

PROJECT MANUAL FOR



**2017 DIRECTIONAL BORING PROJECT
MARCH 2017**

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DIVISION 00 – PROCUREMENT AND CONTRACTING REQUIREMENTS

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DIVISION 33 – UTILITIES

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PLAN SHEETS

**SECTION 00 11 13
ADVERTISEMENT FOR BIDS**

**CITY OF RIVER FALLS, WISCONSIN
DIRECTIONAL BORING**

The City of River Falls will receive sealed bids at the City Clerk's office at City Hall until **2:00 PM on Friday, April 21, 2017**, at which time bids will be opened and publicly read aloud in the Kinni Conference Room of City Hall, located at 222 Lewis Street, River Falls, Wisconsin for "**Directional Boring**". The work includes the approximate following quantities:

Base Bid: 506 feet of one (1) 1 inch HDPE conduit (page 1)
426 feet of one (1) 2 inch HDPE conduit (page 2)
1,765 feet of direct bury three phase of one ott 1/0 primary cable (company supplied) (page 3)
230 feet of secondary 350 mcm (company supplied) (page 3)
This contract could include additional directional boring projects in other areas of the City

Said work shall be in accordance with the Plans and Specifications prepared by the City of River Falls Utilities Department. Any questions concerning this project shall be directed to Wayne Siverling, Electric Operations Superintendent, 715-426-3480.

Digital copies of the Bidding Documents are available at www.rfcity.org or www.questcdn.com for a fee of \$10 by inputting QuestCDN eBidDoc #5011476 on the website's Project Search page. For assistance and free membership registration, contact QuestCDN at 952-233-1632 or info@questcdn.com.

No bid will be considered unless accompanied by a certified check or bid bond in the amount of five percent (5%) of the amount of the bid made payable to the City of River Falls, as a guarantee that if the bid is accepted, the successful bidder will execute the Contract and furnish a performance bond and payment bond in the total amount of the Contract within ten (10) days after the award of said Contract. All bids shall be in a sealed envelope clearly marked: "**Directional Boring**". The City of River Falls reserves the right to reject any or all bids, to waive informalities, and to accept the bid deemed most advantageous to the City.

Contractors on the Project shall be required to comply with minimum wages and labor standards as determined by the State of Wisconsin, Department of Workforce Development Wage Rate Determination.

Amy White, City Clerk

Publish: River Falls Journal
April 6, 2017
April 13, 2017

**SECTION 00 21 13
INSTRUCTIONS TO BIDDERS**

1. Bidders are required to prepare their own proposals on forms provided by the Electric Operations Superintendent. The Contractor's proposal shall be filled in out in ink or typewritten and any alterations or interlineations of the unit prices shall be initialed by the bidder.
2. Definitions of terms of these Instructions to Bidders and accompanying contract documents shall be in accordance with the General Conditions.
3. It is the intent of the specifications and drawings to describe a complete project to be constructed in accordance with the contract documents.
4. The contract documents comprise the entire agreement between the Owner and the Contractor. The agreement may be altered only by a change order.
5. The contract documents are complimentary; what is called for by one is as binding as if called for by all. If the Contractor finds a conflict, error or discrepancy in the contract documents, he shall call it to the Electric Operations Superintendent's attention in writing before preparing his bid for the work affected thereby if time permits. In resolving such conflicts, errors and discrepancies, the documents shall be given precedence in the following order: Agreement Form, Bid Form, Specifications, and Drawings. Within the specifications the order of precedence shall be as follows: Special Provisions, Instructions to Bidders, Supplemental General Conditions, General Conditions, and Technical Provisions. Figure dimensions on drawings shall govern over scale dimensions and detailed drawings shall govern over general drawings. Any work that may reasonably be inferred from the specifications or drawings as being required to produce the intended results shall be supplied whether or not it is specifically called for. Work, materials or equipment described in words, which so applied, have a well-known technical or trade meaning shall be deemed to refer to such recognized standards.
6. Bidders shall examine and inform themselves concerning the conditions under which the work is to be performed and examine the plans and specifications to make sure the requirements are fully understood. Failure on the part of the bidder to ascertain all the requirements of the plans and specifications and conditions at the site of the work shall not constitute a basis for extra compensation.
7. Bidders shall request clarification of the bidding documents by addenda not less than five (5) working days prior to the bid opening.
8. Proposals shall be based on the materials, methods and equipment specified or approved as "equal" by written addenda issued by the Electric Operations Superintendent prior to the opening of bids. Substitutions not so approved will not be accepted. Requests for approval of substitutions shall be made to the Electric Operations Superintendent not less than seven (7) working days prior to the bid opening. Such requests to permit a completion evaluation.
9. All bids shall be sealed in an envelope and addressed to: The City of River Falls, 222 Lewis Street, River Falls, Wisconsin 54022 and received prior to the time stated in the Notice to Bidders. Bids shall be clearly marked "Directional Boring." Bids shall be accompanied by a certified check or bid bond in the amount of five percent (5%) of the amount of the bid made payable to the City of River Falls. As a guarantee that if the bid is accepted, the successful bidder will execute the contract and furnish a 100% performance bond and payment bond in the total amount of the contract within ten (10) days after the award of said contract.

10. If an individual makes the proposal, his name and post office address must be shown. If made by a firm or partner-ship, the name and post office address of the firm or partner-ship must be shown. If made by a corporation, the person signing the proposal shall be required to name the state under the law of which the corporation is chartered and the name, title and business address of the executive head of the corporation. Anyone signing a proposal as agent may be required to submit satisfactory evidence of his authority to do so.
11. Bids shall be considered irregular and subject to rejection in the event the bidder fails to comply with the instructions regarding bidding and preparation of the proposal form as listed in these contract documents. In addition, if any unit prices are obviously unbalanced, either in excess of or below the reasonable cost values as compared to other bids received or as documented on similar projects, the bid shall be considered irregular.
12. The Owner will review the competency information as provided starting with the low bid, and if required, proceeding in order of increasing bid amounts to arrive at the lowest responsible bidder. The Owner will rely on the bidder to supply accurate information. Additional detail may be requested from the bidder to clarify specific items as submitted. All information as required herein will become part of the public record.
13. Bids may be rejected based on the information submitted with the bid as follows:
 - a. Failure of the bidder to submit all information as listed.
 - b. The bidder having insufficient participation in the project as required under "Subcontracting" in the General Conditions.
 - c. Being currently listed as a debarred contractor or associated with a debarred contractor as compiled by the Wisconsin Department of Industry, Labor and Human Relations.
14. The Bidder to whom the contract is awarded shall be required to file a surety bond in the sum equal to the total amount of said contract. The surety bond shall be filed with the Owner on or before ten days after the award of the contract. Said bond shall conform to the requirements in Section 00 72 00 - Y. Contract Security.
15. Failure to file a bond in the sum specified or to execute the contract within ten days from date of award shall be just cause for the annulment of the award of the contract, if executed. The bidder understands that in the event of the annulment of the award of the contract, the amount of the bid bond may be retained by the Owner due to the delay and failure of the bidders to enter into the contract.
16. The Owner reserves the right to waive irregularities in the bidding process, to reject all bids and to reject the bids of any determined by the Owner as not responsible or not submitting a responsible bid. The bidder agrees to be bound by all decisions for the work based on the bid amount, the Contractor's commitment to complete the work on or before the completion date and past experience with the Contractor.

END SECTION 00 21 13

**SECTION 00 41 00
BID FORM**

Honorable Mayor and Council Members
222 Lewis Street
River Falls, WI 54022

Dear Mayor and Council Members:

The undersigned, being familiar with local conditions, having made field inspections and investigations deemed necessary, having studied the plans and specifications for the work and being familiar with all factors and other conditions affecting the work and cost thereof, hereby proposes to supply all the labor and equipment necessary for the construction of the following project:

Directional Boring

at the following unit prices, all in accordance with the provisions of the contract documents.

No.	Item Description	Unit	Estimated Quantity	Unit Price	Total Price
1	Mobilization	LS	1		
2	Traffic Control	LS	1		
3	Directional Bore up to 2" Pipe (Pipe Supplied) – up to Three Pipes	FT	932		
4	Directional Bore Three Phase Electric Primary – no conduit	FT	1,765		
5	Directional Bore Single Phase Electric & Secondary	FT	230		
6	Directional Bore Single Phase Electric Primary – no conduit	FT	TBD		
7	Directional Bore Three Phase Electric & Secondary	FT	TBD		
8	Directional Bore 4" – includes conduit	FT	TBD		
9	Pulling in Three Phase 500 MCM Primary in Conduit- Three Separate Conduits	FT	TBD		
10	Directional Bore 3" Pipe Plus 1.25" HDPE pipe – up to Four Pipes	FT	TBD		
11	Directional Bore Three Phase 500 MCM Primary – no conduit	FT	TBD		
12	Directional Bore Three Phase 750 MCM Primary – no conduit	FT	TBD		
Total Base Bid					

The Owner will select the alternate materials, if any, which shall be used for the project and will base the selection of the Contractor on the basis of the low bid and materials, which the Owner deems to be in the Owner's best interest.

It is understood that the final amount of the contract shall be determined by multiplying the final measured quantities of the various items actually constructed and installed by the unit prices stated; therefore, in the manner prescribed in the specifications. However, the low bidder shall be determined by adding the sums resulting from multiplying the quantities stated in this proposal by the unit prices; therefore, using the base bid total.

This bid has been prepared with the understanding that the items included in the proposal form provide the basis for determining the contract amount. In addition, items have not been included in the proposal form, which are as reasonable and necessary part of the work given the situation and circumstances of the proposed work. The cost of such items not included in the proposal has been merged into the bid prices of the project as a whole.

Where changes in the work are ordered involving work for which there is no unit price in this proposal and where work is ordered to proceed on a cost plus fee such fee shall be ten percent (10%).

If the undersigned is notified within forty-five days after the time of bid opening, he agrees to enter into a contract for the above work for the stated compensation in the form contained in the specifications with necessary modifications mutually agreed to. He further agrees to furnish the performance and payment bonds as required by the specifications.

In submitting this bid, it is understood that the right is reserved by the Common Council of the City of River Falls to reject any and all bids and to waive informalities.

The undersigned hereby acknowledges receipt of Addendum Nos. _____ (If none, so state)

Submitted by: _____
(State if an individual, partnership or corporation)

State in which incorporated: _____

Date: _____

Address: _____ Corporate Seal

Telephone: _____

By: _____

Title: _____

**SECTION 00 43 13
BID SECURITY FORM**

NOW, ALL MEN BY THESE PRESENTS, that we, the undersigned, _____ as
Principal, and _____ as Surety, are hereby held and
firmly bound unto _____ as Owner in the penal sum of
_____ (\$ _____); for the payment of which, well
and truly to be made, we hereby jointly and severally bind ourselves, successors and assigns.

Signed, this _____ day of _____, 20____.

The condition of the above obligation is such that whereas the Principal has submitted to
_____ a certain BID, attached hereto and hereby made a part
hereof to enter into a contract in writing, for the _____

NOW, THEREFORE,

- a) If said BID shall be rejected; or
- b) If said BID shall be accepted and the principal shall execute and deliver a contract in the Form of Contract attached hereto (properly completed in accordance with said BID) and shall furnish a BOND for faithful performance of said contract and for the payment of all persons performing labor and 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, otherwise the same shall remain in force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

IN WITNESS THEREOF, this instrument is executed in _____ counterparts each one of which shall be deemed an original, this the _____ day of _____, 20_____.

CONTRACTOR AS PRINCIPAL:

SURETY:

(Company) (Corporate Seal)

(Company) (Corporate Seal)

(Signature)

(Signature)

(Print Name)

(Print Name)

(Title)

(Title)

(Mailing Address)

(Mailing Address)

(Phone)

(Phone)

**SECTION 00 61 13.13
PERFORMANCE BOND FORM**

KNOW ALL MEN BY THESE PRESENTS: That we, _____,
hereinafter called the Principal, and _____,
hereinafter called the Surety, as bound as held and firmly bound unto The City of River Falls, 222 Lewis Street, River Falls, WI 54022, herein called the Owner, in the full and just sum of _____ money of the United States, for the payment of which, well and truly to be made, we bind ourselves, our heirs, administrators, executors, successors and assigns, jointly and severally, firmly by these presents.

The condition of the above obligation is such that:

WHEREAS, the bounden principal has theretofore on the _____ day of _____, 20_____, entered into a certain contract with covenants, conditions and stipulations, is incorporated herein and made a part hereof as fully and amply as if said Contract were recited at length herein.

NOW, THEREFORE, if the above bounden Principal shall well, truly and faithfully perform said Contract and comply with all the terms and provisions thereof and satisfy all of the obligations of said Principal arising thereunder including the matter of infringement, if any, of patents and shall guarantee the maintenance in good repair of said improvements for a period of eighteen months after the completion of the Contract and comply with all the covenants therein contained, and contained in the Specifications and other documents constituting a part of said Contract required to be performed by said Principal in the manner and within the time provided in said Contract, and shall fully reimburse and repay making good any default and shall pay all persons who have contracted directly with the Principal of labor and materials, if any, included in said Contract, then this obligation shall be null and void, otherwise to remain in full force and effect.

The said Surety for value received hereby stipulates, agrees that no change, extension of time, alteration or addition to the terms of the Contract or to the work to be performed thereunder, or the Specifications accompanying the same, shall in any way affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Agreement or to the work or to the Specifications.

IN WITNESS THEREOF, this instrument is executed in _____ counterparts each one of which shall be deemed an original, this the _____ day of _____, 20_____.

CONTRACTOR AS PRINCIPAL:

SURETY:

(Company) (Corporate Seal)

(Company) (Corporate Seal)

(Signature)

(Signature)

(Print Name)

(Print Name)

(Title)

(Title)

(Mailing Address)

(Mailing Address)

(Phone)

(Phone)

(The Performance Bond must be signed with the full name of the Contractor. If the Contractor is a partnership, the Performance Bond must be signed by a partner. If the Contractor is a corporation, the Performance Bond must be signed in the corporate name by a duly authorized officer and the corporation seal affixed and attested by the Secretary of the corporation. A typewritten copy of all such names and signatures shall be appended).

(The Performance bond must be accompanied by a Power of Attorney authorizing execution on behalf of the Surety and, in justifications so required should be countersigned by a duly authorized resident agent of the Surety).

**SECTION 00 61 13.16
PAYMENT BOND FORM**

KNOW ALL MEN BY THESE PRESENTS: That we, _____,
hereinafter called the Principal, and _____,
hereinafter called the Surety, as bound as held and firmly bound unto The City of River Falls, 222 Lewis Street,
River Falls, WI 54022, herein called the Owner, in the penal sum of _____, in lawful money of
the United States, for the payment of which sum well and truly is made, we bind ourselves, successors
and assigns, jointly and severally, firmly by these presents. (Penal sum equal to the amount of contract).
The condition of this obligation is such that whereas, the Principal entered into a certain contract with the
Owner, dated the _____ day of _____, 20_____, a copy of which is hereto attached
and made a part of hereof for the construction of:

Directional Boring

The condition of the above obligation is such that:

WHEREAS, the bounden principal has theretofore on the _____ day of
_____, 20_____, entered into a certain contract with covenants, conditions and
stipulations, is incorporated herein and made a part hereof as fully and amply as if said Contract were
recited at length herein.

NOW, THEREFORE, if the Principal shall promptly make payment to all persons, firms,
subcontractors, and corporation furnishing materials for or performing labor in the prosecution of the work
provided for in such contract, and any authorized extension or modification thereof, including all amount
due for materials, lubricants, oil, gasoline, coal and coke, repairs on machinery, equipment and tools,
consumed or used in connection with the construction of such work, and all insurance premiums on said
work, and for all labor, performed in such work whether by subcontractor or otherwise, then this
obligation shall be void; otherwise to remain in full force and effect.

Provided, further, that the said Surety for value received hereby stipulates and agrees that no
change, extension of time, alteration or addition to the terms of the contract or to the work to be
performed thereunder or the specifications accompanying the same shall in anywise affect its obligation

on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the work or to the specifications.

Provided further, that no final settlement between the Owner and the Contractor shall abridge the right of any beneficiary hereunder, whose claim may be satisfied.

IN WITNESS THEREOF, this instrument is executed in _____ counterparts each one of which shall be deemed an original, this the _____ day of _____, 20_____.

CONTRACTOR AS PRINCIPAL:

SURETY:

(Company) (Corporate Seal)

(Company) (Corporate Seal)

(Signature)

(Signature)

(Print Name)

(Print Name)

(Title)

(Title)

(Mailing Address)

(Mailing Address)

(Phone)

(Phone)

Note: Date of bond must not be prior to date of Contract. If Contractor is partnership, all partners should execute bond. **IMPORTANT:** Surety, companies executing bonds must appear on the Treasury Department's most current list (Circular 570 as amended) as be authorized to transact business in the State where the project is located.

**SECTION 00 72 00
GENERAL CONDITIONS**

A. DEFINITIONS

1. Wherever used in the contract documents, the following terms shall have the meanings indicated which shall be applicable to both the singular and plural thereof:
 - a. **ACT OF GOD** – An act of God is an unusual, extraordinary and sudden manifestation of the forces of nature, uncontrolled and uninfluenced by the power of man and without human intervention that could not under normal circumstances have been anticipated or expected. Ordinary weather conditions of normal intensity for the locality shall not be considered an Act of God.
 - b. **ADDENDUM** - Written or graphic instruments issued prior to the execution of the agreement, which modify or interpret the drawings and specifications by additions, deletions, clarifications or corrections.
 - c. **AGREEMENT** – The agreement is the written document executed by the Owner and Contractor covering the performance of the Work described in the Contract Documents.
 - d. **BID** - The offer or proposal of the bidder submitted on the prescribed form setting forth the prices for the work to be performed.
 - e. **BID SECURITY** – The Bid Security, where required by the Advertisement or Information to Bidders, is a cashier's or certified check, cash or Bid Bond accompanying the Proposal submitted by the bidder, pledging that the bidder will enter into an Agreement with the Owner for the carrying out of the Work, should the contract for the Work be awarded to them.
 - f. **BIDDER** - Any person, firm or corporation submitting a bid for the work.
 - g. **BONDS** – Bid, Performance and Payment Bonds and other instruments of security, furnished by the Contractor and his surety in accordance with the contract documents.
 - h. **CHANGE ORDER** - A written order to the Contractor authorizing an addition, deletion or revision in the work within the general scope of the contract documents or authorizing an adjustment in the contract price or contract time.
 - i. **CONTRACT** – The Contract Documents form the Contract. The Contract represents the entire and integrated agreement between parties hereto and supersedes all prior negotiations, representations, or agreements, either written or oral.
 - j. **CONTRACT DOCUMENTS** – The Contract Documents consist of the following, including all Addenda issued prior to the opening of bids, Field Orders, Change Orders or other Modifications issued after execution of the Agreement:
 - 1) Drawings
 - 2) Specifications
 - 3) Bid Documents (Advertisement, Addenda, Information to Bidders, Proposal, Bid Security, Notice of Award, Notice to Proceed);
 - 4) Special Provisions;
 - 5) General and Specific Requirements;
 - 6) Conditions of the Contract (General and other conditions);
 - 7) Performance Bond and Labor and Material Payment Bond;
 - 8) Form of Agreement;

- 9) Details and other drawings attached to the specifications.
- k. **CONTRACT PRICE** - The total monies payable to the contractor under the terms and conditions of the contract documents as stated in the Agreement.
- l. **CONTRACT TIME** - The number of calendar days stated in the contract documents for the completion of the work or the time from the execution of the agreement to the completion date. The contract time shall not limit the length of time that the Contractor is bound onto the Owner for faithful performance of the work.
- m. **CONTRACTOR** - The person, firm, corporation, entity or authorized representative thereof named in the contract documents with whom the Owner has executed the agreement.
- n. **DEFECTIVE** – Refers to Work that is unsatisfactory, damaged, faulty or deficient, does not conform to the Contract Documents or does not meet the requirements of any inspection, test or approval referred to in the Contract Documents.
- o. **DRAWINGS** - The part of the contract documents which show the characteristics and scope of the work to be performed and which have been prepared or approved by the Engineer.
- p. **ELECTRIC OPERATIONS SUPERINTENDENT** - The Electric Operations Superintendent of the City of River Falls, Wisconsin.
- q. **FIELD ORDER** - A written order affecting a change in the work not involving an adjustment in the contract price or an extension of the contract time, issued by the Electric Operations Superintendent to the Contractor during construction.
- r. **FINAL ACCEPTANCE** - A written notice given by the Electric Operations Superintendent upon completion of the work as listed in the contract documents and change orders, including correction of all defective work, and upon receipt by the Owner of satisfactory evidence as to release assurance on all known claims regardless of source.
- s. **NOTICE OF AWARD** - The written notice of the acceptance of the bid from the Owner to the successful bidder.
- t. **NOTICE TO PROCEED** - Written communication issued by the Owner to the Contractor authorizing him to proceed with the work and establishing the date of commencement of the work.
- u. **OWNER** - The City of River Falls, Wisconsin.
- v. **PROJECT** - This shall include all work shown on the plans and called for in the specifications. Also included is that work not shown on the plans or called for in the specifications, which is logically inferred, or normally a part of the work.
- w. **RESIDENT PROJECT REPRESENTATIVE** - The authorized representative of the Owner who is assigned to the project site or any part thereof.
- x. **SHOP DRAWINGS** - All drawings, diagrams, illustrations, brochures, schedules and other data which are prepared by the Contractor, a subcontractor, manufacturer, supplier or distributor, which illustrate how specific portions of the work shall be fabricated or installed.

- y. **SPECIFICATIONS** - A part of the contract documents consisting of written descriptions of a technical nature of materials, equipment, construction systems, standards and workmanship.
- z. **SUBCONTRACTOR** - An individual, firm or corporation having an agreement with the Contractor or with any other sub-contractor for a performance of a part of the work.
- aa. **SUBSTANTIAL COMPLETION** - That date as certified by the engineer when the construction of the project or a specified part thereof is sufficiently completed so that the project or specified part can be utilized for the purposes for which it is intended.
- bb. **SUPPLEMENTAL GENERAL CONDITIONS** - Modifications to the General Conditions occasionally by conditions unique to this project or to provide clarification of the General Conditions or supplemental information to the General Conditions. Where provisions of the Supplemental General Conditions conflict with those of the General Conditions, the Supplemental General Conditions shall prevail. The term "special conditions" may be substituted for the term "supplemental general conditions."
- cc. **SUPPLIER** - Any person or organization who supplies materials or equipment for the work, including that fabricated to a special design, but who does not perform labor at the site.
- dd. **SURETY** - The corporate body bound with and for the Contractor for the acceptable performance of the work.
- ee. **WORK** - All labor necessary to produce the construction required by the contract documents and all materials and equipment incorporated or to be incorporated into the project.
- ff. **WRITTEN NOTICE** - Any notice to any party to the agreement relative to any part of this agreement in writing and considered delivered and the service thereof completed, when posted by mail to said party at his last known address or delivered in person to said party or his representative on the work.

B. QUANTITIES

1. The quantities for which Unit Prices are indicated in the Proposal Form, are approximate only, and do not constitute a warranty or guarantee by the Owner as to the actual quantities involved in the work. Such quantities are to be used for the purpose of comparison of bids and determining the amount of the Performance Bond. The Owner expressly reserves the right to increase or decrease the quantities during construction and also to make reasonable changes in design provided such changes do not materially change the intent of the basic Contract. The amount of work to be paid for will be based upon the actual quantities of work performed.

C. ADDENDA

1. Addenda shall be issued prior to the time of receipt of Proposals, shall be included in the Proposal and shall be made part of the Contract Documents. The Electric Operations Superintendent at their option may either mail or FAX the Addenda to all registered Plan holders. Receipt of each Addendum shall be acknowledged by the Bidder on the face of the Envelope containing their Proposal.

D. VALUE ENGINEERING INCENTIVE

1. These value engineering provisions apply as an incentive to the Contractor to initiate, develop, and present to the Owner for consideration any cost reduction proposals involving changes in the drawings, designs, specifications or other requirements of the Contract. These provisions do not apply unless the proposal submitted is specifically identified by the Contractor as being presented for consideration as a Value Engineering Proposal.
2. The cost reduction proposals contemplated are those that would require a Supplemental Agreement modifying the Contract and would produce a savings to the Owner by providing less costly items or methods than those specified in the Contract without impairing essential functions and characteristics such as service life, reliability, economy of operation, ease of maintenance, and necessary standardized features.
3. As a minimum the Contractor shall submit the following with each value engineering proposal.
 - a. A statement that the proposal is submitted as a Value Engineering Proposal.
 - b. A description of the proposal.
 - c. An itemization of the requirements of the Contract that must be changed, and recommendations of how to make those changes.
 - d. An estimate of the reduction in costs that would result from adoption of the proposal.
 - e. Predictions of any effects on costs outside of the scope of the Contract.
 - f. The time frame by which the proposal must be executed to obtain the maximum cost savings.
 - g. A statement regarding the effect the proposal would have on the time for completion of the Contract.
4. The Owner will not be liable for any delay in acting upon any proposal submitted. The Contractor may withdraw, in whole or in part, any value engineering proposal not accepted by the Owner within the period specified in the proposal.
5. The Contractor will be notified in writing of the Owners decision to accept or reject each value engineering proposal that is submitted. If accepted, the necessary contract modifications will be effected by execution of a supplemental agreement, which will provide for equitable price adjustments giving the Contractor and the Owner equal shares in the net savings that result. Unless and until the proposal is effected by such Contract modifications, the Contractor shall remain obligated to perform in accordance with the terms of the existing Contract.
6. All reasonably incurred costs of developing the cost reduction proposal and implementing the changes, including any increased costs to the Owner resulting from its application, will be deducted from the total estimated decrease in the Contractor's cost of performance to arrive at the net savings. The Contractor's 50 percent share of the net savings shall constitute full compensation for effecting all changes pursuant to the agreement.

E. ADDITIONAL INSTRUCTIONS AND DETAIL DRAWINGS.

1. The Contractor may be furnished additional instructions and detail drawings by the Electric Operations Superintendent as necessary to carry out the work required by the contract documents.
2. The additional drawings and instructions thus supplied will become a part of the contract documents. The contractor shall carry out the work in accordance with the additional detail drawings and instructions.

F. SCHEDULES, REPORTS AND RECORDS.

1. The contractor shall submit to the Owner a schedule of quantities and costs, progress schedules, payrolls, reports, estimates records and other data where applicable as are required by the contract documents for the work to be performed.
2. Prior to the first partial payment estimate the Contractor shall submit construction progress schedules showing the order in which he proposes to carry on the work, including dates at which he will start the various parts of the work, estimated date of completion of each part and as applicable:
 - a. The dates at which special detail drawing will be required; and
 - b. Respective dates for submission of shop drawings, the beginning of manufacture, the testing and the installation of materials, supplies and equipment.
3. The Contractor shall also submit a schedule of payments that he anticipates he will earn during the course of the work.

G. DRAWINGS AND SPECIFICATIONS.

1. It is the intent of these plans and specifications to describe a complete project. The Contractor shall furnish all material, labor, tools, equipment and supervision to completely construct the project as described in these plans and specifications. Any work that may be reasonably inferred from these plans and specifications as being required to produce the desired result shall be supplied whether or not it is specifically called for.
 - a. It is not intended, however, that materials or work not covered by or properly inferable by any heading, branch, class or trade of the specifications shall be supplied unless distinctly so noted on the drawings or in the specifications. Materials or work described in words, which so applied, have a well-known technical or trade meaning shall be held to refer to such recognized standards.
 - b. The contract documents comprise the entire agreement between the Owner and the Contractor. They may be altered only by a modification.
 - c. The contract documents are complementary, what is called for by one is as binding as if called for by all. If the Contractor finds a conflict, error or discrepancy between the site conditions and the contract documents or in the contract documents, he shall call it to the Electric Operations Superintendent's attention in writing before proceeding with the work affected thereby. In resolving such conflicts, errors or discrepancies, the documents shall be given precedence in the following order: agreement, specifications, and drawings. Within the specifications the order of precedence shall be as follows: special conditions, instructions to bidders, general conditions, technical specifications. Figure dimensions on drawings shall govern over scale dimensions and detailed drawings shall govern over general drawings. The Contractor assumes full responsibility for having familiarized himself with the nature and extent of the contract documents, work locality and local conditions that may in any manner affect the work to be done.

- d. When included with the plans and specifications, reports on sub-surface conditions in vicinity or the proposed improvements are only included for the convenience of the bidder and are subject to the conditions as listed therein. Locations and intervals of testing have been designated to provide the Electric Operations Superintendent with a sub-surface condition on the site for design and estimating purposes. The information given is applicable only to the locations indicated and shall not be construed to apply uniformly throughout any given area. It shall be understood that soil types, bearing capacities, moisture contents, water elevations, elevations of strata or other sub-surface characteristics may vary across the site. In familiarizing himself with the project site, prospective bidders shall take the variability of sub-surface conditions into account, which may include excavating test pits, taking soil borings, and/or other methods of sub-surface investigations. Such investigations are subject to the requirements of Section Error! Reference source not found of these General Conditions.
2. The Contractor shall keep one copy of all drawings and specifications on the work, in good order, available to the Electric Operations Superintendent and to his representative.
 - a. All drawings, specifications and copies thereof furnished by the Electric Operations Superintendent are his property. They are not to be used on other work, and with the exception of the signed contract set, are to be returned to the Electric Operations Superintendent on request, at the completion of the work. All models are the property of the Owner.

H. MATERIALS, SERVICES AND FACILITIES.

1. It is understood that except as otherwise specifically stated in the contract documents, the Contractor shall provide and pay for all labor, tools, equipment, water, light, power, transportation, supervision, temporary construction of any nature and all other services and facilities of any nature whatsoever to execute, complete and deliver the work within the specified time.
2. It shall be the responsibility of the Contractor to assure that equipment to be incorporated into the work shall be stored as to insure the preservation of their quality and fitness for the work. Stored materials and equipment to be incorporated into the work shall be stored so as to facilitate inspection by the Electric Operations Superintendent.
3. Manufactured materials and equipment shall be handled, stored, installed, erected, used, cleaned and conditioned as directed by the manufacturer.
4. Materials, supplies or equipment to be incorporated into the work shall not be purchased by the Contractor, subcontractor or equipment supplier subject to a chattel mortgage or under a conditional sale contract or other agreement under which the seller retains an interest.
5. While the guarantee on the project lists an eighteen (18) month guarantee period, the workmanship as specified are intended to provide a high quality finished product which will function many years with a minimum of additional costs. The workmanship not specifically listed in the contract documents but inferred to be included in the work, and workmanship performed as corrective work shall meet the same high quality as those listed in the contract documents.

I. INSPECTION AND TESTING.

1. All materials and equipment used in the construction of the project shall be subject to adequate inspection and testing in accordance with generally accepted standards, as required and defined in the contract documents.
2. The Owner will retain a testing company to make sure tests as deemed necessary to assure compliance with the specifications. The Owner will pay for such tests the first time such tests are made. Whenever a test fails, the Contractor shall take whatever action is required to correct the defective work or materials. The Electric Operations Superintendent will order additional tests to assure that the corrected work or materials will meet the requirements of the specifications. The cost of all such additional tests shall be deducted from payments to the Contractor or be paid directly by the Contractor at the Contractor's request.
3. The contractor shall provide, at his expense, the testing and inspection services specifically required by the specifications and specifically noted in the specifications as the financial responsibility of the Contractor.
4. If the contract documents, laws, ordinances, rules, regulations or orders of any public authority having jurisdiction require any work to specifically be inspected, tested or approved by someone other than the Contractor, the Contractor shall give the Electric Operations Superintendent timely notice of readiness. Scheduling of work shall take into account the requirements for testing and resulting time necessary to obtain laboratory services. Time extensions or requests for extra payment shall not be considered for delays due to testing. The Contractor shall then furnish the Electric Operations Superintendent the required certificates of inspection, testing or approval.
5. Inspections, tests or approvals by the Electric Operations Superintendent shall not relieve the Contractor from his obligation to perform the work in accordance with the requirements of the contract documents.
6. The Electric Operations Superintendent will at all times have access to the work. In addition, authorized representatives and agents of participating Federal and State agencies shall be permitted to inspect all work, materials, payrolls, records of personnel, invoices of materials and other relevant data and records. The Contractor will provide proper facilities for such access and observation of the work and also for any inspection or testing thereof.
7. If any work is covered contrary to any written instruction of the Electric Operations Superintendent it must, if requested by the Electric Operations Superintendent, be uncovered for his observation and recovered at the Contractor's expense.
8. If the Electric Operations Superintendent considers it necessary or advisable that covered work be inspected or tested by others, the Contractor, at the Electric Operations Superintendent's request, will uncover, expose or otherwise make available for testing, inspection or observation as the Electric Operation Superintendent may require, that portion of the work in question, furnishing all necessary labor, tools, materials and equipment. If it is found that such work is defective, the Contractor shall bear the cost of such uncovering, inspection, testing and satisfactory reconstruction. If, however, such work is not found to be effective, the Contractor will be allowed an increase in the contract price or an extension of the contract time or both directly attributable to such uncovering and an appropriate change order shall be issued.
9. All materials found to be defective during the process of testing or inspection or materials found to be defective during the progress of the work will be rejected by the Electric Operations Superintendent and the Contractor shall promptly remove from the site all such materials.

10. The Contractor shall be responsible for all materials furnished by him and he shall replace, at his own expense, all such material that is found to be defective in manufacture or that has become damaged in handling after delivery by the manufacturer. This shall include all material and labor necessary for the replacement of installed material discovered to be defective after incorporation into the work.

J. PATENTS.

1. The Contractor shall pay all applicable royalties and license fees. He shall defend all suits or claims for infringement of any patent rights and save the Owner harmless from loss on account thereof, except that the Owner shall be responsible for any such loss when a particular process, design or the product or products of the particular manufacturer is specified. However, if the Contractor has reason to believe that the design, process, product or products specified is an infringement of a patent, he shall be responsible for such loss unless he promptly gives such information to the Electric Operations Superintendent.
 - a. Any bidder who submits a bid with the knowledge that the design, process, product or products incorporated into the project infringe on a patent or patents shall be responsible for any loss suffered by the Owner, and shall be liable for any increased costs to the project including for loss of use due to delays or an inability to complete the project within the contract time as a result of such infringement.

K. SURVEYS, PERMITS AND REGULATIONS.

1. The Owner shall furnish all boundary surveys and establish all base lines for locating the principle parts of the work together with a suitable number of bench marks adjacent to the work as shown in the contract documents. Unless otherwise specified in the contract documents, the Owner shall develop and make all detailed surveys, set alignment points, grade stakes, slope stakes and calculate cut sheets needed to permit the Contractor to set his batter boards, laser equipment, string lines and forms needed to correctly lay out the work.
2. The Contractor shall carefully preserve and protect benchmarks, reference points, survey monuments and stakes. The Contractor shall be responsible for the replacement of any benchmarks, reference points, survey monuments or stakes that are unnecessarily disturbed. The costs of all such additional survey work shall be deducted from payments to the Contractor or be paid directly by the Contractor at the Contractor's request.
3. Permits and licenses of a temporary nature necessary for the execution of the work shall be secured and paid for by the Contractor unless otherwise stated in the Supplemental General Conditions. Permits, licenses and easements for permanent structures or permanent changes in existing facilities shall be secured and paid for by the Owner, unless otherwise specified. The Contractor shall give all notices and comply with all laws, ordinances, rules and regulations bearing on the conduct of the work as drawn and specified. If the Contractor observes that the contract documents are at variance therewith, he shall promptly notify the Electric Operations Superintendent in writing and any necessary changes shall be adjusted as provided in Section A16, "Changes In Work." If the Contractor performs any work knowing it to be contrary to such laws, ordinances, rules or regulations, he shall bear all costs arising therefrom, including costs due to delays or increases in the contract time.
 - a. The Contractor must comply with all terms and conditions of all permits obtained by the Owner, including, but not limited to, those obtained from the Wisconsin Department of Natural Resources and the Wisconsin Department of Transportation.

L. PROTECTION OF WORKS, PROPERTY AND PERSONS.

1. The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the work. He will take all necessary precautions for the safety of and shall provide the necessary protection to prevent damage, injury or loss to all employees on the work and other persons who may be affected thereby, all the work and all materials or equipment to be incorporated therein, whether in storage on or off the site and other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of the work.
2. The Contractor shall comply with all laws, ordinances, rules, regulations and orders of public bodies having jurisdiction. He shall erect and maintain, as required by the process of the work, all necessary safeguards for safety and protection. He shall notify owners of the adjacent utilities when the progress of the work may affect them. The Contractor shall remedy all damage, injury or loss to any property caused, directly or indirectly, in whole or in part, by the Contractor, any subcontractor or anyone directly or indirectly employed by any of them or anyone for whose acts any of them be liable, except damage or loss attributable to the fault of the contract documents or the acts or omissions of the Owner or the Engineer or anyone employed by either of them or anyone for whose acts either of them may be liable and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of the Contractor.
3. In emergencies affecting the safety of persons or the work or the property at the site or adjacent thereto, the Contractor, without special instruction or authorization from the Electric Operations Superintendent or Owner, shall act to prevent threatened damage, injury or loss. He shall give the Electric Operations Superintendent prompt written notice or any claimed sufficient changes in the work or deletions from the contract documents, caused thereby. Within seven (7) days of the occurrence, the Contractor shall document the claim along with any basis for change in the contract price. Upon receipt of the documentation, the claim shall be reviewed in accordance with Section 00 72 00 – V. Payments to Contractor. Any additional payments resulting from the claim shall be on a change order basis.
4. Barricades, flashers, safety fence, signage, etc. shall be provided by the Contractor as per the submitted plan and special specifications.

M. SUPERVISION BY CONTRACTOR

1. The Contractor shall supervise and direct the work. He shall be solely responsible for the means, methods, techniques, sequences and procedures of construction. The Contractor shall employ and maintain on the work a qualified supervisor or superintendent who shall have been designated by the Contractor as the Contractor's representative on the project. The name and qualifications of the supervisor or superintendent shall be designated in writing to the Owner prior to commencing work on the project. A supervisor or superintendent may be rejected based on lack of qualifications for the work involved in the project or on past experience with the individual named. Only one individual will be considered as being the supervisor or superintendent of the Contractor on the work with any change in that individual being justified to and receiving prior approval of the Owner. The supervisor shall have full authority to act on behalf of the Contractor and any communication given to the supervisor, written or oral shall be binding on the Contractor as if given in writing to the Contractor at his last known legal address. The supervisor shall be present on the site during construction to give adequate supervision to the work.

- a. The Contractor shall at all times enforce strict discipline and good order among his employees and shall not employ on the work an unfit person or anyone not skilled in the work assigned to him.

N. CHANGES IN WORK.

1. The Owner/Electric Operations Superintendent may at any time, as the need arises, order changes in the work without invalidating the agreement.
2. The Owner/Electric Operations Superintendent may also, at any time, make changes in the details of the work by issuing a field order. The Contractor shall proceed with the performance of any changes in the work so ordered by the Electric Operations Superintendent unless the Contractor believes that such field order entitles him to a change in the contract price or an extension of the contract time, or both, in which event he shall give the Electric Operations Superintendent written notice thereof within seven (7) days after receipt of the field order. Thereafter, the Contractor shall document the basis for the change in the contract price and/or contract time within an additional seven (7) days. The Contractor shall not execute such changes pending the receipt of an executed change order or further instruction from the Electric Operations Superintendent.

O. CHANGES IN CONTRACT PRICE.

1. The contractor price may be changed only by a change order. The value of any work covered by a change order or of any claim for increase or decrease in the contract price shall be determined by any one or more of the following methods in order of the precedence as listed below:
 - a. Unit prices previously approved.
 - b. An agreed lump sum or unit price.
 - c. The actual cost for labor, direct overhead, materials, supplies, equipment and other services necessary to complete the work.
 - d. In addition, there shall be an amount to be agreed upon, but not to exceed 15% of the actual cost of the extra work to cover the cost of general overhead and profit.
2. The Owner reserves the right to increase or decrease the quantities of any item of work bid as may be necessary or desirable to complete the construction. Such increases or decreases in quantities shall not affect the unit price bid except as listed herein.
 - a. As applied to this section, a major item shall be defined as an item which has total cost as determined by multiplying the quantity as listed on the proposal form times the bid unit price which exceeds 5% of the total bid as awarded; or an item that has throughout the course of the project a total cost as determined by the actual quantity installed times the bid unit price which exceeds 5% of the total bid as awarded.
 - b. The Contractor may submit a request for a revision in a contract unit price for a major item of work where the total quantity has been decreased to less than 75% of the original quantity bid. Such claim will be considered insofar it justifies an increase in the pro-rate share of the fixed expense changeable to such item because of the decrease in quantity of the item; provided that the total payment for the final quantity is less than that which would be made for 75% of the original quantity at the contract unit price.

- c. The Contractor or the Owner may submit to the other party a request for a revision of the contract unit price in the event the quantity of a major item exceeds 125% of the original bid quantity. Any change in unit price for major items as determined from the original quantity applies only to quantities in excess of 125% of the quantity as listed on the proposal form.
- d. Also, any change in unit price for major items, as determined by actual quantities installed, times the unit price bid shall apply only to the amount as determined by dollar amount exceeding 6-1/4% (125% x 5% of the total bid as awarded).
- e. Any change in unit price resulting from the conditions listed in this section shall be negotiated on a change order basis. Any request for revision of a contract unit price based on an increase or decrease in quantities installed shall be made according to the schedule as listed under "Changes in Work".

P. TIME FOR COMPLETION AND LIQUIDATED DAMAGES.

- 1. Parties agree that the City will incur damages should Contractor breach this Agreement by failing to complete the project consistent with the provisions of these Special Provisions. However, the Parties agree that the amount of damages incurred by the City following contractor's breach cannot be determined or measured by ordinary rules. For the purpose of liquidating the amount of damages, and not as a penalty, it is agreed that in case of the contractor's breach of this Agreement, the damages caused shall be and are fixed, liquidated and determined in accordance with these provisions for each calendar day that any portion of the project is not completed in accordance with the section of these Special Provisions titled "Determination of Contract Time." Such liquidated damages shall be construed to apply to intermediate and final completion dates set forth in the section of these Special Provisions titled "Determination of Contract Time."
- 2. The completion date or time for completion is an essential condition of the agreement. The Contractor shall proceed with the work in accordance with the project schedule at such a rate of progress to insure full completion by the completion date or within the time for completion. It is expressly agreed between the Contractor and the Owner that the contract time for the completion of the work described herein is a reasonable time, taking into account the average climatic conditions, site conditions and other factors prevailing in the locality of the work.
- 3. If the Contractor shall fail to complete the work within the contract time, or extension of time agreed to in change orders, then the Contractor shall pay to the Owner the amount for liquidated damages indicated below for each calendar day that the Contractor is in default after the time stipulated in the contract documents. Completion shall be considered as the performance of all work as listed in the contract documents, change orders and as required for correction of defective work.

SCHEDULE OF LIQUIDATED DAMAGES		
For More Than	To and Including	Charge per Calander Day
\$0.00	\$10,000.00	\$75.00
\$10,000.00	\$50,000.00	\$225.00
\$50,000.00	\$100,000.00	\$375.00
\$100,000.00	\$500,000.00	\$600.00
\$500,000.00	\$1,000,000.00	\$750.00
\$1,000,000.00	\$2,000,000.00	\$900.00
\$2,000,000.00		\$1,350.00

4. The Contractor shall not be charged with liquidated damages when the delay in completion of the work is due to the following and the Contractor has promptly given written notice to the Electric Operations Superintendent.
 - a. To any preference, priority or allocation order duly issued by the Owner.
 - b. To unforeseeable causes beyond the control and without the fault of the Contractor, including but not limited to acts of God or of the public enemy, acts of the Owner, acts of another Contractor in the performance of a contract with the Owner, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and abnormal and unforeseeable weather.
 - c. To any delays of subcontractors occasioned by any of the causes specified in the two preceding paragraphs.

Q. CORRECTION OF WORK.

1. The Contractor shall promptly remove from the site all work rejected by the Electric Operations Superintendent for failure to comply with the contract documents, whether incorporated into the work or not and the Contractor shall promptly replace and re-execute the work in accordance with the contract documents and without expense to the Owner or extension of the contract time. The Contractor shall bear the expense of repair to the work of other contractors destroyed or damaged by such removal or replacement.
2. All removal and replacement work shall be done at the Contractor's expense. If the Contractor does not take action to remove such rejected work within ten (10) days after receipt of written notice, the Owner may remove and replace such work at the Contractor's expense.

R. SUBSURFACE CONDITIONS.

1. The Contractor shall promptly and before such conditions are disturbed, except in the case of an emergency, notify the Electric Operations Superintendent of:
 - a. Sub-surface or latent physical conditions at the site differing materially from those indicated in the contract documents; or
 - b. Unknown physical conditions at the site of an unusual nature differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the contract documents.
2. The Electric Operations Superintendent shall promptly investigate the conditions and if he finds such conditions to so materially differ and cause an increase or decrease in the cost of or in the time required for performance of the work, an equitable adjustment shall be made and the contract documents shall be modified by a change order. Any claim of the Contractor for adjustment hereunder shall not be allowed unless he has given the required written notice; provided that the Owner may, if he determines the facts so justify, consider and adjust any such claims asserted before the date of final payment.

S. SUSPENSION OF WORK, TERMINATION AND DELAY.

1. The Owner may suspend the work or any portion thereof for a period of not more than ninety (90) days or such further time as agreed upon by the Contractor, by written notice to the

Contractor and the Electric Operations Superintendent which notice shall fix the date on which work shall be resumed. The Contractor shall resume that work on the date so fixed. The Contractor will be allowed an extension of the contract time or an increase in the contract price, or both, directly attributable to any suspension.

2. If the Contractor is adjudged bankrupt or insolvent, or if he makes a general assignment for the benefit of his creditors or if a trustee or receiver is appointed for the Contractor or any of his property, or if he files a petition to take advantage of any debtor's act or to reorganize under the bankruptcy or applicable laws or if he repeatedly fails to supply sufficient skilled worker or suitable materials or equipment or if he repeatedly fails to make prompt payments to subcontractors or for labor, materials or equipment or he disregards laws, ordinances, rules, regulations or orders of any public body having jurisdiction of the work or if he disregards the authority of the Electric Operations Superintendent or if he otherwise violates any provision of the contract documents, then the Owner may, without prejudice to any other right or remedy and after giving the Contractor and his surety a minimum of ten (10) days from delivery of a written notice, terminate the services of the Contractor and take possession of the project and of all materials, equipment, tools, construction equipment and machinery thereon owned by the Contractor and finish the work by whatever method he may deem expedient. In such case the Contractor shall not be entitled to receive any further payment until the work is finished. If the unpaid balance of the contract price exceeds the direct and indirect cost of completing the project, including compensation for additional professional services such excess may be paid to the Contractor. If such costs exceed such balance the Contractor shall pay the difference to the Owner. Such costs incurred by the Owner will be determined by the Electric Operations Superintendent and incorporated in a change order.
3. Where the Contractor's services have been so terminated by the Owner, such termination shall not affect any right of the Owner against the Contractor then existing or which may thereafter accrue. Any retention or payment of monies by the Owner due the Contractor will not release the Contractor from compliance with the contract documents.
4. The Owner may without cause and without prejudice to any other right or remedy, elect to abandon the project and terminate the contract. In such case the contractor shall stop all work as soon as practical after delivery of written notice stating that the work is to be stopped. The Contractor shall be paid for all work executed and any expense sustained plus reasonable profit.
5. If through no act or fault of the Contractor, the work is suspended for more than ninety (90) days by the Owner or under an order of court or other public authority, or the Electric Operations Superintendent fails to act on any request for payment within thirty (30) days after the time provided, or the Owner fails to pay the Contractor the sum approved by the Electric Operations Superintendent or awarded by arbitrators within thirty (30) days after the time provided for, then the Contractor may after ten (10) days from delivery of written notice to the Owner and the Electric Operations Superintendent, terminate the contract and recover from the Owner payment for all work executed and all expenses sustained. In addition and in lieu of terminating the contract, if the Engineer has failed to act on a request for payment or if the Owner has failed to make any payment as aforesaid, the Contractor may upon delivery of written notice to the Owner and the Electric Operations Superintendent stop the work until he has been paid all amounts due, in which event and upon resumption of the work, change orders shall be issued for adjusting the contract price of extending the contract time or both to compensate for the costs and delays attributable to the stoppage of the work.
6. If the performance of all or any portion of the work is suspended, delays or interrupted as a result of a failure of the Owner or Electric Operations Superintendent to act within the time specified within the contract documents or if no time is specified, within a reasonable time, an adjustment of the contract price or an extension of the contract time or both shall be made by

change order to compensate the Contractor for the costs and delays necessary by the failure of the Owner or the Electric Operations Superintendent.

T. PAYMENTS TO CONTRACTOR.

1. Within ten (10) days after the end of each month, the Contractor will submit to the Electric Operations Superintendent a partial payment estimate filled out and signed by the Contractor covering the work performed during the period covered by the partial payment estimate and supported by such data as the Electric Operations Superintendent may reasonably require. If payment is received on the basis of materials and equipment not incorporated in the work but delivered and suitably stored at or near the site, the partial payment estimate shall also be accompanied by such supporting data, satisfactory to the Owner, as will establish the Owner's title to the material and equipment and protect his interest therein, including applicable insurance. The Electric Operations Superintendent will within ten (10) days after receipt of each partial payment estimate either indicate in writing his approval of the partial payment or return the partial payment estimate to the Contractor indicating in writing his reasons for refusing to approve the payment. In the latter case, the Contractor may make the necessary corrections and resubmit the payment estimate. The Owner will within thirty (30) days or presentation to him of an approved partial payment estimate pay the Contractor a progress payment on the basis of the approved partial payment estimate. The Owner shall retain 10% of the amount of each payment until final completion and acceptance of all work covered by the contract documents. The Owner at any time, however, after 50% of the work has been completed if he finds that satisfactory progress is being made, may reduce the retainage to 5% of the amount due the Contractor. When the work is substantially complete (operational or beneficial occupancy) the retained amount may be reduced to that amount necessary to assure completion. On completion and acceptance of a part of the work on which the price is stated separately in the contract documents may be made in full, including retained percentage less authorized deductions.
2. The request for payment may also include an allowance for the cost of such major materials and equipment, which are suitably stored either at or near the site.
3. Prior to substantial completion, the Electric Operations Superintendent with the concurrence of the Contractor may use any completed or substantially completed portions of the work. Such use shall not constitute an acceptance of such portions of the work.
4. The Owner shall have the right to enter the premises for the purpose of doing work not covered in the contract documents. This provision shall not be construed as relieving the Contractor of the sole responsibility for the care and protection of the work or the restoration of any damaged work except such as may be caused by agents or employees of the Owner.
5. Upon completion and acceptance of the work the Electric Operations Superintendent shall issue a certificate attached to the final payment that he has accepted the work under the conditions of the contract documents. The entire balance due the Contractor, including the retained percentages but except such sums as may be lawfully retained by the Owner shall be paid to the Contractor within thirty (30) days of completion and acceptance of the work.
6. The Contractor shall indemnify and save harmless the Owner and the Owner's agents including the Electric Operations Superintendent from all claims growing out of the lawful demand of subcontractors, laborers, workmen, mechanics, material men and furnisher of machinery, parts, equipment, tools and all supplies incurred in the furtherance of the performance of the work. The Contractor shall at the Owner's request, furnish satisfactory evidence that all obligations of the nature designated above have been paid, discharged or waived. If the Contractor fails to do so, the Owner may, after having notified the Contractor, either pay unpaid bills or withhold from the Contractor's unpaid compensation a sum of

money deemed sufficient to pay any and all such unlawful claims until satisfactory evidence is furnished that all liabilities have been fully discharged whereupon payment to the Contractor shall be resumed in accordance with the terms of the contract documents, but in no event shall the requirements of this provision be construed to impose any obligations upon the Owner to either the Contractor, his surety or any third party. In paying any unpaid bills of the Contractor, and payment made by the Owner shall be considered by the Owner to the Contractor and the Owner shall not be liable to the Contractor for any such payments made in good faith.

7. If the Owner fails to make payment thirty (30) days after approval by the Electric Operations Superintendent in addition to other remedies available to the Contractor, interest shall be added to each payment at a rate of 1% per month commencing on the first day after said payment is due and continuing until the payment is received by the Contractor.
 8. The Contractor shall include in the contract price all allowances named in the contract documents and shall cause the work so covered to be done by such Contractors and for such sums as the Electric Operations Superintendent may direct the contract price being adjusted in conformity herewith. The Contractor declares that the contract price includes such sums for expense and profit on account of cash allowances as he deems proper. No demand for expense or profit other than those included in the contract price shall be allowed.
 9. The Electric Operations Superintendent may withhold or on account of subsequently discovered evidence nullify in whole or in part any certificate of payment to such extent as may be necessary to protect the Owner from loss on account of:
 - a. Defective work not remedied.
 - b. Claims filed or reasonable evidence indicating probable filing of claims.
 - c. Failure of the Contractor to make payments to subcontractors or for materials or labor.
 - d. A reasonable doubt that the contract can be completed for the balance then unpaid.
 - e. Damage to another Contractor, to the work or to the property.
 - f. Failure to complete the contract within the time specified.
 - g. Cancellation of the Contractor's insurance coverage as required in Section 00 72 00 – X. Insurance, or of his bond as required in Section 00 72 00 – Y. Contract Security.
 - h. When the above grounds are removed or satisfactory adjustment made, payments of the balance due shall be made from the amounts withheld because of them.
- U. ACCEPTANCE OF FINAL PAYMENT AS RELEASE.
1. The acceptance by the Contractor of final payment shall be and shall operate as a release to the Owner of all claims and all liability to the Contractor other than claims in stated amounts as may be specifically accepted by the Contractor for all things done or furnished in connection with this work and for every act and neglect of the Owner and others relating to and arising out of this work. Any payment, however, final or otherwise, shall not release the Contractor or his sureties from any obligations under the contract documents or the performance bond and payment bond.
 2. Neither the final payment nor any part of the retained percentage shall become due until the Contractor, if required, shall deliver to the Owner a complete release of all liens arising out of

this contract or receipts in full in lieu thereof and if required in either case, an affidavit that so far as he has knowledge or information, the releases and receipts include all labor and materials for which a lien could be filed, but the Contractor may, if any subcontractor refuses to furnish a release or receipt in full, furnish a bond satisfactory to the Owner to indemnify him against any lien.

V. INSURANCE.

1. The Contractor shall purchase and maintain such insurance as will protect him, the Owner, the Owner's employees and agents from claims set forth below which may arise out of or result from the Contractor's execution of the work whether such execution be by himself or by any subcontractor or by anyone directly or indirectly employed by any of them or by anyone for whose acts any of them may be liable.
 - a. Claims under workers' compensation, disability benefit and other similar employee benefit acts.
 - b. Claims for damages because of bodily injury, occupational sickness or disease or death of his employee.
 - c. Claims for damages because of bodily injury, sickness or disease or death of any person other than his employees.
 - d. Claims for damages insured by usual personal injury liability coverage which are sustained (1) by any person as a result of an offense directly or indirectly related to the employment of such person by the Contractor or (2) by any other person.
 - e. Claims for damages because of injury to or destruction of tangible property, including loss of use resulting therefrom.
2. Certificates of insurance acceptable to the Owner shall be filed with the Owner prior to commencement of the work. These certificates shall contain a provision that the coverage afforded under the policies shall not be cancelled unless at least fifteen (15) days prior written notice has been given to the Owner. The certificate of insurance shall include the Owner as additional insured under the General Liability policy.
3. The Contractor shall procure and maintain the following insurance coverage, at his own expense during the contract time, or in the case any work is sublet, the Contractor shall require the subcontractor to procure and maintain the following insurance during the contract period unless covered by the Contractor's insurance:
 - a. Commercial General Liability including coverage for premises-operations, independent contractors' protective, product-completed operations, contractual liability, personal injury and broad form property damage (including coverage for explosion, collapse and underground hazards). The owner shall be included as additional insured.
 - 1) \$1,000,000 Each Occurrence
 - 2) \$1,000,000 General Aggregate
 - 3) \$1,000,000 Personal/Advertising Injury
 - 4) \$1,000,000 Products-Completed Operations Aggregate
 - b. Automobile Liability (owned, non-owned and hired vehicles) for bodily injury and property damage.
 - 1) 1,000,000 single limit each accident
 - c. Umbrella Liability (required over primary General Liability and Automobile Liability):

- 1) \$1,000,000 General Aggregate
- 2) \$1,000,000 Products/Completed Operations Aggregate
- 3) \$1,000,000 Bodily Injury and Property Damage Each Occurrence
- 4) \$1,000,000 Personal & Advertising Each Person

W. CONTRACT SECURITY.

1. The Contractor shall within ten (10) days after the receipt of the Notice of Award furnish the Owner with a performance bond and a payment bond in penal sums equal to the amount of the contract price, conditioned upon the performance by the Contractor of all undertakings, covenants, terms, conditions and agreements of the contract documents and upon the prompt payment by the Contractor to all persons supplying labor and materials in the prosecution of the work provided by the contract documents. The bonds shall be prepared utilizing the forms included herein. Such bonds shall be executed by the Contractor and a corporate bonding company licensed to transact such business in the state in which the work is to be performed and named on the current list of "Surety Companies Acceptable on Federal Bonds" as published in the Treasury Department Circular Number 570. The expense of these bonds shall be borne by the Contractor. If at any time a surety on any such bond is declared a bankrupt or loses its right to do business in the state in which the work is to be performed or is removed from the list of surety companies accented on federal bonds, the Contractor shall, as soon as practical, substitute an acceptable bond (or bonds) in such form and sum and signed by such other surety or sureties as may be satisfactory to the Owner. The premiums on such bond shall be paid by the Contractor. The premiums on such bond shall be paid by the Contractor. No further payments shall be deemed due or shall be made until the new surety or sureties shall have furnished an acceptable bond to the Owner.

X. ASSIGNMENTS.

1. Neither the Contractor nor the Owner shall sell, transfer, assign or otherwise dispose of the contract or any portion thereof or of his right, title or interest therein or his obligations thereunder, without written consent of the other party.

Y. INDEMNIFICATION.

1. The Contractor shall indemnify and hold harmless the Owner and the Electric Operations Superintendent and their agents and employees from and against all claims, damages, losses and expenses including attorney's fees arising out of or resulting from the performance of the work provided that any such claims, damage, loss or expense is attributable to bodily injury to or destruction of tangible property including the loss of use resulting therefrom, and is caused in whole or in part by any negligent or willful act or omission of the Contractor and subcontractor anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable. The Contractor and his subcontractor and suppliers shall indemnify and hold harmless the Owner and the Electric Operations Superintendent from and against claims filed under workers compensation statutes.
2. In any and all claims against the Owner or the Electric Operations Superintendent or any of their agents or employees by any employee of the Contractor, any subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, the indemnification obligation shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Contractor or any subcontractor under workers' compensation acts, disability benefit acts or other employee benefit acts.

Z. SEPARATE CONTRACTS.

1. The Owner reserves the right to let other contracts in connection with this project. The Contractor shall afford other contractors reasonable opportunity for the introduction and storage of their materials and the execution of their work and shall properly connect and coordinate his work with theirs. If the proper execution or results of any part of the Contractor's work depends upon the work of any other contractor the Contractor shall inspect and promptly report to the Electric Operations Superintendent any defects in such work that it renders it unsuitable for such proper execution and results.
2. The Owner may perform additional work related to the project by him or he may let other contracts containing provisions similar to these. The Contractor will afford the other contractors who are parties to such contracts (or the Owner if he is performing additional work himself), reasonable opportunity for the introduction and storage of materials and equipment and the execution of work and shall properly connect and coordinate his work with theirs.
3. If the performance of additional work by other contractors or the Owner is not noted in the contract documents prior to the execution of the contract, written notice thereof shall be given to the Contractor prior to starting any such additional work. If the Contractor believes that the performance of such additional work by the Owner or others involves him in additional expense or entitles him to an extension of the contract time, he may make a claim therefore as provided in Sections 00 72 00 – P. Changes In Work, and Section 00 72 00 – Q. Changes In Contract Price.
4. Should the Contractor cause damage to any separate contractor on the work the Contractor agrees upon due to notice to settle with such contractor by agreement or arbitration if he will so settle. If such separate contractor sues the Owner on account of any damage alleged to have been so sustained the Owner shall notify the Contractor who shall defend the Owner from judgments against him, if any, and pay all costs incurred by the Owner.

AA. ELECTRIC OPERATIONS SUPERINTENDENT'S AUTHORITY.

1. The Electric Operations Superintendent shall act as the Owner's representative during the construction period. He shall decide questions that may arise as to quality and acceptability of materials furnished and work performed. He shall interpret the intent of the contract documents in a fair and unbiased manner. The Electric Operations Superintendent will make visits to the site and determine if the work is preceding in accordance with the contract documents.
2. The Contractor will be held strictly to the intent of the contract documents in regard to the quality of materials, workmanship and execution of the work. Inspections may be made at the factory or fabrication plant of the source of material supply.
3. The Electric Operations Superintendent will not be responsible for the construction means, control, techniques, sequences, or procedures of construction safety.
4. The Electric Operations Superintendent shall promptly make decisions relative to interpretation of the contract documents.
5. The Electric Operations Superintendent may utilize an on-site inspector to report progress and acceptability of the work being performed. The inspector shall be authorized to inspect all work done and materials furnished, including calling to the attention of the Contractor any failure of the work or materials to conform to the contract documents. Work performed or materials installed differing from the requirements of the contract documents may be rejected without payment. The inspector is not authorized to revoke, alter or waive any requirements

of the contract documents nor is he authorized to approve or accept any portion of the completed project.

BB. LAND AND RIGHTS-OF-WAY.

1. Prior to issuance of the notice to proceed, the Owner shall obtain all land, easements and rights-of-way necessary for carrying out and completion of the work to be performed pursuant to the contract documents, unless otherwise mutually agreed.
2. The Owner shall provide to the Contractor information that delineates and describes the lands owned and easements and right-of-way acquired. For the purpose of this project, the Contractor shall work only in the rights of ways and easements.
3. The Contractor shall provide at his own expense and without liability to the Owner an additional land and access thereto that the Contractor may desire for temporary construction facilities or for storage of materials.
4. The Contractor shall confine his apparatus, the storage of materials and the operations of his employees to the limits required by law, ordinances, permits or the directions of the Electric Operations Superintendent and shall not reasonably encumber the premises with his materials.
5. The Contractor shall enforce the Electric Operations Superintendent's instructions regarding signs, advertisements, fires and smoking.

CC. GUARANTEE.

1. The Contractor shall guarantee all equipment furnished and all work performed for a period of 18 months from the date of final acceptance. The Contractor warrants and guarantees for a period of 18 months from the date of final acceptance that the completed system is free from all defects due to faulty materials or workmanship and the Contractor shall promptly make such corrections as necessary by reason of such defects including the repairs of any damage to the parts of the system resulting from such defects. The Owner will give notice of observed defects with reasonable promptness. In the event the Contractor should fail to make such repairs, adjustments or other work that may be made necessary by such defects, the Owner may do so and charge the Contractor the cost thereby incurred. The performance bond shall remain in full force and effect through the guarantee period.

DD. TAXES.

1. The Contractor shall pay all sales, consumer, use and other similar taxes required by the law of the place where the work is performed.

EE. CUTTING, PATCHING AND DIGGING.

1. The Contractor shall do all cutting, patching or fitting of his work that may be required to make its several parts come together properly and fit it to receive or be received by work or other contractors shown upon or reasonably implied by the drawings and specifications for the completed structure and he shall make good after them as the Electric Operation Superintendent may direct.
2. Any cost caused by defective or ill-timed work shall be borne by the party responsible thereof.

3. The Contractor shall not endanger any work by cutting, digging, or otherwise and shall not cut or alter the work of any other contractor or of the Owner except with the consent of the Electric Operations Superintendent.

FF. CLEAN-UP.

1. The Contractor shall at all times keep the site free from accumulation of waste materials or rubbish caused by his employees or work and at the completion of the work he shall remove all his rubbish, tools, equipment and materials from the site and shall leave the site and shall leave the site "broom clean" or its equivalent. In case of dispute the Owner may remove the rubbish and charge the cost to the several contractors as the Electric Operations Superintendent may determine to be just.

GG. SAFETY.

1. Safety - The Contractor alone shall be responsible for the safety, efficiency and adequacy of his plant, appliances and methods and for any damage which may result from their failure or their improper construction, maintenance or operation.
2. Protection of Lives and Property - In order to protect the lives and health of his employees under the contract, the Contractor shall comply with all pertinent provisions of the "Manual of Accident Prevention in Construction" issued by the Associated General Contractors of America, Inc. and shall maintain an accurate record of all cases of death, occupational disease and injury requiring medical attention of causing loss of time from work, arising out of and in the course of employment or work under the contract.

HH. PROTECTION OF UTILITIES

1. The locations of underground facilities, as shown on the plans, are approximate only, and are shown only for the contractor's general information. The engineer does not assume responsibility for showing all utilities in the plans. The contractor shall notify all public and private utilities of their work schedule, and use suitable precautions to prevent damage to pipes, conduits, and other underground or overhead structures.
2. In some instances it may be impossible to devise construction procedures which will allow construction to proceed over, around, or under the utilities. If this should occur, the utility companies shall be notified by the contractor and required to do what is necessary to save their facilities from harm. The resident engineer shall approve construction changes necessary to protect utilities.
3. When utilities must be relocated, the contractor shall cooperate with the utility company and provide them access to the work and time to make adjustments without interference.

II. WATER FOR CONSTRUCTION

1. All water used for construction purposes shall be drawn from the River Falls Municipal Utilities water station located at 950 Benson Street. The contractor shall apply for an account with River Falls Municipal Utilities and pay for all associated water charges.

JJ. EQUAL EMPLOYMENT OPPORTUNITY POLICY

1. The Contractor will accept as his/her operating policy the following statement which is designed to further the provisions of equal employment opportunity to all persons without

regard to their race, color, religion, sex or national origin, and to promote the full realization of equal employment opportunity through a positive continuing program.

2. It is the policy of this company to assure that applicants are employed, and the employees are treated during employment, without regard to their race, religion, sex, color, or national origin. Such action shall include employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training.

**SECTION 00 73 00
SUPPLEMENTARY CONDITIONS**

A. SCOPE OF PROJECT.

1. This project includes directional boring of electric power distribution lines within the City of River Falls. Items that are part of this work include but are not limited to the following:
 - a. Mobilization
 - b. Traffic Control
 - c. Directional Boring Equipment

B. DETERMINATION OF CONTRACT TIME

1. All work required by these contract documents shall be completed by **October 1, 2017**.

C. INTERRUPTION OF SERVICE OR ACCESS.

1. As much as possible, work shall not interfere with the resident's access to and from their homes. The Contractor is responsible for notifying residents of temporary disruptions of access to their property. This will allow them to move vehicles if necessary. Access to all driveways shall be provided at the end of each day.
2. To minimize the duration of any interruptions of service access, the Contractor shall have sufficient workmen, equipment and materials on site to complete the required work.

D. DISPOSAL SITES.

1. Contractor shall be solely responsible for identifying and arranging for material to be brought to a qualified disposal site.
2. Material shall be disposed of in a manner permitted by local and state codes.
3. Payment for disposal of materials shall be included in the various unit prices bid by contractor for work included in this project.
4. No material shall be hauled to the City compost site on Locust Street west of Winter Street.

E. UTILITY COORDINATION.

1. Three days' notice is customary when requesting locates. All locates shall be routed through Diggers' Hotline at (800) 242-8511.
2. The Contractor shall notify affected individuals twenty-four (24) hours prior to a street closing or detour.

F. WORKING HOURS.

1. The City has a noise ordinance in effect which requires the Contractor's work hours to be between 6:00 a.m. to 10:00 p.m.

G. PUBLIC SAFETY AND CONVENIENCE

1. The Contractor shall conduct his operations in conformance with this Project Manual:

2. All work within the project shall be conducted in accordance with MUTCD requirements concerning: signs, barricades, lighting, flag persons, or other traffic and safety devices.
3. Construction operations shall be conducted to cause the least possible conflict with existing traffic.
4. Access for emergency vehicle including ambulance, fire and police vehicles to all businesses and residents shall be maintained at all times.

H. PROSECUTION OF WORK

1. The Electric Operations Superintendent will not be responsible for the construction, means, controls, techniques, sequence, procedures, or safety.
2. The contractor shall prepare a work schedule, which shall be approved by the owner before work begins. Pre-con Meeting set up before work starts, so expectations can be gone over before they arise and after the job has been completed.
3. The work shall be scheduled to minimize the disruption of local and through traffic.

I. INCIDENTAL WORK

1. Items of work for which no pay items are included in the bid proposal shall be considered as incidental expense and no separate payment will be made therefore. Incidental items include, but are not limited to the following:
 - a. Traffic Control
 - b. Black dirt and grass seeding
 - c. Standard Barricading
 - d. Pulling Lubricant

J. CHANGES IN CONTRACT PRICE

1. No adjustments in the unit prices will be allowed for increased or decreased quantities.

K. CITY PROJECT PERSONNEL

In the absence of the Electric Operations Superintendent, authority shall be granted to the City's project representative.

1. Wayne Siverling – Electric Operations Superintendent – 715-495-6317
2. Dan Treichel – Journeyman Lineperson – 715-426-3478

CELL PHONE # 715-821-0951

**SECTION 00 73 43
WAGE RATE REQUIREMENTS**

**STATE OF WISCONSIN
DEPARTMENT OF WORKFORCE DEVELOPMENT
EQUAL RIGHTS DIVISION**

WAGE DETERMINATION 201502062

**SECTION 33 01 30.72
DIRECTIONAL BORING**

PART 1 GENERAL

1.01 SUMMARY

- A. The work specified in this section consists of furnishing and installing electrical and fiber optics using the horizontal directional drilling (HDD) method of installation, also commonly referred to as directional boring or guided horizontal boring. This work shall include all necessary services, equipment, and labor for the complete and proper installation, testing, all surface restoration and replacement of any damaged utilities and environmental protection and traffic control.
- B. All items of work not specifically mentioned herein which are required to make the product perform as intended and deliver the final product as specified herein shall be included in the respective lump sum and unit prices bid.

1.02 MEASUREMENT AND PAYMENT

- A. Directional Drilling Pipe: The quantity to be paid for will be the length in linear feet of each size of pipe furnished and installed. Measurement shall be made along the horizontal centerline of the pipe installed as shown on the plans. (The Contractor shall include in the Contract Unit Price its allowance for horizontal deflection, vertical deflection and all wastage). Payment for installed pipe will be at the item of work completed, including horizontal directional drilling, all pits including excavation, bedding and backfill, surface restoration including pavement removal and replacement, laying and jointing pipe; post construction TV inspection and mandrel testing; pressure and leakage testing; flushing, locating and protecting existing structures, utilities and property both public and private regardless of whether shown on plans or not; cleaning up the site; furnishing all material, labor, tools, and equipment; and all incidental and related work required to complete the installation including entry/back reaming pits, dewatering, Record Drawings (As-Builts), placing and removing all traffic signs and barriers, maintaining traffic, site preparation, and all restoration. Contractor shall be responsible for removal and disposal of drill fluid breakouts. Damage to roadways; existing utilities, property, both public and private, occurring due to the work shall require complete restoration to the satisfaction of the City. Any adaptors or coupling necessary for placement of fittings and valves shall not be paid for separately. No separate payment will be made for cleanup or restoration due to damage caused by Contractor's operations.

1.03 PERMITS

- A. The City is responsible for obtaining all permits necessary for the project before commencing any work on the project.

1.04 REFERENCES – COMPOUNDS

- A. ASTM - D2122 Standard Method of Determining Dimensions of Thermoplastics Pipe and Fittings.
- B. ASTM - D2290 Standard Test Method for Apparent Tensile Strength or Tubular Plastics and Reinforced Plastics by Split Disk Method.
- C. ASTM - D2683 Standard Specification for Socket-Type Polyethylene Fittings for Outside Diameter-Controlled Polyethylene Pipe and Tubing.

- D. ASTM - D2837 Standard Test Method for Obtaining Hydrostatic Design Basis for Thermoplastic Pipe Materials.
- E. ASTM - D2839 Standard Practice for Use of a Melt-Index Strand for Determining Density of Polyethylene.
- F. ASTM - D3035 Standard Specification for Polyethylene (PE) Plastic Pipe (SDR-PR) Based on Controlled Outside Diameter.
- G. ASTM - E3261 Standard Specification for Butt Heat Fusion Polyethylene Plastic Fittings for Polyethylene (PE) Plastic Pipe and Tubing.
- H. ASTM - D3350 Standard Specification for Polyethylene Plastic Pipe and Fittings Materials.
- I. ASTM - D4219 Standard Test Method for Determination of Carbon Black Content in Polyethylene Compounds by the Muffle-Furnace Technique.
- J. ASTM - D4218 Standard Test Method for Determination of Carbon Black Content in Polyethylene Compounds by the Muffle-Furnace Technique.
- K. ASTM - F412 Standard Terminology Relating to Plastic Piping Systems.
- L. ASTM - D3139 Standard Specification for Joints for Plastic Pipes Using Flexible Elastometric Seals.
- M. ASTM F477 Standard Specification for Elastometric Seals (Gaskets) for Jointing Plastic Pipe.

1.05 QUALIFICATION REQUIREMENTS

- A. The Contractor should have a minimum of five (5) years of continuous experience in directional boring contracting.
- B. A list of three (3) project references is required prior to job commencement.
- C. All personnel shall be fully trained in their respective duties as part of the directional drilling crew and in safety. The Contractor's personnel must satisfy all insurance, financial, and bonding requirements of the City, and must have had at least 5 (five) years active experience in the commercial installation of the product bid.
- D. All personnel must have been fully trained for over 1,000 hours on all facets of directional drilling, including, but not limited to machine operations, mud mixing, locating existing utilities and material fusion.
- E. A responsible representative, who is thoroughly familiar with the equipment and type of work to be performed, must be in direct charge and control of the operation at all times. In all cases, the supervisor must be continually present at the job site during the actual Directional Bore operation.
- F. The Contractor shall have a sufficient number of competent workers on the job at all times to insure the Directional Bore is made in a timely and satisfactory manner.
- G. Personnel who are unqualified, incompetent, or otherwise not suitable for the performance of this project shall be removed from the job site and replaced with suitable personnel.

1.06 CONTRACTOR SUBMITTAL

- A. The Contractor shall submit, to the City, a Performance Work Statement (PWS) at the pre-construction meeting, which clearly defines the product delivery in conformance with the requirements of these contract documents. The statement shall clearly indicate that the Directional Bore will conform to the project requirements as outlined in the Description of Work and as delineated in these specifications.
- B. Where the scope of work is specifically delineated in the contract documents, a detailed installation plan describing a description of all equipment to be used, down-hole tools, a list per personnel and their qualifications and experience (including back-up personnel in the event that an individual is unavailable), a schedule of work activity, a safety plan (including MSDS of any potentially hazardous substances to be used), traffic control plan, an environmental protection plan and contingency plans for possible problems. This should be comprehensive, realistic and based on actual working conditions for this particular project.
- C. Specifications on material to be used shall be submitted to the Electric Operations Superintendent for approval. Material should include the pipe, fittings and any other item, which is to be an installed component of the project.
- D. The Contractor shall submit a notarized certification from the pipe manufacturer that the pipe and fittings supplied are new, have been manufactured at their plant, have been inspected at the plant and meet the requirements of these specifications.
- E. A statement of the Contractors experience. The Contractor shall have a minimum of five (5) years of continuous experience in directional boring contracting.

1.07 NOTIFICATION

- A. The Electric Operations Superintendent must be notified 48 hours in advance of starting work. The Directional Bore shall not begin until the Electric Operations Superintendent is present at the job site and agrees that proper preparations for the operation have been made. The Electric Operations Superintendent's approval for beginning the installation shall in no way relieve the Contractor of the ultimate responsibility for the satisfactory completion of the work as authorized under this Contract.

1.08 SAFETY

- A. The Contractor shall conform to all work safety requirements of pertinent regulatory agencies, and shall secure the site for the working conditions in compliance with the same. The Contractor shall erect such signs and other devices as are necessary for the safety of the work site.
- B. The Contractor shall perform all of the Work in accordance with applicable OSHA standards. Emphasis shall be placed upon the requirements for entering confined spaces and with the equipment being utilized for pipe renewal.
- C. The Contractor shall submit a proposed Safety Plan to the City, prior to beginning any work, identifying all competent persons. The plan shall include a description of a daily safety program for the job site and all emergency procedures to be implemented in the event of a safety incident. All work shall be conducted in accordance with the Contractor's submitted Safety Plan.
- D. The Contractor shall submit a proposed Traffic Control Plan to the City, prior to beginning any work. All traffic Control shall be in accordance with the latest edition of the Manual on Uniform traffic Control (MUTCD).

1.09 SITE PREPARATION

- A. Prior to moving to work-site, Contractor shall photograph entire work area in conformance with the specifications. One copy of which shall be given to the Electric Operations Superintendent and one copy to remain with Contractor for a period of one year following the completion of the project.
- B. The Contractor is responsible for contracting and coordinating with all utility companies prior to commencing work in the area. The Contractor is responsible for verification of all utilities including, but not limited to gas, electric, telephone, fiber optic, cable television, pipelines, storm sewer, sanitary sewer and water main and associated laterals prior to commencing work. All the existing utilities shall be located in the field (horizontal and vertical) prior to commencing work. Prior to initiating drilling, the Contractor shall record on the drawings both the horizontal and vertical location of the utilities off of a predetermined baseline.
- C. Work site as indicated on drawings shall be graded and filled provide a level working area. No alterations beyond what is required for operations are to be made. Contractor shall confine all activities to designated work areas.
- D. Following drilling operations, Contractor will de-mobilize equipment and restore the work-site to original condition. All excavations will be backfilled and compacted in conformance with project specifications.

1.10 ENVIRONMENTAL PROTECTION

- A. The Contractor shall place silt fence between all drilling operations and any drainage system or any other area designated for such protection by contract documents, state, federal and local regulations.
- B. The Contractor shall place hay bales or approved protection to limit intrusion upon project area.
- C. Additional environmental protection necessary to contain any hydraulic or drilling fluid spills shall be put in place, including berms, liners, turbidity curtains and other measures.
- D. The Contractor shall adhere to all applicable environmental regulations.

PART 2 PRODUCTS

2.01 EQUIPMENT REQUIREMENTS

- A. The directional drilling equipment shall consist of a directional drilling rig of sufficient capacity to perform the bore and pullback the pipe, a drilling fluid mixing, delivery and recovery system of sufficient capacity to successfully complete the drill, a drilling fluid recycling a system to remove solids from the drilling fluid so that the fluid can be re-used, Magnetic Guidance System (MGS) or "walkover" system to accurately guide boring operations, a vacuum truck of sufficient capacity to handle the drilling fluid volume, and trained, certified and competent personnel to operate the system. All equipment shall be in good, safe operating condition with sufficient supplies, materials and spare parts on hand to maintain the system in good working order for the duration of this project.
- B. Drilling Rig: The directional drilling machine shall consist of a power system to rotate, push and pull hollow drill pipe into the ground at a variable angle while delivering a pressurized fluid mixture to a guidable drill (bore) head. The power system shall be self-contained with sufficient pressure

- and volume to power drilling operations. Hydraulic system shall be free of leaks. Rig shall have a system to monitor and record maximum pull-back pressure during pull-back operations. The rig shall be grounded during drilling and pull-back operations. There shall be a system to detect electrical current from the drilling string and an audible alarm, which automatically sounds when an electrical current is detected.
- C. Drill Head: The drill head shall be steerable by changing its rotation and shall provide the necessary cutting surfaces and drilling fluid jets.
 - D. Mud Motors (if required): Mud motors shall be of adequate power to turn the required drilling tools.
 - E. Drill Pipe: Shall be constructed of high quality 4130 seamless steel tubing, grade D or better with threaded box and pins. Tool joints should be hardened to 32-36 RC.
 - F. A Magnetic Guidance System (MGS) or proven gyroscopic system shall be used to provide a continuous and accurate determination of the location of the drill head during the drilling operation. The guidance shall be capable of tracking at all depths up to eighty feet and in any soil condition, including hard rock. It shall enable the driller to guide the drill head by providing immediate information on the tool face, azimuth (horizontal direction), and inclination (vertical direction). The guidance system shall be accurate to +/-2% of the vertical depth of the borehole at sensing position at depths up to one hundred feet and accurate within 1.5 meters horizontally. The Contractor shall supply all components and materials to install, operate and maintain the guidance system. The Guidance System shall be of a proven type and shall be operated by personnel trained and experienced with this system. The Operator shall be aware of any magnetic anomalies on the surface of the drill path and shall consider such influences in the operation of the guidance system if using a magnetic system.
 - G. Drilling Fluid (Mud) System – Mixing System: A self-contained, closed, drilling fluid mixing system shall be of sufficient size to mix and deliver drilling fluid composed of bentonite clay or other appropriate material approved by Engineer, potable water and appropriate additives. The mixing system shall be able to molecularly shear individual bentonite particles from the dry powder to avoid clumping and ensure thorough mixing. The drilling fluid reservoir tanks shall be a minimum of 1,000 gallons. Mixing system shall continually agitate the drilling fluid during drilling operations.
 - H. Drilling Fluid (Mud) System – Drilling Fluid: Drilling fluid shall be approved by the Electric Operations Superintendent. No additional material may be used in drilling fluid without prior approval from the Electric Operations Superintendent. The bentonite mixture used shall have the following minimum viscosities as measured by a Marsh funnel: Rocky Clay – 60 seconds; Hard Clay – 40 seconds; Soft Clay – 45 seconds; Sandy Clay – 90 seconds; Stable Sand – 80 seconds; Loose Sand – 110 seconds; Wet Sand – 110 seconds.
 - I. Drilling Fluid (Mud) System – Delivery System: The drilling fluid pumping system shall have an adequate capacity and should be capable of delivering the drilling fluid at a constant minimum pressure of 1200 psi. The delivery system shall have filters in-line to prevent solids from being pumped into drill pipe. Connections between the pump and drill pipe shall be leak free. Used drilling fluid and drilling fluid spilled during operations shall be contained and conveyed to the drilling fluid recycling system or shall be removed by vacuum trucks or other methods acceptable to the Electric Operations Superintendent and the City. A berm, minimum of 12-inches high, shall be maintained around drill rigs drilling fluid mixing environment. Pumping equipment and/or vacuum truck (s) of sufficient size shall be in place to convey drilling fluid from containment areas to storage and recycling facilities or disposal.

- J. Drilling Fluid Recycling System: The drilling fluid recycling system shall separate sand, dirt and other solids from the drilling fluid to render the drilling fluid re-usable. Spoils separated from the drilling fluid will be stockpiled for later use or disposal.
- K. Restrictions: Other devices or utility placement systems for providing horizontal thrust other than those previously defined in the preceding sections shall not be used unless approved by the Electric Operations Superintendent prior to commencement of the work. Consideration for approval will be made on an individual basis for each specified location. The proposed device or system will be evaluated prior to approval or rejection on its potential ability to complete the utility placement satisfactorily without undue stoppage and to maintain line and grade within the tolerances prescribed by the particular conditions of the projects.

PART 3 EXECUTION

3.01 DRILLING PROCEDURES

- A. Drill Path: Prior to drilling, the Contractor shall utilize all verified locate information to determine drill pathway. Marked up drawings shall be on site at all times, and referred to during the drill operation. The Contractor shall provide all material, equipment, and facilities required for directional drilling. Proper alignment and elevation of the borehole shall be consistently maintained throughout the directional drilling operation. The method used to complete the directional drill shall conform to the requirements of all applicable permits. The entire drill path shall be accurately surveyed by the Contractor with entry and exit stakes placed in the appropriate locations within the area indicated on drawings. If Contractor is using a magnetic guidance system, drill path shall be surveyed for any surface geo-magnetic variations or anomalies.
- B. Guidance System: The Contractor shall provide and maintain instrumentation necessary to accurately locate the pilot hole (both horizontal and vertical displacements), measure pilot string torsional and axial and measure drilling fluid discharge rate and pressure. The Electric Operations Superintendent shall have access to instrumentation and readings at all time during operation.
- C. Pilot Hole: The pilot hole shall be drilled along the path shown on the plans and profile drawings. In the event the Contractor elects to drill the pilot hole along another alignment, the Contractor shall submit drawing showing the revised pilot hole location for concurrence by the Electric Operations Superintendent.

Reading shall be recorded after advancement of each successive drill pipe (no more than 10') and the readings plotted on a scaled drawing of 1' = 2' vertical and 1" = 20' horizontal. Access to all recorded reading and plan and profile information shall be made available to the Electric Operations Superintendent or his representative at all time. At no time shall the deflection radius of the drill pipe exceed the deflection limits of the carrier pipe as specified herein.

A complete list of all drilling fluid additives and mixtures to be used in the directional operation will be submitted to the Electric Operations Superintendent, along with their respective Material Safety Data Sheets. All drilling fluids and loose cuttings shall be contained in pits or holding tanks for recycling or disposal, no fluids shall be allowed to enter any unapproved areas or natural waterways. Upon completion of the directional drill project, the drilling mud and cuttings shall be disposed of by the Contractor at an approved dumpsite.

The pilot hole shall be drilled on bore path with no deviations greater than 5% of depth over the length of the bore unless previously agreed to by the Electric Operations Superintendent. In the event that pilot does deviate from the bore path more than 5% of depth over the length of the bore, Contractor will notify the Electric Operations Superintendent. The Electric Operations

Superintendent may require the Contractor to pullback and re-drill from the location along bore path before the deviation. In the event of a drilling fluid fracture, inadvertent returns, or returns loss during pilot hole drilling operations, the Contractor shall cease drilling, wait at least 30 minutes, inject a quantity of drilling fluid with a viscosity exceeding 120 seconds as measured by a Marsh funnel and wait another 30 minutes. If mud fracture or returns loss continues, the Contractor will discuss additional options with the Electric Operations Superintendent and work will then proceed as agreed.

Upon completion of pilot hole phase of the operation, a complete set of "as-built" records shall be submitted in duplicate to the Electric Operations Superintendent. These records shall include copies of the pilot bore path plan and profile record drawing, as well as directional survey reports as recorded during the drilling operation.

Upon concurrence of the pilot hole location by the Electric Operations Superintendent, the hole opening or enlarging phase of the installation shall begin. The bore hole diameter shall be increased to accommodate the pullback operation of the required size of carrier pipe. The type of hole opener or back reamer to be utilized in this phase shall be determined by the types of subsurface soil conditions that have been encountered during the pilot hole drilling operation. The Contractor shall select the proper reamer type with the final hole opening being a maximum of 1.5 times the largest outside diameter pipe system component to be installed in the bore hole.

- D. Limitations on Depth: Maximum Depth of pipe shall not exceed 12-feet unless otherwise approved by the Electric Operations Superintendent. Depths greater than 12-feet will be allowed to avoid conflicts with existing utilities.
- E. Minimizing Torsional Stress: The pullback section of the pipeline shall be supported during pullback operations so that it moves freely and the pipe is not damaged.

External pressure shall be minimized during installation of the pullback section in the reamed hole. Damaged pipe resulting from external pressure shall be replaced at no cost to the project.

Buoyancy modification shall be at the discretion of the Contractor and shall be approved by the Electric Operations Superintendent. The Contractor shall be responsible for any damage to the pull section resulting from such modifications.

In the event that pipe becomes stuck, the Contractor will cease pulling operations to allow any potential hydro-lock to subside and will commence pulling operations. If pipe remains stuck, Contractor will notify the Electric Operations Superintendent. The Electric Operations Superintendent and the Contractor will discuss options and then work will proceed accordingly at no additional cost to the project.

3.02 CONSTRUCTION REQUIREMENTS

- A. Inspect materials delivered to the site for damage. All materials found during inspection or during the progress of work to have cracks, flaws, cracked linings, or other defects shall be rejected and removed from the job site without delay.
- B. Unload and store opposite or near the place where the work will proceed with minimum handling. Store material under cover out of direct sunlight. Do not store directly on the ground. Keep all materials free of dirt and debris.
- C. The Contractor is responsible for obtaining, transporting and sorting any fluids, including water, to the work site. All water used for construction purposes shall be drawn from the River Falls

Municipal Utilities water station located at 950 Benson Street. The contractor shall apply for an account with River Falls Municipal Utilities and pay for all associated water charges.

- D. Contractor shall provide his own approved assembly. Contractor shall pay current market price for all water usage.

PART 4 MEASUREMENT AND PAYMENT

4.01 MOBILIZATION

- A. Mobilization shall include all quality control info, submittals, safety plan, and mobilization/demobilization of labor, equipment and materials to the project site. Mobilization shall be limited to 10% of the total amount bid for the project.
- B. Mobilization shall be paid for at the lump sum contract price for "Mobilization".

4.02 TRAFFIC CONTROL

- A. Traffic Control shall include all labor, equipment and material required to implement a traffic control plan for the entire project and shall include all costs associated subcontracted traffic control specialists.
- B. Traffic Control shall be paid for at the lump sum contract price for "Traffic Control".

END OF SECTION 33 01 30.72



2017 Directional Boring Project

River Falls, WI

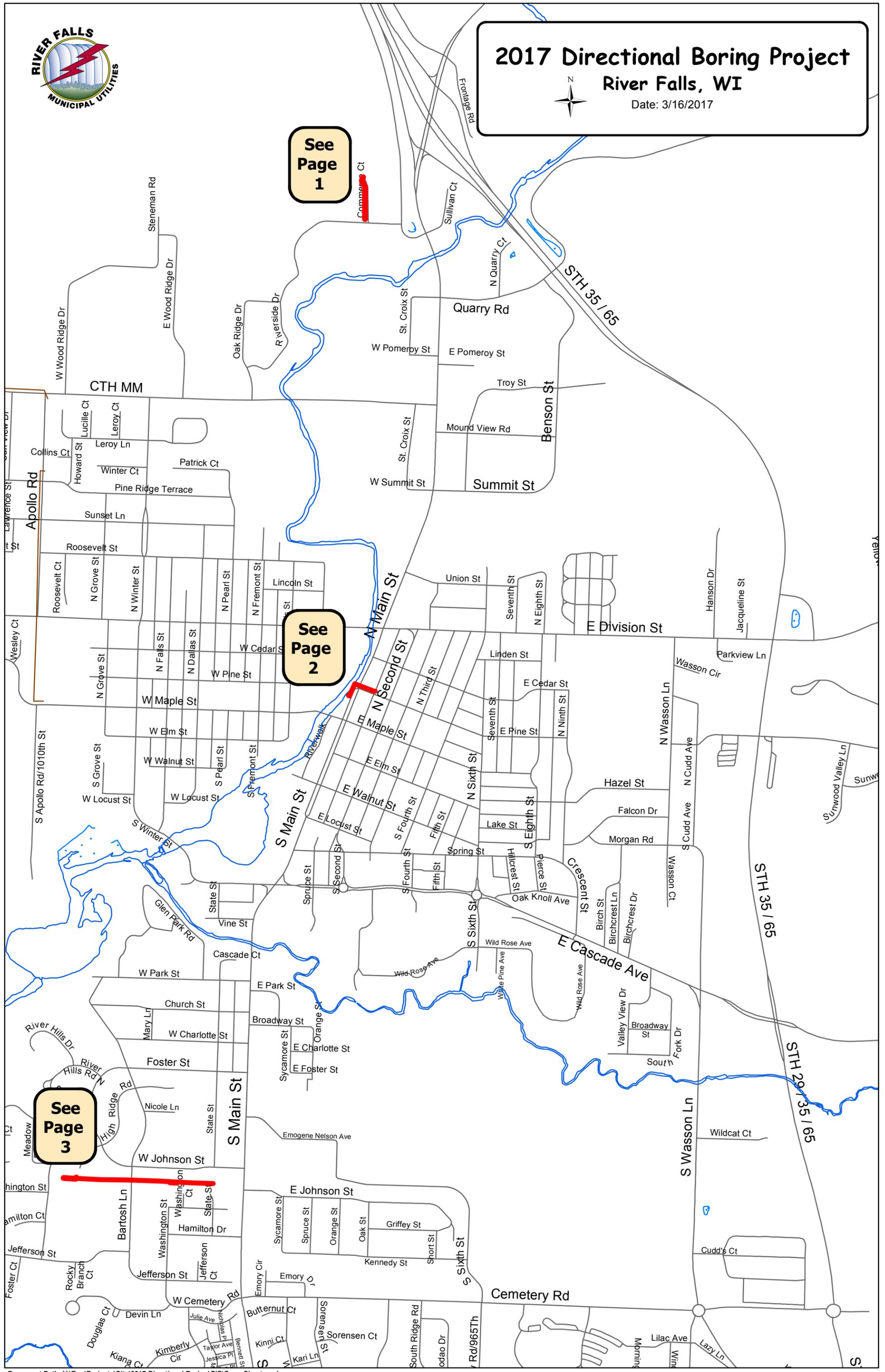
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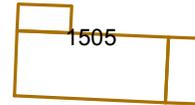
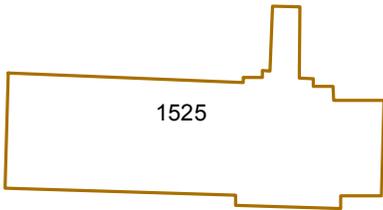
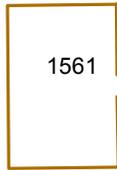
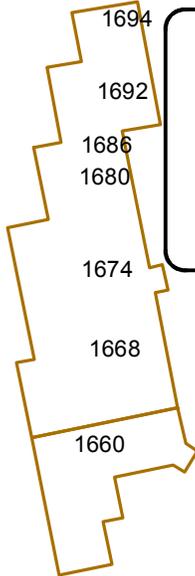
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506 Ft - UG Secondary

Commerce Ct

Paulson Rd

Riverside Dr

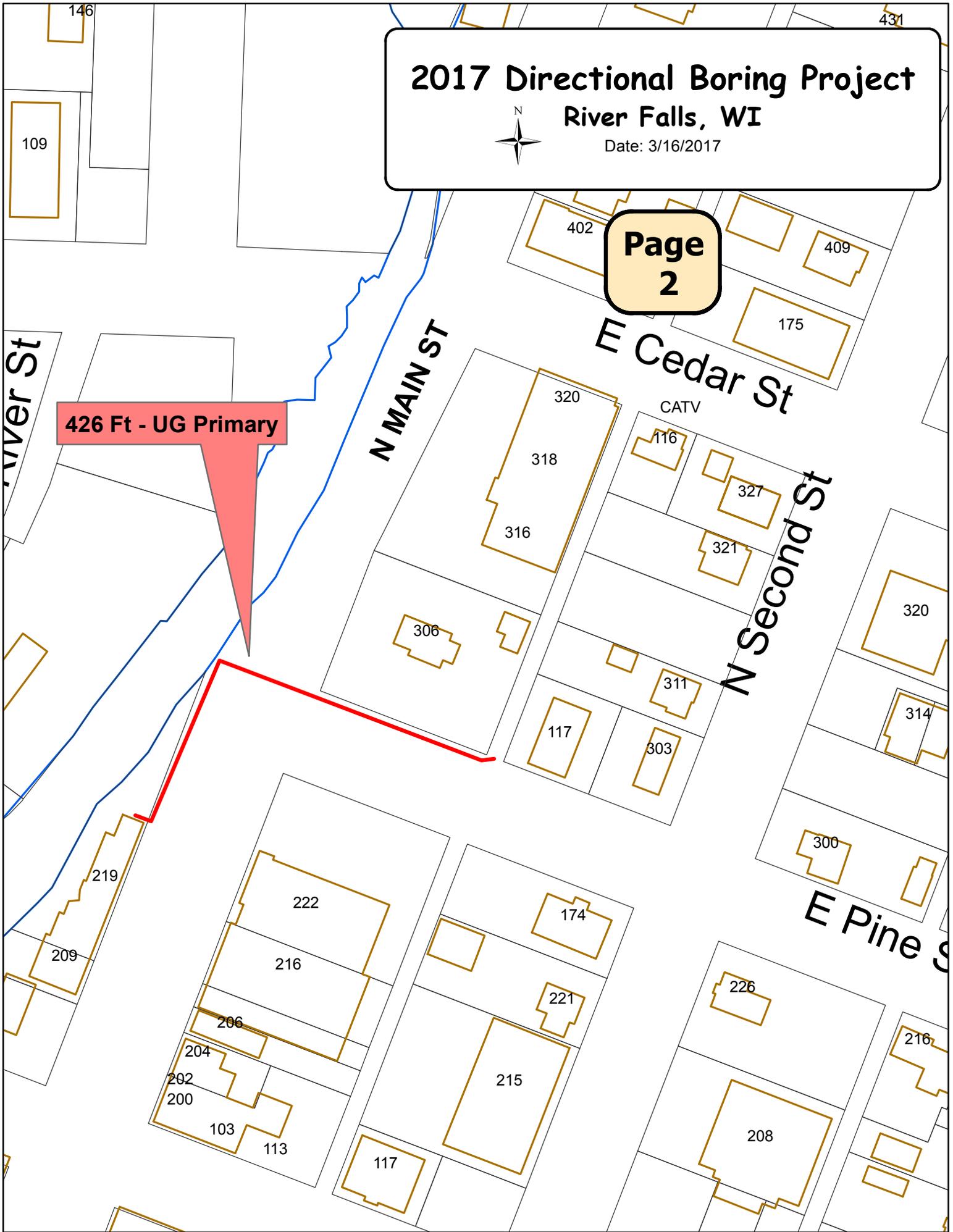
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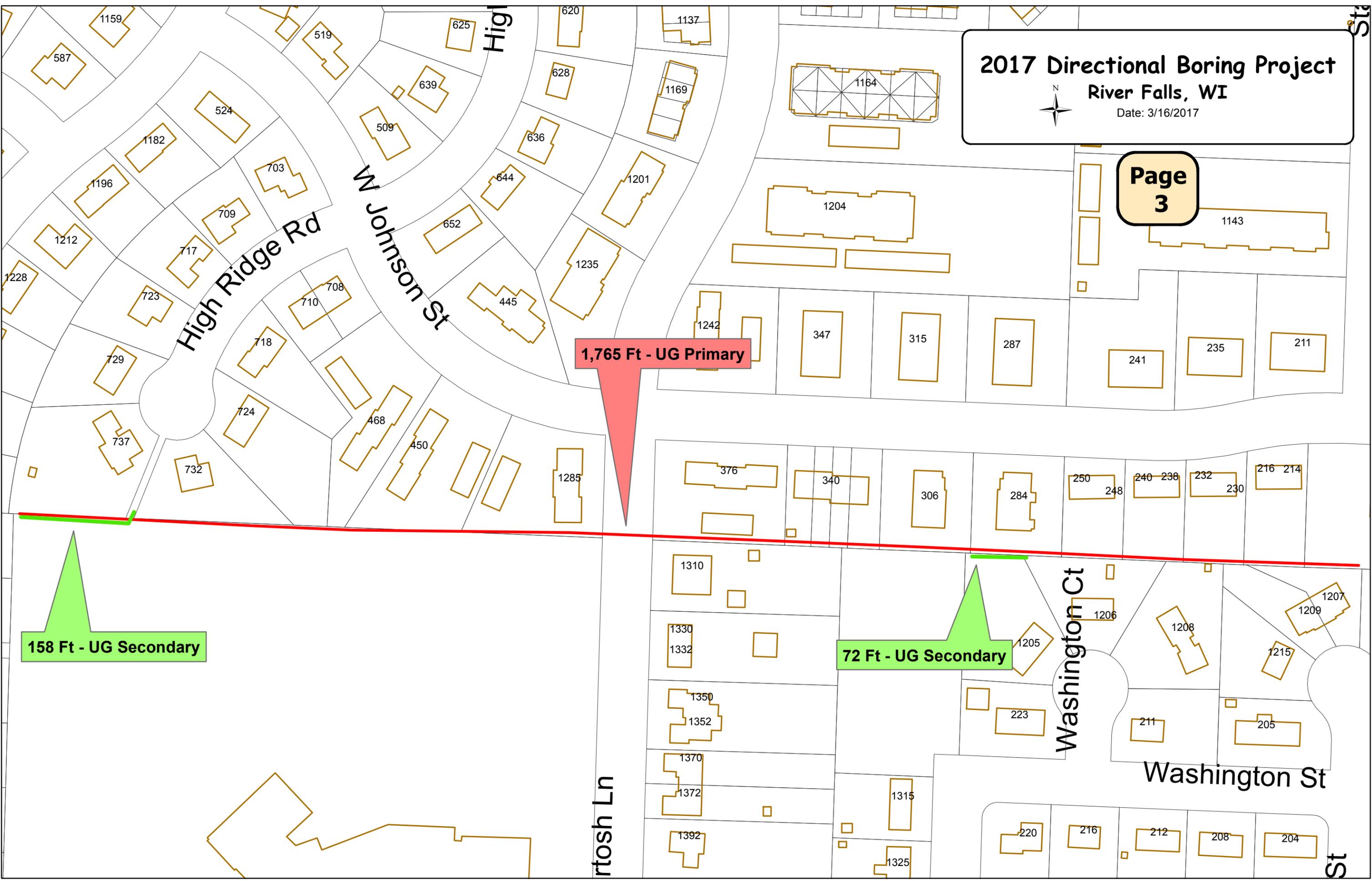


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72 Ft - UG Secondary