



**THE CITY OF WINNIPEG**

# **BID OPPORTUNITY**

**BID OPPORTUNITY NO. 554-2013**

**PANET ROAD/MOLSON STREET RECONSTRUCTION AND TWINNING – MUNROE  
AVENUE TO KIMBERLY AVENUE – PART 1: UNDERGROUND WORKS, PART 2:  
SURFACE WORKS**

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## **PART B - BIDDING PROCEDURES**

### **B1. CONTRACT TITLE**

- B1.1 Panet Road/Molson Street Reconstruction and Twinning – Munroe Avenue to Kimberly Avenue – Part 1: Underground Works, Part 2: Surface Works

### **B2. SUBMISSION DEADLINE**

- B2.1 The Submission Deadline is 12:00 noon Winnipeg time, January 14, 2014.
- 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. SITE INVESTIGATION**

- B3.1 Further to C3.1, the Bidder may view the Site without making an appointment.
- B3.2 The Bidder shall not be entitled to rely on any information or interpretation received at the Site investigation unless that information or interpretation is the Bidder's direct observation, or is provided by the Contract Administrator in writing.

### **B4. ENQUIRIES**

- B4.1 All enquiries shall be directed to the Contract Administrator identified in D3.1.
- B4.2 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.
- B4.3 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.
- B4.4 Responses to enquiries which, in the sole judgment of the Contract Administrator, do not require a correction to or a clarification of the Bid Opportunity will be provided by the Contract Administrator only to the Bidder who made the enquiry.
- B4.5 The Bidder shall not be entitled to rely on any response or interpretation received pursuant to B4 unless that response or interpretation is provided by the Contract Administrator in writing.

### **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, only to the Bidder who requested approval of the substitute.

B6.6.1 The Bidder requesting and obtaining the approval of a substitute shall be entirely 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 B15.

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.

B6.10 Notwithstanding B6.2 to B6.9, in accordance with B7.6, deviations inconsistent with the Bid Opportunity document shall be evaluated in accordance with B15.1(a).

## **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, to constitute a responsive Bid.

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 B15.1(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 12 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 B15.4.2, an electronic readsheet 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: Part 1 of the Work and Part 2 of the Work. Bidders shall provide a total price for each Part and, on the summary sheet, a Total Bid Price consisting of the sum of prices for Part 1 and Part 2.

## **B10. QUALIFICATION**

### **B10.1 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.

### **B10.2 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>

### **B10.3 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);

### **B10.4 Further to B10.3(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) 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
- (b) 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
- (c) 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/>).

### **B10.5 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.**

### **B10.6 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.**

## **B11. BID SECURITY**

B11.1 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.

B11.1.1 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.

B11.1.2 All signatures on bid securities shall be original.

B11.1.3 The Bidder shall sign the Bid Bond.

B11.1.4 The Surety shall sign and affix its corporate seal on the Bid Bond and the Agreement to Bond.

B11.2 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.

B11.2.1 Where the bid security provided by the successful Bidder is in the form of a certified cheque or draft pursuant to B11.1(c), it will be deposited and retained by the City as the performance security and no further submission is required.

B11.2.2 The City will not pay any interest on certified cheques or drafts furnished as bid security or subsequently retained as performance security.

B11.3 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.

## **B12. OPENING OF BIDS AND RELEASE OF INFORMATION**

B12.1 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.

B12.1.1 Bidders or their representatives may attend.

B12.1.2 Bids determined by the Manager of Materials, or his/her designate, to not include the bid security specified in B11 will not be read out.

B12.2 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/>

B12.3 After award of Contract, the name(s) of the successful Bidder(s) 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/>

- B12.4 The Bidder is advised that any information contained in any Bid may be released if required by City policy or procedures, by The Freedom of Information and Protection of Privacy Act (Manitoba), by other authorities having jurisdiction, or by law.

### **B13. IRREVOCABLE BID**

- B13.1 The Bid(s) submitted by the Bidder shall be irrevocable for the time period specified in Paragraph 11 of Form A: Bid.
- B13.2 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.

### **B14. WITHDRAWAL OF BIDS**

- B14.1 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.
- B14.1.1 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.
- B14.1.2 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 12 of Form A: Bid, and only such person, has authority to give notice of withdrawal.
- B14.1.3 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 12 of Form A: Bid; and
  - (c) if the notice has been given by any one of the persons specified in B14.1.3(b), declare the Bid withdrawn.
- B14.2 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 B13.2 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.

### **B15. EVALUATION OF BIDS**

- B15.1 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 B10 (pass/fail);
  - (c) Total Bid Price;
  - (d) economic analysis of any approved alternative pursuant to B6.
- B15.2 Further to B15.1(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.

- B15.2.1 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.
- B15.3 Further to B15.1(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.
- B15.4 Further to B15.1(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.
- B15.4.1 Further to B15.1(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.
- B15.4.2 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.

## **B16. AWARD OF CONTRACT**

- B16.1 The City will give notice of the award of the Contract or will give notice that no award will be made.
- B16.2 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.
- B16.2.1 Without limiting the generality of B16.2, 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.
- B16.3 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 B15.
- B16.3.1 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.

## 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](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) Part 1 – Underground Works
- (b) Part 2 – Surface Works

D2.2 Part 1 – Underground Works - The Work to be done under the Part shall consist of:

- (a) Land Drainage Sewer Construction
  - (i) Panet Road from Munroe Avenue to east of Concordia Avenue.
  - (ii) Callsbeck Avenue through the CPR Keewatin embankment to approximately 250 metres east of Molson.

D2.3 Part 2 – Surface Works - The Work to be done under the Part shall consist of:

- (a) Pavement Reconstruction
  - (i) Panet Road/Molson Street from Munroe Street to Kimberly Street
  - (ii) Westbound Concordia Avenue from 60 metres east of Molson Street to 250 metres west of Molson Street.
  - (iii) Eastbound Concordia Avenue from 140 metres west of Molson Street to 130 metres east of Molson Street.

D2.4 The major components of the Work are as follows:

- (a) Land Drainage Sewer Construction (Part 1)
  - (i) Installation of large diameter concrete land drainage sewer through trenchless methods
  - (ii) Installation of Catch Basin Leads and connections to existing and new land drainage sewer
  - (iii) Installation of Catch Basins, Catch Pits, and Sub Drains
- (b) Pavement Reconstruction (Part 2)
  - (i) Excavation of existing shoulder and construction of temporary asphalt lanes
  - (ii) Excavation of existing median and construction of temporary asphalt median cross over
  - (iii) Excavation of existing pavement and pavement structure
  - (iv) Adjustment of drainage inlets, water valves, and manholes
  - (v) Excavation of existing ground
  - (vi) Compaction of sub grade
  - (vii) Placement of suitable site fill material
  - (viii) Placement of geotextile
  - (ix) Construction of 230 mm plain dowelled concrete roadway with full granular structure
  - (x) Construction of new curb (various types)
  - (xi) Placement of 150 mm main line asphalt paving
  - (xii) Renewal of existing miscellaneous concrete slabs
  - (xiii) Realignment of sidewalk and construction of multiuse pathway

- (xiv) Boulevard restoration, top soil and sodding

**D3. CONTRACT ADMINISTRATOR**

D3.1 The Contract Administrator is Dillon Consulting Limited, represented by:

Jeff Crang, P.Eng., PTOE  
Project Manager  
1558 Willson Place, Winnipeg, Manitoba, R3T 0Y4  
Telephone No. 204 453-2301  
Facsimile No. 204 452-4412

D3.2 At the pre-construction meeting, Jeff Crang, P.Eng., PTOE 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 B7.8

**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 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 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

## **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 two million dollars (\$2,000,000.00) inclusive, with The City of Winnipeg 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, and products and completed operations, to remain in place at all times during the performance of the Work and throughout the warranty period;
  - (b) if applicable, 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 \$2,000,000 inclusive for loss or damage including personal injuries and death resulting from any one accident or occurrence;
  - (c) an all risks Installation Floater carrying adequate limits to cover all machinery, equipment, supplies and/or materials intended to enter into and form part of any installation.
- D10.2 Deductibles shall be borne by the Contractor.

D10.3 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.

D10.4 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 B11.1(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 The detailed work schedule shall consist of the following:  
(a) a critical path method (C.P.M.) schedule for the Work;

- (b) a Gantt chart for the Work;  
all acceptable to the Contract Administrator.

D14.3 Further to D14.2(a), the C.P.M. schedule shall clearly identify the start and completion dates of all of the following activities/tasks making up the Work as well as showing those activities/tasks on the critical path:

D14.4 Further to D14.2(b), 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.

D14.4.1 That Gantt chart shall at a minimum include the items of Work listed in section D2.

## **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;
  - (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 of Part 1: Underground Works on the Site within seven (7) Working Days of receipt of the Letter of Intent. The City of Winnipeg intends to issue the letter of intent by January 31, 2014.

D15.3.1 Work on private properties shall not commence until the Contract Administrator confirms that arrangements have been made for access to the properties. The City of Winnipeg is anticipating agreements will be in place by January 31, 2014.

D15.4 The Contractor shall commence the Work of Part 2: Surface Works on the Site within seven (7) Working Days of notice from the Contract Administrator that they have received notice through an official letter from the City of Winnipeg Public Works Department that 2014 surface works may commence due to favourable climatic conditions. The Contractor shall not commence Work of Part 2 prior to the issuance of this letter. The date of this letter varies depending on spring weather conditions.

D15.4.1 If the actual date of award is later than the intended date, the dates specified for the Critical age will be adjusted by the difference between the aforementioned intended and actual dates.

## **D16. WORKING DAYS**

D16.1 Further to C1.1(gg);

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.

## **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.

## **D18. WORK BY OTHERS**

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

- (a) MTS and Shaw
  - (i) Relocation of MTS and Shaw overhead line parallel with Molson Street to an underground facility. Miscellaneous adjustments of manholes and relocation of MTS and Shaw boxes and other appurtenances may be required within this Contract.
- (b) Manitoba Hydro
  - (i) Distribution: Wooden Hydro poles on the west side of Molson Street from Callsbeck Avenue to Concordia Avenue will be relocated to the edge of the proposed east side right-of-way. Miscellaneous Hydro pole relocations will take place throughout the project limits to accommodate the new road alignment. The Contractor will be required to work together with Manitoba Hydro during the relocation of this major utility.
  - (ii) Street Lighting: Miscellaneous lighting pole removal to accommodate construction and new street light installation will be taking place throughout the limits of this Contract.
  - (iii) Gas: Gas service lines may require lowering or rock wrapping depending on their location, depth, and size of pipe. This Work must be coordinated prior to and immediately after excavation has taken place.
- (c) City of Winnipeg Traffic Signals Branch
  - (i) Traffic Signal Poles: All traffic signal poles and associated infrastructure will be renewed by City of Winnipeg Traffic Signals department. Work in the vicinity of the pole relocations must be coordinated with Traffic Signals.
- (d) CPR
  - (i) Railway Crossing: CPR will be removing and reconstructing the crossing surface, warning signals, gates, and bells on Panet Road to accommodate the new roadway geometry. Exact construction dates related to the rail crossing construction on Panet Road is undetermined at this time but is expected to commence no later than July 31, 2014. The Contractor will be required to coordinate their efforts along with CPR while the crossing is being reconstructed.
- (e) City of Winnipeg - Transit Department
  - (i) Bus Shelters: Removal and replacement of Bus Shelters
- (f) City of Winnipeg - Geomatics Branch
  - (i) Survey Monuments: Miscellaneous works on survey monuments.

- (g) City of Winnipeg - Traffic Services Branch
  - (i) Traffic Signage and Line Painting – Installation of major traffic control and detour signage as well as miscellaneous works relating to sign removal and replacement.

## **D19. SEQUENCE OF WORK**

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

D19.1.1 Part 1 and Part 2 of the Work shall be divided into one (1) phase for underground sewer works and three (3) phases for above ground surface works. Each Phase shall be subdivided into stages. Stages are further subdivided into major items of Work.

### **Part 1 – Underground Works**

D19.1.2 **Underground Works Phase I** –East Boulevard on Molson Street and North Ditch on Callsbeck Avenue

- (i) Install land drainage sewer using trenchless methods
- (ii) Install manholes along land drainage sewer line
- (iii) Install catch basin leads and catch basins (where feasible)

### **Part 2 – Surface Works**

D19.1.3 **Surface Works Phase I** –Southbound Lanes on Molson Street and Westbound Lanes on Concordia Avenue

- (a) **Stage I** – Temporary Asphalt – Existing Northbound Shoulder
  - (i) Excavate existing shoulder and remove existing curbs
  - (ii) Place granular base on shoulder and in areas of temporary pavement
  - (iii) Pave temporary asphalt lane
- (b) **Stage II** – Construct new southbound lanes on Molson Street
  - (i) Excavate existing southbound lane and shoulder
  - (ii) Place fill material as required
  - (iii) Construct new granular road structure
  - (iv) Pave new concrete roadway
  - (v) Construct new concrete splash strip
- (c) **Stage III** – Temporary Asphalt – Median Crossovers
  - (i) Remove existing curbs
  - (ii) Excavate existing boulevard
  - (iii) Place granular base in median
  - (iv) Pave temporary asphalt median cross overs
- (d) **Stage IV** – Construct new westbound lanes on Concordia Avenue
  - (i) Excavate existing westbound lanes
  - (ii) Construct new granular road structure
  - (iii) Pave new concrete roadway
  - (iv) Construct new concrete splash strip

D19.1.4 **Surface Works Phase II** –Northbound Lanes on Molson Street and Eastbound Lanes on Concordia Avenue

- (a) **Stage I** – Temporary Asphalt – Median Crossovers
  - (i) Remove existing curbs
  - (ii) Excavate existing boulevard
  - (iii) Place granular base in median
  - (iv) Pave temporary asphalt median cross overs

- (b) **Stage II** – Construct new northbound lanes on Molson Street
  - (i) Excavate existing northbound lane and shoulder
  - (ii) Place fill material as required
  - (iii) Construct new granular road structure
  - (iv) Pave new concrete roadway
  - (v) Construct new concrete splash strip
- (c) **Stage III** – Construct new eastbound lanes on Concordia Avenue
  - (i) Excavate existing eastbound lanes
  - (ii) Construct new granular road structure
  - (iii) Pave new concrete roadway
  - (iv) Construct new concrete splash strip

D19.1.5 **Surface Works Phase III** –Pavement Adjacent to Rail Road Crossing

- (a) **Stage I** – Excavation
  - (i) Excavate existing northbound and southbound lanes
- (b) **Stage I** – Excavation
  - (i) Place fill material as required
  - (ii) Construct new granular road structure
  - (iii) Pave new concrete roadway
  - (iv) Construct new concrete splash strip
  - (v) Construct asphalt tie in to rail road crossing

D19.2 Further to C6.1, the sequence of Work shall be as follows:

D19.2.1 Underground Works Phase I is expected to commence in February 2014 and be completed in accordance with the working day restrictions in D21 and D22.

D19.2.2 Surface works Phase I II, and III are expected to commence in May 2014 and be completed in accordance with the working day restrictions in D21 and D22.

D19.3 Further to D19.1, the Contractor shall note the following additional information regarding the sequence of work:

D19.3.1 Construction of Surface Works Phase I must be completed prior to construction of Surface Works Phase II.

D19.3.2 Construction of Surface Works Phase III must happen concurrently with the three (3) day closure of the rail crossing (for reconstruction of the crossing surface by CP) during which time Molson Street will be closed to traffic . This time frame may overlap with Surface Works Phase 1 or Phase 2.

D19.3.3 Construction activity adjacent to the railway crossing shall not commence until construction of the new pre-cast concrete rail crossing, by others, has commenced. This Work is expected to commence by July 31, 2014.

D19.3.4 Construction activity on the right turn cut off islands at the intersection of Molson Street and Concordia intersection shall not commence until relocation of the MTS, Shaw, Manitoba Hydro, and Traffic Signal poles, by others, is completed.

D19.4 Further to C6.1, minor construction stages not detailed in this section will be required to complete the tie in of the new pavement to the existing pavement at the limits of the project as well as to complete the construction of any intersections including but not limited to the intersection of Molson Street and Concordia Avenue.

## **D20. CRITICAL STAGES**

- D20.1 The Contractor shall achieve critical stages of the Work in accordance with the following requirements:
- (a) Critical Stage 1 - Part 1: Underground works shall be substantially completed within the first 37 working days. Substantial completed shall exclude items of Work where conflicts with existing utilities or traffic prevent completion.
- D20.2 When the Contractor considers the Work associated with Critical Stage 1 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 Critical Stage 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 Critical Stage 1 has been achieved.

## **D21. SUBSTANTIAL PERFORMANCE**

- D21.1 The Contractor shall achieve Substantial within one hundred and twenty five (125) 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 thirty (130) consecutive Working Days of the commencement of the Work as specified in D15. A Total Performance Certificate will be issued for each Part.
- 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) Critical Stage 1 - Three thousand seven hundred dollars (\$3,700);

- (b) Substantial Performance - Three thousand seven hundred dollars (\$3,700);
- (c) Total Performance – One thousand dollars (\$1000).

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 (during the warranty period) as specified in CW 3250 ;
- (b) Sodding (maintenance period) as specified in CW 3510.

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 B10.4, 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 B10.4.

#### **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.

**D29. WARRANTY**

- D29.1 Notwithstanding C13.2, the warranty period shall begin on the date of Total Performance and shall expire two (2) years thereafter unless extended pursuant to C13.2.1 or C13.2.2, in which case it shall expire when provided for thereunder.

**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. 554-2013

Panet Road/Molson Street Reconstruction and Twinning – Munroe Avenue to Kimberly Avenue – Part 1: Underground Works, Part 2: Surface Works  
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)



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 (1993 Revision), International Chamber of Commerce Publication Number 500.

\_\_\_\_\_  
(Name of bank or financial institution)

Per: \_\_\_\_\_  
(Authorized Signing Officer)

Per: \_\_\_\_\_  
(Authorized Signing Officer)

**FORM J: SUBCONTRACTOR LIST**  
 (See D12)

Panet Road/Molson Street Reconstruction and Twinning – Munroe Avenue to Kimberly Avenue – Part 1:  
 Underground Works, Part 2: Surface Works

<u>Portion of the Work</u>	<u>Name</u>	<u>Address</u>
<b>Supply of Materials:</b>		
Concrete		
Asphalt		
Base Course and Sub-Base		
Geotextile Material		
Landscaping		
Fencing		
Land Drainage Sewer Pipe		
Catch Basins and Catch Pits		
Other		
<b>Excavation/Placement:</b>		
Concrete		
Asphalt		
Base Course and Sub-Base		
Landscaping/Sodding		
Fencing		
Reflective Crack Maintenance		
Land Drainage Sewer and Sewer Service Construction		
Sewer Service Inspection		
Catch Basin and Catch Pit Installation		
Other		

**FORM K: EQUIPMENT**  
(See D13)

Panet Road/Molson Street Reconstruction and Twinning – Munroe Avenue to Kimberly Avenue – Part 1:  
Underground Works, Part 2: Surface Works

**1. Category/type: Land Drainage Sewer Installation**

Make/Model/Year: \_\_\_\_\_ Serial No.: \_\_\_\_\_

Registered owner: \_\_\_\_\_

Make/Model/Year: \_\_\_\_\_ Serial No.: \_\_\_\_\_

Registered owner: \_\_\_\_\_

Make/Model/Year: \_\_\_\_\_ Serial No.: \_\_\_\_\_

Registered owner: \_\_\_\_\_

**2. Category/type: Excavation and Grading**

Make/Model/Year: \_\_\_\_\_ Serial No.: \_\_\_\_\_

Registered owner: \_\_\_\_\_

Make/Model/Year: \_\_\_\_\_ Serial No.: \_\_\_\_\_

Registered owner: \_\_\_\_\_

Make/Model/Year: \_\_\_\_\_ Serial No.: \_\_\_\_\_

Registered owner: \_\_\_\_\_

**3. Category/type: Concrete Paving Operations**

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>
P-3350-01	COVER SHEET	A1
P-3350-02	GENERAL ARRANGEMENT	A1
P-3350-03	REMOVALS - PANET-MOLSON (1 OF 5)	A1
P-3350-04	REMOVALS - PANET-MOLSON (2 OF 5)	A1
P-3350-05	REMOVALS - PANET-MOLSON (3 OF 5)	A1
P-3350-06	REMOVALS - PANET-MOLSON (4 OF 5)	A1
P-3350-07	REMOVALS - PANET-MOLSON (5 OF 5)	A1
P-3350-08	REMOVALS – CONCORDIA-WEST (1 OF 2)	A1
P-3350-09	REMOVALS – CONCORDIA-WEST (2 OF 2)	A1
P-3350-10	REMOVALS – CONCORDIA-EAST	A1
P-3350-11	CONSTRUCTION –TRAFFIC STAGING - STAGE 1	A1
P-3350-12	CONSTRUCTION – TRAFFIC STAGING - STAGE 2	A1
P-3350-13	CONSTRUCTION –TRAFFIC STAGING - STAGE 3	A1
P-3350-14	COORDINATE GEOMETRY - PANET-MOLSON	A1
P-3350-15	COORDINATE GEOMETRY - CONCORDIA	A1
P-3350-16	PLAN-PROFILE - PANET-MOLSON - STA. 0+155 TO 0+245	A1
P-3350-17	PLAN-PROFILE - PANET-MOLSON - STA. 0+245 TO 0+340 (NORTHBOUND)	A1
P-3350-18	PLAN-PROFILE - PANET-MOLSON - STA. 0+245 TO 0+340 (SOUTHBOUND)	A1
P-3350-19	PLAN-PROFILE - PANET-MOLSON - STA. 0+340 TO 0+525	A1
P-3350-20	PLAN-PROFILE - PANET-MOLSON - STA. 0+525 TO 0+680	A1
P-3350-21	PLAN-PROFILE - PANET-MOLSON - STA. 0+680 TO 0+835	A1
P-3350-22	PLAN-PROFILE - PANET-MOLSON - STA. 0+835 TO 0+920	A1
P-3350-23	PLAN-PROFILE - CONCORDIA - STA. 2+005 TO 2+160	A1
P-3350-24	PLAN-PROFILE - CONCORDIA - STA. 2+160 TO 2+315	A1
P-3350-25	PLAN-PROFILE - CONCORDIA - STA. 2+315 TO 2+470	A1
P-3350-26	CALLSBECK AVENUE	A1
P-3350-27	SECTIONS (1 OF 5)	A1
P-3350-28	SECTIONS (2 OF 5)	A1
P-3350-29	SECTIONS (3 OF 5)	A1
P-3350-30	SECTIONS (4 OF 5)	A1

<u>Drawing No.</u>	<u>Drawing Name/Title</u>	<u>Drawing (Original) Sheet Size</u>
P-3350-31	SECTIONS (5 OF 5)	A1
P-3350-32	DETAILS (1 OF 2)	A1
P-3350-33	DETAILS (2 OF 2)	A1
P-3350-34	LDS - PANET-MOLSON (1 OF 3)	A1
P-3350-35	LDS - PANET-MOLSON (2 OF 3)	A1
P-3350-36	LDS - PANET-MOLSON (3 OF 3)	A1
P-3350-37	LDS - CALLSBECK (1 OF 3)	A1
P-3350-38	LDS - CALLSBECK (2 OF 3)	A1
P-3350-39	LDS - CALLSBECK (3 OF 3)	A1
P-3350-40	CONCRETE JOINT LAYOUT (1 OF 6)	A1
P-3350-41	CONCRETE JOINT LAYOUT (2 OF 6)	A1
P-3350-42	CONCRETE JOINT LAYOUT (3 OF 6)	A1
P-3350-43	CONCRETE JOINT LAYOUT (4 OF 6)	A1
P-3350-44	CONCRETE JOINT LAYOUT (5 OF 6)	A1
P-3350-45	CONCRETE JOINT LAYOUT (6 OF 6)	A1

## **E2. GEOTECHNICAL REPORT**

E2.1 Further to C3.1, the geotechnical reports are provided to aid the Contractor's evaluation of the pavement structure and/or existing soil conditions. The geotechnical reports are contained in Appendix 'A' and Appendix 'C'.

## **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 2.4 metres 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 two tables (3m x 1.2m), and a minimum of 8 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 2400 mm 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 and 3.7 of CW 1130:
- (a) Where directed, the Contractor shall construct and maintain temporary asphalt ramps to alleviate vertical pavement obstructions such as manholes and planning 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 in Work Areas on City Streets, the Contractor ("Agency" in the manual) shall make arrangements with the Traffic Services Branch of the City of Winnipeg to place all temporary regulatory signs. The Contractor shall bear all 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:
- E6.1.1 Maintain a minimum of one lane of traffic northbound and one lane of traffic southbound on Molson Street at all times except during the rail road crossing reconstruction (by others) during which Molson Street will be closed at the rail crossing. Similarly, the Contractor shall maintain a minimum of one lane of traffic eastbound and one lane of traffic westbound on Concordia Avenue at all times.
  - E6.1.2 Intersecting street and private approach access shall be maintained at all times.
  - E6.1.3 Should the Contractor be unable to maintain pedestrian or vehicular 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.

E6.1.4 Pedestrian and ambulance/emergency vehicle access must be maintained at all times.

E6.1.5 Concordia Hospital Emergency Access (off Concordia Avenue) must be maintained at all times. Closure or blocking of this approach will not be permitted for any length of time.

## **E7. PEDESTRIAN SAFETY**

E7.1 During the project, a temporary snow fence shall be installed where necessary if there is a steep drop-off adjacent to a sidewalk. The Contractor shall be responsible for maintaining the snow fence in a proper working condition. No measurement for payment shall be made for this work.

## **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. OPEN EXCAVATION**

E11.1 The Contractor shall schedule their operations to minimize the length of time an excavated area immediately adjacent to traffic on the existing roadway is left open.

E11.2 The Contractor shall excavate only an amount to allow enough time for the sub-grade to be prepared properly and sub base placed (but not necessarily compacted) by the end of the following working day.

E11.3 The Contractor will not be permitted to leave an excavation area that is immediately adjacent to traffic on the existing roadway open for the weekend.

## **E12. ASPHALT SIDEWALK REMOVAL**

### DESCRIPTION

- E12.1 This specification covers the removal of asphalt sidewalk approximately 1.5 metres in width and of varying depth.

### MATERIALS

- E12.2 Not Applicable.

### CONSTRUCTION METHODS

- E12.3 Remove asphalt sidewalk in accordance with the contract drawings or as directed by the Contract Administrator.

- E12.4 Dispose of material in accordance with Section 3.4 of CW 1130.

### MEASUREMENT AND PAYMENT

- E12.5 Asphalt Sidewalk Removal will be measured on an area basis and paid for at the Contract Unit Price per square metre for "Asphalt Sidewalk Removal". The area to be paid for will be the total number of square metres of asphalt sidewalk removed in accordance with this specification, accepted and measured by the Contract Administrator.

## **E13. CONCRETE SIDEWALK WITH REINFORCED CURB**

### DESCRIPTION

- E13.1 This specification covers the construction of a 100 mm sidewalk with thickened edge and reinforced curb adjacent to 885 Molson Street.

### MATERIALS AND EQUIPMENT

- E13.2 Further to CW 3310 and CW 3325 reinforcing steel shall be 10M deformed stirrups with a height suitable to meet the concrete cover requirements in accordance with the contract drawings.

- E13.3 Drainage fabric, drainage pipe, and gravel drainage material shall be in accordance with CW 3120.

### CONSTRUCTION METHODS

- E13.4 Supply and install concrete sidewalk with thickened edge in accordance with CW 3325 and the contract drawings.

- E13.5 Supply and install reinforced curb in accordance with CW 3310 and the contract drawings.

- E13.6 Supply and install drainage pipe with drainage fabric and gravel drainage material in accordance with CW 3120 and the contract drawings.

### MEASUREMENT AND PAYMENT

- E13.7 100 mm Concrete Sidewalk with Reinforced Curb will be measured by length on a linear meter basis and paid for at the Contract Unit Price per metre for "100mm Concrete Sidewalk with Reinforced Curb". The length to be paid for will be the total number of metres of 100 mm Concrete sidewalk with reinforced Curb supplied and installed in accordance with this specification, accepted, and measured by the Contract Administrator.

- E13.7.1 Payment for "100 mm Concrete Sidewalk with Reinforced Curb" shall include payment for all items included in this specification including concrete sidewalk with thickened edge, reinforcing steel, concrete curb, drainage pipe with drainage fabric, and gravel drainage material. No other payment will be made for these items.

#### **E14. SEPARATE SPLASH STRIP**

##### DESCRIPTION

E14.1 This specification covers the construction of 100 mm thick, 600 mm wide separate splash strip.

##### MATERIALS AND EQUIPMENT

E14.2 In accordance with CW 3310.

##### CONSTRUCTION METHODS

E14.3 Following the construction of the concrete roadway with integral curb - supply and install sub base or base course material as required on top of the granular road structure to 50 mm below the grade line of the bottom of the 100mm thick separate splash strip. The width of the sub base or base course material shall be from the back of curb to 150 mm beyond the splash strip.

E14.4 Compact granular material in accordance with CW 3110.

E14.5 Supply and install 100 mm deep, 600 mm wide separate splash strip in accordance with CW 3310.

##### MEASUREMENT AND PAYMENT

E14.6 Separate Splash Strip will be measured by length on a linear meter basis and paid for at the Contract Unit Price per meter for "Construction of Splash Strip, (Separate, 600 mm width)". The length to be paid for will be the total number of metres of separate splash strip supplied and installed in accordance with this specification, accepted, and measured by the Contract Administrator.

E14.6.1 Payment for "Construction of Splash Strip, (Separate, 600 mm width)" shall include payment for all items included in this specification including additional sub base or base course required. No other payment will be made for these items.

#### **E15. CORRUGATED STEEL PIPE REMOVAL**

##### DESCRIPTION

E15.1 This specification covers the removal of corrugated steel pipes of various sizes and lengths.

##### MATERIALS AND EQUIPMENT

E15.2 Not Applicable.

##### CONSTRUCTION METHODS

E15.3 Remove corrugated steel pipes in accordance with the contract drawings or as directed by the Contract Administrator.

E15.4 Cut, tear, or fold steel as required to reduce corrugate steel pipes to a suitable size for removal from Site.

E15.5 Dispose of material in accordance with Section 3.4 of CW 1130.

##### MEASUREMENT AND PAYMENT

E15.6 Corrugated Steel Pipe Removal will be measured by length on a linear meter basis and paid for at the Contract Unit Price per meter as "Corrugated Steel Pipe Removal". The length to be paid for will be the number of metres of corrugated steel pipe removed in accordance with this specification and accepted by the Contract Administrator.

**E16. GROUTED STONE RIP RAP REMOVAL**

DESCRIPTION

E16.1 This specification covers the removal of grouted stone rip rap pads.

MATERIALS AND EQUIPMENT

E16.2 Not Applicable.

CONSTRUCTION METHODS

E16.3 Demolish and excavate grouted stone rip rap and associated concrete swale in accordance with the contract drawings or as directed by the Contract Administrator.

E16.4 Dispose of material in accordance with Section 3.4 of CW 1130.

MEASUREMENT AND PAYMENT

E16.5 Grouted Stone Rip Rap Removal will be measured on a volume basis and paid for at the Contract Unit Price per cubic metre for the "Grouted Stone Rip Rap Removal". The volume to be paid for will be the number of cubic metres of grouted stone rip rap removed in accordance with this specification and accepted by the Contract Administrator.

**E17. RETAINING WALL REMOVAL**

DESCRIPTION

E17.1 This specification covers the removal of the existing retaining wall and culvert headwall at 885 Molson Street. The retaining wall is of varying dimensions, materials, and structural integrity.

MATERIALS AND EQUIPMENT

E17.2 Not Applicable.

CONSTRUCTION METHODS

E17.3 Demolish and excavate all rock, concrete, and concrete rubble between the two approaches for 885 Molson Street in accordance with the contract drawings or as directed by the Contract Administrator.

E17.4 Dispose of material in accordance with Section 3.4 of CW 1130.

MEASUREMENT AND PAYMENT

E17.5 Retaining Wall Removal will not be measured and will be paid on a lump sum basis for "Retaining Wall Removal". The amount to be paid for shall be for the retaining wall removal in accordance with this specification, and accepted by the Contract Administrator.

**E18. TRANSIT SHELTER FOUNDATIONS**

DESCRIPTION

E18.1.1 This specification shall cover the construction of the Transit Shelter Foundations

MATERIALS AND EQUIPMENT

E18.1.2 As per Contract Drawings.

E18.1.3 All steel shall be supplied in accordance with details on the Contract Drawings.

## CONSTRUCTION METHODS

### E18.1.4 General

- (a) Contractor shall construct Transit Shelter Foundations in accordance with CW 3325.

### E18.1.5 Coordination

- (a) The Contractor shall not commence the construction of the Transit Shelter Foundation until the location has been marked out and approved by the Contract Administrator.

## MEASUREMENT AND PAYMENT

E18.1.6 The construction of Transit Shelter Foundations will be measured on an area basis and paid for at the Contract Unit Price per square metre for "Transit Shelter Foundations". The area to be paid for will be the total number of square metres of transit shelter foundations supplied and installed in accordance with this specification, accepted and measured by the Contract Administrator.

E18.1.7 Reinforcing steel supply and installation will be incidental to construction of Transit Shelter Foundations and no separate payment will be made.

## **E19. WOOD PARKING FENCE – 885 MOLSON STREET**

### DESCRIPTION

E19.1 This specification shall cover the supply and installation of 1.22 metres (4') Timber Post and Rail Parking Fence at 885 Molson Street as shown on the drawings and as specified herein including compacted granular foundation around the posts.

### MATERIALS

E19.2 Lumber identification by a grade stamp of an agent certified by the Canadian Lumber Accreditation Board.

E19.3 Pressure treated wood is to be guaranteed for ten (10) years against rot, decay, insect attack, splitting, warping, or breaking. Fences are to be guaranteed against defects in materials and workmanship for a period of twelve (12) months from the date of Substantial Performance of the Contract. The Contractor is not responsible for acceptable wear through usage or acts of vandalism.

E19.4 All wood for fences shall be no. 2 or better wolmanized pressure treated pine, spruce or fir; no wane, bark, checking, or splitting permitted.

E19.4.1 1.22 metre wood fence for 885 Molson Street to be brown pressure treated.

E19.5 Hardware: all hardware is as follows:

- (a) Nails, spikes, and screws: hot dipped galvanized, size indicated on drawings, or specified.
- (b) Bolts: galvanized; 12 mm in diameter unless otherwise specified, complete with nuts and washers.
- (c) Galvanizing: to CSA G164-M1981;
- (d) Joist hangers: min. 1.0 mm thick sheet steel galvanized coating.
- (e) Fasteners indicated on drawing or specified by the Owner (no substitutes).

E19.6 Wood preservative: Surface applied wood preservative; coloured, or copper naphthenate or 5% pentachlorophenol solution, water repellent preservative.

E19.7 Granular material: crushed limestone, 10 mm diameter containing down size material with degree of fines.

## CONSTRUCTION METHODS

- E19.8 1.22 metre (4") Timber Post and Rail Parking Fence Installation at 885 Molson Street
- E19.8.1 All workmanship and all materials furnished and supplied under this specification are subject to close and systematic inspection and testing by the Contract Administrator including all operations from the selection and production of materials through to final acceptance of the specified Work. The Contractor shall be wholly responsible for the control of all operations incidental thereto notwithstanding any inspection or approval that may have been previously given. The Contract Administrator reserves the right to reject any materials or Works which are not in accordance with the requirements of this Specification.
- E19.8.2 The Contractor shall, at his own expense, correct such Work, or replace such materials found to be defective under this Specification in an approved manner to the satisfaction of the Contract Administrator.
- E19.8.3 The Contract Administrator shall be afforded full access for the inspection and control testing of materials, both at the Site and at any plant, or borrow pit used for the supply of the materials to determine whether the material is being supplied in accordance with this Specification.
- E19.8.4 All lumber shall be neatly cut for a proper fit. All cuts shall be treated with preservation before being secured.
- E19.8.5 Fences to be constructed to the lines, grades, and specifications as shown in the drawings or as specified herein. Establish final grades and elevations for fences after re-grading of Site. In the event that asphalt paving is to be carried on in the location of the fencing, the paving shall precede the fence construction.
- E19.8.6 The Contractor shall stake out the post locations as located on the Drawings. Prior to drilling holes, all underground services shall be protected. Fence support posts shall be set true in line and elevation.
- E19.8.7 Factory treated end of post shall always be placed down in excavated hole prior to backfilling, under no circumstance shall a cut end of a post be placed down into an excavated hole. Treat all cuts or cut tops with preservative prior to any other lumber being secured to the post. Install posts plumb and level to the lines and grades required by the Work. Nail outside rails to posts. Secure all pickets to the rails. After all pickets are installed, install inside rails between posts and finish by installing cap over fence top.
- E19.8.8 Backfill hole excavations with crushed limestone, compacting the material by tamping with a blunt pole or rod. Material shall be compacted in layers not exceeding 150 mm. Top of fill to be overfilled so that the fill has convex appearance, sloping away from the post.
- E19.8.9 All wood shall be even and neat and shall provide a solid finished product suitable for the purposes intended.
- E19.8.10 Install spanning members with crown edge up.
- E19.8.11 Treat all cut, trimmed, or drilled with liberal application of preservative before installation. Apply preservative by dipping or by brushing to completely saturate and maintain wet film on surface for minimum three (3) minute soak.

## MEASUREMENT AND PAYMENT

- E19.9 The supply and installation of timber post and rail parking fence will be measured on a length basis and paid for at the Contract Unit Price per meter for "Timber Parking Fence (885 Molson Street)". The length to be paid for will be the total number of meters of timber parking fence supplied and installed in accordance with this specification, accepted and measured by the Contract Administrator.

## **E20. FENCE MODIFICATIONS**

### DESCRIPTION

- E20.1.1 The removal and termination of existing fences of various material, height and condition.
- E20.1.2 The Work to be done by the Contractor under this Specification shall include the furnishing of all superintendence, overhead, labour, materials, equipment, tools, supplies, and all things necessary for and incidental to the satisfactory performance and completion of all Works as hereinafter specified.

### MATERIALS

- E20.2 Material for galvanized steel chain link fence shall be in accordance with CW 3550.
- E20.3 Material for non-standard fence types shall be similar in appearance, quality, and dimensions to the existing fence.

### CONSTRUCTION METHODS

- E20.4 1095 Concordia Ave – Removal and Salvage
  - E20.4.1 Dismantle and remove the existing wooden parking fence to the limits shown on the contract drawings and as identified by the Contract Administrator. Remove electrical plug in fixtures from fence that is to be removed.
  - E20.4.2 Remove posts from post holes in a manner such that the posts are not damaged during the removal. Backfill abandoned post hole with base course.
  - E20.4.3 Stack all fence material removed on pallets and secure lumber to ensure stability. Store loaded pallets in a safe and secure location until such time when the fence can be reinstalled.
- E20.5 1095 Concordia Ave – Reinstallation
  - E20.5.1 Salvaged lumber shall be utilized for reinstallation wherever possible. All lumber shall be neatly cut as required for a proper fit. All cuts shall be treated with preservation before being secured.
  - E20.5.2 Fences to be constructed to the lines and grades as specified within by the Contract Administrator. Established final grades and elevations for fences will be determined after re-grading of Site.
  - E20.5.3 The Contract Administrator shall stake out the post locations along the line located on the Contract Drawings. Prior to drilling holes, the Contractor shall ensure all underground services are protected. Fence support posts shall be set true in line and elevation.
  - E20.5.4 Backfill hole excavations with crushed limestone, compacting the material by tamping with a blunt pole or rod. Material shall be compacted in layers not exceeding 150 mm. Top of fill to be overfilled so that the fill has convex appearance, sloping away from the post.
  - E20.5.5 Assemble fence using salvaged lumber. Fence shall be constructed to match the existing parking fence in all manners.
  - E20.5.6 The reinstalled portion of fence is of a length that is equal to, or less than the portion of fence that was removed and salvaged.
- E20.6 825 Molson Street – Chain Link Fence Removal and Termination
  - E20.6.1 Remove existing terminal post and chain link fence to the limits shown on the contract drawings and as identified by the Contract Administrator.
  - E20.6.2 Install new terminal post and attach wire mesh fabric to new terminal post in accordance with CW 3550 and at the location identified by the Contract Administrator.
  - E20.6.3 Backfill abandoned post hole with base course.

E20.7 851 Molson Street – Chain Link Fence Removal and Termination

E20.7.1 Remove existing terminal post, one line post and chain link fence to the limits shown on the contract drawings and as identified by the Contract Administrator.

E20.7.2 Install new terminal post and attach wire mesh fabric to new terminal post in accordance with CW 3550 and at the location identified by the Contract Administrator.

E20.7.3 Backfill abandoned post hole with base course.

E20.8 851 Molson Street – Wood Parking Fence Removal and Termination

E20.8.1 Remove existing wooden parking fence to the limits shown on the contract drawings and as identified by the Contract Administrator.

E20.8.2 Terminate Parking fence by cutting lumber neatly and treating with preservation.

E20.8.3 Backfill abandoned post hole with base course.

MEASUREMENT AND PAYMENT

E20.9 1095 Concordia Ave – Removal, Salvage and Reinstallation

E20.9.1 Removal and salvage of the wooden fence at 1095 Concordia Ave will be measured by length on a linear metre basis and paid for at the Contract Unit Price per metre as “1095 Concordia Avenue – Wooden Fence Removal and Salvage”. The length to be paid for will be the number of metres of wooden fence removed and salvaged in accordance with this specification and accepted by the Contract Administrator.

E20.9.2 Reinstallation of the wooden fence at 1095 Concordia Ave will be measured by length on a linear metre basis and paid for at the Contract Unit Price per metre as “1095 Concordia Avenue – Wooden Fence Reinstallation”. The length to be paid for will be the number of meters of wooden fence reinstalled in accordance with this specification and accepted by the Contract Administrator.

E20.9.3 Placement of clean round stone between the reinstalled fence and parking lot curb will be incidental to the reinstallation of the parking fence and no separate payment will be made.

E20.10 825 Molson Street – Chain Link Fence Removal and Termination

E20.10.1 Removal and Termination of the chain link fence at 825 Molson Street will not be measured as it will be paid on a lump sum basis for “825 Molson Street – Chain Link Fence Removal and Termination”. The amount to be paid for shall be for the removal and termination of the chain link fence at 825 Molson Street in accordance with this specification, and accepted by the Contract Administrator.

E20.11 851 Molson Street – Chain Link Fence Removal and Termination

E20.11.1 Removal and Termination of the chain link fence at 851 Molson Street will not be measured as it will be paid on a lump sum basis for “851 Molson Street – Chain Link Fence Removal and Termination”. The amount to be paid for shall be for the removal and termination of the chain link fence at 851 Molson Street in accordance with this specification, and accepted by the Contract Administrator.

E20.12 851 Molson Street – Wooden Parking Fence Removal and Termination

E20.12.1 Removal of the wooden parking fence at 851 Molson Street will be measured by length on a linear metre basis and paid for at the Contract Unit Price per meter as “851 Molson Street – Wooden Fence Removal”. The length to be paid for will be the number of meters of fence removed in accordance with this specification and accepted by the Contract Administrator.

## **E21. HYDRO-EXCAVATION FOR FEEDERMAIN IDENTIFICATION**

### DESCRIPTION

- E21.1 This specification shall cover the removal of earthen material immediately adjacent to the feedermain 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.

### EQUIPMENT

- E21.2 Hydro-Excavation unit shall be capable of maintaining a minimum working pressure of 10,000 psi, at a rate of flow of ten (10) to twelve (12) gallons per minute. Unit should be adjustable, so as to provide adequate pressure to remove earthen material identified by the Contract Administrator.
- E21.3 Spray head shall be equipped with a rotating type nozzle, in order to provide a wider path of cut.

### CONSTRUCTION METHODS

- E21.4 Hydro-removal of earthen material
- E21.4.1 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.
- E21.5 Recovery of excavated material
- E21.5.1 The recovery of excavated material shall be done using vacuum type method, or other type method as approved by the Contract Administrator.
- E21.5.2 The recovery of material shall follow immediately behind the excavation, to avoid excavated areas from filling with excavated material.
- E21.5.3 The use of mechanical sweepers will not be allowed.
- E21.5.4 Dispose of material in accordance with Section 3.4 of CW 1130-R1.

### MEASUREMENT AND PAYMENT

- E21.6 Hydro-Excavation
- E21.6.1 Hydro-Excavation of earthen material for the purpose of identifying the location of the feedermain will be measured on an hourly basis and paid for at the Contract Unit Price per hour for "Hydro-Excavation for Feedermain Identification". The hours to be paid for will be the total number of hours of Hydro-Excavation for Feedermain Identification in accordance with this specification, accepted and measured by the Contract Administrator.
- E21.6.2 The cost of hydro-excavation for the purpose of identifying utilities other than the feedermain shall be incidental to the contract.

## **E22. TREE REMOVALS**

### DESCRIPTION

- E22.1 This specification shall amend the City of Winnipeg Standard Construction specification CW 3010 "Clearing and Grubbing", and shall cover the removal of trees as specified on the Contract Drawings. The City of Winnipeg, Forestry Branch must be contacted prior to removing any trees.

### CONSTRUCTION METHODS

- E22.2 Tree Removals

- E22.2.1 Remove only trees marked and confirmed for removal in the field by the Contract Administrator.
- E22.2.2 Remove trees in accordance with CW 3010.
- E22.2.3 The Contractor shall arrange for any Elmwood to be disposed of by the City of Winnipeg.

#### MEASUREMENT AND PAYMENT

- E22.2.4 Removal of trees will be measured on a unit basis and paid for at the Contract Unit Price per unit item of "Tree Removal". The number to be paid for will be the total number of trees removed in accordance with this specification and accepted by the Contract Administrator.

### **E23. BOLLARD RELOCATION**

#### DESCRIPTION

- E23.1 This specification shall cover the removal, salvage and reinstallation of wooden bollards with chain fence.

#### CONSTRUCTION METHODS

- E23.2 Removal of existing bollards
  - (a) Utilize appropriate equipment to excavate around bollard and pull out of ground;
  - (b) Protect the public and Site from damage during removal;
  - (c) If bollard breaks and a portion remain embedded, demolish to 300 mm below grade;
  - (d) Backfill hole with crushed limestone base course as per Clause 2.2 of CW 3110. Tamp and compact base course to satisfaction of Contract Administrator.
- E23.3 Reinstallation of existing bollards
  - (a) Reinstall existing bollards at the locations shown on the contract drawings and as identified by the Contract Administrator.
  - (b) Bore 500 mm hole to the depth required to match the above ground reveal of the adjacent posts.
  - (c) Set post vertically bored hole and backfill with crushed limestone base, installed in 150 mm lifts, tamped thoroughly on each lift.
  - (d) Connect chain through existing hole in bollard and terminate using existing hardware.
- E23.4 Dispose of any unused material in accordance with Section 3.4 of CW 1130-R1.

#### MEASUREMENT AND PAYMENT

- E23.4.1 Bollard relocation will be measured on a unit basis and paid for at the Contract Unit Price per unit item of "Bollard Relocation". The number to be paid for will be the total number of bollards relocated in accordance with this specification and accepted by the Contract Administrator.

### **E24. FEEDERMAIN INSULATION**

#### DESCRIPTION

- E24.1 This specification covers the supply and installation of insulation set into the subgrade over the feedermain.

#### MATERIALS AND EQUIPMENT

- E24.2 In accordance with CW 2110 Insulation shall consist of minimum of 100 mm thick extruded polystyrene insulation, DOW HI 40 or approved equal pursuant to B5.

## CONSTRUCTION METHODS

- E24.3 Supply and install insulation in accordance with CW 2110 and SD -018 – “Insulation Detail for Pipe Under Roadway Excavation” except as amended in this specification.
- E24.4 Install insulation where there is less than 1.8 metres of final cover. It is expected that at a minimum this will be required over the feedermain from Station 0+490 to 0+550 on Panet Road.
- E24.5 Install insulation underneath catch pits where there is less than 2.0 metres of center to center horizontal clearance from the catch pit to the feedermain.
- E24.6 Insulation shall be 3.05 metres wide and 100 mm thick. These dimensions shall govern over the values shown in SD-018.

## MEASUREMENT AND PAYMENT

- E24.7 Feedermain insulation will be measured by length on a linear metre basis and paid for at the Contract Unit Price per metre for “Feedermain Insulation – 100 mm Thick x 3.05m Wide”. The length to be paid for will be the total number of metres of insulation supplied and installed in accordance with this specification, accepted, and measured by the Contract Administrator.

## E25. DITCH INLET GRATE

### DESCRIPTION

- E25.1 This specification covers the supply and installation of ditch inlet grates, typically used in open swales or ditches as an alternative to City of Winnipeg Approved Product grated manhole cover AP-006.

### MATERIALS AND EQUIPMENT

- E25.2 As per Contract Drawings.
- E25.3 All steel shall be supplied in accordance with details on the Contract Drawings. All steel shall be hot dip galvanized after fabrication and all hardware shall be stainless steel.
- E25.4 Cover to be Shopost Iron Works MK-A1 or approved equal in accordance with B6.

### CONSTRUCTION METHODS

- E25.5 Contractor to securely affix ditch inlet grates to manhole reducer or riser utilizing stainless steel hardware.
- E25.6 Any galvanized surfaces that are damaged shall be coated with a galvanizing compound approved by the Contract Administrator

### MEASUREMENT AND PAYMENT

- E25.7 The supply and installation of ditch inlet grate covers will not be measured for payment and shall be included in the payment for supply and installation of standard pre-cast concrete catch basin (SD-025) as a replacement for the standard grated cover (AP-006).

## E26. INSTALLATION OF STRAW WATTLES

### DESCRIPTION

- E26.1 Straw wattles are required to be installed as erosion control measures to mitigate any deleterious materials from entering the existing Land Drainage System.

## MATERIALS

- E26.2 The straw wattles shall be Stenlog or other biodegradable straw wattles.

## CONSTRUCTION METHODS

- E26.3 Install 300 mm Stenlog or other straw wattle sediment control material in accordance with the manufacturer's specifications around all riprap areas related to drainage inlets and outlets, and catch basins within seeded areas.
- E26.4 Install straw wattles so that no gaps exist between the soil and the bottom of the wattle, and the ends of adjacent wattles are overlapped 150 mm minimum to prevent water and sediment passing. Achieve a tight seal between the wattle segments.
- E26.5 Dogleg terminal ends of straw wattle up the slope to prevent channelling of sedimentation.
- E26.6 Use 300 mm wooden stakes to fasten straw wattle to the soil. Place stakes on each side of the straw wattle, lying across the natural fibre twine, spaced 1200 mm on centre. Leave 30 to 50 mm of wood stake exposed above the wattle.
- E26.7 Avoid damage to wattles. Damaged areas of wattles should be cut and tied off, then treated as terminal ends.
- E26.8 At the direction of the Contract Administrator, the straw wattles shall be removed after seeding has established and before the end of the warranty period.

## MEASUREMENT AND PAYMENT

- E26.9 Installation of straw wattles will be considered incidental to the Contract and no separate measurement for payment will be made.

## **E27. SALVAGE RAISED BRICK PLANTER**

### DESCRIPTION

- E27.1 This specification covers the removal and storage of the raise brick planter at 851 Panet Road.

### CONSTRUCTION METHODS

- E27.2 Salvage Raised Brick Planter
- E27.2.1 Dismantle and remove the raised brick planter ensuring that the bricks are not damaged during the process.
- E27.2.2 Stack bricks on pallets and secure bricks to ensure stability.
- E27.2.3 Store loaded pallets at the location identified by the property owner of 851 Panet Road. Storage location will be limited to the property at 851 Panet Road.
- E27.2.4 No measurement for payment will be made for performing all operations herein described. All costs associated with the salvage of the raised brick planter are incidental to the contract.

## **E28. CPR CROSSING - 900MM LDS BY JACKING METHOD**

### DESCRIPTION

- E28.1 This specification covers the installation by jacking method of a 900 mm land drainage sewer pipe (i.e. carrier pipe), crossing underneath the CPR rail line.

E28.2 Jacking Method is a trenchless method of pipe installations whereby a pipe is advanced through an embankment by means of hydraulic jacks and material is cut using a cutter head. Spoil can be cleaned out of culver by an auger or conveyor.

#### MATERIALS

E28.3 Material shall be in accordance with CW 2130 Section 2.2.6 and the Contract Drawings (specifically City Drawing Number P-3350-37) or as required to withstand all forces imposed on the pipe due to jacking, whichever requirement is greater.

#### CONSTRUCTION METHODS

E28.4 The contractor shall install the land drainage sewer under the CPR rail crossing use a jack and bore method in accordance with the Contract Drawings (City Drawing Number P-3350-37). The Contractor shall keep working pits outside the CPR right-of-way.

E28.5 The contractor shall submit a construction methodology a minimum of 10 days prior to engaging in any construction activities related to this item of work. The construction methodology shall identify :

- (a) the location of working pits and any ground support to be utilized
- (b) a sketch indicating storage area, equipment areas, construction staging areas and locations of all major supporting equipment.
- (c) The method to monitor the line and grade of the jacking pipe

E28.6 The pipe installation must be carried out such that the track remains live at all times. The contractor must halt all work and removed equipment and Contractor staff outside the clearance envelope prior to the approach and passage of a train through the work site or as required by CPR regulations and as indicated by CPR flagging personal.

E28.7 Excavate thrust and receiving pits as necessary to install the pipe

E28.8 De-water the thrust and receiving pits as necessary.

E28.9 Shore pits, if necessary, according to Manitoba Health and Safety Regulations and in accordance with Appendix C.

E28.10 The installation shall be carried out by jacking the concrete pipe and removing the soil material from the pipe using auguring, conveyance, or pneumatic methods at intervals during advancement.

E28.11 The contractor shall adequately protect the pipe to prevent crushing or other damage under installation procedures. If applicable, the Contractor shall also provide backstops to adequately distribute the jack thrust without causing deformation of the soil or other damage.

E28.12 Where the space between the embankment material and exterior surface of the pipe exceeds 25 mm, the space shall be completely filled by pressure grouting. Voids formed by the removal of obstructions shall be filled at the discretion of the Consultant and no additional payment will be made for this work.

E28.13 The contractor shall immediately notify the Contract Administrator in the event that there is substantial change in the character or nature of the subsurface soil conditions or that obstructions are encountered during pipe installation. The notice will include any proposed construction procedure revision that the contractor intends to undertake. The consultant will review the information and assess any requirements for change to the Contract.

E28.14 The contractor shall install the pipe to the line and grade shown on the drawings. The Contractor shall block, shim or construct rails as required to ensure that the finished pipe meets the tolerance requirements for alignment and grade, as indicated in the construction methodology submittal. Records of deviations from the specified line and level will be continuously recorded by the Contract Administrator. Discrepancies found by the Contract Administrator shall be

corrected by the Contractor immediately. The return to line and grade shall be at a rate not exceeding 50mm per 10 meters.

- E28.15 The contractor will not be permitted to excavate an intermediate shaft within the CPR right-of-way.
- E28.16 Material obtained from auguring, conveyance or pneumatic removal operation shall be hauled off site and disposed of by the Contractor.
- E28.17 Backfill thrust and receiving pits using suitable site material approved by the Contract Administrator and in accordance with CW 2030.
- E28.18 No additional payment will be made for the loading, hauling or stockpiling of augured material from the operation, as it will be considered incidental to the contract.
- E28.19 The Contract Administrator will engage in a monitoring program in accordance with Appendix C. The monitoring program will be in accordance with the following schedule :
- (a) Prior to installation of the pipe
  - (b) Once per day during the installation of the pipe
  - (c) 10 days following the installation of the pipe
- E28.20 Guidelines for determination of excessive ground movement shall be discussed with CPR prior to construction. In the event of excessive ground movement where the CPR track has been negatively impacted, the response will be in accordance with Appendix C, section 8.
- E28.21 Any corrective action implemented by CPR shall be the sole responsibility of the Contractor and considered incidental to the payment for this item of work. Any delay caused by this corrective action will not be cause for claim for additional payment.

#### MEASUREMENT AND PAYMENT

- E28.22 CPR Crossing – 900 mm LDS by Jacking Method will be measured by length on a linear metre basis and paid for at the Contract Unit Price per meter for “CPR Crossing – 900 mm LDS by Jacking Method”. The length to be paid for will be the total number of metres of 900 mm pipe supplied and installed at the CPR crossing in accordance with this specification, accepted and measured by the Contract Administrator.

### **E29. OPERATING CONSTRAINTS FOR WORK IN CLOSE PROXIMITY TO FEEDERMAINS**

#### E29.1 Description

- E29.1.1 This Section details operating constraints for all Work to be carried out in close proximity to feeder mains. Close proximity shall be deemed to be any construction activity within a 5 metres offset from the centreline of the feeder main.

#### E29.2 General Considerations for Work in Close Proximity to Feeder mains

- E29.2.1 Feeder mains are a critical component of the City of Winnipeg Regional Water Supply System and Work in close proximity to the pipeline shall be undertaken with an abundance of caution. The pipe cannot be taken out of service for extended periods to facilitate construction and inadvertent damage caused to the pipe would likely have catastrophic consequences.

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

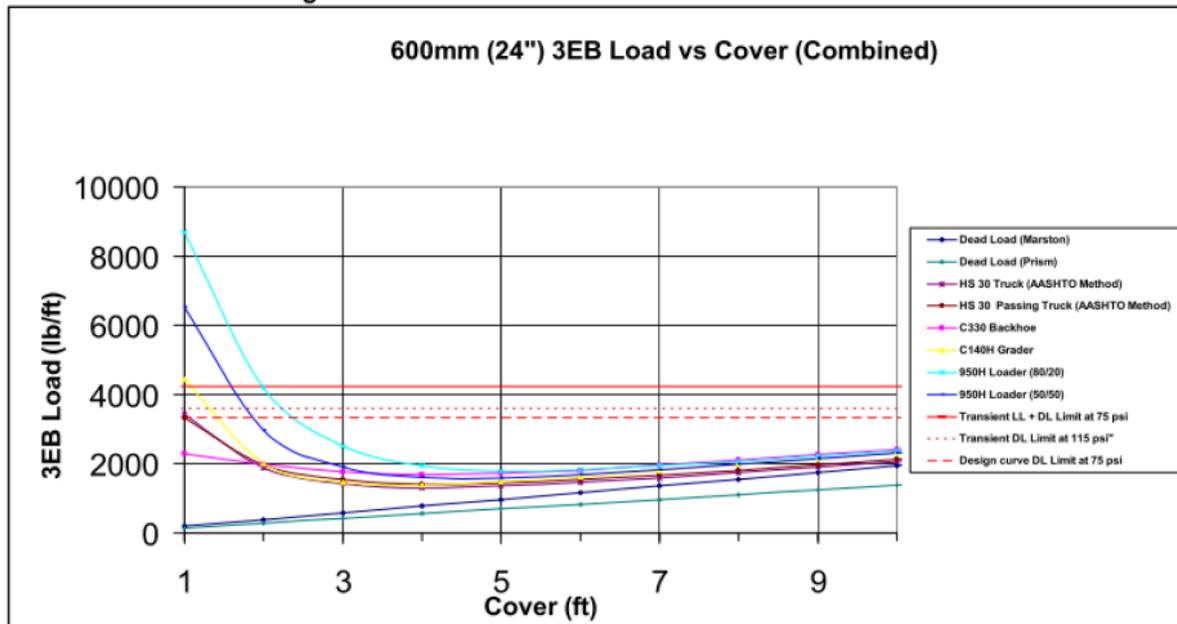
E29.2.2 The North Transcona Feedermain (NTFM) is constructed of prestressed concrete cylinder pipe (liner core) conforming to AWWA Standard C301. The North Transcona Feedermain was manufactured and installed in 1963.

The North Kildonan Feedermain (NKFM) is constructed of prestressed concrete cylinder pipe (liner core) conforming to AWWA Standard C301. The North Kildonan Feedermain was manufactured and installed in 1969.

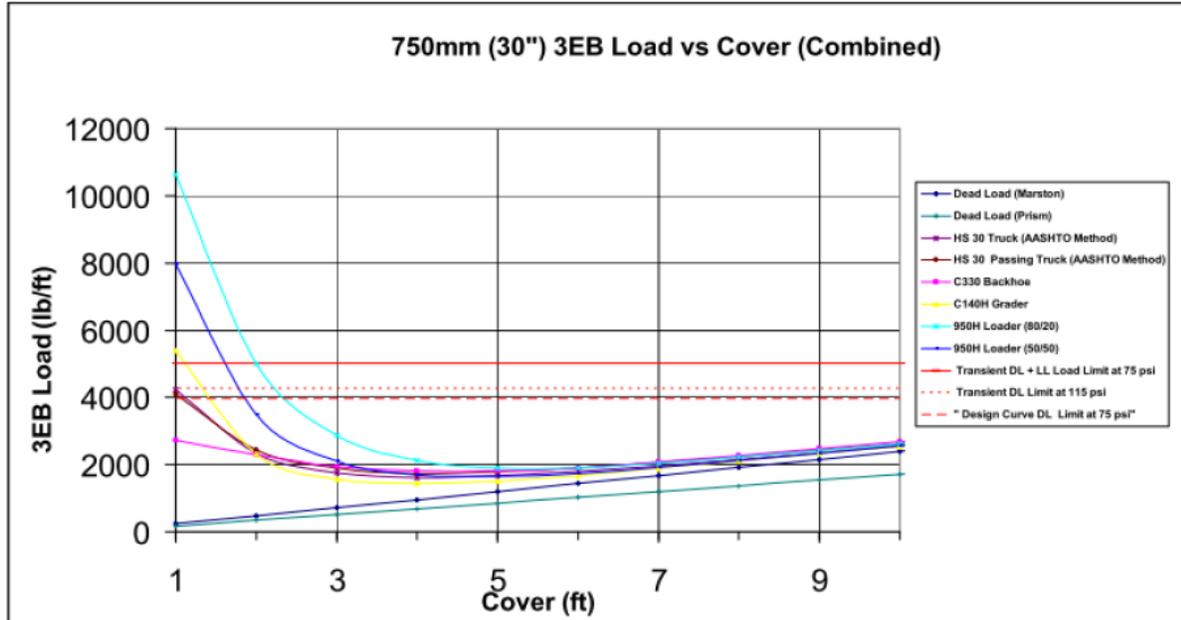
Large diameter pressure pipe generally has limited ability to withstand increased earth and live loading. Therefore, every precaution must be undertaken to ensure that applied loading during all phases of construction is within accepted loading parameters. Prestressed pipe typically fails in a non-ductile mode and has the potential to cause extensive consequential damage to infrastructure if failure should occur.

Loading limitations and calculated loads associated with typical construction equipment are attached to this specification as Figure 1 and Figure 2 for illustrative purposes. The loading calculations shall be interpreted with caution, however, as many factors can cause applied loads to increase considerably, such as unbalanced loading, variations in wheel base or track width, payload, impact factors due to excessive speed or vibration, etc.

**Figure 1: 3EB Loads versus Cover – 600 Feedermain**



**Figure 2: 3EB Loads versus Cover – 750 Feedermain**



**E29.3 Submittals**

E29.3.1 Submit proposed construction equipment specifications to the Contract Administrator for review seven (7) days prior to construction. Submittal shall include:

- (a) Equipment operating weight and dimensions including wheel or track base, track length or axle spacing, track widths or wheel configurations;
- (b) Payload weights;
- (c) Load distributions in the intended operating configuration.

E29.3.2 Submit a Construction Method Statement with proposed construction plan including haul routes, excavation equipment locations, loading positioning and base construction sequencing, to the Contract Administrator for review seven (7) days prior to construction. Do not commence construction until the Construction Method Statement has been reviewed and accepted by the Contract Administrator.

**E29.4 Protection of Feedermain During Construction**

E29.4.1 The sections of the Feedermain affected by construction include:

- (a) North Transcona Feedermain – Runs along the west side of Panet Road/Molson Street from Munroe Avenue to the offtake chamber at Callsbeck Avenue and across Molson Street down the south side of Callsbeck Avenue;
- (b) North Kildonan Feedermain – Runs along the west side of Molson Street from the offtake chamber at Callsbeck Avenue to Grassie Boulevard.

**E29.4.2 Feedermain Operational Limitations**

(a) Feedermain shutdown periods 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. The City shall endeavour to make the specified time periods available to the Contractor to schedule his work requiring removal of the Feedermain from service, without limiting the City's control over the operation of the Feedermain 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 Feedermain or water supply, including but not limited to high water demand, abnormal weather, failures of related water system components, and/or security concerns.

(b) Temporary Feedermain shutdowns may be limited to off-peak demand hours including evenings or other low demand periods. Duration of shutdowns are demand dependant. The City will endeavour to provide a shutdown period of a minimum of four (4) hours to complete Work requiring shutdowns. If multiple shutdowns are required, they may be scheduled for successive days.

E29.4.3 Contractors carrying out repair work or working in close proximity to feeder mains shall meet the following conditions and technical requirements:

- (a) The Contractor shall verify pipeline location and obvert elevations at the following locations:
  - (i) The 750 NTFM at the southern extent of the proposed road works.
  - (ii) The 750 NTGM at the offtake chamber at Molson Street and Callsbeck Avenue.
  - (iii) The 600 NTFM at the offtake chamber at Molson Street and Callsbeck Avenue.
  - (iv) The 600 NTFM at the east edge of the Molson Street Right of Way.
  - (v) The 750 NKFM immediately north of the thrust block at approximate plan station 4+75.
  - (vi) The 750 NKFM at 10 metres stations between the thrust block at approximate plan station 4+75 to plan station 5+60. Include high point at approximate plan station 5+15 (air release valve).
  - (vii) The 750 NKFM at approximate station 7+15.
  - (viii) The 750 NKFM at northern extent of the proposed Work.
  - (ix) At any location where utilities are to be trenchless installed above or beneath the feeder main.
- (b) Pre-Work, Planning and General Execution
  - (i) No Work shall commence at the Site 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.
  - (ii) All proposed construction equipment must be submitted to Contract Administrator for review prior to construction. Work in areas in close proximity to feeder mains shall only be carried out with equipment that has been reviewed and quantified in terms of its loading implications by the Contract Administrator.
  - (iii) Contact the City of Winnipeg WWD Department, Construction Services Coordinator (Duane Baker) prior to construction.
  - (iv) Notify WWD well in advance of construction to coordinate required service and Feeder main interruptions
  - (v) Where Work is in close proximity to a feeder main, utilize construction practices and procedures that do not impart excessive vibration loads on the feeder main or that would cause settlement of the subgrade below the feeder main.
  - (vi) Crossing feeder mains is prohibited in the time period from removal of existing roadway structure 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 pipe
  - (vii) For construction work activities either longitudinally or transverse to the alignment of a feeder main, work only with equipment and in the manner stipulated in the accepted Construction Method Statement and the supplemental requirements noted herein.
  - (viii) The pipeline elevation datum relative to the proposed roadway shall be adequately verified prior to the commencement of construction of the subgrade.

Confirm feedermain elevations as outlined in Section E27.4.3 (a). Deviations from the elevations noted herein shall be reported to Contract Administrator for review prior to proceeding with the Work.

- (ix) 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 metres between loads).
- (x) Granular material, construction material, soil or other material shall not be stockpiled on the pipelines or within 5 metres of the pipe centerline.
- (xi) Vehicular traffic shall be limited overtop of the offtake chamber at Molson Street and Callsbeck Avenue to small equipment required for construction of the sidewalk and general landscaping. Vehicular traffic shall not be permitted overtop of the chamber prior to placement of base materials and completion of rough grading. The offtake chamber shall be staked and flagged off before commencement of construction activities. Notwithstanding all restrictions on working near feeder mains noted herein equipment will not be allowed to operate within 3 m of the valve chamber walls, unless reviewed by the Contract Administrator as per above requirements.
- (xii) The Contractor shall make himself fully aware of all associated restrictions, constraints, and risks associated with working adjacent to and over this pipeline.
- (xiii) The Contractor shall ensure that all crew members understand and observe the requirements of this specification. Prior to commencement of on-site work, the Contractor shall jointly conduct an orientation meeting with the Contract Administrator and all superintendents, foreman, and heavy equipment operators to make all workers on-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 the feeder mains. New personnel introduced after commencement of the project need to be formally orientated as to the risks and constraints associated with working over the feeder main.

(c) Demolition and Excavation

- (i) Use of pneumatic concrete breakers within 3 metres of a feeder main is prohibited. Pavement shall be full depth sawcut and carefully removed. Use of hand held jackhammers for pavement removal will be allowed.
- (ii) Where there is less than 1.6 metres of earth cover over a feeder main and further excavation is required either adjacent to or over the feeder main, utilize only smooth edged excavation buckets, soft excavation or hand excavation techniques. Where there is less than 1 metre of cover over the feeder main, carefully expose the feeder main by hand excavation to delineate the location and depth of the main, and provide full time supervision of the excavation.
- (iii) Where there is less than 2.5 metres of earth cover over a feeder main, offset backhoe or excavation equipment from the feeder main, a minimum of 3 metres from centerline, to carry out excavation.
- (iv) Equipment should not be allowed to operate while positioned directly over a feeder main.
- (v) Where excavation is required over existing thrust blocks, arrange for a shutdown of the Feeder main through the Contract Administrator prior to proceeding with excavation. Expose top of thrust blocks by hand excavation or soft excavation methods to determine limits and elevation of thrust blocks prior to mass excavation. Extreme caution is to be exercised when excavating to avoid displacement of the thrust blocks. No excavation will be permitted on the soil bearing side of the thrust block. Excavation and subbase work within this area shall be staged to be able to be completed within a 6-8 hour shutdown window.

(d) Feedermain Modifications and Protection

- (i) Insulate feeder mains at locations where there is less than 1.8 m of final vertical cover, including Panet Road from Plan Station 4+90 to Station 5+50. Insulation shall consist of 100 mm (2-50 mm layers) of rigid polystyrene insulation, in general conformance to City of Winnipeg SD- 018. The insulation layer shall be 3.05 metres wide, centered over the feeder main. Insulation shall be recessed flush with the subgrade elevation.
  - (ii) Insulate catch basin, catch pits or manholes where the center to center lateral separation is 2.0 meters or less.
  - (iii) Insulate the roof of the offtake chamber at Molson Street and Callsbeck Avenue with 100 mm (2-50 mm layers) of rigid polystyrene insulation. The insulation shall extend 1.2 m (4') below the top of the roof slab.
  - (iv) The Thrust Blocks require 100 mm thick x 2.44 m x 2.44 m (8ft x 8ft) of insulation centered over the Thrust Blocks.
- (e) Catchbasins and Underground Works
- (i) For catchbasin leads and other pipelines crossing the feeder main there shall be a minimum of 300 mm clear (outside to outside of pipe wall) between crossing pipes and the feeder mains.
  - (ii) During construction of pipelines crossing feeder mains the feeder main shall be located and elevation confirmed at pipe crossing locations to ensure proper clearances are maintained. Under NO circumstances should blind coring proceed across feeder mains.
- (f) Subgrade Construction
- (i) Subgrade compaction shall be prohibited within 2 metres of a feeder main. Subgrade compaction within 3 metres of a feeder main shall be limited to non-vibratory methods only.
  - (ii) 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.
  - (iii) Subgrade conditions should be inspected by personnel with competent geotechnical experience (i.e. 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 the Contract Administrator for review to obtain approval from the Water and Waste Department relative to any change in conditions.
  - (iv) 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.
- (g) Subbase and Base Course Construction
- (i) 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.
  - (ii) Subbase compaction within 3 metres of the centreline of a feeder main 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.
  - (iii) Place subbase and base materials over thrust blocks prior to returning Feeder main to service.
- (h) Asphalt Pavement Construction
- (i) When constructing asphalt pavements only non-vibratory compaction should be used within 3 metres of the centre of the pipeline.

### **E30. COORDINATION OF WORK WITH CANADIAN PACIFIC**

#### DESCRIPTION

- E30.1 The Work to be done by the Contractor under this Specification shall include the coordination and scheduling of the excavation of the existing roadway adjacent to the Canadian Pacific (CP) rail crossing and the construction of the new roadway adjacent to the rail crossing.

#### GENERAL REQUIREMENTS

- E30.2 The Contractor will be required to alter their construction schedule to coordinate construction activities that must happen concurrently with the reconstruction of the CP rail crossing. Molson Street is expected to be closed to traffic at the rail crossing for three days while CP reconstructs the rail crossing. The construction activities that the Contractor must perform during this time include; excavation of Molson Street from approximately 50m east and 50m west of the rail crossing and approximately 400 metres squared of new concrete pavement construction and placement of asphalt tie ins adjacent to the new rail line crossing. The new concrete pavement construction must be completed in the northbound and southbound outside lanes (gutter lanes) to allow for traffic to pass when the rail crossing is reopened.
- E30.3 The Contract Administrator will coordinate with CP and provide as much advance notice of the crossing reconstruction date as possible. Should CP commence the crossing reconstruction earlier or later than anticipated the Contractor will be required to alter their construction schedule and work concurrently with CP adjacent to the crossing.
- E30.4 Temporary asphalt lanes, ramps or tie ins not shown on the contract drawings may be required to accommodate traffic flow before, during and following the rail crossing reconstruction. Temporary asphalt lanes, ramps or tie ins will be measured and paid in accordance with CW 3410.

### **E31. CANADIAN PACIFIC RAILWAY REQUIREMENTS**

#### DESCRIPTION

- E31.1 The Work to be done by the Contractor under this Specification shall include the furnishing of all superintendence, overhead, labour, materials, equipment, tools, supplies, and all things necessary for and incidental to the satisfactory performance and completion of all Works as hereinafter specified.

#### GENERAL REQUIREMENTS

- E31.2 The Contractor shall be responsible to meet all Canadian Pacific (CP) constraints, requirements, and safety measures within the CP Rail right-of-way.
- E31.3 The Contractor shall not enter into CP property at any time unless he has contacted CP and adheres to CP safety measures. All employees must complete the Contractor orientation course prior to working within the CP right-of-way.
- E31.4 The Contractor shall arrange to have CP supply a flag person for all activity on the CP right of way.
- E31.5 Minimum Safety Requirements and other relevant information is included in Appendix B. The Contractor shall comply with all conditions associated with the construction of the railway surface crossing and any other work in the CP right-of-way as outlined in these documents.
- E31.6 Notwithstanding the above statements, the following clauses are brought to the Contractor's attention:
- (a) Abide by applicable construction clauses within Transport Canada's E-10
  - (b) Before commencement of Work at least one weeks' notice must be provided to Manager of Track Maintenance, Terry Reid, by phone at 204-934-4213 or 204-771-0085.

- (c) – If a Flagperson is required, please be advised that Canadian Pacific (CP) has adopted a No Overtime policy effective immediately. No request for overtime beyond 40 hours per week will be considered. The normal work week for CP employees is 40 hours per week, typically Monday to Friday as work days from 0700 to 1500 including any travel time and subject to availability of CP resources.
- (d) – Protection of CPR signal facilities is required. The CP Rail CBYD Desk at 1-888-248-4410 must also be contacted one week prior to commencement of Work.
- (e) Your facility will be crossing existing fibre optic cables. In addition to the required depth of bury under the tracks, you will be required to maintain a one (1) meter separation from the fibre cables. You are required to phone the following Call before You Dig number(s) to arrange for locates prior to the installation of your facility: Group Telecom - Call Before You Dig 1-877-865-6193.
- (f) it is the Contractor's responsibility to ensure that all existing utilities are notified prior to commencing the construction of your crossing.

#### MEASUREMENT AND PAYMENT

- E31.7 CPR will be invoicing the City of Winnipeg directly for flag person's wages and expenses incurred on this project. At the time of the monthly progress payment to the Contractor the City of Winnipeg will deduct this cost from the Contractors progress payment. The final payment to the Contractor shall not be released until all CPR invoicing has been received by the City of Winnipeg.
- E31.8 No measurement for payment will be made for performing all operations herein described. All costs associated with the responsibilities of the CPR/City of Winnipeg Agreement are incidental to the unit prices of the Work associated with the crossings.