



May 23, 2014

REQUEST FOR PROPOSAL

NOTICE TO BIDDERS

Sealed proposals will be received by the Board of Water and Light (BWL) up to **2:00 P.M., EDT, Thursday, June 12, 2014**, for furnishing:

Lead Replacement Services RFP

in full accordance with the enclosed Specification.

Submit two (2) signed BWL Proposal Form(s) with attachments and supplemental information and **one complete electronic copy** thereof. Do not include copies of the other BWL RFP documents in your proposal package. The proposal package shall be marked on the outside of the cover with:

- (a) The Bidder's name;
- (b) The title of the Specification;
- (c) Attention: *Tony De Luca*, Board of Water and Light;

and delivered to the Board of Water and Light, *Tony De Luca*, Purchasing and Warehousing Department, 1110 S. Pennsylvania Avenue, Bldg E, Lansing, Michigan 48912. Electronic copies shall be in non-protected, Adobe pdf format and e-mailed to sealedbids@lbwl.com. For ease of identification, enter "*Lead Replacement Services RFP*" in the subject line of your e-mail proposal.

THE BWL WILL HOST A MANDATORY PRE-BID MEETING AT 1.30 P.M., THURSDAY, MAY 29, 2014, IN CONFERENCE ROOM A, 2nd Floor, 730 E. HAZEL STREET, LANSING, MI 48912.

The BWL reserves the right to reject any or all proposals, waive irregularities or technicalities in any proposal, and accept any proposal in whole or in part, which in the opinion of the BWL, is in its best interest. The BWL does not limit the methods or factors to be used for evaluation.

Questions regarding this RFP will be accepted through **Friday, June 6, 2014, by 2:00 p.m.** Responses to these questions will be issued to all bidders via addenda to this RFP (reference Article 6 in the enclosed Instruction to Bidders). Direct all questions in writing concerning this Request for Proposal to *Tony De Luca*.

Sincerely,

BOARD OF WATER AND LIGHT

Tony De Luca, Buyer
Purchasing & Warehousing Department
(517) 702-6194
(517) 702-6042 Fax
txd@lbwl.com



INSTRUCTIONS TO BIDDERS

Lead Replacement Services Project RFP

1. THE REQUEST FOR PROPOSAL CONSISTS OF THE FOLLOWING:

- (a) Notice to Bidders;
- (b) Instructions to Bidders;
- (c) Addenda, if issued;
- (d) General Requirements;
- (e) Supplemental Requirements;
- (f) Proposal Form;
- (g) Scope of Work / Specifications, including
 - (i) Special Requirements;
 - (ii) Drawings and List of Drawings.

2. PROPOSAL SECURITY

Proposal security shall be provided in the amount of 5% of the proposal amount, and shall be in the form of a proposal bond, cashier's check or a certified check. Proposals received without proposal security will not be accepted.

3. GENERAL REQUIREMENTS

BIDDER shall submit their proposal based upon the attached General Requirements. BIDDER may request clarifications or tender exceptions to the General Requirements. Exceptions to the General Requirements shall be noted on the Proposal Form in the space provided.

4. BIDDER'S RESPONSIBILITY

It shall be the BIDDER'S responsibility to be familiar with the Proposal Documents and with the BWL, scope of work, and conditions that are likely to be encountered. BIDDER shall visit the site and specific areas on the site wherein the Work will be performed.

Any failure by the successful BIDDER to familiarize itself with conditions likely to be encountered, to acquaint itself with the available information, or to attend any meeting of BIDDERS shall not relieve the BIDDER from responsibility for providing the specified equipment, materials, and service. A failure to comply with this requirement does not constitute grounds for extra compensation over the pricing stated in the BIDDER'S proposal.

BIDDER shall be prepared to make a presentation at the BWL's request on its proposal and to answer questions.

5. AVAILABILITY OF LABOR AND MATERIALS

The BWL will not furnish any labor, facilities, services, utilities, materials, equipment or supplies unless specifically stated in the Proposal Documents.

BIDDER shall assess and determine the availability of necessary labor and the prevailing wages applicable to that workforce. In addition, BIDDER shall assess and determine the availability of materials and equipment necessary to fulfill the contract in a complete and timely manner. The BWL will not honor any claim for additional cost premised on the unavailability of materials or equipment, shortage of labor, or unexpected wage rates.

6. ADDENDA

The BWL will clarify any questions or correct the Request for Proposal by the issuance of an Addendum to all BIDDERS.

Each BIDDER shall acknowledge receipt of each Addendum by filling in the blank space provided on the Proposal Form.

7. DRAWINGS

The BWL will supply the BIDDER with one (1) electronic (if available) or hard copy set of pertinent BWL drawings. Additional sets and copies will be charged to the BIDDER.

BIDDER will hold all BWL drawings in confidence and protect them against disclosure. BIDDER may disclose the drawings to subcontractors for the purpose of submitting a proposal or quotation. However, both the subcontractor and BIDDER must agree that all BWL drawings, and copies thereof, will be treated as confidential and must be returned or destroyed by BIDDER or any subcontractor upon the failure to be awarded the contract, termination of employment on the Work or completion of the Work, whichever comes first.

8. PREPARATION OF PROPOSAL FORM

The Proposal Form is included in the Proposal Documents. BIDDER shall prepare proposals and submit them as stated in the Notice to Bidders.

Proposals must be prepared in full accordance with the Proposal Documents. The proposal price(s) stated on the Proposal Form must include all cost provisions of the complete Scope of Work. If the BIDDER chooses to submit an alternate or take an exception to any provision contained in the Proposal Documents, the alternate or exception must be specifically stated in BIDDER'S proposal, must reference the objectionable article of the Proposal Documents, and must propose alternate language or alternate Work. Any exception to the Proposal Documents, including any exception to the Supplemental Requirements or General Requirements must be raised in BIDDER'S proposal, or it will not be considered. Once a purchase order has been issued, and the Acknowledgement returned, a binding contract exists between the parties and further negotiation of terms is not permitted.

Proposals received after the time and date for receipt of proposals will not be accepted. The BIDDER is responsible for timely delivery of the Proposal at the designated location and time for receipt of Proposals.

The Proposal must be signed with the full name and address of the BIDDER. Proposals received without signature will not be accepted. If the BIDDER is a co-partnership, the firm name and signature of all parties are required. If the BIDDER is a corporation, full corporate name, signature of authorized official is required. BIDDER shall certify that the person who signs the proposal is empowered to do so by the corporation. Such certificate shall be up-to-date and current at time of the Proposal Form submittal.

A proposal may not be modified, withdrawn or canceled unilaterally by the BIDDER for a period of sixty (60) days following the time and date designated for the receipt of Proposals, and BIDDER so agrees in submitting the Proposal. A proposal submission is a confirmation by the BIDDER that it is prepared to commence and complete the various stages of the Work as described in the Proposal Documents.

Expenses for developing and presenting proposals shall be the responsibility of the BIDDER. It is the BIDDER'S responsibility to ensure that no conflict of interest or other ethical concern precludes the BWL from considering BIDDER'S proposal.

9. SUBSTITUTION

Under certain circumstances, the Proposal Documents may permit substitution of products. Those areas where substitution is permitted will be designated with the qualifying phrase or equal as may be approved by the BWL REPRESENTATIVE. If BIDDER would like to substitute a product, BIDDER must make a proposal including the products specified in the Proposal Documents AND an alternate proposal including the proposed substitution, specifically referencing any price change based on the substitution.

BIDDER'S proposal shall contain data to substantiate that the substitution is, in fact, equal to the products specified. Substantiating data may consist of drawings or other documents necessary or helpful to indicate any modifications resulting from use of proposed substitutions. BIDDER bears the burden of proving that the proposed substitutions meet the quality standards established in the Proposal Documents.

If BIDDER is eventually awarded a Purchase Order, the Purchase Order will indicate whether the substitution was acceptable or whether the original product must be used.

The acceptance of a substitution does not alleviate BIDDER of any contractual responsibility.

10. BONDS

In accordance with state statute, MCL §129.201, the successful OFFEROR will be required to furnish a payment bond and performance surety bond, each in the amount of 100% of the contract. These bonds should

accompany the Acknowledgement of Award and must be in the form included with the purchase order.

11. INSURANCE

The certificates of insurance required by the Contract Documents must also accompany the Acknowledgment of Award. All these documents should be directed to the attention of the BWL Buyer listed on the Notice to Bidders with a copy to the person designated as "BWL REPRESENTATIVE.". The purchase order number must be indicated on the Acknowledgement, bonds, and certificates of insurance.

12. EVALUATION OF PROPOSALS

All proposals will be sealed until the time designated on the Notice to Bidders. At the opening, the names of all BIDDERS will be made public.

To evaluate the proposals, the BWL will consider such factors as responsiveness of proposal, price, time of completion, exceptions to the Proposal Documents, financial stability, recent and past experience and similar factors in determining which proposal it deems to be in its best interest. The BWL does not herein limit the methods or factors to be used for evaluation. The intent of the evaluation process is to choose the best-evaluated proposal.

The BWL reserves the right to enter into private negotiations with the selected BIDDER(S), for further scrutiny, even though these negotiations may result in changes to the BWL specifications or to the BIDDER(S) services, price quotations, etc.

The BWL may reject any Proposal, waive irregularities or technicalities in any Proposal, and accept any Proposal in whole or in part. The BWL may cancel, in whole or in part, the entire Request for Proposal at any time prior to full execution of a contract between both parties.

13. QUESTIONS, MEETING OF BIDDERS, AND ADDENDA

In the beginning of the bid preparation period, the BWL REPRESENTATIVE may notify each BIDDER of a Meeting of BIDDERS to be held at a later date, usually during the second week of the proposal preparation time. If a meeting is held, BIDDERS are required to attend the meeting to present their questions about the Proposal Documents, to receive answers to questions, to receive copies of Addenda, to participate in open discussion of the Project, and to participate in the only conducted tour of the Site. The Notice of Meeting will give complete details about the meeting and instructions regarding preparation for the meeting

Changes, revisions, and corrections that may result from the discussions that occur during the Meeting of BIDDERS will be confirmed by the issuance of an Addendum. Suggestions of topics for the Meeting agenda should be directed to the person designated on the Notice to Bidders.

14. CONTRACT PRICE

The contract price shall be equal to the proposal price adjusted to any price changes as agreed upon in writing by the BIDDER and the BWL.

The contract price may be modified via a change order upon mutual agreement of both parties.

15. EXECUTION OF ACKNOWLEDGMENT OF AWARD

The successful BIDDER shall, within twenty-four hours after issuance of the Purchase Order, return the properly executed Acknowledgment of Award to the person designated on the Notice to Bidders. BIDDER shall certify that the person who signs the Acknowledgment is empowered to do so. Upon execution, an agreement will be deemed consummated and the documents, as specified in the list of RFP documents set forth in Section 1 herein, along with any mutually agreed written changes, shall constitute the full and binding agreement between the parties. If the properly executed Acknowledgement, along with any required bonds and insurance certificates, are not returned within five (5) calendar days, the BWL may deem the Purchase Order rejected and offer the Purchase Order to another BIDDER without penalty.

16. CONFIDENTIALITY

All complete, in-process or conceptual work are the sole property of the BWL and may not be used without the consent of the BWL. Any product used, such as, drawings and specifications, photos, campaigns, drafts, etc. are the sole property of the BWL. All BWL information will be kept confidential at all times. The BIDDER shall not

disclose to others, without the written consent of the BWL, any information concerning the service provided, the organization, its personnel, or its activities, which the BIDDER may obtain as a result of, or in connection with the performance of the services.

17. FREEDOM OF INFORMATION ACT (FOIA)

The BWL is subject to the Freedom of Information Act (MCL §15.231 et seq.). The BWL may be required to make available certain information submitted with your bid or proposal available to the public if requested. This information may include comparative pricing and other data which the BIDDER may normally consider to be proprietary or confidential. If the BIDDER submits any information it deems to be exempt from FOIA requirements, the BIDDER shall clearly mark it as such.

18. LOCAL PREFERENCE

Applies to bids of \$100,000 or greater only.

Businesses with an office in the BWL service area shall be given the following advantage when the BWL receives a sealed proposal:

- (a) After the proposals are evaluated and the best-evaluated proposal is selected, the BWL shall determine whether the best-evaluated BIDDER is a Local business.
- (b) If a Local business was not selected as the best-evaluated BIDDER due entirely to its proposal price being higher than the price of the best-evaluated proposal, the BWL shall determine whether the best-evaluated Local business's proposal was within 5% of the proposal price of the best evaluated proposal. If so, this Local business shall then have the opportunity to reduce its price to match the price of the original best-evaluated BIDDER, and upon such agreement, shall be deemed the best-evaluated proposal.
- (c) If more than one Local business is within 5% of the price of the best-evaluated proposal and is otherwise equal to the best-evaluated proposal, and the Local business identified in (b) refuses to lower its proposal price, the same opportunity shall be afforded to the other qualifying Lansing-based businesses, in order of ascending price.

If no Lansing-based business agrees to the conditions described above, the contract shall be awarded to the person or business originally deemed the best-evaluated BIDDER.

19. LOCAL LABOR PREFERENCE

Applies only to construction projects.

Utilization of local labor may be considered in the evaluation of proposals.

20. SAFETY

Unless excepted in the Proposal, and accepted by the BWL, all BIDDERS will be required to comply with the BWL's Safety Manual. All BIDDERS should read and understand the BWL Safety Manual before submitting a Proposal. The BWL Safety Manual can be found on the BWL's website, http://www.lbw.com/uploadedFiles/MainSite/Content/Doing_Business/BWL_Safety_Manual.pdf.

END OF INSTRUCTIONS TO BIDDERS

PROPOSAL FORM

Lead Replacement Services Project RFP

1. PROVIDE THE FOLLOWING BUSINESS AND CONTACT INFORMATION:

Legal Name:		Federal ID or Social Security Number:
Address:		State of Incorporation
City:	State & Zip:	Primary E-Mail:
Type of Organization: <input type="checkbox"/> Corporation <input type="checkbox"/> LLC <input type="checkbox"/> LLP <input type="checkbox"/> Sole Proprietor <input type="checkbox"/> Partnership <input type="checkbox"/> S-Corporation <input type="checkbox"/> Other (Explain)		
Office Phone:	Alternate Office Phone:	Office Fax:
Primary Contact:	Contact Phone:	Contact Fax:
Contact Mobile:	Contact E-Mail:	Website URL:

2. PROVIDE RESPONSES TO THE FOLLOWING QUESTIONS:

How many years has your firm been in business under the present ownership?	
Have you done business with the Board of Water and Light? If so, furnish specifics.	
Have you done business with the City of Lansing? If so, furnish specifics.	
Have you ever defaulted on a contract or been involved in litigation or pending litigation or claims with the Board of Water and Light or the City of Lansing? If so, furnish specifics.	
Have you ever defaulted on a contract or been involved in litigation with any other client in the past five years? If so, furnish specifics.	
List any relationships between your firm's staff and any current BWL employee.	
Specify your background, training, experience, credentials and other factors which qualify you to perform the work described in the Scope of Work included in this Request for Proposal.	
List at least three (3) references for similar work you have performed for other clients. Include Client name, contact name, title and phone number.	
List subcontractors that you plan to use on this project.	
Indicate any exceptions to the enclosed General Requirements.	
Include any additional information you may deem helpful in evaluating your proposal.	

DATE_____

NAME OF BIDDER_____

NAME OF PERSON PREPARING PROPOSAL_____

The undersigned proposes and agrees with the BOARD OF WATER AND LIGHT, LANSING, MICHIGAN, to furnish qualified labor, materials, services, construction equipment, and full-time supervision to properly perform all Work in full accordance with:

PROJECT AS-13-31-003, NON-STANDARD WATER SERVICE REPLACEMENT
IN LANSING MI
Dated May 21, 2014

1. FIRM LUMP SUM FULL SEVERCIE REPLACEMENT (\$_____) _____DOLLARS

PRICE BREAKDOWN MAIN TO CURB BOX REPLACEMENT (\$_____) _____DOLLARS

PRICE BREAKDOWN CURB BOX TO METER CONNECTION (\$_____) _____DOLLARS

2. And agrees to complete the Work in accordance with Time of Completion as set forth in Specifications.

3. The following information is submitted with the Proposal Form:

a. Name of Field Project Superintendent including jobs completed & references:

b. Name of Office Contract Manager:_____

c. List of Subcontractors/Suppliers

UNIT PRICE PER SERVICE TYPE - S. PENNSYLVANIA AVE and N. MLK	Services by Type	DOLLARS each service
FULL SERVICE REPLACEMENT – 24 hr	59 Services	
STREET SIDE REPLACEMENT – 15 hr	42 Services	
HOUSE SIDE REPLACEMENT – 14 hr	5 - Services	

5.

UNIT PRICE PER SERVICE SECONDARY STREETS	Service by Type	DOLLARS each service
FULL SERVICE REPLACEMENT – 22.6	450 – Services	
STREET SIDE REPLACEMENT – 14.3 hr	20 - Services	
HOUSE SIDE REPLACEMENT – 13.4 hr	5 - services	

5. Breakdown of foreman and journeyman wage rates for crafts employed on the work according to the following:

Craft		Straight Time Labor Rate (\$/Hr) (A)	Straight Time Labor Rate Overhead & Profit (AxO&P%) (B)	Fringe Benefits (\$/Hr) (C)	Insurance & Taxes (\$/Hr) (D)	Total (A+B+C+D)
	Journeyman					
	Foreman					
	Operator					
	Labor					

Contractor and Subcontractor Overhead and Profit

- A. For work performed by Contractor's work forces, Contractor's Overhead and Profit shall be _____% (amount to be filled in by Bidder, not to exceed 15%) of the cost of the work.
- B. Where there are one or more tiers of Subcontractors, the Subcontractor who actually performs the Work, at whatever tier, shall be paid Overhead and Profit of _____% (amount to be filled in by Bidder, not to exceed 15%) of the cost of the work. Any higher tier Subcontractor and Contractor shall be paid a fee of _____% (amount to be filled in by Bidder, not to exceed 5%) of the amount paid to the next lower tier Subcontractor.

The undersigned bidder certifies that this proposal is made in good faith, without collusion or connection with any other person or persons bidding on the work.

The undersigned bidder states that this proposal is made in conformity with the Bid Documents and agrees that, in the event of any discrepancies or differences between any conditions of his proposal and the Bid Documents, the provisions of the latter shall prevail. No verbal or written agreements or understandings considered or entered into prior to signing of contract shall be binding after the signing of the contract unless incorporated in the contract.

In submitting this proposal, it is understood and agreed that the Board of Water and Light reserves the right to reject any and all bids, in whole or in part, or to accept any proposal which

the Board of Water and Light deems to be in its best interest. It is further agreed that this proposal will not be withdrawn for a period of 60 calendar days beginning on the appointed date and time for bid opening.

If the Board of Water and Light, Lansing, Michigan shall accept the proposal, and the undersigned shall fail to furnish the required bonds within ten (10) days and to perform, not including Sundays, from the date of issuing Purchase Orders, then the undersigned shall be considered to have abandoned the contract.

Signed and sealed this _____ day of _____ 20_____.

By _____

(Authorized Signature)

Title _____

Place of Doing Business:

Street Address _____

Post Office Box Number _____

City, State, & Zip Code _____

State in which Incorporated _____

Lead Replacement Services RFP

BACKGROUND INFORMATION FOR SUBMITTAL OF BIDS AND PROPOSALS TO REPLACE NON-STANDARD LEAD SERVICE LINES WITHIN THE CITY OF LANSING, MICHIGAN.

In 2004 the Board of Water and Light decided to replace approximately 13,000 lead and non-standard water service lines (lead and galvanized iron pipe), in the City of Lansing. Today there are nearly 1,200 services remaining. These services will be replaced within the next 2 to 3 years. Non-standard water services may exist between the water main and curb box, from the curb box to the house or entirely from the water main to house. The BWL assumes ownership of the entire water service line from the water main to the water meter, which is typically located within the house/building.

The attached bid proposal is for unit pricing for the following: Each section is to be submitted based on one of the following 3 alternatives:

1. Full service replacement
2. Main to curb box replacement
3. Curb box to meter connection replacement

All bids and proposals submitted shall be based on the construction specifications and details described herein.

This work will involve replacing approximately 106 individual services with possibly 475 more individual water service lines to follow. The service lines consist of non-standard piping from the water main to curb stop, curb stop to house or entirely from water main to house/building. Contractors may include alternatives for price adjustments based on applicable cost escalator indices. Proposals shall be submitted based on the following methods: Unit price basis or a fixed fee per address basis.

The BWL expects to enter into negotiations with contractors submitting viable proposals before selecting the successful contractor. The BWL reserves the right to reject all bids and proposals if such action is deemed to be in its best interest.

Information provided to contractors to assist with development of proposals includes the following documents:

1. Lansing map showing locations of known non-standard and unknown material water service lines
2. Construction specifications governing the manner and materials to be followed when replacing non-standard water service lines.

SCOPE OF WORK AND CONSTRUCTION SPECIFICATIONS FOR REPLACEMENT OF LEAD and OTHER NON-STANDARD WATER SERVICES IN THE CITY OF LANSING, MICHIGAN

(The construction specifications have been prepared for a "Unit Price" contract. These specifications will apply for bids submitted on a "Fixed Price" basis. "Fixed Price" bids/proposals, appropriate changes will be made for all language dealing with individual pay items)

1. GENERAL

The project work shall consist of replacing non-standard water services and includes excavating streets and yard areas, installing copper water service lines, removing lead pipe services, extending service lines into the interior of houses/buildings, patching pipe penetration, backfilling, yard and street restoration and related work. The project work is located within public street rights-of-way and on private property. Bidders shall be capable of installing water service lines using trenchless technology and equipment. Quantities listed in the proposal are subject to change depending on actual conditions encountered during the service installation process.

The Contractor shall demonstrate to the BWL's satisfaction the ability to effectively and efficiently install service lines using the procedures described in this document. The Contractor will provide the BWL with a list of equipment that will be available for installing service lines

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THE BWL WILL SUPPLY TO THE CONTRACTOR ALL COPPER TUBING SERVICE PIPE, PIPE COUPLINGS, PIPE FITTING ADAPTORS, CURB STOPS, CURB BOXES AND CORPORATION STOPS NECESSARY FOR THE REPLACEMENT OF NON-STANDARD WATER SERVICE LINES. ALL OTHER MATERIALS ARE TO BE PROVIDED BY THE CONTRACTOR.

2. SUPPLEMENTAL REQUIREMENTS

All project installation work shall be completed in conformance with the general conditions and construction specifications established by the Board of Water and Light, City of Lansing, Michigan Department of Transportation (MDOT) and any other provisions established herein. When conflicts exist between the standard installation specifications and provisions of this document, the provisions of this document shall govern.

3. UTILITY LOCATIONS - MISS DIG

The Contractor shall be responsible for obtaining utility locations from the MISS DIG System

The Contractor shall be responsible for conducting an evaluation to assess the nature, depth and location of all sewer mains and laterals.

4. SUBCONTRACTORS

The Contractor shall submit for BWL approval a list of all subcontractors that may be used on the project to assist with the project work. This list shall be provided to the BWL prior to issuance of the Notice to Proceed.

5. CONTRACT TIME & LIQUIDATED

Unless otherwise approved, the Contractor shall begin installation of the service lines no later than 10 days after receiving the notice to proceed from the BWL. The Contractor shall coordinate the service installation work with any other public or private street work occurring concurrently in the project area.

6. COORDINATION OF WATER SERVICE AND STREET WORK WITH OTHER CONTRACTORS

The contractor for this non-standard water service replacement project shall be responsible for coordinating and scheduling all project work with the City Engineer for the City of Lansing to avoid conflicts with other construction activities occurring in project areas.

7. HOURS OF WORK

Contractor may performed work during the hours authorized under the City of Lansing Noise Ordinance (Section 654.07 Part G of the City Code). Generally, construction noise is allowed only during the hours from 7:00 a.m. to 8:00 p.m. Monday thru Friday, unless otherwise approved by the Lansing City Council.

8. AUTHORITY TO SUSPEND OPERATIONS

The BWL or its representative has the authority to suspend a Contractor's operation without cost to the BWL due to, but not limited to, any of the following conditions:

- A. Failure of the Contractor to correct unsafe conditions.
- B. Failure to carry out provisions of the contract
- C. For conditions deemed to be in the public interest.
- D. When the BWL determines it is necessary to perform exploratory excavations prior to proceeding with the service installation work.
- E. The quality or quantity of work being performed is not in adherence to the project specifications or construction schedule.

The BWL will not consider any claim for delays for the suspension of work due to any of the above reasons, or for the inability of the BWL to secure access to the interior of houses and other building where service line work is required. Delays of this nature will be sufficient justification to allow the Contractor to request an extension of the project completion date.

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9. PERMITS

Except for sanitary sewer repair permits required by the City of Lansing, the BWL shall be responsible for obtaining all necessary street excavation permits from the Lansing Department of Public Service and the Michigan Department of Transportation for work within public rights-of-way. The Contractor shall obtain a permit from the City of Lansing Public Service before repairing any sewer main, sewer lateral or boring within 10 feet of a tree. Sewer repairs shall be made only by a licensed pipe layer approved by the City of Lansing.

10. CONTRACTOR'S WORK SCHEDULE

The BWL will be responsible for coordinating access to private property on which the water services are located and for obtaining permission from the property owner for access to the interior of the house/building. The Contractor shall provide the BWL with a written service replacement schedule that will allow adequate time for the BWL to provide the property owner and/or resident 5 calendar days advance notice of the day work is to occur on their property.

11. TRAFFIC CONTROL

Contractor shall be responsible for the placement, maintenance and removal of all traffic control signs, barricades and fencing necessary to protect the public and residents from injury. Traffic control signage and barricading shall be installed and maintained in accordance with recommendations specified in the current edition of the Michigan Manual of Uniform Traffic Control Devices and any other requirements of the City of Lansing Public Services Department. For local, residential streets this provision shall generally consist of placing type III barricades and "Road Work Ahead" and signs at each end of the street block where work is occurring with "Road Closed to Thru Traffic" and "Local Traffic Only" signs on each barricade. In addition, Type III barricades shall be placed on each side of the location where street excavation is occurring. On Major streets, the City of Lansing shall review and approve the traffic control plan. It is the direct responsibility of Contractor that all prudent safety precautions be taken to protect employees, the public and property during the life of the project. Type II barricades or drums shall be placed at each end of locations where the sidewalks have been removed to facilitate installation of the water service. Trench excavations opened during non-working hours shall be protected with fencing and barricades. The Contractor shall maintain all traffic control devices until placement of the final pavement patch. All Contractor costs associated with providing and maintaining traffic control devices shall be included in the LINEAL FOOT bid price for installing water service lines.

When provisions of the Michigan Manual of Uniform Traffic Control Devices conflict with provisions of the BWL safety manual, provisions of the Michigan Manual of Uniform Traffic Control Devices shall govern.

If it becomes necessary for Lansing Public Service Department or BWL to use its forces to maintain a temporary repair or install safety signs, barricades or other device because of inadequate safety or maintenance by the Contractor or unavailability of the specified Contractor's off-hours contact person, the cost of such work shall be paid by the Contractor.

12. SERVICE LINE INSTALLATION PROCEDURES

Non-standard (lead and galvanized iron pipe) water service lines may exist between the water main and curb box or between the curb box and water meter located inside the house or in a meter pit outside the house/building. In other instances, the entire water service line from water main to meter may consist of non-standard materials.

Except for excavations necessary to expose the water main and curb box, service lines shall be installed by use of trenchless technology methods unless otherwise approved by the BWL. The method used for replacing lead services shall be by the "cable" method, which involves the use of a cable placed inside the existing lead service line which is also attached to the replacement copper service line. The cable is then pulled using a winch or backhoe bucket to remove the old service line while pulling in the new copper line. This process is used separately for the service line between the main and curb box and between the curb box and house. If the old service line cannot be removed by the "cable" method, the new service line shall be installed by use of boring equipment.

If, in the opinion of the BWL, the Contractor is not able to install any portion of the service line by using the "cable" or "boring" method, then open cut excavation may be used as a back-up method with approval by the BWL. Tree

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protection as described herein shall be followed on all open cut trenching. If it is necessary for the Contractor to make more than one attempt to install a service at a specific address because of encountering stones, rocks, roots or other obstructions, the Contractor will only be paid for quantities associated with the installation of one service line.

During the water service installation process, all valves serving the house/building shall be turned off to prevent any lead particles from entering water system. Upon commencing work on any segment of a lead service line, either from the water main to curb stop valve or from the curb stop valve to house, neither segment of the water service line shall be used for water service until all segments of a non-standard service line are replaced.

All service lines shall be flushed for at least 2 minutes and pressure tested in accordance with BWL specifications. The Contractor will be responsible for closing and opening corporations and other valves to facilitate pressure testing of the service lines. Testing shall consist of installing a pressure gauge on the water service line near the meter yoke and then opening the new section(s) of service line to normal water main pressure. The test is run for 5 minutes and, if there is no loss in pressure during the 5 minute period, the service line will be considered as having passed the pressure test. All joints, fittings and valve connections shall be exposed during the test period. The Contractor shall locate and repair service lines which do not pass the pressure test. All Contractor costs associated with pressure testing and any required repairs to the service lines shall be included in the LINEAL FOOT price for installing water service lines.

13. REPLACEMENT OF NON-STANDARD SERVICE LINES

A. Non-Standard Service Lines between Water Main and Curb Box

For non-standard service lines located between the water main and curb box, the Contractor shall excavate the service line at two locations; at the water main, which is typically located beneath the street pavement, and at the curb box, typically located near the sidewalk. The old service line will then be disconnected at the water main and curb stop and a new copper service line is then installed using the cable, boring or open trench method. The new copper service line will then be connected to the old corporation valve on the existing water main using appropriate adaptors and fittings. Existing corporations are typically $\frac{3}{4}$ " or $\frac{5}{8}$ " in diameter and transition fittings may be required for connection to the new service lines. If a standard service line (copper or plastic) exists between the curb box and house/building, the Contractor will connect the new service line to the existing curb box after first flushing the new service line from main to curb box. Transition fittings and couplings required will be provided by the BWL.

If, because of conflicts with trees or other obstructions, the old service line corporation cannot be reused, the Contractor will install a new service tap onto the existing water main in accordance with BWL specifications. In such cases, the old service line shall be disconnected at the water main and the existing corporation shall be capped in the off position following BWL standard detail provisions. If the existing corporation leaks water after it is plugged, the corporation shall be removed from the water main and a repair sleeve installed on the water main over the old corporation location. The Contractor shall also remove, or attempt to remove, the old lead service line between the water main and the curb stop valve.

If the Contractor encounters polyethylene plastic wrap around the existing water main, the water main shall be rewrapped with polyethylene material (meeting BWL specifications) after the work is completed.

B. Non-Standard Service Lines between Curb Box and House

For non-standard lines located between the existing curb box and house, the Contractor shall excavate the curb box, which is typically located near the sidewalk or property line. The water service line inside the house/building on the inlet side of the water meter shall also be disconnected by the contractor. The opening in the wall at the location where the service line extends through the foundation of the house/building shall then be enlarged by the contractor, using methods approved by the BWL, to allow removal of the old service line and installation of the new service line. The new copper service line will then be installed between the house and curb box using the "cable" or other approved method. BWL personnel will be responsible for removing the old water meter, attaching a new meter yoke bracket to the wall of the structure and installing a new water meter with connections to the interior plumbing. The contractor shall extend the new service line into the building and connect the line to the new water meter

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yoke. Repairs to the foundation wall shall be completed by the Contractor using a BWL approved non-shrink cement grout or similar material. If it is necessary to use boring equipment to install the service line, the boring equipment shall bore through the foundation/basement wall of structure and the old service line shall be abandoned on the inside of the basement wall by removing at least 2 inches of the lead service from within the basement wall, filling the interior of the remaining pipe with a non-shrink material to create a water-tight seal and patching the basement wall. If it becomes necessary for the Contractor to excavate on the outside of the building foundation to facilitate installation of the water service line, such work shall be completed in a manner that causes the least amount of disruption to yard areas and other locations near the house/building.

C. Non-standard Water Service Lines between Water Main and House

Where the entire water service line (water main to building) consist of non-standard materials, the Contractor shall follow the installation procedures described above and also install a new curb stop valve and curb box near the sidewalk at a location approved by the BWL. The partial replacement of non-standard water service lines is not allowed.

In all cases, prior to reconnecting the water meter, the new service line shall be thoroughly flushed with sufficient water volume and velocity to remove all foreign material from within the pipe. If material within the pipe damages or plugs a customers meter or service piping, the Contractor shall be responsible for the cost of all repairs to the service line and related plumbing. After reconnection of the service line, an outside faucet shall be turned on for a period of at least 2 minutes to further flush any foreign material from the service line.

At locations where an outside meter pit exists between the curb stop and house/building the Contractor shall remove the meter pit and related piping and the BWL will set a new meter bracket and yoke inside the house/building. If it is not possible to relocate the meter into the house, the BWL will provide a new water meter pit assembly for installation by the contractor. The new copper service line shall then be installed by the contractor and connected to the meter pit and then extended into to the interior of the house, where the BWL will connect the service line to the interior plumbing.

Unless otherwise approved by the BWL, the use of couplings or splices between the water main and curb box or between the curb box and house shall not be allowed.

Unless otherwise approved by the BWL, curb boxes shall not be installed within driveway or sidewalk areas.

For each service address, the Contractor shall complete all information required on the "water service order" provided by the BWL. Order cards shall be submitted to the BWL within one week after completion of any individual service.

14. EXCAVATION

A. General Excavation

Contractor shall furnish all labor, equipment and materials necessary to expose all parts of the water service system necessary to replace the existing water service line and, if applicable, remove or abandon the non-standard service line. Except where otherwise approved by the BWL inspector, the excavation and installation process shall be performed in a manner to allow placement of the new service line at a final cover depth of 5 to 6 feet below finished grade regardless of the depth of the existing water service or water main. The Contractor shall be responsible for the cost of repairs to any utility or building damaged during the course of service line installation process, including house/building sewer service leads and gas lines.

Contractor shall be responsible for removal and proper disposal to an off site location of all sidewalk, pavement or other surfacing, curbs, driveways and excavated materials necessary for installation of the complete water service. Contractor is also responsible for removal and proper disposal of the old curb box and all other pipe removed during excavation. Removal of all bituminous and/or concrete materials within the street shall be incidental to the cost of installing the service line. Surfacing and pavement materials shall not be used as backfill material.

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When removing existing curbing, sidewalk, street pavement and/or driveways, the Contractor shall not excavate these materials beyond the limits normally required to complete the service line installation or abandonment of the existing piping. Contractor shall not excavate any deeper than necessary to complete the service line work.

Removals shall be restricted to methods which will not cause damage to existing structures which are to remain in place. Any damage caused by Contractor's operation to existing pavement or structures which are to remain in place, shall be repaired or replaced at Contractor's expense and at the direction of the Lansing Public Service Department. Partial square replacement of damaged sidewalks or driveways will not be allowed.

B. Excavation Around Trees and in Landscaped Areas

All work around trees shall be completed in conformance with City of Lansing specifications and in accordance with Section 202 and 815 of the 2003 edition of the Michigan Department of Transportation Construction Standard Specifications except as modified herein.

15. STREET EXCAVATIONS

City of Lansing Utility Cut Policy governing excavations and pavement patching within streets and street rights-of-way shall be followed unless otherwise waived by the BWL. Said Utility Cut Policy is provided in attached Appendix B. For purposes of the City of Lansing Utility Cut Policy, the Contractor shall be considered as the "Utility". The City of Lansing will install the permanent pavement patch on all bituminous roadways. The BWL shall be responsible for payment of the permanent pavement patch fee charged by the City of Lansing up to 80 square feet per service location. Pavement patch fees in excess of 80 square feet for any one service line shall be paid by the Contractor. The threshold value of 80 square feet shall be increased to 100 square feet if it is necessary to use open cut methods to install the service line within the street. The cost of all saw cutting required to properly remove concrete and/or bituminous materials shall be full depth and shall be included in the cost of removing pavement materials.

For street excavations where an "asphalt over concrete" cross-section exists, the Contractor shall replace the concrete base material at a depth of 9 inches (per the specifications stated in the Utility Cut Policy).

Temporary street patches placed by the contractor shall be maintained at the contractor's expense until the final patch is installed by the City of Lansing.

16. TREE PROTECTION

Per Chapter 688 of Lansing City Ordinances, no tree shall be removed or pruned before or during construction without the written authorization of a City of Lansing City Forester (Forestry Manager) or the Director of Public Service. Approval will be based on the age of tree, health of tree, safety of workers or the public, and likelihood of unavoidable damage due to construction work. Tree removal will not be approved for the convenience of the Contractor. A tree authorized for removal will be marked for removal in the field by the Forestry Manager, the Public Service Director, or their representative and may not be removed prior to two weeks before construction in that location.

The Contractor shall take all reasonable measures to protect existing trees along the project route. Crown damage resulting from construction activities of this contract will be repaired by a certified arborist at the Contractor's expense.

Construction materials, supplies, or equipment shall not be stored or stockpiled within the drip line of the existing trees. If locations are not available outside of the tree drip line, locations within the drip line are to be arranged with the Lansing Forestry Manager prior to construction. Stockpile locations within the tree drip line are to be prepared with planks or other means of distributing stockpile loads.

The Contractor shall not operate equipment on the parkway within the drip line of a tree without the approval of the City of Lansing (City) Forestry Manager. If such equipment must cross the parkway, planks or other means of load distribution must be used.

When trenching near City of Lansing owned trees, it is required that trenching come no closer to the tree than one (1) foot of horizontal distance on each side of the tree for each inch of tree trunk diameter, up to a maximum

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distance of ten (10) feet on each side of the tree. If a utility line must run past a tree underground closer than ten (10) feet from the tree, the line must be installed using cable or boring methods. When boring is used, a Forestry permit must be obtained before work starts.

Tree roots greater than 1.5 inches in diameter damaged during excavation must be clean cut by the Contractor using sharp tools. The Contractor will notify the City Forestry Department before cutting roots larger than 1.5 inches in diameter and the City will provide a tree technician to advise the Contractor at the construction site.

The Contractor shall not attach chains, cables, nails, ropes or other articles to any tree at any time. Any damage to tree trunks resulting from construction operations will be assessed by the Lansing Forestry Manager and damages will be determined by the Bernatzky Method and charged to the Contractor based on the following schedule:

Trunk Injuries (bark and cambium)	
Injury in Trunk (% circumference)	Diminution of Value (%)
Up to 20%	At least 20%
25%	25%
30%	35%
40%	70%
45%	90%
50%	100%

Damage resulting in complete loss of the tree will be charged to the Contractor based on the following schedule:

Diameter of Tree	Charge
Up to 8"	\$700.00
8" – 18"	\$2,800.00
18"+	\$7,000.00

Unless otherwise approved by BWL, excavations shall not be allowed within 10 LFt (linear foot) of tree trunks. Where service lines are located within 10 LFt of tree trunks, the cable or boring method shall be used to install the service line. In special cases, a new location for the service line may be required to avoid tree trunks.

17. BACKFILL & COMPACTION

Contractor is responsible for backfilling all excavated areas and the placement and compaction of MDOT Class II granular material within the influence of all streets, curbing, sidewalks and driveways. Area of influence shall be defined as that area below a 45 degree line which extends downward and outward from the surface of the curb, pavement, sidewalk or street. Backfill under streets, curbs, sidewalks and driveways shall be placed and compacted to a uniform density of 95% of the maximum density. A layer of compacted MDOT 22A aggregate shall be placed on all trenches within streets at a minimum depth of 8 inches or at a depth to match the depth of existing base and sub base materials, whichever is greater. The methods and equipment used by the Contractor for backfilling and compacting shall be capable of accomplishing the backfilling and compaction operation without damage to any sewers, water mains, utility installations, structures, etc., in the street or to any building or structure along the street. Special attention shall be given to work around utility installations, water mains, manholes, etc., to ensure adequate compaction of the fill under and adjacent to these installations in order to maintain their stability and that of the street surface. Unless otherwise approved, backfill shall be compacted in lifts not exceeding 8 inches lifts. Compacted MDOT 6A aggregate shall be used as backfill between exposed crossings of the water service lines with any other utility.

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Backfill in yard areas outside the influence of driveways, streets, sidewalks may be made using clean suitable backfill material. The trench shall be compacted to 95% maximum density to prevent settlement.

Suitable backfill material shall be defined as a mineral soil free of foreign materials such as rubbish, debris, stones larger than 2 inches in diameter, frozen clumps, oversized stone, rock, concrete or bituminous chunks and other unsuitable materials whose presence in the backfill, in the opinion of the BWL, may damage the pipe installation, prevent thorough compaction, or increase the risks of future trench settlement.

If sufficient on-site material is not available for backfilling areas outside the influence of sidewalks, streets and driveways, the Contractor shall furnish MDOT class III granular backfill material, the cost of which shall be incidental to the cost of installing the water service line. The Contractor shall dispose of all excess spoil to a location off the job site without cost to the BWL.

18. SIDEWALK AND DRIVEWAY REQUIREMENTS:

City of Lansing Sidewalk and Driveway Requirements shall govern the removal and installation of sidewalks and driveways unless otherwise waived by the BWL. Specific provisions of these requirements are as follows:

- A. Permit, Line, and Grades:** A permit is required prior to the construction of any sidewalk or drive approach within the public right-of-way. The application for this permit shall be obtained at the Department of Public Service, located on the 7th floor of City Hall. Currently, there is no charge for this permit. The City Engineer shall establish all lines, grades and widths of any sidewalk to be constructed or repaired. ALL NEW SIDEWALK MUST BE A MINIMUM FIVE FEET WIDE. A copy of the permit must be kept on-site.
- B. Subgrade:** The sub grade shall be cleaned of all sod or organic material. It shall be well drained and of a material suitable to the City Engineer. Any unsuitable material shall be excavated and removed from the job. Suitable fill material shall be provided and must be well compacted to form the sub grade. Concrete shall not be placed on a frozen sub grade.
- C. Slope:** The surface and sub grade of the sidewalk shall generally have a slope of 1/4 of an inch to the foot toward the curb, except in special cases as directed by the City Engineer. The slope of a drive approach shall have a maximum slope of 10 %. A maximum change in the slope of a drive approach is 10 % in 10 feet for sags and 8 % in 10 feet for crests.
- D. Repair:** Whenever a part of a slab of sidewalk is broken or damaged, the entire section shall be replaced to the nearest joint.
- E. Curb Removal:** When installing a new drive approach or widening an existing drive approach, the curb and gutter shall be removed. The curb and gutter shall be removed to the nearest joint if the distance to the nearest joint is less than four feet. Removing the back of the curb is not allowed. Two #4 reinforcement bars are required when replacing curb and gutter.
- F. Forms:** The forms shall be of such design of steel or wood as to insure the maintenance of lines, grades and depths of concrete. Forms shall be coated with form oil that is vegetable based.
- G. Control Joints:** Provisions for dividing strips 3/16" thick shall be made. In general, blocks four feet long shall be separated by a divider strip. The dividing strip shall extend entirely through the slab. Control joints that are tooled to 1/4 of the slab thickness will be an acceptable alternate to divider strips.
- H. Expansion Joints:** Transverse expansion joints 1/2" thick shall be placed every fifty linear feet of sidewalk. Expansion joint material one inch thick shall be placed between the back of curb and the sidewalk or drive approach. It shall be a pre-molded strip of bitumen filled fiber and shall be placed at right angles to the edges of the sidewalk and perpendicular to the surface and extend from the surface to the subgrade.
- I. Thickness of Slab:** Residential driveways shall be 6 inches thick. Commercial driveways shall be 7 to 8 inches thick. Sidewalks, except at driveways, shall be 4 inches thick. No wire mesh is allowed.
- J. Driveway Approach Width:** Residential single car driveways may have a maximum width of 14 feet at the street. Residential double car driveways may have a maximum width of 20 feet at the street. Existing commercial driveways may be replaced in kind. The width of a new commercial driveway, or changes in

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the width of an existing commercial driveway, shall be as per the approved site plan, or as approved by the Transportation Engineer.

- K. Concrete:** The concrete shall be redi-mix and be composed of Portland cement, coarse and fine aggregate, and water. The specifications for the concrete shall be as follows: 6 sack 35S Portland cement concrete, 5.5 gallons of water per sack of cement, 6.5 % + 1.5 % air entrainment, 4" maximum slump. White pigment curing compound or plastic film must be immediately applied to the broomed concrete.
- L. Name and Date:** All concrete sidewalks and approaches must be imprinted with the name of the Contractor or person construction such sidewalks and approaches, together with the year the same was constructed. The letters and numbers shall be 1.5 inches high. The imprinted name and date shall be located at each end of the pour or at least every 80 feet.
- M. Protections:** The sidewalk and/or drive approaches shall be properly protected from the elements and travel for at least 72 hours. Sufficient barricades must be used to protect the sidewalk and drive approaches and guard the public against accident. All barricades must be properly protected by lights at night. Rebar and caution tape is not considered sufficient barricading. Contact the Lansing Transportation Traffic office if drive approach is unusable due to construction and on-street overnight parking is needed.
- N. Sidewalk Vaults:** Where a developed portion of property lies subjacent to or under any sidewalk, the construction, reconstruction, or repair as necessary, the responsibility to repair, construct or maintain that sidewalk will remain that of the property owner, unless the property owner executes a release of liability to the City.
- O. Cold Weather Protection:** May 1st is the first date for regular concrete placement. October 1st is the last date for regular concrete placement. Cold weather protection may be required outside these dates as directed by the City of Lansing Public Service Department. Cost for cold weather protection shall be included in the unit bid price for the applicable concrete related work item.
- P. Inspection:**

All forms must be inspected prior to the placement of concrete by the city of lanning inspector. A follow-up inspection will be made to ensure compliance with all the conditions of the permit. For concrete inspection, call 483-4455 at least two hours prior to the placement of concrete. No inspections will be scheduled after 3:00 PM or on weekends.
- Q. Restoration:**

Restoration must follow the work immediately (within 24 hours of removing the forms). Topsoil, seed, and mulch blankets shall be placed as soon as possible. Streets shall be kept clean from tracked dirt.
- R. Street Light Conduit:**

The Board of Water and Light, phone 702-6317, shall be contacted for street light conduit at least 24 hours in advance of placing concrete in any drive approaches.

19. WATER SERVICE LINE MATERIALS TO BE PROVIDED BY BWL

THE BWL WILL PROVIDE TO THE CONTRACTOR ALL COPPER TUBING, COUPLINGS, ADAPTORS, CURB STOPS, CURB BOXES, CORPORATION STOPS AND REPAIR SLEEVES NEEDED TO REPLACE THE WATER SERVICE LINES. ALL OTHER MATERIALS ARE TO BE PROVIDED BY THE CONTRACTOR.

Material used in the project shall conform to BWL Specifications, NSF 61 (NO LEAD). Following is a list of the major materials expected to be used in the project:

Service piping shall be Type K, soft temper copper, ASTMB88, water tube for underground piping as manufactured by Cerro Copper Products, Mueller Brass, Wolverine, Reading (Cambridge Lee), Yorkshire Copper Tubing, Kobe Weiland or Howell Metal Company.

Service piping 1" diameter or less shall be provided in 60 or 100 LFt coils. All service piping greater than 1 inch shall be supplied in 20 LFt lengths only.

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Corporations stops shall meet or exceed ANSI/AWWA C-800 specifications with copper AWWA/CC Taper thread. Inlet and outlet diameters shall be of the same size as service connection and be manufactured by:

Ford Meter Company, Model No. FB1000-4-Q or

Meuller Company, Model No. B25008.

Corporation stop adapters shall be manufactured by:

Ford Meter Company – Series C104-XX-Q or

Mueller Company – Series H15505 plus H15072

Curb Stops and Boxes – shall meet or exceed ANSI/AWWA C-800. Curb stops shall be the same diameter as the new service connection and be of the following products or approved equal:

Ford Meter Company, Model No. B44-444-Q

Mueller Company, Model No. B25209

Curb boxes shall be of the following products or approved equal

Tyler Corporation, Model No. 6500 series 95E

Bibby-Ste-Croix, Model No. BSC-95EB

Sigma, VB795E

Materials for fittings, couplings, etc. shall comply with current BWL specifications. See Attachment ___for list of approved materials.

20. TEMPORARY PATCHING IN SIDEWALK, DRIVEWAY AND YARD AREAS:

Contractor is responsible for the placement and maintenance of temporary patches in sidewalks, driveways and yard areas until such areas are permanently restored. Restorations shall be finished level with surrounding surfaces. Unless otherwise approved by the BWL, the surfacing material for temporary patches in sidewalks and driveways shall be 3 inches minimum of compacted bituminous millings with diameters not greater than 1 ½ inches.

21. PARKWAY AND YARD RESTORATION

A. Methodology:

This work shall be in accordance with Sections 816 of the MDOT Standard Specifications for Construction except as herein modified.

Parkway and Yard Restoration shall consist of preparation of earth bed; placing 3 inches of topsoil surface; type THM seeding; fertilizing; and mulch blankets.

Parkway Grading shall consist of grading the parkway between the back of curb and edge of sidewalk to a uniform slope and to a minimum depth of 3 inches below the top of sidewalk and top of curb.

Contractor shall maintain a nominal 10' of clearance from the trunks of all trees unless directed otherwise by the Engineer.

Yard Grading shall consist of grading all disturbed yard areas to a slope that conforms to the surrounding ground and to a minimum depth of 3 inches below finished grade. Work also includes one return to repair areas that require additional fill.

B. Materials

(i) Mulch Blankets Slopes Less than 3:1

Mulch blankets for Parkway and Yard Restoration shall be "North American Green DS75" or other material approved by the Engineer. Mulch blanket shall have an accelerated bio- or photodegradable mulch blanket netting with an approximate functional longevity of 60 days.

(ii) Mulch Blankets Slopes 3:1 or Greater

Mulch blankets for Parkway and Yard Restoration shall be "North American Green SC150" or other material approved by the Engineer.

(iii) Topsoil

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Topsoil shall be prepared so a cubic yard of prepared soil will contain $\frac{3}{4}$ cubic yard of topsoil and $\frac{1}{4}$ cubic yard of peat moss or compost. Topsoil shall be screened to remove all clumps of clay, debris stones greater than $\frac{1}{2}$ inch and all other material not suitable for plant growth.

(iv) Fertilizer

Fertilizer shall be applied in accordance with Class A seeding.

(v) Seed Mixture

Seed Mixture shall be Type THM.

All Contractor costs associated with parkway and yard restoration shall be included in the LINEAL FOOT price for installing water service lines.

All Parkway and Yard Restoration work shall be completed within 3 days of the final grading for the yard and parkway areas.

22. MATERIALS AND COMPACTION TESTING

The BWL shall be responsible for securing the services of an independent testing company to conduct materials and compaction testing. Materials testing shall be completed on all concrete materials. Backfill Compaction test will be conducted on all materials placed within the influence of streets, driveways and sidewalks. The Contractor will be required to correct at the contractor's cost any deficiencies resulting from failed materials and/or compaction tests.

23. MISCELLANEOUS WORK

A. Sewer Repairs

Sewers damaged by the Contractor shall be repaired at the Contractor's expense. The Contractor will obtain a sewer repair permit from the City of Lansing before repairing a sewer and shall schedule an inspection of the repaired sewer before backfill the sewer trench. The sewer repair must be completed by a licensed "pipe layer" approved by the City of Lansing.

B. Televiser Sewer Lateral

This work will be performed by other contractor appointed by the BWL.

C. Soil Erosion and Sedimentation Control

The Contractor shall conduct the project operations to prevent the erosion of soil and sediment into street drains and catch basins. Roadways shall be kept clean of dirt, dust and other debris. Filters and fabrics necessary to adequately prevent the erosion of soil and sediment from the project site into street catch basins and drains shall be installed and maintained by the Contractor. The Contractor shall provide shop drawings of materials and installation procedures for all sediment control measures. Sediment control materials shall be placed before work commences and maintained until the restoration work is completed. The cost for Soil Sediment Control shall be included in the cost of installing the water service lines.

24. INSPECTION

The Contractor's work will be inspected by BWL personnel prior to backfilling of any pipe and fittings and before the service line is placed in service. The Contractor shall schedule and supply personnel to work with the BWL inspector to inspect all newly installed water facilities on a daily basis and record the quantity of work items completed. A deficiency list will be generated from this inspection and supplied to Contractor for repair. Except for work items requiring immediate repairs/corrections, Contractor shall complete the deficiency list items within 5 working days of notification.

25. WATER SERVICE INTERRUPTIONS

The Contractor shall provide all customers, using a BWL approved form, 2 days advance notice of any scheduled water main or water service interruption. Notification of the water shut-off shall also be provided on the morning of the day work is to be performed. For residential services, water interruptions shall not occur before 9:00 AM or after 8:00 PM. Water services shall not be off for more than eight (8) hours in any one day. The Contractor shall

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coordinate water interruptions to all non-residential facilities with the affected occupants and complete the interruption at a time most convenient to the customer.

26. DELAYS IN CONTRACTOR'S WORK SCHEDULE

BWL shall not be held liable for any claim for additional compensation for loss of time, or for any work or materials not clearly covered in this contract. This includes, but is not limited to: delays caused by the Lansing Public Works Department contractors, delays caused by repairs to mains or appurtenances located within the project, delays caused by the BWL's inability to secure Contractor's timely access to houses or buildings or any other delay beyond the control of the BWL. The pay item "water service installation - remobilization" has been established to provide compensation to the contractor in instances where the contractor is unable to gain access to the interior of the home/building on the day scheduled for replacement of the water service due to actions, of lack thereof, of the resident/property owner.

27. SUPPLEMENTAL WORK & COMPENSATION

BWL reserves the right to increase or decrease the contract quantities using the unit bid prices.

Payment for the contract items shall include all costs for labor, equipment, trench boxes, materials, overhead and profit necessary to complete each work item and related activities as described herein. The unit pay items described herein shall also include, but not be limited to, excavation, backfill and compaction necessary for a complete water service system.

28. PROPOSAL ITEMS

- A. Water Service Line, Cable Method:** This shall include the installation of the specified diameter water service lines and shall be paid at the contract unit price of service line installed from the water main to the curb stop box and/or from the curb stop box to the water meter inside the house/building using the "cable" method. This item shall also include all necessary backfill, compaction, surface restoration of non-paved areas, coring and sealing the foundation walls and excavations at the exterior of the foundation wall if such work is necessary to facilitate installation of the service line.

If the "cable" method is unsuccessful then the contractor proceeds to the "boring" method.

- B. Water Service Line, Boring Method:** This item shall include the installation of the specified diameter water service lines and shall be paid at the contract unit price for each LINEAR FOOT of service line installed from the water main to the curb stop box and/or from the curb stop box to the water meter inside the house/building using the "boring" method or other type of non-trenching operation other than the "cable" method. This pay item shall also include all necessary backfill, compaction, surface restoration of non-paved areas, coring and sealing through foundation walls and excavations at the exterior of the foundation wall if such work is necessary to facilitate installation of the service line.

If the contractor is unable to install the service line using the "boring" method and proceeds to the "Open Cut Trenching method, payment for all work involved with the "boring" method will be paid using the pay item "Failed Attempt – Water Service, Boring Method" .

- C. Water Service Line, Open Cut Trenching:** This item shall be used as a last resort, after pulling fails and boring fails. This shall also include all necessary backfill, compaction, surface restoration of non-paved areas, coring through foundation walls and excavations at the exterior of the foundation wall if such work is necessary to facilitate installation of the service line.
- D. Curb Stop Valve and Box:** This item shall be included in the installation of a new curb stop and box.
- E. Service Tap":** This item shall include tapping an existing water main to install the specified diameter corporation and shall be included in the installation.
- F. Sidewalk Removal:** This item shall include the furnishing all labor and equipment necessary for the removal and disposal of monolithically poured concrete walk (removal of asphalt or brick sidewalk shall be considered as concrete walk). This work is included in the price. The water service work does not include incidental damage caused by the Contractor's operations. It is anticipated that service replacement to the property line will require two (2) panels to be removed. Unless otherwise approved by the BWL, in no case will more than three (3) panels per water service be required. In cases where the

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service line is being replaced between the water main and curb box, the contractor shall make every effort to preserve the existing sidewalk.

- G. Drive Removal:** Removal of concrete and/or bituminous driveways shall include the removal and disposal of concrete and bituminous driveways irrespective of thickness.
- H. Curb Removal:** This item shall include the removal and disposal of Concrete Curb or Curb and Gutter necessary for the installation of a water service. Payment included in the contract unit price.
- I. Sidewalk, 6”:** This item includes grading and compaction for 6 inch concrete sidewalk in accordance with the construction methods and materials described herein. Payment included in the contract unit price.
- J. Sidewalk, 4”:** This item includes grading and compaction for the installation of 4 inch concrete sidewalk in accordance with the construction methods and materials described herein. Payment included in the contract unit price.
- K. Driveway, Bituminous 4”:** This item includes grading and compaction for the placement of 4 inch pavement material in driveways and parking areas meeting MDOT production on a compacted 6” layer of MDOT 22A aggregate material. Payment included in the contract unit price.
- L. Driveway, Concrete 6”:** This item includes grading in accordance with the construction methods and materials described herein. Payment included in the contract unit price
- M. Concrete Curb and Gutter:** This item includes grading and preparation for the installation of concrete curb and gutter in accordance with the construction methods described herein. Payment included in the contract unit price.
- N. Roadway Pavement, Concrete 9”:** This item includes grading and square cutting final hole in the preparation of the placement of 9 inches of concrete within roadways that have concrete or asphalt over concrete cross-sections in accordance with requirements of the City of Lansing Utility Cut Policy. This payment shall be included in the unit price.
- O. Utility Investigation:** The item shall include the pavement removal, excavation, backfill, and compaction necessary for investigating the location, size or depth of an exiting utility and restoration of the excavated area in a manner ready for placement of the final bituminous pavement by the City of Lansing. This work shall be included in the unit cost.
- P. Water Main Excavation and Backfill:** The item shall include pavement removal, excavation, backfill and compaction necessary to adequately expose the service line connection onto the existing water main, connecting the new service line to the existing or new corporation and restoration of the excavation area in a manner ready for placement of the final bituminous pavement by the City of Lansing DPW. The use of a trench box, if necessary, shall be included in the unit cost.
- Q. Curb Stop Valve Excavation and Backfill:** The item shall include excavation, backfill and compaction required to expose the curb stop valve for replacement of the valve and box or for connection to an existing curb stop valve. The use of a trench box, if necessary, shall be included in the unit cost of this pay item.
- R. Abandon Service Line, Main to Curb Stop Valve:** At locations where it is not feasible to replace the service line in its existing location between the water main and curb stop valve or when the existing service line is not removed during installation of the new service line, the Contractor shall excavate the existing service line at the water main and at the curb box for the purpose of disconnecting the old service from the existing corporation and valve box and removing the lead service line. Work shall include excavating roadway and parkway areas, disconnecting the service line from the corporation valve, shutting and capping the existing corporation valve and an attempt to remove the old service line from within the roadway using the cable method, placement and compaction of backfill material and all parkway and yard restoration work.
- S. Abandon Service Line, Curb Stop Valve to House:** At locations where it is not feasible to replace the service line in its existing location between the curb stop valve and house/building or when the existing service line is not removed during installation of the new service line, the Contractor shall excavate the existing service line at the curb stop valve for the purpose of removing the old lead service line. Work shall include excavating the curb stop valve, attempting to remove the lead service line between the curb stop valve and house/building using the cable method, placement and compaction of backfill material and

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all parkway and yard restoration work. Payment for this item shall be on an "EACH" basis at the contract unit bid price.

- V. Failed Attempt – Water Service, Cable Method:** This pay item will apply in cases where an attempt to replace the water service line using the "cable" method is unsuccessful and it becomes necessary to use the "Boring" or "Open Trench" method. All costs associated with attempting to remove the existing water service line shall be included in this pay item. Payment will be based on "EACH" location where the use of the "Cable" method is unsuccessful.
- X. Failed Attempt – Water Service, Boring Method:** This pay item will apply in cases where an attempt to replace the water service line using the "cable" method is unsuccessful and it becomes necessary to use the "Boring" or "Open Trench" method. All costs associated with attempting to remove the existing water service line shall be included in this pay item. Payment will be based on "EACH" location where the use of the "Boring" method is unsuccessful.

28. NO ADJUSTMENT FOR CHANGE OF SCOPE

The work quantities established in this proposal are based on the BWL's estimate of work required for the overall project. Adjustment in the contract quantities will be made based on actual work required to replace any specific water service line. For example: if, at the direction of the BWL, a particular service changes in scope from a "full replacement" main to building to a "partial replacement" main to curb box or curb box to building; no adjustment in payment shall be made, other than paying the contract price for actual work performed.

END OF SCOPE OF WORK AND SPECIFICATIONS

Attachments:

City of Lansing Utility Cut Policy dated August 23, 2004 – 9 pages
Summary of non-standard services for replacement area S. Pennsylvania Ave.
BWL Construction Standards W-03-0004, W-03-0005, W-03-5200, W-03-0025, W-03-5050, W-03-6000, W-03-6810, W-04-3150, LBWL Approved Material Manufactures and Part No.'s.
Lansing map showing approximate location of all service replacement areas – 1 page

GENERAL REQUIREMENTS FOR BONDED CONSTRUCTION AND ERECTION WORK

General Requirements may be individually modified or superceded by BWL Supplemental Requirements. In case of conflicts, the BWL Supplemental Requirements shall govern.

DEFINITIONS:

The following meanings are ascribed to the terms used in these General Requirements:

Acknowledgement of Award – the form presented to the successful bidder/offeror, acknowledging the award of the purchase order and formalizing the Contract between the BWL and the CONTRACTOR.

Buyer – means the BWL purchasing agent designated on the Notice to Offerors/Bidders.

BWL – means the City of Lansing, by its Board of Water and Light.

Change Order - means the written order issued by ENGINEER, authorizing a change to the Work and any corresponding change to time of completion or CONTRACTOR's compensation.

Contract Documents – means the BWL's solicitation, including the invitation to bid or request for proposal or quotation, instructions to bidders/offerors, CONTRACTOR's response to the solicitation, BWL drawings, the specifications, any addenda or supplements including Change Orders, the purchase order, these General Requirements, the schedule identified in Article II(B), and Supplemental Requirements. The final versions of the Contract Documents, taken as a whole, constitute the sole and final agreement between the parties (Contract), which can only be modified by a written document properly executed by both parties.

CONTRACTOR – means the individual, partnership, corporation or other entity awarded a purchase order by the BWL, and its subcontractors, performing the Work defined in the Contract Documents.

Day – means a calendar day.

ENGINEER – means the General Manager of the BWL, or authorized designee. ENGINEER shall be the individual designated to receive submissions and notices from CONTRACTOR and to represent the BWL in the performance of the Contract. Any interaction with another division of the BWL, such as the procurement of a soil erosion control permit, shall be coordinated through ENGINEER.

Notice to Offerors/Bidders – the notice included with BWL Requests for Proposals, Requests for Quotations, or Invitations to Bid describing the proper manner and form for responses.

Purchase Order Date – means the date the BWL issues the CONTRACTOR a purchase order to undertake the Work.

Substantial Completion – means that the Work is complete and meets the specifications in all material respects and that it has passed a final inspection by ENGINEER.

Work – means the entire completed construction or the various separately identifiable parts required to be furnished under the Contract Documents. Work includes and is the result of performing services, furnishing labor and documents, and furnishing and incorporating materials and equipment into the construction, all as required by the Contract Documents.

ARTICLE I. PRELIMINARY MATTERS

I-A. RETURN OF ACKNOWLEDGEMENT, BONDS, AND PROOF OF INSURANCE

Upon issuance of the purchase order, CONTRACTOR shall deliver the signed Acknowledgement of Award and any required bonds and proofs of insurance to the Buyer designated in the Notice to Offerors/Bidders with a copy to ENGINEER. The CONTRACTOR must place the purchase order number on the Acknowledgement, bonds, and certificates of insurance. No Work can commence until the Acknowledgement and proof of insurance have been received by the BWL in a form acceptable to the BWL. In addition, no payments will be made until the Acknowledgement, bonds, and proof of insurance have been received by the BWL in a form acceptable to the BWL.

I-B. BONDS

- (1) CONTRACTOR must furnish, at its own expense, a performance and payment bond in the full amount of the Contract price insuring that it shall fulfill all of the provisions of the Contract Documents, shall satisfactorily complete the Work, and shall make prompt payment to all persons furnishing material or labor required in prosecution of the Work as required by law. These bonds shall be on the forms supplied by the BWL.
- (2) The bonds must be issued by a surety company.
- (3) The bonds shall also extend to and cover any reasonable change or extension in the plans and specifications, without necessity of notice to the surety.
- (4) CONTRACTOR's bonds shall be accompanied by powers of attorney authorizing execution on behalf of the surety and CONTRACTOR, and must be countersigned by a duly authorized Michigan agent of the surety. The date of the bonds may not predate the Purchase Order Date.

I-C. INSURANCE

- (1) At its own expense, CONTRACTOR shall acquire and continue in effect for the term of the Contract, insurance providing the following coverage:
 - (a) Commercial General Liability Insurance on an occurrence basis. This coverage shall include Personal Injury, Contractual Liability, and Products/Completed Operations insurance. The limit of liability shall be at least \$1,000,000 combined single limit for bodily injury and property damage. There shall be no exclusion for work within any distance of railroad property. There shall be coverage for explosion, collapse, and underground hazards (x, c, & u coverage).
 - (b) Automobile liability insurance that complies with the requirements of the Michigan No-fault law with residual liability limit of at least \$1,000,000 combined single limit for bodily injury and property damage. There shall be coverage for owned, hired, and non-owned vehicles.
 - (c) Worker's compensation insurance as required by Michigan law.
 - (d) "Completed value" Builder's risk insurance with a limit of at least 100% of the Contract value, and
 - (e) Excess or umbrella liability insurance with a limit of at least \$2,000,000.
- (2) CONTRACTOR shall purchase insurance from companies acceptable to the BWL. Generally, a company rated A- or better by A.M. Best and domiciled in the United States will be acceptable to the BWL. The A.M. Best website can be found at: <http://www.ambest.com>.
- (3) CONTRACTOR shall name the "City of Lansing, by its Board of Water and Light, its employees, Board Members, and officers" as additional insureds on all liability coverage other than workers compensation.
- (4) The coverage granted to the BWL as an additional insured shall apply on a primary basis. The BWL's coverage shall be excess.
- (5) Deductibles and retentions shall be clearly stated on any certificate of insurance and shall be the responsibility of CONTRACTOR and not the BWL.
- (6) If liability policies do not contain the ISO separation of insureds provision, the policies shall be endorsed to provide cross-liability coverage.
- (7) Neither the issuance of any insurance policy required by this provision, nor the minimum limits specified with respect to any insurance coverage, shall be deemed to limit or restrict in any way the liability of CONTRACTOR or its subcontractors arising under or out of this Contract.
- (8) Before performing any Work, CONTRACTOR shall provide copies of the applicable insurance certificates to the person designated in the Notice to Offerors/Bidders with a copy to ENGINEER. Certificates of insurance shall state that they will not be canceled nor any changes made, which alters, restricts or reduces the insurance provided or changes the name of the insured, without first giving thirty (30) days notice in writing to the Corporate Secretary, BWL, 1232 Haco Dr., P.O. Box 13007, Lansing, Michigan 48901, as evidenced by the BWL's receipt of a letter to that effect.

- (9) CONTRACTOR waives all rights against the City of Lansing, by its Board of Water and Light, its employees, Board Members, and officers for recovery of damages and expenses to the extent that these damages and expenses are covered by any of CONTRACTOR'S insurance coverage.

ARTICLE II. SUBMITTALS

II-A. DETAILED ESTIMATE

Upon issuance of the purchase order, CONTRACTOR shall provide ENGINEER with a written breakdown of the bid or proposal price showing all major items of Work with units, quantities, unit prices and total cost. The breakdown must be detailed, clear, and the sum of the total costs must equal the total Contract price. This breakdown will be used as a basis for progress payment estimates.

II-B. SCHEDULE

As soon as feasible, and no later than the pre-construction meeting, CONTRACTOR shall submit a complete schedule and outline covering CONTRACTOR'S proposed plan and method of construction, dates of fabrication, delivery, storage, and erection for all Work and materials included in the Contract Documents. The schedule shall sufficiently detail the proposed plan, dates, and methods to enable ENGINEER to judge the adequacy of CONTRACTOR's operations and to anticipate the progress and completion of the Work. This schedule may be modified by mutual agreement as required by job progress or as requested by the ENGINEER.

II-C. DRAWINGS

(1) BWL DRAWINGS AND SPECIFICATIONS

- (a) Any drawings accompanying BWL specifications are construction drawings portraying the scope and intent of the Work, the layout and structure of the coordinate physical parts, and the general arrangement of apparatus and equipment necessary to fulfill the purposes of the Work. CONTRACTOR shall provide all Work, without additional expense, that is described in the specifications, indicated on the drawings, or omitted from both drawings and specifications but obviously intended and necessary to complete the Work.
- (b) If CONTRACTOR requires additional sets and copies of BWL drawings or specifications, beyond those included in the Invitation to Bid or Request for Proposal/Quotation, they will be charged to the CONTRACTOR.
- (c) CONTRACTOR will hold all BWL drawings in confidence and protect them against disclosure. All BWL drawings, and copies thereof, must be treated as confidential and must be returned or destroyed by CONTRACTOR or any subcontractor upon termination of employment on the Work or completion of the Work, whichever comes first.

(2) CONTRACTOR'S DRAWINGS

- (a) CONTRACTOR shall furnish all necessary detail drawings, designs, shop drawings, schedules, and like items, giving full and complete information. CONTRACTOR shall commence this Work as soon as possible upon issuance of a purchase order, giving priority to those drawings and designs necessary for fabrication of the material in the order of its required use in the Work.
- (b) Safety and accessibility must be considered and reflected in CONTRACTOR's drawings and designs. For example, valve and control equipment should be placed in a safe and accessible location whenever possible.
- (c) When ENGINEER review is required, the CONTRACTOR shall submit four hard copies of drawings or one electronic file in .tif or AutoCad format (2000 or later version) before purchasing, fabricating or erecting the material. All drawings shall be submitted well in advance of the start of construction of that part of the Work indicated on the drawings. CONTRACTOR shall not receive additional time or compensation for any delay caused by CONTRACTOR's failure to give the BWL adequate time to review the drawings. ENGINEER shall review the drawings within a reasonable time after receipt from CONTRACTOR. Any Work dependent on the drawings and completed by CONTRACTOR before receiving ENGINEER's completed review of the drawings shall be at CONTRACTOR's risk. ENGINEER's review is for general design only and shall not relieve CONTRACTOR of its responsibility for the sufficiency of detail, design or correctness of detail dimensions.

- (d) All CONTRACTOR design drawings prepared or furnished by CONTRACTOR shall adhere to the BWL standard requirements and shall be produced on BWL title blocks provided by ENGINEER. CONTRACTOR's information shall be included within the BWL standard title block/border, although exceptions may be made by ENGINEER for manufacturers' drawings. Drawings shall be numbered consecutively and a letter or transmittal form listing the drawings' numbers and titles shall accompany each shipment of drawings.

II-D. SUBCONTRACTORS AND VENDORS

To the extent not provided in CONTRACTOR's bid or proposal and within 14 days of the Purchase Order Date but not later than the start of Work, CONTRACTOR must submit a list of all proposed vendors and subcontractors who will supply the materials or perform any of the Work, including a listing of the Work they will perform or the materials they will supply. Upon request, CONTRACTOR must supply additional information demonstrating that a proposed subcontractor has the necessary facilities, experience, and financial resources to perform the Work within the terms of the Contract Documents. After receiving the information, the BWL will notify CONTRACTOR within seven (7) days if any vendor or subcontractor is unacceptable to the BWL and the reasons therefore. If a subcontractor is deemed unacceptable by the BWL, CONTRACTOR may submit another subcontractor for approval or advise the BWL that it intends to do the Work itself. The following conditions apply to subcontractors:

- (1) CONTRACTOR shall not employ any subcontractor without ENGINEER's approval. CONTRACTOR acknowledges that the BWL may deny a CONTRACTOR request to subcontract certain portions of the Work.
- (2) If CONTRACTOR submitted a list of subcontractors and supporting information before the Purchase Order Date, and the BWL requires, in writing, CONTRACTOR to change a subcontractor after the Purchase Order Date, the Contract price shall be increased or diminished by the difference in cost occasioned by such change. There shall be no increase in Contract price if the BWL rejects a proposed subcontractor submitted after the Purchase Order Date.
- (3) ENGINEER's approval of any subcontractor shall not relieve CONTRACTOR of any responsibilities or liabilities. The CONTRACTOR agrees that it is as fully responsible to the BWL for the acts and omissions of its subcontractors and of all persons either directly or indirectly employed by the subcontractor, as it is for the acts and omissions of persons directly employed by CONTRACTOR.
- (4) Nothing contained in the Contract Documents shall create any contractual relationship between any subcontractor and the BWL.
- (5) In its contract with any subcontractor, CONTRACTOR shall require, at a minimum: (1) subcontractor to carry insurance coverage similar to that listed in Article I(C); (2) a warranty substantially similar to Article IV(U) for materials and services provided by the subcontractor in favor of the BWL; (3) the requirement that the subcontractor meet all federal, state, and BWL safety rules and regulations in accordance with Article II(H); and (4) a clause prohibiting discrimination in accordance with Article V(N).

II-E. LICENSES AND PERMITS

CONTRACTOR shall obtain and submit to ENGINEER any licenses or permits necessary for the Work, except a "Building Permit" or a MDEQ water main construction permit, which the BWL will obtain. CONTRACTOR is responsible to obtain all required licenses and permits at no expense to the BWL and to pay all required fees, including, but not limited to, fees and charges for the use of public or private property for the storage of materials. The BWL is an authorized Public Agency for Soil Erosion and Sediment Control. If a soil erosion permit is required, CONTRACTOR shall apply to the BWL's Environmental Services Department.

II-F. SAMPLES

The CONTRACTOR shall submit all required samples in a timely manner after the Purchase Order Date, and shall pay all transportation charges for samples. The CONTRACTOR shall deliver the samples to ENGINEER accompanied by a letter from CONTRACTOR identifying the material, the purchase order number, and any laboratory test results. Approval of a sample does not alleviate CONTRACTOR of any contractual responsibility, including any warranties.

II-G. SAFETY PROCEDURE

Before beginning any Work, CONTRACTOR shall furnish written detailed safety procedures to be used to control and maintain CONTRACTOR and subcontractor employee and job site safety. The procedures should address the manner in which CONTRACTOR will meet the following requirements:

- (1) CONTRACTOR shall proceed with the Work in a manner dictated by all applicable federal and state safety regulations, the BWL Safety Manual, and safe practice, using materials, tools and rigging of a safe character. The current version of the BWL's Safety Manual can be found at www.lbw.com/SafMan/default.htm. CONTRACTOR shall strictly comply with these laws, rules and regulations including, but not limited to, OSHA and MIOSHA requirements, including without limitation MIOSHA "Right to Know" obligations, MCL 408.1001 et seq., and shall provide documented evidence of that compliance upon ENGINEER's request.
- (2) CONTRACTOR shall provide and use all necessary guards, railings, barricades and other protective devices to permit safe working conditions for CONTRACTOR's employees and to prevent hazards to employees of other contractors, the BWL and its employees, or the public.
- (3) At all times, CONTRACTOR's personnel shall wear personal protection equipment, such as safety glasses with side shields, hearing protection, specialty equipment specific to the trade, appropriate work boots, hard hats, etc., in designated construction areas.
- (4) If, in ENGINEER's opinion, CONTRACTOR is not proceeding with its Work in a safe manner or in accordance with federal, state, or BWL safety regulations, ENGINEER may issue a Contractor Safety Violation Notice or otherwise stop the Work and direct the CONTRACTOR to rectify the unsafe conditions immediately. If CONTRACTOR fails to promptly rectify the situation, the BWL may proceed to rectify the unsafe conditions at CONTRACTOR's expense. Compliance with this paragraph shall effect neither the Contract price nor the schedule.
- (5) CONTRACTOR shall conduct, at a minimum, daily tailgates and weekly safety meetings with all CONTRACTOR's employees on site. ENGINEER or ENGINEER's representative may attend each meeting.
- (6) CONTRACTOR shall provide ENGINEER a written monthly safety report, including, but not limited to, documentation of tailgates, safety meetings, injuries, investigations, and documented near misses.
- (7) CONTRACTOR shall comply with all BWL, OSHA, and MIOSHA confined space requirements and procedures, including BWL permitting requirements.

II-H. SUBSTITUTIONS:

Unless a proposed substitution was included in CONTRACTOR's bid or proposal, substitutions will not be permitted without the express written authorization of the ENGINEER. No additional amount will be paid for a substitution proposed after the Purchase Order Date.

ARTICLE III. PRE-CONSTRUCTION

III-A. COMPLIANCE WITH LAWS, PERMITS, ORDINANCES, AND BWL RULES AND REGULATIONS.

- (1) CONTRACTOR must familiarize itself with, and strictly comply with, all applicable laws, ordinances, permits, and BWL rules and regulations.
- (2) CONTRACTOR acknowledges that it has complied, and during the term of this Contract will continue to comply, with the Immigration Reform and Control Act of 1986.
- (3) In compliance with state law and the BWL's Purchasing Policy, CONTRACTOR must pay prevailing wages and fringe benefits on all construction contracts, as determined by statistics compiled by the United States Department of Labor and related to the greater Lansing, Michigan area by that Department. If CONTRACTOR violates this requirement, it shall have thirty days to rectify the deficiency or be deemed in material breach of contract. Upon ENGINEER's request, CONTRACTOR shall provide its certified payroll records to demonstrate compliance with this paragraph.

III-B PRE-CONSTRUCTION MEETING

- (1) Before CONTRACTOR starts any construction Work, CONTRACTOR shall attend a pre-construction meeting with ENGINEER and others as appropriate to establish an understanding among the parties as to the manner in which the Work will proceed, including, without limitation:
 - (a) Construction schedule and work plan,
 - (b) Designation of superintendent and other responsible personnel,
 - (c) Administrative procedures,
 - (d) Major equipment deliveries,
 - (e) Parking,
 - (f) Laydown,
 - (g) Outage schedules, clearances, and requirements,
 - (h) Safety and first-aid procedures,
 - (i) Temporary services and facilities, including storage,
 - (j) Subcontractors and materials,
 - (k) Shop drawings and other submittals,
 - (l) Applications for payment, and
 - (m) Emergency response, evacuation and take cover procedures.
- (2) At the completion of the pre-construction meeting, CONTRACTOR and ENGINEER must agree on a preliminary schedule of completion, including the submission of any required shop drawings or other submittals. This schedule will take into consideration work to be done by other contractors in the same area and shall be submitted to ENGINEER in accordance with Article II(B). Any change in schedule after the pre-construction meeting must be discussed with, and approved by, ENGINEER.

III-C. TEMPORARY SERVICES AND FACILITIES

- (1) CONTRACTOR shall provide and pay for all necessary temporary services, such as water, phone, compressed air and electric current for light and power. ENGINEER's approval of the location and type of facilities for temporary services is required before installation.
- (2) Before construction, ENGINEER must approve all temporary facilities, including, but not limited to, facilities for offices, change rooms, breaks and lunches, and storage used by CONTRACTOR, and its subcontractors. CONTRACTOR shall also provide toilet accommodations for the use of its workforce near the site of the Work. Any such facility shall be neatly constructed and arranged on the site in a manner specified by ENGINEER.
- (3) CONTRACTOR shall supply any such services and facilities at no cost to the BWL.
- (4) When temporary services and facilities are no longer needed for the Work, they shall be dismantled promptly and removed from the site by CONTRACTOR. CONTRACTOR must promptly restore the site to the condition it was in, or better, before the provision of temporary services and facilities or the BWL will do so at CONTRACTOR's expense.

III-D. LAYOUT-LINES, LEVELS AND MEASUREMENTS

- (1) Before the start of construction, ENGINEER will establish any property lines needed for the construction, a permanent elevation benchmark, and staking or monuments on construction base lines for control of horizontal locations. These points and lines shall govern all of CONTRACTOR's operations.
- (2) From the control points and lines established by the ENGINEER, CONTRACTOR shall perform sub-layout work needed for its Work and shall be responsible for all elevation benchmarks, levels, lines, or measurements that CONTRACTOR establishes or makes. Any Work which shall be wrongfully built by error in layout of the CONTRACTOR shall, at the option of the ENGINEER, be taken down and rebuilt as directed by ENGINEER at the CONTRACTOR's expense.

- (3) Where necessary to fit new Work to existing Work already in place, the CONTRACTOR shall check all dimensions by taking actual measurements at the site. CONTRACTOR bears the responsibility of ensuring that the new Work will fit.

ARTICLE IV. CONSTRUCTION

IV-A. USE OF PREMISES

- (1) CONTRACTOR shall confine apparatus, materials, and the operations of employees and subcontractors to areas indicated by law, ordinance, permits, property lines, or directions of the ENGINEER, and shall not unreasonably encumber the Work site or streets with equipment and materials.
- (2) CONTRACTOR shall not load or stress any part of any structure in any manner that will endanger the structure, the Work, or adjacent property.
- (3) Storage and parking areas at BWL premises are extremely limited. Therefore, CONTRACTOR is not permitted to store any amount of materials on the premises without the approval of the ENGINEER, and may store materials or erect temporary office or warehouse buildings only in areas designated by ENGINEER for that purpose. CONTRACTOR must secure, at its own expense, any required off-site storage and parking.
- (4) CONTRACTOR shall refrain from damaging existing utility structures and equipment, including, but not limited to, conduits, steam, water, gas, and electric lines. The BWL will continue to operate any utilities. Continuity of service and continuous operation of all present utility equipment is essential. CONTRACTOR shall perform the Work in a manner that in no way endangers the BWL's utility operations. If the CONTRACTOR must make connections to existing utilities plant or equipment, those connections shall only be made with the written permission, and in accordance with the specific instructions, of the ENGINEER.

IV-B. SEPARATE CONTRACTS

- (1) The BWL may let other contracts in connection with this Work, or to perform such related work with its own forces.
- (2) CONTRACTOR shall coordinate the Work, including all construction, delivery and storage of materials, and incidentals such as parking and the use of temporary facilities, with the BWL and other contractors working in the area. CONTRACTOR shall proceed in a manner that does not impede the BWL or another contractor.
- (3) If any part of CONTRACTOR's Work depends upon the activities or product of any other contractor or the BWL, CONTRACTOR shall inspect and promptly report to the ENGINEER any defects or delay that could impede the complete and accurate execution of the Work. Failure to so inspect and report shall constitute an acceptance of BWL's or the other contractor's activities or product as fit and proper, except as to defects, which may develop in the BWL's or other contractor's activity or product after installation or use.
- (4) If CONTRACTOR damages the product or impedes the activity of another contractor, CONTRACTOR agrees, upon due notice, to settle with such contractor by agreement, if settlement is possible. If such other contractor sues the BWL, claiming damage caused by CONTRACTOR, the BWL will notify CONTRACTOR, who shall defend such proceedings at no expense to the BWL and, if any judgment is rendered against the BWL, CONTRACTOR shall pay or satisfy it and pay all costs incurred by the BWL.

IV-C. PROTECTION AND DAMAGE

- (1) During performance and up to date of Substantial Completion, all finished and unfinished Work must be properly protected. CONTRACTOR shall provide temporary heat, housing, materials and equipment as necessary to protect all Work and materials against damage from wind, heat, cold and moisture, to the satisfaction of the ENGINEER. CONTRACTOR shall provide and maintain all passageways, guard fences, lights, and other facilities necessary for the Work's protection, or as required by law, weather, or local conditions.

- (2) CONTRACTOR shall not damage BWL property or adjacent property during construction. CONTRACTOR shall pay for, and make timely repairs to, all damage to the Work, the Work site, or adjacent property caused by its workforce (including subcontractors) during the execution of the Work.
- (3) Any Work damaged because of CONTRACTOR's insufficient protection shall be replaced or repaired by CONTRACTOR at CONTRACTOR's expense to comply with the Contract Documents.
- (4) If the whole or a portion of this Work is suspended by the BWL, the CONTRACTOR, without expense to the BWL, shall properly cover over, secure and protect the completed Work.
- (5) In an emergency affecting the safety of persons or property, the CONTRACTOR, without special instruction or authorization from the ENGINEER or BWL, is permitted to act at its discretion to prevent threatened loss or injury. In addition, if CONTRACTOR is directed to act by ENGINEER in an emergency, it shall so act, without appeal. Any compensation claimed by the CONTRACTOR on account of emergency work shall be determined by subsequent good-faith negotiation.

IV-D. PLANT PROTECTION AND SECURITY

- (1) If the Work is within a protected or policed area of the BWL, including all utility operating areas, the CONTRACTOR shall not permit unauthorized persons within that area. CONTRACTOR shall arrange, in conjunction with BWL security, for visible identification badges for all CONTRACTOR personnel employed on such Work. Those personnel shall be subject to the same rules and regulations as to identification and inspection as govern the BWL's employees. This requirement shall also apply for identification and inspection of all material and equipment either to or from the area by the CONTRACTOR's trucks or common carriers.
- 2). CONTRACTOR, its employees, subcontractors or suppliers, shall observe traffic rules, speed regulations, or other safety rules in the operation of its vehicles and equipment at the construction site as established by ENGINEER.
- (3) If the CONTRACTOR's operations require the removal of any BWL plant protection barricades, CONTRACTOR shall notify ENGINEER before removal. Thereafter, the CONTRACTOR shall provide and maintain temporary protection satisfactory to ENGINEER until the permanent barricades are restored.
- (4) Contractor's employees shall comply at all times with the BWL's weapons in the workplace policy and the BWL's prevention of violence in the workplace policy.

IV-E. FIRE PROTECTION

- (1) The CONTRACTOR shall take all necessary precautions to eliminate fire hazards and to prevent damage to any construction Work, building materials, equipment, and other property.
- (2) CONTRACTOR shall be responsible for maintaining and enforcing the following conditions and requirements during the Work:
 - (a) All combustible debris shall be removed by the CONTRACTOR from the Work site at close of each working day.
 - (b) The CONTRACTOR's superintendent and the ENGINEER shall inspect the Work site at least once a week to ensure compliance with this Article.
 - (c) CONTRACTOR must request a "hot work" permit for all cutting, welding, and grinding in BWL facilities, vaults, or where needed as determined by CONTRACTOR or ENGINEER.
 - (d) If CONTRACTOR uses any BWL equipment to eliminate or respond to a fire hazard, CONTRACTOR shall repair, replace or re-supply the equipment used in a timely manner.

IV-F. SUPERINTENDENCE AND LABOR

- (1) The CONTRACTOR shall provide a competent superintendent, satisfactory to ENGINEER, to oversee the Work. The superintendent shall be a non-working person. The CONTRACTOR shall not change the superintendent except with the consent of the ENGINEER, but the CONTRACTOR shall change the superintendent if ENGINEER finds the superintendent unsatisfactory.

- (2) The superintendent shall represent CONTRACTOR and shall be in full and complete charge of the Work. All documents, including Change Orders, signed by superintendent shall be deemed signed by CONTRACTOR. All directions given to superintendent by ENGINEER shall be binding as if given to CONTRACTOR. On written request, such directions shall be confirmed in writing.
- (3) The superintendent shall be available to the ENGINEER at all times for discussion of daily items of Work planning, tests and inspections, and to deal with any contingency or emergency.
- (4) CONTRACTOR shall employ only individuals competent, skilled, and experienced in the operations in which they are engaged. No employee shall be permitted on the premises who repeatedly violates safety requirements, is obnoxious and dangerous in conduct, disturbing in influence, or under the influence of intoxicating liquors or drugs. CONTRACTOR shall remove any such person from the premises upon the direction of the ENGINEER. If the ENGINEER determines that good cause exists, ENGINEER may prohibit that person from further employment on the Work or further entry to the premises.
- (5) CONTRACTOR shall ensure that CONTRACTOR personnel receive all necessary or appropriate security measures and safety briefings, including information related to evacuation procedures, before the person is permitted onto BWL property or to participate in the Work.
- (6) The CONTRACTOR shall advise the ENGINEER daily of the number and class of personnel employed.

IV-G. TIME AND MANNER OF PERFORMANCE

- (1) CONTRACTOR shall conform to the schedule identified in Article II(B) or as modified with ENGINEER's written consent.
- (2) CONTRACTOR must keep a sufficient quantity of materials and labor at the job to perform the Work expeditiously and ensure its completion within the specified schedule and Work requirements.
- (3) Any activities occurring on BWL property shall be performed from 8 a.m. through 5 p.m., Monday through Friday, excluding BWL holidays. If CONTRACTOR wishes to perform Work on BWL property during other times, or if CONTRACTOR expects to claim overtime or premium pay from the BWL for its employees, CONTRACTOR must submit a request to ENGINEER at least five days before the Work would occur, including CONTRACTOR's reasons for the request and the expected impact on CONTRACTOR's schedule and estimated price.
- (4) CONTRACTOR's procedure and methods of construction may, in general, be of its own choosing, provided they secure results satisfying the requirements of the Contract Documents.
- (5) CONTRACTOR shall give ENGINEER reasonable notice before beginning new Work or locations.
- (6) The Work shall be carried on systematically and shall be so managed at all times as to secure progress consistent with the schedule identified in Article II(B).
- (7) The CONTRACTOR shall complete the entire Work identified in the Contract Documents within the time stated in the Contract Documents.

IV-H. DELAY

- (1) Time is of the essence in the execution of the Work.
- (2) Should the CONTRACTOR be delayed in the prosecution or completion of the Work by the act, neglect or default of the BWL, ENGINEER, other contractor, or a Force Majeure event described in Article V(L), and CONTRACTOR establishes that such delay was in no way caused by or resulting from default or collusion on the part of the CONTRACTOR, its employees, agents, officers or subcontractors, the BWL will extend the time for completion for a period equivalent to the time lost. In addition, under certain circumstances as determined solely by ENGINEER, the BWL may agree to pay additional compensation as a result of the delay. The claim for additional compensation or extension shall be denied unless submitted in writing within forty-eight hours of the initial occurrence of the delay. Any additional compensation shall be limited to the CONTRACTOR's actual costs directly resulting from the delay and will be determined by good-faith negotiation between CONTRACTOR and the BWL. The BWL will not pay any indirect or consequential costs.

- (3) However, if the Work is delayed by CONTRACTOR's failure to provide ENGINEER sufficient notice of the necessity of equipment or material furnished by the BWL or another contractor, CONTRACTOR will receive no additional compensation for the delay.
- (4) Should the BWL or other contractors employed by the BWL be delayed in prosecution or completion of their activities by the act, neglect or default of the CONTRACTOR, the CONTRACTOR shall be responsible for all costs to the BWL resulting from the delay unless the BWL specifically waives, in writing, the right to recover costs resulting from the delay.
- (5) If the ENGINEER determines that progress on any part or parts of the Work is not proceeding in a manner ensuring the completion of the Work within the time fixed in the Contract Documents, or is proceeding in such a manner as to delay or impede the performance of the BWL's business, the BWL may proceed, after three days written notice, to complete, at CONTRACTOR's expense, any part or parts of the Work in question by contracting for the performance of the Work or by performing the Work.
- (6) CONTRACTOR is required to maintain the schedule despite adverse climatic conditions. However, if specifically ordered by ENGINEER, CONTRACTOR shall suspend any Work that may be subject to damage by climatic conditions. No additional compensation will be granted for weather-related delays. However, ENGINEER may extend the schedule accordingly.

IV-I. CONSTRUCTION MEETINGS

ENGINEER may conduct weekly, or more frequent, construction meetings at the Work site. The purpose of the meetings is to: review safety procedures and preparations, review construction schedule and work progress, review submittals, review status of off-site fabrication and material purchases, identify problem areas, and develop corrective measures and procedures to put the Work on schedule.

IV-J. DIFFERING SITE CONDITIONS

- (1) If CONTRACTOR discovers one or both of the following physical conditions of the surface or subsurface at the Work site, before disturbing the physical condition, the CONTRACTOR shall promptly notify ENGINEER of the physical condition in writing:
 - (a) A subsurface or a latent physical condition at the Work site differs materially from those indicated in the Request for Proposal/Bid/Quotation.
 - (b) An unknown physical condition at the Work site of an unusual nature differing materially from those ordinarily encountered and generally recognized in work of the type contemplated by the Contract Documents.
- (2) If ENGINEER receives a notice under subsection (1), the BWL shall promptly investigate the physical condition.
- (3) If the BWL determines that the physical conditions materially differ and will cause an increase or decrease in costs or additional time needed to perform the Work, the BWL shall make its determination in writing, an equitable adjustment shall be made, and the Contract Documents modified in writing accordingly.
- (4) If CONTRACTOR does not agree with the BWL's determination, CONTRACTOR and the BWL may, at the BWL's sole discretion, arbitrate CONTRACTOR's right to an increase or decrease in Contract time or cost in accordance with the AAA rules. This provision shall not imply a right to arbitrate this or any other claim.
- (5) CONTRACTOR cannot make a claim for additional costs or time because of a physical condition unless the contractor has complied with the notice requirements of subsection (1). The BWL may, upon written request, extend the time required for notice under subsection (1).
- (6) CONTRACTOR cannot make a claim for an adjustment based on differing physical conditions after CONTRACTOR receives the final payment under the Contract.

IV-K. HAZARDOUS OR CONTAMINATED SUBSTANCES

- (1) CONTRACTOR shall provide ENGINEER with a list of all hazardous substances used at the Work site in compliance with the Right to Know provisions of MIOSHA. A copy of the Material Safety Data Sheet for the hazardous substances must be provided to ENGINEER and available at the Work site.
- (2) The BWL shall not be responsible for any hazardous or contaminated substances or materials brought to the site by CONTRACTOR, a subcontractor, suppliers or anyone else for whom CONTRACTOR is responsible. If CONTRACTOR, or anyone for whom CONTRACTOR is responsible, creates a safety or environmental hazard with a hazardous substance or material, CONTRACTOR must (i) immediately notify ENGINEER, and (ii) take immediate and appropriate measures to address the hazard and restore the site to its original condition in accordance with federal and state law, at no cost to the BWL other than that specified in CONTRACTOR's bid, proposal, or quotation.
- (3) If CONTRACTOR encounters any suspected hazardous or contaminated material, soil or water, not shown or indicated in the Contract Documents to be within the scope of the Work, CONTRACTOR shall immediately: (i) stop all work in connection with such hazardous condition and in any area affected thereby, (ii) take all appropriate safety actions with respect to CONTRACTOR employees, subcontractors, or others who may have been exposed to the hazardous material, and (iii) promptly notify ENGINEER (such notice must be later confirmed in writing).
- (4) Upon such notice, ENGINEER shall promptly determine the necessity for the BWL to take corrective action or to retain a qualified expert to further evaluate such hazardous condition.
- (5) CONTRACTOR shall not be required to resume Work in connection with such hazardous condition or in any such affected area until after the BWL has obtained any required permits or approvals and delivered to CONTRACTOR specific written notice: (i) specifying that, to the best of the BWL's knowledge, such condition and any affected area is or has been rendered safe for the resumption of the Work, or (ii) specifying any special conditions under which such Work may be resumed safely. Ultimately, however, CONTRACTOR must determine if it is safe for Work to proceed in the affected area.
- (6) If, after receipt of such written notice, CONTRACTOR does not agree to resume such Work based on a reasonable belief it is unsafe, or if ENGINEER and CONTRACTOR cannot agree regarding the amount of additional compensation, additional time, or special conditions required as a result of the Work stoppage, the parties may agree to delete the portion of the Work in the affected area from the Contract Documents or either party may terminate the agreement and CONTRACTOR will be paid equitably for the Work performed pursuant to the Contract.

IV-L. MATERIALS FURNISHED BY CONTRACTOR

- (1) The CONTRACTOR shall arrange and pay all charges for the proper delivery, receipt, rigging, unloading, and storage of all material needed. CONTRACTOR must supply a sufficient number of individuals to promptly unload and store materials. ENGINEER must approve, in advance, any on-site storage of materials. CONTRACTOR continues to bear all responsibility for care, custody, control and protection of the material after unloading.
- (2) The CONTRACTOR shall notify the ENGINEER when any material is ready for shipment. Before arranging for any shipment, CONTRACTOR must ensure that the delivery will not cause undue blocking at the delivery site.
- (3) ENGINEER must receive notice of shipment at least 48 hours before arrival at the site.
- (4) If requested by ENGINEER, CONTRACTOR shall furnish copies of bills of lading, shipping manifests, and other papers showing shipment of materials and/or reports of their receipt.
- (5) All materials furnished for the Work shall be new and from a reputable manufacturer currently engaged in the production of like materials. Any coatings shall be lead-free.

IV-M. MATERIAL FURNISHED BY OTHER CONTRACTORS OR BWL

- (1) If CONTRACTOR's Work includes the installation or use of equipment or materials furnished by the BWL or by other contractors, CONTRACTOR shall notify ENGINEER through its schedule and other

means of the dates that such equipment or materials will be needed to permit delivery in time to avoid delay to the Work.

- (2) The CONTRACTOR shall be responsible for receiving, unloading, inspection, storage, and protection of materials or equipment furnished by the BWL or by other contractors to be installed or used in the Work.

IV-N. CORRECTION OF DEFECTS

CONTRACTOR shall correct or replace all defective materials and workmanship as soon as it is aware of the defect. If the CONTRACTOR fails to promptly proceed with the correction or replacement of defective material and workmanship, the BWL may, within three days, or less as specified by ENGINEER, after providing written notice of the defect, have the defect remedied and charge the cost to the CONTRACTOR, including a deduction from amounts owed.

IV-O. RUBBISH REMOVAL AND CLEANING

- (1) Upon completion of the Work and daily during the performance of the Work, or as directed by ENGINEER, CONTRACTOR shall remove any soils, waste, rubbish, debris or litter, which CONTRACTOR (or its subcontractors) caused, from the Work site.
- (2) CONTRACTOR must properly dispose of the soils, waste, rubbish, debris or litter in accordance with federal and state law and local ordinance.
- (3) If CONTRACTOR fails to comply with this clause, ENGINEER will notify CONTRACTOR of the failure. If such failure continues for twenty-four hours after such notification, ENGINEER may cause such soils, debris, litter, rubbish or waste to be removed at CONTRACTOR's expense.

IV-P. SOIL EROSION AND SEDIMENTATION CONTROL

- (1) The CONTRACTOR shall use construction methods and procedures that will prevent soil from becoming either airborne as dust or waterborne silt and thus transported from the Work site.
- (2) The control of soil erosion and sediment migration is required by Part 91 Soil Erosion and Sedimentation Control, of 1994 PA 451, MCL 324.9101 et seq., as amended, as well as "Part 91 Administrative Rules." All necessary permits, drawings, control measures, and construction methods for the implementation of soil erosion and sedimentation control as prescribed by the State of Michigan, are the responsibility of the CONTRACTOR and permits must be obtained from the BWL. CONTRACTOR should refer to "Guidebook of Best Management Practices for Michigan Watersheds" distributed by the Michigan Department of Environmental Quality. A copy of the CONTRACTOR's Soil Erosion and Sedimentation Control Plan and a copy of its permit shall be submitted to the ENGINEER before beginning the Work. The earth change activities will be inspected and documented by a BWL certified soil erosion agent.

IV-Q. CHANGES IN THE WORK

- (1) The BWL, without invalidating the Contract between the parties, may make a written request for extra work or make changes by altering, adding to, or deducting from the Work, the Contract price and schedule being adjusted accordingly pursuant to this Article. All such Work shall be executed in accordance with the original Contract Documents.
- (2) ENGINEER may require minor changes in the Work if the changes do not involve extra cost and are not inconsistent with the purposes of the Work. Otherwise, except in an emergency endangering life or property, no extra Work or change shall be made except pursuant to a written, authorized Change Order from ENGINEER stating that the BWL has authorized the extra work or change. The written order shall contain the amount of additional compensation, if any. If CONTRACTOR expects additional compensation for a change or an "extra," it must receive written authorization from ENGINEER before performing the Work.
- (3) If CONTRACTOR is unable, through no fault of its own, to install the Work as indicated on the drawings, CONTRACTOR may request a change to the Contract Documents. Any changes to the Contract Documents based on this paragraph must be approved by ENGINEER and any corresponding extra cost approved in accordance with this Article before it is incurred.

- (4) If ENGINEER approves a change, he or she will issue a Change Order, detailing the change in the Work and any corresponding change in time of completion or CONTRACTOR's compensation.
- (5) The cost or credit specified on a Change Order shall be determined in one (1) or more of the following ways, based on the net change of material and labor:
 - (a) By mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit BWL's evaluation;
 - (b) By mutual acceptance of a cost not-to-exceed price supported by sufficient substantiating data to permit BWL's evaluation. For final price determination, CONTRACTOR must maintain and present an itemized account including the time sheets signed by ENGINEER verifying work performance, material, and equipment rental invoices. Any work performed by a subcontractor requires the same itemization and support. ENGINEER shall review the supporting documentation before the final cost is approved; or
 - (c) By unit prices stated in the Contract Documents. Unit prices shall include all labor, supervision, materials, transportation, use of tools and equipment, and all incidental work necessary for completion, including overhead and profit. For final price determination, CONTRACTOR must maintain and present an itemized account of all quantities claimed.
- (6) Cost for changes to the Work shall be limited to the following: cost of materials, cost of labor and superintendence, and the rental cost of equipment and machinery directly attributable to the change. Overhead and profit may be included, but may not be at a higher percentage than specified in the original Contract Documents.
- (7) If the change results in a credit to the BWL, the BWL shall receive the amount of the actual net cost of the change, as confirmed by the BWL. When both additions and credits covering related work or substitutions are involved in any one Change Order, the allowance for overhead and profit shall be figured on the basis of the net increase, if any, with respect to that change.
- (8) Additional costs or credits will be applied to CONTRACTOR's billing only after a Change Order has been issued, approving the change.

IV-R. TESTING AND INSPECTION OF WORK

- (1) The CONTRACTOR must provide BWL and agency inspectors safe and convenient access to the various parts of the Work at the site or elsewhere, and shall cooperate and assist the inspectors.
- (2) The BWL may make inspections or perform tests, without notice, at any time during the progress of the Work. For the purpose of conducting inspections, the ENGINEER shall have free access to the CONTRACTOR's shops and other premises, or the premises of any subcontractors or material dealers, wherever any materials for this Work are being prepared.
- (3) If the Contract Documents, the ENGINEER's instruction, laws, ordinances or any public authority require any Work to be specially tested or approved, the CONTRACTOR shall give the ENGINEER reasonable advanced written notice of its readiness for inspection or test, and, if the inspection or test is by authority other than the ENGINEER, of the date fixed for such inspection. The BWL is not required to consider notices of readiness for inspection from subcontractors.
- (4) Should a scheduled inspection or test, including a final inspection or test, be delayed upon arrival of the BWL's representative or require repetition for any reason for which the CONTRACTOR is responsible, the cost of delayed or subsequent inspection and tests, including the representative's salary and other expenses, shall be at the expense of the CONTRACTOR and be deducted from any money due upon completion of the Contract.
- (5) Required inspections by the ENGINEER will be made in a reasonably timely manner.
- (6) If any Work should be covered up without approval or consent of the ENGINEER, it must, if required by the ENGINEER, be uncovered for inspection at no cost to the BWL.
- (7) Re-examination of questioned Work may be ordered by the ENGINEER. If so ordered, the Work must be uncovered by the CONTRACTOR. If such Work does not comply with the Contract Documents, the CONTRACTOR shall pay the cost to uncover and remedy the Work. For previously examined Work only, CONTRACTOR shall not bear the cost of uncovering and recovering the re-examined Work if the

uncovered Work complies with the Contract Documents or if CONTRACTOR demonstrates that the defect in the Work was caused by others not under its direction or jurisdiction.

IV-S. FINAL TESTING, SUBSTANTIAL COMPLETION, AND FINAL ACCEPTANCE

- (1) To establish Substantial Completion, CONTRACTOR must obtain a final inspection of the Work. A notice for a final inspection must be received by ENGINEER at least 7 to 10 days before the date scheduled for the final inspection. A final inspection shall not be scheduled until the Work is complete, except punch list items. If ENGINEER disagrees with CONTRACTOR's assessment of the Work's completion, ENGINEER shall so notify CONTRACTOR and a mutual agreement will be reached regarding the timing of final inspection.
- (2) If, in ENGINEER's sole discretion, the final inspection is satisfactory, ENGINEER shall issue CONTRACTOR a written notice of Substantial Completion if punch list items remain, or a written notice of Final Acceptance if all Work is complete and satisfactory. However, this notice shall not relieve CONTRACTOR of any obligation referenced in the Contract Documents.
- (3) If punch list items remain after the final inspection, CONTRACTOR will complete the punch list items expediently and thoroughly. All punch list items shall be complete within thirty days of Substantial Completion, unless CONTRACTOR and ENGINEER mutually agree in writing to a longer or shorter schedule. Upon completion of all punch list items, ENGINEER will issue CONTRACTOR a notice of Final Acceptance.

IV-T. AS-BUILT DRAWINGS

Upon Final Acceptance of the Work, after all punch lists are satisfied and before requesting final payment, CONTRACTOR shall submit one (1) hard copy as well as the electronic versions on CD-ROM of all CONTRACTOR's shop drawings and BWL drawings showing "As-Built" conditions and meeting the BWL's color coding requirements.

IV-U. GUARANTEES

- (1) The CONTRACTOR shall guarantee:
 - (a) that all materials and Work for a period of one year from date of written notice of Substantial Completion against:
 - (i) Defects due to poor selection of material.
 - (ii) Defects due to poor material.
 - (iii) Defects due to poor workmanship.
 - (b) Performance shall be in accordance with the specifications or as otherwise specified in the Contract Documents.
- (2) In the event the Work fails to comply with or meet the guarantee, the CONTRACTOR shall proceed at its own expense to rectify faulty material, workmanship or faulty performance and, if CONTRACTOR fails to do so, the BWL may rectify the error at CONTRACTOR's expense.
- (3) If the Work's failure to comply with or meet the guarantee causes direct damage to property owned by the BWL or another contractor, CONTRACTOR shall be responsible for remedying that property damage at its own expense.
- (4) If additional field performance tests are required as a result of CONTRACTOR's failure to comply with or meet the guarantee, CONTRACTOR shall pay the costs of additional tests.
- (5) If such rectification requires a part to be removed, CONTRACTOR shall remove and reinstall the part at its own cost, or shall pay the BWL's costs to remove and reinstall the part. CONTRACTOR shall also bear the cost of any transportation and insurance necessary to meet the guarantee.
- (6) If such rectification entails changes to the work of other contractors, such changes shall be made at CONTRACTOR's expense, and in the event such changes to other contractors' work invalidates the guarantees of other contractors, CONTRACTOR shall provide new guarantees satisfactory to the BWL.

- (7) The BWL reserves the right to operate any equipment which does not conform to specifications, does not operate satisfactorily, or which is rejected for failure to conform with specifications and guarantees, until such equipment is repaired or replaced, without cost to the BWL for repair, replacement, depreciation, use or wear.
- (8) Before final payment, CONTRACTOR must provide ENGINEER a letter of guarantee confirming the effective date and duration of the guarantee.

IV-V. PAYMENTS

- (1) In order to receive any payment, CONTRACTOR must submit an invoice and a sworn statement (affidavit) stating the extent of all amounts owed and payments made to subcontractors and vendors for material, labor, and equipment rentals.
- (2) Upon receipt of the affidavit and the invoice, and in accordance with Article IV(X), Retainage, the BWL will make monthly payments of 90% or more of the value of the Work executed and satisfactorily in place as certified by ENGINEER, less previous payments. No payment will be due or made while any rejected Work or materials remain in place.
- (3) The BWL shall not be required to pay until every part of the Work to the point for which payment is claimed is satisfactorily supplied and executed. The ENGINEER reserves the right to withhold any certification until all required submittals are supplied. The BWL may waive any requirements pertaining to payments without establishing a precedent or affecting the Contract or Bond.
- (4) Upon invoice receipt, after ENGINEER certification, and in accordance with Article IV(X), Retainage, the BWL will pay for non-perishable materials suitably stored at the site, less previous payments. The value of these materials shall not exceed actual cost to CONTRACTOR as substantiated by copies of invoices or information satisfactory to ENGINEER.
- (5) No payment shall be deemed as acceptance of any Work or material that does not conform to the Contract requirements. The final payment shall not constitute an acceptance of any inferior work or material which may later prove to be unsatisfactory.
- (6) CONTRACTOR must invoice the BWL for its final payment within 90 days after the BWL's final acceptance referenced in Article IV(S). If CONTRACTOR fails to invoice the BWL within 90 days, CONTRACTOR's final payment will be forfeited to the BWL and the BWL will have the right to close the Contract without making final payment.

IV-W. PAYMENTS WITHHELD

- (1) The ENGINEER may withhold payment or, on account of subsequently discovered evidence, nullify the whole or part of any certificate of payment to such extent as may be necessary to protect the BWL 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 properly to subcontractors, or for material or labor,
 - (d) A reasonable doubt that the Contract can be completed for the balance then unpaid, or
 - (e) Damage to another contractor.
- (2) Once remedied, payment shall be made for amounts withheld less any amount paid by the BWL for the remedy.

IV-X. RETAINAGE

- (1) For construction Work related, in any way, to the provision of electricity, 10% of the value of the Work and materials will be retained until final completion and BWL acceptance of the Work.
- (2) For construction Work related solely to the BWL's provision of water, steam, or chilled water, 10% of the value of the Work and materials will be retained until the Work is 50% completed, as certified by ENGINEER. Although that retainage will be held until final completion and BWL acceptance, no

additional retainage will be withheld unless ENGINEER determines that CONTRACTOR is not making sufficient progress, or for other specific cause relating to CONTRACTOR's performance under the Contract. If ENGINEER so determines, up to 10% of the total value of the work and materials may be withheld until final completion and acceptance.

- (3) In ENGINEER's sole discretion, payment of a portion of the retained percentage may be made before BWL acceptance if the Contract is substantially completed and the Work is free from all danger resulting from other operations or the Work was put to use by the BWL before final acceptance.
- (4) Before reduction or release of retained reserve, CONTRACTOR shall submit:
 - (a) an affidavit that all material and labor, equipment rental and subcontractor claims have been paid in full with any and all exceptions completely stated;
 - (b) a letter of guarantee confirming the effective date and duration of guarantee in accordance with Article IV(U); and
 - (c) the written consent of the surety company to final payment. The consent from the surety must state that the consent does not relieve the surety of any obligation to the BWL.

ARTICLE V. GENERAL

V-A. ASSIGNMENT

CONTRACTOR shall not sell, assign, or transfer this agreement, or any part of, or interest in, this agreement, without the express written consent of the BWL.

V-B. BWL'S RIGHT TO TERMINATE

- (1) The BWL may terminate this agreement if:
 - (a) CONTRACTOR files for bankruptcy, makes a general assignment for the benefit of his creditors, or if a receiver is appointed;
 - (b) CONTRACTOR persistently or repeatedly refuses or fails to supply enough properly skilled workmen or proper plant or materials, so as to insure the completion of the Work within the time specified,
 - (c) CONTRACTOR abandons the Work or neglects or unreasonably delays its progress,
 - (d) CONTRACTOR fails to promptly adjust labor difficulties, or fails to make prompt payment to subcontractors or suppliers for material or labor,
 - (e) The Work is stopped under order of any court or other public authority for a period of three months,
 - (f) CONTRACTOR persistently or egregiously disregards laws, ordinances, BWL rules and regulations, or the instructions of ENGINEER, including the failure to maintain a safe work environment,
 - (g) CONTRACTOR is in default to the City of Lansing or the BWL, or
 - (h) CONTRACTOR is otherwise guilty, in the judgment of ENGINEER, of a material breach of any provision of the Contract Documents.
- (2) If the ENGINEER declares the happening of any of the events specified in this section, the BWL may, without prejudice to any other right or remedy, and after giving the CONTRACTOR and its surety or sureties three days written notice, terminate the employment of the CONTRACTOR and take possession of the premises and the Work and of all materials, tools, plant and appliances and equipment. The BWL may then finish the Work by whatever method deemed expedient at the CONTRACTOR's expense. In such case, CONTRACTOR shall not be entitled to receive any further payment until the Work is finished. ENGINEER's certification shall be conclusive evidence of the fact of the breach of the Contract Documents by the CONTRACTOR.
- (3) If the unpaid balance of the price specified in the Contract Documents exceeds the expense of finishing the Work, including compensation for additional engineering services, CONTRACTOR shall receive equitable compensation for Work performed before termination. If expenses exceed the unpaid balance, CONTRACTOR shall pay the difference to the BWL. The amount payable by the BWL to CONTRACTOR for the Work done under the Contract, the expense incurred through CONTRACTOR's

default, and the amount owed by either party shall be certified by ENGINEER and shall be conclusive and binding upon the parties.

- (4) The BWL may also terminate this Contract for its own convenience upon thirty days written notice. If the BWL terminates for convenience, however, it shall compensate CONTRACTOR for Work performed and costs incurred through the termination date plus a reasonable profit on the Work performed through the termination date. No payment will be made for future expected profit.

V-C. CONTRACTOR'S RIGHT TO TERMINATE CONTRACT

If the Work should be stopped under an order of the BWL, any court, or other public authority, for a period of three months through no act or fault of the CONTRACTOR or of any one employed by it, CONTRACTOR may terminate this Contract and may, if appropriate and mutually agreeable with the BWL, make a new and separate contract for either continuance or the stoppage of the Work.

V-D. DEFAULT

If either party fails or refuses to substantially perform according to the terms of this Contract, that party shall be declared to be in default by the other party by a written notice and shall be given an opportunity to perform in accordance with the notice. If the default has not been corrected or begun to be corrected within the time specified in the notice, or the defaulting party has ceased to pursue the correction with due diligence, the party declaring default may elect to (a) terminate the agreement and seek damages, or (b) treat the agreement as continuing and require specific performance, or (c) avail itself of any other remedy at law or equity.

V-E. RISK OF LOSS

CONTRACTOR shall be responsible for all risk of loss to materials furnished by, and Work provided by, CONTRACTOR or its Sub-contractors until written notice of Substantial Completion or earlier if agreed mutually in writing with ENGINEER. CONTRACTOR shall also be responsible for all risk of loss to materials and Work provided by the BWL or any other contractor which are to be included in CONTRACTOR's Work or materials and which have been made available to CONTRACTOR.

V-F. ERRORS AND OMISSIONS

The parties recognize that CONTRACTOR's responsibilities pursuant to this Contract may include the exercise of professional engineering skills and discretion. Should it be discovered that CONTRACTOR has made an error or omission in the exercise of that skill or discretion, unless such error or omission is due to incorrect Contract Documents, including drawings, provided to the CONTRACTOR by the BWL, CONTRACTOR will, within a reasonable time of receipt of ENGINEER's notice, promptly take action to rectify such error or omission. In the event that the CONTRACTOR fails to take such prompt action, the BWL may take steps to rectify the error or omission itself including, where necessary, instructing others to carry out the remedial work. CONTRACTOR agrees to bear the direct costs of remedying the error or omission. This cost may include, but is not limited to, the cost of dismantling, re-engineering and re-construction as appropriate. CONTRACTOR is responsible for, and entitled to, any salvage.

V-G. INDEMNIFICATION

CONTRACTOR shall, to the fullest extent allowed by law, defend, indemnify, and hold harmless the BWL, the City of Lansing, their respective officers, agents, employees and insurers against any liability, loss, damage, demand, governmental action, citation, cause of action, or expense of whatever nature (including costs of defense, settlement, court costs and attorney's fees) which may result from any loss, injury, death, or damage (including environmental harm, prevailing wage or patent infringement claim) allegedly sustained by any person, firm, corporation, or other entity, which arises out of or is caused by any act or omission of CONTRACTOR its officers, agents, or employees in connection with or in any way arising out of this Contract. CONTRACTOR's obligations under this paragraph shall survive the expiration or termination of this Contract. This provision shall not be construed so as to require a party to provide indemnity in violation of MCL 691.991.

V-H. TAXES

- (1) The BWL is exempt from the Michigan Sales and Use Taxes for all tangible personal property and services purchased by the BWL for the BWL's use.

- (2) The CONTRACTOR performing work for the BWL, however, is subject to the Use or Sales Tax for all materials, equipment and/or supplies furnished and used which are or become a part of real property.
- (3) Generally, materials and services furnished and installed by the CONTRACTOR under this Contract, which are personal property, and will not become real property, remain exempt from the Use or Sales tax.
- (4) It is CONTRACTOR's responsibility to ascertain whether Sales or Use tax will be applied to the Work and any goods, services and materials used in the Work. No additional compensation will be provided for taxes not included in CONTRACTOR's bid or proposal.

V-I. UNLAWFUL PROVISIONS DEEMED STRICKEN

Any unlawful provision in the Contract Documents shall be deemed stricken but shall not effect the remainder of the agreements contained in the Contract Documents.

V-J. GOVERNING LAW AND VENUE

- (1) The Contract Documents shall be interpreted in accordance with the laws of the State of Michigan, without regard to conflict of laws provisions.
- (2) Venue shall be in Ingham County, Michigan.

V-K. AVAILABILITY OF FUNDS

The BWL certifies that sufficient funds are available and authorized for expenditure to finance costs of this Contract within the current fiscal period. However, the continuation of the Contract, or any extension, after the end of the fiscal period in which it is written, is contingent upon a new appropriation by the BWL's governing body for each succeeding fiscal period. The BWL's fiscal period is from July 1 to June 30.

V-L. FORCE MAJEURE

Neither the BWL nor CONTRACTOR shall be held responsible for any delay or default caused by fire, act of God, riot, terrorist act, other violent act, war, or flood where such cause was beyond the delaying or defaulting party's reasonable control. However, CONTRACTOR shall make all reasonable efforts to remove or eliminate such a cause of delay or default and shall, upon the cessation of the cause, diligently pursue performance or its obligation under this Contract.

V-M. RIGHT TO AUDIT RECORDS

The BWL shall be entitled to audit the books and records of a CONTRACTOR or subcontractor under any BWL contract or subcontract to the extent that such books, documents, papers and records are pertinent to the performance of such contract or subcontract. The CONTRACTOR shall maintain such books and records for a period of three years from the date of final payment under the prime contract and by the subcontractor for a period of three years from the date of final payment under the subcontract.

V-N. NONDISCRIMINATION

CONTRACTOR agrees not to discriminate against an employee or applicant for employment with respect to hire, tenure, terms, conditions, or privileges of employment, or a matter directly or indirectly related to employment, because of race, color, creed, religion, national origin, sex, disability, age, height, weight, veteran status, marital status, or any other reason prohibited by law. A breach of this covenant shall be considered a material breach of contract.

V-O. INDEPENDENT CONTRACTOR

CONTRACTOR shall be, for all purposes, an independent CONTRACTOR and not an employee or agent of the BWL. CONTRACTOR shall not hold itself out as an agent of the BWL or the City of Lansing.

V-P. NOTICE

All notices required or given under this Contract shall be in writing, and shall be deemed effective: (a) when delivered personally to the other party, or (b) seven days after posting in the United States mail, first-class postage prepaid, properly addressed, or (c) when sent by facsimile transmission and receipt is confirmed by return facsimile transmission. All notices to the BWL must be addressed to ENGINEER, with a copy to the Corporate Secretary.

V-Q. CONFLICT

In case of a conflict between these General Requirements and the CONTRACTOR's, or any subcontractor's, standard terms and conditions, these General Requirements shall prevail.

V-R. LIMITATION ON DAMAGES

Neither party shall be liable for indirect, special or consequential damages as a result of the performance or failure to perform according to the Contract Documents. Delay damages as referenced in Article IV(H), however, are specifically excepted from indirect, special, or consequential damages, and must be paid in accordance with Article IV(H).

V-S. FAILURE TO ENFORCE NOT DEEMED WAIVER

The failure to enforce a provision of the Contract Documents shall not be deemed a waiver of that provision and enforcement at a later time is permitted.

END OF GENERAL REQUIREMENTS

IRWD SERVICE REPLACEMENT PROGRAM



