THE CITY OF WINNIPEG

BID OPPORTUNITY

BID OPPORTUNITY NO. 210-2014

POLO PARK INFRASTRUCTURE IMPROVEMENTS – ST. MATTHEWS AVENUE, ST. JAMES STREET, KING EDWARD STREET EAST AND ELLICE AVENUE RECONSTRUCTIONS, WATERMAIN RENEWALS AND ASSOCIATED WORKS

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PART B - BIDDING PROCEDURES

B1. CONTRACT TITLE

B1.1 Polo Park Infrastructure Improvements – St. Matthews Avenue, St. James Street, King Edward Street East and Ellice Avenue Reconstructions, Watermain Renewals and Associated Works

B2. SUBMISSION DEADLINE

B2.1 The Submission Deadline is 12:00 noon Winnipeg time, April 25, 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. ENQUIRIES

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

B3.2 If the Bidder finds errors, discrepancies or omissions in the Bid Opportunity, or is unsure of the meaning or intent of any provision therein, the Bidder shall notify the Contract Administrator of the error, discrepancy or omission, or request a clarification as to the meaning or intent of the provision at least five (5) Business Days prior to the Submission Deadline.

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

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

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

B4. CONFIDENTIALITY

B4.1 Information provided to a Bidder by the City or acquired by a Bidder by way of further enquiries or through investigation is confidential. Such information shall not be used or disclosed in any way without the prior written authorization of the Contract Administrator. The use and disclosure of the confidential information shall not apply to information which:

(a) was known to the Bidder before receipt hereof; or

(b) becomes publicly known other than through the Bidder; or

(c) is disclosed pursuant to the requirements of a governmental authority or judicial order.

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

B5. ADDENDA

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

B5.2 The Contract Administrator will issue each addendum at least two (2) Business Days prior to the Submission Deadline, or provide at least two (2) Business Days by extending the Submission Deadline.

B5.2.1 Addenda will be available on the Bid Opportunities page at The City of Winnipeg, Corporate Finance, Materials Management Division website at http://www.winnipeg.ca/matmgt/bidopp.asp

B5.2.2 The Bidder is responsible for ensuring that he/she has received all addenda and is advised to check the Materials Management Division website for addenda regularly and shortly before the Submission Deadline, as may be amended by addendum.

B5.3 The Bidder shall acknowledge receipt of each addendum in Paragraph 10 of Form A: Bid. Failure to acknowledge receipt of an addendum may render a Bid non-responsive.

B6. SUBSTITUTES

B6.1 The Work is based on the Plant, Materials and methods specified in the Bid Opportunity.

B6.2 Substitutions shall not be allowed unless application has been made to and prior approval has been granted by the Contract Administrator in writing.

B6.3 Requests for approval of a substitute will not be considered unless received in writing by the Contract Administrator at least five (5) Business Days prior to the Submission Deadline.

B6.4 The Bidder shall ensure that any and all requests for approval of a substitute:

(a) provide sufficient information and details to enable the Contract Administrator to determine the acceptability of the Plant, Material or method as either an approved equal or alternative;

(b) identify any and all changes required in the applicable Work, and all changes to any other Work, which would become necessary to accommodate the substitute;

(c) identify any anticipated cost or time savings that may be associated with the substitute;

(d) certify that, in the case of a request for approval as an approved equal, the substitute will fully perform the functions called for by the general design, be of equal or superior substance to that specified, is suited to the same use and capable of performing the same function as that specified and can be incorporated into the Work, strictly in accordance with the proposed work schedule and the dates specified in the Supplemental Conditions for Substantial Performance and Total Performance;

(e) certify that, in the case of a request for approval as an approved alternative, the substitute will adequately perform the functions called for by the general design, be similar in substance to that specified, is suited to the same use and capable of performing the same function as that specified and can be incorporated into the Work, strictly in accordance with the proposed work schedule and the dates specified in the Supplemental Conditions for Substantial Performance and Total Performance.

B6.5 The Contract Administrator, after assessing the request for approval of a substitute, may in his/her sole discretion grant approval for the use of a substitute as an “approved equal” or as an “approved alternative”, or may refuse to grant approval of the substitute.

B6.6 The Contract Administrator will provide a response in writing, at least two (2) Business Days prior to the Submission Deadline, 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 B16.

B6.9 No later claim by the Contractor for an addition to the Total Bid Price because of any other changes in the Work necessitated by the use of an approved equal or an approved alternative will be considered.

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 B16.1(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 B16.1(a).

B7.7 Bids submitted by facsimile transmission (fax) or internet electronic mail (e-mail) will not be accepted.

B7.8 Bids shall be submitted to:

The City of Winnipeg
Corporate Finance Department
Materials Management Division
185 King Street, Main Floor
Winnipeg MB R3B 1J1

B8. BID

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

B8.2 Paragraph 2 of Form A: Bid shall be completed in accordance with the following requirements:

(a) if the Bidder is a sole proprietor carrying on business in his/her own name, his/her name shall be inserted;

(b) if the Bidder is a partnership, the full name of the partnership shall be inserted;

(c) if the Bidder is a corporation, the full name of the corporation shall be inserted;

(d) if the Bidder is carrying on business under a name other than his/her own, the business name and the name of every partner or corporation who is the owner of such business name shall be inserted.

B8.2.1 If a Bid is submitted jointly by two or more persons, each and all such persons shall identify themselves in accordance with B8.2.

B8.3 In Paragraph 3 of Form A: Bid, the Bidder shall identify a contact person who is authorized to represent the Bidder for purposes of the Bid.

B8.4 Paragraph 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 B16.4.2, an electronic spreadsheet Form B: Prices in Microsoft Excel (.xls) format is available along with the Adobe PDF documents for this Bid Opportunity on the Bid Opportunities page at the Materials Management Division website at http://www.winnipeg.ca/matmgt/

B9.2 The quantities listed on Form B: Prices are to be considered approximate only. The City will use said quantities for the purpose of comparing Bids.

B9.3 The quantities for which payment will be made to the Contractor are to be determined by the Work actually performed and completed by the Contractor, to be measured as specified in the applicable Specifications.

B9.4 Payments to Non-Resident Contractors are subject to Non-Resident Withholding Tax pursuant to the Income Tax Act (Canada).

B9.5 Form B: Prices is organized into Parts: 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. ELIGIBILITY

B10.1 Various organizations provided investigative services with respect to this Project. In the City's opinion, this relationship or association does not create a conflict of interest or will not likely create a perception of conflict of interest because of this full disclosure and related information. The organizations are:

(a) Bituminex Paving Ltd. (Value Engineering Session – Appendix 'E')

(b) Darco Enterprises Ltd. (Value Engineering Session – Appendix 'E')

B11. QUALIFICATION

B11.1 The Bidder shall:

(a) undertake to be in good standing under The Corporations Act (Manitoba), or properly registered under The Business Names Registration Act (Manitoba), or otherwise properly registered, licensed or permitted by law to carry on business in Manitoba; and

(b) be financially capable of carrying out the terms of the Contract; and

(c) have all the necessary experience, capital, organization, and equipment to perform the Work in strict accordance with the terms and provisions of the Contract.

B11.2 The Bidder and any proposed Subcontractor (for the portion of the Work proposed to be subcontracted to them) shall:

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

B11.3 The Bidder and/or any proposed Subcontractor (for the portion of the Work proposed to be subcontracted to them) shall:

(a) have successfully carried out work similar in nature, scope and value to the Work; and

(b) be fully capable of performing the Work required to be in strict accordance with the terms and provisions of the Contract; and

(c) have a written workplace safety and health program if required pursuant to The Workplace Safety and Health Act (Manitoba);

B11.4 Further to B11.3(c), the Bidder shall, within five (5) Business Days of a request by the Contract Administrator, provide proof satisfactory to the Contract Administrator that the Bidder/Subcontractor has a workplace safety and health program meeting the requirements of The Workplace Safety and Health Act (Manitoba), by providing:

(a) 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/.

B11.5 The Bidder shall submit, within three (3) Business Days of a request by the Contract Administrator, proof satisfactory to the Contract Administrator of the qualifications of the Bidder and of any proposed Subcontractor.

B11.6 The Bidder shall provide, on the request of the Contract Administrator, full access to any of the Bidder's equipment and facilities to confirm, to the Contract Administrator's satisfaction, that the Bidder's equipment and facilities are adequate to perform the Work.

B12. BID SECURITY

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

(a) a bid bond, in the amount of at least ten percent (10%) of the Total Bid Price, and agreement to bond of a company registered to conduct the business of a surety in Manitoba, in the form included in the Bid Submission (Form G1: Bid Bond and Agreement to Bond); or

(b) an irrevocable standby letter of credit, in the amount of at least ten percent (10%) of the Total Bid Price, and undertaking issued by a bank or other financial institution registered to conduct business in Manitoba and drawn on a branch located in Winnipeg, in the form included in the Bid Submission (Form G2: Irrevocable Standby Letter of Credit and Undertaking); or

(c) a certified cheque or draft payable to "The City of Winnipeg", in the amount of at least fifty percent (50%) of the Total Bid Price, drawn on a bank or other financial institution registered to conduct business in Manitoba.

B12.1.1 If the Bidder submits alternative bids, the bid security shall be in the amount of the specified percentage of the highest Total Bid Price submitted.

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

B12.1.3 The Bidder shall sign the Bid Bond.

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

B12.2 The bid security of the successful Bidder and the next two lowest evaluated responsive and responsible Bidders will be released by the City when a Contract for the Work has been duly executed by the successful Bidder and the performance security furnished as provided herein. The bid securities of all other Bidders will be released when a Contract is awarded.

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

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

B12.3 The bid securities of all Bidders will be released by the City as soon as practicable following notification by the Contract Administrator to the Bidders that no award of Contract will be made pursuant to the Bid Opportunity.

B13. OPENING OF BIDS AND RELEASE OF INFORMATION

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

B13.1.1 Bidders or their representatives may attend.

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

B13.2 Following the submission deadline, the names of the Bidders and their Total Bid Prices (unevaluated, and pending review and verification of conformance with requirements) will be available on the Closed Bid Opportunities (or Public/Posted Opening & Award Results) page at The City of Winnipeg, Corporate Finance, Materials Management Division website at http://www.winnipeg.ca/matmgt/

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

B13.4 The Bidder is advised that any information contained in any Bid may be released if required by City policy or procedures, by The Freedom of Information and Protection of Privacy Act (Manitoba), by other authorities having jurisdiction, or by law.

B14. IRREVOCABLE BID

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

B14.2 The acceptance by the City of any Bid shall not release the Bids of the next two lowest evaluated responsive Bidders and these Bidders shall be bound by their Bids on such Work until a Contract for the Work has been duly executed and the performance security furnished as herein provided, but any Bid shall be deemed to have lapsed unless accepted within the time period specified in Paragraph 11 of Form A: Bid.

B15. WITHDRAWAL OF BIDS

B15.1 A Bidder may withdraw his/her Bid without penalty by giving written notice to the Manager of Materials at any time prior to the Submission Deadline.

B15.1.1 Notwithstanding C23.3, the time and date of receipt of any notice withdrawing a Bid shall be the time and date of receipt as determined by the Manager of Materials.

B15.1.2 The City will assume that any one of the contact persons named in Paragraph 3 of Form A: Bid or the Bidder's authorized representatives named in Paragraph 12 of Form A: Bid, and only such person, has authority to give notice of withdrawal.

B15.1.3 If a Bidder gives notice of withdrawal prior to the Submission Deadline, the Manager of Materials will:

(a) retain the Bid until after the Submission Deadline has elapsed;

(b) open the Bid to identify the contact person named in Paragraph 3 of Form A: Bid and the Bidder's authorized representatives named in Paragraph 12 of Form A: Bid; and

(c) if the notice has been given by any one of the persons specified in B15.1.3(b), declare the Bid withdrawn.

B15.2 A Bidder who withdraws his/her Bid after the Submission Deadline but before his/her Bid has been released or has lapsed as provided for in B14.2 shall be liable for such damages as are imposed upon the Bidder by law and subject to such sanctions as the Chief Administrative Officer considers appropriate in the circumstances. The City, in such event, shall be entitled to all rights and remedies available to it at law, including the right to retain the Bidder's bid security.

B16. EVALUATION OF BIDS

B16.1 Award of the Contract shall be based on the following bid evaluation criteria:

(a) compliance by the Bidder with the requirements of the Bid Opportunity, or acceptable deviation therefrom (pass/fail);

(b) qualifications of the Bidder and the Subcontractors, if any, pursuant to B10 (pass/fail);

(c) Total Bid Price;

(d) economic analysis of any approved alternative pursuant to B6.

B16.2 Further to B16.1(a), the Award Authority may reject a Bid as being non-responsive if the Bid is incomplete, obscure or conditional, or contains additions, deletions, alterations or other irregularities. The Award Authority may reject all or any part of any Bid, or waive technical requirements or minor informalities or irregularities, if the interests of the City so require.

B16.2.1 Any bid with an apparent imbalance between the unit prices in Part 1 and Part 2 of the Work may be determined to be non-responsive and rejected by the Award Authority in its sole discretion, acting reasonably.

B16.3 Further to B16.1(b), the Award Authority shall reject any Bid submitted by a Bidder who does not demonstrate, in his/her Bid or in other information required to be submitted, that he/she is responsible and qualified.

B16.4 Further to B16.1(c), the Total Bid Price shall be the sum of the quantities multiplied by the unit prices for each item shown on Form B: Prices.

B16.4.1 Further to B16.1(a), in the event that a unit price is not provided on Form B: Prices, the City will determine the unit price by dividing the Amount (extended price) by the approximate quantity, for the purposes of evaluation and payment.

B16.4.2 The electronic Form B: Prices and the formulas imbedded in that spreadsheet are only provided for the convenience of Bidders. The City makes no representations or warranties as to the correctness of the imbedded formulas. It is the Bidder's responsibility to ensure the extensions of the unit prices and the sum of Total Bid Price performed as a function of the formulas within the electronic Form B: Prices are correct.

B17. AWARD OF CONTRACT

B17.1 The City will give notice of the award of the Contract or will give notice that no award will be made.

B17.2 The City will have no obligation to award a Contract to a Bidder, even though one or all of the Bidders are determined to be responsible and qualified, and the Bids are determined to be responsive.

B17.2.1 Without limiting the generality of B17.2, the City will have no obligation to award a Contract where:

(a) the prices exceed the available City funds for the Work;

(b) the prices are materially in excess of the prices received for similar work in the past;

(c) the prices are materially in excess of the City's cost to perform the Work, or a significant portion thereof, with its own forces;

(d) only one Bid is received; or

(e) in the judgment of the Award Authority, the interests of the City would best be served by not awarding a Contract.

B17.3 Where an award of Contract is made by the City, the award shall be made to the responsible and qualified Bidder submitting the lowest evaluated responsive Bid, in accordance with B16.

B17.3.1 Following the award of contract, a Bidder will be provided with information related to the evaluation of his/her Bid upon written request to the Contract Administrator.

B17.4 As disclosed in D2 and identified on Form B: Prices, the Work of Part 2 will be contingent upon the City obtaining the required properties. Notwithstanding C7.5, if the required properties for Part 2 Work are not obtained by the City the City reserves the right to diminish all or any portion

of Part 2 Work without penalty, claim for damages on the loss of anticipated profit on the Work so diminished, or any other grounds.

B17.5 Further to B17.2.1 (a), sufficient property for the Project has not been obtained by the City. If sufficient property is not obtained in a reasonable time frame, the City may not proceed with this Contract.

B17.6 The City may, at its sole discretion, award the Contract in phases, for Part 1 and Part 2 of the Work.

B17.6.1 Further to B17.6, if the City awards the Contract in phases, the City intends to award the Contract for Part 1 of the Work in accordance with D14.5.

B17.6.2 Further to B17.6, if the City awards the Contract in phases, the City intends to award the Contract for Part 2 of the Work in accordance with D14.6.

PART C - GENERAL CONDITIONS

C0. GENERAL CONDITIONS

C0.1 The *General Conditions for Construction* (Revision 2006 12 15) are applicable to the Work of the Contract.

C0.1.1 The *General Conditions for Construction* are available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at http://www.winnipeg.ca/matmgt/gen_cond.stm

C0.2 A reference in the Bid Opportunity to a section, clause or subclause with the prefix "**C**" designates a section, clause or subclause in the *General Conditions for Construction*.

PART D - SUPPLEMENTAL CONDITIONS

GENERAL

D1. GENERAL CONDITIONS

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

D2. SCOPE OF WORK

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

(a) Part 1 – Polo Park Infrastructure Improvements

(b) Part 2 – Work Pending Property Acquisition.

Part 1 – Polo Park Infrastructure Improvements

D2.2 Part 1 – Polo Park Infrastructure Improvements shall consist of:

(a) Road Construction
  (i) St. Matthews Avenue- St. James Street to Empress Street;
  (ii) St. James Street- Maroons Road to St. Matthews Avenue; and
  (iii) Ellice Avenue- Century Street to Milt Stegall Drive.

(b) Land Drainage Work
  (i) St. Matthews Avenue- St. James Street to Omand's Creek;
  (ii) St. James Street- Maroons Road to St. Matthews Avenue; and
  (iii) Ellice Avenue- Century Street to Omand's Creek.

(c) Watermain Work
  (i) St. Matthews Avenue- St. James Street to Empress Street;
  (ii) St. James Street- Maroons Road to North side of St. Matthews Avenue;
  (iii) Ellice Avenue- Century Street to St. James Street; and
  (iv) Ellice Avenue- St. James Street to Milt Stegall Drive.

Part 2 – Work Pending Property Acquisition

D2.3 Part 2 – Work Pending Property Acquisition shall consist of:

(a) Road Construction
  (i) St. Matthews Avenue- Empress Street to 160 m East of Empress Street;
  (ii) St. James Street- St. Matthews Avenue to 200 m North of Ellice Avenue; and
  (iii) St. Matthews Avenue- Century Street to St. James Street (including King Edward Street East).

(b) Land Drainage Work
  (i) St. James Street- St. Matthews Avenue to 215 m North of Ellice Avenue;
  (ii) St. Matthews Avenue- Empress Street to 160 m East of Empress Street; and
  (iii) St. Matthews Avenue- Century Street to St. James Street.

(c) Watermain Work
  (i) St. James Street- North side of St. Matthews Avenue to North side of Ellice Avenue;
  (ii) St. James Street- North side of Ellice Avenue to 175 m North of Ellice Avenue; and
  (iii) St. Matthews Avenue- Madison Street to St. James Street.

D2.4 The City does not currently own the property required for Part 2 of the Work, but is anticipating acquiring it by the dates shown in Figures 01 and 02 of Appendix 'C'. Part 2 of the Work is contingent upon the City receiving this property.

D2.4.1 Further to C7.1, if the required property is not acquired, the City shall have the right to eliminate all or any portion of Part 2, and the Contract Price will be reduced accordingly.

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

D2.4.3 If all or any portion of Part 2 is eliminated pursuant to D2.4.1, the time periods stipulated in D19 for Substantial Performance of the Work and in D20 for Total Performance of the Work will be reduced proportionally by the Contract Administrator acting reasonably.

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

(a) Road Construction
- (i) Construction of temporary asphalt pavement;
- (ii) Pavement and sidewalk removal;
- (iii) Excavation and subgrade compaction;
- (iv) Removal, salvage, and delivery of overhead sign structure;
- (v) Removal of concrete bases;
- (vi) Planing existing asphalt overlay (in rehabilitation areas);
- (vii) Placement of separation fabric;
- (viii) Installation of subdrains;
- (ix) Subbase and base course construction;
- (x) Adjustment of appurtenances;
- (xi) Construction of 230 mm plain-dowelled concrete pavement (utilizing slip form paving equipment where possible);
- (xii) Full depth concrete joint and slab repairs (in rehabilitation areas);
- (xiii) Construction of concrete median slabs and safety median;
- (xiv) Construction of concrete curbs (150 mm and 180 mm barrier curb, 180 mm modified barrier curb, and ramp curb);
- (xv) Placement of asphalt overlay in rehabilitation areas (average thickness 60 mm);
- (xvi) Sidewalk construction and renewal (including paving stone bands and detectable warning tiles); and
- (xvii) Restoration.

(b) Land Drainage Work
- (i) Installation of catchbasins, catchpits and manholes;
- (ii) Installation of land drainage sewers by trenchless method;
- (iii) Installation of sewer service pipe, drainage connection pipe ;
- (iv) Connections to existing sewers;
- (v) Slope stabilization of Omand's Creek south of St. Matthews Avenue;
- (vi) Outfall construction (2 outfalls) at Omand's Creek; and
- (vii) Restoration

(c) Watermain Work
- (i) Installation of watermains by trenchless method;
- (ii) Abandonment of existing watermain;
- (iii) Removal/ abandonment of existing hydrant assemblies and gate valves;

(iv) Installation of hydrant assemblies and gate valves;

(v) Reconnection or renewal of water service connections and fire service connections; and

(vi) Restoration.

D3. CONTRACT ADMINISTRATOR

D3.1 The Contract Administrator is Morrison Hershfield Ltd., represented by:

Wayne Jaworski, C.E.T.
Senior Project Manager

Telephone No. 204-977-8370
Facsimile No. 204-487-7470

D3.2 At the pre-construction meeting, Wayne Jaworski 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 B12.1(c), the Contractor shall provide the City Solicitor with the required performance security within seven (7) Calendar Days of notification of the award of the Contract by way of letter of intent and prior to the commencement of any Work on the Site and in no event later than the date specified in the C4.1 for the return of the executed Contract.

D12. SUBCONTRACTOR LIST

D12.1 The Contractor shall provide the Contract Administrator with a complete list of the Subcontractors whom the Contractor proposes to engage (Form J: Subcontractor List) at or prior to a pre-construction meeting, or at least two (2) Business Days prior to the commencement of any Work on the Site but in no event later than the date specified in the C4.1 for the return of the executed Contract.

D13. DETAILED WORK SCHEDULE

D13.1 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.

D13.2 The detailed work schedule shall consist of the following:

(a) a Gantt chart for the Work

acceptable to the Contract Administrator.

D13.3 Further to D13.2(a), the Gantt chart shall show the time on a weekly basis, required to carry out the Work of each trade, or specification division. The time shall be on the horizontal axis, and the type of trade shall be on the vertical axis.

SCHEDULE OF WORK

D14. COMMENCEMENT

D14.1 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.

D14.2 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 detailed work schedule specified in D13; and

(ix) the security clearances specified in F1.

(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.

D14.3 The Contractor shall commence the Work on the Site within seven (7) Working Days of receipt of the letter of intent.

D14.4 The Contractor shall not commence Work in areas which are currently privately owned (Part 2 of the Work as described in D2 and identified in Form B: Prices) until it receives written authorization from the Contract Administrator. Figures 01 and 02 in Appendix 'C' shows the privately owned areas and anticipated property acquisition dates by the City.

D14.5 The City intends to award phase 1 (for Part 1 Work) of this Contract by May 26, 2014 and no later than June 13, 2014.

D14.5.1 If the actual date of award is later than the intended date, the dates specified for Critical Stages D18.1(a), D18.1(b), D18.1(c), D18.1(d), Substantial Performance, and Total Performance will be adjusted by the difference between the aforementioned intended and actual dates.

D14.6 The City intends to award phase 2 (for Part 2 Work) of this Contract by July 15, 2014.

D15. RESTRICTED WORK HOURS

D15.1 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 Sundays, Statutory Holidays and or Civic Holidays.

D15.2 The Contractor shall not Work on the Site between November 10, 2014 and April 1, 2015 unless written approval is received from the Contract Administrator in advance.

D15.2.1 The dates listed in D15.2 will not be adjusted if the actual date of award is later than the intended date shown in D14.5.

D16. WORK BY OTHERS

D16.1 Work by others on or near the Site will include but not necessarily be limited to:

(a) Manitoba Telecom Services - relocation/ protection of plant;

(b) Shaw - relocation/ protection of plant;

(c) Manitoba Hydro - Removal and installation of street lighting, removal and relocation of power poles, conversion of 24 kV cable to underground and new 115kV power line crossing St. Matthews Avenue between Madison Street and St. James Street. The Contractor will co-ordinate sidewalk construction to follow Manitoba Hydro street lighting installation;

(d) Manitoba Hydro Gas Division – relocation of gas regulating station valves on St. Matthews Avenue and miscellaneous rock wrapping and lowering of gas main and services as necessary;

(e) City of Winnipeg Traffic Services - Erection and maintenance of temporary traffic control (see E8.), removal and installation of new traffic signage and line painting;

(f) City of Winnipeg Traffic Signals - Removal, modification, and installation of new traffic signals plant;

(g) Winnipeg Transit – relocation of bus shelters;

(h) City of Winnipeg Geomatics Branch - work on various survey infrastructure;

(i) Bell Canada – relocation/ protection of plant;

(j) Teraspan – relocation/ protection of plant;

(k) Xerox Business Services Canada – removal and relocation of safety camera at Ellice Avenue and St. James Street;

(l) Bird Construction – On-going work at the former Winnipeg Stadium site.

(m) The City of Winnipeg Water and Waste Department has scheduled a watermain renewal on St. Matthews Avenue between Century Street and Madison Street (Bid Opportunity 139-2014). The Contractor shall not begin any Work in the affected area until Work is completed and is instructed of such by the Contract Administrator.

(n) The City of Winnipeg Water and Waste Department has scheduled a basement flooding relief project on St. Matthews Avenue from Madison Street to west of Century Street, Kensington Street and Madison Street.

(o) The City of Winnipeg Public Works Department has scheduled the demolition of properties at #1111 St. James Street.

(p) The City of Winnipeg Public Works Department has scheduled a Mill & Fill project for Route 90 between Ness Avenue and Ellice Avenue. It is anticipated that this Work will occur between June and October 2014. The Contractor shall coordinate traffic control with the Contract Administrator.

D17. SEQUENCE OF WORK

D17.1 Further to C6.1, the recommended sequence of work is provided in Appendix ‘D’.

D17.2 Generally, the recommended sequence of work is as follows:

(a) In 2014, the Contractor will construct the following:

(i) Watermain and Land Drainage Sewers on St. James Street from Maroons Road to St. Matthews Avenue;

(ii) Road Construction on St. James Street Northbound from Maroons Road to St. Matthews Avenue;

(iii) Temporary pavement widening on Ellice Avenue;

(iv) Watermain and Land Drainage Sewers on Ellice Avenue;

(v) Road Construction on Ellice Avenue Eastbound (not including St. James Street intersection);

(vi) Watermain and Land Drainage Sewers on St. Matthews Avenue east of St. James Street;

(vii) Road Construction on St. Matthews Avenue Eastbound east of St. James Street;

(viii) Road Construction on St. James Street Southbound from Maroons Road to St. Matthews Avenue;

(ix) Road Construction on Ellice Avenue Westbound (not including St. James Street intersection; and

(x) Road Construction on St. Matthews Avenue Westbound east of St. James Street.

(b) In 2015, the Contractor will construct the following:

(i) Watermain and Land Drainage Sewers on St. James Street north of St. Matthews Avenue;

(ii) Watermain and Land Drainage Sewers on St. Matthews Avenue west of St. James Street;

(iii) Road Construction on St. Matthews Avenue Westbound west of St. James Street;

(iv) Road Construction on St. James Street Northbound north of St. Matthews Avenue;

(v) Road Construction on St. Matthews Avenue Eastbound west of St. James Street; and

(vi) Road Construction on St. James Street southbound north of St. Matthews Avenue.

D18. CRITICAL STAGES

D18.1 The Contractor shall achieve critical stages of the Work in accordance with the following requirements:

(a) August 1, 2014 – Provide full access to both private approaches to 875 St. James Street (Target Site) on St. Matthews Avenue.

(b) August 15, 2014 – Complete all of Part 1 Land Drainage Work and Watermain Work (D2.2(b) & (c)), excluding slope stabilization and outfall works.

(c) October 17, 2014 – Complete Road Construction on St. Matthews Avenue between St. James Street and Empress Street (D2.2(a)(i)) excluding sidewalk construction on the north side of St. Matthews Avenue, St. James Street from Maroons Road to St. Matthews Avenue (D2.2(a)(ii)) excluding sidewalk construction on the west side of St. James Street, and eastbound Ellice Avenue between Century Street and Milt Stegall Drive (part of D2.2(a)(iii)).

(d) October 31, 2014 – Provide four lanes (two in each direction) of traffic on St. James Street, St. Matthews Avenue, and Ellice Avenue.

(e) June 30, 2015 – Complete Land Drainage Work and Watermain Work on St. James Street (D2.3(b)(i) and D2.3(c)(i) & (ii)).

(f) October 9, 2015 – Complete Road Construction on Ellice Avenue and St. James Street (D2.2(a)(iii) & D2.3(a)(ii)).

D18.2 When the Contractor considers the Work associated with the Critical Stages to be completed, the Contractor shall arrange, attend and assist in the inspection of the Work with the Contract Administrator for purposes of verifying Completion. Any defects or deficiencies in the Work noted during that inspection shall be remedied by the Contractor at the earliest possible instance and the Contract Administrator notified so that the Work can be re-inspected.

D18.3 The date on which the Critical Stages Work has been accepted by the Contract Administrator as being completed to the requirements of the Contract is the date on which completion of Critical Stages has been achieved.

D19. SUBSTANTIAL PERFORMANCE

D19.1 The Contractor shall achieve Substantial Performance by October 9, 2015.

D19.2 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.

D19.3 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.

D20. TOTAL PERFORMANCE

D20.1 The Contractor shall achieve Total Performance by October 23, 2015.

D20.2 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.

D20.3 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.

D21. LIQUIDATED DAMAGES

D21.1 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 Calendar Day for each and every Calendar Day following the days fixed herein for same during which such failure continues:

(a) Critical Stage D18.1(a) – three thousand dollars ($3,000);

(b) Critical Stage D18.1(b) – five thousand dollars ($5,000);

(c) Critical Stage D18.1(c) – five thousand dollars ($5,000);

(d) Critical Stage D18.1(d) – five thousand dollars ($5,000);

(e) Critical Stage D18.1(e) – five thousand dollars ($5,000);

(f) Critical Stage D18.1(f) – five thousand dollars ($5,000);

(g) Substantial Performance – five thousand dollars ($5,000); and

(h) Total Performance – one thousand dollars ($1,000).

D21.2 The amounts specified for liquidated damages in D21.1 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.

D21.3 The City may reduce any payment to the Contractor by the amount of any liquidated damages assessed.

D22. SCHEDULED MAINTENANCE

D22.1 The Contractor shall perform the following scheduled maintenance in the manner and within the time periods required by the Specifications:

(a) Maintenance of sod areas as specified in CW 3510; and

(b) Reflective crack maintenance during warranty period as specified in CW 3250.

D22.2 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.

D23. ACCELERATED COMPLETION

D23.1 Description

D23.1.1 This specification shall cover the accelerated completion of this contract.

D23.2 Acceleration of Work

D23.2.1 At no risk to the City, the Contractor at his own initiative, means, and expense, may undertake to complete the Work of this Contract to facilitate the safe reopening of the Site to traffic and pedestrians in advance of the dates required as follows:

(a) All Part 1 Work listed in D2.2 is complete prior to November 7, 2014 to facilitate the safe re-opening to traffic and pedestrians;

(b) All Part 2 Work listed in D2.3(a)(i), D2.3(a)(ii), D2.3(b)(i), D2.3(b)(ii), D2.3(c)(i) and D2.3(c)(ii) is completed by October 1, 2015 to facilitate the safe re-opening to traffic and pedestrians.

(c) All Work listed in D2 is complete seven (7) Calendar Days or more prior to the date of Substantial Performance as specified in D19 to facilitate the safe re-opening to traffic and pedestrians.

D23.2.2 In recognition of the fact that an early completion of the Work is of benefit to the City, the City will compensate the Contractor for said early completion on a Lump Sum basis, as hereinafter set out.

D23.2.3 It is noted that certain delays of the Work are normal, due to Site conditions, necessary layout and dimensional changes. The Contract Administrator will attempt to resolve each situation as soon as possible. The Contractor is advised that no extension to the dates listed in D23.2.1 will be given for events of this nature which cause construction delay and are resolved within 48 hours of the requirement of change becoming known to both the Contractor and the Contract Administrator.

D23.3 Measurement and Payment

D23.3.1 Subject to clause D23.3 hereof, accelerated completion will not be measured on a per day basis and will be paid on a Lump Sum basis for each of the items listed below and shall be payment in full for performing all operations undertaken and all other items incidental to the Work included in this Specification.

Items of Work:

(a) Fifty thousand dollars ($50,000) for the completion of all Part 1 Work as listed in D2.2 prior to November 7, 2014;

(b) Twenty-Five thousand dollars ($25,000) for the completion of all Part 2 Work listed in D2.3(a)(i), D2.3(a)(ii), D2.3(b)(i), D2.3(b)(ii), D2.3(c)(i) and D2.3(c)(ii) prior to October 1, 2015.

(c) Twenty-Five thousand dollars ($25,000) for the completion of all Work as listed in D2 seven (7) Calendar Days or more prior to the date of Substantial Performance as specified in D19.

D23.3.2 Payment of this item is not identified on Form B: Prices, and shall not be included thereon. If accelerated completion does occur as specified herein, then payment will be made for this item as an addition to the Contract.

D24. WORK PRACTICES ON ASBESTOS-CEMENT PIPE

D24.1 Further to C6.28(d), the Contractor's attention is directed to the possible health dangers associated with working with asbestos-cement pipe and all work associated with the existing AC watermains shall conform to the following publications:

(a) "Work Practices for Asbestos-Cement Pipe", AWWA No. M16, published by the American Water Works Association; and

(b) "Recommended Work Practices for AC Pipe", 1977, published by the AC Pipe producers association.

D24.2 The Contractor shall state in the "job specific work plan" the proposed procedure for working on AC pipe. The Contractor shall also provide proof of asbestos handling training or certification.

D24.3 Further to D28 Environmental Protection Plan, the Contractor shall dispose of all asbestos containing waste materials at a disposal site licensed to accept asbestos.

D25. JOB MEETINGS

D25.1 Regular weekly job meetings will be held at the Site. These meetings shall be attended by a minimum of one representative of the Contract Administrator, one representative of the City, and one representative of the Contractor. Each representative shall be a responsible person capable of expressing the position of the Contract Administrator, the City, and the Contractor respectively on any matter discussed at the meeting including the Work schedule and the need to make any revisions to the Work schedule. The progress of the Work will be reviewed at each of these meetings.

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

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

D26.1 Further to C6.24, the Contractor shall be the Prime Contractor and shall serve as, and have the duties of the Prime Contractor in accordance with The Workplace Safety and Health Act (Manitoba).

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

D27.1 Further to B11.4, the Contractor/Subcontractor must, throughout the term of the Contract, have a Workplace Safety and Health Program meeting the requirements of The Workplace Safety and Health Act (Manitoba). At any time during the term of the Contract, the City may, at its sole discretion and acting reasonably, require updated proof of compliance, as set out in B11.4.

D28. ENVIRONMENTAL PROTECTION PLAN

D28.1 The Contractor shall plan and implement the Work of this Contract strictly in accordance with the requirements of the Environmental Protection Plan as herein specified.

D28.2 The Contractor is advised that at least the following Acts, Regulations, and By-laws apply to the Work:

(a) Federal
  (i) Canadian Environmental Assessment Act (CEAA), 1992 c.37;
  (ii) Canadian Environmental Protection Act;
  (iii) Fisheries Act, 1985 c.F-14;
  (iv) Transportation of Dangerous Goods Act and Regulations, c.34;
  (v) Transportation Association of Canada's Transportation Association of Canada National Guide to Erosion and Sediment Control on Roadway Projects, 2005;
  (vi) Navigable Waters Protection Act; and
  (vii) Any other applicable Acts, Regulations, and By-laws.

(b) Provincial
  (i) The Dangerous Goods Handling and Transportation Act, D12;
  (ii) The Endangered Species Act, c.E111;
  (iii) The Environment Act, c.E125;

(iv) The Fire Prevention Act, c.F80;
(v) The Heritage Resources Act, c.H39.1;
(vi) The Noxious Weeds Act , c.N110;
(vii) The Nuisance Act, c.N120;
(viii) The Pesticides Regulation, M.R. 94/88R
(ix) The Public Health Act, c.P210;
(x) The Water Protection Act, c.W65;
(xi) The Workplace Safety and Health Act W210;
(xii) Current applicable Associated Regulations;
(xiii) The Manitoba Stream Crossing Guidelines for the Protection of Fish and Fish Habitat, Manitoba National Resources, 1996.; and
(xiv) Any other applicable Acts, Regulations, and By-laws.

(c) Municipal
(i) The City of Winnipeg Neighbourhood Liveability By-law No. 1/2008;
(ii) The City of Winnipeg By-law No. 1573/77 and all amendments up to and including 7670/2000;
(iii) City of Winnipeg Best Management Practices for Activities In and Around the City's Waterways and Watercourses, City of Winnipeg 2005;
(iv) The City of Winnipeg Motor Vehicle Noise Policies and Guidelines;
(v) The City of Winnipeg By-law No. 2480/79 and all amendments up to and including 7976/2000; and
(vi) Any other applicable Acts, Regulations, and By-laws.

(d) Federal
(i) Canadian Environmental Assessment Act (CEAA), 1992 c.37;
(ii) Canadian Environmental Protection Act;
(iii) Fisheries Act, 1985 c.F-14;
(iv) Transportation of Dangerous Goods Act and Regulations, c.34;
(v) Transportation Association of Canada's Transportation Association of Canada National Guide to Erosion and Sediment Control on Roadway Projects, 2005;
(vi) Navigable Waters Protection Act; and
(vii) Any other applicable Acts, Regulations, and By-laws.

(e) Provincial
(i) The Dangerous Goods Handling and Transportation Act, D12;
(ii) The Endangered Species Act, c.E111;
(iii) The Environment Act, c.E125;
(iv) The Fire Prevention Act, c.F80;
(v) The Heritage Resources Act, c.H39.1;
(vi) The Noxious Weeds Act , c.N110;
(vii) The Nuisance Act, c.N120;
(viii) The Pesticides Regulation, M.R. 94/88R
(ix) The Public Health Act, c.P210;
(x) The Water Protection Act, c.W65;
(xi) The Workplace Safety and Health Act W210;
(xii) Current applicable Associated Regulations;
(xiii) The Manitoba Stream Crossing Guidelines for the Protection of Fish and Fish Habitat, Manitoba National Resources, 1996.; and
(xiv) Any other applicable Acts, Regulations, and By-laws.

(f) Municipal

(i) The City of Winnipeg Neighbourhood Liveability By-law No. 1/2008;

(ii) The City of Winnipeg By-law No. 1573/77 and all amendments up to and including 7670/2000;

(iii) City of Winnipeg Best Management Practices for Activities In and Around the City's Waterways and Watercourses, City of Winnipeg 2005;

(iv) The City of Winnipeg Motor Vehicle Noise Policies and Guidelines;

(v) The City of Winnipeg By-law No. 2480/79 and all amendments up to and including 7976/2000; and

(vi) Any other applicable Acts, Regulations, and By-laws.

D28.3 The Contractor is advised that the following environmental protection measures apply to the Work.

(a) Materials Handling and Storage

(i) Storage on construction materials shall be confined to the defined laydown areas as shown on the Contract Drawings or at a location approved by the Contract Administrator.

(ii) Construction materials shall not be deposited or stored on or near watercourses unless written acceptance from the Contract Administrator is received in advance.

(iii) Construction materials and debris shall be tied down or secured if severe weather and high wind velocities are forecasted. Work shall be suspended during extreme high wind conditions.

(iv) Construction materials and debris shall be prevented from entering watercourses. In the event that materials and/or debris inadvertently enter the land drainage system, the Contractor will be required to remove the material to an appropriate landfill or storage facility and restore the watercourse to its original condition.

(b) Fuel Handling and Storage

(i) The Contractor shall obtain all necessary permits from Manitoba Conservation and Water Stewardship for the handling and storage of fuel products and shall provide copies to the Contract Administrator.

(ii) All fuel handling and storage facilities shall comply with The Dangerous Goods and Transportation Act Storage and Handling of Petroleum Products Regulation and any local land use permits.

(iii) Fuels, lubricants, and other potentially hazardous materials as defined in The Dangerous Goods and Transportation Act shall be stored and handled within the approved storage areas.

(iv) The Contractor shall ensure that any temporary fuel storage areas established for construction of the project are contained by an impermeable dyke. Dykes shall be designed, constructed, and maintained to retain not less than 100% of the capacity of the total number of containers or 110% of the largest container, whichever is greatest. The dykes shall be constructed of clay or similar impervious material. If this type of material is not available, the dyke shall be constructed of locally available material and lined with high-density polyethylene (HDPE). Furthermore, the fuel storage area(s) shall be secured by a barrier such as a high fence and gate to prevent vandalism.

(v) The Contractor shall ensure that all fuel storage containers are inspected daily for leaks and spillage.

(vi) Products transferred from the fuel storage area(s) to specific Work Sites shall not exceed the daily usage requirement.

(vii) When servicing requires the drainage or pumping of fuels, lubricating oils or other fluids from equipment, a groundsheet of suitable material (such as HDPE) and size shall be spread on the ground to catch the fluid in the event of a leak or spill.

(viii) Washing, refuelling, and servicing of machinery and storage of fuel and other materials for the machinery shall take place at least 100 metres from a watercourse to prevent deleterious substances from entering the water.

(ix) The area around storage sites and fuel lines shall be distinctly marked and kept clear of snow and debris to allow for routine inspection and leak detection.

(x) A sufficient supply of materials, such as absorbent material and plastic oil booms, to clean up minor spills shall be stored nearby on Site. The Contractor shall ensure that additional material can be made available on short notice.

(xi) Machinery shall arrive on Site in a clean condition and shall be maintained to be free to fluid leaks.

(xii) A sufficient supply of materials, such as absorbent material and plastic oil booms, to clean up minor spills shall be stored nearby on Site. The Contractor shall ensure that additional material can be made available upon short notice. Additionally, appropriate staff on Site shall be trained for proper handling of deleterious liquids (i.e. fuelling) and trained in preventing and cleaning up minor spills.

(c) Waste Handling and Disposal

(i) The Construction area shall be kept clean and orderly at all times during and at completion of construction.

(ii) At no time during Construction shall personal or construction waste be permitted to accumulate for more than one day at any location on the construction Site, other than at a dedicated storage area as may be approved by the Contract Administrator.

(iii) The Contractor shall, during and at the completion of construction, clean-up the construction area and all resulting debris shall be deposited at a Waste Disposal Ground operating under the authority of Manitoba Regulation 150/91. Exceptions are liquid industrial and hazardous wastes which require special disposal methods (refer to Section 30.5D).

(iv) On Site volumes of sewage and/or septage will be removed on a weekly basis.

(v) The Contractor shall ensure sewage, septage, and other liquid wastes generated on Site are handled and disposed of by a certified disposal contractor.

(vi) Indiscriminate dumping, littering, or abandonment shall not take place.

(vii) No on-Site burning of waste is permitted.

(viii) Waste storage areas shall not be located so as to block natural drainage.

(ix) Runoff from a waste storage area shall not be allowed to cause siltation of a watercourse.

(x) Waste storage areas shall be left in a neat and finished appearance and/or restored to their original condition to the satisfaction of the Contract Administrator.

(xi) Equipment shall not be cleaned near watercourses; contaminated water from onshore cleaning operations shall not be permitted to enter watercourses.

(d) Dangerous Goods/Hazardous Waste Handling and Disposal

(i) Dangerous goods/hazardous waste are identified by, and shall be handled according to, The Dangerous Goods Handling and Transportation Act and Regulations.

(ii) The Contractor shall be familiar with The Dangerous Goods Handling and Transportation Act and Regulations.

(iii) The Contractor shall have on Site staff that is trained and certified in the handling of the dangerous/hazardous goods, when said dangerous/hazardous goods are being utilized on Site for the performance of the Work.

(iv) Different waste streams shall not be mixed.

(v) Disposal of dangerous goods/hazardous wastes shall be at approved hazardous waste facilities.

(vi) Liquid hydrocarbons shall not be stored or disposed of in earthen pits on Site.

(vii) Used oils shall be stored in appropriate drums or tankage until shipment to waste oil recycling centres, incinerators, or secure disposal facilities approved for such wastes.

(viii) Used oil filters shall be drained, placed in suitable storage containers, and buried or incinerated at approved hazardous waste treatment and disposal facilities.

(ix) Dangerous goods/hazardous waste storage areas shall be located at least 107 metres away from the edge of the water line for normal summer water levels and be dyked.

(x) Dangerous goods/hazardous waste storage areas shall not be located so as to block natural drainage.

(xi) Runoff from a dangerous goods/hazardous waste storage areas shall not be allowed to cause siltation of a watercourse.

(xii) Dangerous goods/hazardous waste storage areas shall be left in a neat and finished appearance and/or restored to their original condition to the satisfaction of the Contract Administrator.

(e) Emergency Response

(i) The Contractor shall ensure that due care and caution is taken to prevent spills.

(ii) The Contractor shall report all major spills of petroleum products or other hazardous substances with significant impact on the environment and threat to human health and safety (as defined in Table 1 below) to Manitoba Environment, immediately after occurrence of the environmental accident, by calling the 24-hour emergency phone number (204) 945-4888.

(iii) The Contractor shall designate a qualified supervisor as the on-Site emergency response coordinator for the project. The emergency response coordinator shall have the authority to redirect manpower in order to respond in the event of a spill.

(iv) The following actions shall be taken by the person in charge of the spilled material or the first person(s) arriving at the scene of a hazardous material accident or the on-Site emergency response coordinator:

(i) Notify emergency-response coordinator of the accident:

- Identify exact location and time of accident;
- Indicate injuries, if any;
- Request assistance as required by magnitude of accident (Manitoba Environment 24-hour Spill Response Line (204) 945-4888, Police, Fire Department, Ambulance, company backup).

(ii) Attend to public safety:

- Stop traffic, roadblock/cordon off the immediate danger area;
- Eliminate ignition sources;
- Initiate evacuation procedures if necessary;

(iii) Assess situation and gather information on the status of the situation, noting:

- Personnel on Site;
- Cause and effect of spill;
- Estimated extent of damage;
- Amount and type of material involved; and
- Proximity to waterways, sewers, and manholes.

(iv) If safe to do so, try to stop the dispersion or flow of spill material:

- Approach from upwind;
- Stop or reduce leak if safe to do so;
- Dyke spill material with dry, inert absorbent material or dry clay soil or sand;
- Prevent spill material from entering waterways and utilities by dyking;
- Prevent spill material from entering manholes and other openings by covering with rubber spill mats or dyking; and
- Resume any effective action to contain, clean up, or stop the flow of the spilled product.

(v) The emergency response coordinator shall ensure that all environmental accidents involving contaminants shall be documented and reported to Manitoba Environment according to The Dangerous Goods Handling and Transportation Act Environmental Accident Report Regulation 439/87.

(vi) When dangerous goods are used on Site, materials for containment and cleanup of spill material (e.g. absorbent materials, plastic oil booms, and oversized recovery drums) shall be available on Site.

(vii) Minor spills of such substances that may be contained on land with no significant impact on the environment may be responded to with in-house resources without formal notification to Manitoba Environment.

(viii) City emergency response, 9-1-1, shall be used if other means are not available.

(v) The on-site emergency response coordinator shall contact The Canadian Coast Guard, Kenora, Ontario (807) 468-6441, if the spill material reaches and is on or in the Red or Assiniboine Rivers.

TABLE 1
SPILLS THAT MUST BE REPORTED TO THE
MANITOBA CONSERVATION AS ENVIRONMENTAL ACCIDENTS

Classification	Hazard	Reportable quantity/level
1	Explosives	All
2.1	Compressed Gas (Flammable)	100 L*
2.2	Compressed Gas	100 L*
2.3	Compressed Gas (Toxic)	All
2.4	Compressed Gas (Corrosive)	All
3	Flammable Liquids	100 L
4	Flammable Solids	1 Kg
5.1 PG** I & II	Oxidizer	1 kg or 1 L
PG** III	Oxidizer	50 kg or 50 L
5.2	Organic Peroxide	1 kg or 1 L
6.1 PG** I & II	Acute Toxic	1 kg or 1 L
PG** III	Acute Toxic	5 kg or 5 L
6.2	Infectious	All
7	Radioactive	Any discharge or radiation level exceeding 10 mSv/h at the package surface and 200 uSv/h at 1 m from the package surface
8	Corrosive	5 kg or 5 L
9.1	Miscellaneous (except PCB mixtures)	50 kg
9.2	PCB Mixtures	500 g
9.3	Aquatic Toxic	1 kg or 1 L
9.4	Wastes (chronic toxic)	5 kg or 5 L

* Container capacity (refers to container water capacity)
** PG = Packing Group(s)

Source: Environmental Accident Reporting Regulation M.R. 439/87

(f) Noise and Vibration

(i) Noise-generating activities shall be limited to the hours indicated in the City of Winnipeg Noise Bylaw, and the Province of Manitoba Environment Act Licence, unless otherwise accepted in advance by the Contract Administrator.

(ii) The Contractor shall be responsible for scheduling Work to avoid potential noise problems and/or employ noise reduction measures to reduce noise to acceptable limits. The Contractor shall also demonstrate to the Contract Administrator that

Works to be performed during the night-time period, on Sundays, and Holidays as stated in the Licence shall not exceed the approved limit.

(iii) The Contractor shall locate stationary noise generating equipment (i.e. generators) away from sensitive receptors and wildlife areas.

(g) Dust and Emissions

(i) Dust control practices implemented by the Contractor during construction shall include regular street cleaning and dampening of construction access roads and Work areas with water or approved chemicals at an adequate frequency to prevent the creation of dust.

(ii) The Contractor shall minimize construction equipment idling times and turn off machinery, when feasible.

(iii) Dust control practices implemented by the Contractor during construction will include regular street cleaning and dampening of construction access roads and Work areas with water or approved chemicals at an adequate frequency to prevent the creation of dust.

(iv) Only water or chemicals approved by the Contract Administrator shall be used for dust control. The use of waste petroleum or petroleum by-products is not permitted.

(v) The Contractor shall ensure that trucks which are used to haul excavated material and backfill material to and from the Work Site utilize tarpaulin covers during transport to prevent material from falling onto the street and creating dust.

(vi) Stockpiled soils shall be covered with tarpaulin covers to prevent the creation of dust.

(h) Erosion Control

(i) The Contractor shall develop a sediment control plan prior to beginning construction to the satisfaction of the Contract Administrator.

(ii) Exposure of soils shall be kept to a minimum practical amount, acceptable to the Contract Administrator. The cover of trees and undergrowth shall be preserved to the maximum extent possible.

(iii) Sediment control fencing, or other such erosion control structures, shall be employed wherever construction activity increases the potential for runoff to carry sediment into a drainage channel or other watercourse. The Contractor shall inspect all such structures daily during heavy construction activity in the areas of the structures and after a heavy rainfall to ensure their continued integrity.

(iv) All areas disturbed during construction shall be landscaped and revegetated with native and/or introduced plant species in order to restore and enhance the Site and to protect against soil erosion unless otherwise indicated.

(v) The disturbed surface shall be revegetated so as to create a dense root system in order to defend against soil erosion on the right-of-way and any other disturbed areas susceptible to erosion.

(vi) The loss of topsoil and the creation of excessive dust by wind during construction shall be prevented by the addition of temporary cover crop, water, or tackifier, if conditions so warrant.

(i) Runoff Control

(i) Measures shall be undertaken to ensure that runoff containing suspended soil particles is minimized from entering the land drainage system to the extent possible, to the satisfaction of the Contract Administrator.

(ii) Areas that are heavily disturbed and vulnerable to erosion or gullying will be dyked to redirect surface runoff around the area prior to spring runoff.

(iii) Construction activities on erodible slopes shall be avoided during spring runoff and heavy rain fall events.

(iv) Soil and fill shall not be stockpiled on immediate watercourse bank areas.

(j) Vegetation

(i) Vegetation shall not be disturbed without written permission from the Contract Administrator.

(ii) The Contractor shall protect plants or trees which may be at risk of accidental damage. Such measures may include protective fencing or signage and shall be approved in advance by the Contract Administrator.

(iii) The Contractor will limit the removal of trees and snags (standing dead trees), surface disturbance, and vegetation clearing.

(iv) Herbicides and pesticides shall not be used adjacent to any surface watercourses.

(v) Trees or shrubs shall not be felled into watercourses.

(vi) Areas where vegetation is removed during clearing, construction, and decommissioning activities, shall be revegetated as soon as possible in accordance with the landscaping plans forming part of the contract, or as directed by the Contract Administrator.

(vii) Trees damaged during construction activities shall be examined by bonded tree carte professionals; viable trees damaged during construction activities shall be pruned according to good practise by bonded tree care professionals.

(viii) Damaged trees which are not viable shall be replaced at the expense of the Contractor.

(k) Landscaping

(i) Construction waste (excluding common construction gravel, sand etc.) shall be removed to a minimum depth of 600 mm below final grade in all areas that are to be backfilled with suitable material and revegetated in accordance with Standard City Practice.

(ii) The Contractor shall adhere to the landscaping plan for maintenance of initial stage and development stages of the plant community.

(l) Construction Traffic

(i) Workforce parking shall be limited to the areas designated for such as detailed in the Contract Documents, or as otherwise may be directed by the Contract Administrator.

(ii) The Contractor shall adhere to the Standard Provisions of the Standard Construction Specifications, and of the Manual of Temporary Traffic Control in Work Areas on City Streets of The City of Winnipeg, Works & Operations Division.

(iii) The Contractor's laydown area, construction Site and access road shall be fenced and gated to secure the Site and materials and to discourage pedestrian entrance to construction area and to control any potential hazard to the public, particularly children.

(iv) For circumstances where the Contract Administrator has accepted Site access of special equipment or material, the Contractor shall provide adequate flagmen for traffic control in the vicinity of any public buildings.

(m) Access

(i) The Contractor shall maintain access to affected residential properties.

(ii) The Contractor shall provide or maintain general and off-street access to any affected business during construction.

MEASUREMENT AND PAYMENT

D29. PAYMENT

D29.1 Further to C12, the City may at its option pay the Contractor by direct deposit to the Contractor's banking institution.

WARRANTY

D30. WARRANTY

D30.1 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.

D30.2 Notwithstanding C13.2 or D30.1, the Contract Administrator may permit the warranty period for a portion or portions of the Work to begin prior to the date of Total Performance if:

a portion of the Work cannot be completed because of unseasonable weather or other conditions reasonably beyond the control of the Contractor but that portion does not prevent the balance of the Work from being put to its intended use.

D30.2.1 In such case the date specified by the Contract Administrator for the warranty period to begin shall be substituted for the date specified in C13.2 for the warranty period to begin.

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. 210-2014

Polo Park Infrastructure Improvements – St. Matthews Avenue, St. James Street, King Edward Street East and Ellice Avenue Reconstructions, Watermain Renewals and Associated 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)

FORM H2: IRREVOCABLE STANDBY LETTER OF CREDIT
(PERFORMANCE SECURITY)
(See D11)

_____
(Date)

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

RE: PERFORMANCE SECURITY – BID OPPORTUNITY NO. 210-2014

Polo Park Infrastructure Improvements – St. Matthews Avenue, St. James Street, King Edward Street East and Ellice Avenue Reconstructions, Watermain Renewals and Associated Works

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

_____ ,
(Name of Contractor)

_____
(Address of Contractor)

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

_____

_____ Canadian dollars.

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

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

Partial drawings are permitted.

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

_____
(Address)

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

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

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

_____ .
(Date)

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

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

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

_____
(Name of bank or financial institution)

Per: _____
(Authorized Signing Officer)

Per: _____
(Authorized Signing Officer)

FORM J: SUBCONTRACTOR LIST
(See D12)

Polo Park Infrastructure Improvements – St. Matthews Avenue, St. James Street, King Edward Street East and Ellice Avenue Reconstructions, Watermain Renewals and Associated Works

Portion of the Work	Name	Address
SURFACE WORKS		
Supply of Materials:		
Concrete		
Asphalt		
Base Course & Sub-base		
Geotextile		
Subdrains		
Sod & Seed		
Installation/ Placement:		
Excavation		
Subdrains		
Concrete		
Asphalt		
Sod & Seed		
Concrete Joint Sealing		
Reflective Crack Maintenance		
UNDERGROUND WORKS		
Supply of Materials:		
Catchbasins, Catchpits & Manholes		
Frames & Covers		
Land Drainage Sewer		
Watermain		
Hydrants		
Valves		
Tees		
Couplers		

FORM J: SUBCONTRACTOR LIST
(See D12)

Polo Park Infrastructure Improvements – St. Matthews Avenue, St. James Street, King Edward Street East and Ellice Avenue Reconstructions, Watermain Renewals and Associated Works

Portion of the Work	Name	Address
Installation & Placement:		
Catchbasins, Catchpits & Manholes		
Land Drainage Sewer		
Watermain		
Hydrants		
Watermain Disinfection & Pressure Testing		
Sewer Televising		
OTHERS		

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:

Drawing No.	Drawing Name/Title	Drawing (Original) Sheet Size
ROADWORKS		
P-3354-0	Cover Sheet and Location Plan	A1
P-3354-1	Key Plan and Drawing List & Horizontal and Vertical Control	A1
P-3354-2	St. Matthews Avenue- Horizontal Geometry- Sta. 0+210 to Sta. 0+470	A1
P-3354-3	St. Matthews Avenue- Horizontal Geometry- Sta. 0+470 to Sta. 0+710	A1
P-3354-4	St. Matthews Avenue- Horizontal Geometry- Sta. 0+710 to Sta. 0+950	A1
P-3354-5	St. Matthews Avenue- Horizontal Geometry- Sta. 0+950 to Sta. 1+190	A1
P-3354-6	King Edward Street East- Horizontal Geometry- Sta. 1+040 to Sta. 1+150	A1
P-3354-7	Ellice Avenue- Horizontal Geometry- Sta. 0+490 to Sta. 0+760	A1
P-3354-8	Ellice Avenue- Horizontal Geometry- Sta. 0+760 to Sta. 0+890	A1
P-3354-9	St. James Street- Horizontal Geometry- Sta. 0+800 to Sta. 1+020	A1
P-3354-10	St. James Street- Horizontal Geometry- Sta. 1+020 to Sta. 1+280	A1
P-3354-11	St. James Street- Horizontal Geometry- Sta. 1+280 to Sta. 1+520	A1
P-3354-12	St. James Street- Horizontal Geometry- Sta. 1+520 to Sta. 1+770	A1
P-3354-13	St. Matthews Avenue- Horizontal and Vertical Alignment- Sta. 0+210 to Sta. 0+340	A1
P-3354-14	St. Matthews Avenue- Horizontal and Vertical Alignment- Sta. 0+340 to Sta. 0+470	A1
P-3354-15	St. Matthews Avenue- Horizontal and Vertical Alignment- Sta. 0+470 to Sta. 0+590	A1
P-3354-16	St. Matthews Avenue- Horizontal and Vertical Alignment- Sta. 0+590 to Sta. 0+710	A1
P-3354-17	St. Matthews Avenue- Horizontal and Vertical Alignment- Sta. 0+710 to Sta. 0+830	A1

Drawing No.	Drawing Name/Title	Drawing (Original) Sheet Size
P-3354-18	St. Matthews Avenue- Horizontal and Vertical Alignment- Sta. 0+830 to Sta. 0+950	A1
P-3354-19	St. Matthews Avenue- Horizontal and Vertical Alignment- Sta. 0+950 to Sta. 1+070	A1
P-3354-20	St. Matthews Avenue- Horizontal and Vertical Alignment- Sta. 1+070 to Sta. 1+190	A1
P-3354-21	King Edward Street East- Horizontal and Vertical Alignment- North of St. Matthews Avenue	A1
P-3354-22	Ellice Avenue- Horizontal and Vertical Alignment- Sta. 0+490 to Sta. 0+630	A1
P-3354-23	Ellice Avenue- Horizontal and Vertical Alignment- Sta. 0+630 to Sta. 0+760	A1
P-3354-24	Ellice Avenue- Horizontal and Vertical Alignment- Sta. 0+760 to Sta. 0+890	A1
P-3354-25	St. James Street- Horizontal and Vertical Alignment- Sta. 0+800 to Sta. 0+910	A1
P-3354-26	St. James Street- Horizontal and Vertical Alignment- Sta. 0+910 to Sta. 1+020	A1
P-3354-27	St. James Street- Horizontal and Vertical Alignment- Sta. 1+020 to Sta. 1+150	A1
P-3354-28	St. James Street- Horizontal and Vertical Alignment- Sta. 1+150 to Sta. 1+280	A1
P-3354-29	St. James Street- Horizontal and Vertical Alignment- Sta. 1+280 to Sta. 1+400	A1
P-3354-30	St. James Street- Horizontal and Vertical Alignment- Sta. 1+400 to Sta. 1+520	A1
P-3354-31	St. James Street- Horizontal and Vertical Alignment- Sta. 1+520 to Sta. 1+640	A1
P-3354-32	St. James Street- Horizontal and Vertical Alignment- Sta. 1+640 to Sta. 1+770	A1
P-3354-33	Pavement Cross Sections- St. Matthews Avenue	A1
P-3354-34	Pavement Cross Sections- King Edward East & Ellice Avenue	A1
P-3354-35	Pavement Cross Sections- St. James Street	A1
UNDERGROUNDS		
D-13581 (36)	Key Plan and Drawing List – Sewer & Water	A1
LD-7335 (37)	Catchbasin Connections East of Century Street	A1
D-13582 (38)	St. Matthews Avenue- Madison to Sta. 0+540	A1
D-13583 (39)	St. Matthews Avenue- Sta. 0+540 to Sta. 0+660	A1
D-13584 (40)	St. Matthews Avenue- Sta. 0+660 to Sta. 0+775	A1
D-13585 (41)	St. Matthews Avenue- Sta. 0+775 to Sta. 0+890	A1
D-13586 (42)	St. Matthews Avenue- Sta. 0+890 to Sta. 1+010	A1
LD-7336 (43)	St. Matthews Avenue- Sta. 1+010 to Sta. 1+130	A1
D-13587 (44)	Ellice Avenue- Century to Sta. 0+590	A1
D-13588 (45)	Ellice Avenue- Sta. 0+590 to Sta. 0+715	A1
D-13589 (46)	Ellice Avenue- Sta. 0+715 to Sta. 0+830	A1
D-13590 (47)	Ellice Avenue- Sta. 0+830 to Sta. 0+950	A1
LD-7337 (48)	Ellice Avenue- Sta. 0+950 to Sta. 1+085	A1
LD-13591 (49)	St. James Street- Sta. 0+800 to Sta. 0+910	A1
LD-13592 (50)	St. James Street- Sta. 0+910 to Sta. 1+020	A1
D-13593 (51)	St. James Street- Sta. 1+020 to Sta. 1+150	A1
D-13594 (52)	St. James Street- Sta. 1+150 to Sta. 1+280	A1
D-13595 (53)	St. James Street- Sta. 1+280 to Sta. 1+400	A1
D-13596 (54)	St. James Street- Sta. 1+400 to Sta. 1+520	A1
D-13597 (55)	St. James Street- Sta. 1+520 to Sta. 1+640	A1
D-13598 (56)	St. James Street- Sta. 1+640 to Sta. 1+790	A1

Drawing No.	Drawing Name/Title	Drawing (Original) Sheet Size
LD-7338 (57)	St. Matthews Avenue Omand's Creek Outfalls	A1
LD-7339 (58)	Ellice Avenue Omand's Creek Outfall	A1
LD-7340 (59)	Outfall Details	A1
LD-7341 (60)	Omand's Creek Slope Stabilization	A1
STREETSCAPING		
P-3354-62 (L1)	Streetscaping Details	A1

E1.4 The following figure contained in Appendix "C" is applicable to the Work:

Drawing No.	Drawing Name/Title	Drawing (Original) Sheet Size
Figure 01	Property Requirements- St. Matthews	11"x17"
Figure 02	Property Requirements- St. James	11"x17"

E1.5 The following figures contained in Appendix "D" are applicable to the Work:

Drawing No.	Drawing Name/Title	Drawing (Original) Sheet Size
Figure S-01	2014 Staging- Stage 1 & 2 St. James Street & St. Matthews Avenue	11"x17"
Figure S-02	2014 Staging- Stage 3 & 4 St. James Street & St. Matthews Avenue	11"x17"
Figure S-03	2014 Staging- Stage 5 & 6 St. James Street & St. Matthews Avenue	11"x17"
Figure S-04	2014 Staging- Stage 1, 2 & 3 Ellice Avenue	11"x17"
Figure S-05	2014 Staging- Stage 4, 5 & 6 Ellice Avenue	11"x17"
Figure S-06	2015 Staging- Stage 1, 2, 3, 4 & 5 St. Matthews Avenue	11"x17"
Figure S-07	2015 Staging- Stage 1 & 2 St. James Street & Ellice Avenue	11"x17"
Figure S-08	2015 Staging- Stage 3 & 4 St. James Street & Ellice Avenue	11"x17"
Figure S-09	2015 Staging- Stage 5 St. James Street & Ellice Avenue	11"x17"

E2. PROVISIONAL ITEMS

E2.1 The Provisional Items listed in the Schedule of Prices are part of the Contract.

E2.2 The Contractor shall not perform Work included in the Provisional Items without prior authorization from the Contract Administrator. All work included in the Provisional Items will be carried out within the construction areas shown on the Drawings.

E2.3 Notwithstanding C7, the City reserves the right to diminish all or any portion of the items of Work listed in the Provisional Items and no claim shall be made for damages on grounds of loss of anticipated profit or for any other reason.

E3. GEOTECHNICAL AND ENVIRONMENTAL REPORTS

E3.1 Further to C3.1, geotechnical and environmental reports are provided to aid the Contractor's evaluation of the existing conditions. The geotechnical and environmental reports are contained in Appendix 'A'.

E4. OFFICE FACILITIES

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

(a) The field office shall be for the exclusive use of the Contract Administrator.

(b) The building shall be conveniently located near the site of the Work.

(c) The building shall have a minimum floor area of 25 square metres, a height of 2.4 m 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^{o}C or 24-25^{o}C.

(e) The building shall be adequately lighted with fluorescent fixtures and have a minimum of three wall outlets.

(f) The building shall be furnished with one desk, one drafting table, table 3 m x 1.2 m, one stool, one four drawer legal filing cabinet, and a minimum of 12 chairs.

(g) A portable toilet shall be located near the field office building. The toilet shall have a locking door and be for the exclusive use of the Contract Administrator and other personnel from the City.

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

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

E4.3 The office facilities will be provided from the date of the commencement of the Work to the date of Total Performance.

E5. CONTRACTOR PARKING

E5.1 Parking of private work force vehicles within the work zone without prior written authorization from the Contract Administrator is prohibited. Requests to the Contract Administrator for private work force vehicle parking must include the reason for the request, the time frame of the request, description of any parking alternatives that were considered by the Contractor but not deemed feasible and a description of the specific location intended to accommodate the parking.

E6. PROTECTION OF EXISTING TREES

E6.1 The Contractor shall take the following precautionary steps to prevent damage from construction activities to existing boulevard trees within the limits of the construction area:

(a) The Contractor shall not stockpile materials and soil or park vehicles and equipment on boulevards within 2 metres of trees.

(b) Trees identified to be at risk by the Contract Administrator are to be strapped with 25 x 100 x 2400mm wood planks, or suitably protected as approved by the Contract Administrator.

(c) Excavation shall be performed in a manner that minimizes damage to the existing root systems. Where possible, excavation shall be carried out such that the edge of the excavation shall be a minimum of 1.5 times the diameter (measured in inches), with the outcome read in feet, from the closest edge of the trunk. Where roots must be cut to facilitate excavation, they shall be pruned neatly at the face of excavation.

(d) Operation of equipment within the dripline of the trees shall be kept to the minimum required to perform the work required. Equipment shall not be parked, repaired, refuelled; construction materials shall not be stored, and earth materials shall not be stockpiled within the driplines of trees. The dripline of a tree shall be considered to be the ground surface directly beneath the tips of its outermost branches. The Contractor shall ensure that the operations do not cause flooding or sediment deposition on areas where trees are located.

(e) Work on-site shall be carried out in such a manner so as to minimize damage to existing tree branches. Where damage to branches does occur, they shall be neatly pruned.

E6.2 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.

E6.3 No separate measurement or payment will be made for the protection of trees.

E6.4 Except as required in clause E6.1(c) and E6.1(e), Elm trees shall not be pruned at any time between April 1 and July 31.

E7. TRAFFIC CONTROL

E7.1 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 planing drop-offs to the satisfaction of the Contract Administrator. Payment shall be in accordance with CW3410.

(b) In accordance with the Manual of Temporary Traffic Control 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.

E8. TRAFFIC MANAGEMENT

E8.1 Further to clause 3.7 of CW 1130:

E8.1.1 Maintain a minimum of one lane of traffic in each direction on all streets within the Site at all times during construction;

E8.1.2 Left turns shall only be restricted as approved by the Contract Administrator. Wherever possible, additional lanes shall be provided for left turning vehicles.

E8.1.3 Intersecting street and private approach access shall be maintained at all times;

E8.1.4 Should the Contractor be unable to maintain pedestrian or vehicular access to a residence or business, he 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 72 hours notification to the affected residence or business and the Contract Administrator, prior to disruption of access; and

E8.1.5 Pedestrian, bus and ambulance/ emergency vehicle access must be maintained at all times.

E8.1.6 At the end of each construction season, the Contractor shall ensure that there will be no lane closures during the period when no Work is taking place.

E8.1.7 The Contractor shall refer to the traffic staging figures in Appendix 'D' for more traffic management details.

E9. REFUSE AND RECYCLING COLLECTION

E9.1 If access to refuse and/or recycling collection vehicles is restricted, on collection day(s) the Contractor shall move all of the affected property owners refuse and/or recycling materials to a nearby common area to permit the normal collection vehicles to collect the materials. Immediately following collection the Contractor shall return receptacles to the addresses marked on the receptacles.

E9.2 No measurement or payment will be made for the work associated with this specification.

E10. PEDESTRIAN SAFETY

E10.1 During the project, a temporary snow fence shall be installed adjacent to existing and temporary sidewalks as necessary to prevent access to the construction area. The Contractor shall be responsible for maintaining the snow fence in a proper working condition. No measurement for payment shall be made for this work.

E11. WATER OBTAINED FROM THE CITY

E11.1 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.

E12. SURFACE RESTORATIONS

E12.1 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.

E13. INFRASTRUCTURE SIGNS

E13.1 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.

E14. REMOVE AND SALVAGE EXISTING OVERHEAD SIGN STRUCTURE

DESCRIPTION

E14.1 This Specification shall cover the removal and salvaging of the existing overhead sign structure on St. James Street.

CONSTRUCTION METHODS

E14.2 Remove and Salvage Existing Overhead Sign Structure

E14.2.1 The Contractor shall submit a Removal Procedure Plan including details of traffic control to the Contract Administrator for review and approval. The Removal Procedure Plan shall be submitted at least five (5) days prior to starting his Work.

E14.2.2 The Contractor shall never lift an overhead sign structure or member over traffic.

E14.2.3 The structure has been de-energized. The Contractor shall use a digital multimeter to verify that the electrical power supply to the structure has been de-energized prior to removal of the structure.

E14.2.4 The Contractor shall remove the existing sign support carefully without damaging the existing anchor bolts or adjacent property.

E14.2.5 All structures including hardware shall be delivered to the City of Winnipeg Bridge Storage Yard at 960 Thomas Avenue, Winnipeg, Manitoba. At the storage yard, the Contractor shall off-load the salvaged material with his own labour and equipment and place in the

designated location indicated by the City Bridge Inspectors and as directed by the Contract Administrator.

E14.2.6 The Contractor shall contact Mike Terleski (ph. (204) 794-8510) at the City of Winnipeg Bridge Operations to arrange for delivery.

E14.2.7 Any damage to the structure or hardware that has not been identified prior to removal will be repaired or replaced by the City at the Contractor's expense

MEASUREMENT AND PAYMENT

E14.3 Remove and Salvage Existing Overhead Sign Structure

E14.3.1 Removal and salvage of existing overhead sign structures will be measured on an unit basis and paid for at the Contract Unit Price for "Remove and Salvage Existing Overhead Sign Structure". The number to be paid for will be the total number of structures removed, salvaged, delivered and unloaded in accordance with this Specification, accepted and measured by the Contract Administrator.

E15. TREE REMOVAL

DESCRIPTION

E15.1 This Specification shall cover the removal of trees designated for removal by the Contract Administrator.

CONSTRUCTION METHODS

E15.2 Tree Removal

E15.2.1 Before commencement of any work, the Contractor shall consult with the Contract Administrator as to which trees and/ or shrubs shall be removed. All other trees and shrubs shall be protected against damage from all construction activity in accordance with E6. Protection of Existing Trees.

E15.2.2 Trees to be removed are to be felled so as to land within the limits of the works. The Contractor shall take all precautions to prevent damage to traffic, structures, pole lines, adjacent property and to trees and shrubs designated to be saved, and he shall be liable for any damages occurring in the performance of this work.

E15.2.3 The Contractor shall cut down all trees and shrubs designated for removal and grub out all stumps and roots. The Contractor shall load and haul all trees, stumps, roots, logs, brush, rubbish and all other surface litter from the site and dispose of these materials at dumps located by the Contractor and approved by the Contract Administrator.

MEASUREMENT AND PAYMENT

E15.3 Tree Removal

E15.3.1 Measurement for payment shall be based on the Diameter at Breast Height (D.B.H.) measured at 145 cm above ground level on trees with single trunks. On trees with double or multiple trunks the following rules shall apply:

(a) Where a single diameter measurement is possible above ground, the measurement will be made at a point just below the junction of the trunks where the total tree diameter is not influenced by the junction or the basal flare;

(b) Where a single diameter measurement above ground is not possible, then the total tree diameter will be based on the D.B.H. (measured at 145 cm above ground level) of the largest trunk plus ½ the D.B.H. of each subsequent trunks;

(c) Situations regarding the measurement of any tree not falling into one of the above categories must be referred to the Contract Administrator immediately for a decision prior to removal

E15.3.2 Removal of Trees will be paid for at the Contract Unit Price for the "Items of Work" listed here below, measured as specified herein, which price shall be payment in full for removing and disposing all tree materials and for completing all operations herein described and all other items incidental to the work included in this Specification.

Items of Work:

(a) Tree Removal
  (i) 0 to 10 cm diameter
  (ii) 11 to 30 cm diameter
  (iii) Over 30 cm diameter

E16. INSTALLATION OF INTERLOCKING PAVING STONES

DESCRIPTION

E16.1 General

E16.1.1 This specification shall cover the installation of interlocking paving stones on concrete sidewalk and lean concrete base.

E16.1.2 Referenced Standard Construction Specifications

(a) CW 3325 – Portland Cement Concrete Sidewalk

(b) CW 3335 – Installation of Interlocking Paving Stones on a Lean Concrete Base

MATERIALS

E16.2 Interlocking Paving Stones

E16.2.1 Paving stones in median areas shall be Barkman Concrete Holland Stone Pavers (100 x 200). All pavers to be “Charcoal” in colour.

E16.2.2 Paving stones for sidewalk bands shall be Barkman Concrete Holland Stone Pavers (200 x 200). All pavers to be “Charcoal” in colour.

E16.2.3 Median areas shall be installed with Pattern #1 (45^{o} herringbone pattern) with Border #1.

E16.2.4 Paving stones shall conform to the requirements of CAN3-A231.2, Precast Concrete Pavers.

E16.2.5 Further to CAN3-A231.2.6.1.1, where concrete pavers are shipped for installation before the pavers are twenty-eight (28) days old, the average compressive strength of these pavers at the time of delivery to the work site shall be not less than 40 MPa.

E16.3 Other Materials

E16.3.1 Bedding sand shall be in accordance with CW 3335.

E16.3.2 Concrete sidewalk base to be in accordance with CW 3325.

CONSTRUCTION METHOD

E16.4 Installation of Paving Stones

E16.4.1 Sidewalk bands shall be installed on a 100 mm concrete sidewalk base which shall be constructed in accordance with CW 3325.

E16.4.2 Median areas shall be installed on lean concrete base in accordance with CW 3335.

E16.4.3 Install paving stones on concrete sidewalk with bedding sand in accordance with the Drawings and CW 3335.

MEASUREMENT OF PAYMENT

E16.5 Supply and Installation of Paving Stones

E16.5.1 Supply and installation of interlocking paving stones shall be measured on an area basis. The amount to be paid for shall be the total number of square metres of paving stones supplied and installed in accordance with this Specification and the Drawings and accepted by the Contract Administrator. Supply and Installation of Paving Stones shall be paid for at the Contract Unit Price for "Interlocking Paving Stones", which price shall be payment in full for the supply of all materials and for performing all operations required to complete the work as specified.

E16.5.2 No measurement or payment will be made for bedding sand. Bedding sand shall be included in the price paid for "Interlocking Paving Stones".

E16.6 100 mm Concrete Sidewalk Base

E16.6.1 Supply and installation of 100 mm concrete sidewalk base shall be measured and paid fore in accordance with CW 3325.

E16.7 Lean Concrete Base

E16.7.1 Supply and installation of lean concrete base shall be measured and paid for in accordance with CW 3335.

E17. WOOD FENCE REMOVAL

DESCRIPTION

E17.1 This Specification shall cover the removal of wood fences designated for removal by the Contract Administrator.

CONSTRUCTION METHODS

E17.2 Wood Fence Removal

E17.2.1 Before commencement of any work, the Contractor shall consult with the Contract Administrator as to which fences shall be removed.

E17.2.2 The Contractor shall remove all wood fences and posts designated for removal including any concrete bases to 1 metre below proposed grade. The Contractor shall load and haul all materials from the site and dispose of these materials at dumps located by the Contractor and approved by the Contract Administrator.

MEASUREMENT AND PAYMENT

E17.3 Wood Fence Removal

E17.3.1 Removal of wood fences will be measured on a length basis and paid for at the Contract Unit Price per metre for "Wood Fence Removal". The length to be paid for will be the total number of meters of wood fence removed and disposed of in accordance with this Specification, accepted and measured by the Contract Administrator.

E17.3.2 No separate measurement or payment shall be made for the removal and disposal of wood fence posts or concrete bases.

E18. REMOVAL OF BOLLARDS

DESCRIPTION

E18.1 This Specification shall cover the removal of bollards designated for removal by the Contract Administrator.

CONSTRUCTION METHODS

E18.2 Removal of Bollards

E18.2.1 Before commencement of any work, the Contractor shall consult with the Contract Administrator as to which bollards shall be removed.

E18.2.2 The Contractor shall remove all bollards designated for removal including any concrete bases to 1 metre below proposed grade. The Contractor shall load and haul all materials from the site and dispose of these materials at dumps located by the Contractor and approved by the Contract Administrator.

MEASUREMENT AND PAYMENT

E18.3 Removal of Bollards

E18.3.1 Removal of bollards will be measured on a unit basis and paid for at the Contract Unit Price for “Removal of Bollards”. The number to be paid for will be the total number of bollards removed and disposed of in accordance with this Specification, accepted and measured by the Contract Administrator.

E18.3.2 No separate measurement or payment shall be made for the removal and disposal of any concrete bases.

E19. HYDRO-EXCAVATION

DESCRIPTION

E19.1 This Specification shall cover the removal of earthen material immediately adjacent to underground utilities infrastructure by means of high pressure water spray, and the recovery of excavated material by vacuum type means or equivalent method as approved by the Contract Administrator.

EQUIPMENT

E19.2 Hydro-Excavation equipment shall be capable of maintaining a minimum working pressure of 10,000 psi, at a rate of flow of 10 to 12 gallons per minute. The unit should be adjustable, so as to provide adequate pressure to remove earthen material identified by the Contract Administrator.

E19.3 Spray head shall be equipped with a rotating type nozzle, in order to provide a wider path of cut.

CONSTRUCTION METHODS

E19.4 Hydro-Removal of Earthen Material

E19.4.1 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.

E19.5 Recovery of Excavated Material

E19.5.1 The recovery of excavated material shall be done using a vacuum type method, or other type method as approved by the Contract Administrator.

E19.5.2 The recovery of material shall follow immediately behind the excavation, to avoid excavated areas from filing with excavated material.

E19.5.3 The use of mechanical sweepers will not be allowed.

E19.5.4 Dispose of material in accordance with Section 3.4 or CW 1130-R1.

MEASUREMENT AND PAYMENT

E19.6 Hydro-Excavation

E19.6.1 Hydro-Excavation of earthen material and its recovery and disposal will not be measured and payment shall be considered incidental to "Excavation".

E20. CONCRETE WORKS

DESCRIPTION

E20.1 This Specification shall supplement and amend CW 3310-R15 – "Portland Cement Concrete Pavement Works".

CONSTRUCTION METHODS

E20.2 230 mm Plain-Dowelled Concrete

E20.2.1 The Contractor shall utilize slip-form paving methods wherever possible, as determined by the Contract Administrator.

E20.3 Concrete Barrier Curb

E20.3.1 The Contractor shall pour concrete barrier curb integrally with 230 mm plain-dowelled concrete pavement wherever possible, as determined by the Contract Administrator.

MEASUREMENT AND PAYMENT

E20.4 230 mm Plain-Dowelled Concrete

E20.4.1 There shall be no separate measurement of slip formed and non-slip formed concrete pavement. Payment for both shall be included in the price paid for "Construction of 230 mm Concrete Pavement (Plain-Dowelled)".

E20.5 Concrete Barrier Curb

E20.5.1 Measurement and payment for integral concrete barrier curb will be in accordance with CW 3310-R15.

E21. LARGER DIAMETER WATERMAIN FITTINGS

E21.1 AWWA C905 PVC watermain fittings will be considered an approved equal as defined in B6.7 and may be used instead of AWWA C110 main line iron fittings.

E22. VALVE PIT ABANDONMENT

E22.1 Description

E22.1.1 This Specification shall cover the abandonment of existing cast-in-place, reinforced concrete valve pits.

E22.2 Construction Methods

E22.2.1 Remove existing manhole frames and covers, valve box casings and risers to determine if they are salvageable.

E22.2.2 Demolish pit walls and floor to a minimum of 1500 millimetres below grade or as required for the new watermain and valve installation.

E22.2.3 Prepare foundation and bedding for watermain installation and install watermain and valve in accordance with CW 2030 and CW 2110.

E22.2.4 Fill remaining pit and excavation with Class 3 Backfill in accordance with CW 2030.

E22.2.5 Load and deliver all valves and other material determined to be salvageable by the Contract Administrator, to the City of Winnipeg Plinquet Yard and unload the valves and other material at the yard as directed by City personnel.

E22.3 Measurement and Payment

E22.3.1 Abandonment of existing valve pits shall be measured on a unit basis and paid for at the Contract Unit Price for "Abandonment of Existing Valve Pits". The number units to be paid for will be the total number of valve pits abandoned and backfilled in accordance with this specification, accepted and measured by the Contract Administrator.

E23. BOARD INSULATION

E23.1 Description

E23.1.1 This specification shall cover the installation of board insulation, in addition to CW 2110 Section 3.12 and SD-018.

E23.2 Materials

E23.2.1 Moisture resistant closed cell extruded polystyrene insulation board designed for direct burial underground.

(a) Total insulation thickness as specified on drawings.

(b) Minimum compressive strength 690 kPa (100 psi) to ASTM D1621.

E23.2.2 Adhesive (for polystyrene insulation): to CGSB 71-GP-24.

(a) Type: One part Polyurethane.

(b) VOC emission: 0.

E23.3 Construction Methods

E23.3.1 Supply and install rigid insulation at locations identified on the Drawings or where directed by the Contract Administrator. Construct as noted on Detail Drawings.

E23.3.2 Insulation to be installed in an inverted U fashion in accordance with SD-018 as follows:

(a) Maintain a minimum width of 1200 mm for horizontal insulation.

(b) Minimum of 300 mm well packed specified fill between top of the pipe and bottom of horizontal insulation.

(c) Vertical insulation on either side must extend a minimum of 150 mm below bottom of pipe. Hand pack specified fill material on either side of vertical insulation sections to ensure no warping or misalignment of vertical insulation sections.

(d) Apply horizontal section after Contract Administrator has inspected and approved installation of vertical insulation legs.

E23.3.3 Horizontal insulation under roadway excavation or below the bottom of catchbasins overcrossing pipes in accordance with SD-018 and installed as follows:

(a) Place and compact the bedding material to provide a minimum 300 mm cover over the pipe.

(b) Place two layers of insulation to attain a thickness of 100 mm for the full trench width. Stagger joints.

(c) Place 150 mm of sand over the insulation and a minimum of 200 mm hand placed and compacted backfill prior to final backfill or installation of catch basin.

E23.3.4 Manhole or Catchbasin sidewall insulation

(a) Install insulation board on exterior of manhole or catchbasin structures with adhesive, extending to depth indicated below finished grade as indicated on drawings.

E23.3.5 Governed by the compaction equipment to be used, ensure that there is adequate cover on the insulation to prevent damage during compaction or subsequent construction operations.

E23.4 Measurement and Payment

(a) Pipe or pipe trench insulation installed in an inverted U configuration or in a wide horizontal configuration will be measured on an area basis based on the plan view area in square metres. The vertical sides of inverted U insulation will not be measured. Construction of insulation will be paid for at the Contract Unit Price for "Board Insulation".

(b) Manhole or catchbasin sidewall insulation will be measured on a unit basis for each manhole or catchbasin insulated. Construction of manhole or catchbasin sidewall insulation will be paid for at the Contract Unit Price for "Manhole or Catchbasin Insulation".

E24. EXCAVATION, BEDDING AND BACKFILL

E24.1 Description

E24.1.1 This specification supplements CW 2030.

E24.2 Construction Method

E24.2.1 Disposal of Unsuitable or Surplus Excavated Material

(a) The Contractor is responsible for arranging for a disposal site for all excavated material, including all associated works including transportation and payment of tipping fees. Disposal of all excavated material shall be considered incidental to the Works.

E24.2.2 Foundation and Bedding

(a) Class A Bedding shall be used in all shafts with concrete sewer pipe with Type 3 material for remainder of initial backfill.

(b) Class B Bedding with Type 3 material shall be used in all shafts with PVC sewer or watermain pipe.

E24.2.3 Backfilling

(a) Backfilling of all excavations below pavements, sidewalks or proposed pavements shall be granular backfill and placed in lifts not exceeding 500 mm. Compaction methods shall remove all voids from the backfill and shall be approved by the Contract Administrator.

E24.2.4 Temporary Surface Restorations

(a) Undertake temporary surface restorations as described in E12 and E31.

(b) The Contractor shall have personnel available for immediate repairs of settlement at shaft locations from the start of construction until final restoration is complete.

E24.2.5 Final surface restoration shall be as follows:

(a) The excavation shall be jetted and tamped twice, as per CW 2030.

(b) After the second jetting operation is completed, the excavation is to be subcut to 1.5 m below top of existing pavement and recompacted in 300 mm lifts to the subgrade level using vibratory compaction methods in accordance with CW 2030 Class 2 Backfill.

(c) Complete permanent or short term pavement restoration as described in E31.

(d) Boulevard restoration shall be completed in accordance with CW 3510.

E24.3 Measurement and Payment

E24.3.1 Further to CW 2130, all costs associated with excavation, disposal of excavated material including all associated works including transportation and payment of tipping fees, and backfilling and shall be included in the cost of sewer or watermain construction.

E25. MAINTAINING SEWER FLOW

E25.1 Description

E25.1.1 Portions of the land drainage sewer will be completed prior to the completion of the outfalls to Omand's Creek due to the restriction of in channel construction activity for fish passage. Temporary bypass pumping shall be required to drain the new land drainage sewer until the outfalls are completed.

E25.1.2 It is not the intent to complete new roadway catchbasin connections to the new land drainage sewer until the roadworks are underway. However, many of the private land drainage will be reconnected to the new land drainage system. Drainage from these lands and from other sources such as watermain breaks, groundwater infiltration or other construction activities would contribute flow to the new land drainage sewer.

E25.1.3 Even during the winter months land drainage and storm relief sewers can receive flow of an undetermined amount from groundwater infiltration, watermain breaks, snow melt and other unforeseen sources.

E25.2 Construction Methods

E25.2.1 Provide flow control measures to contend with and maintain flow in the new land drainage sewers where outfalls have not been constructed.

E25.2.2 Flow control measures shall include but not be limited to diversions, flumes and bypass pumping. Limited flow diversion back to the combined sewer may be possible, but would require review with the City of Winnipeg at each location proposed and would require limiting the flow so as not to exceed specified flow limits.

E25.2.3 Discharge hoses for by-pass pumping shall not be laid across vehicle or pedestrian traffic areas and must be protected from freezing during winter months. Pumping equipment if used shall be set-up in a location and in such a way to not be a noise problem for nearby residences.

E25.2.4 In the event the creek level becomes higher than the construction site, the Contract Administrator may suspend work activities that require temporary bypass pumping and temporary shutdown of the site. Suspension of these activities will continue until the river level drops below the construction site.

E25.2.5 If in the opinion of the Contract Administrator suspension of work activities that require temporary bypass pumping and temporary shutdown of the site may cause a delay in completion of the Work through no fault of the Contractor, the completion date of the Work will be adjusted accordingly.

E25.3 Measurement and Payment

E25.3.1 Maintaining Existing Sewer Flows, Flow Control, Diversions and Bypass Pumping required to complete the Works in the Contract shall be incidental to the Contract as per Clause 4.16.1 of CW 2130.

E26. EXPLORATION OF EXISTING SERVICES

E26.1 Description

E26.1.1 The depth, size and pipe material of many sewer and water services is unknown, and an exploration program at the commencement of construction is required to locate these services.

E26.2 Construction Methods

E26.2.1 The Contractor shall perform exploratory investigations excavations by soft dig methods or by pipe tracing methods to locate existing sewer and water services at locations specified by the Contract Administrator.

E26.2.2 The exploration shall be done following all utility location surveys and prior to the installation of new sewers and watermains. The location information obtained will help determine if an alternate vertical or horizontal alignment of the proposed sewers or watermains may be beneficial to minimize conflicts with the existing services, and if the proposed sewers will properly drain the existing sewer services.

E26.2.3 The Contractor is advised not to pre-order manhole risers until the exploration program is completed and the benefit of modifying the sewer and manhole depths has been assessed.

E26.3 Measurement and Payment

E26.3.1 Exploration of existing services by soft dig method will be measured on a unit basis of each service excavated by soft dig method and paid for at the Contract Unit Price for "Exploration of Existing Services". The number of units paid for will the total number of services excavated by soft dig method in accordance with this specification and accepted and measured by the Contract Administrator.

E26.3.2 It is the intent to perform multiple explorations per session to minimize the number of times a soft dig or pipe location subcontractor must be mobilized to site.

E27. TRENCHLESS EXCAVATION

E27.1 Description

E27.1.1 Further to Clause 3.4.1 of CW 2130, all sewers and watermains shall be installed by trenchless methods.

E27.2 Construction Methods

E27.2.1 Selection of techniques and equipment for installation of sewer and watermains by trenchless methods shall be the responsibility of the Contractor and shall be made based on expected soil conditions as detailed on the test hole logs. The Contractor shall make allowances in the choice of equipment to account for reasonable and minor deviations in ground conditions and shall have contingency plans for the removal of boulders and other minor changes in ground conditions.

E27.2.2 Suggested locations and conceptual sizes for larger shafts for sewer installation by tunnel boring methods have been indicated on the drawings. This is provided as an indication of the designers preferred location if this type of installation were to be used, and is not intended to infer that coring or other trenchless methods are not to be considered.

E27.2.3 In the event that there is a substantial change in the character or nature of the subsurface conditions or that obstructions are encountered, which adversely impact the Contractor's production or construction procedure, the Contractor shall immediately notify the Contract Administrator.

(a) The notice shall provide details of the change in subsurface soil conditions or obstructions encountered, any proposed construction procedure revision that the Contractor intends to undertake, as well as any other relevant supporting information.

(b) The Contract Administrator shall review the notice as expeditiously as possible to assess whether the change in conditions and revised construction procedures amount to a Change in Work.

E28. TRENCHLESS EXCAVATION OBSTRUCTIONS

E28.1 Description

E28.1.1 Contingency plans for removal of the obstructions encountered in trenchless excavations must be approved by the Contract Administrator and may consist of but not limited to one of the following:

(a) Drill or excavate a shaft at the location of the obstruction and remove the obstruction.

(b) Remove the obstruction through the jacking head or core hole following drilling, splitting or breaking the obstruction into smaller components as required.

(c) Other removal methods.

E28.2 Measurement and Payment

E28.2.1 Where the Contract Administrator deems that the obstruction encountered represents a Change in Work, it shall be valued in accordance with C7.4 (c) and the following supplemental requirements:

(a) The first four (4) hours of handling obstructions for each occurrence shall be the responsibility of the Contractor.

(b) Equipment rates for equipment required in support of the obstruction removal shall be compensated at the MHCA rental rates. Equipment not listed in the MHCA rate schedule shall have their rates established by the Contractor prior to the commencement of Work in accordance with the procedure documented in the MHCA rental guide for establishing equipment rental rates and shall be subject to the approval of the Contract Administrator.

(c) Standby equipment that cannot reasonably be deployed elsewhere during the duration of the obstruction removal shall be compensated at 50% of its established rate as noted above.

(d) Labour rates and material costs associated with obstruction removal shall be compensated as per C7.4 (c) and C7.4.1 with the provision that any removal and replacement of pavements shall be compensated at the Contract Unit Price for such Work.

E28.2.2 An estimated allowance for Trenchless Excavation Obstructions has been provided on Form B: Prices (Provisional Items) as a contract contingency. The actual amount to be paid will be determined in accordance with E28.2.1 and may be more or less than the estimated allowance.

E29. VIDEO INSPECTION OF COMBINED SEWERS

E29.1 Further to CW 2130, Clause 3.19 no payment shall be made for CCTV video inspection of combined sewer following catchbasin lead or sewer service abandonment.

E30. ST. JAMES STREET STORM RELIEF SEWER ABANDONMENT

E30.1 Description

E30.1.1 This specification describes the staging of the abandonment of the existing Storm Relief Sewer (SRS) on St. James Street north of St. Matthews Avenue. The St. Matthews Avenue SRS will be replaced by a land drainage sewer in 2014, but a portion of the St. Matthews SRS drains south to St. Matthews Avenue and must remain in service until 2015 until it is abandoned.

E30.2 Construction Methods

E30.2.1 Stage 1 (2014)

(a) Excavate an access point to the SRS near Station 1+207 St. James Street.

(b) Break into the 300 SRS at this location and install 150mm PVC vertical junction tee on north side of the break-in location. Construct a concrete plug on the north side of the break-in, ensuring that the 150mm tee is not obstructed.

(c) Abandon the SRS south of break-in location by filling with flowable fill in accordance with CW 2130.

(d) Install a vertical 150mm DR35 PVC pipe to 300mm below ground level complete with friction fit clean out cap. This pipe will act as an air vent when abandoning the north portion of the SRS in 2015. Backfill the excavation with Class 2 backfill and cover the clean out cap.

E30.2.2 Stage 2 (2015)

(a) Excavate and expose the clean out cap on the 150mm vent pipe.

(b) Abandon the SRS north by filling with flowable fill from manhole at Station 1+297 St. James Street in accordance with CW 2130.

E30.3 Measurement and Payment

E30.3.1 Abandonment of existing sewers 300mm and larger shall be measured on a volume basis and paid for In accordance with CW 2130 Section 4.14 at the Contract Unit Price for "Abandoning Existing Sewers With Cement-Stabilized Flowable Fill".

E30.3.2 Installation of the temporary vent pipe shall be measured on a unit basis for all works required including excavation, breaking into the 300 SRS, installing the tee and vent pipe and backfilling, and shall be paid for at the Contract Unit Price for "Construct 150mm Vent Pipe for Sewer Abandonment" completed in accordance with this specification, accepted and measured by the Contract Administrator.

E31. PAVEMENT RESTORATIONS FOLLOWING UNDERGROUND WORKS

E31.1 Description

E31.1.1 Pavement restoration following the installation of new sewers, watermains or services will depend upon different circumstances, including:

(a) The pavement is being reconstructed immediately following underground construction, or

(b) The pavement reconstruction is being deferred to the following year due to project phasing (or weather), or

(c) The area is outside of the project limits for pavement reconstruction.

E31.1.2 If the weather will not permit final road pavement restorations to be completed in a timely manner after the underground work, temporary surface restorations for shafts or excavations within the pavement shall be made by installing Temporary Pavement Restorations until such a time as final restorations are complete.

E31.2 Construction Methods

E31.2.1 Pavement Restorations shall conform to CW 2030 and CW 3230.

E31.2.2 Pavement restoration in areas where the pavement is being reconstructed following sewer or watermain construction shall be as follows:

(a) Following flood tamping operations, fill the excavation to match the top surface of the existing ground or pavement with sacrificial granular material to minimize ponding and avoid leaving a hazardous surface.

(b) Pavement restoration will be done as part of other stages of the project.

E31.2.3 Temporary pavement restoration in areas where pavement reconstruction will be deferred to the following year due to project phasing shall be as follows:

(a) Complete flood tamping operations. If flood tamping cannot be completed due to weather, constructed a 1000 mm thickness of cement stabilized fill to CW 2160 as a temporary pavement underlay.

(b) On streets and approaches within the public right of way, construct sacrificial concrete pavement consisting of 150 mm thick non-reinforced 20 MPa concrete in general conformance with CW 3230.

(c) On private asphalt parking lots and pavements, construct permanent or temporary asphalt pavement consisting of 300 mm of compacted crushed granular material,100 mm of hot mix asphalt or thickness matching the existing pavement thickness, and matching the existing pavement grade. Cold mix asphalt may be substituted if hot mix is not available due to seasonal plant closure. Temporary patches are only to be used where the pavement will be removed in 2015.

(d) All temporary pavement restorations must be completed and continuously maintained until final surface restoration can be completed.

(e) Any temporary concrete or cement stabilized fill placed during winter construction shall be completely removed and the remaining backfill shall be flooded, tamped and topped up prior to performing permanent pavement restorations.

(f) Any temporary concrete or cement stabilized fill placed during 2014 that are within the limits of 2015 pavement shall be completely removed and the remaining backfill shall be flooded, tamped and topped up prior to performing permanent pavement restorations.

E31.2.4 Pavement restoration in areas beyond the pavement reconstruction limits of this project shall be as follows:

(a) Complete flood tamping operations.

(b) Pavement shall restored to match existing pavement in accordance with CW 3310 or CW 3410, depending on type of existing pavement surface and in accordance with the street cut permit, if applicable.

(c) Pavement restoration complete with drilled dowels and tie bars shall be done in accordance with CW 3230.

E31.2.5 All concrete used for final and temporary pavement restoration specified as ‘Early Opening Pavement Restoration’ shall have a minimum compressive strength of 20 MPa 24 hours after placement.

E31.2.6 Permanent pavement repairs shall include the replacement of adjoining barrier curbs and sidewalks as required.

E31.2.7 The Contractor shall have personnel available for immediate repairs of settlement at shaft locations or excavations until final restoration is complete.

E31.3 Measurement and Payment

E31.3.1 Cement Stabilized Backfill used for sacrificial pavement underlay shall be measured on a cubic metre basis as computed from measurements made by the Contract Administrator. Cement Stabilized Backfill will be paid for at the Contract Unit Price for “Cement Stabilized Backfill Material”, which price will be payment in full for performing all operations herein described including supply, placement and removal when undertaking permanent pavement repairs and all other items incidental to the Work included in this Specification.

E31.3.2 Construction of sacrificial concrete pavement shall be measured on a square metre basis as computed from measurements made by the Contract Administrator. Sacrificial concrete pavement will be paid for at the Contract Unit Price for "150mm Sacrificial Concrete Pavement", which price will be payment in full for performing all operations herein described including supply, placement and removal when undertaking permanent pavement repairs and all other items incidental to the Work included in this Specification.

E31.3.3 Construction of temporary asphalt patches complete with granular base shall be measured on a square metre basis as computed from measurements made by the Contract Administrator. Temporary asphalt patches will be paid for at the Contract Unit Price for "Construction of Asphalt Patches", which price will be payment in full for performing all operations herein described including supply, placement and removal when undertaking permanent pavement repairs and all other items incidental to the Work included in this Specification.

E31.3.4 Permanent concrete pavement repairs including saw cutting, subgrade compaction, sub-base and base course and drilled tie bars will be measured on a square metre basis for each thickness of concrete pavement acceptable to the Contract Administrator as computed from measurements made by the Contract Administrator. Permanent concrete pavement repairs will be paid for at the Contract Unit Price for "Concrete Pavement Repairs" for each thickness of pavement constructed and measured as described above.

E31.3.5 Permanent asphalt pavement repairs including saw cutting, subgrade compaction, sub-base and base course, and paving will be measured on a square metre basis for each thickness of asphalt pavement acceptable to the Contract Administrator as computed from measurements made by the Contract Administrator. Permanent asphalt pavement repairs will be paid for at the Contract Unit Price for "Construction of Asphalt Patches" for each thickness of pavement constructed and measured as described above.

E31.3.6 Repair of sidewalks will be measured on a square metre basis for concrete sidewalk including sub-base and base course computed from measurements made by the Contract Administrator. Sidewalk repair works will be paid for at the Contract Unit Price for "Concrete Sidewalk", which price will be payment in full for performing all operations herein described and all other items incidental to the Work included in this Specification.

E31.3.7 Repair of barrier curbs will be measured on a lineal measure basis for concrete barrier curb as computed from measurements made by the Contract Administrator. Curb repair will be paid for at the Contract Unit Price for "Concrete Barrier Curb (Dowelled)", which price will be payment in full for performing all operations herein described and all other items incidental to the Work included in this Specification.

E32. PROTECTION OF WATERWAYS

E32.1 Description

E32.1.1 All work adjacent to or crossing waterways including creeks and ditches draining in waterways is regulated by Fisheries and Oceans Canada (DFO).

E32.1.2 Complete works in accordance with Fisheries and Oceans Canada "Measures to Avoid Causing Harm to Fish and Fish Habitat" available at: http://www.dfo-mpo.gc.ca/pnw-ppe/measures-mesures/index-eng.html.

E32.1.3 Works within 76 metres (250 feet) of the Omand's Creek riverbank are within the jurisdiction of the City of Winnipeg Waterway By-law. The Contract Administrator will apply for the required Waterway Permit for the project, with the City paying all permit application costs. The Contractor shall adhere to restrictions imposed by the permit.

E32.1.4 Under no circumstances will stockpiling of any material be permitted within 5 metres of the top of Omand's Creek riverbank.

E32.1.5 The creek is an agricultural drain under the maintenance of Manitoba Infrastructure and Transportation, Water Control System Management. The Contract Administrator will apply

for the required Waterway Permit for the project, with the City paying all permit application costs. The Contractor shall adhere to restrictions imposed by the permit.

E32.2 Construction Methods

E32.2.1 General

(a) Complete erosion control works to be in accordance with current Fisheries and Oceans Canada and Manitoba Environment guidelines.

(b) The following mitigation measures must be adhered to protect fish habitat:

(i) No in-channel construction activity shall be permitted during the time period of April 1 – June 15.

(ii) Use sediment and erosion control measures to prevent soil laden run off and silt from affecting downstream areas of the watercourse. Halt construction during periods of heavy rain or run off.

(iii) Monitor the work site to evaluate the effectiveness of erosion control measures and the physical stability of the creek bed and banks. Any problems are to be rectified immediately.

(iv) Conduct the cleaning, fuelling, and servicing of equipment a minimum of 100 m from any watercourse. Equipment operating near any watercourse should be free of external grease, oil, mud, or fluid leaks.

(v) Take necessary precautions to ensure deleterious substances, including silt, does not enter any watercourse. The deposit of deleterious substances into water frequented by fish is prohibited under the Fisheries Act.

(vi) Remove excess material from the excavation and place where it will not erode into any watercourse. Dispose all spoil materials above the high water mark and located such that they do no re-enter any watercourses.

(vii) Remove all dead vegetation, rubble, construction debris, and other materials from the creek area following the completion or works and prior to the restoration of vegetation.

E33. OMAND'S CREEK FLOW CONTROL

E33.1 Description

E33.1.1 This Specification shall cover the cofferdamming and diversion of Omand's Creek flow through the project area for the duration of the slope stabilization and outfall construction works.

E33.1.2 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.

E33.2 Materials

E33.2.1 The Contractor shall be responsible for the supply, safe storage and handling of all materials as set forth in this Specification. All materials shall be handled in a careful and workmanlike manner, to the satisfaction of the Contract Administrator.

E33.3 Construction Methods

E33.3.1 The Work shall include, but not necessarily be limited to:

(a) Design of the creek flow maintenance methods including the preparation and submission for review and approval by the Contract Administrator of a Creek Flow Maintenance Plan comprised of drawings and/or description of the maintenance methods.

(b) The Contractor shall construct a temporary cofferdam to provide a safe environment to carry out the Work associated with this project. Material for the cofferdam shall be

inspected and approved by the Contract Administrator before construction. Cofferdam materials shall be completely removed following construction.

(c) Maintenance of creek flows for the duration of construction.

(d) Removal of materials and/or equipment needed to maintain creek flows, at the end of their use.

E33.3.2 At least five (5) days prior to the commencement of any works in the creek or creek banks, the Contractor shall submit to the Contract Administrator for review and approval a Creek Flow Maintenance Plan showing how the Contractor will undertake works near the creek and maintain creek flow at the Site during construction. The Contractor's Creek Flow Maintenance Plan shall be designed to meet the following additional conditions and requirements:

(a) Plan showing proposed cofferdam location and limits must be indicated. Cofferdams construction should be limited to one side of the creek at a time to maintain an open channel for flow at all times.

(b) Cofferdams shall be constructed of non-erodible material such as sandbags. Earthen berms shall not be used as cofferdams.

(c) Complete blockage of the creek by cofferdams is not anticipated so low flow culverts and bypass pumping should not be required.

(d) To minimize the upstream backwater impact of cofferdams, the top elevation of cofferdams or working pads should be limited to 1.5 m above the channel bottom (231.0 m at Ellice Ave. and 230.5 m at St. Matthews Ave.).

(e) Silt fence and other sediment control measures should be indicated.

(f) Between the dates of April 1 and June 15 of any given year, fish shall be afforded full access through the Site via a naturally flowing channel. In this time period, no construction activity impacting upon the creek affecting fish mobility or habitat will be permitted.

E33.3.3 Temporary silt fencing in compliance with the requirements of E37 or other sediment control works shall be installed and maintained along cofferdams for the duration of construction of slope stabilization and outfall construction works to prevent sediment and debris from entering the waterway.

E33.3.4 It is anticipated that the work of this Contract will take place during summer and the flow in the creek could be significant following rainstorms.

E33.3.5 The Omand's Creek flood flows near Ellice Avenue or St. Matthews Avenue are estimated to be 2.7 cms (2 year return) and 7.0 cms (5 year return). The depth of flow in Omand's Creek at these flows is 1.1 m (2 year) and 1.6 m (5 year) near Ellice Avenue and 0.8 m (2 year) and 1.1 m (5 year) near St. Matthews Avenue. These flows are far too large to effectively pump, and bypass pumping is not to be considered during the spring or early summer.

E33.3.6 In the event the creek level becomes higher than the construction site, the Contract Administrator may suspend work activities that require temporary bypass pumping and temporary shutdown of the site. Suspension of these activities will continue until the river level drops below the construction site.

E33.3.7 If in the opinion of the Contract Administrator suspension of work activities that require temporary bypass pumping and temporary shutdown of the site may cause a delay in completion of the Work through no fault of the Contractor, the completion date of the Work will be adjusted accordingly.

E33.3.8 Disturbed areas shall be restored with soil amendment and native grass seeding as described in E40 and E42. Erosion control blankets, as approved by the Contract Administrator, shall be used to control potential erosion of areas where vegetation has been damaged up to when vegetation can be re-established.

E33.4 Measurement and Payment

E33.4.1 The Creek flow maintenance near Ellice Avenue will be paid for on a Lump Sum basis, as accepted by the Contract Administrator, and no measurement will be made for this Work. Creek flow maintenance will be paid for at the Contract Lump Sum Price for "Creek Flow Maintenance – Ellice Avenue," which price will be payment in full for performing all operations herein described and all other items incidental to the Work included in this Specification.

E33.4.2 The Creek flow maintenance near St. Matthews will be paid for on a Lump Sum basis, as accepted by the Contract Administrator, and no measurement will be made for this Work. Creek flow maintenance will be paid for at the Contract Lump Sum Price for "Creek Flow Maintenance – St. Matthews Avenue" which price will be payment in full for performing all operations herein described and all other items incidental to the Work included in this Specification.

E34. OUTFALL WORKS

E34.1 Description

E34.1.1 This Specification describes the special requirements for outfall construction, and shall amend and supplement Standard Specifications CW 2130, CW 2610 and CW 3615.

E34.2 Materials

E34.2.1 Outfall Piping

(a) The following materials are specified for use as outfall piping. Locations are noted on the Construction Drawings. In addition to the requirements noted on the Drawing, the following is required:

(i) Corrugated Steel Pipe (CSP) to be Helically Corrugated Lockseam Pipe with Polymer protective film coating or approved equivalent in accordance with B6, with Diameter or cross-section, corrugation profile and wall thickness as specified on drawings. Step bevel end section to be shop constructed and to dimensions specified on drawings.

(ii) Coupling Systems for CSP to CSP connections to be Hugger Band type Couplers with Polymer protective film coating complete with O-ring Elastomeric or neoprene Gaskets, or approved equivalent in accordance with B6.

(iii) Touch-up sealant to recommended by supplier and compatible with pipe protective film coating.

E34.2.2 Bedding and Backfill Material for CSP

(a) A 300 mm thick layer of clean crushed limestone shall be installed beneath the CSP bedding to promote drainage of the riverbank in the vicinity of the pipe, conforming to Type 3 material from Table CW 2030.1.

(b) Bedding and backfill material for the CSP pipe surround shall be Class B bedding and pipe bedding and backfill with Type 3 material from Table CW 2030.1. The material shall not be frozen at the time of placement and compaction. The Contractor shall take such measures as are necessary to ensure embedment material is not placed in a frozen state.

(c) Trench backfill material above pipe surround shall be Class 4 compacted excavated material conforming to CW 2030 clause 3.8.

(d) Representative samples of all granular materials proposed for use for bedding and backfilling shall be submitted to the Contract Administrator for review as per Section 5.2 of CW 2030.

E34.2.3 Geotextile

(a) Geotextile shall be a non-woven geotextile fabric, meeting or exceeding the properties specified for Separation Geotextile Fabric of CW 3130 Section 2.5.

E34.2.4 Galvanized Primer

(a) Galvanized primer for repair of coating shall be zinc rich, ready mix to CGSB-1-GP-181M.

E34.2.5 Bar Screens and Slip Joints

(a) Shop drawings shall be submitted for outfall bar screens and slip joints, for installation at locations indicated on the drawings.

(b) Galvanizing shall be hot-dip conforming to requirements of CSA G164-N1981 to a minimum net retention of 600g/m2. All bolts and nuts shall be typical steel, conforming to ASTM A-320 Grade B8M. All welding shall be fully approved by the Canadian Welding Bureau in conformance with CSA Standard W47.1. Welding shall be done by currently licensed welders only. Welding splatter and other fabricator burrs, where exposed, shall be ground off and/or filed smooth, and left ready for subsequent operations. All miscellaneous metal, after fabrication, shall be hot-dip galvanized. No separate measurement will be made for hot-dip galvanizing.

E34.2.6 Concrete Transition Collar

(a) Concrete for the concrete transition collar shall be Type B concrete in accordance with Table CW2160.1 of CW 2160.

(b) Reinforcing steel shall conform to the requirements of CSA Standard G30.18, Grade 400W, Billet-Steel Bars for concrete reinforcement. All reinforcing steel shall be straight and free from paint, oil, mill-scale, and injurious defects. Surface seams or surface irregularities will not be cause for rejection, provided that the minimum dimensions, cross section area, and tensile properties of a hand wire-brushed specimen are not less than the requirements of CSA Standard G30.18. If, in the opinion of the Contract Administrator, any reinforcing steel provided for the concrete works exhibits flaws in manufacture or fabrication, such material shall be immediately removed from the Site and replaced with acceptable reinforcing steel.

(c) Bar accessories including bar chairs, spacers, clips, wire ties, wire (18 gauge minimum), or other similar devices shall be of a type approved by the Contract Administrator. They shall be made from a non-rusting material, and shall not stain, blemish, or spall the concreted surface for the life of the concrete.

E34.3 Construction Methods

E34.3.1 Shop Drawings

(a) The Contractor shall have a Shop Drawing submission prepared for the outfall pipe, slip joint and bar screen as per Clause 3 of CW 1100. The shop drawing submission shall be in sufficient detail to permit review of materials for compliance with this Specification and facilitate assembly in the field complete with connection details.

E34.3.2 Corrugated Steel Pipe (CSP)

(a) The CSP shall be installed as shown on the drawings and in accordance with CW 3610, and laid to the established line and grade.

E34.3.3 Bedding and Backfilling for CSP

(a) Construct the outfall underdrain layer and geotextile surround as indicated on drawings.

(b) Compact underdrain layer to 100% of Standard Proctor Maximum Dry Density.

(c) Bedding and backfill up to 300 mm above pipe crown to be hand tamped by mechanical means to a density sufficient to limit pipe deflection. Compaction to 95% of Standard Proctor Maximum Dry Density. Ensure that pipe bedding is tamped thoroughly in the haunch area.

(d) Backfill around pipe in maximum 300 mm lifts alternatively from side to side. At no time should the difference in backfill elevation on either side of the pipe be greater than 450 mm.

(e) The outfall piping may be braced internally in an approved manner to limit deflection during installation and backfilling. The struts must be removed subsequent to construction. If pipe deflects greater than 4% of internal diameter during construction or within the warranty period, the Contractor shall re-excavate to springline (or greater if required), re-establish sufficient side support and re-backfill as originally specified.

(f) Backfilling above 300 mm above the pipe shall be as per CW 2030 for Class 4 backfill. Contractor to ensure compaction equipment utilized is consistent with degree of compactive effort required and adequate protection against overloading pipe. Compact backfill over pipe perpendicular to trench. Any damage caused to the pipe as a result of construction operations will be rectified at the Contractor's expense. Only non-frozen material shall be used.

(g) The construction of clay plugs to isolate the pipe bedding from the riprap is not required for outfalls on this project.

E34.3.4 Geotextile Trench Wrap

(a) Install geotextile filter fabric to encase pipe surround above granular underdrain layer as indicated on the drawings. Install fabric between outer limits of excavation and granular bedding and backfill material. Ensure trench fully encased on top, bottom, sides, and at limits of excavation.

(b) Install long dimension of fabric perpendicular to trench overlapping joints a minimum of 600 mm.

(c) Place fabric such that the upstream or higher elevation layer overlaps the downstream or lower elevation layer.

E34.3.5 Concrete Connection Collar

(a) No “stay-in-place” formwork is permitted.

E34.4 Measurement and Payment

E34.4.1 Corrugated Steel Pipe shall be measured on a length basis, measured along the invert of the pipe from the specified connection point at the concrete transition collar chamber to the end of the step bevel section. Payment will be made at Contract Unit Price for "CSP" for each pipe diameter or cross-section and wall thickness indicated, and shall include the supply and installation of pipe couplers, excavation, bedding and backfill, underdrain layer, geotextile trench wrap, and associated works.

E34.4.2 Outfall Bar Screens shall be measured on a unit basis for each size and configuration of bar screen supplied and installed. Outfall bar screens shall be paid for at the Contract Unit Price per unit, measured as specified herein, which price shall be payment in full for supplying all materials and for performing all operations herein described and all other items incidental to the work included in this Specification.

E34.4.3 Outfall slip joints shall be measured on a unit basis for each size and configuration of slip joint supplied and installed. Supply and installation of outfall slip joints shall be paid for at the Contract Unit Price per unit, measured as specified herein, which price shall be payment in full for supplying all materials and for performing all operations herein described and all other items incidental to the work included in this Specification.

E34.4.4 Concrete transition collars between concrete pipe and corrugated steel pipe shall be measured on a unit basis for each size and configuration of collar constructed. Construction of concrete transition collars shall be paid for at the Contract Unit Price per unit, measured as specified herein, which price shall be payment in full for supplying all materials and for performing all operations herein described and all other items incidental to the work included in this Specification.

E35. CREEKBANK EXCAVATION

E35.1 Description

E35.1.1 This specification describes requirements for surface excavation near Omand's Creek including topsoil and vegetation removal, and shall amend and supplement CW 3170.

E35.2 Materials

E35.2.1 Excavation and Fill

(a) Suitable clean clay fill material shall be used for areas requiring fill.

(b) Surplus excavated material is required for capping of granular slope stabilization ribs and backfilling of outfall pipes. This material shall be stockpiled on site at a location away from the top of the Omand's Creek bank for later use on site.

E35.3 Construction Methods

E35.3.1 Excavation of the creek bank shall be to the lines and grades shown on the drawings or as required.

E35.3.2 Some vegetation and topsoil removal may be required to facilitate the Works. Existing vegetation shall not be removed without prior approval from the Contract Administrator. The Contractor shall load and haul any removed vegetation, and dispose of the material off site.

E35.3.3 Stockpiling will not be permitted near the top of the bank. Excavated material should be removed from the vicinity of the creek immediately upon excavation.

E35.3.4 Double handling of excavated material may be required due to the depth of excavation and height of the bank, and material should be transferred up the slope in an expeditious manner. No temporary material piles may remain on the slope for longer than one hour during the transferring process. The Contractor should pace the excavation to keep up with the removal from site.

E35.3.5 The contractor shall employ sediment control measures as outlined in E37 and E38 to control the release of sediment into the creek.

E35.3.6 Existing fieldstone riprap that will be impacted by construction and deemed suitable for reuse by the Contract Administrator shall be removed and stockpiled away from the creek.

E35.4 Measurement and Payment

E35.4.1 Stripping of topsoil and creek bank excavation shall not be measured or paid for directly, but shall be included in other construction works including the construction of granular ribs for slope stabilization, outfall installation, and rip rap construction.

E35.4.2 Excavation for the construction of granular ribs, disposal of excess soil, and placement, compaction and shaping of soil capping following granular rib construction will be measured and paid for as described in E36.

E35.4.3 Excavation for the construction of outfalls and riprap will not be measured or paid for directly, but shall be included in other construction works as described in E34 and E39.

E36. GRANULAR RIB CONSTRUCTION

E36.1 Description

E36.1.1 The Work covered under this item shall include all items relating to the construction of granular ribs on the west bank of Omand's Creek near the St. Matthews Avenue Outfall Location for slope stability.

E36.1.2 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 Work as hereinafter specified.

E36.2 Scope of Work

E36.2.1 The scope of this Work is not necessarily confined to the following, which is compiled as a general outline:

(a) Excavation.

(b) Supply and placement of all backfill materials.

(c) Compaction of backfill materials

E36.3 Materials

E36.3.1 General

(a) The Contractor shall be responsible for the supply, safe storage, and handling of all materials set forth in this Specification. All materials supplied under this Specification shall be subject to inspection and testing by the Contract Administrator. There shall be no charge to the City for any materials taken by the Contract Administrator for testing purposes.

(b) The Contractor shall supply all materials incidental to these Works. All materials must be on hand prior to commencement of the Work.

E36.3.2 Aggregate

(a) Rockfill for Granular Ribs

(i) Backfill for granular ribs shall consist of sound, dense, durable crushed limestone. The material shall be free from organics, roots, silt, sand, clay, snow, ice or any other deleterious material.

(ii) Backfill for granular ribs shall consist of 100 mm down in accordance with Table CW 3110.1 of CW 3110 with the following modifications:

- minimum bulk specific gravity of 2.6 (ASTM C127)
- maximum Los Angeles abrasion loss of 35% (ASTM C131)
- maximum soundness loss of 13% (ASTM C88)

E36.4 Construction Methods

E36.4.1 Working in Vicinity of Creek

(a) The Contractor shall construct a working pad and cofferdam in accordance with E33.

(b) No equipment may remain on the working pad overnight. No fuelling of equipment is permitted on the working pad. Lubrication will be permitted if the Contractor ensures that all lubrication equipment, containers and rags are promptly removed from the creek area.

(c) Excavations shall not remain open at the end of the workday.

E36.4.2 Compaction Testing Program

(a) The Contractor shall carry out a Compaction Testing Program to facilitate quality control during construction. This program shall be carried out to demonstrate that the means, methods and techniques of compaction proposed by the Contractor are consistent with achieving the degree of compaction specified.

(b) The Contractor shall provide all necessary labour, material and equipment necessary to carry out the compaction testing program. All testing shall be carried out in the presence of the Contract Administrator. Minimum requirements for the testing program will include:

(i) The southernmost granular rib shall be used as a test trench. Additional test trenches (if required) shall be located immediately adjacent to completed test trenches. The test trench shall be excavated to the lines and grades shown on the drawings and backfilled as noted herein.

(ii) Placement of the backfill material shall be in maximum lift thicknesses (prior to compaction) of 400 mm. If a direct-insertion vibratory probe will be used for compaction, the trench may be backfilled in full prior to compaction.

(iii) Compaction of the backfill in the manner proposed for construction to achieve a minimum 15% increase in density over uncompacted backfill. The degree of compaction will be determined by measurement of the volume of backfill material before and after compaction.

(iv) Such other testing as necessary to demonstrate that the Contractor's proposed means, method(s), techniques and equipment are consistent with achieving the specified degree of compaction during construction.

(c) As a result of the Compaction Testing Program, the Contractor must establish the following:

(i) the compaction equipment proposed for use

(ii) the protocol for operations

(iii) degree of compactive effort required

(d) No construction of granular ribs shall commence until the Contractor has demonstrated through the Compaction Testing Program that the proposed methods of compaction will meet the specified requirement for each portion of the works. Acceptance or approval of the Compaction Testing Program shall in no way relieve the Contractor from his contractual obligation of achieving the specified degree of compaction during construction.

E36.4.3 Granular Rib Construction

(a) The construction of granular ribs shall be a continuous operation completed one rib at a time. Commencement of excavation of a new rib shall only commence once backfilling and compaction of the previous rib is complete.

(b) The Contractor shall closely monitor his compaction operations during construction to ensure the compaction methods selected based on the Compaction Testing Program are consistently achieving the specified results.

(c) The Contractor shall advise the Contract Administrator of any modifications to his proposed methods that are required if the required degree of compaction is not being achieved.

E36.4.4 Excavation

(a) The excavation for each rib shall be to width and to limits and grades shown on the drawings. The excavation for sideslopes shall be cut as near vertical as possible. Any deleterious or sloughed material at the base of the excavation shall be removed prior to backfilling.

(b) The Contractor shall maintain a dry excavation and will be required to take the necessary corrective actions to prevent water from entering or accumulating in the excavation.

E36.4.5 Backfilling and Compaction

(a) Backfilling of each granular rib shall commence as soon as excavation to the required depth has been completed. Excavation of adjacent ribs will not be permitted until backfilling and compaction of granular material in the excavated rib is complete.

(b) Placement and compaction of the backfill shall proceed following the protocol determined in the Compaction Testing Program to achieve a minimum 15% increase in density over uncompacted backfill.

(c) Care shall be taken to prevent contamination of the crushed limestone backfill. Should contamination of the backfill occur, the affected backfill shall be removed and disposed as directed by the Contract Administrator.

E36.4.6 Soil Capping

(a) Each granular rib shall be covered with a 1.0 m thick layer of clay soil following completion of the granular work. This soil capping shall be constructed as Class 4 backfill in accordance with CW 2030, placed and compacted in maximum 600 mm thick lifts to minimum of 95% Standard Proctor Maximum Dry Density.

(b) Soil capping to be graded following completion of all granular ribs.

E36.5 Measurement and Payment

E36.5.1 Excavation and disposal of soil for granular rib construction will be measured on a volume basis. The volume to be paid for shall be the total number of cubic metres of excavation completed, measured from the ground surface at the time of the rib construction carried out in accordance with this Specification, acceptable to the Contract Administrator, as computed from measurements made by the Contract Administrator. Excavation and disposal of soil for granular rib construction will be paid for at the Contract Unit Price for "Excavation for Granular Rib", measured as specified herein, which price shall be payment in full for supplying all materials and performing all operations herein described, and all other items incidental to the Work included in this Specification.

E36.5.2 Measurement of crushed limestone backfill for granular rib construction will be made on a weight basis and paid for at the Contract Unit Price per tonne for "Granular Rib Construction". The weight to be paid for will be the total number of tonnes of granular rib backfill material supplied, placed and compacted in accordance with this specification, accepted by the Contract Administrator and as measured on a certified weigh scale. The Contractor shall provide the weigh tickets to the Contract Administrator for the material supplied to the Site at the time of delivery. No payment will be made for any weigh tickets that are not supplied at the time of delivery.

E36.5.3 The compaction testing program shall be incidental to granular rib construction. No separate measurement will be made for compaction of granular rib backfill. Backfill compaction shall be incidental to the cost of the contract.

E36.5.4 Rejected limestone fill will be measured on the same weight basis as limestone fill and deducted from the total limestone weight measured for payment.

E36.5.5 Construction of soil capping overtop of the granular ribs will not be measured. All costs associated with the soil capping is considered to be incidental to granular rib construction and shall be included in the Contract Unit Price for "Granular Rib Construction".

E37. SILT FENCE

E37.1 Description

E37.1.1 This specification covers the erection of temporary silt fencing, which shall be installed and maintained at the locations shown on the drawings (detail drawing is attached), to control runoff and minimize the release of detrimental silt loadings to watercourses. The scope of work included in this specification is as follows:

(a) Supply and Install temporary silt fencing at locations as indicated, in accordance with the detail drawing provided, prior to undertaking any other activities on the site where silt fencing is required.

(b) Maintain the silt fencing in serviceable condition throughout the entire duration of activities at the site where silt fencing is required, including final restoration and cleanup of the construction site.

(c) Remove the silt fencing and restore the area where the fencing was installed, without further disturbing the area and without releasing any deleterious substances to the adjacent watercourse.

E37.2 Materials

E37.2.1 Fence Posts

(a) Fence posts shall be 38x38 mm untreated wood posts, 41 mm steel Tee posts, or punched steel U posts, minimum length of 1.2 m or as specified on the drawings.

E37.2.2 Filter Fabric

(a) Filter Fabric Shall be a woven geotextile material specifically designed for a silt fence applications, meeting the following minimum requirements:

Property	Test Method	Value
Grab Tensile Strength	ASTM D4632	0.55 kN
Grab Tensile Elongation	ASTM D4632	15%
Mullen Burst	ASTM D3786	2060 kPa
Puncture	ASTM D4833	0.285 kN
Trapezoid Tear	ASTM D4533	0.285 kN
UV Resistance	ASTM D4355	80% @ 500 hrs
Apparent Opening Size (AOS)	ASTM D4751	0.60 mm
Flow Rate	ASTM D4491	405 l/min/m²

(b) The fabric shall be inert to commonly encountered soil chemicals, hydrocarbons, mildew and bacteria.

E37.2.3 Wire Mesh

(a) Wire mesh shall be galvanized or plain metal with 3.0 mm wire gauge and wire spacing @ 150 mm o/c.

E37.2.4 Fencing Material Fasteners

(a) Staples or wire ties of sufficient strength and spacing to withstand a 530N (120lbf) pull test at any point on the wire mesh.

E37.3 Construction Methods

E37.3.1 Ensure that no deleterious substances are discharged into the adjacent watercourse at any time during construction activities

E37.3.2 Silt Fence Installation

(a) Excavate 150 x 150 anchor trench along alignment of silt fence as indicated.

(b) Install fence posts as indicated. Ensure that fence posts are firmly driven into undisturbed soil, or are completely and firmly backfilled if installed via auger methods.

(c) Attach wire mesh as support backing for silt fence filter fabric with specified fasteners. Attach silt fence filter fabric on top of wire mesh in similar fashion. Overlap any fence seams (wire mesh or filter fabric) by 450 mm minimum. Ensure that wire mesh and filter fabric are installed on the upslope side of the post and are fully laid in anchor trench as shown.

(d) Install and compact impermeable excavated materials into anchor trench and slope as indicated. Compact to 95% of maximum dry density (ASTM D-698).

E37.3.3 Silt Fence Maintenance

(a) Inspect silt fence daily, prior to starting any other construction activities. If fence posts are found loose or not upright, repair in accordance with specified installation procedure. If silt fence is found to be loose or torn, repair or replace as necessary to comply with installation procedure.

(b) If silt deposition at the fence is 300 mm or more in depth, carefully remove and dispose of silt offsite without disturbing silt fence.

E37.3.4 Silt Fence Removal

(a) Remove silt fences following completion of all site construction activities (including final restoration and cleanup) and after installation of all permanent erosion control measures and satisfactory establishment of permanent vegetation.

(b) Restore areas disturbed, without releasing any deleterious substances to the adjacent watercourse.

E37.4 Measurement and Payment

E37.4.1 Silt fencing will be measured on a length basis, and paid for at the Contract Unit Price per lineal meter for "Supply, Install and Maintain Silt Fence". The length of silt fencing to be paid for will be the total length of silt fencing installed and maintained in accordance with this Specification as computed from measurements verified by the Contract Administrator. Payment for silt fencing shall be in accordance with the following schedule:

(a) Sixty percent (60%) of the quantity shall be paid following supply and installation.

(b) Forty percent (40%) shall be paid following final removal.

E37.4.2 Removal of accumulated sediment from the silt fence is considered incidental to the Work and no separate measurement or payment will be made.

E38. SEDIMENT CONTROL MEASURES

E38.1 Description

E38.1.1 This Specification covers the supply, implementation and maintenance of erosion control measures to control the release of sediments into the creek during and following construction.

E38.1.2 The work to be done under this Specification shall include the furnishing of all superintendence, overhead, labour, materials equipment, tools, supplies and all other things necessary for and incidental to the satisfactory performance and completion of all work hereinafter specified.

E38.2 Materials

E38.2.1 The Contractor shall maintain a supply of erosion control products such as erosion control blankets, silt fencing, straw bales, booms or mulch on site at all times suitable for trapping and preventing sediments from entering the river.

E38.3 Construction Methods

E38.3.1 Contractor shall be responsible for maintaining sediment control measures at the site to prevent sediment releases into the river from areas disturbed as a result of his work during and following construction

E38.3.2 Sediment control measures shall be implemented to meet Fisheries and Oceans Canada guidelines identified in E32.

E38.3.3 The Contractor shall monitor his work and implement appropriate sediment control measures as site conditions warrant. Such measures may include installation of silt fences, straw bales or other measures as required in the event that there is runoff from the site.

E38.3.4 As a minimum, temporary silt fences or straw booms shall be installed along the down-slope edges of all areas where the vegetation has been disturbed, soils are exposed, or fills have been placed.

E38.3.5 The silt fences and booms shall be attached to secure stakes and trenched in to the ground such that there are no gaps and the fencing will not be undermined.

E38.3.6 The silt fences shall be inspected, maintained and repaired as required.

E38.3.7 During rain storms the Contractor shall inspect the silt fences and booms at least daily and more frequently if required. Trapped sediments shall be removed as required, during or immediately following each rainstorm. All trapped sediments shall be removed from the site.

E38.3.8 Upon completion of the construction work, all surplus or waste materials, and materials containing fine-grained sediments shall be removed from the site.

E38.3.9 The Contractor shall monitor, maintain, repair, etc. the sediment control measures until vegetation has established in restored areas and there no longer is a potential for sediment releases due to construction.

E38.4 Measurement and Payment

E38.4.1 No measurement or payment shall be made for sediment control measures during or after construction. This work shall be incidental to the Work performed under this Contract and no separate measurement or payment will be made.

E39. RIPRAP

E39.1 Description

E39.1.1 This Specification covers all operations necessary for placing riprap as shown on the drawings or determined by the Contract Administrator. This Specification amends and supplements Standard Specification CW 3615.

E39.2 Materials

E39.2.1 Random Stone Riprap

(a) Hard, durable Fieldstone that is resistant to the action of water and frost and suitable in all respects for the purpose intended, and in accordance with CW 3615.

(b) Rock for use in random stone riprap shall be well graded with rock ranging to CW 3615 Section 5.2. Select larger stones may be required if specified on the drawings.

(c) Rock to match appearance and be of same type as existing riprap on site.

(d) Rock shall be comprised of smooth, rounded, waterworn or glaciated limestone, granite, or other quality dense rock. Limestone shall be durable white crystalline limestone. Softer buff to yellow dolomite or dolostone will not be acceptable. Crushed rock will not be acceptable.

(e) Fieldstone Riprap must conform to the following physical requirements:

(i) minimum bulk specific gravity of 2.6 (ASTM C127)

(ii) maximum Los Angeles abrasion loss of 35% (ASTM C131)

(iii) maximum soundness loss of 13% (ASTM C88)

(f) Rock samples shall either be submitted to the Contract Administrator for approval ten (10) days prior to their use, or the Contract Administrator shall visit the quarry for inspection a minimum of ten (10) days prior to use. No rockfill will be permitted without providing the source and supplier. The Contract Administrator shall perform the necessary tests to determine compliance with the specified properties.

E39.2.2 Geotextile Underlay

(a) Geotextile shall be a non-woven geotextile fabric, meeting or exceeding the properties specified for Separation Geotextile Fabric of CW 3130 Section 2.5.

E39.3 Construction Methods

E39.3.1 Riprap shall be installed to the elevations, grades, thickness and dimensions as shown on the Drawings, or as directed by the Contract Administrator.

E39.3.2 Install geotextile underlay where shown on the drawings. Overlap layers a minimum of 600 mm.

E39.3.3 Riprap shall be placed in a manner that prevents damage to geotextile underlay.

E39.3.4 Riprap shall be placed in a manner such that larger pieces are uniformly distributed, smaller rocks fill the spaces between the larger rocks, and that excessive segregation of the various rock sizes does not occur.

E39.3.5 Locations requiring segregated riprap or the placement of select large stones for fish passage, sediment passage or energy dissipation as indicated on the drawings.

E39.4 Measurement and Payment

E39.4.1 Supply and installation of rip-rap will be measured on a volume basis, based on the total number of cubic metres of riprap delivered and placed in accordance with this Specification and as accepted by the Contract Administrator. Payment shall be at the Contract Unit Price for "Supply and Install Riprap".

E39.4.2 Reuse of existing fieldstone riprap, including excavation, stockpiling, and replacement will be measured on a volume basis and paid for at the Contract Unit Price for "Reuse Existing Riprap".

E39.4.3 Geotextile underlay, where specified, will be measured on an area basis. Based on the total number of square metres of geotextile coverage area supplied and placed in accordance with this specification, accepted and measured by the Contract Administrator. Payment shall be at the Contract Unit Price "Geotextile Underlay".

E40. SOIL AMENDMENTS AND FINISH GRADING

E40.1 Description

E40.1.1 Surface soils on the banks of Omand's Creek will be amended with peak moss and sand prior to seeding.

E40.1.2 This specification shall amend and supplement City of Winnipeg Standard Construction Specification CW 3540 "Topsoil and Finish Grading for Establishment of Turf Areas", and shall cover supply and installation of soil amendments including preparation of existing grade and finish grading.

E40.2 Materials

E40.2.1 Peat moss shall be decomposed plant material, fairly elastic and homogenous, free of colloidal residue, wood, sulphur and iron; containing a minimum of 60% organic material by weight, with moisture content not exceeding 15%. Shredded particles shall not exceed 6 mm in size. Minimum pH value of peat shall be 4.5; maximum 6.0.

E40.2.2 Sand shall be hard, granular, sharp sand to CSA A82.56-M1976, well-washed and free of impurities, chemicals and organic matter.

E40.2.3 Chemical Application of Roundup or similar chemical herbicides approved by Agriculture Canada shall be used only with the approval of the Contract Administrator.

E40.3 Construction Methods

E40.3.1 Soil amendment for native grass shall consist of a mix of 60% peat moss and 40% sand, loose by volume.

E40.3.2 Preparation of Existing Grade to CW 3540, Section 9.2.

E40.3.3 Cross-cultivate the entire area of soil base that is to receive soil amendments to a depth of 100 mm. Redo areas where equipment used for hauling and spreading has re-compacted sub-grade.

E40.3.4 Spread 30 mm of peat moss and 20 mm sand over the area of soil amendments.

E40.3.5 Roto-till or disc the peat moss and sand into the top 100 mm of base material and mechanically roll to obtain a level surface.

E40.3.6 Grade to eliminate rough spots and low spots and to maintain positive drainage.

E40.3.7 Consolidate seedbed to required bulk density using equipment approved by the Contract Administrator. Leave surfaces smooth, uniform and firm against deep foot-printing.

E40.4 Measurement and Payment

E40.4.1 Soil amendment and finish grading shall be measured on an area basis and paid for at the Contract Unit Prices for the "Soil Amendment and Finish Grading". The total area to be

paid for shall be the number of square metres of soil amended and graded in accordance with this Specification, measured and accepted by the Contract Administrator.

E41. CHEMICAL CONTROL OF VEGETATION

E41.1 Description

E41.1.1 This specification covers the requirements for the application of herbicides for broad area weed control prior to seeding operations, or spot control of herbaceous weed species from Native Grass seeded areas.

E41.1.2 The need for broad area weed control will be assessed following soil amendment and prior to seeding, and may be omitted at the Contract Administrator's discretion.

E41.2 Safety Requirements

E41.2.1 Comply with Federal, Provincial, pesticide control regulations. Provide Material Safety Data sheets (MSDS) for all chemicals to be used.

E41.2.2 Obtain Provincial Pesticide Applications License and any other permits and licenses necessary to complete work.

E41.2.3 Comply with label directions on the use of herbicide products.

E41.2.4 Comply with label directions as to ambient temperature ranges for application.

E41.3 Materials

E41.3.1 Delivery and Storage

(a) Deliver, store and maintain packaged materials with manufacturer's seals and labels intact.

(b) Prevent damage, adulteration and soiling of material during delivery, handling and storage.

(c) Store material in accordance with label directions, including those on maximum and minimum storage temperatures.

(d) Store herbicide products in original containers as supplied by manufacturer and keep sealed until used.

(e) Store herbicide products in sheltered, well ventilated, controlled access location.

(f) Do not store herbicides near feeds and food stuffs, agricultural plants, seeds, fungicides, insecticides, fertilizers or other agricultural chemicals.

(g) Identify storage area as pesticide storage facility for fire protection purposes.

(h) Post in a prominent place a list of medical and fire department telephone numbers.

(i) Post in a prominent location on the outside of the storage area a list of products stored. Provide a copy of this list to fire department. Keep list up to date.

E41.3.2 Herbicides

(a) Select appropriate herbicides to achieve specified control requirement. Refer to Manitoba Guide to Chemical Weed Control.

(b) Herbicide products used must be registered for such use by Agriculture Canada under Pest Control Products Act.

(c) Do not use herbicides containing sodium chlorate.

E41.3.3 Adjuvants

(a) Adjuvants shall be compatible with herbicide product used.

E41.3.4 Spray Equipment

(a) Tank Spray: Do not use air-blast, mist or fog sprayer. Sprayer unit to meet the following requirements:

(i) Sprayer shall have adjustable height boom, hose and handgun for spot treatments, strainers and nozzles to produce spray pattern compatible with job.

(ii) Tank shall be equipped with continuous agitation device.

(iii) Pressure gauge and regulator shall be capable of maintaining uniform pressure between 100 and 450 kPa (15 and 65 psi)..

(b) Backpack Sprayer: Sprayer shall have hose and handgun for spot treatment.

(c) Equip spray tank loading pipe with check valve located within one metre of pump or hydrant to prevent siphoning from spray tank resulting in contamination of water source.

E41.4 Construction Methods

E41.4.1 Notice of Spray Operation

(a) Post areas to be treated with signs placed at each road access and 100 m intervals around perimeter.

(b) Indicate on signs that spray program is being implemented.

(c) Put signs in place prior to commencement of spray operation and retain in place for 24 hours after spray operation is completed for each particular area.

E41.4.2 Environmental Protection

(a) Application may continue only when wind velocities range between 2 and 10 km/h.

(b) Do not spray when air turbulence will prevent uniform application.

(c) In case of herbicide spill, notify Contract Administrator and Provincial Ministry of Environment verbally immediately and subsequently in writing.

(d) Do not allow drifting beyond target area. Use mechanical method to minimize herbicide drift.

(e) When spraying adjacent to desirable vegetation, use sprayer fitted with protective hood suitable to prevent contamination or provide protective covering for such vegetation while spray is in progress.

(f) Do not apply sterilants to slopes greater than 3 to 1 where killing vegetation would lead to erosion problems.

E41.4.3 Application of Herbicides

(a) Treat areas as indicated with appropriate herbicides.

(b) Calibrate equipment to achieve manufacturer's recommended application rates.

(c) Confine herbicide application to areas as indicated to achieve specified control requirements.

(d) Space successive passes to provide uniform coverage of treated area.

(e) Use flagmen or other aids as necessary to indicate successive passes.

(f) Where roots of desirable vegetation run under treatment area, use contact herbicides.

(g) Ensure formulation and rate of sterilant will not lead to leaching outside treatment area.

(h) Retreat areas in accordance with label directions until specified control requirements are achieved.

(i) Use flags or other aids as necessary to indicate successive passes.

E41.4.4 Given the need for weed control, the Contractor shall have in his possession a Pesticide Applicator’s License and a Pesticide Use Permit for pesticide applications related to this Specification.

E41.4.5 The Contractor shall apply herbicide with spot spraying when broadleaf weeds start developing in competition with grasses. Apply herbicide in accordance with the City of Winnipeg Weed Control Standards and Procedures, manufacturer's instructions and the Manitoba Agriculture Guide to Crop Protection and Herbicide Recommendations for Landscape Applicators, latest editions and the following criteria:

(a) Use 2,4-D Amine or MCPA Amine herbicide for susceptible broadleaf weeds.

(b) Use a mixture containing 2,4-D Amine or MCPA Amine, Mecoprop and Dicamba for 2,4-D resistant plants.

(c) Do not apply to newly seeded areas.

(d) Do not water within one working day after application.

(e) Apply when winds are less than 20 km/h and air temperature is above 10° (degrees) Celsius.

(f) Avoid use of pure Dicamba solutions near trees and shrubs.

E41.4.6 The Contractor shall inform the Contract Administrator immediately of any dangerous occurrence.

E41.4.7 Control Requirements

(a) For weed control, achieve within 30 days of treatment, minimum of 90% kill of target plants without damaging installed plant material.

(b) For soil sterilization, achieve within 12 months of treatment, 100% kill of vegetation.

E41.4.8 Waste Disposal

(a) Triple rinse empty herbicide containers with dilutent and add rinsate to spray mixture in tank.

(b) Puncture and crush glass, plastic, and metal containers making them unsuitable for further use.

(c) Dispose of containers in accordance with Provincial requirements.

(d) Do not rinse or wash spray tanks and equipment on site.

E41.5 Measurement and Payment

E41.5.1 Chemical Control of Vegetation: Broad scale application of chemical herbicides following soil amendment will be paid for on an area basis at the Contract Unit Price per square metre for "Chemical Application of Herbicide". The area paid for shall be the total number of square metres sprayed in accordance with this specification and accepted by the Contract Administrator, as computed by the Contract Administrator.

E41.5.2 Spot Weed Control: Application of chemical herbicides to control excessive weed growth in seeded areas following completion of planting operations will be incidental to Seeding.

E42. NATIVE GRASS SEEDING

E42.1 Description

E42.1.1 This specification shall amend and supplement City of Winnipeg Standard Construction Specification CW 3520 “Seeding”, and shall cover all aspects of supply and installation of native grass seed, including preparation of finish grade, hydro mulching, and maintenance.

E42.2 Materials

E42.2.1 Provide the Contract Administrator with Certificates of Analysis and mix compositions for all seed mixes. Include supplier’s name and telephone contact information, and percentages of each species and cultivar in each mix.

E42.2.2 Obtain Contract Administrator’s approval for any proposed adjustments to the seed mix species or cultivars.

E42.2.3 Native Grass seed mix (for Creek bank areas) shall be a mixture of the following species and cultivars, at the percentage by weight indicated:

(a) 10% Fowl blue grass (Poa palustris)

(b) 15% Canada wild rye (Elymus canadensis)

(c) 5% Slough grass (Beckmannia syzigachne)

(d) 10% Prairie cord grass (Spartina pectinata)

(e) 10% Awned wheat grass (Agropyron trachycaulum)

(f) 10% Streambank wheatgrass (Elymus lanceolatus)

(g) 20% Switch grass (Panicum virgatum)

(h) 20% Big bluestem (Andropogon gerardii)

E42.2.4 Cover crop (Nurse Crop) shall be Oats in all seeded areas.

E42.2.5 Hydro Mulch, water and tackifier shall be in accordance with CW 3520, Section 5.6

E42.3 Construction Methods

E42.3.1 Seed Native Grass mix with a Brillion Seeder, or equal in accordance with B6, on 100 mm compacted depth of amended soil.

E42.3.2 Sow Native Grass seed mix at a rate of 28 kg/ha.

E42.3.3 Sow cover crop at 54 kg/ha.

E42.4 Maintenance Methods

E42.4.1 Immediately after the completion of the seeding operation, to the satisfaction of the Contract Administrator, the Contractor shall commence and pay for continuous maintenance of the seeded area until the criteria specified for Termination of the Maintenance Period listed herein.

E42.4.2 Any deficient, damaged or vandalized areas shall be reseeded by the Contractor within three working days after receiving notification from the Contract Administrator and the area so reseeded, shall be further maintained until it meets the Termination of the Maintenance Period criteria.

E42.4.3 In situations where commencement of the Maintenance Period is not granted by the Contract Administrator before the end of a growing season, the Maintenance Period will commence on May 15 of the following year or such date as is mutually agreed upon by all parties.

E42.4.4 The Contractor shall water hydro mulched areas as required to obtain optimum soil moisture levels for germination and continued growth of plants. Control the watering to prevent seed washouts. Water shall be applied in sufficient quantities to saturate seeded area to a minimum depth of 100 mm. All costs to provide water for seeded areas shall be borne by the Contractor.

E42.4.5 The Contractor shall mow Native Grass areas when grasses exceed 300 mm in height, mow to 150 mm height.

E42.4.6 Additional mowing, to a height of 100 mm, shall be completed upon the direction of the Contract Administrator, as required to remove extensive weed growth and/or to maintain healthy growth of native grasses.

E42.4.7 The Contractor shall use chemical weed control, 2-4 D or Diacamba, only as required to spot remove weeds in localized areas and in accordance with E41. Use only chemicals approved by Agriculture Canada.

E42.4.8 The maintenance period shall be terminated after the following criteria have been met:

(a) The certified seed sowed meets the requirements of CW 3520;

(b) The seeded area is free of debris, including leaves;

(c) The seeded area has a firm, uniform and even surface;

(d) Seeded grasses or plants show healthy, vigorous growth;

(e) The area is free of bare and dead spots and with less than 10 noxious weeds per 50 square metres;

(f) The seeded area has sufficient growth density that bare spots do not exceed 5% of total surface area, and

(g) Seeded areas are free of damaging insects.

E42.5 Measurement and Payment

E42.5.1 Native Grass mix hydroseeded on amended soil shall be measured on an area basis and paid for at the Contract Unit Prices for the "Native Grass Seeding". The total area to be paid for shall be the number of square metres of Native Grass seed mix installed and maintained in accordance with this Specification, measured and accepted by the Contract Administrator. Payment for seeding shall be in accordance with the following schedule:

(a) Sixty percent (60%) of quantity following supply and placement.

(b) Remaining forty percent (40%) of quantity following termination of the maintenance Period.

E42.5.2 There will be no separate measurement for cover crop (nurse crop) seeding. Seeding of a nurse crop will be included in payment for other seeding operations.

E42.5.3 There will be no separate measurement for materials, equipment and operations related to the use of herbicides and insecticides.

E43. MANHOLE FRAME AND COVER ADJUSTMENT

E43.1 Description

E43.1.1 This Specification shall cover the construction of manhole and catch basin frames and covers within pavements to be compatible with slip form paving and future adjustment.

E43.2 Construction Methods

E43.2.1 All manholes and SD-025 catch basins with AP-004 round frames to include minimum of 100 mm of 750 mm diameter concrete riser ring within slip-form paving areas.

E43.2.2 All SD-023 and SD-024 catch basins with AP-008 rectangular grate frames to include a minimum of 2 – 50 mm 'Moduloc', or equal in accordance with B6, rectangular precast concrete risers within slip-form paving areas.

E43.2.3 All manholes and catch basins with AP-004 round frames within pavement isolations to include 50 or 64 mm a steel lifter ring as determined by the Contract Administrator to permit adjustment during construction of isolation.

E43.3 Measurement and Payment

E43.3.1 Provision of 750 mm concrete riser rings for manholes will not be measured separately, but shall be included in the measurement of manhole risers and paid for at the Contract Unit Price for "Manholes" for each type and barrel diameter specified.

E43.3.2 Provision of concrete riser rings or square risers for catch basins will not be measured separately, but shall be included in the Contract Unit Price for each type of catch basin.

E43.3.3 Steel lifter rings will be measured and paid for in accordance with CW 3210.

PART F - SECURITY CLEARANCE

F1. SECURITY CLEARANCE

F1.1 Each individual proposed to perform the following portions of the Work:

(a) any Work on private property;

(b) communicating with residents and homeowners in person or by telephone.

F1.2 Each individual shall be required to obtain a Criminal Record Search Certificate from the police service having jurisdiction at his/ her place of residence. Or;

(a) BackCheck, forms to be completed can be found on the website at: http://www.backcheck.net/; or

(b) Commissionaires (Manitoba Division), forms to be completed can be found on the website at: http://www.commissionaires.mb.ca/.

F1.3 Prior to the commencement of any Work, and during the term of the Contract if additional or placement individuals are proposed to perform Work, the Contractor shall supply the Contract Administrator with a Criminal Record Search Certificate obtained not earlier than one (1) year prior to the Submission Deadline, or a certified true copy thereof, for each individual proposed to perform the Work.

F1.4 Any individual for whom a Criminal Record Search Certificate is not provided, or for whom a Criminal Record Search Certificate indicates any convictions or pending charges related to property offences or crimes against another person will not be permitted to perform any Work.

F1.5 Any Criminal Record Search Certificate obtained thereby will be deemed valid for the duration of the Contract subject to a repeated records search as hereinafter specified.

F1.6 Notwithstanding the foregoing, at any time during the term of the Contract, the City may, at its sole discretion and acting reasonably, require an updated criminal records search. Any individual who fails to provide a satisfactory Criminal Record Search Certificate as a result of a repeated criminal records search will not be permitted to continue to perform any Work.