



**THE CITY OF WINNIPEG**

# **TENDER**

**TENDER NO. 928-2022**

**2023 JOHNSON AVENUE WEST PAVEMENT RENEWAL AND MISCELLANEOUS  
WATER MAIN RENEWALS**

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## **PART B - BIDDING PROCEDURES**

### **B1. CONTRACT TITLE**

B1.1 2023 JOHNSON AVENUE WEST PAVEMENT RENEWAL AND MISCELLANEOUS WATER MAIN RENEWALS

### **B2. SUBMISSION DEADLINE**

B2.1 The Submission Deadline is 12:00 noon Winnipeg time, February 9, 2023.

B2.2 The Contract Administrator or the Manager of Materials may extend the Submission Deadline by issuing an addendum at any time prior to the time and date specified in B2.1.

### **B3. SITE INVESTIGATION**

B3.1 Further to C3.1, the Bidder may view the Site without making an appointment.

B3.2 The Bidder is responsible for inspecting the Site, the nature of the Work to be done and all conditions that might affect their Bid or their performance of the Work, and shall assume all risk for conditions existing or arising in the course of the Work which have been or could have been determined through such inspection.

### **B4. ENQUIRIES**

B4.1 All enquiries shall be directed to the Contract Administrator identified in D4.1.

B4.2 If the Bidder finds errors, discrepancies or omissions in the Tender, or is unsure of the meaning or intent of any provision therein, the Bidder shall notify the Contract Administrator of the error, discrepancy or omission, or request a clarification as to the meaning or intent of the provision at least five (5) Business Days prior to the Submission Deadline.

B4.3 Responses to enquiries which, in the sole judgment of the Contract Administrator, require a correction to or a clarification of the Tender will be provided by the Contract Administrator to all Bidders by issuing an addendum.

B4.4 Responses to enquiries which, in the sole judgment of the Contract Administrator, do not require a correction to or a clarification of the Tender will be provided by the Contract Administrator only to the Bidder who made the enquiry.

B4.5 The Bidder shall not be entitled to rely on any response or interpretation received pursuant to B4 unless that response or interpretation is provided by the Contract Administrator in writing.

B4.6 Any enquiries concerning submitting through MERX should be addressed to:  
MERX Customer Support  
Phone: 1-800-964-6379  
Email: merx@merx.com

### **B5. CONFIDENTIALITY**

B5.1 Information provided to a Bidder by the City or acquired by a Bidder by way of further enquiries or through investigation is confidential. Such information shall not be used or disclosed in any way without the prior written authorization of the Contract Administrator. The use and disclosure of the confidential information shall not apply to information which:

- (a) was known to the Bidder before receipt hereof; or
- (b) becomes publicly known other than through the Bidder; or
- (c) is disclosed pursuant to the requirements of a governmental authority or judicial order.

B5.2 The Bidder shall not make any statement of fact or opinion regarding any aspect of the Tender to the media or any member of the public without the prior written authorization of the Contract Administrator.

## **B6. ADDENDA**

B6.1 The Contract Administrator may, at any time prior to the Submission deadline, issue addenda correcting errors, discrepancies or omissions in the Tender, or clarifying the meaning or intent of any provision therein.

B6.2 The Contract Administrator will issue each addendum at least two (2) Business Days prior to the Submission Deadline, or provide at least two (2) Business Days by extending the Submission Deadline.

B6.3 Addenda will be available on the MERX website at [www.merx.com](http://www.merx.com).

B6.4 The Bidder is responsible for ensuring that they have received all addenda and is advised to check the MERX website for addenda regularly and shortly before the Submission Deadline, as may be amended by addendum.

B6.5 The Bidder shall acknowledge receipt of each addendum in Paragraph 10 of Form A: Bid/Proposal. Failure to acknowledge receipt of an addendum may render a Bid non-responsive.

B6.6 Notwithstanding B4, enquiries related to an Addendum may be directed to the Contract Administrator indicated in D4.

## **B7. SUBSTITUTES**

B7.1 The Work is based on the Plant, Materials and methods specified in the Tender.

B7.2 Substitutions shall not be allowed unless application has been made to and prior approval has been granted by the Contract Administrator in writing.

B7.3 Requests for approval of a substitute will not be considered unless received in writing by the Contract Administrator at least five (5) Business Days prior to the Submission Deadline.

B7.4 The Bidder shall ensure that any and all requests for approval of a substitute:

- (a) provide sufficient information and details to enable the Contract Administrator to determine the acceptability of the Plant, Material or method as either an approved equal or alternative;
- (b) identify any and all changes required in the applicable Work, and all changes to any other Work, which would become necessary to accommodate the substitute;
- (c) identify any anticipated cost or time savings that may be associated with the substitute;
- (d) certify that, in the case of a request for approval as an approved equal, the substitute will fully perform the functions called for by the general design, be of equal or superior substance to that specified, is suited to the same use and capable of performing the same function as that specified and can be incorporated into the Work, strictly in accordance with the proposed work schedule and the dates specified in the Supplemental Conditions for Substantial Performance and Total Performance;
- (e) certify that, in the case of a request for approval as an approved alternative, the substitute will adequately perform the functions called for by the general design, be similar in substance to that specified, is suited to the same use and capable of performing the same function as that specified and can be incorporated into the Work, strictly in accordance with the proposed work schedule and the dates specified in the Supplemental Conditions for Substantial Performance and Total Performance.

- B7.5 The Contract Administrator, after assessing the request for approval of a substitute, may in their sole discretion grant approval for the use of a substitute as an “approved equal” or as an “approved alternative”, or may refuse to grant approval of the substitute.
- B7.6 The Contract Administrator will provide a response in writing, at least two (2) Business Days prior to the Submission Deadline, to the Bidder who requested approval of the substitute.
- B7.6.1 The Contract Administrator will issue an Addendum, disclosing the approved materials, equipment, methods and products to all potential Bidders. The Bidder requesting and obtaining the approval of a substitute shall be responsible for disseminating information regarding the approval to any person or persons they wish to inform.
- B7.7 If the Contract Administrator approves a substitute as an “approved equal”, any Bidder may use the approved equal in place of the specified item.
- B7.8 If the Contract Administrator approves a substitute as an “approved alternative”, any Bidder bidding that approved alternative may base their Total Bid Price upon the specified item but may also indicate an alternative price based upon the approved alternative. Such alternatives will be evaluated in accordance with B18.
- B7.9 No later claim by the Contractor for an addition to the Total Bid Price because of any other changes in the Work necessitated by the use of an approved equal or an approved alternative will be considered.

## **B8. BID COMPONENTS**

- B8.1 The Bid shall consist of the following components:
- (a) Form A: Bid;
  - (b) Form B: Prices;
  - (c) Form G1: Bid Bond and Agreement to Bond.
- B8.2 All components of the Bid shall be fully completed or provided, and submitted by the Bidder no later than the Submission Deadline, with all required entries made clearly and completely.
- B8.3 The Bid shall be submitted electronically through MERX at [www.merx.com](http://www.merx.com).
- B8.3.1 Bids will **only** be accepted electronically through MERX.
- B8.4 Bidders are advised that inclusion of terms and conditions inconsistent with the Tender document, including the General Conditions, will be evaluated in accordance with B18.1(a).

## **B9. BID**

- B9.1 The Bidder shall complete Form A: Bid/Proposal, making all required entries.
- B9.2 Paragraph 2 of Form A: Bid/Proposal shall be completed in accordance with the following requirements:
- (a) if the Bidder is a sole proprietor carrying on business in their own name, their name shall be inserted;
  - (b) if the Bidder is a partnership, the full name of the partnership shall be inserted;
  - (c) if the Bidder is a corporation, the full name of the corporation shall be inserted;
  - (d) if the Bidder is carrying on business under a name other than their own, the business name and the name of every partner or corporation who is the owner of such business name shall be inserted.
- B9.2.1 If a Bid is submitted jointly by two or more persons, each and all such persons shall identify themselves in accordance with B9.2.

- B9.3 In Paragraph 3 of Form A: Bid/Proposal, the Bidder shall identify a contact person who is authorized to represent the Bidder for purposes of the Bid.
- B9.4 Paragraph 13 of Form A: Bid/Proposal shall be signed in accordance with the following requirements:
- (a) if the Bidder is a sole proprietor carrying on business in their own name, it shall be signed by the Bidder;
  - (b) if the Bidder is a partnership, it shall be signed by the partner or partners who have authority to sign for the partnership;
  - (c) if the Bidder is a corporation, it shall be signed by their duly authorized officer or officers;
  - (d) if the Bidder is carrying on business under a name other than their own, it shall be signed by the registered owner of the business name, or by the registered owner's authorized officials if the owner is a partnership or a corporation.
- B9.4.1 The name and official capacity of all individuals signing Form A: Bid/Proposal should be entered below such signatures.
- B9.5 If a Bid is submitted jointly by two or more persons, the word "Bidder" shall mean each and all such persons, and the undertakings, covenants and obligations of such joint Bidders in the Bid and the Contract, when awarded, shall be both joint and several.

## **B10. PRICES**

- B10.1 The Bidder shall state a price in Canadian funds for each item of the Work identified on Form B: Prices.
- B10.1.1 Prices stated on Form B: Prices shall not include any costs which may be incurred by the Contractor with respect to any applicable funding agreement obligations as outlined in D36. Any such costs shall be determined in accordance with D36.
- B10.2 The quantities listed on Form B: Prices are to be considered approximate only. The City will use said quantities for the purpose of comparing Bids.
- B10.3 The quantities for which payment will be made to the Contractor are to be determined by the Work actually performed and completed by the Contractor, to be measured as specified in the applicable Specifications.
- B10.4 Payments to Non-Resident Contractors are subject to Non-Resident Withholding Tax pursuant to the Income Tax Act (Canada).
- B10.5 The Bidder shall enter the Total Bid Price from Form B: Prices into the Total Bid Price field in MERX.
- B10.5.1 Bidders are advised that the calculation indicated in B18.4 will prevail over the Total Bid Price entered in MERX.
- B10.6 Form B: Prices is organized into Parts: Part 1 of the Work and Part 2 of the Work. Bidders shall provide a total price for each Part and, on the summary sheet, a Total Bid Price consisting of the sum of prices for Part 1 and Part 2.

## **B11. DISCLOSURE**

- B11.1 Various Persons provided information or services with respect to this Work. In the City's opinion, this relationship or association does not create a conflict of interest because of this full disclosure. Where applicable, additional material available as a result of contact with these Persons is listed below.
- B11.2 The Persons are:

- (a) Bayview Construction Ltd. performed hydro-vac services during design to identify the depth of various utilities.

## **B12. CONFLICT OF INTEREST AND GOOD FAITH**

B12.1 Further to C3.2, Bidders, by responding to this Tender, declare that no Conflict of Interest currently exists, or is reasonably expected to exist in the future.

B12.2 Conflict of Interest means any situation or circumstance where a Bidder or employee of the Bidder proposed for the Work has:

- (a) other commitments;
- (b) relationships;
- (c) financial interests; or
- (d) involvement in ongoing litigation;

that could or would be seen to:

- (i) exercise an improper influence over the objective, unbiased and impartial exercise of the independent judgment of the City with respect to the evaluation of Bids or award of the Contract; or
  - (ii) compromise, impair or be incompatible with the effective performance of a Bidder's obligations under the Contract;
- (e) has contractual or other obligations to the City that could or would be seen to have been compromised or impaired as a result of their participation in the Tender process or the Work; or
  - (f) has knowledge of confidential information (other than confidential information disclosed by the City in the normal course of the Tender process) of strategic and/or material relevance to the Tender process or to the Work that is not available to other bidders and that could or would be seen to give that Bidder an unfair competitive advantage.

B12.3 In connection with their Bid, each entity identified in B12.2 shall:

- (a) avoid any perceived, potential or actual Conflict of Interest in relation to the procurement process and the Work;
- (b) upon discovering any perceived, potential or actual Conflict of Interest at any time during the Tender process, promptly disclose a detailed description of the Conflict of Interest to the City in a written statement to the Contract Administrator; and
- (c) provide the City with the proposed means to avoid or mitigate, to the greatest extent practicable, any perceived, potential or actual Conflict of Interest and shall submit any additional information to the City that the City considers necessary to properly assess the perceived, potential or actual Conflict of Interest.

B12.4 Without limiting B12.3, the City may, in their sole discretion, waive any and all perceived, potential or actual Conflicts of Interest. The City's waiver may be based upon such terms and conditions as the City, in their sole discretion, requires to satisfy itself that the Conflict of Interest has been appropriately avoided or mitigated, including requiring the Bidder to put into place such policies, procedures, measures and other safeguards as may be required by and be acceptable to the City, in their sole discretion, to avoid or mitigate the impact of such Conflict of Interest.

B12.5 Without limiting B12.3, and in addition to all contractual or other rights or rights at law or in equity or legislation that may be available to the City, the City may, in their sole discretion:

- (a) disqualify a Bidder that fails to disclose a perceived, potential or actual Conflict of Interest of the Bidder or any of their employees proposed for the Work;
- (b) require the removal or replacement of any employees proposed for the Work that has a perceived, actual or potential Conflict of Interest that the City, in their sole discretion, determines cannot be avoided or mitigated;

- (c) disqualify a Bidder or employees proposed for the Work that fails to comply with any requirements prescribed by the City pursuant to B12.4 to avoid or mitigate a Conflict of Interest; and
- (d) disqualify a Bidder if the Bidder, or one of their employees proposed for the Work, has a perceived, potential or actual Conflict of Interest that, in the City's sole discretion, cannot be avoided or mitigated, or otherwise resolved.

B12.6 The final determination of whether a perceived, potential or actual Conflict of Interest exists shall be made by the City, in their sole discretion.

### **B13. QUALIFICATION**

B13.1 The Bidder shall:

- (a) undertake to be in good standing under The Corporations Act (Manitoba), or properly registered under The Business Names Registration Act (Manitoba), or otherwise properly registered, licensed or permitted by law to carry on business in Manitoba; and
- (b) be financially capable of carrying out the terms of the Contract; and
- (c) have all the necessary experience, capital, organization, and equipment to perform the Work in strict accordance with the terms and provisions of the Contract.

B13.2 The Bidder and any proposed Subcontractor (for the portion of the Work proposed to be subcontracted to them) shall:

- (a) be responsible and not be suspended, debarred or in default of any obligations to the City. A list of suspended or debarred individuals and companies is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <https://www.winnipeg.ca/matmgt/Templates/files/debar.pdf>

B13.3 The Bidder and/or any proposed Subcontractor (for the portion of the Work proposed to be subcontracted to them) shall:

- (a) have successfully carried out work similar in nature, scope and value to the Work; and
- (b) be fully capable of performing the Work required to be in strict accordance with the terms and provisions of the Contract; and
- (c) have a written workplace safety and health program if required pursuant to The Workplace Safety and Health Act (Manitoba);
- (d) have completed the Accessible Customer Service online training required by the Accessibility for Manitobans Act (AMA) (see B13.5 and D6)

B13.4 Further to B13.3(c), the Bidder shall, within five (5) Business Days of a request by the Contract Administrator, provide proof satisfactory to the Contract Administrator that the Bidder/Subcontractor has a workplace safety and health program meeting the requirements of The Workplace Safety and Health Act (Manitoba), by providing:

- (a) Written confirmation of a safety and health certification meeting SAFE Work Manitoba's SAFE Work Certified Standard (e.g., COR™ and SECOR™) in the form of:
  - (i) a copy of their valid Manitoba COR certificate and Letter of Good Standing (or Manitoba equivalency) as issued under the Certificate of Recognition (COR) Program administered by the Construction Safety Association of Manitoba or by the Manitoba Heavy Construction Association's WORKSAFELY™ COR™ Program; or
  - (ii) a copy of their valid Manitoba SECOR™ certificate and Letter of Good Standing (or Manitoba equivalency) as issued under the Small Employer Certificate of Recognition Program (SECOR™) administered by the Construction Safety Association of Manitoba or by the Manitoba Heavy Construction Association's WORKSAFELY™ COR™ Program; or
- (b) a report or letter to that effect from an independent reviewer acceptable to the City. (A list of acceptable reviewers and the review template are available on the Information

Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/>.

- B13.5 Further to B13.3(d), the Bidder acknowledges they and all Subcontractors have obtained training required by the Accessibility for Manitobans Act (AMA) available at <http://www.accessibilitymb.ca/training.html> for anyone that may have any interaction with the public on behalf of the City of Winnipeg.
- B13.6 The Bidder shall submit, within three (3) Business Days of a request by the Contract Administrator, proof satisfactory to the Contract Administrator of the qualifications of the Bidder and of any proposed Subcontractor.
- B13.7 The Bidder shall provide, on the request of the Contract Administrator, full access to any of the Bidder's equipment and facilities to confirm, to the Contract Administrator's satisfaction, that the Bidder's equipment and facilities are adequate to perform the Work.

#### **B14. BID SECURITY**

- B14.1 The Bidder shall include in their Bid Submission bid security in the form of a digital bid bond, in the amount of at least ten percent (10%) of the Total Bid Price, and agreement to bond of a company registered to conduct the business of a surety in Manitoba, in Form G1: Bid Bond and Agreement to Bond, available on The City of Winnipeg, Corporate Finance, Materials Management Division website at <https://www.winnipeg.ca/MatMgt/templates/files/eBidsecurity.pdf>.
- B14.2 Bid security shall be submitted in a digital format meeting the following criteria:
- (a) The version submitted by the Bidder must have valid digital signatures and seals;
  - (b) The version submitted by the Bidder must be verifiable by the City with respect to the totality and wholeness of the bond form, including: the content; all digital signatures and digital seals; with the surety company, or an approved verification service provider of the surety company.
  - (c) The version submitted must be viewable, printable and storable in standard electronic file formats compatible with the City, and in a single file. Allowable formats include pdf.
  - (d) The verification may be conducted by the City immediately or at any time during the life of the bond and at the discretion of the City with no requirement for passwords or fees.
  - (e) The results of the verification must provide a clear, immediate and printable indication of pass or fail regarding B14.2(a).
- B14.3 Bonds failing the verification process will not be considered to be valid and the bid shall be determined to be non-responsive in accordance with B18.1(a).
- B14.4 Bonds passing the verification process will be treated as original and authentic.
- B14.4.1 If the Bidder submits alternative bids, the bid security shall be in the amount of the specified percentage of the highest Total Bid Price submitted.
- B14.5 The bid security of the successful Bidder and the next two lowest evaluated responsive and responsible Bidders will be released by the City when a Contract for the Work has been duly formed with the successful Bidder and the contract securities are furnished as provided herein. The bid securities of all other Bidders will be released when a Contract is awarded.
- B14.6 The bid securities of all Bidders will be released by the City as soon as practicable following notification by the Contract Administrator to the Bidders that no award of Contract will be made pursuant to the Tender.

#### **B15. OPENING OF BIDS AND RELEASE OF INFORMATION**

- B15.1 Bids will not be opened publicly.

- B15.2 Following the submission deadline, the names of the Bidders and their Total Bid Prices (unevaluated, and pending review and verification of conformance with requirements) will be available on the MERX website at [www.merx.com](http://www.merx.com).
- B15.3 After award of Contract, the name(s) of the successful Bidder(s) and their Contract amount(s) will be available on the MERX website at [www.merx.com](http://www.merx.com).
- B15.4 The Bidder is advised that any information contained in any Bid may be released if required by The Freedom of Information and Protection of Privacy Act (Manitoba), by other authorities having jurisdiction, or by law or by City policy or procedures (which may include access by members of City Council).
- B15.4.1 To the extent permitted, the City shall treat as confidential information, those aspects of a Bid Submission identified by the Bidder as such in accordance with and by reference to Part 2, Section 17 or Section 18 or Section 26 of The Freedom of Information and Protection of Privacy Act (Manitoba), as amended.

**B16. IRREVOCABLE BID**

- B16.1 The Bid(s) submitted by the Bidder shall be irrevocable for the time period specified in Paragraph 11 of Form A: Bid/Proposal.
- B16.2 The acceptance by the City of any Bid shall not release the Bids of the next two lowest evaluated responsive Bidders and these Bidders shall be bound by their Bids on such Work until a Contract for the Work has been duly formed and the contract securities have been furnished as herein provided, but any Bid shall be deemed to have lapsed unless accepted within the time period specified in Paragraph 11 of Form A: Bid/Proposal.

**B17. WITHDRAWAL OF BIDS**

- B17.1 A Bidder may withdraw their Bid without penalty prior to the Submission Deadline.

**B18. EVALUATION OF BIDS**

- B18.1 Award of the Contract shall be based on the following bid evaluation criteria:
- (a) compliance by the Bidder with the requirements of the Tender, or acceptable deviation therefrom (pass/fail);
  - (b) qualifications of the Bidder and the Subcontractors, if any, pursuant to B13 (pass/fail);
  - (c) Total Bid Price;
  - (d) economic analysis of any approved alternative pursuant to B7.
- B18.2 Further to B18.1(a), the Award Authority may reject a Bid as being non-responsive if the Bid is incomplete, obscure or conditional, or contains additions, deletions, alterations or other irregularities. The Award Authority may reject all or any part of any Bid, or waive technical requirements or minor informalities or irregularities, if the interests of the City so require.
- B18.2.1 Any bid with an apparent imbalance between the unit prices in Part 1 and Part 2 may be determined to be non-responsive and rejected by the Award Authority in their sole discretion, acting reasonably.
- B18.3 Further to B18.1(b), the Award Authority shall reject any Bid submitted by a Bidder who does not demonstrate, in their Bid or in other information required to be submitted, that they are qualified.
- B18.4 Further to B18.1(c), the Total Bid Price shall be the sum of the quantities multiplied by the unit prices for each item shown on Form B: Prices.

- B18.4.1 Further to B18.1(a), in the event that a unit price is not provided on Form B: Prices, the City may determine the unit price by dividing the Amount (extended price) by the approximate quantity, for the purposes of evaluation and payment.
- B18.4.2 Bidders are advised that the calculation indicated in B18.4 will prevail over the Total Bid Price entered in MERX.

**B19. AWARD OF CONTRACT**

- B19.1 The City will give notice of the award of the Contract or will give notice that no award will be made.
- B19.2 The City will have no obligation to award a Contract to a Bidder, even though one or all of the Bidders are determined to be qualified, and the Bids are determined to be responsive.
- B19.2.1 Without limiting the generality of B19.2, the City will have no obligation to award a Contract where:
- (a) the prices exceed the available City funds for the Work;
  - (b) the prices are materially in excess of the prices received for similar work in the past;
  - (c) the prices are materially in excess of the City's cost to perform the Work, or a significant portion thereof, with their own forces;
  - (d) only one Bid is received; or
  - (e) in the judgment of the Award Authority, the interests of the City would best be served by not awarding a Contract.
- B19.3 If funding for the Work is provided to the City of Winnipeg by the Government of Manitoba and/or the Government of Canada, Bidders are advised that the terms of D36 shall immediately take effect upon confirmation of such funding, regardless of when funding is confirmed.
- B19.4 Where an award of Contract is made by the City, the award shall be made to the qualified Bidder submitting the lowest evaluated responsive Bid, in accordance with B18.
- B19.5 As noted in D3 and identified in Form B: Prices, the Work of Part 2 will be contingent upon the Province approving funding for the Work. If sufficient funding for Part 2 Work is not approved by the Province the City shall have the right to eliminate all or any portion of Part 2 Work in accordance with D2.

## **PART C - GENERAL CONDITIONS**

### **C0. GENERAL CONDITIONS**

- C0.1 The *General Conditions for Construction* (Revision 2020-01-31) are applicable to the Work of the Contract.
- C0.1.1 The *General Conditions for Construction* are available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at [http://www.winnipeg.ca/matmgt/gen\\_cond.stm](http://www.winnipeg.ca/matmgt/gen_cond.stm)
- C0.2 A reference in the Tender to a section, clause or subclause with the prefix “**C**” designates a section, clause or subclause in the *General Conditions for Construction*.

## **PART D - SUPPLEMENTAL CONDITIONS**

### **GENERAL**

#### **D1. GENERAL CONDITIONS**

D1.1 In addition to the General Conditions for Construction, these Supplemental Conditions are applicable to the Work of the Contract.

#### **D2. FORM OF CONTRACT DOCUMENTS**

D2.1 Notwithstanding C4.1(c) and C4.4, the Contract Documents will be provided to the Contractor electronically and there will be no requirement for execution and return to the City by the Contractor. Accordingly, the provisions under C4.4(a) and C4.4(b) are no longer applicable.

#### **D3. SCOPE OF WORK**

D3.1 The Work to be done under the Contract shall consist of two parts:

- (a) Part 1 – City Funded Work
- (b) Part 2 – Manitoba Hydro Funded Work.

##### **Part 1 – City Funded Work**

D3.2 Part 1 – City Funded Work shall consist of:

- (a) Concrete Pavement Reconstruction
  - (i) Johnson Avenue West from Henderson Hwy to Levis Street
- (b) Watermain Renewal
  - (i) Johnson Avenue W from Henderson Hwy to mid-block between Brazier St and Roch St.
  - (ii) Brazier Street from Gordon Avenue to Chalmers Avenue
  - (iii) Levis Street from Poplar Ave/Johnson Ave W alley to Watt Street
  - (iv) Watt Street from 80.0m NNL Thames Avenue to Chalmers Avenue

##### **Part 2 – Manitoba Hydro Funded Work**

D3.3 Part 2 – Manitoba Hydro Funded Work shall consist of:

- (a) Street Lighting Renewal
  - (i) Johnson Avenue West from Henderson Hwy to Levis Street

D3.4 The City currently has no approved funding in the Capital Budget for Part 2 of the Work, but is anticipating receiving notification about funding from Manitoba Hydro by late May. Part 2 of the Work is contingent upon Manitoba Hydro approving sufficient funding.

D3.4.1 Further to C7.1, if notice of sufficient funding is not received, the City shall have the right to eliminate all or any portion of Part 2, and the Contract Price will be reduced accordingly.

D3.4.2 Further to C7.5, C7.5.1, and C7.6, a reduction in the Contract Price pursuant to D3.4.1 shall not be considered in calculating the aggregate reduction in the Contract Price for purposes of C7.5.

D3.4.3 If all or any portion of Part 2 is eliminated pursuant to D3.4.1, the time periods stipulated in D23 for Substantial Performance of the Work and in D24 for Total Performance of the Work will be reduced proportionally by the Contract Administrator acting reasonably.

D3.5 The major components of the Work are as follows:

(a) Concrete Pavement Reconstruction

- (i) Installation of Catch Basins and connecting Sewer Pipes;
- (ii) Pavement Removal;
- (iii) Trolley Track Concrete Bedding and Rail Tie Removal;
- (iv) Excavation;
- (v) Subgrade compaction;
- (vi) Installation of Subdrains;
- (vii) Insulation of Water Services;
- (viii) Placement of Geotextile Fabric;
- (ix) Placement of Sub-Base and Base Course material;
- (x) Placement of Geogrid;
- (xi) Construction of 230 mm Concrete Pavement (plain-dowelled) with slip form paving equipment;
- (xii) Construction of 180 mm Barrier Curb with slip form paving equipment;
- (xiii) Construction of 180 mm Modified Barrier Curb at radii;
- (xiv) Construction of Ramp Curbs;
- (xv) Installation of Detectable Warning Tiles;
- (xvi) Construction of 150 mm – 200 mm Concrete Approaches (reinforced);
- (xvii) Construction of Asphalt tie ins;
- (xviii) Sidewalk Removal;
- (xix) Construction of 100 mm concrete sidewalk;
- (xx) Installation of MMA marking for sidewalk way-finding banding;
- (xxi) Adjustment of existing Catch Basins, Manholes and Appurtenances;
- (xxii) Modification to existing Overhead Sign Structure;
- (xxiii) Restoration of Boulevard;
- (xxiv) Installation of Traffic Signals Conduit, Concrete Bases; Service Boxes and Ground Rods; and
- (xxv) Removal of Concrete Bases.

(b) Water Main Renewal

- (i) Installation of 150 mm and 200 mm PVC Pipe;
- (ii) Installation of Hydrant Assemblies, Gate Valves, and Other Appurtenances;
- (iii) Reconnection of Water Services;
- (iv) Tie into existing Water Mains;
- (v) Removal of existing Hydrants;
- (vi) Abandonment of existing Gate Valves;
- (vii) Flushing Hydrostatic Leakage Testing, and Disinfection of new Water Main; and
- (viii) Restoration of Pavement and Sidewalk.

(c) Street Lighting Renewals

- (i) Component Removal of existing street light poles and bases; and
- (ii) Installation of conduit, bases and poles.

#### **D4. CONTRACT ADMINISTRATOR**

D4.1 The Contract Administrator is WSP, represented by:

Scott Minty, P. Eng.  
Senior Project Manager

Telephone No. 204 204-781-5518  
Email Address Scott.Minty@wsp.com

D4.2 At the pre-construction meeting, Scott Minty, P. Eng. will identify additional personnel representing the Contract Administrator and their respective roles and responsibilities for the Work.

#### **D5. CONTRACTOR'S SUPERVISOR**

D5.1 At the pre-construction meeting, the Contractor shall identify their designated supervisor and any additional personnel representing the Contractor and their respective roles and responsibilities for the Work.

D5.2 At least two (2) Business Days prior to the commencement of any Work on the site, the Contractor shall provide the Contract Administrator with a phone number where the supervisor identified in D5.1 or an alternate can be contacted twenty-four (24) hours a day to respond to an emergency.

#### **D6. ACCESSIBLE CUSTOMER SERVICE REQUIREMENTS**

D6.1 The Accessibility for Manitobans Act (AMA) imposes obligations on The City of Winnipeg to provide accessible customer service to all persons in accordance with the Customer Service Standard Regulation ("CSSR") to ensure inclusive access and participation for all people who live, work or visit Winnipeg regardless of their abilities.

D6.1.1 The Contractor agrees to comply with the accessible customer service obligations under the CSSR and further agrees that when providing the Goods or Services or otherwise acting on the City of Winnipeg's behalf, shall comply with all obligations under the AMA applicable to public sector bodies.

D6.1.2 The accessible customer service obligations include, but are not limited to:

- (a) providing barrier-free access to goods and services;
- (b) providing reasonable accommodations;
- (c) reasonably accommodating assistive devices, support persons, and support animals;
- (d) providing accessibility features e.g. ramps, wide aisles, accessible washrooms, power doors and elevators;
- (e) inform the public when accessibility features are not available;
- (f) providing a mechanism or process for receiving and responding to public feedback on the accessibility of all goods and services; and
- (g) providing adequate training of staff and documentation of same.

#### **D7. UNFAIR LABOUR PRACTICES**

D7.1 Further to C3.2, the Contractor declares that in bidding for the Work and in entering into this Contract, the Contractor and any proposed Subcontractor(s) conduct their respective business in accordance with established international codes embodied in United Nations Universal Declaration of Human Rights (UDHR) <https://www.un.org/en/about-us/universal-declaration-of-human-rights> International Labour Organization (ILO) [https://www.ilo.org/global/lang--en/index.htm](https://www.ilo.org/global/lang-en/index.htm) conventions as ratified by Canada.

- D7.2 The City of Winnipeg is committed and requires its Contractors and their Subcontractors, to be committed to upholding and promoting international human and labour rights, including fundamental principles and rights at work covered by ILO eight (8) fundamental conventions and the United Nations Universal Declaration of Human Rights which includes child and forced labour.
- D7.3 Upon request from the Contract Administrator, the Contractor shall provide disclosure of the sources (by company and country) of the raw materials used in the Work and a description of the manufacturing environment or processes (labour unions, minimum wages, safety, etc.).
- D7.4 Failure to provide the evidence required under D7.3, may be determined to be an event of default in accordance with C18.
- D7.5 In the event that the City, in its sole discretion, determines the Contractor to have violated the requirements of this section, it will be considered a fundamental breach of the Contract and the Contractor shall pay to the City a sum specified by the Contract Administrator in writing (“Unfair Labour Practice Penalty”). Such a violation shall also be considered an Event of Default, and shall entitle the City to pursue all other remedies it is entitled to in connection with same pursuant to the Contract.
- D7.5.1 The Unfair Labour Practice Penalty shall be such a sum as determined appropriate by the City, having due regard to the gravity of the Contractor’s violation of the above requirements, any cost of obtaining replacement goods/ services or rectification of the breach, and the impact upon the City’s reputation in the eyes of the public as a result of same.
- D7.5.2 The Contractor shall pay the Unfair Labour Practice Penalty to the City within thirty (30) Calendar Days of receiving a demand for same in accordance with clause D7.5. The City may also hold back the amount of the Unfair Labour Practice Penalty from payment for any amount it owes the Contractor.
- D7.5.3 The obligations and rights conveyed by this clause survive the expiry or termination of this Contract, and may be exercised by the City following the performance of the Work, should the City determine, that a violation by the Contractor of the above clauses has occurred following same. In no instance shall the Unfair Labour Practice Penalty exceed the total of twice the Contract value.

## **D8. FURNISHING OF DOCUMENTS**

- D8.1 Upon award of the Contract, the Contractor will be provided with ‘issued for construction’ Contract Documents electronically, including Drawings in PDF format only.

## **SUBMISSIONS**

### **D9. AUTHORITY TO CARRY ON BUSINESS**

- D9.1 The Contractor shall be in good standing under The Corporations Act (Manitoba), or properly registered under The Business Names Registration Act (Manitoba), or otherwise properly registered, licensed or permitted by law to carry on business in Manitoba, or if the Contractor does not carry on business in Manitoba, in the jurisdiction where the Contractor does carry on business, throughout the term of the Contract, and shall provide the Contract Administrator with evidence thereof upon request.

### **D10. SAFE WORK PLAN**

- D10.1 The Contractor shall provide the Contract Administrator with a Safe Work Plan at least five (5) Business Days prior to the commencement of any Work on the Site but in no event later than the date specified in C4.1 for the return of the executed Contract Documents, if applicable.

D10.2 The Safe Work Plan shall be prepared and submitted in the format shown in the City's template which is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/safety/default.stm>

D10.3 Notwithstanding B13.4 at any time during the term of the Contract, the City may, at their sole discretion and acting reasonably, require an updated COR Certificate or Annual Letter of good Standing. A Contractor, who fails to provide a satisfactory COR Certificate or Annual Letter of good Standing, will not be permitted to continue to perform any Work.

## **D11. INSURANCE**

D11.1 The Contractor shall provide and maintain the following insurance coverage:

- (a) commercial general liability insurance, in the amount of at least two million dollars (\$2,000,000.00) inclusive, with the City and Manitoba and its Ministers, officers, employees and agents added as additional insureds, with a cross-liability clause. Such liability policy to also contain contractual liability, unlicensed motor vehicle liability, non-owned automobile liability, broad form property damage cover and products and completed operations, to remain in place at all times during the performance of the Work and throughout the warranty period;
- (b) automobile liability insurance covering all motor vehicles, owned and operated and used or to be used by the Contractor directly or indirectly in the performance of the Work. The limit of liability shall not be less than \$5,000,000 inclusive for loss or damage including personal injuries and death resulting from any one accident or occurrence;
- (c) an all risks Installation Floater carrying adequate limits to cover all machinery, equipment, supplies and/or materials intended to enter into and form part of any installation.

D11.2 Deductibles shall be borne by the Contractor.

D11.3 All policies shall be taken out with insurers licensed in the Province of Manitoba.

D11.4 All Subcontractors performing Work on the Project shall provide the Contractor with evidence of insurance as outlined in D11.1 (a) and (b) above and be registered with Workers Compensation Board of Manitoba and maintain insurance and workers compensation coverage throughout the performance of the Work. The Contractor shall provide the Contract Administrator with evidence of same prior to the commencement of any Work.

D11.5 The Contractor shall provide the City Solicitor with a certificate(s) of insurance for the City and Manitoba, in a form satisfactory to the City Solicitor, at least two (2) Business Days prior to the commencement of any Work but in no event later than the date specified in the C4.1 for the return of the executed Contract Documents, as applicable.

D11.6 The Contractor shall not cancel, materially alter, or cause each policy to lapse without providing at least thirty (30) Calendar Days prior written notice to the Contract Administrator.

## **D12. CONTRACT SECURITY**

D12.1 The Contractor shall provide and maintain the performance bond and the labour and material payment bond until the expiration of the warranty period in the form of:

- (a) a performance bond of a company registered to conduct the business of a surety in Manitoba, in the form attached to these Supplemental Conditions (Form H1: Performance Bond), in the amount of fifty percent (50%) of the Contract Price; and
- (b) a labour and material payment bond of a company registered to conduct the business of a surety in Manitoba, in the form attached to these Supplemental Conditions (Form H2: Labour and Material Payment Bond), in an amount equal to fifty percent (50%) of the Contract Price.

- D12.1.1 Where the contract security is a performance bond, it may be submitted in hard copy or digital format. If submitted in digital format the contract security must meet the following criteria:
- (a) the version submitted by the Contractor must have valid digital signatures and seals;
  - (b) the version submitted by the Contractor must be verifiable by the City with respect to the totality and wholeness of the bond form, including: the content; all digital signatures and digital seals; with the surety company, or an approved verification service provider of the surety company.
  - (c) the version submitted must be viewable, printable and storable in standard electronic file formats compatible with the City, and in a single file. Allowable formats include pdf.
  - (d) the verification may be conducted by the City immediately or at any time during the life of the bond and at the discretion of the City with no requirement for passwords or fees.
  - (e) the results of the verification must provide a clear, immediate and printable indication of pass or fail regarding D12.1(b).
- D12.1.2 Digital bonds failing the verification process will not be considered to be valid and may be determined to be an event of default in accordance with C18.1. If a digital bond fails the verification process, the Contractor may provide a replacement bond (in hard copy or digital format) within seven (7) Calendar Days of the City's request or within such greater period of time as the City in their discretion, exercised reasonably, allows.
- D12.1.3 Digital bonds passing the verification process will be treated as original and authentic.
- D12.2 The Contractor shall provide the Contract Administrator identified in D4 with the required performance and labour and material payment bonds within seven (7) Calendar Days of notification of the award of the Contract by way of an award letter and prior to the commencement of any Work on the Site but in no event later than the date specified in C4.1 for the return of the executed Contract Documents, if applicable.
- D12.3 The Contractor shall, as soon as practicable after entering into a contract with a Subcontractor:
- (a) give the Subcontractor written notice of the existence of the labour and material payment bond in D12.1(b); and
  - (b) post a notice of the bond and/or a copy of that bond in a conspicuous location at the Site of the Work.

### **D13. SUBCONTRACTOR LIST**

- D13.1 The Contractor shall provide the Contract Administrator with a complete list of the Subcontractors whom the Contractor proposes to engage (Form J: Subcontractor List) at or prior to a pre-construction meeting, or at least fifteen (15) Business Days prior to the commencement of any Work on the Site but in no event later than the date specified in the C4.1 for the return of the executed Contract Documents, if applicable.

### **D14. EQUIPMENT LIST**

- D14.1 The Contractor shall provide the Contract Administrator with a complete list of the equipment which the Contractor proposes to utilize (Form K: Equipment List) at or prior to a pre-construction meeting, or at least two (2) Business Days prior to the commencement of any Work on the Site but in no event later than the date specified in the C4.1 for the return of the executed Contract Documents, if applicable.

## **D15. DETAILED WORK SCHEDULE**

- D15.1 The Contractor shall provide the Contract Administrator with a detailed work schedule at least ten (10) Business Days prior to the commencement of any Work on the Site but in no event later than the date specified in the General Conditions for the return of the executed Contract Documents, as applicable.
- D15.2 If, after submitting the Detailed Work Schedule, the Contractor receives notification that all or a ny portion of Part 2 of the Work may be commenced, they shall submit a revised Detailed Work Schedule no later than two (2) Business Days from receipt of the notification.
- D15.3 The detailed work schedule shall consist of the following:
- (a) a Gantt chart for the Work showing the critical path;  
all acceptable to the Contract Administrator.
- D15.4 Further to D15.3(a) the Gantt chart shall clearly identify the start and completion dates of all of the following activities/tasks making up the Work as well as showing those activities/tasks on the critical path:
- D15.5 Further to D15.3(a), the Gantt chart shall show the time on a weekly basis, required to carry out the Work of each trade, or specification division. The time shall be on the horizontal axis, and the type of trade shall be on the vertical axis.

## **D16. REQUIREMENTS FOR SITE ACCESSIBILITY PLAN**

- D16.1 The Contractor shall provide the Contract Administrator with an Accessibility Plan at least five (5) Business Days prior to the commencement of any Work on the Site but in no event later than the date specified in C4.1 for the return of the executed Contract Documents, if applicable.
- D16.2 The Accessibility Plan shall demonstrate how the Contractor will accommodate the safe passage of pedestrians and cyclists in accordance with the Manual of Temporary Traffic Control, the Contract Drawings, Staging Plans, and Streets By-Law No. 1481/77 at all times for the duration of the Construction. Unless noted in the Contract, the Accessibility Plan must include a written plan for the following:
- (a) How the Contractor will maintain at least one crossing in each direction for each intersection (one north/south crosswalk and one east/west crosswalk).
  - (b) How the Contractor will maintain access to bus stops within the site, when required.
  - (c) How the Contractor will maintain access to pedestrian corridors.
  - (d) How the Contractor will maintain access to residents and businesses unless otherwise noted in the Contract.
  - (e) Any required detour signage at adjacent crossings to facilitate sidewalk closures.
- D16.3 The Accessibility Plan may also include figures, sketches, or drawings to demonstrate the proposed plan.
- D16.4 The Accessibility Plan shall include written details on how the Contractor intends to review, maintain, and document all items related to the Accessibility Plan on-site during Construction, including, but not limited to:
- (a) Signage
  - (b) Temporary Ramping
  - (c) Transit Stops
  - (d) Detour Signage
- D16.5 At minimum, the Contractor shall review the site conditions on a daily basis to ensure that all features related to the Accessibility Plan are in place. The site review is intended to correct

deficiencies as a result of unforeseen events such as wind, traffic, or the general public. Deficiencies that are direct result of the Contractors actions must be corrected immediately.

- D16.6 Any changes to the Accessibility Plan must be approved by the Contract Administrator.
- D16.7 Upon request from the Contract Administrator, the Contractor shall provide records demonstrating that the site has been maintained.
- D16.8 Deficiencies as a direct result of actions by the Contractor that are not immediately corrected and/or failure to produce records that demonstrate that the site was maintained in compliance with the Accessibility Plan may result in a pay adjustment via the monthly Progress Payment. The rate of pay adjustment will be as per the following schedule:
- (a) First Offence – A warning will be issued and documented in the weekly or bi-weekly site meeting.
  - (b) Second Offence – A field instruction to immediately correct the site will be issued by the Contract Administrator.
  - (c) Third and subsequent Offences – A pay reduction will be issued in the amount of \$250.00 per instance and per day.

## **SCHEDULE OF WORK**

### **D17. COMMENCEMENT**

- D17.1 The Contractor shall not commence any Work until they are in receipt of an award letter from the Award Authority authorizing the commencement of the Work.
- D17.2 The Contractor shall not commence any Work on the Site until:
- (a) the Contract Administrator has confirmed receipt and approval of:
    - (i) evidence of authority to carry on business specified in D9;
    - (ii) evidence of the workers compensation coverage specified in C6.15;
    - (iii) the twenty-four (24) hour emergency response phone number specified in D5.2.
    - (iv) the Safe Work Plan specified in D10;
    - (v) evidence of the insurance specified in D11;
    - (vi) the contract security specified in D12;
    - (vii) the subcontractor list specified in D13;
    - (viii) the equipment list specified in D14;
    - (ix) the detailed work schedule specified in D15;
    - (x) the Requirements for Site Accessibility Plan specified in D16; and
    - (xi) the direct deposit application form specified in D32
  - (b) the Contractor has attended a pre-construction meeting with the Contract Administrator, or the Contract Administrator has waived the requirement for a pre-construction meeting. The pre-construction meeting is shall occur a maximum fifteen (15) Calendar Days prior to commencement.
- D17.3 The Contractor shall not commence the Work on the Site before May 5, 2023, and shall commence the Work on Site no later than May 26, 2023, as directed by the Contract Administrator and weather permitting.
- D17.4 The Contractor shall not commence Part 2 of the Work as described in D3 and identified in Form B: Prices, unless prior to commencement, they have received notification from the Contract Administrator that the City has received notice of sufficient funding from Manitoba Hydro.
- D17.5 The City intends to award this Contract by March 17, 2023.

D17.6 If the actual date of award is later than the intended date, the dates specified for Critical Stages, Substantial Performance, and Total Performance will be adjusted by the difference between the aforementioned intended and actual dates.

#### **D18. WORKING DAYS**

D18.1 Further to C1.1(tt);

D18.1.1 The Contract Administrator will determine daily if a Working Day has elapsed and will record their assessment. On a weekly basis the Contract Administrator will provide the Contractor with a record of the Working Days assessed for the preceding week. The Contractor shall sign each report signifying that they agree with the Contract Administrator's determination of the Working Days assessed for the report period.

D18.1.2 Work done to restore the Site to a condition suitable for Work, shall not be considered "work" as defined in the definition of a Working Day.

D18.1.3 When the Work includes two or more major types of Work that can be performed under different atmospheric conditions, the Contract Administrator shall consider all major types of Work in determining whether the Contractor was able to work in assessing Working Days.

#### **D19. RESTRICTED WORK HOURS**

D19.1 Further to clause 3.10 of CW 1130, the Contractor shall require written permission forty-eight (48) hours in advance from the Contract Administrator for any work to be performed between 2000 hours and 0700 hours, or on Saturdays, Sundays, Statutory Holidays and or Civic Holidays.

#### **D20. WORK BY OTHERS**

D20.1 Further to C6.25, the Contractor's attention is directed to the fact that other Contractors, the personnel of Utilities and the staff of the City may be working within the project limit, approach roadway, adjacent roadways or right-of-way. The activities of these agencies may coincide with the Contractor's execution of work and it will be the Contractor's responsibility to cooperate to the fullest extent with other personnel working in the area, and such cooperation is an obligation of the Contractor under the terms of Contract.

D20.2 Work by others on or near the Site will include but not necessarily be limited to:

- (a) Manitoba Hydro Street Lights – Manitoba Hydro will de-energizing and energizing of the new street light plant and provide inspection of new street lighting hardware to be installed by the Contractor. The Contractor is to coordinate directly with Manitoba Hydro for the timing for these works.
- (b) Manitoba Hydro Gas – Manitoba Hydro will evaluate the feasibility of lowering existing gas services during roadway excavation. Manitoba Hydro will be required to rock wrap existing gas mains and/or services during roadway excavation. The Contractor is to coordinate directly with Manitoba Hydro for the timing for these works. The Contractor is to schedule and coordinate all Safety Watches in a timely manner.
- (c) BellMTS – BellMTS will adjust the manhole frame and cover on the south east corner of Johnson Ave W and Brazier Street.
- (d) City of Winnipeg Traffic Signals – Bagging/unbagging of existing signal heads. Installation of Traffic Signals poles, davits, controllers and heads.
- (e) City of Winnipeg Traffic Services – Provide sign clamps and paint lane lines
- (f) City of Winnipeg Water Services – Operation of existing water valves.
- (g) Transit – Transit will provide signage for temporary Transit stops. The Contractor is expected to coordinate with Transit for the location of temporary stop locations and provide a safe and delineated area.

- (h) City of Winnipeg Geomatics Branch – The Contractor is to acquire locates from the Geomatics Branch. If any permanent geomatics infrastructure is required to be disturbed during construction activities, the Contractor is to notify the Contract Administrator for documentation.

D20.3 Further to D20.1 the Contractor shall cooperate and coordinate all activities with all parties performing required Work by Others. The Contractor must include and accommodate Work by Others identified in D20.2 or additional parties, in their construction schedule as per D15 and accommodate the necessary area on Site required for the Work by Others to complete the Work.

## **D21. SEQUENCE OF WORK**

D21.1 Further to C6.1, the sequence of work shall be as follows:

D21.1.1 The Work shall be divided into three Phases. Each Phase shall be subdivided into stages. Stages are further subdivided into major items of work.

D21.1.2 **Phase I** – Johnson Ave W Watermain Renewal

D21.1.3 **Phase II** – Johnson Ave Concrete Pavement Reconstruction

- (a) **Stage I** – East bound Lanes

- (b) **Stage II** – West bound Lanes

- (c) **Stage III** – Johnson Ave W Concrete Sidewalks

D21.1.4 **Phase III** – Watermain Renewals outside of Johnson Ave W right-of-way

D21.2 The Contractor may elect to sequence Phase III before, during, partially during or after Phase I and/or Phase II

D21.3 The Contractor is to phase the work with following requirements;

- (a) Maintaining the illumination on one side of the road at all times.

- (b) Maintains one accessible pedestrian path of travel.

- (c) Provides the efficient synergy of Work between underground and surface works as determined by the Contractor.

- (d) Maintains the requirements of the Traffic Management Plan described in E8.

## **D22. CRITICAL STAGES**

D22.1 The Contractor shall achieve critical stages of the Work in accordance with the following requirements:

- (a) Critical Stage 1 – One west bound lane is to be fully open on Johnson Ave W prior to September 1, 2023.

- (b) Critical Stage 2 – Once the water main renewals, outside of the Johnson Avenue W right-of-way, have commenced, they must be completed within Twenty-Five (25) consecutive Working Days.

- (i) Renewal of watermain infrastructure that is considering impactful to the critical path of the road works shall be considered exclusive of this Critical Stage.

- (ii) The Contract Administrator may approve in writing that this Critical Stage can be completed in non-consecutive Working Days if the Contractor demonstrates a benefit to their schedule.

- (iii) This commencement and completion of this Critical Stage may be completed within, partially, or fully overlapped with the Working Days required for the Work within the Johnson Ave W right-of-way.

D22.2 When the Contractor considers the Work associated with the Critical Stages to be completed, the Contractor shall arrange, attend and assist in the inspection of the Work with the Contract Administrator for purposes of verifying Completion. Any defects or deficiencies in the Work noted during that inspection shall be remedied by the Contractor at the earliest possible instance and the Contract Administrator notified so that the Work can be re-inspected.

D22.3 The date on which the Critical Stages Work has been accepted by the Contract Administrator as being completed to the requirements of the Contract is the date on which completion of Critical Stage has been achieved.

### **D23. SUBSTANTIAL PERFORMANCE**

D23.1 The Contractor shall achieve Substantial Performance within Ninety (90) consecutive Working Days of the commencement of the Work as specified in D17 for Phase I and Phase II.

D23.1.1 Further to D22.1(b) the Contractor shall completed the Water Main works outside of the Johnson Ave W right-of-way within twenty-five (25) Working Days.

D23.2 When the Contractor considers the Work to be substantially performed for all Phases, the Contractor shall arrange, attend and assist in the inspection of the Work with the Contract Administrator for purposes of verifying Substantial Performance. Any defects or deficiencies in the Work noted during that inspection shall be remedied by the Contractor at the earliest possible instance and the Contract Administrator notified so that the Work can be re-inspected.

D23.3 The date on which the Work has been certified by the Contract Administrator as being substantially performed to the requirements of the Contract through the issue of a certificate of Substantial Performance is the date on which Substantial Performance has been achieved.

### **D24. TOTAL PERFORMANCE**

D24.1 The Contractor shall achieve Total Performance within Ninety-Five (95) consecutive Working Days of the commencement of the Work as specified in D17.

D24.2 When the Contractor or the Contract Administrator considers the Work to be totally performed, the Contractor shall arrange, attend and assist in the inspection of the Work with the Contract Administrator for purposes of verifying Total Performance. Any defects or deficiencies in the Work noted during that inspection shall be remedied by the Contractor at the earliest possible instance and the Contract Administrator notified so that the Work can be re-inspected.

D24.3 The date on which the Work has been certified by the Contract Administrator as being totally performed to the requirements of the Contract through the issue of a certificate of Total Performance is the date on which Total Performance has been achieved.

### **D25. LIQUIDATED DAMAGES**

D25.1 If the Contractor fails to achieve Critical Stages, Substantial Performance or Total Performance in accordance with the Contract by the days fixed herein for same, the Contractor shall pay the City the following amounts per Working Day for each and every Working Day following the days fixed herein for same during which such failure continues:

- (a) Critical Stage 1 D22.1(a) - Five Thousand dollars (\$5000);
- (b) Critical Stage 2 D22.1(b) - Two Thousand dollars (\$2000);
- (c) Substantial Performance (D23)– Four Thousand dollars (\$4000);
- (d) Total Performance (D24)– Two Thousand dollars (\$2000).

D25.2 The amounts specified for liquidated damages in D25.1 are based on a genuine pre-estimate of the City's losses in the event that the Contractor does not achieve critical stages, Substantial Performance or Total Performance by the days fixed herein for same.

D25.3 The City may reduce any payment to the Contractor by the amount of any liquidated damages assessed.

## **D26. ACCELERATED COMPLETION**

### DESCRIPTION

D26.1 General

D26.1.1 This Supplemental Condition shall cover the accelerated completion for this contract.

D26.2 Acceleration of Work

D26.2.1 At no risk to the City, the Contractor at its own initiative, means, and expense, may undertake to complete the Works for this Contract to facilitate the safe reopening of traffic and pedestrians in advance of the stipulated Working Days as specified in D23.

D26.2.2 Accelerated Completion is directly related to the opening of Johnson Avenue W to all modes of transport, with all lanes open, and excludes the completion of water main renewal specific work out side of the Johnson Avenue W right-of-way.

D26.2.3 Reopening shall occur when all Work items listed in D3 are complete, including boulevard restoration, streetscaping, asphalt tie-ins and Site cleanup.

(a) Further D26.2.2, reopening means all lanes of traffic and both sidewalks are fully open on Johnson Avenue W and all turning movements are permitted at each intersection.

(b) Further to D26.2.2 this excludes water main works outside of the Johnson Avenue W right-of-way included in D3.2(b)(ii) to D3.2(b)(iv)

D26.2.4 In recognition of the fact that an early completion of the Works is of benefit to the City, the City will compensate the Contractor for said early completion on a per diem unit price basis, as hereinafter set out, provided that the City will not be liable to pay for any period of acceleration in excess of ten (10) days, not including Saturdays, Sundays, or Statutory Holidays .

D26.2.5 It is noted that certain delays of the Work are normal, due to Site conditions, necessary layout and dimensional changes. The Contract Administrator will attempt to resolve each situation as soon as possible. The Contractor is advised that no extension to the date listed in D23 will be given for events of this sort which cause construction delay and are resolved within 48 hours of the requirement of change becoming know to both the Contractor and the Contract Administrator.

### MEASUREMENT AND PAYEMENT

D26.3 Method of Measurement

D26.3.1 Accelerated completion will be measured on a unit basis per diem. The number of days to be paid for will be the total number of days, not including Saturdays, Sundays, or Statutory Holidays, with which all of the Work is complete and is safely reopened to vehicular and pedestrian traffic in advance of the date specified in D23 with all specified Works listed in D3 completed and acceptable to the Contract Administrator.

D26.4 Basis of Payment

(a) Accelerated completion will be paid for at the Unit Price per diem specified hereinafter for "Accelerated Completion" which price shall be payment in full for performing all operations undertaken and all other items incidental to the Work included in this Specification. Unit Price per diem = Five thousand dollars (\$5,000).

D26.4.1 Payment of this item is not identified on Form B:Prices, and shall not be included thereon. If accelerated completion does occur as specified herein, then payment will be made for this item as an addition to the Contract

## **D27. COVID-19 SCHEDULE DELAYS**

- D27.1 The City acknowledges that the schedule for this Contract may be impacted by the COVID-19 pandemic. Commencement and progress of the Work shall be performed by the Contractor with due consideration to the health and safety of workers and the public, directives from health authorities and various levels of government and in close consultation with the Contract Administrator.
- D27.2 If the Contractor is delayed in the performance of the Work by reason of the COVID-19 pandemic, the Work schedule may be adjusted by a period of time equal to the time lost due to such delay and costs related to such delay will be determined as identified herein.
- D27.3 A minimum of seven (7) Calendar Days prior to the commencement of Work, the Contractor shall declare whether COVID-19 will affect the start date. The Contractor shall provide sufficient evidence that the delay is directly related to COVID-19, including but not limited to evidence related to availability of staff, availability of Material or work by others.
- D27.4 For any delay related to COVID-19 and identified after Work has commenced, the Contractor shall within seven (7) Calendar Days of becoming aware of the anticipated delay declare the additional delay and shall provide sufficient evidence as indicated in D27.3. Failure to provide this notice will result in no additional time delays being considered by the City.
- D27.5 The Work schedule, including the durations identified in D19 to D24 where applicable, will be adjusted to reflect delays accepted by the Contract Administrator. No additional payment will be made for adjustment of schedules except where seasonal work, not previously identified in the Contract, is carried over to the following construction season.
- D27.6 Where Work not previously identified is being carried over solely as a result of delays related to COVID-19, as confirmed by the Contract Administrator, the cost of temporary works to maintain the Work in a safe manner until Work recommences, will be considered by the Contract Administrator. Where the Work is carried over only partially due to COVID-19, a partial consideration of the cost of temporary works will be considered by the Contract Administrator.
- D27.7 Any time or cost implications as a result of COVID-19 and in accordance with the above, as confirmed by the Contract Administrator, shall be documented in accordance with C7.

## **D28. SCHEDULED MAINTENANCE**

- D28.1 The Contractor shall perform the following scheduled maintenance in the manner and within the time periods required by the Specifications:
- (a) Reflective Crack Maintenance as specified in CW 3250;
  - (b) Sod Maintenance as specified in CW 3510;
  - (c) MMA Markings for sidewalk banding identified in E25.
- D28.2 Determination of Substantial Performance and Total Performance shall be exclusive of scheduled maintenance identified herein. All scheduled maintenance shall be completed prior to the expiration of the warranty period. Where the scheduled maintenance cannot be completed during the warranty period, the warranty period shall be extended for such period of time as it takes the Contractor to complete the scheduled maintenance.

## **CONTROL OF WORK**

### **D29. JOB MEETINGS**

- D29.1 Regular weekly job meetings will be held at Site. These meetings shall be attended by a minimum of one representative of the Contract Administrator, one representative of the City and one representative of the Contractor. Each representative shall be a responsible person capable of expressing the position of the Contract Administrator, the City and the Contractor

respectively on any matter discussed at the meeting including the Work schedule and the need to make any revisions to the Work schedule. The progress of the Work will be reviewed at each of these meetings.

D29.2 The Contract Administrator reserves the right to cancel any job meeting or call additional job meetings whenever they deem it necessary.

**D30. PRIME CONTRACTOR – THE WORKPLACE SAFETY AND HEALTH ACT (MANITOBA)**

D30.1 Further to C6.26, the Contractor shall be the Prime Contractor and shall serve as, and have the duties of the Prime Contractor in accordance with The Workplace Safety and Health Act (Manitoba).

**D31. THE WORKPLACE SAFETY AND HEALTH ACT (MANITOBA) – QUALIFICATIONS**

D31.1 Further to B13.4, the Contractor/Subcontractor must, throughout the term of the Contract, have a Workplace Safety and Health Program meeting the requirements of The Workplace Safety and Health Act (Manitoba). At any time during the term of the Contract, the City may, at their sole discretion and acting reasonably, require updated proof of compliance, as set out in B13.4.

**MEASUREMENT AND PAYMENT**

**D32. PAYMENT**

D32.1 Further to C12, the City shall make payments to the Contractor by direct deposit to the Contractor's banking institution, and by no other means. Payments will not be made until the Contractor has made satisfactory direct deposit arrangements with the City. Direct deposit application forms are at [https://winnipeg.ca/finance/files/Direct\\_Deposit\\_Form.pdf](https://winnipeg.ca/finance/files/Direct_Deposit_Form.pdf).

**D33. FUEL PRICE ADJUSTMENT**

D33.1 The Contract is subject to a fuel price adjustment which will be calculated monthly based on eligible Work completed utilizing the following mathematical formulas;

- (a) where the price of fuel has increased -  $((CFI/BFI)-1.15) \times Q \times FF$ ; and
- (b) where the price of fuel has decreased -  $((CFI/BFI)-0.85) \times Q \times FF$ ; where
  - (i) BFI = base fuel index
  - (ii) CFI = current fuel index
  - (iii) FF = fuel factor
  - (iv) Q = monetary value of Work applied in the calculation.

D33.1.1 Eligible Work will be determined in accordance with D33.5.

D33.1.2 The base fuel index (BFI) will be the retail price of fuel identified on the Submission Deadline based on latest published "Monthly average retail prices for gasoline and fuel by geography" for Winnipeg, published by [Statistics Canada, Table 18-10-0001-01](#). The BFI is a blended rate based on 15% regular unleaded gasoline at self-service filling stations and 85% diesel fuel at self-service filling stations.

D33.1.3 The current fuel index (CFI) based on the above blended rate will be determined for each monthly progress estimate and applied on the following progress estimate as a change order once rates are published by Statistics Canada.

D33.1.4 A Fuel Factor (FF) rate of the monetary value of all eligible Work completed that month based on the Contract unit prices will be used to calculate the assumed apportioned cost of fuel.

- D33.2 Fuel cost adjustments may result in additional payment to the Contractor or credit to the City within the Contract by way of a monthly change order.
- D33.3 The fuel escalation or de-escalation adjustment will not be applied if the CFI is within  $\pm 15\%$  of the BFI.
- D33.4 Fuel escalation adjustments will not be considered beyond the Substantial Performance/Critical Stages except where those dates/Working Days are adjusted by change order. Fuel de-escalation adjustments will apply for Work that extends beyond the dates/Working Days specified for Substantial Performance/Critical Stages.
- D33.5 The Fuel Factor (FF) rates will be set as follows:
- (a) The Fuel Factor rate shall be set at 2.7% of the monetary value of all Work based on unit prices.

## **WARRANTY**

### **D34. WARRANTY**

- D34.1 Notwithstanding C13.2, the warranty period shall begin on the date of Total Performance and shall expire two (2) years thereafter unless extended pursuant to C13.2.1 or C13.2.2, in which case it shall expire when provided for thereunder for all Surface Works.
- D34.2 Notwithstanding C13.2, the warranty period shall begin on the date of Total Performance and shall expire one (1) years thereafter unless extended pursuant to C13.2.1 or C13.2.2, in which case it shall expire when provided for thereunder for all Water Main Works.

## **DISPUTE RESOLUTION**

### **D35. DISPUTE RESOLUTION**

- D35.1 If the Contractor disagrees with any opinion, determination, or decision of the Contract Administrator, the Contractor shall act in accordance with the Contract Administrator's opinion, determination, or decision unless and until same is modified by the process followed by the parties pursuant to D35.
- D35.2 The entire text of C21.4 is deleted, and amended to read: "Intentionally Deleted"
- D35.3 The entire text of C21.5 is deleted, and amended to read:
- (a) If Legal Services has determined that the Disputed Matter may proceed in the Appeal Process, the Contractor must, within ten (10) Business Days of the date of the Legal Services Response Letter, submit their written Appeal Form, in the manner and format set out on the City's Materials Management Website, to the Chief Administrative Officer, and to the Contract Administrator. The Contractor may not raise any other disputes other than the Disputed Matter in their Appeal Form.
- D35.4 Further to C21, prior to the Contract Administrator's issuance of a Final Determination, the following informal dispute resolution process shall be followed where the Contractor disagrees with any opinion, determination, or decision of the Contract Administrator ("Dispute"):
- (a) In the event of a Dispute, attempts shall be made by the Contract Administrator and the Contractor's equivalent representative to resolve Disputes within the normal course of project dealings between the Contract Administrator and the Contractor's equivalent representative.
  - (b) Disputes which in the reasonable opinion of the Contract Administrator or the Contractor's equivalent representative cannot be resolved within the normal course of project dealings as described above shall be referred to a without prejudice escalating negotiation process

consisting of, at a minimum, the position levels as shown below and the equivalent Contractor representative levels:

- (i) The Contract Administrator;
- (ii) Supervisory level between the Contract Administrator and applicable Department Head;
- (iii) Department Head.

- D35.4.1 Names and positions of Contractor representatives equivalent to the above City position levels shall be determined by the Contractor and communicated to the City at the pre-commencement or kick off meeting.
- D35.4.2 As these negotiations are not an adjudicative hearing, neither party may have legal counsel present during the negotiations.
- D35.4.3 Both the City and the Contractor agree to make all reasonable efforts to conduct the above escalating negotiation process within twenty (20) Business Days, unless both parties agree, in writing, to extend that period of time.
- D35.4.4 If the Dispute is not resolved to the City and Contractor's mutual satisfaction after discussions have occurred at the final escalated level as described above, or the time period set out in D35.4.3, as extended if applicable, has elapsed, the Contract Administrator will issue a Final Determination as defined in C1.1(v), at which point the parties will be governed by the Dispute Resolution process set out in C21.

### THIRD PARTY AGREEMENTS

#### D36. FUNDING AND/OR CONTRIBUTION AGREEMENT OBLIGATIONS

- D36.1 In the event that funding for the Work of the Contract is provided to the City of Winnipeg by the Government of Manitoba and/or the Government of Canada, the following terms and conditions shall apply, as required by the applicable funding agreements.
- D36.2 Further to D36.1, in the event that the obligations in D36 apply, actual costs legitimately incurred by the Contractor as a direct result of these obligations ("Funding Costs") shall be determined by the actual cost to the Contractor and not by the valuation method(s) outlined in C7.4. In all other respects Funding Costs will be processed in accordance with Changes in Work under C7.
- D36.3 For the purposes of D36:
- (a) **"Government of Canada"** includes the authorized officials, auditors, and representatives of the Government of Canada; and
  - (b) **"Government of Manitoba"** includes the authorized officials, auditors, and representatives of the Government of Manitoba.
- D36.4 Modified Insurance Requirements
- D36.4.1 If not already required under the insurance requirements identified in D11, the Contractor will be required to provide wrap-up liability insurance in an amount of no less than two million dollars (\$2,000,000) inclusive per occurrence. Such policy will be written in the joint names of the City, Contractor, Consultants and all sub-contractors and sub-consultants and include twelve (12) months completed operations. The Government of Manitoba and their Ministers, officers, employees, and agents shall be added as additional insureds.
- D36.4.2 If not already required under the insurance requirements identified in D11, the Contractor will be required to provide builders' risk insurance (including boiler and machinery insurance, as applicable) providing all risks coverage at full replacement cost, or such lower level of insurance that the City may identify on a case-by-case basis, such as an installation floater.

- D36.4.3 The Contractor shall obtain and maintain third party liability insurance with minimum coverage of two million dollars (\$2,000,000.00) per occurrence on all licensed vehicles operated at the Site. In the event that this requirement conflicts with another licensed vehicle insurance requirement in this Contract, then the requirement that provides the higher level of insurance shall apply.
- D36.4.4 Further to D11.5, insurers shall provide satisfactory Certificates of Insurance to the Government of Manitoba prior to commencement of Work as written evidence of the insurance required. The Certificates of Insurance must provide for a minimum of thirty (30) days' prior written notice to the Government of Manitoba in case of insurance cancellation.
- D36.4.5 All policies must be taken out with insurers licensed to carry on business in the Province of Manitoba.
- D36.5 Indemnification By Contractor
- D36.5.1 In addition to the indemnity obligations outlined in C17 of the General Conditions for Construction, the Contractor agrees to indemnify and save harmless the Government of Canada and the Government of Manitoba and each of their respective Ministers, officers, servants, employees, and agents from and against all claims and demands, losses, costs, damages, actions, suit or other proceedings brought or pursued in any manner in respect of any matter caused by the Contractor or arising from this Contract or the Work, or from the goods or services provided or required to be provided by the Contractor, except those resulting from the negligence of any of the Government of Canada's or the Government of Manitoba's Ministers, officers, servants, employees, or agents, as the case may be.
- D36.5.2 The Contractor agrees that in no event will Canada or Manitoba, their respective officers, servants, employees or agents be held liable for any damages in contract, tort (including negligence) or otherwise, for:
- (a) any injury to any person, including, but not limited to, death, economic loss or infringement of rights;
  - (b) any damage to or loss or destruction of property of any person; or
  - (c) any obligation of any person, including, but not limited to, any obligation arising from a loan, capital lease or other long term obligation;
- in relation to this Contract or the Work.
- D36.6 Records Retention and Audits
- D36.6.1 The Contractor shall maintain and preserve accurate and complete records in respect of this Contract and the Work, including all accounting records, financial documents, copies of contracts with other parties and other records relating to this Contract and the Work during the term of the Contract and for at least six (6) years after Total Performance. Those records bearing original signatures or professional seals or stamps must be preserved in paper form; other records may be retained in electronic form.
- D36.6.2 In addition to the record keeping and inspection obligations outlined in C6 of the General Conditions for Construction, the Contractor shall keep available for inspection and audit at all reasonable times while this Contract is in effect and until at least six (6) years after Total Performance, all records, documents, and contracts referred to in D36.6.1 for inspection, copying and audit by the City of Winnipeg, the Government of Manitoba and/or the Government of Canada and their respective representatives and auditors, and to produce them on demand; to provide reasonable facilities for such inspections, copying and audits, to provide copies of and extracts from such records, documents, or contracts upon request by the City of Winnipeg, the Government of Manitoba, and/or the Government of Canada and their respective representatives and auditors, and to promptly provide such other information and explanations as may be reasonably requested by the City of Winnipeg, the Government of Manitoba, and/or the Government of Canada from time-to-time.
- D36.7 Other Obligations

- D36.7.1 The Contractor consents to the City providing a copy of the Contract Documents to the Government of Manitoba and/or the Government of Canada upon request from either entity.
- D36.7.2 If the Lobbyists Registration Act (Manitoba) applies to the Contractor, the Contractor represents and warrants that it has filed a return and is registered and in full compliance with the obligations of that Act, and covenants that it will continue to comply for the duration of this Contract.
- D36.7.3 The Contractor shall comply with all applicable legislation and standards, whether federal, provincial, or municipal, including (without limitation) labour, environmental, and human rights laws, in the course of providing the Work.
- D36.7.4 The Contractor shall properly account for the Work provided under this Contract and payment received in this respect, prepared in accordance with generally accepted accounting principles in effect in Canada, including those principles and standards approved or recommended from time-to-time by the Chartered Professional Accountants of Canada or the Public Sector Accounting Board, as applicable, applied on a consistent basis.
- D36.7.5 The Contractor represents and warrants that no current or former public servant or public office holder, to whom the Value and Ethics Code for the Public Sector, the Policy on Conflict of Interest and Post Employment, or the Conflict of Interest Act applies, shall derive direct benefit from this Contract, including any employment, payments, or gifts, unless the provision or receipt of such benefits is in compliance with such codes and the legislation.
- D36.7.6 The Contractor represents and warrants that no member of the House of Commons or of the Senate of Canada or of the Legislative Assembly of Manitoba is a shareholder, director or officer of the Contractor or of a Subcontractor, and that no such member is entitled to any benefits arising from this Contract or from a contract with the Contractor or a Subcontractor concerning the Work.

**FORM H1: PERFORMANCE BOND**  
(See D12)

KNOW EVERYONE BY THESE PRESENTS THAT

\_\_\_\_\_ ,  
(hereinafter called the "Principal"), and

\_\_\_\_\_ ,  
(hereinafter called the "Surety"), are held and firmly bound unto **THE CITY OF WINNIPEG** (hereinafter called the "Obligee"), in the sum of

\_\_\_\_\_ dollars (\$\_\_\_\_\_)

of lawful money of Canada to be paid to the Obligee, or its successors or assigns, for the payment of which sum the Principal and the Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS the Principal has entered into a written contract with the Obligee for

TENDER NO. 928-2022

2023 JOHNSON AVENUE WEST PAVEMENT RENEWAL AND MISCELLANEOUS WATER MAIN RENEWALS

which is by reference made part hereof and is hereinafter referred to as the "Contract".

NOW THEREFORE the condition of the above obligation is such that if the Principal shall:

- (a) carry out and perform the Contract and every part thereof in the manner and within the times set forth in the Contract and in accordance with the terms and conditions specified in the Contract;
- (b) perform the Work in a good, proper, workmanlike manner;
- (c) make all the payments whether to the Obligee or to others as therein provided;
- (d) in every other respect comply with the conditions and perform the covenants contained in the Contract; and
- (e) indemnify and save harmless the Obligee against and from all loss, costs, damages, claims, and demands of every description as set forth in the Contract, and from all penalties, assessments, claims, actions for loss, damages or compensation whether arising under "The Workers Compensation Act", or any other Act or otherwise arising out of or in any way connected with the performance or non-performance of the Contract or any part thereof during the term of the Contract and the warranty period provided for therein;

THEN THIS OBLIGATION SHALL BE VOID, but otherwise shall remain in full force and effect. The Surety shall not, however, be liable for a greater sum than the sum specified above.

AND IT IS HEREBY DECLARED AND AGREED that the Surety shall be liable as Principal, and that nothing of any kind or matter whatsoever that will not discharge the Principal shall operate as a discharge or release of liability of the Surety, any law or usage relating to the liability of Sureties to the contrary notwithstanding.

IN WITNESS WHEREOF the Principal and Surety have signed and sealed this bond the

\_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_ .

**SIGNED AND SEALED**  
in the presence of:

\_\_\_\_\_  
(Witness as to Principal if no seal)

\_\_\_\_\_  
(Name of Principal)

Per: \_\_\_\_\_ (Seal)

Per: \_\_\_\_\_

\_\_\_\_\_  
(Name of Surety)

By: \_\_\_\_\_ (Seal)  
(Attorney-in-Fact)

**FORM H2: LABOUR AND MATERIAL PAYMENT BOND**  
(See D12)

KNOW EVERYONE BY THESE PRESENTS THAT

\_\_\_\_\_  
his/its heirs, executors, administrators, successors or assigns (hereinafter called the "Principal"), and

\_\_\_\_\_  
his/its heirs, executors, administrators, successors or assigns (hereinafter called the "Surety"), are held and firmly bound unto **THE CITY OF WINNIPEG** (hereinafter called the "Obligee"), for the use and benefit of claimants as herein below defined, in the amount of

\_\_\_\_\_ dollars (\$\_\_\_\_\_)

of lawful money of Canada, for the payment whereof we, the Principal and the Surety jointly and severally bind ourselves firmly by these presents.

WHEREAS the Principal has entered into a written contract with the Obligee for

TENDER NO. 928-2022

2023 JOHNSON AVENUE WEST PAVEMENT RENEWAL AND MISCELLANEOUS WATER MAIN RENEWALS

which is by reference made part hereof and is hereinafter referred to as the "Contract".

NOW THEREFORE the condition of the above obligation is such that if the Principal shall promptly make payment to all claimants as hereinafter defined, for all labour, service and material used or reasonably required for use in the performance of the Contract, then this obligation shall be void, otherwise it shall remain in full force and effect subject, however, to the following conditions:

- (a) A claimant is defined as one having a direct contract with the Principal for labour, service and material, or any of them, used or reasonably required for use in the performance of the contract, labour, service and material being construed to include that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental of equipment (but excluding rent of equipment where the rent pursuant to an agreement is to be applied towards the purchase price thereof) directly applicable to the Contract;
- (b) The above-named Principal and Surety hereby jointly and severally agree with the Obligee that every claimant as herein defined, who has not been paid in full before the expiration of a period of ninety (90) days after the date on which the last of such claimant's work, labour or service was done or performed, or materials were furnished by such claimant, may sue on this bond, prosecute the suit to final judgment for such sum or sums as may be justly due claimant, and have execution thereon;
- (c) No suit or action shall be commenced hereunder by any claimant
  - (i) unless claimant shall have given written notice to the Principal and the Surety above-named, within one hundred and twenty (120) days after such claimant did or performed the last of the work, labour or service, or furnished the last of the materials for which said claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were furnished, or for whom the work, labour or service was done or performed. Such notice shall be served by mailing the same by registered mail to the Principal, and Surety, at any place where an office is regularly maintained for the transaction of business, or served in any manner in which legal process may be served in the Province of Manitoba;

- (ii) after the expiration of one (1) year following the date on which Principal ceased work on said Contract; including work performed under the guarantees provided in the Contract;
  - (iii) other than in a court of competent jurisdiction in the Province of Manitoba.
- (d) The amount of this bond shall be reduced by and to the extent of any payment or payments made in good faith hereunder, inclusive of the payment by Surety of mechanics liens which may be filed of record against said improvement, whether or not claim for the amount of such lien be presented under and against this bond.
- (e) The Surety shall not be liable for a greater sum than the specified penalty of this bond.

The Principal and Surety hereby agree that The Guarantors' Liability Act (Manitoba) shall apply to this Bond.

IN TESTIMONY WHEREOF, the Principal has hereunto set its hand affixed its seal, and the Surety has caused these presents to be sealed and with its corporate seal duly attested by the authorized signature of its signing authority this

\_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_ .

SIGNED AND SEALED  
in the presence of:

\_\_\_\_\_  
(Witness as to Principal if no seal)

\_\_\_\_\_  
(Name of Principal)

Per: \_\_\_\_\_ (Seal)

Per: \_\_\_\_\_

\_\_\_\_\_  
(Name of Surety)

By: \_\_\_\_\_ (Seal)  
(Attorney-in-Fact)

**FORM J: SUBCONTRACTOR LIST**  
 (See D13)

2023 JOHNSON AVENUE WEST PAVEMENT RENEWAL AND MISCELLANEOUS WATER MAIN RENEWALS

<u>Portion of the Work</u>	<u>Name</u>	<u>Address</u>
<i>Supply of Materials:</i>		
Concrete		
Asphalt		
Base Course & Sub-Base		
Geotextile and Geogrid		
Sod		
Catch Basins		
Frames and Covers		
Sewer Service Pipe		
MMA Marking		
Watermain Pipes		
<i>Installation/Placement:</i>		
Excavation		
Sub-base and Base Course		
Concrete Pavement		
Concrete Sidewalks		
Asphalt		
Underground Sewer Works		
Watermain Works		
Sewer Televising		
Landscaping		
MMA Markings		
Street Lighting		
Traffic Signals		
Overhead Sign Structure Modifications		

**FORM K: EQUIPMENT**  
(See D14)

**2023 JOHNSON AVENUE WEST PAVEMENT RENEWAL AND MISCELLANEOUS WATER MAIN RENEWALS**

<p><b>1. Category/type: Concrete Slip Form Pavers</b></p> <p>Make/Model/Year: _____ Serial No.: _____</p> <p>Registered owner: _____</p> <p>Make/Model/Year: _____ Serial No.: _____</p> <p>Registered owner: _____</p> <p>Make/Model/Year: _____ Serial No.: _____</p> <p>Registered owner: _____</p>
<p><b>2. Category/type: Road Excavators</b></p> <p>Make/Model/Year: _____ Serial No.: _____</p> <p>Registered owner: _____</p> <p>Make/Model/Year: _____ Serial No.: _____</p> <p>Registered owner: _____</p> <p>Make/Model/Year: _____ Serial No.: _____</p> <p>Registered owner: _____</p>
<p><b>3. Category/type: Road Excavators</b></p> <p>Make/Model/Year: _____ Serial No.: _____</p> <p>Registered owner: _____</p> <p>Make/Model/Year: _____ Serial No.: _____</p> <p>Registered owner: _____</p> <p>Make/Model/Year: _____ Serial No.: _____</p> <p>Registered owner: _____</p>

**FORM K: EQUIPMENT**  
(See D14)

2023 JOHNSON AVENUE WEST PAVEMENT RENEWAL AND MISCELLANEOUS WATER MAIN  
RENEWALS

<p><b>4. Category/type: Motor Grader</b></p> <p>Make/Model/Year: _____ Serial No.: _____</p> <p>Registered owner: _____</p> <p>Make/Model/Year: _____ Serial No.: _____</p> <p>Registered owner: _____</p> <p>Make/Model/Year: _____ Serial No.: _____</p> <p>Registered owner: _____</p>
<p><b>5. Category/type: Steel Drum Rollers</b></p> <p>Make/Model/Year: _____ Serial No.: _____</p> <p>Registered owner: _____</p> <p>Make/Model/Year: _____ Serial No.: _____</p> <p>Registered owner: _____</p> <p>Make/Model/Year: _____ Serial No.: _____</p> <p>Registered owner: _____</p>
<p><b>6. Category/type: Crawler Tractor</b></p> <p>Make/Model/Year: _____ Serial No.: _____</p> <p>Registered owner: _____</p> <p>Make/Model/Year: _____ Serial No.: _____</p> <p>Registered owner: _____</p> <p>Make/Model/Year: _____ Serial No.: _____</p> <p>Registered owner: _____</p>

## PART E - SPECIFICATIONS

### GENERAL

#### E1. APPLICABLE SPECIFICATIONS AND DRAWINGS

- E1.1 These Specifications shall apply to the Work.
- E1.2 *The City of Winnipeg Standard Construction Specifications* in their entirety, whether or not specifically listed on Form B: Prices, shall apply to the Work.
- E1.2.1 *The City of Winnipeg Standard Construction Specifications* is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/Spec/Default.stm>
- E1.2.2 The version in effect three (3) Business Days before the Submission Deadline shall apply.
- E1.2.3 Further to C2.4(d), Specifications included in the Tender shall govern over *The City of Winnipeg Standard Construction Specifications*.
- E1.3 Bidders are reminded that requests for approval of substitutes as an approved equal or an approved alternative shall be made in accordance with B7. In every instance where a brand name or design specification is used, the City will also consider approved equals and/or approved alternatives in accordance with B7.
- E1.4 The following are applicable to the Work:

<u>Drawing No.</u>	<u>Drawing Name/Title</u>	<u>Drawing (Original) Sheet Size</u>
	Cover Sheet	
P-3564-01	Johnson Ave Henderson Hwy to Levis St Horizontal Geometry	A1
P-3564-02	Johnson Ave Henderson Hwy to Levis St Horizontal Geometry	A1
P-3564-03	Johnson Ave Henderson Hwy to Levis St Plan and Profile	A1
P-3564-04	Johnson Ave Henderson Hwy to Levis St Plan and Profile	A1
P-3564-05	Johnson Ave Henderson Hwy to Levis St Plan and Profile	A1
P-3564-06	Johnson Ave Henderson Hwy to Levis St Plan and Profile	A1
P-3564-07	Johnson Ave Henderson Hwy to Levis St Plan and Profile	A1
P-3564-08	Johnson Ave Henderson Hwy to Levis St Plan and Profile	A1
P-3564-09	Johnson Ave Henderson Hwy to Levis St Plan and Profile	A1
P-3564-10	Johnson Ave Henderson Hwy to Levis St Plan and Profile	A1
D-16414	Cover Page – 2023 Water Main Renewals – Contract 1	A1
D-16415	Index Page	A1
D-16416	Brazier Street – Gordon Avenue to 40.9 NNL McIntosh Avenue	A1
D-16417	Brazier Street – 40.9 NNL McIntosh Avenue to 11.5 SSL	A1
D-16418	Johnson Avenue West Brazier Street – 11.5 SSL Johnson Avenue West to Chalmers Avenue	A1
D-16419	Johnson Avenue West – Henderson Highway to 100.0 EEL Henderson Highway	A1
D-16420	Johnson Avenue West – 100.0 EEL Henderson Highway to 31.4 WWL Brazier Street	A1
D-16421	Johnson Avenue West – 31.4 WWL Brazier Street 58.4 EEL Brazier Street	A1
D-16422	Johnson Avenue West – 58.4 EEL Brazier Street to 160.4 EEL Brazier Street	A1
D-16423	Johnson Avenue West – Roch Street to 94.3 EEL Roch Street	A1
D-16424	Johnson Avenue West – 94.3 EEL Roch Street to Levis Street	A1
D-16425	Cover Page – 2022 Water Main Renewal – Contract 14	A1

<u>Drawing No.</u>	<u>Drawing Name/Title</u>	<u>Drawing (Original) Sheet Size</u>
D-16426	Index Pave	A1
D-16427	Levis Street – Alley to 9.7 EEL Johnson Avenue West	A1
D-16428	Levis Street – 9.7 EEL Johnson Avenue West to Watt Street	A1
D-16429	Watt Street – 80.0 NNL Thames Avenue to 185.0 NNL Thames Avenue	A1
D-16430	Watt Street – 185.0 NNL Thames Avenue to Chalmer Avenue	A1
S-1101	Traffic Signals – Johnson and Roch	11x17
S-1747	Traffic Signals – Johnson and Levis	11x17
S-1024	Traffic Signals – Brazier and Johnson	11x17
S-1430	Traffic Signals – Henderson and Johnson	11x17
1-04707-DE-50000- 0610 0001 Prelim	Streets Lights – Installation/Relocations	A1

## **E2. MOBILIZATION AND DEMOBILIZATION PAYMENT**

### DESCRIPTION

- E2.1 This Specification shall cover all operations relating to the mobilization and demobilization of the Contractor to the project location(s).
- E2.2 The Work to be done by the Contractor under this Specification shall include the furnishing of all superintendence, overhead, labour, materials, equipment, tools, supplies, and all things necessary for and incidental to the satisfactory performance and completion of all Works as hereinafter specified.
- E2.3 The inclusion of a payment item for the Work under this Specification shall not release or reduce the responsibilities of the Contractor under any other specification in this Contract.

### SCOPE OF WORK

- E2.4 Further to C12 of the General Conditions, where Mobilization and Demobilization is included as a bid item, it shall consist of the following, as applicable:
- (a) Mobilization shall include, but not be limited to:
- (i) All activities and associated costs for transportation of the Contractor's personnel, equipment, and operating supplies to the site, and/or sites, and/or between sites;
  - (ii) Establishment of offices, buildings, other necessary general facilities and equipment parking/staging areas for the Contractor's operations at the site or sites;
  - (iii) Premiums paid for performance and payment bonds including coinsurance and reinsurance agreements as applicable;
  - (iv) General cleanup and housekeeping needed maintain a neat and orderly project site(s);
  - (v) Other job related items.
- (b) Demobilization shall include, but not be limited to:
- (i) All activities and costs for transportation of personnel, equipment, and supplies not used in the project from the site, and/or sites, and/or between sites;
  - (ii) Disassembly, removal, and site cleanup and restoration of offices, buildings, and other facilities assembled on the site and/or sites;
  - (iii) Repair of access roads, temporary haul roads, and equipment parking areas leaving the project site in the same or better condition than at the start of the project;
  - (iv) General cleanup and housekeeping needed to restore a neat and orderly project site.

E2.5 Access to the site, equipment parking, and staging areas are limited to that shown on the drawings or as approved by the Contract Administrator.

#### MEASUREMENT AND PAYMENT

E2.6 The lump-sum price for the Mobilization and Demobilization bid item shall not exceed five percent (5.00%) of the total bid price for the Contract.

E2.6.1 Further to B10, B18, C12 and E2.6, should the lump sum price exceed 5% of the Total Bid Price the lump sum price will be reduced to 5% of the Total Bid Price, the Total Bid Price will be determined using the reduced lump sum price and payment will be based on the reduced lump sum price.

E2.7 Payment for Mobilization:

(a) 60% of the lump-sum price will be paid to the contractor for Mobilization on the first Progress Estimate for the Contract.

E2.8 Payment for Demobilization:

(a) The remaining 40% of the lump-sum price will be paid upon:

- (i) Restoration of the site and/or sites to the satisfaction of the Contract Administrator;
- (ii) Distribution of the Declaration of Total Performance.

E2.9 Pay Reduction for Accessibility Plan

(a) The Demobilization payment will be reduced by the number of pay adjustments incurred in accordance with D16 and as determined by the Contract Administrator.

E2.10 Mobilization and Demobilization will be paid only once (to a maximum of 100%), regardless of the number of times the Contractor mobilizes to the site and/or sites.

### **E3. GEOTECHNICAL REPORT**

E3.1 Further to C3.1, the geotechnical report is provided to aid the Contractor's evaluation of the pavement structure and/or existing soil conditions. The geotechnical report is contained in Appendix 'A'.

### **E4. OFFICE FACILITIES**

E4.1 The Contractor shall supply office facilities meeting the following requirements:

- (a) The field office shall be for the exclusive use of the Contract Administrator.
- (b) The building shall be conveniently located near the site of the Work.
- (c) The building shall have a minimum floor area of 25 square metres, with windows and a door entrance with a suitable lock.
- (d) The building shall be suitable for all weather use. It shall be equipped with an electric heater and air conditioner so that the room temperature can be maintained between either 16-18°C or 24-25°C.
- (e) The building shall be adequately lighted with fluorescent fixtures and have a minimum of three wall outlets, internet connection, fluorescent fixtures and have a minimum of three wall outlets.
- (f) The building shall be furnished with one desk, one drafting table, table 3 m X 1.2 m, and a minimum of 12 chairs.
- (g) A portable toilet shall be located near the field office building. The toilet shall have a locking door and be for the exclusive use of the Contract Administrator and other personnel from the City.

- (h) The field office building and the portable toilet shall be cleaned on a weekly basis immediately prior to each site meeting. The Contract Administrator may request additional cleaning when they deem it necessary.

E4.2 The Contractor shall be responsible for all installation and removal costs, all operating costs, and the general maintenance of the office facilities.

E4.3 If a direct electrical connection can not be provided in a timely manner to power the Office Facility, the Contract shall provide a generator for power.

E4.4 The office facilities will be provided from the date of the commencement of the Work to the date of Substantial Performance.

E4.5 On a one time basis, where directed by the Contract Administrator, the Contractor shall relocate the office facilities to a location more convenient for the remaining Work.

## **E5. PROTECTION OF EXISTING TREES**

E5.1 The Contractor shall take the following precautionary steps to prevent damage from construction activities to existing boulevard trees within the limits of the construction area:

- (a) The Contractor shall not stockpile materials and soil or park vehicles and equipment on boulevards within 2 metres of trees.
- (b) Trees identified to be at risk by the Contract Administrator are to be strapped with 25 x 100 x 2400mm wood planks, or suitably protected as approved by the Contract Administrator.
- (c) Excavation shall be performed in a manner that minimizes damage to the existing root systems. Where possible, excavation shall be carried out such that the edge of the excavation shall be a minimum of 1.5 times the diameter (measured in inches), with the outcome read in feet, from the closest edge of the trunk. Where roots must be cut to facilitate excavation, they shall be pruned neatly at the face of excavation.
- (d) Operation of equipment within the dripline of the trees shall be kept to the minimum required to perform the work required. Equipment shall not be parked, repaired, refuelled; construction materials shall not be stored, and earth materials shall not be stockpiled within the driplines of trees. The dripline of a tree shall be considered to be the ground surface directly beneath the tips of its outermost branches. The Contractor shall ensure that the operations do not cause flooding or sediment deposition on areas where trees are located.
- (e) Work on-site shall be carried out in such a manner so as to minimize damage to existing tree branches. Where damage to branches does occur, they shall be neatly pruned.

E5.2 All damage to existing trees caused by the Contractor's activities shall be repaired to the requirements and satisfaction of the Contract Administrator and the City Forester or their designate.

E5.3 No separate measurement or payment will be made for the protection of trees.

E5.4 Except as required in clause E5.1(c) and E5.1(e), Elm trees shall not be pruned at any time between April 1 and July 31.

## **E6. TRAFFIC CONTROL**

E6.1 Further to clauses 3.6, 3.7 and 3.8 of CW 1130:

- (a) Where directed by the Contract Administrator, the Contractor shall construct and maintain temporary asphalt ramps to alleviate vertical pavement obstructions such as manholes and planing drop-offs to the satisfaction of the Contract Administrator. Payment shall be in accordance with CW3410.
- (b) In accordance with the Manual of Temporary Traffic Control on City Streets (MTTC), the Contractor ("Construction Agency" in the Manual) shall be responsible for placing, maintaining and removing the appropriate temporary traffic control devices as specified by

the MTTC, the Contract Drawings, Staging Plans and Traffic Management Plans or by the Traffic Management Branch of the City of Winnipeg Public Works Department. The Contractor shall bear all costs associated with the placement of temporary traffic control devices by their own forces or Subcontractor.

- (c) In addition, the Contractor shall be responsible for **supplying**, removing, placing and maintaining all regulatory signing including but not limited to:
  - (i) Parking restrictions;
  - (ii) Stopping restrictions;
  - (iii) Turn restrictions;
  - (iv) Diamond lane removal;
  - (v) Full or directional closures on a Regional Street;
  - (vi) Traffic routed across a median;
  - (vii) Full or directional closure of a non-regional street where there is a requirement for regulatory signs (turn restrictions, bus stop relocations, etc.) to implement the closure.
- (d) The Contractor shall remove and stockpile any regulatory signage not required during construction such as, but not limited to, parking restrictions, turn restrictions and loading restrictions.

E6.2 Upon request from the Contract Administrator, the Contractor shall provide records demonstrating that the site has been maintained.

E6.3 Further to E6.1(c) and E6.1(d) the Contractor shall make arrangements with the Traffic Services Branch of the City of Winnipeg to reinstall the permanent regulatory signs after the Contract Work is complete. The Contractor shall make arrangements to drop off the stockpiled materials to Traffic Services at 495 Archibald Street.

E6.4 Any changes to the approved Traffic Management Plan must be submitted to the Contract Administrator a minimum of five (5) Working Days prior to the required change for approval.

E6.5 If the Contract Administrator determines that the Contractor is not performing Traffic Control in accordance with this specification, Traffic Services may be engaged to perform the Traffic Control. In this event the Contractor shall bear costs charged to the project by the Traffic Services Branch of the City of Winnipeg in connection with the required Works.

## **E7. TRAFFIC MANAGEMENT**

E7.1 Further to clause 3.7 of CW 1130:

- (a) Single lane closures on intersecting and/or adjoining Regional Streets shall only be permitted during non-peak periods when required for construction activities when approved by the Traffic Management Branch. Storage/parking of materials, equipment or vehicles is not permitted on Regional Streets at any time unless approved by the Contract Administrator, in consultation with the Traffic Management Branch.

E7.1.1 Traffic on intersecting Regional Streets (Henderson Hwy and Levis St) shall be maintained at all times unless planing/paving operations require temporary lane closures. Temporary lane closures shall be completed during off peak hours.

- (a) Further to E8.1.1 the Watermain tie-ins for the Johnson Ave W water main at Levis Street and Henderson Hwy will require lane closures.
- (b) Levis Street may require a directional closure to accommodate installation of the water main. This is preferred not to occur during the full closure of Johnson Avenue W.
- (c) Watt Street shall have one lane maintained in each direction. A cross-over may be required implemented and maintained by the Contractor.

- (i) Longer term lane closures on Watt Street are preferred not to occur during the full closure of Johnson Avenue W.
  - (d) All watermain installation and work locations shall be planned and preapproved by the Contract Administrator.
- E7.1.2 Any request for directional or full closures for any Regional Street shall be provided in writing twelve (12) Working Day prior to the requested date, to allow the Contract Administrator sufficient time to obtain approvals.
- E7.1.3 Flag persons may be necessary to maintain the flow of traffic during certain work operations.
- E7.1.4 One sidewalk must be maintained on one side of Johnson Ave W at all times.
- E7.1.5 One pedestrian crossing in the north-south direction must be maintained at each of the Roch Street and Brazier Street intersections at all times. The crossing that is maintained is to be effectively delineated and the crossing that is temporarily closed shall have the pedestrian head bagged.
- E7.1.6 Transit will be detoured to Chalmer Avenue during construction. The Contractor will modify the existing median opening on Chalmers Avenue and Watt Street to accommodate east bound bus egress from Chalmers Avenue onto Watt Street and will be paid under the corresponding pay item from removal and installation of these works. As part of the detour Transit will utilize south bound Brazier Street to turn right on to Johnson Avenue W in the west bound direction to access Henderson Hwy. Transit may be detoured to Talbot Avenue in limited circumstances to accommodate certain activities, as approved by the Contract Administrator if requested two (2) weeks prior to the date requested.
- E7.1.7 Pedestrian access along Levis Street and Henderson Hwy shall be maintained at all times.
- E7.1.8 Johnson Avenue W will be closed to all vehicular traffic from Levis Street to Henderson Hwy for the duration of the project with the exception of:
  - (a) The north most gutter lane on Johnson Ave W between Henderson Hwy and Brazier Street shall be closed for a maximum of four (4) weeks. This section of road will be utilized at a Transit detour where buses will turn from southbound Brazier Street right onto westbound Henderson Hwy for the duration of the project. The contractor is to stage the Brazier Street intersection to accommodate this right turn bus movement.
  - (b) The Contractor shall have one lane westbound open to all traffic on Johnson Ave W prior to September 1, 2022.
  - (c) The Contractor shall maintain signage to accommodate one lane on Brazier Street to accommodate one-way south bound traffic through Johnson Ave W.
  - (d) The Contractor shall maintain signage to accommodate one lane on Roch Street to accommodate one-way north bound traffic through Johnson Ave W.
  - (e) The Contractor shall maintain local access to 360 Johnson Ave W for the duration of the project. Should the Contractor be unable to maintain an existing access for a specific duration, they shall review the planned disruption with the business or residence and the Contract Administrator, and take reasonable measures to minimize the impact. The Contractor shall provide a minimum of 24 hours notification to the affected residence or business and the Contract Administrator, prior to disruption of access.
- E7.1.9 Ambulance/emergency vehicle access must be maintained at all times.

## **E8. REFUSE AND RECYCLING COLLECTION**

- E8.1 While access to refuse and/or recycling collection vehicles is restricted, on collection day(s) the Contractor shall move all of the affected property owners refuse and/or recycling materials to a nearby common area, prior to an established time, in accordance with E8.2 to permit the normal collection vehicles to collect the materials. Immediately following recycling collection the Contractor shall return recycling receptacles to the addresses marked on the receptacles.

E8.2 Collection Schedule:

**Johnson Avenue W.**

*Collection Day(s):* **Varies**

*Collection Time:*

*Common Collection Area:* **Public lanes and Commercial through private approach of 360 Johnson Ave W**

E8.3 No measurement or payment will be made for the work associated with this specification.

**E9. PEDESTRIAN SAFETY**

E9.1 During the project temporary snow fencing shall be installed adjacent to existing and temporary sidewalks as necessary to prevent access to the construction area and to provide separation from the excavation area. The Contractor shall be responsible for maintaining the snow fence in a proper working condition. No measurement for payment shall be made for this work.

E9.2 Further to E810.1, a temporary snow fence will be required at least at the following instances;

- (a) Between the sidewalk and an open excavation
- (b) During underground works where the Contractor must encroach onto the sidewalk temporarily.

**E10. WATER OBTAINED FROM THE CITY**

E10.1 Further to clause 3.7 of CW 1120, the Contractor shall pay for all costs, including sewer charges, associated with obtaining water from the City in accordance with the Waterworks and Sewer By-laws.

**E11. SURFACE RESTORATIONS**

E11.1 Further to clause 3.3 of CW 1130, when Total Performance is not achieved in the year the Contract is commenced, the Contractor shall temporarily repair any Work commenced and not completed to the satisfaction of the Contract Administrator. The Contractor shall maintain the temporary repairs in a safe condition as determined by the Contract Administrator until permanent repairs are completed. The Contractor shall bear all costs associated with temporary repairs and their maintenance.

**E12. INFRASTRUCTURE SIGNS**

E12.1 The Contractor shall obtain infrastructure signs from the Traffic Services Sign Shop at 421 Osborne Street. The Contractor shall mount each sign securely to a rigid backing material approved by the Contract Administrator. The Contractor shall fasten each sign to a suitable support and erect and maintain one sign at each street as directed by the Contract Administrator. When the Contract Administrator considers the Work on the street complete, the Contractor shall remove and dispose of the signs and supports. No measurement for payment will be made for performing all operations herein described and all other items incidental to the work described

**WATER MAIN WORKS**

**E13. PROVISIONAL ITEMS**

E13.1 The Provisional Items listed in the Form B Prices are part of the Contract.

E13.2 The Contractor shall not perform Work included in Provisional Items without prior authorization from the Contract Administrator. All work included in the Provisional Items will be carried out within the construction areas shown on the Drawings.

E13.3 Notwithstanding C7, the City reserves the right to diminish all or any portion of the Items of Work listed in the Provisional Items and no claim shall be made for damages on grounds of loss of anticipated profit or for any other reason.

#### **E14. PARTIAL SLAB PATCHES**

E14.1 Partial Slab Patches shall be constructed, measured and paid for as per CW 3230 except that no differentiation will be made for class of patch. Furthermore, no separate measurement or payment will be made for Drilled Dowels or Tie Bars, the cost for which shall be included in the prices bid for Partial Slab Patches.

#### **E15. MISCELLANEOUS CONCRETE SLAB RENEWALS – SIDEWALKS**

E15.1 Construct miscellaneous concrete slab renewals in accordance with CW 3235. Miscellaneous concrete slab renewals for sidewalk and monolithic median slab shall be measured on an area basis and paid for at the Contract Unit Price per square metre for “Miscellaneous Concrete Slab Renewals – Sidewalk (SD-228A)” and “Miscellaneous Concrete Slab Renewals – Monolithic Median Slab (SD-226A)” respectively, in Form B of the Bid Submission.

#### **E16. CONCRETE CURB RENEWALS**

E16.1 Construct concrete curb renewal in accordance with CW 3240. Concrete curb renewal shall be measured on a length basis and paid for at the Contract Unit Price per metre for “Concrete Curb Renewal” in Form B of the Bid Submission.

#### **E17. CONNECTING TO EXISTING WATER SERVICES**

E17.1 This specification shall amend clause 4.22 of CW 2110.

E17.2 Connecting to existing lead water services will be measured and paid for in accordance with Clause 4.13 of CW 2110, “Connecting Existing Copper Water Services to New Watermain” for each connection made, regardless of the material of the existing water service being connected to. Connecting to existing lead water services will not be included in the installation of a curb stop.

#### **E18. WATERMAIN TESTING**

E18.1 Further to CW 2125 Clause 3.4.3, samples must be submitted to the laboratory no later than 20 hours following sampling.

#### **E19. WATER SERVICES INTERRUPTIONS TO BUSINESSES, SCHOOLS AND APARTMENT BUILDINGS**

E19.1 Further to CW 1120 clause 3.6, the Contractor shall be required to work evenings, nights and weekends where required to minimize water service interruptions on this project.

E19.2 The Contractor shall work closely with the Contract Administrator and the City to coordinate service connections and tie-ins to minimize the disruption of water service to all properties in the area.

E19.3 The Contractor shall be required to submit a work plan to the Contract Administrator seven (7) calendar days prior to any construction activities to illustrate how the work will be performed to minimize or eliminate water shutdowns for this project. The plan will be reviewed by the Contract Administrator and revised by the Contractor as required.

E19.4 No additional payment shall be made for measures taken to minimize water service disruptions.

## **E20. INSTALLATION BY TRENCHLESS METHOD - DIRECTION DRILLING**

E20.1 Further to CW 2110-R11, the installation of the proposed water main by trenchless methods on Levis Street, Watt Street, and Brazier Street shall be installed by directional drill only to minimize the number of excavations required and the impact to existing pavements.

E20.2 Any alternative trenchless installation methods will need to be reviewed and approved by the Contract Administrator for these three locations prior to the commencement of construction.

## **E21. WORKING IN CLOSE PROXIMITY TO A FEEDERMAIN**

### DESCRIPTION

E21.1 This specification details operating constraints for all work carried out in close proximity to City of Winnipeg feeder mains. Close proximity shall be defined as any construction activity within a five (5) meter horizontal offset from the centreline of a feeder main.

E21.2 Feeder mains for this project are:

(a) Chalmers Avenue Feeder Main

(i) The feeder main runs east-west on Chalmers Avenue within the right-of-way as shown on the Drawings.

E21.3 Feeder mains are a critical component of the City of Winnipeg Regional Water Supply System and work in close proximity to feeder mains shall be undertaken with an abundance of caution. Large diameter feeder mains cannot typically be taken out of service for extended periods to facilitate construction and inadvertent damage caused to the pipe would likely have catastrophic consequences.

E21.4 Work around feeder mains shall be planned and implemented to minimize the time period that work is carried out in close proximity to the pipe and to ensure that the pipeline is not subjected to excessive construction related loads, including excessive vibrations and/or concentrated or asymmetrical lateral loads during backfill placement.

E21.5 Large diameter pressure pipe generally has limited ability to withstand increased earth and live loading. Therefore, every precaution must be undertaken to ensure that applied loading during all phases of construction is within accepted loading parameters. All large diameter feeder mains/water mains have the potential to cause extensive flooding.

### SUBMITTALS

E21.6 Submit proposed construction equipment specifications to the Contract Administrator for review a minimum of fifteen (15) Business Days prior to construction. The equipment submission shall include:

(a) Equipment operating and payload weights;

(b) equipment dimensions, including: wheel or track base, track length or axle spacing, track widths or wheel configurations; and,

(c) load distributions in the intended operating configuration.

E21.7 Submit a construction method statement to the Contract Administrator a minimum of fifteen (15) business days prior to construction. The construction method statement shall contain the following minimum information:

(a) proposed construction plan including excavation locations, haul routes, excavation equipment locations, and loading positions;

- (b) any other pertinent information required to accurately describe the construction activities in close proximity to the feeder main and permit the Contract Administrator to review the proposed construction plans.

E21.8 Incomplete or partial submissions will not be reviewed and will be returned to the Contractor for re-submission.

E21.9 Allow five (5) Business Days for review by the Contract Administrator.

#### CONSTRUCTION METHODS

E21.10 Construction in close proximity to the feeder main shall not commence until both the equipment and construction method statements have been submitted, reviewed, and accepted by the Contract Administrator.

E21.11 Prior to construction, the feeder main will be clearly delineated in the field and the Contractor shall locate the feeder main to confirm its depth and location where Works are to be completed in closed proximity to the existing feeder main.

E21.12 Granular material, construction material, soil or other material, shall not be stockpiled on the feedermain or within five (5) metres of centerline of the feedermain.

E21.13 Stage construction such that the feedermain is not subjected to significant asymmetrical loading at any time.

E21.14 Demolition, Excavation, Shoring and Backfill

E21.14.1 Use of pneumatic concrete breakers within five (5) meters of the feeder main is prohibited. Pavement shall be full depth sawcut and carefully removed. Use of handheld jackhammers for pavement removal will be allowed.

E21.14.2 Where work is in close proximity to the feedermain, utilize construction practices and procedures that do not impart excessive vibration loads on the feedermain or that would cause the settlement of the subgrade below the feedermain.

E21.14.3 Equipment should not be allowed to operate while positioned directly over a feeder main except where permitted herein, outlined in the reviewed and accepted construction method statement.

E21.14.4 Excavations within three (3) meters of the outside edge of a feeder main (hydrovac holes for confirming trenchless installations excluded) and which extend below obvert of the feeder main shall utilize shoring methods that precludes the movement of native in-situ soils (i.e. a tight shoring system).

- (a) The type, strength and amount of shoring and bracing shall be such as the nature of the ground and site conditions may require to protect the feeder main from loss of bedding material below the pipe springline.
- (b) All material used for shoring construction shall be in a like-new condition and shoring and bracing shall be so spaced and dimensioned as to prevent caving, loss of ground, surface settlement, or squeezing of the soil beyond the neat lines of the excavation. Shoring material shall be free from defects that might impair its strength or suitability for the Work.
- (c) Shoring and bracing shall be removed in stages while backfilling the excavation.

E21.14.5 Where excavation is required within the feeder main's embedment zone, the Contractor shall take steps to ensure the granular embedment material surrounding the feeder main remains stable during the work and the feeder main outside of the excavation is not undermined.

E21.14.6 Depending on the depth of the excavation required to install the works in relation to the existing feedermain, the following excavation methods shall be implemented:

- (a) Where the excavation elevation is higher than one (1) metre above the crown elevation of the feeder main pipe, excavations by normal methods with a backhoe/excavator will be permitted.
- (b) Where part of the excavation elevation is located within one (1) metre of the crown elevation of the feeder main pipe, excavation using a backhoe/excavator will be permitted to a depth of one (1) metre above the crown of the feeder main. Excavation below this depth must be by soft digging / hydro excavation methods only.
- (c) Where part of the excavation elevation is located below the crown elevation of the feeder main pipe but higher than the invert elevation of the feeder main pipe, a higher standard of care is required to minimize the impact on the feeder main. Excavation using a backhoe/excavator will be permitted to a depth of one (1) metre above the crown of the feeder main. Excavation below this depth must be by soft digging / vacuum excavation methods only. Shoring and bracing may be required to minimize the loss of soil or bedding material from around the feeder main.
- (d) Where part of the excavation elevation is located below the invert elevation of the feeder main pipe, a very high standard of care is required to minimize the impact on the feeder main pipe. The excavation must be completed as described in E13.14.6(c). However, engineered shoring must be installed in the excavation shaft to minimize disruption to the feeder main. Engineered Shoring must comply with E13.7(b) and E13.14.4.

E21.14.7 Backfill for excavations within close proximity to the feeder main to be done in accordance with CW 2030, using Class 1 or 2 backfill.

- (a) Flood tamping is not permitted in a zone within 2.5 m (horizontal offset) from the edge of the feeder main pipe.
- (b) Granular backfill shall be placed and mechanically compacted in maximum 300 mm thick lifts.
- (c) Mechanical compaction equipment is limited to walk behind vibratory compactors only. Compaction using a backhoe / excavator bucket is not permitted due to the potential for over-compaction and vibration.

#### MEASUREMENT AND PAYMENT

E21.15 Any costs associated with working in close proximity to a feeder main, backfilling, or restoration shall be incidental to the cost of the watermain renewal and will be included in the Contract Unit Price bid for "Watermain Renewal" in Form B of the Bid Submission.

#### **E22. WORK PRACTICES ON ASBESTOS-CEMENT PIPE**

E22.1 Further to C6.26(d), the Contractor's attention is directed to the possible health dangers associated with working with asbestos cement pipe and all work associated with the existing AC water mains shall conform to the following publications:

E22.1.1 "Work Practices for Asbestos-Cement Pipe", AWWA No. M16, published by the American Water Works Association.

E22.1.2 "Recommended Work Practices for AC Pipe", 1977, published by the AC Pipe Producers Association.

E22.2 The Contractor shall state in the "job specific safe work plan" the proposed procedure for working on AC Pipe. Contractor shall also provide proof of asbestos handling training or certification.

## **SURFACE WORKS**

### **E23. SUPPLY AND INSTALL WATERMAIN AND WATER SERVICE INSULATION**

#### DESCRIPTION

- E23.1 Notwithstanding 3.12 of CW 2110, this specification covers the supply and installation of insulation in roadway excavations over watermains and water services.
- E23.2 Referenced Standard Construction Specifications
- (a) CW 2030 – Excavation Bedding and Backfill
  - (b) CW 3110 – Sub –grade, Sub-base and Base Course Construction
- E23.3 Referenced Standard Details
- (a) SD-018 - Watermain and Water Service Insulation

#### MATERIALS

- E23.4 Acceptable insulation is:
- (a) Extruded Polystyrene rigid foam insulation – Type 4, 4” in thickness.  
DOW - Roofmate or Highload 40  
Owen’s Corning - Foamular 350 or Foamular 400.  
2” X 48” X 96”, 2” X 24” X 96”, 4” X 24” X 96”
- E23.5 Sand Bedding:
- (a) In accordance with CW 2030

#### CONSTRUCTION METHODS

- E23.6 Prior to the installation of any sub-base material or geotextile material, locate all existing water services. Further to SD-018, where directed by the Contract Administrator, excavate the sub-grade to allow the top of the insulation to be installed flush with the surrounding sub-grade. Install the insulation on a level surface centered over the located watermain or water service for the full width of the roadway excavation. Install sand bedding if required to level the surface. Stockpile and dispose of excavated material in accordance with CW 3110.
- E23.7 Thickness of insulation is 100 mm ( 4”). If using 50 mm ( 2”) panels 2 layers are required. Total width of insulation to be as directed by the Contract Administrator. Place sufficient full width panels to meet or exceed the specified width.
- E23.8 Place insulation panels adjacent to each other over the specified area with no gaps between panels and less than 15mm of elevation difference along the adjoined edges. Where 2” thick panels are being used, offset the top layer to prevent the panel joints from aligning with the joints in the lower layer.
- E23.9 Use full panels of insulation where possible. Where necessary cut insulation panels to obtain coverage to specified lengths. Insulation pieces shall be a minimum of dimension of 300 mm in width or length.
- E23.10 Take appropriate measures to ensure panels are not displaced when installing geotextiles and during backfilling operations.

#### MEASUREMENT AND PAYMENT

- E23.11 Watermain and Water Service Insulation shall be measured on an area basis and paid for at the Contract Unit Price per square metre of “Watermain and Water Service Insulation”. The area to be paid for shall be the total square meters of watermain and water service insulation supplied

and installed in accordance with this specification, accepted and measured by the Contract Administrator.

- (a) Excavation of the roadway subgrade in accordance with E23.6 will not be measured for payment and will be included in the payment for "Watermain and Water Service Insulation".

## **E24. SIDEWALK EXPANSION JOINTS**

### DESCRIPTION

- E24.1 Further to CW 3325 - R5, this specification covers the supply and installation of expansion joints to be constructed within concrete sidewalk.

### MATERIALS

- E24.2 Fiber Joint Filler

- E24.2.1 Fibre joint filler shall be rot-proof and of the preformed, non-extruding, resilient type made with a bituminous fibre such as Flexcell and shall conform to the requirements of ASTM D1751 or equal as accepted by the Contract Administrator, in accordance with B6, "Substitutes".

- E24.3 Reinforcing Steel

- E24.3.1 300mm long 10M smooth, epoxy coated steel dowels, 300 MPa yield strength.

### CONSTRUCTION METHODS

- E24.3.2 Expansion joints shall be constructed and installed as directed by the Contract Administrator to a maximum of twelve locations.

- E24.3.3 The fiber joint filler shall extend the full width and depth of the sidewalk. Any excess material shall be trimmed to match the surface of the concrete.

- E24.3.4 Two dowels shall be installed at each expansion joint.

- E24.3.5 The dowels shall be drilled through the fiber joint filler and are to be coated with asphaltic cut-back.

### MEASUREMENT AND PAYMENT

- E24.3.6 No measurement or payment will be made for performing the supply of materials and the operations herein described and shall be considered incidental to installation of concrete sidewalk up to a maximum of twelve expansion joints.

## **E25. SUPPLY AND INSTALLATION OF MMA MARKINGS**

### DESCRIPTION

- E25.1 This specification covers the supply and installation of Methyl Methacrylate Area (MMA) Marking with Anti-Skid in concrete sidewalk for the pedestrian delineator band in the new sidewalk on Johnson Ave W.

### GENERAL

- E25.2 Drawings and Manuals

- (a) Drawings: P-3521-04 to P-3521-10;  
(b) Attached Manual: Appendix 'B' – Applicable Instructions – MMAX Corundum Area Markings

- E25.3 Material

- (a) CycleGrip® MMAX kit – includes CycleGrip® MMAX Resin (black), CycleGrip® MMAX Aggregate and Catalyst

E25.4 Source

- (a) ENNIS-FLINT

Available from:

ENNIS-FLINT

Attention: Deryk Upton

Ph: 604-315-8765

Email: [dupton@ennisflint.com](mailto:dupton@ennisflint.com)

Web: [www.ennisflint.com](http://www.ennisflint.com)

CONSTRUCTION METHOD

- E25.5 Where the MMA Markings is to be placed, the surface of the concrete sidewalk must be texture grooved to a width of 0.2m and a depth of 1.25mm(min) to 2.5mm(max). Note: The use of grooving equipment with gang stacked diamond cutting blades is required for texturing concrete sidewalk surfaces.

- E25.6 Prepare the concrete sidewalk surface in accordance with Manufacturer's application instructions and MMAX Area Markings specification (attached).

MEASUREMENT AND PAYMENT

- E25.7 Supply and installation of MMA marking with anti-skid will be measured on a length basis and paid for at the Contract Unit Price per metre for "Supply and Installation of MMA Marking with Anti-Skid". The length to be paid for will be the total number of metres of MMA marking with anti-skid supplied and installed in accordance with this specification, accepted and measured by the Contract Administrator.

- E25.8 Grooving and preparation of concrete sidewalk for MMA marking with anti-skid shall be included in the cost for "Supply and Installation of MMA Marking with Anti-Skid" and no separate measurement and payment will be made.

**E26. WORKING UNDER AND NEAR OVERHEAD HIGH VOLTAGE TRANSMISSION LINES**

DESCRIPTION

- E26.1 Contractor is responsible to meet with Manitoba Hydro at the onset of the Work to verify the working restrictions, equipment and material storage, location of any site trailers and clearance requirements related to the transmission crossing on Johnson Avenue W.
- E26.2 The Contractor shall organize all safety watches that may be required.

MEASUREMENT AND PAYMENT

- E26.3 Manitoba Hydro safety watches and precautions required for working in proximity to Manitoba Hydro Overhead transmission lines shall not be measured or paid and will be considered incidental to the Work.

**E27. LANDSCAPING CURB**

DESCRIPTION

- E27.1 This specification shall cover the supply and installation of concrete landscaping curb, as noted on the Drawings or as directed by the Contract Administrator.

MATERIAL & CONSTRUCTION METHOD

E27.2 Supply and install curb in accordance with CW 3310 – Portland Cement Concrete Pavement Works.

E27.3 Construct 150 mm reveal concrete landscaping curb integral with the monolithic curb and sidewalk.

#### MEASUREMENT AND PAYMENT

E27.4 Supply and installation of concrete landscaping curb will be measured on a length basis and paid for at the Contract Unit Price for “Landscaping Curb (150 mm reveal ht)”, supplied and installed in accordance with the Specification and accepted and measured by the Contract Administrator.

### **E28. MODIFICATION OF EXISTING OVERHEAD SIGN STRUCTURE**

#### DESCRIPTION

E28.1 This specification shall cover the modification of the existing cantilever overhead sign structure for west bound Johnson Avenue W near side of Henderson Highway. This modification is necessary to relocate the two left turn sign plates to accommodate the changes in the travelling lanes positions.

#### MATERIAL & CONSTRUCTION METHOD

E28.2 The City will provide a 10.0m horizontal arm and a 6.3m vertical arm to the Contractor, to replace the existing 6.3m vertical arm and 8.2m horizontal arm. The Contractor shall pick up from the City Yard at 960 Thomas Ave, the Contract Administrator will assist in coordination.

E28.3 The Contractor shall supply, modify, fabricate new brackets for the existing two left turn only signs to accommodate their relocation along the new arm.

E28.4 The Contractor shall break down the existing concrete pile to a suitable depth and recast the top portion with new anchor bolts to suite the new bolt pattern for the vertical arm bolt provided by the City. The Contractor shall provide a sealed shop drawings for this new base connection.

E28.5 The Contractor shall salvage the existing overhead sign structure and return to the City Yard at 960 Thomas Ave.

#### MEASUREMENT AND PAYMENT

E28.6 The modifications of the overhead sign structure will be paid for as a Lump Sum basis for “Modification of Existing OHSS”, in accordance with the Specification and accepted by the Contract Administrator.

E28.7 If it is determined a new concrete pile is required this will not be considered incidental.

### **E29. REINSTATING PRIVATE WALKS**

#### DESCRIPTION

E29.1 Further to CW 3325 – R5 and CW 3330 – R5 this specification covers the reinstatement of private walks following regrading of private property.

E29.2 Vertical geometry improvements will require regrading into private property necessitating renewal of existing private walks to meet the requirements of the 2015 City of Winnipeg Accessibility Standards.

#### CONSTRUCTION METHODS

E29.3 Private lots will be regraded as directed by the Contractor Administrator.

- E29.4 Renewal limits for private walks will be provided by the Contract Administrator.
- E29.5 Private walks are to be reinstated using the same materials as the existing walks (ie. concrete, paving stones or exposed aggregate concrete).
- E29.5.1 Concrete private walks are to be installed as per CW 3325 – R5.
- E29.5.2 Paving Stone private walks are to be installed as per CW 3330 – R5.
- (a) Existing paving stones are to be carefully removed and stockpiled for reinstallation
- (b) Where the pre-existing paving stones cannot be salvaged or are damaged, the Contractor is to supply new pavers that match the existing pavers in shape and colour.
- E29.5.3 Exposed aggregate concrete private walks are to be reinstated to match the texture of the existing private walk.

#### MEASUREMENT AND PAYMENT

- E29.6 Regrading of private property will be paid as per CW 3110 – R19.

### **E30. LONGITUDINAL SAW-CUTTING OF EXISTING SIDEWALK**

#### DESCRIPTION

- E30.1 This specification covers the longitudinal saw-cutting of the north and south existing sidewalks to accommodate accessible sidewalks as required for staging the Work.
- E30.2 Sidewalk saw-cutting may be required to cleanly remove portions of existing concrete sidewalk to accommodate roadway excavation and temporary widening while maintaining a 1.5m walking path.

#### CONSTRUCTION METHODS

- E30.3 Sawcut and remove sidewalk as per CW 3230 – R8 and 3235 – R9

#### MEASUREMENT AND PAYMENT

- E30.4 Longitudinal saw-cutting of existing sidewalk shall not be measured or paid and will be considered incidental to the Work.

### **E31. VIDEO INSPECTION OF SEWERS**

#### DESCRIPTION

- E31.1 This Specification amends CW 2130 and CW 2145. It covers the incidental video inspection of existing sewers following tying in new catch basin leads or the abandonment of existing catch basin leads.

#### CONSTRUCTION METHODS

- E31.2 Video inspection of existing sewers shall be done in accordance with CW 2130 and CW 2145.

#### MEASUREMENT AND PAYMENT

- E31.3 Video inspection of existing sewers following tying in new catch basin leads or the abandonment of existing catch basin leads shall not be measured and shall be considered incidental to the Work.

### **E32. EXISTING STREETCAR TRACK BEDDING AND REMOVAL**

#### DESCRIPTION

- E32.1 This specification covers the removal of existing street car track bedding excluding rails on Johnson Ave W from Henderson Hwy to Levis St.
- E32.2 Site investigation during design provided no evidence of steel rails still present in the road. However steel rails still may be present.
- E32.3 Refer to Appendix 'A' Geotechnical Report to see material profile of street car track bedding.
- E32.4 The term Street Car Track Bedding shall include concrete bedding, wooden ties, and any other track bedding materials, for the street car tracks previously located down Johnson Avenue W. The concrete bedding is estimated to be approximately 6.6 metres wide by 0.45 metres thick.

#### CONSTRUCTION METHODS

- E32.5 Remove the existing concrete bedding, wooden ties and any other materials, by demolishing, loading, hauling, and disposing of the removed track bedding material. Ensure that Manitoba Hydro requirements for working in close proximity to Gas infrastructure including transverse service connections are adhered to.
- E32.6 When individual transvers gas services are within the 0.200m from the bottom of the streetcar tracks and bedding, additional efforts to remove the streetcar tracks and bedding will not be considered incidental.
- E32.7 Dispose of the removed material as per CW 1130.

#### MEASUREMENT AND PAYMENT

- E32.8 Removal of existing Street Car Track Bedding shall be measured on cubic meter basis and paid for at the Contract Unit Price for "Removal of Existing Street Car Track Bedding". The volume paid shall be the total number of cubic meters of existing street car track bedding removed as measured and accepted by the Contract Administrator.
- E32.9 Removal of material below the concrete bedding required to achieve subgrade elevation will not be considered street car track bedding and shall be paid for as Excavation.
- E32.10 Removal of the existing pavement on top of wooden ties and bedding will not be considered street car track bedding and shall be paid for as Pavement Removal.
- E32.11 Removal of existing Street Car Track Rails shall be measured on lineal meter basis and paid for at the Contract Unit Price for "Removal of Existing Street Car Track Rails". The length paid shall be the total number of lineal meters of existing street car track rail removed as measured and accepted by the Contract Administrator

### **E33. CATCH BASIN OUTFLOW RESTRICTORS**

#### E33.1 DESCRIPTION

- E33.1.1 Further to CW 2130, this specification covers the supply and installation of sewer service outlet restrictors.

#### E33.2 MATERIALS AND CONSTRUCTION METHODS

- E33.2.1 Restrictors are to be installed as per the Contract Drawings and SD-025B.

#### E33.3 MEASUREMENT AND PAYMENT

- E33.3.1 Supply and Installation of sewer service restrictors will be measure for each location and paid for at the Contract Unit Price for "Supply and Install Sewer Service Outlet Restrictor" as per the corresponding reduced diameter. The units will be paid for each unit supplied and placed in accordance with this Specification and as measured and accepted by the Contract Administrator.

### **E34. WORKING IN CLOSE PROXIMITY TO GAS INFRASTRUCTURE**

#### **E34.1 DESCRIPTION**

E34.1.1 While working in close proximity to gas infrastructure, all procedures and precautions outlined in the Appendix 'D'- Safe Excavation & Safety Watch Guideline manual, as well as any supplemental direction from Manitoba Hydro, must be adhered to. Ensure that all locates and clearances are current and have been received and understood prior to construction.

#### **E34.2 MEASUREMENT AND PAYMENT**

E34.2.1 Hydro excavation to locate and verify gas infrastructure as typically required by Manitoba Hydro will be considered incidental to the Work.

E34.2.2 Full hydro excavation of any gas main for full exposure longitudinally or transversely in a long and continuous fashion will not be considered incidental to the Work.

E34.2.3 Any costs associated performing Safety Watches will be considered incidental to the Work.

### **TRAFFIC SIGNAL WORKS**

### **E35. TRAFFIC SIGNAL INSTALL MATERIALS**

E35.1 In addition to CW 3620 3.11.12, Joining of conduit will not be allowed except:

(a) Where joining of conduit is required for Convenience of Road Construction Sequencing with a maximum of one (1) joint per conduit.

E35.2 In place of CW 3620 3.11.13, Joining of conduit shall use an approved oversize coupler to connect nominal size 1.5" or 2" LDPE pipe, IPEX Series 75, installation to follow manufacture's recommendations.

(a) Approved Products:

(i) Plasson Universal Slip Repair Coupler 60-64, Product Code: 176100060064 for use with nominal 2" LDPE.

(ii) Plasson Universal Slip Repair Coupler 48-51, Product Code: 176100048051 for use with nominal 1.5" LDPE.

(b) Substitutes will not be allowed except:

(i) Where application has been made to and approval has been provided by Traffic Signals. The Contractor shall provide sufficient information and details to enable the Traffic Signals to determine acceptability.

E35.3 As per CW 3620 4.11.5, No measurement or payment shall be made for Joining of Conduit.

E35.4 Removal of CW 3620 2.10.1 (b) Conduit coupling pipe and gear clamps.

### **E36. TRAFFIC SIGNALS SERVICE BOX PRE-CAST**

E36.1 Description

(a) This specification covers the use and installation of a service box pre-cast 17" x 30" x 18" and 13" x 24" x 18".

E36.2 Materials

- (a) Materials shall be as per section 2 of CW 3620.

#### E36.3 Construction Method

- (a) Install Pre-Cast Service Box in grass boulevards/medians, and hard surfaced medians or as shown on the Drawings or as directed by the Contract Administrator.
- (b) Fill bottom of excavation with compacted limestone base course material to set precast service box to grade.
- (c) Install Pre-Cast Service Box on top of the compacted granular fill material to pavement, sidewalk or boulevard finish grade.
- (d) All conduits must be bundled into a group in the centre of the Pre-Cast Service Box. Install plastic plugs prior to back fill.
- (e) Backfill around Pre-Cast Service Box exterior. Back fill shall conform to requirements of SD-342.
- (f) Pre-Cast Service box shall meet the grade of the sidewalk or boulevard given provided by Contract Administrator.

### **E37. INSTALLATION OF EARLY OPEN TRAFFIC SIGNALS CONCRETE BASES**

#### E37.1 Description

- (a) This specification shall cover the installation of Early Open Concrete Bases.

#### E37.2 Materials

- (a) Supply concrete for bases in accordance with CW 2160, Table CW 2160.1 Design Requirements for Concrete Used for Underground Structures, for Type A Structures (monolithic sewers and reinforced structures).
- (b) Further to E37.2(a), the supplied concrete shall achieve a minimum compressive strength of 22 MPa at 48 hours.

#### E37.3 Construction Methods

- (a) Construction Methods for the installation of Early Open Concrete Bases shall be as per Section 3.7 of CW 3620.

### **E38. INSTALLATION OF PRE-CAST TYPE PM TRAFFIC SIGNALS BASES**

E38.1 Pre-cast Type PM concrete bases shall be supplied by The Contractor including anchor bolts.

E38.2 Fabrication and installation shall be in accordance with SD-315.A.

### **E39. ANCHOR BOLT PROJECTIONS FOR TRAFFIC SIGNALS CONCRETE BASES**

E39.1 Further to Section 3.7 of CW 3620 Concrete Bases Type A, Type G, Type OD and Type J Bases shall have an anchor bolt projection as specified below:

- (a) The following bolt projections shall override what has been specified on SD-310, SD-313 and SD-314.

Concrete Base Type	Anchor Bolt Projection (mm)	Tolerance (mm)
Type A	76.0	(71.0 – 76.0)
Type G	89.0	(84.0 – 89.0)
Type OD	50.8	(45.8 – 50.8)
Type J	150.0	(145.0 – 150.0)

## MANITOBA HYDRO WORKS

### E40. INSTALLATION OF STREET LIGHTING AND ASSOCIATED WORKS

#### E40.1 DEFINITIONS

- (a) LIMITS OF APPROACH means the shortest distance that is permissible between live high voltage (>750 volts) conductors or apparatus and any part of a worker's body, material or tools being handled, or equipment operated.
- (b) MANITOBA HYDRO CENTRAL STORES means Manitoba Hydro's Waverley Service and Reclaim Centre - 1840 Chevrier Blvd - Winnipeg, Manitoba
- (c) OVERHEAD FEED means an electrical supply via an overhead conductor connected between streetlight standards. Typically strung between standards on a temporary basis.
- (d) OVERHEAD SOURCE means an electrical supply from Manitoba Hydro's system. (Typically an overhead conductor from a wooden distribution pole or a DIP/RISER located on a wooden distribution pole.)
- (e) RECLAIM material means existing material that has been removed from Manitoba Hydro's system and to be returned to Manitoba Hydro.
- (f) SCRAP material means existing material that has been removed from Manitoba Hydro's system and to be recycled/disposed of by the Contractor.
- (g) SURPLUS material means new material that has been requisitioned by the Contractor and not incorporated into the work at the end of the Contract.
- (h) WORK CLEARANCE means an ELECTRICAL AND/OR NATURAL GAS FACILITIES LOCATE form (see SAMPLE ONLY included as Appendix F) issued by each of Manitoba Hydro's Customer Service Centre (CSC) affected to permit work to commence (Permit to work).

#### E40.2 DESCRIPTION

- E40.2.1 The work shall consist of the supply of all supervision, labour, materials (except as indicated under MATERIAL SUPPLIED BY MANITOBA HYDRO below) insurance, tools, backfill and equipment (and their maintenance), transportation, fuel, oil, meals and lodging, mobilization and de-mobilization, and warranty of workmanship as required to install and remove temporary Overhead Feeds, remove existing street light poles as required, install new street light poles and associated underground cables/conduits, all in accordance with the requirements specified in the tender documents.

#### E40.3 WORK LOCATIONS

- E40.3.1 The proposed street light installation and removals are shown on construction drawings and are as follows:
  - (a) Munroe Ave from Henderson Hwy to Watt St

#### E40.4 COORDINATION OF WORK

E40.4.1 The Contractor shall provide a minimum of ten (10) working days notice to Manitoba Hydro prior to the start of construction. The work shall be conducted and coordinated with Manitoba Hydro in a manner to ensure street lighting is maintained at all times for the duration of the work. The construction drawings provide the Proposed Sequence of Construction.

E40.4.2 The Contractor shall obtain Work Clearance from Manitoba Hydro's Customer Service Centre(s) (CSC) affected prior to the work commencing. No additional compensation shall be paid to the Contractor for delays obtaining Work Clearance for any reason.

E40.4.3 Manitoba Hydro's CSC will provide the Limits of Approach applicable to the Contractor on the Work Clearance form.

#### E40.5 ORIENTATION

E40.5.1 Prior to the commencement of the proposed work, the Contractor's crew foremen, electricians, and other key personnel shall attend one (1) day of orientation provided by Manitoba Hydro for various operations such as cable handling, cable splicing/termination, installation of street light poles, concrete bases, luminaires and various other construction standards and procedures. The Contractor will be responsible for all costs associated with personnel salaries, travel, sustenance and overheads, etc., during training.

#### E40.6 PRE-CONSTRUCTION MEETING

E40.6.1 Prior to the commencement of the work, the Contractor shall attend a pre-construction meeting with Manitoba Hydro. The agenda for this meeting shall include but not be limited to the following:

- (a) Reference the Contractor's Safe Work Procedures;
- (b) Prime Contractor;
- (c) materials;
- (d) sequence of construction;
- (e) communication plan;
- (f) any training requirements & qualifications;
- (g) Drawing and Project review;
- (h) a review of the Contractor's proposed work schedule; and
- (i) any and all other topics of clarification that the Contractor and the Contract Administrator may wish to discuss.

E40.6.2 The Contractor's cost to attend this pre-construction meeting shall be incorporated into the unit prices for the work.

#### E40.7 QUALIFICATIONS AND CERTIFICATION

E40.7.1 The Contractor's Crew Foreman, installers and other key Contractor's Personnel shall possess the necessary certification, licensing, training, experience and familiarity with safety rules, procedures and hazards relating to the work. Journeyman Power Line Technician (PLT), Journeyman Lineman, Journeyman Cableman or Journeyman Electricians shall be required to perform portions of this work.

E40.7.2 Journeyman Power Line Technician (PLT), Journeyman Cableman and Journeyman Lineman are also required to possess a "Limited Specialized Trade Licence – 'M-P' Licence – Power Line" issued by the Province of Manitoba.

E40.7.3 Manitoba "Safe work" Bulletin M&E010 dated January 5, 2011 regarding Electrician Licenses discusses the requirements for a "Limited Specialized Trade Licence – 'M-P' Licence – Power Line".

For more information contact:  
Manitoba

Mechanical and Engineering Branch

500-401 York Avenue

Winnipeg, Manitoba R3C 0P8

Tel. 204-945-3373

Fax 204-948-2309

or see link [http://www.firecomm.gov.mb.ca/docs/ofc\\_itsm\\_11\\_010electlic.pdf](http://www.firecomm.gov.mb.ca/docs/ofc_itsm_11_010electlic.pdf)

E40.7.4 Licensed Journeyman Electricians or Journeyman PLT or Journeyman Cableman or Journeyman Lineman ARE REQUIRED for all cable handling operations included but not limited to: disconnecting cables in the handhole, installation and removal of temporary overhead feeds, installation and connection of ground rods, streetlight cable splices, termination of streetlight cables in handholds and at luminaires. The Contractor shall employ sufficient qualified personnel on its crews to conform to the Electrician's Licensing Act. The Contractor shall be prepared to provide proof of licences to Manitoba Hydro upon request.

E40.7.5 The Contractor shall assess the hazards associated with the work and have documented Safe Work Procedures to perform the work. It is the Contractor's responsibility to train employees on these procedures. The Contractor shall be prepared to provide proof of training to Manitoba Hydro upon request.

#### E40.8 REFERENCED STANDARD CONSTRUCTION SPECIFICATIONS

E40.8.1 In addition to these Specifications, the work to be performed by the Contractor relative to the installation and/or replacement of street lighting poles, concrete bases and associated cabling shall be in accordance with the following:

- (a) Manitoba Hydro 66kV and Below Standards;
- (b) CSA C22.3 No. 7 (latest edition);
- (c) Canadian Electrical Code (CEC) Part 1 (latest edition); and
- (d) Any other applicable codes.
- (e) (collectively, the "Standards").

E40.8.2 Revisions and updates to the Manitoba Hydro 66kV and Below Standards are issued periodically and the latest issued version of the Standard will apply. For the convenience of the Contractor for bidding purposes, excerpts of the Manitoba Hydro 66kV and Below Standards have been included as Appendix C.

E40.8.3 In some cases, Municipal, Provincial or Federal laws or this Technical Specification may be more stringent than the CSA Standards. Whenever conflict exists, the Contractor shall comply with the most stringent requirements applicable at the place of the work.

#### E40.9 TOOLS, EQUIPMENT AND MATERIALS

E40.9.1 The Contractor shall be required to provide all tools and equipment required for performing the specified tasks. Equipment shall be in good operating condition, shall be properly maintained using original equipment manufacturer replacement parts and shall be provided with letters of testing/inspection from the manufacturer when requested. Where the equipment is provided as a kit with multiple parts and tools, the kit shall be complete with all parts required to perform the designed task. Contractor fabricated tools or equipment will not be accepted for use.

E40.9.2 The Contractor shall obtain the following specific Electrical Equipment including but not limited to:

- (a) Compression tool or tools and associated dies to perform compressions to a maximum size of 1/0 Al (MD-6 compression tools shall not be used).
- (b) Approved compression tools are:

Manufacture	Type	Model No.	Range
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Burndy	In-line, battery	PATMD68-14V	350 Kcmil AL
Cembre	In-line, battery	B54Y (06V081E)	4/0 AWG AL
Burndy	Pistol, battery	BUR PAT60018V	350 Kcmil AL

E40.9.3 Dies shall be of the type shown in Standard CD210-21 and CD 210-24 only, must have identical markings, and compression tool die must match die number stamped on connector.

- (a) Modiewark Model #4444 or Fluke 1AC-II Volt Alert potential Indicator
- (b) Voltage meter – Fluke model #T3C
- (c) Insulated wire cutters – used for cutting cable ends square.

E40.9.4 Alternative equipment manufacturers may be considered upon request by the Contractor and shall be approved for use by Manitoba Hydro prior to use.

E40.9.5 Manitoba Hydro may reject any tools or equipment that do not appear to be in good condition or fail to successfully provide the required function.

#### E40.10 MATERIAL SUPPLIED BY MANITOBA HYDRO

E40.10.1 Manitoba Hydro shall supply all street light poles, concrete bases, breakaway bases, luminaires, street light arms, ground rods, compression sleeves, grommets, nuts, electrical cables, conduits, relays, cable guards, Gel-caps and all other materials noted in the Standards. The Contractor shall sign receipts indicating the location on which the materials are to be used. The material shall be picked up by the contractor from the following locations:

E40.10.2 Manitoba Hydro Central Stores (contact personnel will be provided to the successful contractor).

E40.10.3 Materials requested will be supplied to the Contractor by Manitoba Hydro upon presentation of Manitoba Hydro's Stores Material Order Form. The Contractor shall assume all responsibilities for the loading, unloading, transportation, proper handling, secure storage and working of the materials and shall make replacements at its own expense in case any material is damaged, stolen or lost due to improper handling, storage or poor workmanship.

E40.10.4 The Contractor shall, at the time of materials release, check and confirm the quantity of materials. Shortages, discrepancies, or damages to materials shall be immediately reported in writing to Manitoba Hydro.

E40.10.5 After commencing performance of the work, the Contractor shall continually monitor all material required for the timely completion of the work and shall report additional material requirements to Manitoba Hydro a minimum of 72 hours prior to materials being required to perform the work. No additional compensation shall be paid as a result of delays due to material shortages where additional material requirements were not reported a minimum of 72 hours prior to being required for the work on an active project.

#### E40.11 MATERIAL SUPPLIED BY CONTRACTOR

E40.11.1 The Contractor shall be responsible to furnish gravel, sand,  $\frac{3}{4}$  down limestone,  $\frac{1}{4}$  down limestone, protective hose (i.e. typically 2" fire hose), duct seal and pit-run material for backfilling around street light poles and around cables as per the Standards. The cost of furnishing the above listed materials shall be incorporated into the unit prices for the work.

#### E40.12 SURPLUS, RECLAIM AND SCRAP MATERIAL

E40.12.1 Upon completion of the work, the Contractor shall, at its own expense, deliver to Manitoba Hydro Central Stores, all Surplus materials furnished by Manitoba Hydro and not used in the work, regardless of the location of said material at that time.

E40.12.2 In addition, the Contractor shall, at its own expense, deliver to Manitoba Hydro Central Stores all Reclaim materials from the work specifically HPS luminaires. Manitoba Hydro shall be responsible for the proper disposal of Reclaim HPS luminaires. The HPS bulb

shall remain installed and unbroken in the Reclaim luminaire. The Contractor shall handle the Reclaim luminaires with care and shall avoid breaking the bulb or refractor.

- E40.12.3 Manitoba Hydro's preference is to recycle as much Scrap Material as practicable. The Contractor is responsible to remove the Scrap Material, transport to the recycler or Manitoba Hydro approved disposal site, pay for any disposal fees and may retain any recycling value.

#### E40.13 DE-ENERGIZATION AND LOCKOUT

- E40.13.1 **Manitoba Hydro** - Where a standard is supplied from an Overhead Source, Manitoba Hydro's staff shall be responsible to disconnect and isolate the street light standard or standards between the standard and Overhead Source. Some street light standards may be temporarily fed from an Overhead Source. This Overhead Source shall be disconnected and removed by Manitoba Hydro staff prior to commencing with the work. The streetlight circuits will not be Locked Out by Manitoba Hydro.

- E40.13.2 **The Contractor** - The Contractor shall assess the hazards associated with the work and employ its own Safe Work Procedure for the work to be performed. The Contractor's Safe Work Procedure shall include provisions that the street light circuits will not be Locked Out by Manitoba Hydro. The Contractor's Safe Work Procedure shall achieve Lock Out or techniques equivalent to Lock Out.

- E40.13.3 The Contractor shall complete a job planning form (an example is included as Appendix G) on a daily basis before any work commences and provide Manitoba Hydro with copies of the job plans if requested.

#### E40.14 TEMPORARY OVERHEAD FEEDS

- E40.14.1 Manitoba Hydro in consultation with the Contractor will determine if temporary lighting will be provided by the existing street lights or from the new street lights.

- E40.14.2 When using the existing poles for temporary lighting, Manitoba Hydro shall remove an Overhead Source in accordance with DE-ENERGIZATION AND LOCKOUT above, prior to the Contractor installing a #4 duplex overhead conductor between the existing poles. The #4 duplex overhead conductor will normally be attached to the tenon of the davit arm near the luminaire with a pre-form grip. Older poles may require a spool insulator be attached to the pole using a pre-form grip to support the #4 duplex overhead conductor. A short length of 2C/#12 copper conductor is connected to the terminals of the luminaire brought out and connected to the #4 duplex overhead conductor. The final span to the Overhead Source shall be installed by Manitoba Hydro.

- E40.14.3 When using the new poles for temporary lighting, the Contractor shall install the new bases, poles and #4 duplex overhead conductor. The #4 duplex overhead conductor will be attached to the tenon of the davit arm near the luminaire with a pre-form grip. A short length of 2C/#12 copper conductor is connected to the terminals of the luminaire brought out and connected to the #4 duplex overhead conductor. The final span to the Overhead Source shall be installed by Manitoba Hydro.

- E40.14.4 All material used to provide the temporary overhead feed shall be returned to Manitoba Hydro. Care shall be taken to coil and tag Reclaim conductor for reuse. If used, insulators shall be handled carefully to prevent breakage.

#### E40.15 SAFE EXCAVATION

- E40.15.1 The work shall be performed in accordance with the requirements of Manitoba Hydro's Safe Excavation and Safety Watch Guidelines included as Appendix D and Manitoba Workplace Safety and Health Regulation 217 latest revision.

#### E40.16 SAFE HANDLING

- E40.16.1 The Contractor shall apply handling techniques in accordance with Manitoba Workplace Health and Safety Regulation 217 latest revision.

#### E40.17 ELECTRIC CABLES AND CONDUITS

- E40.17.1 The Contractor shall use diligent care and proper equipment in handling of all cables, so as not to injure the jacket and avoid gouging, kinking, scratching or abrading the cables. If any material is damaged to any extent, the Contractor shall repair the damages at its own expense, in a manner approved by Manitoba Hydro or will be charged the full cost of the damaged items.
- E40.17.2 Cable reels shall not be dropped and must be handled and placed/stored in an upright position at all times and shall not be laid flat for any purpose or reason. Cable reels shall be adequately supported on hard surface to prevent the reel from sinking into the ground that can cause undue stress on the cables. Cable reels should be inspected for damages prior to use. If a cable reel is found to be defective, such defect shall be reported immediately to Manitoba Hydro.
- E40.17.3 The Contractor shall place all material and string the cables in such a manner as to cause the least interference with normal use of the land, street or roadway. All material shall be unloaded in a manner to preserve its condition, prevent loss and/or theft and permit easy access for Manitoba Hydro's inspection.
- E40.17.4 The Contractor shall provide Manitoba Hydro's inspector sufficient opportunity, in the sole discretion of Manitoba Hydro, to inspect the work.

#### E40.18 PRECAST CONCRETE BASES

- E40.18.1 The Contractor shall handle, store, transport and unload the precast concrete bases in a manner to prevent damage to the threaded bolts and conduit casing.
- E40.18.2 Precast Concrete Bases are extremely heavy. Approximate weight of pre-cast concrete bases are found in the Standards. The Contractor shall only use equipment rated for such weight.

#### E40.19 STREET LIGHT POLES AND ARMS

- E40.19.1 The Contractor shall handle, store, transport, and provide proper load securement for the poles and arms in a manner to prevent damage.

#### E40.20 LUMINAIRES

- E40.20.1 The Contractor shall handle, store, transport and unload the luminaires in their original packaging and in a manner to prevent damage.

#### E40.21 SMALL MATERIAL

- E40.21.1 Photo electric cells, shorting caps, shims, nut covers and associated supplies shall be kept in a suitable warehouse provided by the Contractor at its own expense. Photo electric cells shall be transported and stored in such a manner as to prevent breakage.

#### E40.22 CARE OF MATERIALS

- E40.22.1 The Contractor shall assume all responsibilities of all the materials and shall replace, at its own expense, any materials damaged, stolen or lost due to improper handling or poor workmanship.

#### E40.23 WIRE AND CABLE REEL STORAGE

- E40.23.1 Cable reels shall be stored with the flanges upright and resting on a hard surface. At temporary storage sites where the soil may be soft, preservative-treated plywood sheets may be used to keep the flanges from sinking into the ground.
- E40.23.2 If cable reels must be pancaked or stored on their side in vertical racks, do not lift the reel by the top flange. Spacers (two 2 X 4s placed wide side up) should be placed under the bottom flange and between the reels in order to create a space to insert the forks and lift the reels without damaging the cable.

#### E40.24 REEL HANDLING

- E40.24.1 When off-loading reels from a truck, reels shall be lowered using a hydraulic gate, hoist or forklift truck. When a reel is rolled from one point to another, care must be taken to see that the reel does not straddle objects such as rocks, pipes, curbs or wooden blocks which could damage the cable or protective covering. A reel should always be rolled on hard surfaces to avoid sinkage and in the opposite direction to the cable wraps to ensure that the reel is rolled in such a direction as to tighten the cable on the reel.
- E40.24.2 When using a hoist, install a mandrel through the reel arbour hole and attach a sling. Use a spreader bar approximately 6 inches longer than the overall reel width placed between the sling ends just above the reel flanges. This will prevent bending of the reel flanges and damage to the cable.
- E40.24.3 If a forklift is used to move a reel, the reel is to be approached from the flange side. Position the forks such that the reel is lifted by both reel flanges. The lift forks shall not contact the cable.
- E40.24.4 Returnable reels shall be returned promptly to Manitoba Hydro Central Stores and in no case later than three (3) days after the completion of the work unless otherwise mutually agreed between the Contractor and Manitoba Hydro.

#### E40.25 PRESSURIZED WATER/VACUUM EXCAVATION

- E40.25.1 Pressurized water/vacuum excavation (PW/VE) shall be used to daylight all buried utilities and structures where excavation by other mechanical means would be expected to provide a physical risk to that utility or structure.
- E40.25.2 The work shall be performed in accordance with the requirements of Manitoba Hydro's Safe Excavation and Safety Watch Guidelines included as Appendix D.

#### E40.26 REMOVAL STREET LIGHT POLE FROM EXISTING BASE

- E40.26.1 This shall include all work required to remove a street light pole from an existing base as set forth in this Technical Specification. The pole may be on an existing precast concrete base, steel power installed screw base or poured in place concrete base.
- E40.26.2 The Contractor shall furnish all labour, supplies and materials (except as indicated in the Section "MATERIAL SUPPLIED BY MANITOBA HYDRO") necessary for the removal of the street light pole from the existing base. Care shall be taken to preserve the luminaire. The luminaire shall be reinstalled on the new street light pole or returned to Manitoba Hydro's stores as instructed by the Manitoba Hydro.
- E40.26.3 The Contractor shall be responsible to transport all Surplus and Reclaim materials to Manitoba Hydro Central Stores and transport and dispose of all Scrap material as set forth in this Specification.

#### E40.27 REMOVAL OF BASE AND DIRECT BURIED STREET LIGHT POLE

- E40.27.1 This shall include all excavation, whether by auger, pressurized water/vacuum excavation, by hand, or by other methods which may be necessary to remove a base or direct buried street light pole. The base may be poured in place concrete, steel power installed or precast concrete.
- E40.27.2 The Contractor shall be responsible to transport all Surplus and Reclaim materials to Manitoba Hydro Central Stores and transport and dispose of all Scrap material as set forth in this Specification.
- E40.27.3 The Contractor is responsible to supply all backfill material as specified in the Standards and carry out all backfill, compacting and leveling of all excavations and voids for removed bases and direct buried street light poles so as to be ready for top soil and seed or sod or as directed by Manitoba Hydro.

#### E40.28 INSTALLATION OF FOUNDATION - CONCRETE BASE

- E40.28.1 This shall include all excavation, whether by auger, pressurized water/vacuum excavation, by hand, or by other methods which may be necessary to replace or install a concrete base as set forth in this Specification.
- E40.28.2 The Contractor shall furnish all labour, supplies and material (except as indicated in the Section "MATERIAL SUPPLIED BY MANITOBA HYDRO") necessary to install a new or replace a concrete base. Excavation for the precast concrete base shall be to a diameter and depth specified in Standard CD 300-6. All excess material is to be removed by the Contractor.
- E40.28.3 The concrete base shall be set on a bed of  $\frac{3}{4}$  down limestone. The concrete base backfill material shall be compacted in lifts no more than 150 mm. Backfill material shall be  $\frac{3}{4}$  down limestone. Compacting of backfill material shall be done using a hydraulic tamper. Alternative tamping methods shall be approved by Manitoba Hydro. Underground cables entering the concrete base shall be protected by a length of protective hose supplied by the Contractor and a layer of sand surrounding the cables to protect it from the limestone. The concrete base shall be installed level in all 4 directions. Final grade must be established prior to installing the concrete bases.
- E40.28.4 The completed backfill shall be at least equal in compaction to undisturbed soil, as required by the Municipal authorities or elsewhere in this Specification. The Contractor shall level all excavations.
- E40.28.5 Should settlement occur in the excavation and cause a depression in the surface, the Contractor shall repair the surface. Placing of additional backfill material due to settlement shall be at the Contractor's expense.
- E40.28.6 The concrete base shall be oriented in the proper direction to allow the easy entrance of the underground cables into the plastic pipe preinstalled in the concrete base. Care shall be taken to prevent damage to the insulation or jacket of the conductors. The cable shall be left long enough to extend one (1) metre beyond the top of the hand hole.

#### E40.29 BASE MOUNTED STREET LIGHT POLES

- E40.29.1 This shall include all work required to install the street light pole on the concrete base as set forth in this Specification.
- E40.29.2 The Contractor shall furnish all labour, supplies and material (except as indicated in the Section "MATERIAL SUPPLIED BY MANITOBA HYDRO") necessary for the installation of the pole (straight shaft or davit) on the concrete base.
- E40.29.3 Unless otherwise specified on the construction drawings, the Contractor shall orient the poles so that the hand hole is on the left side of the pole when viewed from the road. A worker should be able to see oncoming traffic when working in the hand hole.
- E40.29.4 The Contractor shall level the street light pole in all 4 directions. Leveling shims may be used.
- E40.29.5 Tightening of bolts shall be performed in a manner that brings the surfaces up evenly. All nuts shall be tightened and torqued in accordance with Standard CD 300-9. The Contractor shall install the nut covers included with the pole. Nut covers are typically not supplied for the 55' and 65' street light poles.
- E40.29.6 Unless otherwise specified, excess underground cable and 2C-12 wire shall be left inside the hand hole with the hand hole cover loosely installed.
- E40.29.7 Existing street light poles may have street signs attached. The Contractor shall remove the signs from the existing pole and temporarily reattach the signs to the new pole. The Contractor shall notify Manitoba Hydro of the location where the signs have been removed.

### E40.30 LUMINAIRES AND ASSOCIATED WIRING

- E40.30.1 The Contractor shall furnish labour, supplies and material (except as indicated in the Section "MATERIAL SUPPLIED BY MANITOBA HYDRO") necessary to install the luminaire and associated wiring. Unless otherwise specified, the luminaire shall be installed with a tilt of zero (0) degrees. The Contractor shall install a length of 2 conductor No. 12 gauge (2C-12) wire from the terminals of the luminaire, through the arm (if applicable), down the pole to the hand hole. One (1) metre of 2C-12 wire shall be left at the hand hole. Impact equipment (air or electric) shall not be used to tighten luminaire mounting bolts. The Contractor shall be liable for damage due to over tightening.
- E40.30.2 The Contractor shall verify the luminaire voltage matches the source voltage as shown on the construction drawings. If luminaire voltage does not match the source voltage, the Contractor shall re-wire the luminaire in accordance with the wiring diagram provided.  
NOTE: Not applicable for LED luminaires.
- E40.30.3 As specified on the construction drawings, the luminaire will require either a photo electric cell (PEC) or shorting cap installed. When installing the PEC the eye shall be oriented north. The Contractor shall also install the appropriate wattage bulb in the luminaire.  
NOTE: Bulb installation not applicable for LED luminaires.

### E40.31 BREAK AWAY BASES

- E40.31.1 Break away bases shall be installed in accordance with Standard CD 300-10. The height of the concrete base above grade shall not exceed 50mm. The surface of the concrete base shall be flat and level. A reaction plate shall be installed between the concrete base and the break-away base.
- E40.31.2 The Contractor shall torque the couplers in accordance with Standard CD 300-10. Impact tools shall not be used to tighten or torque couplers or nuts associated with a break away base.

### E40.32 SPLICING/CONNECTING CABLES

- E40.32.1 The electric cable shall be spliced/terminated as per Standards CD 215-12, CD 215-13, CD 310-1, CD 310-4, CD 310-9 and CD 310-10 with the exception that the Contractor will use a GELCAP-SL-2/0 splice kit (See Appendix E). Termination in the hand hole may include the installation of an inline fuse holder.
- E40.32.2 The Contractor shall furnish all labour, supplies and material (except as indicated in the Section "MATERIAL SUPPLIED BY MANITOBA HYDRO") necessary to splice/terminate the street light conductor(s).

### E40.33 EXCAVATION

- E40.33.1 The Contractor shall furnish all labour, supplies and material (except as indicated in the Section "MATERIAL SUPPLIED BY MANITOBA HYDRO") necessary for the completion and maintenance of grade and line of the street light cables and conduit including water control if found to be necessary. The trench shall be graded to conform to the street light cables and conduit so that the street light cables and conduit rest firmly on a smooth surface throughout its length. All stones or other objects which, in the opinion of Manitoba Hydro might damage the street light cable jacket and conduit shall be removed. Where the presence of rock or other condition prevent a satisfactory bed for the cables, 150 mm of well-tamped, clean soil or ¼ down crushed limestone shall be placed in the bottom of the trench. In this case, the spoil bank from trenching operations shall not be allowed to fall into the trench or mix with the soil to be used in backfilling the trench. Loose debris or foreign matter and the spoil bank shall be placed so as not to hinder drainage, damage property, or obstruct traffic.
- E40.33.2 Trenches shall be dug to such a depth that will provide a minimum cover of 600 mm from final grade in sodded areas and 1000 mm in roadways in accordance with Standard CD 305-1.

#### E40.34 LAYING CABLES

- E40.34.1 Cables are to be lowered in the trench in an orderly fashion so as to maintain a consistent path and straight alignment. All cables shall be lowered in a continuous run (NO SPLICING) and in accordance with the construction drawings; and shall maintain the necessary separation, where required. All cables shall be of continuous runs and capped and sealed if they are not being installed in the pole at that time. Cables shall not be dragged over paved surfaces.
- E40.34.2 Once a cable is cut its ends must be sealed immediately with an approved and appropriately sized, heat shrink or cold shrink sealing cap to prevent moisture ingress unless the cable is being installed in the pole at that time.
- E40.34.3 During the removal of the cable, the reels shall be placed on jacks, stands or trailers with a bar through the arbour holes which will allow the reel to be turned easily, and the cable to be paid out. Cables can be paid out from the bottom or the top of the reel. Cable in coils shall be handled in a similar manner. This can be achieved by supporting the coil in a vertical plane and rotating it by hand as the cable is carefully uncoiled. The cable shall never be pulled over the flange of a reel, or pulled off the side of a coil, since this will introduce a twist in the cable.
- E40.34.4 During installation, under no circumstance is the cable to be subjected to a bending radius tighter than that detailed in the Standards.
- E40.34.5 Where specified in the Standards or on the construction drawings, the Contractor shall install the street light cable in a conduit.

#### E40.35 INSTALLING CONDUIT AND CABLE BY BORING (HORIZONTAL DIRECTIONAL DRILLING)

- E40.35.1 The Contractor shall dig the approaches and openings necessary to install boring equipment, and the boring equipment used shall be of such a nature as to minimize the opening size required. The boring equipment shall produce a straight hole without unnecessary dips or bends. The bore hole shall be only slightly larger than the outside diameter of the conduits or cables to minimize possible settlement. Cables and conduits shall be pulled in with pulling eyes or using a kellum grip in a manner so as to guard against damage.
- E40.35.2 During construction as the drill bit crosses each existing facility a lookout shall be assigned by the Contractor to visually confirm the drill bit is maintaining a minimum 300 mm clearance from the existing facility all in accordance with Manitoba Hydro Safe Excavation and Safety Watch Guidelines included as Appendix D. Maximum pulling tensions on any streetlight cable shall be limited to 2.9 kN/0.65 kips.
- E40.35.3 Drilling fluids and associated waste materials shall be disposed of in a manner that minimizes environmental effects.
- E40.35.4 The Contractor shall properly compact the backfill material and will be responsible for placing additional material should settlement occur for the duration of the warranty period.

#### E40.36 BURIED UTILITY CROSSINGS

- E40.36.1 All buried obstructions are not necessarily shown on the reference drawings and the locations of those indicated are approximate only.
- E40.36.2 The Contractor shall determine the location of all buried obstructions and shall notify the appropriate authorities and obtain all necessary permits prior to excavation, trenching and directional drilling near or across such obstructions. All buried obstructions where the new buried cable route crosses other utilities including but not limited to gas, water, sewer, telephone and electric lines shall be exposed as per each utilities guidelines by the Contractor, including the use of Pressurized Water/Vacuum Equipment (PW/VE) where necessary. Should any damage occur to such lines during the course of the work, the Contractor shall be responsible for the damage and the costs of repairs to buried obstructions caused by its operations and shall fully indemnify the City of Winnipeg and Manitoba Hydro from and against all claims arising out of such damage. Manitoba Hydro

Safe Excavation and Safety Watch Guidelines included as Appendix D shall be followed when crossing natural gas pipelines and electrical cables by the directional boring method.

E40.36.3 The PW/VE technique, used to expose underground plant in certain conditions, must be performed in accordance with each utility's requirements, including but not limited to Manitoba Hydro, Manitoba Telecom Services, Shaw Cable, etc. PW/VE costs that the Contractor will incur during the work must be factored into the Contractor's bid prices. The Contractor shall not be entitled to extra compensation for the use of PW/VE on the work.

E40.36.4 The Contractor shall be responsible to supply all backfill material and carry out all backfill, compacting and leveling of all excavations so as to be ready for topsoil and seed or sod or as directed by Manitoba Hydro.

#### E40.37 BENDING CABLES/CONDUITS AND INSTALLATION INTO STANDARDS

E40.37.1 It is desired to reduce to a minimum the required number of bends and to lay the cables/conduits to conform to the contour of the ground and maintain a normal covering. This shall be accomplished by cutting the trench slightly deeper in approaches to road crossings and drainage ditches. It is intended that the Contractor shall eliminate unnecessary bending by operating the trenching machine at various depths rather than by finishing grading the trench by hand whenever practical.

E40.37.2 Sharp bends of the cables/conduits shall be avoided at all times. All bends shall meet the requirements set out in this Specification. If excessive bending was exerted on any cable, the cable shall be replaced at the Contractor's cost. During installation, under no circumstance is the cable to be subjected to a bending radius tighter than that detailed in the Standards. At street light poles the Contractor shall install the ends of the cables into the plastic pipe preinstalled in the concrete base. Care shall be taken to prevent damage to the insulation or jacket of the conductors. Underground cables entering the concrete base shall be protected by a length of protective hose supplied by the Contractor and by a layer of sand surrounding the cables to protect it from the limestone. The cable shall be left long enough to extend one (1) metre beyond the hand hole. The street light cable in the trench shall be installed in conduit for mechanical protection and the ends sealed with duct seal supplied by the Contractor. Care shall be taken to prevent damaging the cable where it exists the conduit. The conduit shall only be installed into the concrete base if conduit sizes make it practicable.

E40.37.3 Unless otherwise directed, excess underground cable and 2C-12 wire shall be left inside the hand hole with the hand hole cover loosely installed.

#### E40.38 BACKFILL

E40.38.1 All backfilling material within 300 mm of the cables/conduits shall be clean, free of sod, vegetation, organic material, stones or other debris, and of a consistency as to not create significant voids or air spaces around the cables/conduits. Other backfilling material shall be free of stones greater than 150 mm on their maximum dimension. Where cinders or very acid soil are encountered or where gravel or incompressible fill is required by Municipal authorities, ¼ down crushed limestone shall be placed all around the cables for a depth of at least 300 mm. The completed backfill shall be at least equal in compaction to undisturbed soil or as directed by Manitoba Hydro. Backfill material is to be placed and compacted in lifts not exceeding 300 mm. All excess material is to be removed by the Contractor.

E40.38.2 Tamping or flushing methods must be used where necessary to give the required compaction. Where tamping is used, hand tampers shall be used to at least 300 mm above the cable before machine tamping may be used. The Contractor shall level all excavations so as to be ready for topsoil and seed or sod or as directed by the Manitoba Hydro. Should settlement occur in the excavation and cause a depression in the surface, the Contractor shall repair the surface to the satisfaction of the Manitoba Hydro at the Contractor's cost.

E40.38.3 Excavations remaining where poles have been removed shall be backfilled with spoil, pit run gravel or 3/4 down limestone and compacted in lifts of 150mm as directed by Manitoba Hydro. The top 300 mm of the excavation shall be backfilled with topsoil.

- E40.38.4 Excavations remaining where utility crossings have been exposed shall be backfilled with sand or clean spoil and compacted in lifts of 150mm. The top 300 mm of the excavation shall be backfilled with topsoil.
- E40.38.5 Backfill of all excavations shall be in accordance with City of Winnipeg Standard Construction Specification CW 2030 (latest revision), to the satisfaction of the authority having jurisdiction and Manitoba Hydro.
- E40.39 DEFECTIVE WORK & WARRANTY
- E40.39.1 If any portion of the work fails to comply with the requirements of this Specification, fails within the Warranty period, or if the final tests prove or indicate the existence of any fault or defect in the work, or any part thereof, Manitoba Hydro may forthwith re-execute or make good the faulty or defective work or alter the same to make it comply with requirements of the Specification at the Contractor's expense. Manitoba Hydro shall give the Contractor notice together with particulars of such failure, fault or defect, Manitoba Hydro's cost to re-execute or make good the faulty or defective work and the Cost shall be deducted from the Contract.
- E40.39.2 At the completion of the work for each location, Manitoba Hydro shall prepare and issue a Network Commissioning Report, a sample of which is included as Appendix H, to the Contractor. The Network Commissioning Report shall be dated indicating the commencement of the Warranty period for the work performed at the location.
- E40.40 AS-BUILT DRAWING
- E40.40.1 The Contractor shall provide an as-built drawing or mark-up drawing to Manitoba Hydro which accurately displays the "as-built" location of the buried street light cables, conduits and street light poles.
- E40.41 MEASUREMENT AND PAYMENT
- E40.41.1 Removal of 25' to 35' street light pole and precast, poured in place concrete, steel power installed base or direct buried including davit arm, luminaire and appurtenances
- (a) This pay item will be measured on a unit basis and paid for at the Contract Unit Price per unit for "Removal of 25' to 35' street light pole and precast, poured in place concrete, steel power installed base or direct buried including davit arm, luminaire and appurtenances". The number of units to be paid for at the Contract Unit Price shall be verified and accepted by Manitoba Hydro. The Price shall be payment in full for performing all operations herein described including removal of the pole, base, luminaire, appurtenances, use of pressurized water/vacuum excavation, transportation of Reclaim, Surplus and Scrap material, payment of associated disposal fees and all other items incidental to the work included in the Specification.
- E40.41.2 Installation of Conduit and #4 AL C/N or 1/0 AL Triplex Streetlight Cable in Conduit by Open Trench Method
- (a) This pay item will be measured on a linear metre basis and paid for at the Contract Unit Price per linear metre for "Installation of Conduit and #4 AL C/N or 1/0 AL Triplex streetlight cable in Conduit by open trench method." The number of meters to be paid for at the Contract Unit Price shall be measured and accepted by Manitoba Hydro. The Price shall be payment in full for performing all operations herein described including installation of the conduit, pulling cable into the conduit, backfilling the trench, buried utility crossings, use of pressurized water/vacuum excavation and all other items incidental to the work included in the Specification.
- E40.41.3 Installation of 50 mm Conduit by Boring Method complete with Cable Insertion (#4 AL C/N or 1/0 AL Triplex)
- (a) This pay item will be measured on a linear metre basis and paid for at the Contract Unit Price per linear metre for "Installation of 50 mm conduit or conduits by boring method complete with cable insertion (#4 AL C/N or 1/0 AL Triplex)." The number of meters to be paid for at the Contract Unit Price shall be measured and accepted by

Manitoba Hydro. The Price shall be payment in full for performing all operations herein described including installation of 50mm conduit or conduits by boring method, inserting the #4 AL C/N or 1/0 AL Triplex streetlight cable into the conduit(s), buried utility crossings, use of pressurized water/vacuum excavation and all other items incidental to the work included in the Specification.

- E40.41.4 Installation of cable (#4 AL C/N or 1/0 AL Triplex) by boring method.
- (a) This pay item will be measured on a linear metre basis and paid for at the Contract Unit Price per linear metre for "Installation of cable(s) (#4 AL C/N or 1/0 AL Triplex) by boring method." The number of meters to be paid for at the Contract Unit Price shall be measured and accepted by Manitoba Hydro. The Price shall be payment in full for performing all operations herein described including installation of the cable or cables by boring method, buried utility crossings, use of pressurized water/vacuum excavation and all other items incidental to the work included in the Specification.
- E40.41.5 Installation of 25'/35' Pole, Davit Arm and Precast Concrete Base Including Luminaire and Appurtenances
- (a) This pay item will be measured on a unit basis and paid for at the Contract Unit Price per unit for "Installation of 25'/35' pole, davit arm and precast concrete base including luminaire and appurtenances." The number of units to be paid for at the Contract Unit Price shall be verified and accepted by Manitoba Hydro. The Price shall be payment in full for performing all operations herein described including installation of the pole, davit arm, base, luminaire, appurtenances, placing the cable(s) into the base, use of pressurized water/vacuum excavation and all other items incidental to the work included in the Specification.
- E40.41.6 Installation of One (1) 10' Ground Rod at End of Street Light Circuit. Trench #4 Ground Wire up to 1 m From Rod Location to New Street Light and Connect (Hammerlock) to Top of Ground Rod
- (a) This pay item will be measured on a unit basis and paid for at the Contract Unit Price per unit for "Installation of one (1) 10' ground rod at end of street light circuit. Trench #4 ground wire up to 1 m from rod location to new street light and connect (hammerlock) to top of the ground rod." The number of units to be paid for at the Contract Unit Price shall be verified and accepted by Manitoba Hydro. The Price shall be payment in full for performing all operations herein described including install one (1) 10' ground rod, trench the #4 ground wire to the new streetlight pole, connect (hammerlock) ground wire to rod and all other items incidental to the work included in the Specification.
- E40.41.7 Install Lower 3 m of Cable Guard, Ground Lug, Cable Up Pole, and First 3 M Section of Ground Rod Per Standard CD 315-5
- (a) This pay item will be measured on a unit basis and paid for at the Contract Unit Price per unit for "Install/lower 3 m of Cable Guard, ground lug, cable up pole, and first 3 m section of ground rod per Standard CD 315-5". The number of units to be paid for at the Contract Unit Price shall be verified and accepted by Manitoba Hydro. The Price shall be payment in full for performing all operations herein described including installing the lower section of cable guard, ground lug, ground rod, coiling cable(s) up the pole and all other items incidental to the work included in the Specification.
- E40.41.8 Installation and Connection of Externally-Mounted Relay and PEC Per Standards CD 315-12 and CD 315-13
- (a) This pay item will be measured on a unit basis and paid for at the Contract Unit Price per unit for "Installation and connection of externally-mounted relay and PEC per Standards CD 315-12 and CD 315-13". The number of units to be paid for at the Contract Unit Price shall be verified and accepted by Manitoba Hydro. The Price shall be payment in full for performing all operations herein described including mounting the relay, PEC, wiring as per the schematic and all other items incidental to the work included in the Specification.

- E40.41.9 Terminate 2/C #12 Copper Conductor to Street Light Cables Per Standard CD310-4, CD310-9 or CD310-10
- (a) This pay item will be measured on a unit basis and paid for at the Contract Unit Price per unit for "Terminate 2/C #12 copper conductor to street light cables per Standard CD310-4, CD310-9 or CD310-10". The number of units to be paid for at the Contract Unit Price shall be verified and accepted by Manitoba Hydro. The Price shall be payment in full for performing all operations herein described including connection of the 2/C # 12 copper conductor to the #4 C/N or 1/0 Al Triplex cable(s) using a GELCAP-SL-2/0 splice kit and all other items incidental to the work included in the Specification.
- E40.41.10 Splicing #4 AL C/N or 2 Single Conductor Street Light Cables
- (a) This pay item will be measured on a unit basis and paid for at the Contract Unit Price per unit for "Splicing #4 Al C/N or 2 single conductor street light cables". The number of units to be paid for at the Contract Unit Price shall be verified and accepted by Manitoba Hydro. The Price shall be payment in full for performing all operations herein described including splicing the #4 AL C/N or 2 single conductor cables in accordance with Standard CD 215-12 and CD 215-13 and all other items incidental to the work included in the Specification.
- E40.41.11 Splicing 1/0 AL Triplex Cable or 3 Single Conductor Street Light Cables
- (a) This pay item will be measured on a unit basis and paid for at the Contract Unit Price per unit for "Splicing 1/0 AL triplex cable or 3 single conductor street light cables". The number of units to be paid for at the Contract Unit Price shall be verified and accepted by Manitoba Hydro. The Price shall be payment in full for performing all operations herein described including splicing the 1/0 Al triplex cable or set of 3 single conductor cables in accordance with Standard CD 215-12 and CD 215-13 and all other items incidental to the work included in the Specification.
- E40.41.12 Installation of Break-Away Base and Reaction Plate on Base-Mounted Poles up to 35'
- (a) This pay item will be measured on a unit basis and paid for at the Contract Unit Price per unit for "Installation of break-away base and reaction plate on base mounted poles up to 35'". The number of units to be paid for at the Contract Unit Price shall be verified and accepted by Manitoba Hydro. The Price shall be payment in full for performing all operations herein described including installation of the reaction plate, break-away base and all other items incidental to the work included in the Specification.
- E40.41.13 Installation of Overhead Span of #4 Duplex Between New or Existing Streetlight Poles and Connect Luminaire to Provide Temporary Overhead Feed
- (a) This pay item will be measured on per span basis and paid for at the Contract Unit Price per span for "Installation of Overhead Span of #4 duplex Between New or Existing Streetlight Poles and Connect Luminaire to Provide Temporary Overhead Feed". The number of units to be paid for at the Contract Unit Price shall be verified and accepted by Manitoba Hydro. The Price shall be payment in full for performing all operations herein described including attachment of the #4 duplex overhead conductor using a perform grip (c/w spool insulator(s) to davit arm if necessary), sagging conductor, connection of luminaire using 2C#12 copper conductor and all other items incidental to the work included in the Specification.
- E40.41.14 Removal of Overhead Span of #4 Duplex Between New or Existing Streetlight Poles to Remove Temporary Overhead Feed
- (a) This pay item will be measured on a per span basis and paid for at the Contract Unit Price per span for "Removal of Overhead Span of #4 duplex Between New or Existing Streetlight Poles to Remove Temporary Overhead Feed". The number of units to be paid for at the Contract Unit Price shall be verified and accepted by the Manitoba Hydro. The Price shall be payment in full for performing all operations herein described including removal of the #4 duplex overhead conductor, spool insulator(s) and all other items incidental to the work included in the Specification.

**E40.41.15 Expose Underground Cable Entrance of Existing Streetlight Pole and Install New Streetlight Cable(s).**

- (a) This pay item will be measured on a unit basis and paid for at the Contract Unit Price per unit for "Expose Underground Cable Entrance of Existing Streetlight Pole and Install New Streetlight Cable(s)". The number of units to be paid for at the Contract Unit Price shall be verified and accepted by Manitoba Hydro. The Price shall be payment in full for performing all operations herein described including excavation and exposure of the underground cable entrance by any means necessary including use of pressurized water/vacuum excavation, installation of the new streetlight cables(s), backfill, compaction and all other items incidental to the work included in the Specification.