch					
					20						

WATER LEVEL OBSERVATIONS

GENERAL NOTES

While Drilling NW Upon Completion of Drilling _____
 Time After Drilling _____
 Depth to Water _____
 Depth to Cave in _____

Start 9/13/23 End 9/13/23
 Driller ADC Chief KD Rig CME-55
 Logger PD Editor ESF
 Drill Method 2 1/4" HSA; Autohammer

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.


	<h1>Guide</h1>	Department:	Asset Management (T-Line Underground)
		Document No:	GDE-0265
Title: UNDERGROUND TRANSMISSION LINE CLEARANCES		Version No:	03
		Issue Date:	04-03-2019
		Previous Date:	02-12-2010

Table of Contents

1.0	Purpose	1
2.0	Scope	1
3.0	Introduction.....	1
4.0	Definitions.....	1
5.0	Transmission Cable Considerations	2
5.1	Cable System Considerations	2
5.2	Cable Type Considerations.....	2
5.3	Underground Electric Right-of-Way.....	3
5.4	Relocation Lead Time	3
5.5	Protection of ATC Facilities.....	3
6.0	Clearance Considerations	4
6.1	Clearance Between Cable System and Other Underground Utilities	4
6.2	Vertical Clearance Space above Underground Cable Systems	8
6.3	Cable Trench Construction.....	8
6.4	Cable Depth	8
6.5	Vegetation Adjacent to Cable Systems	9
7.0	References	9
8.0	Document Review	10
9.0	Revision Information.....	10

Approved By: <small>Signed original on file</small>	Author: Ron Knapwurst
Check one: ATC Only <input type="checkbox"/> External <input checked="" type="checkbox"/>	

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1.0 PURPOSE

This document provides guidance for American Transmission Company (ATC) staff and consulting engineers by defining the required clearances between ATC underground electric transmission cable systems and other utilities or structures.

2.0 SCOPE

This guide will provide guidance for the design of the underground transmission (UGT) lines crossing or near to adjacent underground utilities and facilities occupying the same general area. It will also provide review guidance for proposed right-of-way (ROW) encroachments on ATC underground cable systems.

3.0 INTRODUCTION

ATC owns and operates underground cable systems from 69kV to 161kV of either pipe-type, duct bank, conduit or direct buried construction. Casing pipes may also be used under certain transportation corridors. This guide will address the following issues:

- Determine the potential impact of the proposed encroachment for code compliance.
- Ensure the safety, integrity and access to ATC underground electric transmission facilities.
- Preserve ATC easement rights as indicated in the original ATC easement documents.
- Maintain the electrical rating (ampacity) of the ATC underground cable system.

4.0 DEFINITIONS

Cable System – Transmission cables and the engineered environment in which the cables are installed.

Casing – Large steel pipe, or other material, that provides extra protection for the cable system that is installed within it.

Cathodic Protection – Technique used to control the corrosion of a metal surface, used in pipe-type systems.

Clearance – Distance between an ATC underground facility and other adjacent infrastructure or objects.

Direct Buried – Item (cables) buried directly into the native earth or backfill materials.

Duct Bank – Grouping of conduits, generally encased in concrete, in which cables are installed.

Pipe-Type – Cable system type that encases the cables within a single steel pipe.

Thermal Backfill – Specially engineered backfill designed to assist in conducting heat away from the transmission cable(s).

Thermal Resistivity – Measure of a material's ability to resist the conductance of heat through the material.

Trenchless Construction – Construction methods that do not utilize an open trench to install underground facilities. These include horizontal directional boring, jack and bore, micro-tunneling and other similar types of construction.

5.0 TRANSMISSION CABLE CONSIDERATIONS

5.1 Cable System Considerations

Electrical rating of all types of underground cable systems are dependent on their ability to dissipate the heat generated within the cables during the flow of electrical power. Specific attention is paid to the thermal heat transfer capability of the cable systems and the surrounding soils and backfills during the initial cable system design. Heat transfer capability decreases as the thermal resistivity of the soils / backfill material increases and/or with the depth of burial of the cable. Thermal backfill (special fluidized concrete type mixture and/or granular materials) is often placed around and above the cable to improve the heat transfer capability.

ATC must assure that proposed work in the vicinity of underground cables does not create a reduction of the cable electrical rating for operational reasons. For changes in surface grade, generally, the bury depth cannot be increased unless special considerations are made to compensate for the increased depth, such as improved thermal backfills. For underground utility work any excavated material over or around the cable system must be replaced in kind, whether the backfill is native soils or thermal backfill.

ATC must assure that soils and backfills in the vicinity of the cable system are not dried out via vegetation or external heat sources.

Access to the specific cable system must be maintained so that crews have the ability to make repairs and/or perform routine maintenance on the cable system. Any proposed alterations to the areas above and surrounding the cable should take this into consideration.

5.2 Cable Type Considerations

Pipe-type cable systems use carbon steel pipes, with 5-9/16", 6-5/8", 8-5/8", and 10-5/8" outside diameters (OD), sometimes also having 2-3/8" or 3-1/2" OD fluid return lines. Buried 2-3/8", 3-1/2" or 4-1/2" OD stainless steel pipes are also used for terminations, trifurcators and spreader heads. These pipes will have a corrosion resistant coating on the outer surface that must be maintained to ensure that corrosion and subsequent leaks do not develop in the pipe. Should the pipe(s) be subjected to abnormally high stresses, the physical properties of the pipe must be evaluated. Two examples of a situation where the mechanical strength of the pipe should be evaluated are:

- An installation of railroad tracks.

- An excavation which undermines the pipe for a length greater than 8 feet.

Pipe-type cable systems are also equipped with a cathodic protection system. This will consist of cathodic protection rectifiers at each end of the pipe line or of anodes buried adjacent to the pipe periodically over the pipe length. In addition to keeping these cathodic systems intact, other underground utilities and structures may also use cathodic protection systems. Interference between adjacent cathodic systems can result in inadequate cathodic protection and/or accelerated corrosion. The influence of all cathodic systems should be taken into consideration.

Pipe-type and duct bank type cable systems generally have manholes associated with them. Access to all manholes must be maintained. Temporary exceptions may be considered on a case-by-case basis.

Direct buried cable systems generally consist of three cables laid in a flat configuration with a deliberate spacing between the individual cables. Special care should be taken to identify the location of all three cables, especially the outer cables. Identification must be done prior to design and construction of other facilities in the area of the direct buried cable system.

5.3 Underground Electric Right-of-Way

Underground cable systems may be installed using several different types of ROWs. The type of ROW should be considered in determining the response to an encroachment request.

5.4 Relocation Lead Time

If a relocation of the ATC underground transmission facility is required, the lead time to design, procure material and construct the UGT may exceed one and one-half to two (1½ to 2) years after the development of a Line Relocation Agreement. The request should be reasonable, allowing enough time for the safe design of the relocation, material procurement and construction. Refer to *ATC Business Practice*, BP-0401.

5.5 Protection of ATC Facilities

ATC underground transmission facilities must be adequately protected using mats or steel road plating during all work activities positioned over the UGT facilities. When construction equipment, of substantial size and weight (such as a crane), is positioned over the UGT facilities, the entire area under the equipment must be reinforced using appropriate construction matting to equalize the weight. The requestor is responsible for taking any and all precautions to avoid soil compaction, sinking, undermining and any other circumstances that would cause damage to the ATC underground transmission facilities. Refer to *ATC Construction Around Existing ATC High Voltage Underground Cable Systems*, GDE-2500, for further guidance for protection of UGT facilities.

6.0 CLEARANCE CONSIDERATIONS

All clearances are from the outer most surface of the respective cable system. The outer surface will be the coated pipe, duct bank, conduit or direct buried cable, as appropriate for the cable system at any given location.

Normal design clearances should use the preferred clearances listed in Table 1 and Table 2 to ensure normal safe working clearances from the other utility or structure. In special design situations, such as gravity fed sewers, the Minimum Design clearances may be used, with demonstrated necessity shown to ATC.

If the adjacent utility or structure is not able to meet the Minimum Design clearance, they must coordinate with and obtain approval in advance from ATC engineering. ATC will work with the utility or structure owner on developing a plan that may utilize "Minimum Acceptable" clearances and/or special designs to compensate for the reduced clearances. Special design consideration may include special thermal backfills, thermal insulating shields and stress relief barriers. Clearances less than the minimum design requirement will be determined on a case-by-case basis for the specific situation.

Prior to final design, the location of the ATC facilities must be verified, in the presence of an ATC representative, by small exploratory excavation(s). The small exploratory excavation(s) must be done, using vacuum excavation, small hand tools or other approved methods, to verify all cable system locations in the field. ATC drawings, showing cable system locations, were accurate at the time of installation only and should not be solely relied upon, in the place of field examination. Diggers Hotline markings can be considered as being accurate to within 18 inches of the ATC cable system.

Pipe-type cable systems must be inspected for defects in the pipe coating while it is exposed and must be repaired by ATC prior to closing the excavation. All underground electrical circuits must be assumed to be energized during all exploration and construction activities.

6.1 Clearance Between Cable System and Other Underground Utilities

The horizontal and vertical clearances between the ATC cable system and other underground utilities, structures and facilities are to be designed and constructed to permit access to and maintenance of either facility without damage to the other.

All underground utilities, structures and facilities should also be designed and constructed in such a manner as to not impact the electrical rating of the electric transmission cable system. Additionally, all underground facilities must be designed with suitable support on each side of the adjacent underground facility to limit the transferring of any direct load, unless otherwise agreed upon with ATC. It should be noted that some municipalities may have codes that govern minimum required distances between facilities.

6.1.1 Horizontal Clearance / Parallel Installations

The minimum horizontal or parallel clearances from the outer most surface of the electric cable pipe, duct bank, conduit or direct burial system to the other utility or structure should be no less than those shown in Table 1. If the adjacent utility or structure is not able to meet the minimum design clearance, they must contact ATC. No other utilities or structures that extend parallel to the ATC cable system should be located directly above or below the cable system.

Water mains should be installed as far as practical from the cable system, to protect the cable system from being undermined or damaged in the event of a water main break or pin hole leaks.

6.1.2 Vertical Clearance /Crossing Installations

The minimum vertical or crossing clearances from the outer most surface of the electric cable pipe, duct bank, conduit or direct burial system to the other utility or structure should be those shown in Table 2. If the adjacent utility or structure is not able to meet the minimum design clearance, they must contact ATC. Clearances less than the minimum design requirement will be determined on a case-by-case basis for the specific situation.

Table 1 – Horizontal or Parallel Clearances from Cable System

Utility or Structure	Design Clearances (ft)		
	Preferred Design	Minimum Design	Minimum Acceptable
Gas, Distribution Main or Service	2	1	1
Storm or Sanitary Sewer	2	1	1
Water Main or Service	2	1.5	1
Electric Ducts	10	10	10 ¹
Steam Main or Tunnel	10	10	10 ¹
Oil or Gas Transmission Pipeline ²	8	5	2
Communication and Other Ducts	2	1	1
Manholes	2	1	1
Other Structures or Foundations ³	2	1.5	1

Table 1 Notes:

- ¹ A lesser clearance may be acceptable with the approval of ATC of an adequately designed insulation barriers and/or additional thermal backfill to isolate/dissipate heat from the adjacent heat producing utility.
- ² ATC underground transmission facilities within 100 feet of an oil or gas pumping/compressor facility must have at least a 15 feet horizontal separation from the extremity of that facility.
- ³ Additional clearance may need to be provided for pipe/duct maintenance and/or structural stability of facilities.

Table 2 – Vertical or Crossing Clearances from Cable System

Utility or Structure	Design Clearances (ft)		
	Preferred Design	Minimum Design	Minimum Acceptable
Gas Distribution Main or Service	2	1	1
Storm or Sanitary Sewer	2	1	0.5
Water Service	2	1	0.25 ¹
Water Main	2	1.5	0.5
Electric Ducts, distribution and transmission	4	2	1.5
Steam Main or Tunnel	6	5	4
Oil or Gas Transmission Pipeline	4	2	1
Communication and Other Ducts	2	1	0.25 ²
Manholes (under ATC cable)	2	1	1
Railroad Track (in street) ³	5	5	3
Railroad Track ³	5	5	4.25
Grade	3.5	3	2 ⁴

Table 2 Notes:

- ¹ For water service of two inches or less in size. Water service larger than two inches shall maintain at least 0.5-foot Minimum Acceptable clearance.
- ² Separation shall include at least three inches of concrete, via encasement and/or barrier between the facilities.
- ³ Clearance from top of rail.
- ⁴ Galvanized Steel Plate required if less than 2.5 feet.

6.1.3 Structures or Foundations

No structures or foundations are to be built above or enclose an ATC cable system, without obtaining prior review and approval from ATC Asset Planning and Engineering. Additional clearances may be needed to assure maintenance access to the ATC pipe and structural stability of the pipe and/or adjacent structure. Refer to the sections below for various foundation/structure clearance requirement scenarios. Final structures and/or foundation designs will be reviewed and evaluated on a case-by-case basis.

Structures or foundations adjacent to pipe or duct bank trench (See Figure 1) shall maintain at least a one foot clearance from the outer edge of the special thermal backfill. This is to assure proper performance of the thermal backfill and adequate clearance for maintenance of the pipe or duct bank, including the thermal backfill.

Structures or foundations above and to the side of the pipe or duct bank trench (See Figure 2) shall be installed with at least a one-to-one slope between the

closest bottom corner of the structure or foundation and the bottom corner of the ATC pipe or duct bank trench. This is to assure that in the event of a need to excavate the pipe or duct bank trench for maintenance or repair, that the excavation does not compromise the stability of the structure or foundation.

Figure 1 – Adjacent to Pipe/Duct

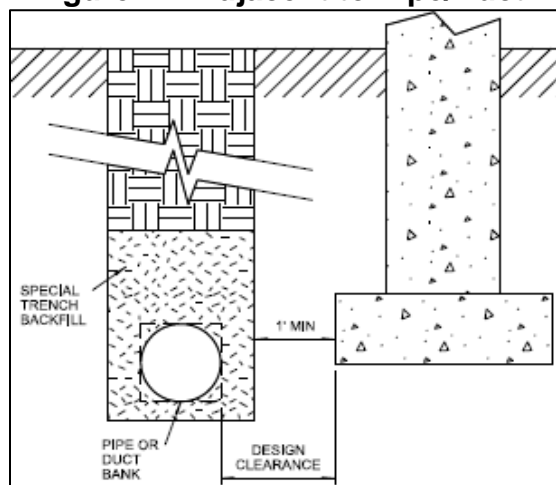


Figure 2 – Above Pipe/Duct

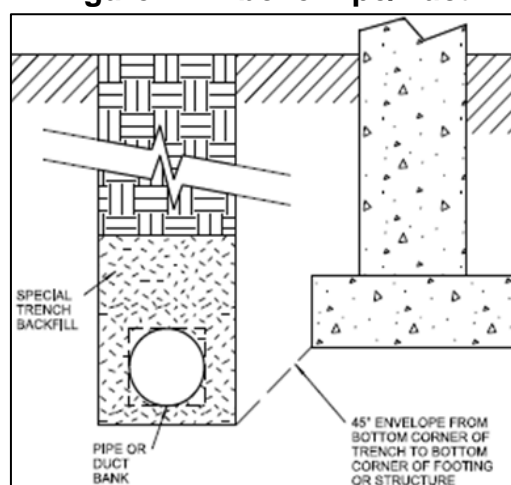
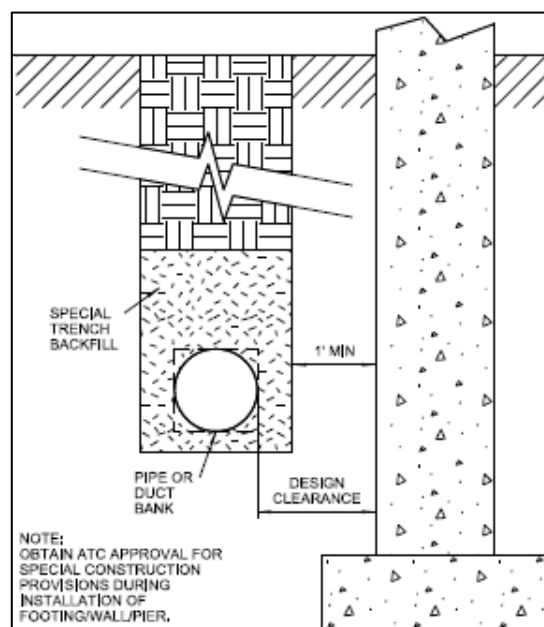


Figure 3 – Below Pipe/Duct

Structures or foundations extending below the pipe or duct bank trench (See Figure 3) shall provide proper support of the pipe or duct bank during the installation of the structure /foundation. Refer to ATC GDE-2500, for guidance for excavating around and providing temporary support for pipes and duct banks. All such excavation, protection and support plans shall obtain review and approval from ATC engineering prior to construction for the respective structure or foundation.



6.1.4 Trenchless Construction Clearances

When a trenchless type of construction is utilized adjacent to UGT lines, a minimum of five feet or the clearance as stated in Tables 1 and 2 above, whichever is greater, must be maintained in all direction from the UGT lines. Field exploratory excavations must be performed, to verify the exact location of the UGT cables, prior to any trenchless construction. Trenchless construction includes horizontal directional boring, jack and bore, micro-tunneling and other similar types of construction.

6.1.5 Special Heat Source Clearance Considerations

Clearances to adjacent heat sources (electric ducts, steam main/tunnels and oil or gas pumping/compressor facility) may be reduced to less than those specified in Tables 1 and 2 if a thermal analysis has been performed to justify the reduced clearance. Consideration for the use of thermal barriers and/or enhanced thermal backfills should be used when reduced clearances are desired. In all cases of requested reduced clearances for the proposed facilities, the design must be coordinated with and approved in advance by ATC engineering.

6.2 Vertical Clearance Space above Underground Cable Systems

An open space should be provided to all permanent structures and objects constructed above ground and over the cable system. This open space is to provide access for maintenance, repairs and/or replacements of the cable system. The open space should be a minimum of 12 feet vertical clearance above grade of the cable system, and be a minimum of 10 feet in width or the width of the cable system ROW, whichever is greater.

6.3 Cable Trench Construction

The construction of the cable trench is an important part in the ability of the respective cable system to handle the electrical load (and consequently the thermal performance) that was considered in the original design of the cable circuit. Thermal backfill is an important part of the original trench design and is key in effectively transferring heat away from the cable system.

In situations where construction will occur in the area of the cable system, care must be taken to ensure that the cable trench remains undisturbed. When working close to the cable system, consideration should be given to installing sheet pile or other protective means, to avoid collapsing the original cable trench that would result in loss of thermal material and/or its compaction.

If the integrity of the cable trench is compromised or is intentionally excavated, actions must be taken to return the cable trench to its original or better construction, including thermal backfills. This will ensure that the cable's thermal surrounding continue to meet the original electrical design for the circuit. Refer to ATC GDE-2500 for further guidance.

Pipe-type cable systems must be inspected for defects in the pipe coating by an ATC representative while it is exposed, prior to any backfilling.

6.4 Cable Depth

Additional fill over the cable system may result in a reduced rating capacity of the cable. If it is determined that the additional cable depth will reduce the cable rating, the additional ATC approved thermal backfills must be added to restore the cable rating to that of the original depth. Refer to ATC Construction Specification, *Thermal Backfill*, 31 23 23.53 for further material and installation guidance. Additional cover material must not be placed over the cable system without the review and approval of ATC engineering.

Cable systems (i.e. pipe, duct bank, conduit or cable), where the top of the cable system is less than 30 inches depth, should be covered with a galvanized steel plate. The steel plate(s) should be a minimum of 16 inches in width, centered over the cable system extending at least four inches beyond the outer edges of all cable system components and be at least one-quarter ($\frac{1}{4}$) inch in thickness. An alternate to flat plate, is a section of casing (large pipe) placed in an inverted half-moon position (cap) over the cable pipe/duct. The vertical separation between the cable system and the plate/cap must be a minimum of six inches with 12 inches preferred. All protective steel plates/caps must have an ATC approved thermal backfill, with no voids, placed between the cable system and plate/cap and may require additional thermal backfill over the steel plate/cap. The steel plate/cap installation must be coordinated with and approved in advance by ATC.

6.5 Vegetation Adjacent to Cable Systems

The ampacity of the underground cable system is dependent on the thermal heat dissipation through the surrounding native soils and backfill materials. When trees and shrubs are planted along the ROW, the root system absorbs the moisture in the soil/backfill, altering the thermal properties of the surrounding soil/backfill and thereby negatively impacting the cable ampacity rating. Also, root systems of large trees near the cable system can structurally damage associated underground facilities.

A useful rule of thumb is that a mature tree or shrub will have a root system that is twice as wide as the above ground canopy. Most trees and shrubs have the majority of their roots (>80%) in the top two feet of soil.

Tall growing trees and large shrubs, with a mature height of greater than 10 feet, should not be planted near the cable systems. The tree trunk should be a minimum distance of 12 feet horizontally away from the outermost component of the cable system.

Woody shrubs or plants with a mature height of two to 10 feet, typically have a shallow root system, will not be allowed over the underground cable system. The minimum distance should be eight feet horizontally from the outermost component of the cable system.

Annuals, perennials and ornamental grasses can safely be grown over the underground cable systems.

This requirement serves as a guide for new landscaping installations, as well as serves as an ATC maintenance guide, to ensure that the cable system performance is not degraded.

7.0 REFERENCES

ATC Business Practice, Line Relocation Requests, BP-0401

ATC Construction Specification, Thermal Backfill, 31 23 23.53

ATC Construction Around Existing ATC High Voltage Underground Cable Systems, GDE-2500

Electric Power Research Institute (EPRI), Underground Transmission Reference Book, Chapter 13, Cable System Construction, Section 13.2.6, Bed of Trench, 2007

National Association of Corrosion Engineers (NACE), Electrical Isolation of Cathodically Protected Pipelines, NACE Report RP-02-86, 2002.

National Electric Safety Code (NESC), IEEE Publication C2, latest edition.

Office of Pipeline Safety, US Department of Transportation, Publication 49CFR192, Sections 192.325 and 192.327.

Public Service Commission of Wisconsin, Wisconsin State Electric Code, Volume 1, Chapter PCS 114, latest edition

Public Service Commission of Wisconsin, Wisconsin State Gas Safety Code, Chapter PCS 135, latest edition.

8.0 DOCUMENT REVIEW

This document will be reviewed in accordance with review requirements in GDE-0480, ATC Standard *Document Control Guide* and FRM-0481, ATC Standard *Document Review Checklist*. ATC Transmission Line Services is responsible for review and updating of this guide to will ensure this document remains current.

9.0 REVISION INFORMATION

Revision	Author	Date	Section	Description
01	R Knapwurst	02/27/07	All	Original version
02	R Knapwurst	12/29/10	All	Reduced oil/gas pipeline clearances, added vertical clearance, cable depth and vegetation sections
03	R Knapwurst	04/03/19	All	Removed R/W, lead time & backfill sections, added structure/foundation details, various minor clarifications and corrections and reformatted. Added clearance requirements to GDE-2500, for 3 rd -party use and changed this guide for use for design and encroachment review only.

END


	<h1>Guide</h1>	Department:	Asset Management (Asset Maintenance)
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Table of Contents

1.0 Purpose and Scope	1
2.0 Introduction	1
3.0 Definitions and Acronyms	1
4.0 Protection of Facilities	1
4.1 Energized Transmission Lines	1
4.2 Cathodic Protection / Pipe Coating	1
4.3 Access Clearances	2
4.4 Mechanical Stress.....	2
4.5 Heat Dissipation.....	2
5.0 Clearances.....	2
5.1 Clearance Requirements.....	2
5.2 Clearance Between Cable System and Other Underground Facilities	3
5.2.1 Horizontal Clearance / Parallel Installations	3
5.2.2 Vertical Clearance / Crossing Installations	4
5.2.3 Structures or Foundations	4
5.2.4 Trenchless Construction Clearances	4
5.3 Vertical Clearance Space Above Underground Cable Systems	5
5.4 Vegetation Adjacent to Cable System	5
6.0 Excavation	5
6.1 Temporary Support of ATC Cable System	6
6.2 Temporary Duct Banks	6
7.0 Thermal Backfill	6
7.1 Fluidized Thermal Backfill Design Mix	6
7.2 Thermal Type Granular Backfill.....	7
7.3 Compacted Rock Backfill.....	7
8.0 Backfilling.....	7
8.1 Backfilling Under the Cable Pipe or Duct Bank	7
8.2 Backfilling Around and Above the Cable Pipe or Duct Bank.....	8
8.3 Backfilling Above the Fluidized Thermal Backfill	8
8.3.1 In Road Right-of-Way	8
8.3.2 Outside of Road Right-of-Way.....	8
8.4 Backfilling for Potholing	9
9.0 Restoration.....	9
10.0 Attachments.....	9
11.0 References.....	9
12.0 Document Review	9
13.0 Revision Information.....	10
Attachment A – Temporary Support of Cable Pipe During Excavation.....	11

Approved by: <small>(eSign by Approver)</small>	Author: Kim Aumann
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1.0 PURPOSE AND SCOPE

This guide represents the excavating and backfilling, construction and safety requirements for activities performed around or near American Transmission Company (ATC) Cable Systems.

2.0 INTRODUCTION

This guide outlines the clearances, steps and materials required when third-party entities are excavating, backfilling or constructing around existing ATC high voltage underground cable systems, including direct buried cables, pressurized pipelines, duct banks and conduits. It also covers the supporting of the pressurized pipeline, duct banks and conduits depending on the size of the excavation during exposure.

3.0 DEFINITIONS AND ACRONYMS

ATC Cable System – High voltage cable types that are direct buried, pressurized pipelines, duct bank or conduit.

American Society for Testing and Materials (ASTM)

Wisconsin Department of Transportation (WisDOT)

4.0 PROTECTION OF FACILITIES

Protection of the underground ATC Cable System is very important during excavation, backfilling and construction activities. Several issues that need to be considered during these activities are outlined below.

4.1 Energized Transmission Lines

During all exploration and construction activities all ATC Cable Systems are always to be assumed energized until verification from an ATC Representative determines the line is de-energized.

4.2 Cathodic Protection / Pipe Coating

ATC pipe-type cable lines are made of steel, are pressurized to 200 psi and must be protected from corrosion. The anti-corrosion system consists of a coating or wrap supplemented with a cathodic protection system. If the coating is damaged and the pipe is directly exposed to the surrounding soil, the existing system cannot adequately protect the pipe resulting in a premature failure of the pipe at this location. An ATC Representative must inspect the pipe coating prior to backfilling and monitor the backfilling operation to ensure that the coating system is not damaged. Other nearby underground utilities and structures may also use cathodic protection systems. If the pipe coating is damaged this could also result in interference between adjacent cathodic systems, resulting in inadequate cathodic protection and/or accelerated corrosion.

4.3 Access Clearances

Adequate clearances must be maintained from adjacent utilities, structures and foundations to ensure safe working distances during the construction activity. This includes vertical and horizontal distances around and above the ATC Cable System.

4.4 Mechanical Stress

During large excavations it is important that the ATC Cable Systems are not subjected to abnormally high stresses that may exceed its mechanical strength if the ATC Cable Systems are not properly supported.

4.5 Heat Dissipation

Transmission of electricity through a cable generates heat. The heat needs to be effectively dissipated or the cable can be damaged eventually leading to failure. ATC designs the Cable System using an engineered thermal backfill that aids in the conduction of the heat away from the ATC Cable System. Inadequate clearance to adjacent cable systems may also impede the dissipation of the cable generated heat. Additionally, Section 5.4 details the impact of vegetation planted around ATC Cable Systems.

5.0 CLEARANCES

5.1 Clearance Requirements

All clearances are from the outer most surface of the ATC Cable System. The outer surface will be the direct buried cable, pressurized pipeline, duct bank or conduit as appropriate for the ATC Cable System at any given location.

Normal design clearances are to use the preferred clearances listed in Sections 5.2.1 and 5.2.2, Table 1 and Table 2, to ensure normal safe working clearances from the other utility or structure. In special design situations, such as gravity fed sewers, the minimum design clearances may be used, with demonstrated necessity shown to ATC.

If the adjacent utility or structure is not able to meet the minimum design clearance, ATC must review and approve the requested design location in advance of the field work. Field exploratory excavations must be performed to verify the respective ATC Cable System. ATC will work with the requestor on developing a special design to compensate for the reduced clearances. Special design considerations may include special thermal backfills, thermal insulating shields and stress relief barriers. Clearances less than the minimum design requirements will be determined on a case-by-case basis for the specific situation.

Prior to final design, the location of the ATC Cable System must be verified, in the presence of an ATC Representative, by small exploratory excavation(s). The excavation(s) must be done using vacuum excavation, small hand tools or other approved methods to verify all ATC Cable System locations in the work area. ATC drawings, showing the Cable System location were accurate at the time of

installation only and are not to be considered as accurate to within eighteen (18) inches of the ATC Cable System.

5.2 Clearance Between Cable System and Other Underground Facilities

The clearances between the ATC Cable System and other underground utilities, structures and facilities are to be designed and constructed to permit access to, and maintenance of, either facility. All underground structures and facilities should be designed and constructed so that the electrical rating of the ATC Cable System is not impacted. All underground facilities are to be designed with suitable support of the adjacent facility to limit the transfer of any direct load, unless otherwise agreed upon with ATC.

Watermains should be installed as far as practical from the ATC Cable System to protect it from undermining or damaging the cable system in the event of a watermain break or leak.

5.2.1 Horizontal Clearance / Parallel Installations

The minimum horizontal or parallel clearances from the outer most surface of the ATC Cable System to other utilities or structures should be no less than those shown in Table 1. If the adjacent utility or structure is not able to meet the minimum design clearance, ATC must review and approve the desired location. No other parallel utilities, foundations or structures are to be located directly above or below the ATC Cable System.

Table 1 – Horizontal or Parallel Clearances from Cable System

Utility or Structure	Design Clearances (ft.)	
	Preferred	Minimum
Gas, Distribution Main or Service	2	1
Storm or Sanitary Sewer	2	1
Water Main or Service	2	1.5
Electric Ducts	10	10
Steam Main or Tunnel	10	10
Oil or Gas Transmission Pipeline ¹	8	5
Communication and Other Ducts	2	1
Manholes	2	1
Other Structures or Foundations ²	2	1.5

¹A lesser clearance may be acceptable with the approval of ATC of an adequately designed installation barriers and/or additional thermal backfill to isolate/dissipate heat from the adjacent heat producing utility.

²ATC Cable Systems within one-hundred (100) feet of an oil or gas pumping/compressor facility must have at least a fifteen (15) foot horizontal separation from the extremity of that facility.

5.2.2 Vertical Clearance / Crossing Installations

The minimum vertical or crossing clearances from the outer most surface of the electric Facilities to the other utility or structure should be those shown in Table 2.

Table 2 – Vertical or Crossing Clearances from Cable System

Utility or Structure	Design Clearances (ft.)	
	Preferred	Minimum
Gas Distribution Main or Service	2	1
Storm or Sanitary Sewer	2	1
Water Service	2	1
Water Main	2	1.5
Electric Ducts, distribution and transmission	4	2
Steam Main or Tunnel	6	5
Oil or Gas Transmission Pipeline	4	2
Communication and Other Ducts	2	1
Manholes (under ATC cable)	2	1
Railroad Track (in street) ¹	5	5
Railroad Track ¹	5	5
Grade	3.5	3

¹ Clearance from top of rail.

5.2.3 Structures or Foundations

No structures or foundations can be built above, or enclose, an ATC Cable System, without obtaining prior review and approval from ATC. Additional clearances may be needed to assure maintenance access to the ATC Cable System and structural stability of the pipe and/or adjacent structure. Final structures and/or foundation designs will be reviewed and approved on a case-by-case basis.

5.2.4 Trenchless Construction Clearances

When a trenchless construction type is utilized adjacent to ATC Cable Systems, a minimum of five (5) feet or the clearance as stated in Sections 5.2.1 and 5.2.2, Tables 1 and 2, whichever is greater, must be maintained in all directions from the location of the ATC Cable System, prior to any trenchless construction. Trenchless construction includes, but is not limited to, horizontal directional boring, jacking and boring or micro-tunneling. While crossing ATC Cable Systems, the facilities are to be exposed to monitor the crossing activity and ensure compliance with clearances. Blind boring is not allowed.

5.3 Vertical Clearance Space Above Underground Cable Systems

An open space should be provided to all permanent structures and object constructed above ground and over the ATC Cable System. This open space is to provide access for maintenance, repairs and/or replacements of the ATC Cable System. The open space should be a minimum of twelve (12) feet vertical above grade, and a minimum of ten (10) feet horizontal or the width of the cable system right-of-way (ROW), whichever is greater.

5.4 Vegetation Adjacent to Cable System

The ampacity of the ATC Cable System is dependent on the thermal heat dissipation through the surrounding native soils and backfill materials. When trees and shrubs are planted along the ROW, the root system absorbs the moisture in the soil/backfill, altering the thermal properties of the surrounding soil/backfill and thereby negatively impacting the cable ampacity rating. Root systems of trees and shrubs near the ATC Cable System can structurally damage the line and therefore cannot be planted in the ROW.

A useful rule of thumb is that a mature tree or shrub will have a root system that is twice as wide as the above ground canopy. Most trees and shrubs have most of their roots approximately greater than eighty percent (>80%) in the top two (2) feet of soil.

Tall growing trees and large shrubs with a mature height of greater than ten (10) feet must be a minimum of twelve (12) feet horizontal away from the outermost component of the ATC Cable System.

Woody shrubs or plants with a mature height of two (2) to ten (10) feet, typically have a shallow root system and are not allowed over the ATC Cable System. The minimum distance should be eight (8) feet horizontally from the outermost component of the ATC Cable System.

Annuals, perennials and ornamental grasses can safely be grown over the ATC Cable System.

6.0 EXCAVATION

All ATC Cable Systems are always assumed to be energized during all construction activities until an ATC Representative verifies that the line is de-energized.

Contractors are to notify ATC toll free at 866-899-3204 a minimum of ten (10) days prior to the start of any excavation. Excavation around the ATC Cable System will not be allowed without an ATC Representative on site to witness the excavation.

Mechanical equipment must not be used within two (2) feet of the ATC Cable System. Non-pointed hand tools are to be utilized to dig around the ATC Cable System. The use of a vacuum truck to expose the ATC Cable System is the preferred method of excavation. Special care must be taken to prevent damage to the ATC Cable System when exposing.

6.1 Temporary Support of ATC Cable System

At no time during excavation is the ATC Cable System to be unsupported for a length greater than eight (>8) feet. If the unsupported length is to exceed eight (8) feet, the Contractor is to provide an approved support system. An example of a suspended support system is shown in Attachment A. At least ten (10) working days prior to construction the Contractor is to submit calculations for their support system to ATC for review and approval. Calculations must show that the support beam does not deflect more than two (2) inches when supporting the ATC Cable System. A weight of forty (40) pounds per foot is to be used for the typical ATC Cable System. This weight covers the pipe, cable and dielectric fluid.

6.2 Temporary Duct Banks

Due to various sizes of a duct bank, the Contractor will need to contact ATC toll free at 866-899-3204 to determine what length of duct bank or conduit may be unsupported during an excavation. If it is determined that a duct bank or conduit support system is required, the Contractor must submit calculations for the support system to ATC for review at least ten (10) working days prior to construction. Contractor is to work with ATC to determine a weight per foot of the duct bank or conduit system.

7.0 THERMAL BACKFILL

7.1 Fluidized Thermal Backfill Design Mix

Fluidized thermal backfills (FTB) are to be a free-flowing, self-compacting, controlled density fill, that generally should fill the excavation in a single pour to two (2) feet above the ATC Cable System. FTB is not to be dumped directly on the ATC Cable System and should follow Section 8.0. The FTB design mix is below:

Component Material	Weight (lb./cu.yd.)
Medium Aggregate (3/8" pea gravel)	1500
Concrete Sand – 4110 (ASTM C33/C33M)	1600
Fly ash, Class "C" or Slag Cement, Grade 80 or 100	250
Portland Cement (Type 1)	25
Water	350
Compressive Strength (28 days)	<70 psi

NOTE: DO NOT USE ANY AIR ENTRAINING AGENT. ALSO NOTE THE CEMENT CONTENT AND COMPRESSIVE STRENGTH. *THIS MATERIAL MUST BE ABLE TO BE EXCAVATED.*

This would be used for backfilling larger excavations since it would need to be mixed at a batch plant and delivered in a ready-mix truck.

7.2 Thermal Type Granular Backfill

Thermal Granular Backfill (TGB) (Concrete Sand, i.e. Torpedo Sand) is to be used for backfilling when the exploratory excavation is under twelve (12) inches in diameter. This is a typical diameter hole when performing most potholing activities. TGB is not to be used for backfilling larger excavations.

This material is a very clean, gravel sand graded from number two-hundred (#200) mesh to three-sixteenth (3/16) inch designed to meet WisDOT specification for fine concrete aggregates and the ASTM C33 concrete specification. This is typically an all-purpose sand that is obtainable at a home-improvement retail store. If not readily available a Mason Sand (typically used with grout mix) is a clean, gravel sand graded from number two-hundred (#200) mesh to a number sixteen (#16) mesh can be substituted. If neither of these products are available, crushed limestone with a maximum grain size of one-eighth (1/8) inch can be used.

TGB material must not contain wood, grass, roots, broken concrete, stones, trash or debris of any kind.

7.3 Compacted Rock Backfill

Compacted Rock Backfill (CRB) is used to fill above the thermal backfill where there are compaction requirements, such as under pavements. CRB is to comply with the gradation of one and one-quarter (1-1/4) inch requirement specified in Section 305 for the WisDOT Standard Specifications.

CRB material is not to contain wood, grass, roots, broken concrete, large stones, trash or debris of any kind.

8.0 BACKFILLING

Backfill materials, described in Section 7.1, 7.2 and 7.3, are not to be dropped directly on the ATC Cable System. The use of plywood baffles, or similar method, must be used to protect the ATC Cable System during the backfilling operation.

Prior to backfilling around the ATC Cable System, the pipe coating is to be inspected by an ATC Representative and, if necessary, repaired to protect the integrity of the ATC Cable System.

No backfill is to be deposited or compacted in water.

If the ATC Representative determines that the backfilling operation damaged the ATC Cable System, ATC will test the Cable System for damage. If it is determined that the ATC Cable System is indeed damaged, the Contractor will be required to re-expose the ATC Cable System so that repairs can be made.

8.1 Backfilling Under the Cable Pipe or Duct Bank

When there is significant backfilling under the cable pipe or duct bank, to bring the excavation up to point where it is ready to start backfilling, as described in Section 7.2, the backfill material is to be a graded crushed rock or a granular

material. The rock backfill is to be free draining, well-graded, granular material free of silt, shale clay or other unsuitable material conforming to Section 305 of the WisDOT Standard Specifications or an ATC approved equivalent satisfying the requirements of the compacted rock backfill specified in Section 7.3. Excavated material is not allowed to be used for backfilling.

The backfill is to be deposited in layers no greater than twelve (12) inches. The material must be placed at optimum moisture content as determined by ASTM D698. Each layer of backfill must be compacted by mechanical or hand tamping and compacted to at least ninety (90) percent of the maximum dry density. Compaction of structure backfill by inundation with water will not be permitted.

FTB may also be used instead of the crushed rock or granular earth material following the specifications in Section 7.1.

8.2 Backfilling Around and Above the Cable Pipe or Duct Bank

If the exposed cable pipe or duct bank is supported via straps, the supporting straps must be kept in place during the backfilling. Supports underneath cable pipes and duct banks must stay in place during the backfilling of that facility.

If FTB is to be placed under, next to or over the cable pipe FTB must be around the sides up to a level two (2) feet above the uppermost surface of the respective cable system, unless the specific situation requires otherwise due to special considerations.

After the FTB has setup, the supporting straps are to be cut-off and the support beam removed.

8.3 Backfilling Above the Fluidized Thermal Backfill

8.3.1 In Road Right-of-Way

The backfill material within road ROW must be three-quarter (3/4) inch graded crushed gravel or what is specified by the municipality in the excavation permit.

The backfill must be deposited in layers no greater than twelve (12) inches. The material is to be placed at optimum moisture content as determined by ASTM D698. Each layer of backfill must be compacted by mechanical or hand tamping and compacted to at least ninety (90) percent of the maximum dry density. Compaction of structure backfill by inundation with water is not be permitted.

A strip of six (6) inch wide red warning tape must be added in this section of backfill, six (6) inches above the top of the required thermal backfill. The warning tape can be obtained from an ATC Representative by calling toll free at 866-899-3204.

8.3.2 Outside of Road Right-of-Way

The backfill outside of road ROW may use FTB, as described in Section 7.1, or TGB, as described in Section 7.2.

A strip of six (6) inch wide red warning tape must be added in this section of backfill, six (6) inches above the top of the required thermal backfill. The warning tape can be obtained from an ATC Representative by calling toll free at 866-899-3204.

8.4 Backfilling for Potholing

If the excavation was only for the potholing of the ATC Cable System and is around twelve (12) inches or less in diameter then the hole can be backfilled using TGB, described in Section 7.2.

9.0 RESTORATION

Excavations on private property must be restored to their original condition. Lawns must be replaced with sod similar and/or equal to the sod that was removed, if not better in quality. A minimum of two (2) inches of topsoil must be installed beneath the sod.

The methods of replacing concrete or asphalt in streets must meet the requirements of the governing jurisdiction. Sidewalk replacement must meet municipal requirements.

10.0 ATTACHMENTS

Attachment A – T-UGD-EXC-001.000 Temporary Support of Cable Pipe During Excavation

11.0 REFERENCES

Standard Specification for Concrete Aggregates, ASTM C33

Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort, ASTM D698

Dense Graded Base; Standard Specifications for Highway and Structure Construction, WisDOT Section 305

Underground Transmission Line Clearances, GDE-0265

Thermal Backfill, Construction Specification 31 23 23.53

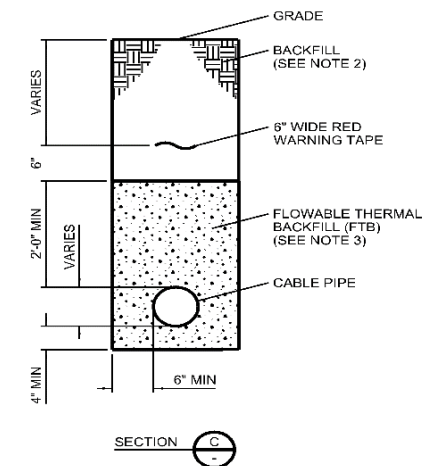
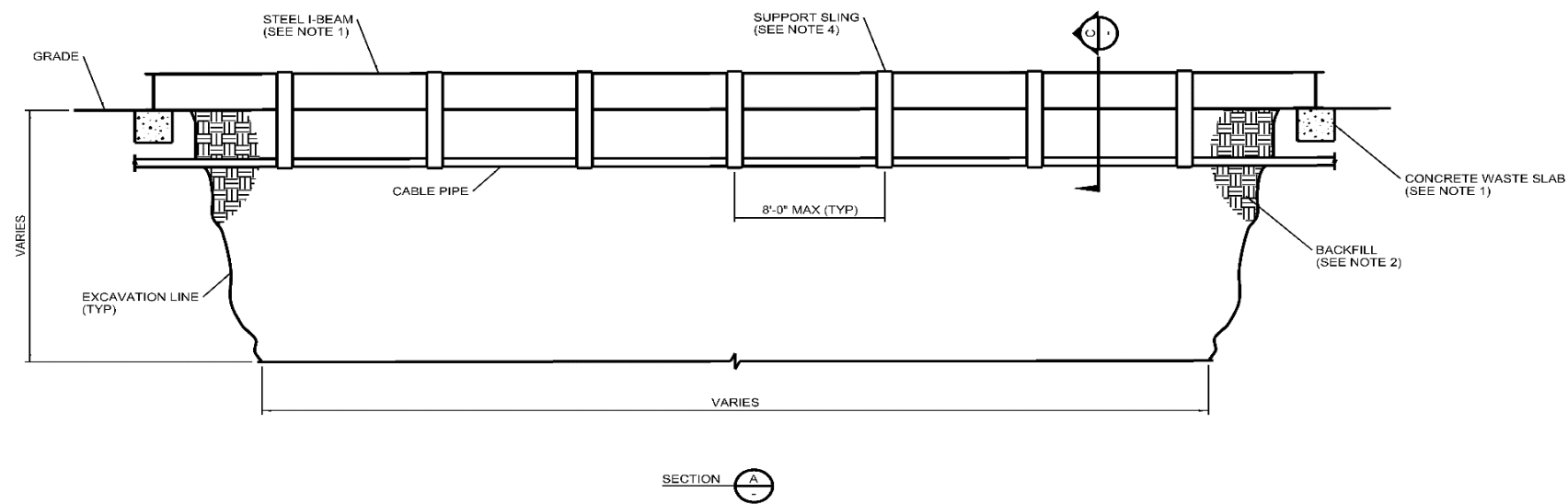
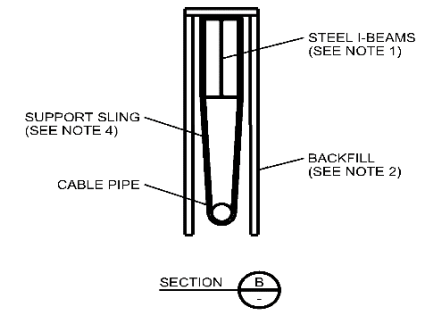
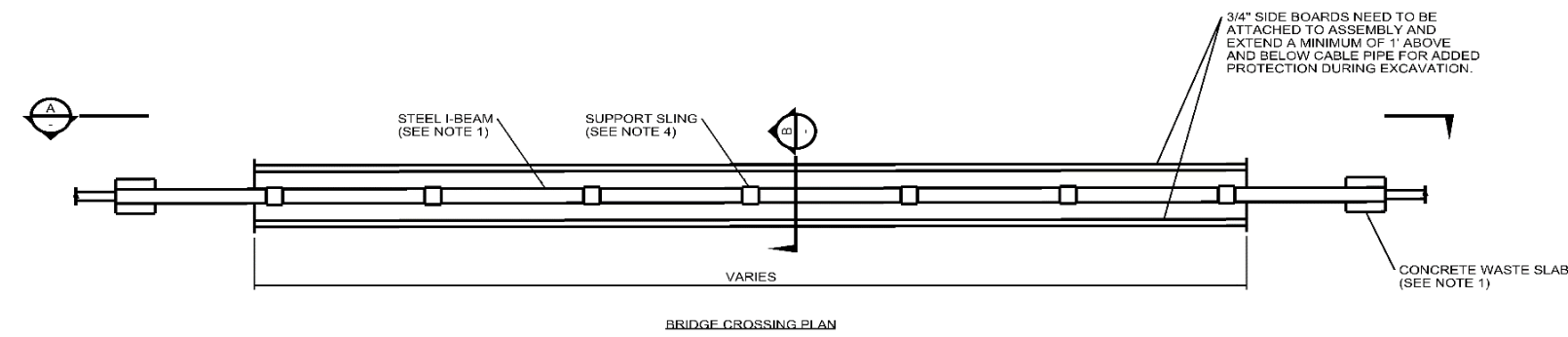
12.0 DOCUMENT REVIEW

This document will be reviewed in accordance with review requirements in GDE-0480, *Document Control Guide* and FRM-0481, *Document Review Checklist*. The review will ensure this document remains current and meets new or revised procedures and Standards. All reviews will be documented in the Revision Information section.

13.0 REVISION INFORMATION

Version	Author	Date	Section	Description
01	B. Black	10/27/16	All	New document
02	K. Aumann	04/15/20	All	Added clearances and various other revisions per Ron Knapwurst (retired).

Attachment A – Temporary Support of Cable Pipe During Excavation (T-UGD-EXC-001.000)



- NOTES:**
1. CONTRACTOR SHALL SPECIFY SIZE FOR TEMPORARY SUPPORT BEAM AND WASTE SLAB TO SUPPORT THE CABLE PIPE WHICH WEIGHS 40 LBS. PER FOOT (+/-).
 2. BACKFILL AND COMPACTION SHALL MEET REQUIREMENTS STATED IN GD-2500.
 3. THERMAL BACKFILL AND GROUT SHALL MEET REQUIREMENTS AS SPECIFIED IN GD-2500.
 4. 10\"/>

REV	DATE	DESCRIPTION	DRAWN	CHKD	APPD	COMPY	SCALE	NTS	STANDARDS	SEE GD-2500	T - UGD - EXC - 001.000	v00	



TEMPORARY SUPPORT OF CABLE PIPE
DURING EXCAVATION
EMBEDDED IN GD-2500

THIS DOCUMENT IS FOR THE USE OF AMERICAN TRANSMISSION COMPANY. AMERICAN TRANSMISSION COMPANY DISCLAIMS ALL WARRANTIES, BOTH EXPRESS AND IMPLIED, REGARDING ANYONE OTHER THAN AMERICAN TRANSMISSION COMPANY IS AT THEIR OWN RISK.

SECTION E: BIDDERS ACKNOWLEDGEMENT

**LAKE STREET SANITARY SEWER REPLACEMENT
CONTRACT NO. 9501**

Bidder must state a Unit Price and Total Bid for each item. The Total Bid for each item must be the product of quantity, by Unit Price. The Grand Total must be the sum of the Total Bids for the various items. In case of multiplication errors or addition errors, the Grand Total with corrected multiplication and/or addition shall determine the Grand Total bid for each contract. The Unit Price and Total Bid must be entered numerically in the spaces provided. All words and numbers shall be written in ink.

1. The undersigned having familiarized himself/herself with the Contract documents, including Advertisement for Bids, Instructions to Bidders, Form of Proposal, City of Madison Standard Specifications for Public Works Construction - 2024 Edition thereto, Form of Agreement, Form of Bond, and Addenda issued and attached to the plans and specifications on file in the office of the City Engineer, hereby proposes to provide and furnish all the labor, materials, tools, and expendable equipment necessary to perform and complete in a workmanlike manner the specified construction on this project for the City of Madison; all in accordance with the plans and specifications as prepared by the City Engineer, including Addenda Nos. _____ through _____ to the Contract, at the prices for said work as contained in this proposal. (Electronic bids submittals shall acknowledge addendum under Section E and shall not acknowledge here)
2. If awarded the Contract, we will initiate action within seven (7) days after notification or in accordance with the date specified in the contract to begin work and will proceed with diligence to bring the project to full completion within the number of work days allowed in the Contract or by the calendar date stated in the Contract.
3. The undersigned Bidder or Contractor certifies that he/she is not a party to any contract, combination in form of trust or otherwise, or conspiracy in restraint of trade or commerce or any other violation of the anti-trust laws of the State of Wisconsin or of the United States, with respect to this bid or contract or otherwise.
4. I hereby certify that I have met the Bid Bond Requirements as specified in Section 102.5. *(IF BID BOND IS USED, IT SHALL BE SUBMITTED ON THE FORMS PROVIDED BY THE CITY. FAILURE TO DO SO MAY RESULT IN REJECTION OF THE BID).*
5. I hereby certify that all statements herein are made on behalf of _____ (name of corporation, partnership, or person submitting bid) a corporation organized and existing under the laws of the State of _____ a partnership consisting of _____; an individual trading as _____; of the City of _____ State of _____; that I have examined and carefully prepared this Proposal, from the plans and specifications and have checked the same in detail before submitting this Proposal; that I have fully authority to make such statements and submit this Proposal in (its, their) behalf; and that the said statements are true and correct.

SIGNATURE

TITLE, IF ANY

Sworn and subscribed to before me this _____ day of _____, 20_____.

(Notary Public or other officer authorized to administer oaths)
My Commission Expires _____

Bidders shall not add any conditions or qualifying statements to this Proposal.

SECTION F: BEST VALUE CONTRACTING
LAKE STREET SANITARY SEWER REPLACEMENT
CONTRACT NO. 9501

Best Value Contracting

1. The Contractor shall indicate the non-apprenticeable trades used on this contract.

2. Madison General Ordinance (M.G.O.), 33.07(7), does provide for some exemptions from the active apprentice requirement. Apprenticeable trades are those trades considered apprenticeable by the State of Wisconsin. Please check applicable box if you are seeking an exemption.

- Contractor has a total skilled workforce of four or less individuals in all apprenticeable trades combined.
- No available trade training program; The Contractor has been rejected by the only available trade training program, or there is no trade training program within 90 miles.
- Contractor is not using an apprentice due to having a journey worker on layoff status, provided the journey worker was employed by the contractor in the past six months.
- First-time Contractor on City of Madison Public Works contract requests a onetime exemption but intends to comply on all future contracts and is taking steps typical of a "good faith" effort.
- Contractor has been in business less than one year.
- Contractor doesn't have enough journeyman trade workers to qualify for a trade training program in that respective trade.
- An exemption is granted in accordance with a time period of a "Documented Depression" as defined by the State of Wisconsin.

3. The Contractor shall indicate on the following section which apprenticeable trades are to be used on this contract. Compliance with active apprenticeship, to the extent required by M.G.O. 33.07(7), shall be satisfied by documentation from an applicable trade training body; an apprenticeship contract with the Wisconsin Department of Workforce Development or a similar agency in another state; or the U.S Department of Labor. This documentation is required prior to the Contractor beginning work on the project site.

- The Contractor has reviewed the list and shall not use any apprenticeable trades on this project.

LIST APPRENTICABLE TRADES (check all that apply to your work to be performed on this contract)

- BRICKLAYER
- CARPENTER
- CEMENT MASON / CONCRETE FINISHER
- CEMENT MASON (HEAVY HIGHWAY)
- CONSTRUCTION CRAFT LABORER
- DATA COMMUNICATION INSTALLER
- ELECTRICIAN
- ENVIRONMENTAL SYSTEMS TECHNICIAN / HVAC SERVICE TECH/HVAC INSTALL / SERVICE
- GLAZIER
- HEAVY EQUIPMENT OPERATOR / OPERATING ENGINEER
- INSULATION WORKER (HEAT & FROST)
- IRON WORKER
- IRON WORKER (ASSEMBLER, METAL BLDGS)
- PAINTER & DECORATOR
- PLASTERER
- PLUMBER
- RESIDENTIAL ELECTRICIAN
- ROOFER & WATER PROOFER
- SHEET METAL WORKER
- SPRINKLER FITTER
- STEAMFITTER
- STEAMFITTER (REFRIGERATION)
- STEAMFITTER (SERVICE)
- TAPER & FINISHER
- TELECOMMUNICATIONS (VOICE, DATA & VIDEO) INSTALLER-TECHNICIAN
- TILE SETTER

SECTION G: BID BOND

LET ALL KNOW BY THESE DOCUMENTS PRESENTED, THAT Principal and Surety, as identified below, are held and firmly bound unto the City of Madison, (hereinafter referred to as the "Obligee"), in the sum of five per cent (5%) of the amount of the total bid or bids of the Principal herein accepted by the Obligee, for the payment of which the Principal and the Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

The conditions of this obligation are such that, whereas the Principal has submitted, to the City of Madison a certain bid, including the related alternate, and substitute bids attached hereto and hereby made a part hereof, to enter into a contract in writing for the construction of:

LAKE STREET SANITARY SEWER REPLACEMENT CONTRACT NO. 9501

1. If said bid is rejected by the Obligee, then this obligation shall be void.
2. If said bid is accepted by the Obligee and the Principal shall execute and deliver a contract in the form specified by the Obligee (properly completed in accordance with said bid) and shall furnish a bond for his/her faithful performance of said contract, and for the payment of all persons performing labor or furnishing materials in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said bid, then this obligation shall be void.

If said bid is accepted by the Obligee and the Principal shall fail to execute and deliver the contract and the performance and payment bond noted in 2. above executed by this Surety, or other Surety approved by the City of Madison, all within the time specified or any extension thereof, the Principal and Surety agree jointly and severally to forfeit to the Obligee as liquidated damages the sum mentioned above, it being understood that the liability of the Surety for any and all claims hereunder shall in no event exceed the sum of this obligation as stated, and it is further understood that the Principal and Surety reserve the right to recover from the Obligee that portion of the forfeited sum which exceed the actual liquidated damages incurred by the Obligee.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its bond shall be in no way impaired or affected by an extension of the time within which the Obligee may accept such bid, and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, on the day and year set forth below.

Seal PRINCIPAL

Name of Principal

By

Date

Name and Title

Seal SURETY

Name of Surety

By

Date

Name and Title

This certifies that I have been duly licensed as an agent for the above company in Wisconsin under National Provider No. _____ for the year _____, and appointed as attorney in fact with authority to execute this bid bond and the payment and performance bond referred to above, which power of attorney has not been revoked.

Date

Agent Signature

Address

City, State and Zip Code

Telephone Number

NOTE TO SURETY & PRINCIPAL

The bid submitted which this bond guarantees shall be rejected if the following instrument is not attached to this bond:

Power of Attorney showing that the agent of Surety is currently authorized to execute bonds on behalf of the Surety, and in the amounts referenced above.

Certificate of Biennial Bid Bond

TIME PERIOD - VALID (FROM/TO)
NAME OF SURETY
NAME OF CONTRACTOR
CERTIFICATE HOLDER <p style="text-align: center;">City of Madison, Wisconsin</p>

This is to certify that a biennial bid bond issued by the above-named Surety is currently on file with the City of Madison.

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 biennial 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

SECTION H: AGREEMENT

THIS AGREEMENT made this _____ day of _____ in the year Two Thousand and _____ between _____ hereinafter called the Contractor, and the City of Madison, a Wisconsin municipal corporation, hereinafter called the City.

WHEREAS, the Common Council of the City of Madison ("Council") under the provisions of a resolution adopted on _____, and by virtue of authority vested in the Council, has awarded to the Contractor the work of performing certain public construction.

NOW, THEREFORE, the Contractor and the City, for the consideration hereinafter named, agree as follows:

1. **Scope of Work.** The Contractor shall, perform the construction, execution and completion of the following listed complete work or improvement in full compliance with the Plans, Specifications, Standard Specifications, Supplemental Specifications, Special Provisions and Agreement; perform all items of work covered or stipulated in the Proposal; perform all altered or extra work; and shall furnish, unless otherwise provided in the contract, all materials, implements, machinery, equipment, tools, supplies, transportation, and labor necessary to the prosecution and completion of the work or improvements:

LAKE STREET SANITARY SEWER REPLACEMENT CONTRACT NO. 9501

2. **Completion Date/Contract Time.** Construction work must begin within seven (7) calendar days after the date appearing on mailed written notice to do so shall have been sent to the Contractor and shall be carried on at a rate so as to secure full completion SEE SPECIAL PROVISIONS, the rate of progress and the time of completion being essential conditions of this Agreement.
3. **Contract Price.** The City shall pay to the Contractor at the times, in the manner and on the conditions set forth in said specifications, the sum of _____ (\$ _____) Dollars being the amount bid by such Contractor and which was awarded as provided by law.
4. **A. Non-Discrimination.** During the term of this Agreement, the Contractor agrees not to discriminate against any employee or applicant because of race, religion, marital status, age, color, sex, disability, national origin or ancestry, income level or source of income, arrest record or conviction record, less than honorable discharge, physical appearance, sexual orientation, gender identity, political beliefs, or student status. The Contractor further agrees not to discriminate against any subcontractor or person who offers to subcontract on this contract because of race, religion, color, age, disability, sex, sexual orientation, gender identity or national origin.
B. Affirmative Action. The Contractor agrees that within thirty (30) days after the effective date of this agreement, the Contractor will provide to the City Affirmative Action Division certain workforce utilization statistics, using a form to be furnished by the City.

If the contract is still in effect, or if the City enters into a new agreement with the Contractor, within one year after the date on which the form was required to be provided, the Contractor will provide updated workforce information using a second form, also to be furnished by the City. The second form will be submitted to the City Affirmative Action Division no later than one year after the date on which the first form was required to be provided.

The Contractor further agrees that, for at least twelve (12) months after the effective date of this contract, it will notify the City Affirmative Action Division of each of its job openings at facilities in Dane County for which applicants not already employees of the Contractor are to be considered. The notice will include a job description, classification, qualifications and application procedures and deadlines, shall be provided to the City by the opening date of advertisement and with

sufficient time for the City to notify candidates and make a timely referral. The Contractor agrees to interview and consider candidates referred by the Affirmative Action Division, or an organization designated by the Division, if the candidate meets the minimum qualification standards established by the Contractor, and if the referral is timely. A referral is timely if it is received by the Contractor on or before the date started in the notice.

Articles of Agreement Article I

The Contractor shall take affirmative action in accordance with the provisions of this contract to insure that applicants are employed, and that employees are treated during employment without regard to race, religion, color, age, marital status, disability, sex, sexual orientation, gender identity or national origin and that the employer shall provide harassment free work environment for the realization of the potential of each employee. Such action 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 insofar as it is within the control of the Contractor. The Contractor agrees to post in conspicuous places available to employees and applicants notices to be provided by the City setting out the provisions of the nondiscrimination clauses in this contract.

Article II

The Contractor shall in all solicitations or advertisements for employees placed by or on behalf of the Contractors state that all qualified or qualifiable applicants will be employed without regard to race, religion, color, age, marital status, disability, sex, sexual orientation, gender identity or national origin.

Article III

The Contractor shall send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding a notice to be provided by the City advising the labor union or worker's representative of the Contractor's equal employment opportunity and affirmative action commitments. Such notices shall be posted in conspicuous places available to employees and applicants for employment.

Article V

The Contractor agrees that it will comply with all provisions of the Affirmative Action Ordinance of the City of Madison, including the contract compliance requirements. The Contractor agrees to submit the model affirmative action plan for public works contractors in a form approved by the Affirmative Action Division Manager.

Article VI

The Contractor will maintain records as required by Section 39.02(9)(f) of the Madison General Ordinances and will provide the City Affirmative Action Division with access to such records and to persons who have relevant and necessary information, as provided in Section 39.02(9)(f). The City agrees to keep all such records confidential, except to the extent that public inspection is required by law.

Article VII

In the event of the Contractor's or subcontractor's failure to comply with the Equal Employment Opportunity and Affirmative Action Provisions of this contract or Section 39.03 and 39.02 of the Madison General Ordinances, it is agreed that the City at its option may do any or all of the following:

1. Cancel, terminate or suspend this Contract in whole or in part.
2. Declare the Contractor ineligible for further City contracts until the Affirmative Action requirements are met.
3. Recover on behalf of the City from the prime Contractor 0.5 percent of the contract award price for each week that such party fails or refuses to comply, in the nature of liquidated damages, but not to exceed a total of five percent (5%) of the contract price, or ten thousand dollars (\$10,000), whichever is less. Under public works contracts, if a subcontractor is in noncompliance, the City may recover liquidated damages from the prime Contractor in the manner described above. The preceding sentence shall not be construed to prohibit a prime Contractor from recovering the amount of such damage from the non-complying subcontractor.

Article VIII

The Contractor shall include the above provisions of this contract in every subcontract so that such provisions will be binding upon each subcontractor. The Contractor shall take such action with respect to any subcontractor as necessary to enforce such provisions, including sanctions provided for noncompliance.

Article IX

The Contractor shall allow the maximum feasible opportunity to small business enterprises to compete for any subcontracts entered into pursuant to this contract. (In federally funded contracts the terms "DBE, MBE and WBE" shall be substituted for the term "small business" in this Article.)

5. **Substance Abuse Prevention Program Required.** Prior to commencing work on the Contract, the Contractor, and any Subcontractor, shall have in place a written program for the prevention of substance abuse among its employees as required under Wis. Stat. Sec. 103.503.
6. **Contractor Hiring Practices.**

Ban the Box - Arrest and Criminal Background Checks. (Sec. 39.08, MGO)

This provision applies to all prime contractors on contracts entered into on or after January 1, 2016, and all subcontractors who are required to meet prequalification requirements under MGO 33.07(7)(l), MGO as of the first time they seek or renew pre-qualification status on or after January 1, 2016. The City will monitor compliance of subcontractors through the pre-qualification process.

- a. **Definitions.** For purposes of this section, "Arrest and Conviction Record" includes, but is not limited to, information indicating that a person has been questioned, apprehended, taken into custody or detention, held for investigation, arrested, charged with, indicted or tried for any felony, misdemeanor or other offense pursuant to any law enforcement or military authority.

"Conviction record" includes, but is not limited to, information indicating that a person has been convicted of a felony, misdemeanor or other offense, placed on probation, fined, imprisoned or paroled pursuant to any law enforcement or military authority.

"Background Check" means the process of checking an applicant's arrest and conviction record, through any means.

- b. **Requirements.** For the duration of this Contract, the Contractor shall:

1. Remove from all job application forms any questions, check boxes, or other inquiries regarding an applicant's arrest and conviction record, as defined herein.
2. Refrain from asking an applicant in any manner about their arrest or conviction record until after conditional offer of employment is made to the applicant in question.
3. Refrain from conducting a formal or informal background check or making any other inquiry using any privately or publicly available means of obtaining the arrest or conviction record of an applicant until after a conditional offer of employment is made to the applicant in question.
4. Make information about this ordinance available to applicants and existing employees, and post notices in prominent locations at the workplace with information about the ordinance and complaint procedure using language provided by the City.
5. Comply with all other provisions of Sec. 39.08, MGO.

c. Exemptions: This section shall not apply when:

1. Hiring for a position where certain convictions or violations are a bar to employment in that position under applicable law, or
2. Hiring a position for which information about criminal or arrest record, or a background check is required by law to be performed at a time or in a manner that would otherwise be prohibited by this ordinance, including a licensed trade or profession where the licensing authority explicitly authorizes or requires the inquiry in question.

To be exempt, Contractor has the burden of demonstrating that there is an applicable law or regulation that requires the hiring practice in question, if so, the contractor is exempt from all of the requirements of this ordinance for the position(s) in question.

7. **Choice of Law and Forum Selection.** This Contract shall be governed by and construed, interpreted and enforced in accordance with the laws of the State of Wisconsin. The parties agree, for any claim or suit or other dispute relating to this Contract that cannot be mutually resolved, the venue shall be a court of competent jurisdiction within the State of Wisconsin and the parties agree to submit themselves to the jurisdiction of said court, to the exclusion of any other judicial district that may have jurisdiction over such a dispute according to any law.
8. **Counterparts, Electronic Signature and Delivery.** This Contract may be signed in counterparts, each of which shall be taken together as a whole to comprise a single document. Signatures on this Contract may be exchanged between the parties by facsimile, electronic scanned copy (.pdf) or similar technology and shall be as valid as original; and this Contract may be converted into electronic format and signed or given effect with one or more electronic signature(s) if the electronic signature(s) meets all requirements of Wis. Stat. ch. 137 or other applicable Wisconsin or Federal law. Executed copies or counterparts of this Contract may be delivered by facsimile or email and upon receipt will be deemed original and binding upon the parties hereto, whether or not a hard copy is also delivered. Copies of this Contract, fully executed, shall be as valid as an original.

**LAKE STREET SANITARY SEWER REPLACEMENT
CONTRACT NO. 9501**

IN WITNESS WHEREOF, the Contractor has hereunto set his/her hand and seal and the City has caused this contract to be executed by its Mayor and City Clerk on the dates written below.

Countersigned:

Company Name

Witness

Date

President

Date

Witness

Date

Secretary

Date

CITY OF MADISON

Satya Rhodes-Conway, Mayor

Date

Maribeth Witzel-Behl, City Clerk

Date

Provisions have been made to pay the liability that will accrue under this contract.

David P. Schmiedicke, Finance Director

Date

Approved as to form:

Michael Haas, City Attorney

Date

Execution of this Agreement by City was authorized by Resolution Enactment No. RES - _____, ID No. _____, adopted by the Common Council of the City of Madison on _____, 20__.

SECTION I: PAYMENT AND PERFORMANCE BOND

LET ALL KNOW BY THESE DOCUMENTS PRESENTED, that we _____
as principal, and _____
Company of _____ as surety, are held and firmly bound unto the City of
Madison, Wisconsin, in the sum of _____ (\$_____) Dollars, lawful money of the United
States, for the payment of which sum to the City of Madison, we hereby bind ourselves and our
respective executors and administrators firmly by these presents.

The condition of this Bond is such that if the above bounden shall on his/her part fully and faithfully
perform all of the terms of the Contract entered into between him/herself and the City of Madison for the
construction of:

**LAKE STREET SANITARY SEWER REPLACEMENT
CONTRACT NO. 9501**

in Madison, Wisconsin, and shall pay all claims for labor performed and material furnished in the
prosecution of said work, and save the City harmless from all claims for damages because of negligence
in the prosecution of said work, and shall save harmless the said City from all claims for compensation
(under Chapter 102, Wisconsin Statutes) of employees and employees of subcontractor, then this Bond is
to be void, otherwise of full force, virtue and effect.

Signed and sealed this _____ day of _____

Countersigned:

Company Name (Principal)

Witness

President Seal

Secretary

Surety Seal
 Salary Employee Commission

By _____
Attorney-in-Fact

This certifies that I have been duly licensed as an agent for the above company in Wisconsin under
National Producer Number _____ for the year _____, and appointed as attorney-in-fact
with authority to execute this payment and performance bond which power of attorney has not been
revoked.

Date

Agent Signature

The foregoing Bond has been approved as to form:

Date

City Attorney