



THE CITY OF WINNIPEG

BID OPPORTUNITY

BID OPPORTUNITY NO. 5-2018

**CITY OF WINNIPEG 2018/2019 INDUSTRIAL STREET RENEWAL PROGRAM:
SAULTEAUX CRESCENT EAST LEG, MORAY STREET AND VARIOUS OTHER
LOCATIONS**

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PART B - BIDDING PROCEDURES

B1. CONTRACT TITLE

B1.1 CITY OF WINNIPEG 2018/2019 INDUSTRIAL STREET RENEWAL PROGRAM: SAULTEAUX CRESCENT EAST LEG, MORAY STREET AND VARIOUS OTHER LOCATIONS

B2. SUBMISSION DEADLINE

B2.1 The Submission Deadline is 12:00 noon Winnipeg time, April 4, 2018.

B2.2 Bids determined by the Manager of Materials to have been received later than the Submission Deadline will not be accepted and will be returned upon request.

B2.3 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. ENQUIRIES

B3.1 All enquiries shall be directed to the Contract Administrator identified in D3.1.

B3.2 If the Bidder finds errors, discrepancies or omissions in the Bid Opportunity, 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.

B3.3 Responses to enquiries which, in the sole judgment of the Contract Administrator, require a correction to or a clarification of the Bid Opportunity will be provided by the Contract Administrator to all Bidders by issuing an addendum.

B3.4 Responses to enquiries which, in the sole judgment of the Contract Administrator, do not require a correction to or a clarification of the Bid Opportunity will be provided by the Contract Administrator only to the Bidder who made the enquiry.

B3.5 The Bidder shall not be entitled to rely on any response or interpretation received pursuant to B3 unless that response or interpretation is provided by the Contract Administrator in writing.

B4. CONFIDENTIALITY

B4.1 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.

B4.2 The Bidder shall not make any statement of fact or opinion regarding any aspect of the Bid Opportunity to the media or any member of the public without the prior written authorization of the Contract Administrator.

B5. ADDENDA

B5.1 The Contract Administrator may, at any time prior to the Submission deadline, issue addenda correcting errors, discrepancies or omissions in the Bid Opportunity, or clarifying the meaning or intent of any provision therein.

- B5.2 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.
- B5.2.1 Addenda will be available on the Bid Opportunities page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/bidopp.asp>
- B5.2.2 The Bidder is responsible for ensuring that he/she has received all addenda and is advised to check the Materials Management Division website for addenda regularly and shortly before the Submission Deadline, as may be amended by addendum.
- B5.3 The Bidder shall acknowledge receipt of each addendum in Paragraph 10 of Form A: Bid. Failure to acknowledge receipt of an addendum may render a Bid non-responsive.

B6. SUBSTITUTES

- B6.1 The Work is based on the Plant, Materials and methods specified in the Bid Opportunity.
- B6.2 Substitutions shall not be allowed unless application has been made to and prior approval has been granted by the Contract Administrator in writing.
- B6.3 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.
- B6.4 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.
- B6.5 The Contract Administrator, after assessing the request for approval of a substitute, may in his/her 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.
- B6.6 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.
- B6.6.1 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 he/she wishes to inform.
- B6.7 If the Contract Administrator approves a substitute as an “approved equal”, any Bidder may use the approved equal in place of the specified item.

- B6.8 If the Contract Administrator approves a substitute as an “approved alternative”, any Bidder bidding that approved alternative may base his/her 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 B16.
- B6.9 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.

B7. BID COMPONENTS

- B7.1 The Bid shall consist of the following components:
- (a) Form A: Bid;
 - (b) Form B: Prices, hard copy;
 - (c) Bid Security
 - (i) Form G1: Bid Bond and Agreement to Bond, or
Form G2: Irrevocable Standby Letter of Credit and Undertaking, or
a certified cheque or draft;
- B7.2 Further to B7.1, the Bidder should include the written correspondence from the Contract Administrator approving a substitute in accordance with B6.
- B7.3 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.
- B7.4 The Bid shall be submitted enclosed and sealed in an envelope clearly marked with the Bid Opportunity number and the Bidder's name and address.
- B7.4.1 Samples or other components of the Bid which cannot reasonably be enclosed in the envelope may be packaged separately, but shall be clearly marked with the Bid Opportunity number, the Bidder's name and address, and an indication that the contents are part of the Bidder's Bid.
- B7.4.2 A hard copy of Form B: Prices must be submitted with the Bid. If there is any discrepancy between the Adobe PDF version of Form B: Prices and the Microsoft Excel version of Form B: Prices, the PDF version shall take precedence.
- B7.5 Bidders are advised not to include any information/literature except as requested in accordance with B7.1.
- B7.6 Bidders are advised that inclusion of terms and conditions inconsistent with the Bid Opportunity document, including the General Conditions, will be evaluated in accordance with B16.1(a).
- B7.7 Bids submitted by facsimile transmission (fax) or internet electronic mail (e-mail) will not be accepted.
- B7.8 Bids shall be submitted to:
- The City of Winnipeg
Corporate Finance Department
Materials Management Division
185 King Street, Main Floor
Winnipeg MB R3B 1J1

B8. BID

- B8.1 The Bidder shall complete Form A: Bid, making all required entries.

- B8.2 Paragraph 2 of Form A: Bid shall be completed in accordance with the following requirements:
- (a) if the Bidder is a sole proprietor carrying on business in his/her own name, his/her 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 his/her own, the business name and the name of every partner or corporation who is the owner of such business name shall be inserted.
- B8.2.1 If a Bid is submitted jointly by two or more persons, each and all such persons shall identify themselves in accordance with B8.2.
- B8.3 In Paragraph 3 of Form A: Bid, the Bidder shall identify a contact person who is authorized to represent the Bidder for purposes of the Bid.
- B8.4 Paragraph 13 of Form A: Bid shall be signed in accordance with the following requirements:
- (a) if the Bidder is a sole proprietor carrying on business in his/her 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 its duly authorized officer or officers and the corporate seal, if the corporation has one, shall be affixed;
 - (d) if the Bidder is carrying on business under a name other than his/her 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.
- B8.4.1 The name and official capacity of all individuals signing Form A: Bid should be printed below such signatures.
- B8.5 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.

B9. PRICES

- B9.1 The Bidder shall state a price in Canadian funds for each item of the Work identified on Form B: Prices.
- B9.1.1 For the convenience of Bidders, and pursuant to B7.4.2 and B16.4.2, an electronic spreadsheet Form B: Prices in Microsoft Excel (.xls) format is available along with the Adobe PDF documents for this Bid Opportunity on the Bid Opportunities page at the Materials Management Division website at <http://www.winnipeg.ca/matmgt/>
- B9.2 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.
- B9.3 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.
- B9.4 Payments to Non-Resident Contractors are subject to Non-Resident Withholding Tax pursuant to the Income Tax Act (Canada).
- B9.5 Form B: Prices is organized into Parts: Phase 1 of the Work and Phase 2 of the Work. Bidders shall provide a total price for each Phase and, on the summary sheet, a Total Bid Price consisting of the sum of prices for Phase 1 and Phase 2.

B10. DISCLOSURE

B10.1 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.

B10.2 The Persons are:

- (a) N/A

B11. QUALIFICATION

B11.1 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.

B11.2 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 <http://www.winnipeg.ca/matmgt/debar.stm>

B11.3 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);

B11.4 Further to B11.3(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™) or
 - (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/>.)

B11.5 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.

B11.6 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.

B12. BID SECURITY

B12.1 The Bidder shall provide bid security in the form of:

- (a) a 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 the form included in the Bid Submission (Form G1: Bid Bond and Agreement to Bond); or
- (b) an irrevocable standby letter of credit, in the amount of at least ten percent (10%) of the Total Bid Price, and undertaking issued by a bank or other financial institution registered to conduct business in Manitoba and drawn on a branch located in Winnipeg, in the form included in the Bid Submission (Form G2: Irrevocable Standby Letter of Credit and Undertaking); or
- (c) a certified cheque or draft payable to "The City of Winnipeg", in the amount of at least fifty percent (50%) of the Total Bid Price, drawn on a bank or other financial institution registered to conduct business in Manitoba.

B12.1.1 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.

B12.1.2 All signatures on bid securities shall be original.

B12.1.3 The Bidder shall sign the Bid Bond.

B12.1.4 The Surety shall sign and affix its corporate seal on the Bid Bond and the Agreement to Bond.

B12.2 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 executed by the successful Bidder and the performance security furnished as provided herein. The bid securities of all other Bidders will be released when a Contract is awarded.

B12.2.1 Where the bid security provided by the successful Bidder is in the form of a certified cheque or draft pursuant to B12.1(c), it will be deposited and retained by the City as the performance security and no further submission is required.

B12.2.2 The City will not pay any interest on certified cheques or drafts furnished as bid security or subsequently retained as performance security.

B12.3 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 Bid Opportunity.

B13. OPENING OF BIDS AND RELEASE OF INFORMATION

B13.1 Bids will be opened publicly, after the Submission Deadline has elapsed, in the office of the Corporate Finance Department, Materials Management Division, or in such other office as may be designated by the Manager of Materials.

B13.1.1 Bidders or their representatives may attend.

B13.1.2 Bids determined by the Manager of Materials, or his/her designate, to not include the bid security specified in B12 will not be read out.

- B13.2 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 Closed Bid Opportunities (or Public/Posted Opening & Award Results) page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/>
- B13.3 After award of Contract, the name(s) of the successful Bidder(s), their address(es) and the Contract amount(s) will be available on the Closed Bid Opportunities (or Public/Posted Opening & Award Results) page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/>
- B13.4 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).
- B13.4.1 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.

B14. IRREVOCABLE BID

- B14.1 The Bid(s) submitted by the Bidder shall be irrevocable for the time period specified in Paragraph 11 of Form A: Bid.
- B14.2 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 executed and the performance security 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.

B15. WITHDRAWAL OF BIDS

- B15.1 A Bidder may withdraw his/her Bid without penalty by giving written notice to the Manager of Materials at any time prior to the Submission Deadline.
- B15.1.1 Notwithstanding C23.3, the time and date of receipt of any notice withdrawing a Bid shall be the time and date of receipt as determined by the Manager of Materials.
- B15.1.2 The City will assume that any one of the contact persons named in Paragraph 3 of Form A: Bid or the Bidder's authorized representatives named in Paragraph 13 of Form A: Bid, and only such person, has authority to give notice of withdrawal.
- B15.1.3 If a Bidder gives notice of withdrawal prior to the Submission Deadline, the Manager of Materials will:
- (a) retain the Bid until after the Submission Deadline has elapsed;
 - (b) open the Bid to identify the contact person named in Paragraph 3 of Form A: Bid and the Bidder's authorized representatives named in Paragraph 13 of Form A: Bid; and
 - (c) if the notice has been given by any one of the persons specified in B15.1.3(b), declare the Bid withdrawn.
- B15.2 A Bidder who withdraws his/her Bid after the Submission Deadline but before his/her Bid has been released or has lapsed as provided for in B14.2 shall be liable for such damages as are imposed upon the Bidder by law and subject to such sanctions as the Chief Administrative Officer considers appropriate in the circumstances. The City, in such event, shall be entitled to all rights and remedies available to it at law, including the right to retain the Bidder's bid security.

B16. EVALUATION OF BIDS

- B16.1 Award of the Contract shall be based on the following bid evaluation criteria:
- (a) compliance by the Bidder with the requirements of the Bid Opportunity, or acceptable deviation therefrom (pass/fail);
 - (b) qualifications of the Bidder and the Subcontractors, if any, pursuant to B11 (pass/fail);
 - (c) Total Bid Price;
 - (d) economic analysis of any approved alternative pursuant to B6.
- B16.2 Further to B16.1(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.
- B16.2.1 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 its sole discretion, acting reasonably.
- B16.3 Further to B16.1(b), the Award Authority shall reject any Bid submitted by a Bidder who does not demonstrate, in his/her Bid or in other information required to be submitted, that he/she is responsible and qualified.
- B16.4 Further to B16.1(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.
- B16.4.1 Further to B16.1(a), in the event that a unit price is not provided on Form B: Prices, the City will determine the unit price by dividing the Amount (extended price) by the approximate quantity, for the purposes of evaluation and payment.
- B16.4.2 The electronic Form B: Prices and the formulas imbedded in that spreadsheet are only provided for the convenience of Bidders. The City makes no representations or warranties as to the correctness of the imbedded formulas. It is the Bidder's responsibility to ensure the extensions of the unit prices and the sum of Total Bid Price performed as a function of the formulas within the electronic Form B: Prices are correct.

B17. AWARD OF CONTRACT

- B17.1 The City will give notice of the award of the Contract or will give notice that no award will be made.
- B17.2 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 responsible and qualified, and the Bids are determined to be responsive.
- B17.2.1 Without limiting the generality of B17.2, 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 its 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.
- B17.3 Where an award of Contract is made by the City, the award shall be made to the responsible and qualified Bidder submitting the lowest evaluated responsive Bid, in accordance with B16.

- B17.3.1 Following the award of contract, a Bidder will be provided with information related to the evaluation of his/her Bid upon written request to the Contract Administrator.
- B17.4 As noted in D2 and identified in Form B: Prices, the Work of Phase 2 2019 Construction will be contingent upon The City of Winnipeg approving funding for the Work in the 2019 Capital Budget. If sufficient funding for Phase 2 2019 Construction Work is not approved by The City of Winnipeg the City shall have the right to eliminate all or any portion of Phase 2 2019 Construction Work in accordance with D2.

PART C - GENERAL CONDITIONS

C0. GENERAL CONDITIONS

- C0.1 The *General Conditions for Construction* (Revision 2006 12 15) 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
- C0.2 A reference in the Bid Opportunity 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. SCOPE OF WORK

D2.1 The Work to be done under the Contract shall consist of two parts:

- (a) Phase 1 – 2018 Construction Work
- (b) Phase 2 – 2019 Construction Work

Phase 1 – 2018 Construction Work

D2.2 Phase 1 – 2018 Construction Work shall consist of:

- (a) 230 mm Plain Dowelled Concrete Reconstruction
 - (i) Saulteaux Crescent (East Leg) from Moray Street to Moray Street
 - (ii) Fife Street from Inkster Boulevard to College Avenue
- (b) Pavement Rehabilitation
 - (i) Moray Street from Murray Park Road to the North Leg of Saulteaux Crescent
- (c) New 100 mm Concrete Sidewalk
 - (i) Moray Street / Murray Park Road from Yellow Ribbon Trail to the West Limit of Cree Crescent and tie into Yellow Ribbon Trail
- (d) Sewer Repairs
 - (i) Fife Street

Phase 2 – 2019 Construction Work

D2.3 Phase 2 – 2019 Construction Work shall consist of:

- (a) Pavement Rehabilitation
 - (i) Hutchings Street from Inkster Boulevard to Sheppard Street
 - (ii) Saskatchewan Avenue from Sturgeon Creek Road to Moray Street
- (b) 125 mm Asphalt Reconstruction with Concrete Curb and Gutter
 - (i) Saskatchewan Avenue (Eastbound Lane) from Sturgeon Creek Road to 150 m to the East

D2.4 The City currently has no approved funding in the Capital Budget for Phase 2 of the Work, but is anticipating receiving notification about funding from the City of Winnipeg by the Award Date. Phase 2 of the Work is contingent upon the City of Winnipeg approving funding in the 2019 Capital Budget.

D2.4.1 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 Phase 2, and the Contract Price will be reduced accordingly.

D2.4.2 Further to C7.5, C7.5.1, and C7.6, a reduction in the Contract Price pursuant to D2.4.1 shall not be considered in calculating the aggregate reduction in the Contract Price for purposes of C7.5.

D2.4.3 If all or any portion of Phase 2 is eliminated pursuant to D2.4.1, the time periods stipulated in D21 for Substantial Performance of the Work and in D22 for Total Performance of the Work will be reduced proportionally by the Contract Administrator acting reasonably.

D2.5 The major components of the Work are as follows:

- (a) Concrete Reconstruction
 - (i) Remove existing pavement
 - (ii) Excavation
 - (iii) Installation of subdrains
 - (iv) Insulation of water services
 - (v) Compaction of existing sub-grade
 - (vi) Installation of catchbasins and connection pipe
 - (vii) Placement of separation/reinforcement fabric
 - (viii) Placement of geogrid
 - (ix) Installation of new light standards and street lighting cable (Fife Street by others)
 - (x) Placement of Limestone 50 mm, 100 mm sub-base materials and limestone base course materials (Saulteaux Crescent)
 - (xi) Placement of 50 mm and 100 mm sub-base materials and base course materials
 - (xii) Adjustment of existing manholes
 - (xiii) Placement of asphalt pavement (average thickness 75 mm at Tie-Ins)
 - (xiv) Construct 200 mm concrete pavement (reinforced) c/w Integral modified barrier curb (private driveways)
 - (xv) Reconstruction of existing railway line (Saulteaux Crescent by others)
 - (xvi) Construct mainline 230 mm plain dowelled concrete pavement c/w Integral modified barrier curb utilizing slip form paving equipment
 - (xvii) Construct pedestrian maze barrier (Saulteaux Crescent)
 - (xviii) Construct new 100 mm concrete sidewalk (Saulteaux Crescent)
 - (xix) Renewal of existing 100 mm concrete sidewalk (Fife Street)
 - (xx) Installation of detectable warning surface tiles
 - (xxi) Boulevard restoration
- (b) Major Rehabilitation
 - (i) Planing of existing asphalt pavement (Moray Street from Saulteaux Crescent to Saulteaux Crescent)
 - (ii) Renewal of existing 200 mm reinforced concrete pavement
 - (iii) Pavement removal and excavation (Eastbound Saskatchewan Avenue from Sturgeon Creek to 150 m to the east)
 - (iv) Placement of 50 mm sub-base and base course materials (Eastbound Saskatchewan Avenue from Sturgeon Creek to 150 m east of Moray Street)
 - (v) Installation of concrete barrier curb and gutter (Eastbound Saskatchewan Avenue from Sturgeon Creek to 150 m east of Moray Street)
 - (vi) Renewal of existing barrier curb utilizing slip-form paving equipment
 - (vii) Installation of splash strip
 - (viii) Reconstruction of existing railway line (Moray Street by others)
 - (ix) Rehabilitation of existing railway line (Hutchings Street and Saskatchewan Avenue by others)
 - (x) Installation of concrete median slab
 - (xi) Renewal of existing sidewalk (Hutchings Street)
 - (xii) Placement of new asphalt pavement
 - (xiii) New 3.0m wide asphalt pathway (East side Moray Street)
 - (xiv) Construct pedestrian maze barrier (Moray Street, Hutchings Street, and Saulteaux Crescent)
 - (xv) Boulevard restoration

- (xvi) Asphalt pavement (75 mm, Type 3) (Saskatchewan Avenue from Sturgeon Creek Road to #2450 Saskatchewan Avenue)
 - (xvii) Asphalt pavement (50 mm, Type 1A) (Saskatchewan Avenue from Sturgeon Creek Road to #2450 Saskatchewan Avenue)
 - (xviii) Asphalt pavement (Moray Street from Murray Park road to north leg of Saulteaux Crescent (average thickness 100 mm)
 - (xix) Asphalt pavement (Hutchings Street from Inkster Boulevard to Sheppard Street (average thickness 100 mm)
 - (xx) Relocation of existing Traffic Signal pole and concrete base at the southeast corner of Sturgeon Creek Road and Saskatchewan Avenue,
 - (xxi) Northbound Fife Street Signal loops at Inkster Boulevard
 - (xxii) Removal and reinstallation of existing Signal Flashers (Fife Street at Church Avenue)
- (c) New Sidewalk Installation
- (i) Removal of existing pavement
 - (ii) Removal of barrier curb
 - (iii) Installation of 100 mm concrete sidewalk (Moray Street at Yellow Ribbon Trail to Cree Crescent)
 - (iv) Construction of ramp curb
 - (v) Renewal of 200mm reinforced concrete reinforced concrete pavement
 - (vi) Removal of existing railway line at the new sidewalk location
 - (vii) Construction of modified barrier curb
 - (viii) Installation of detectable surface warning tiles
 - (ix) Installation of concrete median
 - (x) Installation of monolithic concrete bullnose
 - (xi) Installation of concrete barrier curb
 - (xii) Removal of existing railway line
 - (xiii) Boulevard restoration

D3. CONTRACT ADMINISTRATOR

D3.1 The Contract Administrator is AECOM Canada Ltd., represented by:

Blair Cockrell
Project Coordinator

Telephone No. 204 928-8431 Email Address blair.cockrell@aecom.com

D3.2 At the pre-construction meeting, Blair Cockrell will identify additional personnel representing the Contract Administrator and their respective roles and responsibilities for the Work.

D3.3 Bids Submissions must be submitted to the address in B7.

D4. CONTRACTOR'S SUPERVISOR

D4.1 At the pre-construction meeting, the Contractor shall identify his/her designated supervisor and any additional personnel representing the Contractor and their respective roles and responsibilities for the Work.

D4.2 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 D4.1 or an alternate can be contacted twenty-four (24) hours a day to respond to an emergency.

D5. OWNERSHIP OF INFORMATION, CONFIDENTIALITY AND NON DISCLOSURE

- D5.1 The Contract, all deliverables produced or developed, and information provided to or acquired by the Contractor are the property of the City and shall not be appropriated for the Contractors own use, or for the use of any third party.
- D5.2 The Contractor shall not make any public announcements or press releases regarding the Contract, without the prior written authorization of the Contract Administrator.
- D5.3 The following shall be confidential and shall not be disclosed by the Contractor to the media or any member of the public without the prior written authorization of the Contract Administrator;
- (a) information provided to the Contractor by the City or acquired by the Contractor during the course of the Work;
 - (b) the Contract, all deliverables produced or developed; and
 - (c) any statement of fact or opinion regarding any aspect of the Contract.
- D5.4 A Contractor who violates any provision of D5 may be determined to be in breach of Contract.

D6. NOTICES

- D6.1 Except as provided for in C23.2.2, all notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications to the Contractor shall be sent to the address or facsimile number identified by the Contractor in Paragraph 2 of Form A: Bid.
- D6.2 All notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications to the City, except as expressly otherwise required in D6.3 D6.4 or elsewhere in the Contract, shall be sent to the attention of the Contract Administrator at the facsimile number identified in D3.1.
- D6.3 Notwithstanding C21, all notices of appeal to the Chief Administrative Officer shall be sent to the attention of the Chief Financial Officer at the following:
- The City of Winnipeg
Attn: Chief Financial Officer
Office of the Chief Administrative Officer
Susan A. Thompson Building
2nd Floor, 510 Main Street
Winnipeg MB R3B 1B9
- D6.4 All notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications required to be submitted or returned to the City Solicitor shall be sent to the following facsimile number:
- The City of Winnipeg
Legal Services Department
Attn: Director of Legal Services
Facsimile No.: 204-947-9155
- D6.5 Bids Submissions must not be submitted to this facsimile number. Bids must be submitted in accordance with B7.**

D7. FURNISHING OF DOCUMENTS

- D7.1 Upon award of the Contract, the Contractor will be provided with five (5) complete sets of the Bid Opportunity. If the Contractor requires additional sets of the Bid Opportunity, they will be supplied to him/her at cost.

SUBMISSIONS

D8. AUTHORITY TO CARRY ON BUSINESS

D8.1 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.

D9. SAFE WORK PLAN

D9.1 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.

D9.2 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. INSURANCE

D10.1 The Contractor shall provide and maintain the following insurance coverage:

- (a) commercial general liability insurance, in the amount of at least five million dollars (\$5,000,000.00) inclusive, with The City of Winnipeg and Canadian Pacific Railway Company added as an additional insured, 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, sudden and accidental pollution liability 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) Environmental Impairment Liability Insurance in the amount of at least two million (\$2,000,000) per occurrence and five million (\$5,000,000) general aggregate and shall include Canadian Pacific Railway Company as an additional insured, and include a cross liability clause;
- (d) an all risks Installation Floater carrying adequate limits to cover all supplies and/or materials intended to enter into and form part of any installation;
- (e) An all risks property insurance policy to cover all machinery, equipment and tools that may be owned, rented, leased or borrowed to be used in conjunction with the scope of work.

D10.2 Deductibles shall be borne by the Contractor.

D10.3 The Contractor shall ensure that any and all sub-contractors provide comparable insurances to that outlined in Section D10.1 as applicable.

D10.4 The Contractor shall provide the City Solicitor with a certificate(s) of insurance, 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.

D10.5 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.

D11. PERFORMANCE SECURITY

- D11.1 The Contractor shall provide and maintain performance security 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; or
 - (b) an irrevocable standby letter of credit issued by a bank or other financial institution registered to conduct business in Manitoba and drawn on a branch located in Winnipeg, in the form attached to these Supplemental Conditions (Form H2: Irrevocable Standby Letter of Credit), in the amount of fifty percent (50%) of the Contract Price; or
 - (c) a certified cheque or draft payable to "The City of Winnipeg", drawn on a bank or other financial institution registered to conduct business in Manitoba, in the amount of fifty percent (50%) of the Contract Price.
- D11.1.1 Where the performance security is in the form of a certified cheque or draft, it will be deposited by the City. The City will not pay any interest on certified cheques or drafts furnished as performance security.
- D11.2 If the bid security provided in his/her Bid was not a certified cheque or draft pursuant to B12.1(c), the Contractor shall provide the City Solicitor with the required performance security within seven (7) Calendar Days of notification of the award of the Contract by way of letter of intent and prior to the commencement of any Work on the Site and in no event later than the date specified in the C4.1 for the return of the executed Contract.

D12. SUBCONTRACTOR LIST

- D12.1 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 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.

D13. EQUIPMENT LIST

- D13.1 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.

D14. DETAILED WORK SCHEDULE

- D14.1 The Contractor shall provide the Contract Administrator with a detailed work schedule 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 General Conditions for the return of the executed Contract.
- D14.2 If, prior to submitting the Detailed Work Schedule, the Contractor does not receive notification pursuant to D15.4 that all or some portion of Phase 2 of the Work may be commenced, he/she shall complete the Detailed Work Schedule for only Phase 1 of the Work assuming that, if all of Part 2 is eliminated, the time periods stipulated in D21 for Substantial Performance of the Work and in D22 for Total Performance of the Work will be reduced by fifty-five (55) Working Days.
- D14.3 If, after submitting the Detailed Work Schedule, the Contractor receives notification that all or any portion of Part 2 of the Work may be commenced, he/she shall submit a revised Detailed Work Schedule no later than two (2) Business Days from receipt of the notification.

- D14.4 The detailed work schedule shall consist of the following:
- (a) a Gantt chart for the Work acceptable to the Contract Administrator.
- D14.5 Further to D14.4(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.

SCHEDULE OF WORK

D15. COMMENCEMENT

- D15.1 The Contractor shall not commence any Work until he/she is in receipt of a letter of intent from the Award Authority authorizing the commencement of the Work.
- D15.2 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 D8;
 - (ii) evidence of the workers compensation coverage specified in C6.15;
 - (iii) the twenty-four (24) hour emergency response phone number specified in D4.2.
 - (iv) the Safe Work Plan specified in D9;
 - (v) evidence of the insurance specified in D10;
 - (vi) the performance security specified in D11;
 - (vii) the subcontractor list specified in D12;
 - (viii) the equipment list specified in D13; and
 - (ix) the detailed work schedule specified in D14.
 - (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.
- D15.3 The Contractor shall commence the Work on the Site within seven (7) Working Days of receipt of the letter of intent, and shall commence the Work on site no later than May 29, 2018.
- D15.4 The Contractor shall not commence Phase 2 of the Work as described in D2 and identified in Form B: Prices, unless prior to construction, he/she has received notification from the Contract Administrator that the City has received notice of sufficient funding from the City of Winnipeg. Phase 2 Construction Works shall commence May 13, 2019 weather permitting and no later than May 21, 2019.
- D15.5 The City intends to award this Contract by May 14, 2018.

D16. WORKING DAYS

- D16.1 Further to C1.1(jj);
- D16.1.1 The Contract Administrator will determine daily if a Working Day has elapsed and will record his/her 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 he/she agrees with the Contract Administrator's determination of the Working Days assessed for the report period.
- D16.1.2 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.
- D16.1.3 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.

D16.1.4 Once Phase 1 construction is accepted as complete by the Contract Administrator, the Working Days shall stop.

D17. RESTRICTED WORK HOURS

D17.1 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.

D17.2 The following work hour restrictions shall also apply:

- (a) Single lane closures permitted on Sturgeon Creek Road northbound at Saskatchewan Avenue;
- (b) Single lane closures on Inkster Boulevard eastbound permitted except in the morning peak at Fife Street;
- (c) Single lane closures on Inkster Boulevard eastbound permitted except in the afternoon peak at Hutchings Street.

D18. WORK BY OTHERS

D18.1 Work by others on or near the Site will include but not necessarily be limited to:

- (a) Manitoba Hydro Gas Division – lowering and/or rock wrapping of gas services and mains, on an as-required basis;
- (b) Manitoba Hydro – installation of new street lighting and electrical supply to the new street light plant;
- (c) Installation of a new 250 mm watermain on Fife Street from College Avenue to Troy Avenue. Work expected to commence late May 2018. Coordinate with Rob Sherlock (204)296-2130.
- (d) Reconstruction of Fife Street from College Avenue to Redwood Avenue, Troy Avenue Rehabilitation, Bid Opportunity No. 1-2018. Coordinate with City of Winnipeg (Cory Humbert (204) 226-2303).
- (e) The City of Winnipeg Traffic Services Branch.
- (f) The City of Winnipeg Traffic Signal Branch – Relocation of existing Traffic Signal pole and concrete base at the southeast corner of Sturgeon Creek Road and Saskatchewan Avenue,
- (g) Northbound Fife Street Signal loops at Inkster Boulevard.
- (h) The City of Winnipeg Traffic Signal Branch – Removal and reinstallation of existing signal flashers at Fife Street at Church Avenue.
- (i) The existing railway track shall be reconstructed on Saulteaux Crescent and Moray Street and the rehabilitation of the existing track on Saskatchewan Avenue and Hutchings Street. All works shall be completed by CP.

D19. SEQUENCE OF WORK

D19.1 Further to C6.1, the sequence of work shall be as follows:

D19.1.1 The Work shall be divided into two phases. Phase 1 shall be subdivided into stages. Stages are further subdivided into major items of work.

D19.1 Further to C6.1, the sequence of work shall comply with the following:

D19.1.1 Providing that the Work on each street is completed in a similar order to the order that the Work was commenced in, the Contractor will be permitted to have a maximum of three (3) streets under construction at any one time. Completion of a street means that all of the

necessary concrete, asphalt including approaches and landscaping Work is completed to the satisfaction of the Contract Administrator.

D19.1.2 Where the Contractor utilizes two (2) or more crews that work independently on the same major component of the Work as identified in D2, the Contract Administrator may approve an increase to the maximum number of streets under construction at any time.

D19.1.3 Placing the topsoil and finished grading of all boulevard and median areas shall be completed prior to commencing construction of asphaltic concrete overlays, including scratch courses.

D19.1.4 Construction for this project will be completed in two phases. The phase breakdown will be as follows:

(a) 2018 Construction:

- (i) Concrete pavement reconstruction on Saulteaux Crescent from Moray Street to Moray Street;
- (ii) Concrete pavement reconstruction on Fife Street from Inkster Boulevard to College Avenue;
- (iii) Pavement rehabilitation on Moray Street from Murray Park Road to north leg of Saulteaux Crescent;
- (iv) Placement of new 230 mm plain dowelled reinforced concrete pavement on Stage 3 and Stage 4 on Saulteaux Crescent shall be placed during Macdon Industries shutdown period from July 28, 2018 to August 10, 2018.
- (v) New 100 mm concrete sidewalk on Moray Street/Murray Park Road from Yellow Ribbon Trail on the west side of Moray Street to Yellow Ribbon Trail on the west side of west leg of Cree Crescent.

(b) 2019 Construction:

- (i) Pavement rehabilitation on Hutchings Street from Inkster Boulevard to Sheppard Street;
- (ii) Pavement rehabilitation on Saskatchewan Avenue from Sturgeon Creek Road to #2450 Saskatchewan Avenue.

D19.1.5 Work on Fife Street and Saulteaux Crescent shall be completed in four stages. The staging breakdown will be as follows:

(a) Stage 1 and Stage 2:

- (i) Fife Street from Inkster Boulevard to center of Church Avenue right-of-way;
- (ii) Saulteaux Crescent north leg from Moray Street to the existing railway spur line.
- (iii) The Contractor shall complete all works including topsoil and sod to the satisfaction of the Contract Administrator prior to the commencement of Stage 3 and 4.

(b) Stage 3 and Stage 4:

- (i) Fife Street from center of Church Avenue right-of-way to south property line of College Avenue (limit to be coordinated with City of Winnipeg Public Works Department at College Avenue);
- (ii) Saulteaux Crescent south leg to the railway spur line including the railway spur line.

D19.1.6 Work on Fife Street between College Avenue and Troy Avenue shall be coordinated with the proposed watermain works and the reconstruction works south of College Avenue.

D20. CRITICAL STAGES

D20.1 The Contractor shall achieve critical stages of the Work in accordance with the following requirements:

- (a) Work on Phase 1 construction shall be totally completed within ninety (90) consecutive Working Days and shall be completed in the 2018 construction season.

- (b) Work on Phase 2 construction shall be totally completed within sixty (60) consecutive Working Days and shall be completed in the 2019 construction season.
- (c) Work on Moray Street shall be substantially complete within thirty-five (35) Working Days of the commencement of Work as specified in D2.1.
- (d) Work on the new 100 mm concrete sidewalk on Murray Park Road shall be substantially completed within fifteen (15) Working Days of commencing work on Murray Park Road.

D20.2 When the Contractor considers the Work associated with Phase 1 2018 Construction, Phase 2 2019 Construction and Stage 1 and Stage 2 on Fife Street and Saulteaux Crescent 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.

D20.3 The date on which the Phase 1 Work has been accepted by the Contract Administrator as being completed to the requirements of the Contract is the date on which completion of Phase 1 has been achieved and Working Days will stop until the commencement of Phase 2 construction works.

D21. SUBSTANTIAL PERFORMANCE

D21.1 The Contractor shall achieve Substantial Performance within one hundred fifty (150) consecutive Working Days of the commencement of the Work as specified in D15.

D21.2 When the Contractor considers the Work to be substantially performed, 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.

D21.3 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.

D22. TOTAL PERFORMANCE

D22.1 The Contractor shall achieve Total Performance within one hundred fifty-five (155) consecutive Working Days of the commencement of the Work as specified in D15.

D22.2 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.

D22.3 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.

D23. LIQUIDATED DAMAGES

D23.1 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) Phase 1 2018 Construction – five thousand dollars (\$5,000.00);

- (b) Moray Street – one thousand five hundred dollars (\$1,500.00);
- (c) New 100 mm sidewalk on Murray Park Road – one thousand five hundred dollars (\$1,500.00);
- (d) Substantial Performance – three thousand dollars (\$3,000.00);
- (e) Total Performance – one thousand dollars (\$1,000.00).

D23.2 The amounts specified for liquidated damages in D23.1 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.

D23.3 The City may reduce any payment to the Contractor by the amount of any liquidated damages assessed.

D24. SCHEDULED MAINTENANCE

D24.1 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-R7;
- (b) Sod Maintenance as specified in CW 3510-R9;
- (c) Seeding as specified in CW 3520-R7.

D24.2 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

D25. JOB MEETINGS

D25.1 Regular weekly job meetings will be held at the 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.

D25.2 The Contract Administrator reserves the right to cancel any job meeting or call additional job meetings whenever he/she deems it necessary.

D26. PRIME CONTRACTOR – THE WORKPLACE SAFETY AND HEALTH ACT (MANITOBA)

D26.1 Further to C6.24, 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).

D27. THE WORKPLACE SAFETY AND HEALTH ACT (MANITOBA) – QUALIFICATIONS

D27.1 Further to B11.4, 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 its sole discretion and acting reasonably, require updated proof of compliance, as set out in B11.4.

MEASUREMENT AND PAYMENT

D28. PAYMENT

- D28.1 Further to C12, the City may at its option pay the Contractor by direct deposit to the Contractor's banking institution.
- D28.2 Further to C12.10, if a Contractor enters into a subcontract for Phase 1 works and a separate subcontract for Phase 2 works this may permit release, by the City, of the value of the holdback with respect to the subcontract for Phase 1 works in accordance with The Builders' Liens Act, such as Section 25.

WARRANTY

D29. WARRANTY

- D29.1 Notwithstanding C13.2, the warranty period for the Phase I Works shall begin on the date that Phase I is accepted as complete by the Contract Administrator and shall expire one (1) year thereafter for Pavement Rehabilitation Work , and two (2) years thereafter for pavement reconstruction works, unless extended pursuant to C13.2.1 or C13.2.2, in which case it shall expire when provided for thereunder.
- D29.2 Notwithstanding C13.2, the warranty period for the Phase II Works shall begin on the date that Phase II is accepted as complete by the Contract Administrator and shall expire one (1) year thereafter for Phase II works, unless extended pursuant to C13.2.1 or C13.2.2, in which case it shall expire when provided for thereunder.

FORM H1: PERFORMANCE BOND
(See D11)

KNOW ALL MEN 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

BID OPPORTUNITY NO. 5-2018

CITY OF WINNIPEG 2018/2019 INDUSTRIAL STREET RENEWAL PROGRAM: SAULTEAUX CRESCENT EAST LEG, MORAY STREET AND VARIOUS OTHER LOCATIONS 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: IRREVOCABLE STANDBY LETTER OF CREDIT
(PERFORMANCE SECURITY)**
(See D11)

(Date)

The City of Winnipeg
Legal Services Department
185 King Street, 3rd Floor
Winnipeg MB R3B 1J1

RE: PERFORMANCE SECURITY – BID OPPORTUNITY NO. 5-2018

CITY OF WINNIPEG 2018/2019 INDUSTRIAL STREET RENEWAL PROGRAM: SAULTEAUX
CRESCENT EAST LEG, MORAY STREET AND VARIOUS OTHER LOCATIONS

Pursuant to the request of and for the account of our customer,

(Name of Contractor)

(Address of Contractor)

WE HEREBY ESTABLISH in your favour our irrevocable Standby Letter of Credit for a sum not exceeding
in the aggregate

_____ Canadian dollars.

This Standby Letter of Credit may be drawn on by you at any time and from time to time upon written demand for payment made upon us by you. It is understood that we are obligated under this Standby Letter of Credit for the payment of monies only and we hereby agree that we shall honour your demand for payment without inquiring whether you have a right as between yourself and our customer to make such demand and without recognizing any claim of our customer or objection by the customer to payment by us.

The amount of this Standby Letter of Credit may be reduced from time to time only by amounts drawn upon it by you or by formal notice in writing given to us by you if you desire such reduction or are willing that it be made.

Partial drawings are permitted.

We engage with you that all demands for payment made within the terms and currency of this Standby Letter of Credit will be duly honoured if presented to us at:

(Address)

and we confirm and hereby undertake to ensure that all demands for payment will be duly honoured by us.

All demands for payment shall specifically state that they are drawn under this Standby Letter of Credit.

Subject to the condition hereinafter set forth, this Standby Letter of Credit will expire on

(Date)

It is a condition of this Standby Letter of Credit that it shall be deemed to be automatically extended from year to year without amendment from the present or any future expiry date, unless at least 30 days prior to the present or any future expiry date, we notify you in writing that we elect not to consider this Standby Letter of Credit to be renewable for any additional period.

This Standby Letter of Credit may not be revoked or amended without your prior written approval.

This credit is subject to the Uniform Customs and Practice for Documentary Credit (2007 Revision), International Chamber of Commerce Publication Number 600.

(Name of bank or financial institution)

Per: _____
(Authorized Signing Officer)

Per: _____
(Authorized Signing Officer)

FORM J: SUBCONTRACTOR LIST
 (See D12)

CITY OF WINNIPEG 2018/2019 INDUSTRIAL STREET RENEWAL PROGRAM: SAULTEAUX
 CRESCENT EAST LEG, MORAY STREET AND VARIOUS OTHER LOCATIONS

<u>Portion of the Work</u>	<u>Name</u>	<u>Address</u>
<i>SURFACE WORKS:</i>		
<i>Supply of Materials:</i>		
Concrete		
Asphalt		
Base Course & Sub-Base		
Sod		
Geotextile Fabric		
Geogrid		
<i>Installation/Placement:</i>		
Concrete		
Asphalt		
Base Course and Sub-Base		
Sod		
Joint Sealant		
Street Lighting		
<i>UNDERGROUND WORKS:</i>		
Sewer Service Pipe/Drainage Pipe		
Sub Drains		
Catchbasins/Catchpits		
Frames and Covers		
<i>Installation/Placement:</i>		
Catchbasins/Catchpits		

FORM K: EQUIPMENT
(See D13)

**CITY OF WINNIPEG 2018/2019 INDUSTRIAL STREET RENEWAL PROGRAM: SAULTEAUX
CRESCENT EAST LEG, MORAY STREET AND VARIOUS OTHER LOCATIONS**

<p>1. Category/type:</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>2. Category/type:</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>3. Category/type:</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 D13)

CITY OF WINNIPEG 2018/2019 INDUSTRIAL STREET RENEWAL PROGRAM: SAULTEAUX
CRESCENT EAST LEG, MORAY STREET AND VARIOUS OTHER LOCATIONS

4. Category/type:

Make/Model/Year: _____ Serial No.: _____

Registered owner: _____

Make/Model/Year: _____ Serial No.: _____

Registered owner: _____

Make/Model/Year: _____ Serial No.: _____

Registered owner: _____

5. Category/type:

Make/Model/Year: _____ Serial No.: _____

Registered owner: _____

Make/Model/Year: _____ Serial No.: _____

Registered owner: _____

Make/Model/Year: _____ Serial No.: _____

Registered owner: _____

6. Category/type:

Make/Model/Year: _____ Serial No.: _____

Registered owner: _____

Make/Model/Year: _____ Serial No.: _____

Registered owner: _____

Make/Model/Year: _____ Serial No.: _____

Registered owner: _____

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 its 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 Bid Opportunity shall govern over *The City of Winnipeg Standard Construction Specifications*.
- E1.3 The following are applicable to the Work:

<u>Drawing No.</u>	<u>Drawing Name/Title</u>	<u>Drawing (Original) Sheet Size</u>
CT-00	Cover Page and Location Plan	
CT-01	Saulteaux Crescent East Leg – Moray Street to Moray Street Proposed Stage 1 & 2 Works	
CT-02	Saulteaux Crescent East Leg - Moray Street to Moray Street Proposed Stage 3 & 4 Works	
CT-03	Saulteaux Crescent East Leg – Moray Street to Station 0+650	
CT-04	Saulteaux Crescent East Leg – Station 0+650 to Station 0+780	
CT-05	Saulteaux Crescent East Leg – Station 0+780 to Station 0+920	
CT-06	Saulteaux Crescent East Leg – Station 0+920 to Station 1+050	
CT-07	Saulteaux Crescent East Leg – Station 1+050 to Moray Street	
CT-08	Moray Street – Murray Park Road to Station 0+180	
CT-09	Moray Street – Station 0+180 to Station 0+320	
CT-10	Moray Street – Station 0+320 to Station 0+440	
CT-11	Moray Street – Station 0+440 to Station 0+560	
CT-12	Moray Street – Station 0+560 to Station 0+680	
CT-13	Moray Street – Station 0+680 to Saulteaux N. Leg	
CT-14	Fife Street – Inkster Boulevard to Church Avenue Proposed Stage 1 & 2 Works	
CT-15	Fife Street - Inkster Boulevard to Church Avenue Proposed Stage 3 & 4 Works	
CT-16	Fife Street – College Avenue Station 0+640	
CT-17	Fife Street – Station 0+640 to Station 0+760	
CT-18	Fife Street – Station 0+760 to Station 0+880	
CT-19	Fife Street – Station 0+880 to Station 1+010	
CT-20	Fife Street – Station 1+010 to Station 1+130	
CT-21	Fife Street – Station 1+130 to Station 1+250	
CT-22	Fife Street – Station 1+250 to Station 1+370	
CT-23	Fife Street – Station 1+370 to Station 1+500	
CT-24	Fife Street – Station 1+500 to Inkster Boulevard	
CT-25	Saskatchewan Avenue – Sturgeon Road to Station 0+220	
CT-26	Saskatchewan Avenue – Station 0+220 to Station 0+350	
CT-27	Saskatchewan Avenue – Station 0+350 to Station 0+480	
CT-28	Saskatchewan Avenue – Station 0+480 to Station 0+610	
CT-29	Saskatchewan Avenue – Station 0+610 to Station 0+740	
CT-30	Saskatchewan Avenue – Station 0+740 to Station 0+870	

<u>Drawing No.</u>	<u>Drawing Name/Title</u>	<u>Drawing (Original) Sheet Size</u>
CT-31	Saskatchewan Avenue – Station 0+870 to Station 1+000	
CT-32	Saskatchewan Avenue – Station 1+000 to Station 1+130	
CT-33	Saskatchewan Avenue – Station 1+130 to Station 1+250	
CT-34	Saskatchewan Avenue – Station 1+250 to Station 1+380	
CT-35	Saskatchewan Avenue – Station 1+380 to Station 1+510	
CT-36	Saskatchewan Avenue – Station 1+510 to Station 1+570	
CT-37	Hutchings Street – Sheppard Street to Station 0+210	
CT-38	Hutchings Street – Station 0+210 to Station 0+340	
CT-39	Hutchings Street – Station 0+340 to Station 0+470	
CT-40	Hutchings Street – Station 0+470 to Station 0+600	
CT-41	Hutchings Street – Station 0+600 to Station 0+730	
CT-42	Hutchings Street – Station 0+730 to Station 0+860	
CT-43	Hutchings Street – Station 0+860 to Station 0+990	
CT-44	Hutchings Street – Station 0+990 to Station 1+110	
CT-45	Hutchings Street – Station 1+110 to Inkster Boulevard	
CT-46	Murray Park Road New Concrete Sidewalk – Cree Crescent to 0+870	
CT-47	Murray Park Road/Moray Street New Concrete Sidewalk – Station 0+870 to Yellow Ribbon Trail	

E2. GEOTECHNICAL REPORT

- E2.1 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'.

E3. OFFICE FACILITIES

- E3.1 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, a height of 2.4m with two windows for cross ventilation 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.
 - (f) The building shall be furnished with one desk, one drafting table, one table 3m x 1.2m 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 he/she deems it necessary.
- E3.2 The Contractor shall be responsible for all installation and removal costs, all operating costs, and the general maintenance of the office facilities.
- E3.3 The office facilities will be provided from the date of the commencement of the Work to the date of Total Performance.

E3.4 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.

E4. PROTECTION OF EXISTING TREES

E4.1 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.

E4.2 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 his/her designate.

E4.3 No separate measurement or payment will be made for the protection of trees.

E4.4 Except as required in clause E4.1(c) and E4.1(e), Elm trees shall not be pruned at any time between April 1 and July 31.

E5. TRAFFIC CONTROL

E5.1 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 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.

E5.2 Notwithstanding E5.1, in accordance with the MTTC, the Contract Administrator shall make arrangements with the **Traffic Services Branch of the City of Winnipeg** to place, maintain, and remove all **regulatory signs** and traffic control devices authorized and/or required by the Traffic Management Branch in the following situations:

- (a) Parking restrictions,
- (b) Stopping restrictions,
- (c) Turn restrictions,

- (d) Diamond lane removal,
- (e) Full or directional closures on a Regional Street,
- (f) Traffic routed across a median,
- (g) 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.
- (h) Approved Designated Construction Zones with a temporary posted speed limit reduction. Traffic Services will be responsible for placing all of the advance signs and 'Construction Ends' (TC-4) signs. The Contractor is still responsible for all other temporary traffic control including but not limited to barricades, barrels and tall cones.

E5.2.1 An exception to E5.2 is the 'KEEP RIGHT/KEEP LEFT' sign (RB-25 / RB-25L) which shall be supplied, installed, and maintained by the Contractor at their own expense.

E5.2.2 Further to E5.2, where the Contract Administrator has determined that the services of the Traffic Services Branch are required, the City shall bear the costs associated with the placement of temporary traffic control devices by the Traffic Services Branch of the City of Winnipeg in connection with the works undertaken by the Contractor.

E6. TRAFFIC MANAGEMENT

E6.1 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.

E6.1 Further to clause 3.7 of CW 1130:

E6.1.1 The Contractor shall schedule construction activities to meet the following:

- (a) On Saulteaux Crescent, at least one lane for local access traffic shall be maintained along this street during construction. Refer to Saulteaux Crescent staging drawings for further details.
- (b) On Fife Street, at least one lane for local access traffic shall be maintained along the street during construction. The northbound traffic lane shall be closed to vehicular traffic and the southbound lane shall be signed "One Way". Church Avenue and Mountain Avenue shall have at least one lane for local access traffic during construction. Refer to Fife Street staging drawings for further details.
- (c) On Saskatchewan Avenue from Moray Street to Sturgeon Creek Road, at least one lane for local access traffic shall be maintained along the street during construction. The eastbound traffic lane shall be closed to vehicular traffic. The westbound lane shall be signed "One Way".
- (d) On Saskatchewan Avenue from Moray Street to #2450 Saskatchewan Avenue, traffic shall be maintained in the eastbound and westbound direction at all times.
- (e) On Moray Street, two lanes for traffic shall be maintained along the street during construction. Flag persons will be required during the morning and afternoon peak periods.

E6.1.2 Should the Contractor be unable to maintain an existing access to a residence or business, he/she 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.

E6.1.3 Pedestrian and ambulance/emergency vehicle access must be maintained at all times.

E7. REFUSE AND RECYCLING COLLECTION

E7.1 There are no City collections on the streets in this package.

E8. WATER OBTAINED FROM THE CITY

E8.1 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.

E9. SURFACE RESTORATIONS

E9.1 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.

E10. INFRASTRUCTURE SIGNS

E10.1 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

E11. SUPPLY AND INSTALLATION OF PAVEMENT REPAIR FABRIC

DESCRIPTION

E11.1 General

E11.1.1 This specification covers the supply and installation of pavement repair fabric.

E11.1.2 Referenced Standard Construction

(a) CW 3130 – Supply and Installation of Geotextile Fabrics.

MATERIALS

E11.2 Storage and Handling

E11.2.1 Store and handle material in accordance with Section 2 of CW 3130.

E11.3 Pavement Repair Fabric

E11.3.1 Pavement repair fabric will be Glas Grid Road Reinforcement Mesh - Style 8501.

CONSTRUCTION METHODS

E11.4 General

E11.4.1 Install pavement repair fabric at random locations as directed by the Contract Administrator.

E11.4.2 The extent of the placement limits and quantities required will be determined by the Contract Administrator and provided 48 hours prior to the placement of asphalt.

E11.4.3 Proceed with installation upon completion and acceptance of the asphalt levelling course.

- E11.4.4 Install fabric in accordance with the manufacturer's specifications and recommendations.
- E11.4.5 Only construction equipment required to place the final asphalt surface course will be allowed to travel on the exposed fabric.
- E11.4.6 Replace damaged or improperly placed fabric.
- E11.4.7 Ensure temperature of the asphalt material does not exceed the melting point of the fabric.

MEASUREMENT AND PAYMENT

- E11.5 Pavement Repair Fabric
 - E11.5.1 The supply and installation of the pavement repair fabric will be measured on an area basis and paid for at the Contract Unit Price per square metre for "Pavement Repair Fabric". The area to be paid for will be the total number of square metres of pavement repair fabric supplied and installed in accordance with this specification, accepted and measured by the Contract Administrator.

E12. PARTIAL DEPTH PATCHING OF EXISTING JOINTS

DESCRIPTION

- E12.1 General
 - E12.1.1 This specification covers the Partial Depth Patching of existing concrete pavement joints.
- E12.2 Referenced Standard Construction Specifications
 - (a) CW 3230 – Full-Depth Patching of Existing Slabs and Joints
 - (b) CW 3410 – Asphalt Concrete Pavement Works

MATERIALS

- E12.3 Asphalt Materials
 - E12.3.1 Asphalt material will be Type 1A supplied in accordance with Sections 5 and 6 of CW 3410.
- E12.4 Tack Coat
 - E12.4.1 Tack Coat will be undiluted SS-1 emulsified asphalt.

CONSTRUCTION METHODS

- E12.5 Planing of Joints
 - E12.5.1 Plane existing joints designated by the Contract Administrator to a minimum depth of 50 mm and a maximum of depth 90 mm to remove ravelled or deteriorated concrete. Width of joint to be planed will vary with depth.
 - E12.5.2 Should the depth of joint deterioration exceed the maximum indicated, as determined by the Contract Administrator, the entire joint shall be renewed and paid for in accordance with CW 3230 as a full depth joint repair. Planing completed shall be paid for in accordance with Section 14.7 of this specification
 - E12.5.3 Dispose of material in accordance with Section 3.4 of CW 1130.
- E12.6 Placement of Asphalt Material
 - E12.6.1 Prior to placement of asphalt material, the planed joint shall be swept or blow clean of any loose material.

- E12.6.2 Apply Tack Coat uniformly on the entire surface of the planed joint. The application rate shall not exceed 0.23 litres per square metre. The planed joint shall be dry prior to applying the tack coat.
- E12.6.3 Place and compact asphalt material in accordance with Section 9.3 of CW 3410 to the satisfaction of the Contract Administrator. The finished elevation of the patch shall be flush with surrounding pavement surface.
- E12.6.4 Compact the asphalt material to an average 95% of the 75 blow Marshall Density of the paving mixture with no individual test being less than 90 %.
- E12.6.5 Ensure that no traffic is allowed to travel over the patched area until the asphalt has cooled to atmospheric temperature.

MEASUREMENT AND PAYMENT

- E12.7 Partial Depth Planing of Existing Joints
 - E12.7.1 Partial Depth Planing of Existing Joints will be measured on an area basis and paid for at the Contract Unit Price per square metre for "Partial Depth Planing of Existing Joints". The area to be paid for will be the total number of square metres of joints planed in accordance with this specification, accepted and measured by the Contract Administrator.
- E12.8 Asphalt Patching of Partial Depth Joints
- E12.9 Asphalt Patching of Partial Depth Joints will be measured on an area basis and paid for at the Contract Unit Price per square metre for "Asphalt Patching of Partial Depth Joints". The area to be paid for will be the total number of square metres of joints patched in accordance with this specification, accepted, and measured by the Contract Administrator.

E13. SEEDING

DESCRIPTION

- E13.1 General
 - E13.1.1 Further to CW 3520-R7 and CW 3540-R5, this specification covers supply and placement of topsoil and seed.
- E13.2 Reference Standard Construction Specifications
 - E13.2.1 CW 3520-R7 Seeding
 - E13.2.2 CW3540-R5 Topsoil and Finish Grading for Establishment of Turf Areas

MATERIALS

- E13.3 Fertilizer
 - E13.3.1 A complete synthetic starter fertilizer with an N-P-K analysis of 8-32-16 shall be placed.
- E13.4 Grass Seed
 - E13.4.1 Two seed mixtures, defined below, shall be spread on this site.
 - E13.4.2 Mix 1 shall be 40% Fults Alkaligrass, 30% Walsh Western Wheatgrass, 20% Aberdeen Creeping Red Fescue, 10% Perennial Rye.
 - E13.4.3 Mix 2 shall be 25% Tall Fescue, 25% Slender Wheatgrass, 20% Tall Wheatgrass, 10% Alfalfa, 10% Dahurian Wild Rye, 10% Sweet Clover.
- E13.5 Hydro Mulch
 - E13.5.1 Hydro mulch shall be a cellulose fibre product.

CONSTRUCTION METHODS

- E13.6 Do not perform work during inclement weather conditions or under adverse field conditions such as frozen ground or ground covered with snow, ice, or standing water.
- E13.7 The synthetic fertilizer shall be placed via a drop spreader on the areas at a rate defined by the manufacturer and incorporated into the upper 50 mm of the topsoil.
- E13.8 Two seed mixtures, defined below, shall be spread on this site. Mix 1 shall be seeded on the roadside to the base through the median and along the roadside to the base of the ditches. Mix 2 shall be seeded on the backslope of the ditches, the north side of the north ditch and the south side of the south ditch.
- E13.9 Water all areas prior to application of the hydro mulch. Seed bed should be moist to maintain seed germination and grass growth.
- E13.10 Further to CW 3520, the established turf area shall be mowed at regular intervals to a height of 50-60 mm. To ensure seedling vigour and limit damage to the leaf tissue, only sharp mower blades shall be used.

MEASUREMENT AND PAYMENT

- E13.10.1 Seeding will be measured and paid for in accordance with City of Winnipeg Standard Construction Specification CW 3520 for Seeding.

E14. APPLICATION OF CURING COMPOUND IN PAVEMENT JOINTS

DESCRIPTION

- E14.1 General
 - E14.1.1 Further to CW 3310 this specification covers the timing and application of white pigmented curing compound in pavement joints, in the roadway pavement joints on Saulteaux Crescent and Fife Street.
- E14.2 Reference Standard Construction Specifications
 - E14.2.1 CW 3310 - Portland Cement Concrete Pavement Works

MATERIALS

- E14.3 White Pigmented Curing Compound
 - E14.3.1 White Pigmented Curing Compound to be in accordance with CW 3310 Section 5.4.6.

CONSTRUCTION METHODS

- E14.4 Early Saw-Cutting with Curing Compound
 - E14.4.1 The Contractor shall make the saw-cuts at joint locations indicated utilizing early entry dry cut equipment as soon as the concrete is hard enough not to be ravelled or damaged by the blade. The time at which the saw-cutting is to be done shall be determined by the Contractor.
 - E14.4.2 Following the saw-cutting operations the joints shall be blown clean of all saw-cutting residue and have the white pigmented curing compound applied to them, so that the completed coat of curing compound has filled the saw-cut.
- E14.5 Late Saw-Cutting with Curing Compound
 - E14.5.1 The Contractor shall make the saw-cuts at joint locations indicated utilizing standard concrete saws, utilizing the wet cut method. Saw-cutting shall take place once the concrete has gained sufficient strength to support the saw-cutting equipment, without being

damaged and the concrete is not ravelled or damaged by the blade. The time at which the saw cutting is to be done shall be determined by the Contractor.

E14.5.2 Following the saw-cutting operations the joints shall be blown clean of all moisture and saw-cutting residue and have the white pigmented curing compound applied to them, so that the completed coat of curing compound has filled the saw-cut.

E14.6 Standard Saw-cutting

E14.6.1 The Contractor shall complete the saw-cutting of joints using standard saw-cutting practices at the locations indicated without the application of curing compound. . The time at which the saw cutting is to be done shall be determined by the Contractor.

E14.7 Locations for Various Saw-Cutting Methods

E14.7.1 Saulteaux Crescent: Stage 1 - Early Saw-Cutting with Curing Compound between Sta. 1+184 and 1+070, Late Saw-Cutting with curing compound 1+070 and 0+970 and Standard Saw-Cutting Sta. 0+970 to 0+850. Stage 2 - Early Saw-Cutting with Curing Compound between Sta. 0+850 and 0+750, Late Saw-Cutting with curing compound 0+750 and 0+650 and Standard Saw-Cutting Sta. 0+650 to 0+520.

E14.7.2 Fife Street: Stage 1 - Early Saw-Cutting with Curing Compound between Sta. 0+992.5 and 1+200, Late Saw-Cutting with curing compound 1+200 and 1+400 and Standard Saw-Cutting Sta. 1+400 to 1+596. Stage 2 - Early Saw-Cutting with Curing Compound between Sta. 0+517 and 0+670, Late Saw-Cutting with curing compound 0+670 and 0+820 and Standard Saw-Cutting Sta. 0+820 to 0+992.5.

MEASUREMENT AND PAYMENT

E14.7.3 Saw-cutting of joints with the application of curing compound shall be measured on a length basis and will be paid for at the Contract Unit Price per metre for the "Items of Work" listed below, measured as specified herein which price shall be payment in full for supplying all materials and performing all operations herein described incidental to the work included in this Specification. The Contractor is advised there shall be no measurement of, or additional payment made for Standard Saw-Cutting of joints.

Items of Work:

- (a) Early Saw-Cutting with Curing Compound
- (b) Late Saw-Cutting with Curing Compound
- (c) Standard Saw-Cutting

E14.7.4 Further to CW 3310, saw-cutting the joints on Saulteaux and Fife will not be incidental to the 230 mm plain-dowelled concrete pavement.

E15. PLANING OF TIE-INS AND APPROACHES

E15.1 General

E15.1.1 This specification shall cover the planning of tie-ins and approaches.

E15.2 Construction Methods

E15.2.1 The Contractor shall plan tie-ins and approaches to the limits and depth shown on the Drawings or as directed by the Contract Administrator.

E15.2.2 Replane the areas to remove depth irregularities.

E15.2.3 Mechanically sweep planed surface.

E15.2.4 Remove loose or broken pavement remaining upon completion of the planning operations.

E15.2.5 Dispose of material in accordance with Section 3.4 of CW 1130.

E15.3 Measurement and Payment

E15.3.1 Planing of Tie-Ins and Approaches

- (a) Planing of Tie-Ins and Approaches will be measured on a square metre basis and paid for at the Contract Unit Price per meter for "Planing of Tie-Ins and Approaches". The total area to be paid for will be the total area planed in accordance with this specification, accepted and measured by the Contract Administrator.

E15.3.2 Additional passes required to plane the areas to the specified depth will not be measured or included in the payment for the Planing of Tie-Ins and Approaches. Only the total area planed will apply to the payment item.

E16. HYDRANT ACCESS PADS

DESCRIPTION

E16.1 This specification covers the construction of approaches to provide access across existing ditches to new hydrants.

CONSTRUCTION METHODS

E16.2 Construct embankment from suitable common excavated material to the dimensions shown on the drawings in accordance with CW 3170.

E16.3 Place and compact crushed limestone base course to the dimensions shown on the drawings in accordance with CW 3110.

E16.4 Supply and install CSP culverts in accordance with CW 3610 where indicated.

MEASUREMENT AND PAYMENT

E16.5 Corrugated Steel Pipe will be measured and paid for as specified in CW 3610.

E16.6 Construction of hydrant approaches will be measured for payment on a unit basis and paid for at the Contract Unit Price for "Construction of Hydrant Access Pads". Number of units to be paid for will be the total number of hydrant access pads acceptably constructed in accordance with this specification, accepted and measured by the Contract Administrator.

E17. HYDRO EXCAVATION

DESCRIPTION

E17.1 General

E17.1.1 This specification shall cover the removal of earthen material immediately adjacent to underground utilities infrastructure by means of high pressure water spray, and the recovery of evacuated material by vacuum type means or equivalent method as approved by the Contract Administrator.

E17.2 Equipment

E17.2.1 Hydro Excavation unit shall be capable of maintaining a minimum working pressure of 10,000 psi, at a rate of flow of 10 to 12 gallons per minute. Unit should be adjustable, so as to provide adequate pressure to remove earthen material identified by the Contract Administrator.

E17.2.2 Spray head shall be equipped with a rotating type nozzle, in order to provide a wider path of cut.

E17.3 Construction Methods

E17.3.1 Hydro-Removal of Earthen Material

- (a) Earthen material adjacent to utility entity shall be sprayed with high pressure water so as to remove all such material identified by the Contract Administrator.

E17.3.2 Recovery of Excavated Material

- (a) The recovery of excavated material shall be done using vacuum type method, or other type method as approved by the Contract Administrator.
- (b) The recovery of material shall follow immediately behind the excavation, to avoid excavated areas from filling with excavated material.
- (c) The use of mechanical sweepers will not be allowed.
- (d) Dispose of material in accordance with Section 3.4 of CW 1130.

E17.3.3 Backfill of Hydro Excavated Hole

- (a) The Contractor shall be responsible for the backfill of the hydro excavated hole upon the completion of the Work described herein, to the approval of the Contract Administrator.

E17.4 Measurement and Payment

E17.4.1 Hydro Excavation

- (a) Hydro Excavation of earthen material will be measured on an hourly basis and paid for at the Contract Unit Price per hour for "Hydro Excavation". The hours to be paid for will be the total number of hours of Hydro Excavation in accordance with this specification, accepted and measured by the Contract Administrator. Travel to and from the Site will not be accounted for in the payment of this item.

E18. SUPPLY AND INSTALL WATERMAIN AND WATER SERVICE INSULATION

DESCRIPTION

E18.1 Notwithstanding 3.12 of CW 2110, this specification covers the supply and installation of insulation in roadway excavations over watermains and water services.

E18.2 Referenced Standard Construction Specifications

- (a) CW 2030 – Excavation Bedding and Backfill
- (b) CW 3110 – Sub –grade, Sub-base and Base Course Construction

E18.3 Referenced Standard Details

- (a) SD-018 - Watermain and Water Service Insulation

MATERIALS

E18.4 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",

E18.5 Sand Bedding:

- (a) In accordance with CW 2030.

CONSTRUCTION METHODS

E18.6 Prior to the installation of any sub-base material or geotextile material, locate all existing water services.

- E18.7 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.
- E18.8 Stockpile and dispose of excavated material in accordance with CW 3110.
- E18.9 Thickness of insulation is 100mm (4"). If using 50mm (2") panels two (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.
- E18.10 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.
- E18.11 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.
- E18.12 Take appropriate measures to ensure panels are not displaced when installing geotextiles and during backfilling operations.

MEASUREMENT AND PAYMENT

- E18.13 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.
- E18.14 Excavation of the roadway subgrade in accordance with E18.7 and locating existing water services in accordance with E18.6 will not be measured for payment and will be included in the payment for "Watermain and Water Service Insulation".

E19. MODIFIED BARRIER CURB INTEGRAL WITH SLIP FORM PAVING

DESCRIPTION

- E19.1 General
- E19.1.1 Further to CW 3240 this specification shall cover the modified barrier curb being pour in conjunction with the 200mm mainline concrete pavement.
- E19.2 Reference Standard Construction Specifications
- E19.2.1 CW 3240 - Concrete Curb Installation
- E19.3 Equipment
- E19.3.1 A mold specified by the dimensions of SD – 203B will be fixed to the appropriate side of the slip form paving machine during paving.
- E19.4 Construction Methods
- E19.4.1 Reference CW 3240 – R10, 3.3.
- E19.5 Measurement and Payment
- E19.5.1 Modified barrier curb integral with slip from paving shall be measured on a length basis and will be paid for at the Contract Unit Price per metre for the "items of Work" listed below, measured as specified herein which price shall be payment in full for supplying all

materials and performing all operations herein described incidental to the work included in this Specification.

E19.6 Items of Work

E19.7 Concrete Curb Installation

- (a) Modified Barrier (180mm reveal ht, Integral, slip form)

E20. REMOVAL OF EXISTING RAILWAY LINE AND WOODEN TIES

DESCRIPTION

- E20.1 This specification covers the removal of existing railway line and wooden ties within the right of way on Hutchings Street and in the sidewalk area on Murray Park Road.

CONSTRUCTION METHODS

E20.2 General

- E20.2.1 The removal involves the removal and disposal of the rail line and removal of wooden ties. The extent of the removal of the existing railway line will be determined by the Contract Administrator.

MEASUREMENT AND PAYMENT

E20.3 General

- E20.3.1 The removal and disposal of the rail line and ties shall be measured on a linear meter basis and be paid for at the contract unit price for "Removal of Existing Railway and Wooden Ties" as indicated in the Schedule of Prices. The length to be paid for will be the total linear meters of railway removed in accordance with this specification, accepted and measured by the Contract Administrator.

E21. MODIFIED BARRIER CURB AND GUTTER INLET FRAME AND COVER

DESCRIPTION

- E21.1 This specification shall amend CW2130-R12.

MATERIALS

- E21.2 Modified barrier curb and gutter inlet frame and covers shall conform to all applicable City of Winnipeg Standard Construction Specifications, specifically the City of Winnipeg Standard for Gray and Ductile Iron Municipal Castings.
- E21.3 All gray iron shall conform to the requirements of ASTM A48, Class 30 with a minimum Ultimate Tensile Strength (UTS) of 206.8427 MPa (30,000 p.s.i.). All gray iron shall meet the applicable quality assurance test requirements of ASTM A48 with regard to material, workmanship and minimum design load.
- E21.4 Basic materials shall be made from virgin or recycled and meet the physical and chemical properties as defined in ASTM A48 for Class 30 gray iron.
- E21.5 The Contractor shall supply Titan Foundry TF-122 modified barrier curb and gutter inlet frames and covers or approved equal.

CONSTRUCTION METHODS

- E21.6 All catch basins (SD-024) and catch pits (SD-023) installed along modified barrier curbs shall have modified barrier curb and gutter inlet frame and covers (TF-122) installed.

MEASUREMENT AND PAYMENT

E21.7 There shall be no measurement or payment made for the items in this Specification. They shall be considered incidental to the installation of catch basins or catch pits.

E22. OPERATING CONSTRAINTS FOR WORK IN CLOSE PROXIMITY TO CRITICAL WATER INFRASTRUCTURE

E22.1 Description

E22.1.1 This Section details operating constraints for all work to be carried out in close proximity to the City feeder mains and other critical water infrastructure. Close proximity shall be deemed to be any construction activity within a 5 m horizontal offset from the centreline of the feeder main/water main, within 5 m of valve chambers and other appurtenances, and any other infrastructure identified below.

E22.2 The following shall be considered critical pipelines and water infrastructure for this project:

E22.2.1 Kildonan Feeder Main:

1050 mm Prestressed Concrete Cylinder Pipe (PCCP) (Lined Core) water transmission pipe conforming to AWWA C301-58. The Kildonan Feeder Main was manufactured and installed in 1960 in 4.88 m (16.02') pipe lengths.

- (a) The feeder main runs north-south within the Fife Street right of way as shown on the Drawings.
- (b) The following Kildonan Feeder Main valve chambers are affected by the proposed work:
 - (i) Valve Pit north of Troy Avenue.
 - (ii) Offtake Valve chamber on Inkster Avenue at Fife Street.

E22.3 General Considerations for Work in Close Proximity to Critical Water Infrastructure:

E22.3.1 Feeder mains and large diameter water 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 main and water 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.

E22.3.2 Work around critical water infrastructure 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.

E22.3.3 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. PCCP typically fails in a non-ductile mode with the potential to cause extensive consequential damage to infrastructure if failure should occur. All large diameter feeder mains/water mains have the potential to cause extensive flooding.

E22.3.4 Construction in close proximity to critical infrastructure shall not commence until both the equipment and construction method statements have been submitted, reviewed, and accepted by the Contract Administrator.

E22.4 Submittals

E22.4.1 Submit proposed construction equipment specifications to the Contract Administrator for review a minimum of five (5) 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.

E22.4.2 Submit a construction method statement to the Contract Administrator a minimum of five (5) 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) excavation plans, including shoring designs, for excavations occurring in close proximity to feeder mains (within 5 m horizontal of the pipe's centerline) where the excavation to be extended below the top of the feeder mains embedment zone (150 mm above the pipe);
- (c) trenchless construction methodology for feeder main crossings, including: installation methods, means of grade control, means of confirming clear separation between the new LDS and existing feeder main; and
- (d) 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.

E22.4.3 Incomplete or partial submissions will not be reviewed and will be returned to the Contractor for re-submission.

E22.4.4 Allow five (5) Business Days for review by the Contract Administrator.

E22.5 Feeder Main Operational Limitations

E22.5.1 Feeder main shutdowns are scheduled based on a number of factors including water demand, weather, reservoir operation, routine maintenance and repair work within the regional distribution system, and other factors. If feeder main shutdowns are required, the City shall endeavour to make requested time periods available to the Contractor to schedule his/her work requiring removal of the feeder main from service, without limiting the City's control over the operation of the feeder main to complete other work, maintain adequate water supply and storage of water and maintain the integrity of the infrastructure. The City shall reserve the right to cancel and/or delay these schedule dates at any time, due to any circumstances that could adversely affect the feeder main or water supply including, but not limited to, high water demand, abnormal weather, failures of related water system components and/or security concerns.

E22.5.2 Scheduling Restrictions:

- (a) Temporary feeder main shutdowns are typically limited to off-peak demand seasons (September 15th to May 15th) and low demand hours including evenings or other low demand periods.

E22.5.3 The Contractor shall provide Notice to the Contract Administrator in writing, a minimum of fifteen (15) Business Days prior to requiring the shutdown. The City will endeavour to schedule the shutdown as requested.

E22.6 Feeder Main Cover

- (a) The Kildonan Feeder Main has limited cover for the length of this project ranging from 1.1 metres to approximately 2 metres below finish centerline grade of proposed street. The following are estimated depths to the top of the feeder main;
 - (i) Mountain Avenue Intersection 1.50m
 - (ii) Church Avenue Intersection 1.650m

E22.7 Pre-Work, Planning and General Execution

E22.7.1 No work shall commence in close proximity to feeder mains, chambers, and critical infrastructure until the equipment specifications and construction method statement have

been submitted and accepted, and feeder main locations have been clearly delineated in the field. Work over feeder mains shall only be carried out with equipment that has been reviewed and quantified in terms of its loading implications on the pipe.

- E22.7.2 Contact the City of Winnipeg Water and Waste Department, Construction Services Coordinator prior to construction.
- E22.7.3 Locate feeder mains and water mains and confirm their position horizontally and vertically at the proposed the following locations prior to undertaking work in close proximity to the identified feeder mains. Note, exact locations to be identified in the field. Deviations from the elevations noted on the Drawings shall be reported to Contract Administrator for review prior to proceeding with work:
- (a) Kildonan Feeder Main:
 - (i) Mountain Avenue Intersection.
 - (ii) Church Avenue Intersection
- E22.7.4 Visually delineate all critical infrastructure identified herein on Site by use of paint, staking/flagging, construction fencing, snow fencing, or other suitable methods
- E22.7.5 Only utilize construction practices and procedures that do not impart excessive vibratory loads on feeder mains and chambers or that would cause settlement of the subgrade below feeder mains and critical pipelines.
- E22.7.6 Where the existing road structure must be removed, crossing of critical infrastructure shall be prohibited from the time the existing roadway structure is removed until the completion of granular base construction. At all times prior to completion of final paving; reduce equipment speeds to levels that minimize the effects of impact loading to the critical infrastructure.
- E22.7.7 Only equipment and construction practices stipulated in the accepted construction method statement and the supplemental requirements noted herein may be utilized in close proximity to feeder mains, chambers, and other critical infrastructure identified herein.
- E22.7.8 Construction operations should be staged in such a manner as to limit multiple construction loads at one time, (e.g., offset crossings sufficiently from each other, rollers should remain a sufficient distance behind spreaders to limit loads. A reasonable offset distance is 3 m between loads).
- E22.7.9 Granular material, construction material, soil, and/or other material shall not be stockpiled on the pipelines or within 5 m of any feeder main, valve chamber, or other critical infrastructure identified herein.
- E22.7.10 The Contractor shall ensure that all crew members understand and observe the requirements of working near feeder mains, valve chambers, and critical infrastructure. Prior to commencement of on-Site work, the Contractor shall jointly conduct an orientation meeting with the Contract Administer, all superintendents, foreman, and heavy equipment operators to make all workers on the Site fully cognizant of the limitations of altered loading on, the ramifications of inadvertent damage to, and the constraints associated with work in close proximity to feeder mains and critical pipelines. New personnel introduced after commencement of the Project need to be formally orientated as outlined herein. It is recommended that restrictions associated with the crossing, consistent with the Contractor's submitted method statement be posted on Site and near the crossing.
- E22.8 Demolition, Excavation, and Shoring
- E22.8.1 Use of pneumatic concrete breakers within 3 m of a feeder main, valve chamber, or critical pipeline is prohibited. Pavement shall be full depth sawcut and carefully removed. Use of hand held jackhammers for pavement removal will be allowed.
- E22.8.2 Offset excavation equipment a minimum of 3 m from the centerline of critical pipelines when undertaking excavations where there is less than 2.4 m of earth cover over the pipeline.

- E22.8.3 Excavation:
- (a) Utilize only smooth edged excavation buckets, soft excavation, or hand excavation techniques where there is less than 1.5 m of earth cover over the pipeline.
 - (b) Where there is less than 1.0 m of soil cover above the pipeline, provide full time supervision and complete the excavation utilizing hand excavation, soft excavation methods, or machine excavation. Where machine excavation is to be used the crown of the pipeline must be exposed (or suitable located) using hand or soft excavation methods a minimum of every 1.8 m.
 - (c) Where there is less than 0.5 m of soil cover above the pipeline, provide full time supervision and complete the excavation utilizing hand excavation or soft excavation methods only.
- E22.8.4 Equipment should not be allowed to operate while positioned directly over a feeder main or critical pipeline except where permitted herein, outlined in the reviewed and accepted construction method statement.
- E22.8.5 Excavations within 3 m of the outside edge of a feeder main (hydrovac holes for confirming trenchless installations excluded) and which extend below the top of the feeder main shall utilize shoring methods that precludes the movement of native in-situ soils (i.e. a tight shoring system).
- E22.8.6 Excavation and base placement for sidewalks and approaches shall be completed shall be completed remotely with limitations as specified herein.
- E22.9 Underground Construction and Trenchless Pipe Installation
- E22.9.1 Where removing existing catch basins are noted on the Drawings, expose feeder main where catch basin is closer than 3 metres from Feeder Main. Where Contract Administrator determines removal of catch basin may undermine pipe foundation, remove catch basin to the top of the feeder main and abandon catch basin in place
- E22.9.2 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.
- E22.10 Feeder Main Insulation
- E22.10.1 Insulate feeder mains where specified on the drawings in accordance with CW2110, SD-018 and as shown on the Drawings.
- E22.10.2 Materials:
- (a) High Strength Rigid insulation for below grade: to CAN/ULC S701, Type 4, Styrofoam HI 40 by Dow Chemical, Foamular 400 by Owens Corning, or approved equal in accordance with B6.
 - (b) Rigid insulation shall be installed with the top of the insulation flush with the top of the subgrade.
 - (c) Rigid insulation sheets shall be installed in a staggered pattern to maximise joint overlap.
- E22.10.3 Insulation for the Kildonan Feeder Main shall conform to SD-018 and the following requirement:
- (a) Thickness: 100 mm
 - (b) Width: 3.0 m
- E22.11 Subgrade Construction
- E22.11.1 Subgrade and backfill compaction within 3 metres (horizontal) of a critical pipeline or valve chamber shall be limited to non-vibratory methods only. Small walk behind vibratory packers will be permitted.

- E22.11.2 Subgrade, sub-base and base course construction shall be kept in a rut free condition at all times. Construction equipment is prohibited from crossing pipelines if the grade is insufficient to support the equipment without rutting.
- E22.11.3 Subgrade conditions should be inspected by personnel with competent geotechnical experience (e.g. ability to adequately visually classify soils and competency of subgrade, subbase, and base course materials). In the event of encountering unsuitable subgrade materials above the feeder main, proposed design revisions shall be submitted to this office for review to obtain approval from the Water and Waste Department relative to any change in conditions.
- E22.11.4 Fill material shall not be dumped directly on pipelines but shall be stockpiled outside the limits noted in these recommendations and shall be carefully bladed in-place
- E22.11.5 Only use compaction equipment approved by the contract administrator to compact fill materials above critical pipelines. Compaction of fill materials shall be completed using static methods only, no vibratory compaction will be allowed within the limits noted in these recommendations.
- E22.11.6 Construction operations shall be staged to minimize the time period between excavation to subgrade and placement of granular subbase materials. Should bare subgrade be left overnight, measures shall be implemented to protect the subgrade against inadvertent travel over it and to minimize the impact of wet weather.
- E22.12 Subbase and Base Course Construction
- E22.12.1 Subbase or base course materials shall not be dumped directly on pipelines but shall be stockpiled outside limits noted in these recommendations and shall be carefully bladed in-place.
- E22.12.2 Subbase compaction within 3 m horizontal of the centreline of a critical pipeline shall be either carried out by static methods (without vibration) or with smaller approved equipment such as hand held plate packers or smaller roller equipment.
- E22.13 Paving
- E22.13.1 When constructing asphalt pavements only non-vibratory compaction should be used within 3 m (horizontal) of the center of critical pipelines.
- E22.14 Kildonan Feeder Main Inspection
- E22.14.1 The Contractor shall support third party inspections of the Ingersoll Feeder Main throughout completion of the work. The intention is to inspect the feeder main across the intersection in stages after completion of the subgrade excavation.
- E22.14.2 The pipeline shall be exposed as specified herein using soft dig or hand excavation methods down to springline of the pipe. The excavation shall be completed in such a manner as to permit inspection by third party staff.
- E22.14.3 The Contractor is responsible for any shoring required to complete the inspection.
- E22.14.4 The Contractor shall have means of washing off the exterior of the pipe using a pressure washer or similar.
- E22.14.5 The Contractor shall have provisions on site to repair cracking in the feeder main's mortar coating or grout diaphragms. This shall include but is not limited to the use of Type HS cement mortar products.
- E22.14.6 Upon completion of the inspection, the Contractor shall replace any of the pipeline's bedding that was damaged or disturbed as part of the inspection (below springline). Above springline, the Contractor shall place and compact Bedding Sand up to the top of the sub grade. Compaction shall be completed using small hand held/walk behind packers in such a manner as to preclude damage to the pipeline.