



THE CITY OF WINNIPEG

BID OPPORTUNITY

BID OPPORTUNITY NO. 862-2014

ELMWOOD PARK PATHWAY AND DRAINAGE IMPROVEMENTS

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PART B - BIDDING PROCEDURES

B1. CONTRACT TITLE

B1.1 ELMWOOD PARK PATHWAY AND DRAINAGE IMPROVEMENTS

B2. SUBMISSION DEADLINE

B2.1 The Submission Deadline is 4:00 p.m. Winnipeg time, September 29, 2014.

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

B2.3 The Contract Administrator or the Manager of Materials may extend the Submission Deadline by issuing an addendum at any time prior to the time and date specified in B2.1.

B3. SITE INVESTIGATION

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

B4. ENQUIRIES

B4.1 All enquiries shall be directed to the Contract Administrator identified in D3.1.

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

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

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

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

B5. CONFIDENTIALITY

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

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

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

B6. ADDENDA

- B6.1 The Contract Administrator may, at any time prior to the Submission Deadline, issue addenda correcting errors, discrepancies or omissions in the Bid Opportunity, or clarifying the meaning or intent of any provision therein.
- B6.2 The Contract Administrator will issue each addendum at least two (2) Business Days prior to the Submission Deadline, or provide at least two (2) Business Days by extending the Submission Deadline.
- B6.2.1 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/>
- B6.2.2 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.
- B6.2.3 The Bidder shall acknowledge receipt of each addendum in Paragraph 8 of Form A: Bid. Failure to acknowledge receipt of an addendum may render a Bid non-responsive.

B7. SUBSTITUTES

- B7.1 The Work is based on the Plant, Materials and methods specified in the Bid Opportunity.
- B7.2 Substitutions shall not be allowed unless application has been made to and prior approval has been granted by the Contract Administrator in writing.
- B7.3 Requests for approval of a substitute will not be considered unless received in writing by the Contract Administrator at least five (5) Business Days prior to the Submission Deadline.
- B7.4 The Bidder shall ensure that any and all requests for approval of a substitute:
- (a) provide sufficient information and details to enable the Contract Administrator to determine the acceptability of the Plant, Material or method as either an approved equal or alternative;
 - (b) identify any and all changes required in the applicable Work, and all changes to any other Work, which would become necessary to accommodate the substitute;
 - (c) identify any anticipated cost or time savings that may be associated with the substitute;
 - (d) certify that, in the case of a request for approval as an approved equal, the substitute will fully perform the functions called for by the general design, be of equal or superior substance to that specified, is suited to the same use and capable of performing the same function as that specified and can be incorporated into the Work, strictly in accordance with the proposed work schedule and the dates specified in the Supplemental Conditions for Substantial Performance and Total Performance;
 - (e) certify that, in the case of a request for approval as an approved alternative, the substitute will adequately perform the functions called for by the general design, be similar in substance to that specified, is suited to the same use and capable of performing the same function as that specified and can be incorporated into the Work, strictly in accordance with the proposed work schedule and the dates specified in the Supplemental Conditions for Substantial Performance and Total Performance.
- B7.5 The Contract Administrator, after assessing the request for approval of a substitute, may in 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.
- B7.6 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.

- B7.6.1 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.
- B7.7 If the Contract Administrator approves a substitute as an “approved equal”, any Bidder may use the approved equal in place of the specified item.
- B7.8 If the Contract Administrator approves a substitute as an “approved alternative”, any Bidder bidding that approved alternative may base 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 B17.
- B7.9 No later claim by the Contractor for an addition to the Total Bid Price because of any other changes in the Work necessitated by the use of an approved equal or an approved alternative will be considered.
- B7.10 Notwithstanding B7.2 to B7.9, and in accordance with B8.7, deviations inconsistent with the Bid Opportunity document shall be evaluated in accordance with B17.1(a).

B8. BID COMPONENTS

- B8.1 The Bid shall consist of the following components:
- (a) Form A: Bid;
 - (b) Form B: Prices;
- B8.2 Further to B8.1, the Bidder should include the written correspondence from the Contract Administrator approving a substitute in accordance with B7.
- B8.3 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.
- B8.4 The Bid Submission may be submitted by mail, courier or personal delivery, or by facsimile transmission.
- B8.5 If the Bid Submission is submitted by mail, courier or personal delivery, it shall be enclosed and sealed in an envelope clearly marked with the Bid Opportunity number and the Bidder's name and address, and shall be submitted to:
- The City of Winnipeg
Corporate Finance Department
Materials Management Division
185 King Street, Main Floor
Winnipeg, MB R3B 1J1
- B8.5.1 Samples or other components of the Bid Submission 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 Submission.
- B8.6 Bidders are advised not to include any information/literature except as requested in accordance with B8.1.
- B8.7 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 B17.1(a).
- B8.8 If the Bid Submission is submitted by facsimile transmission, it shall be submitted to 204 949-1178.
- B8.8.1 The Bidder is advised that the City cannot take responsibility for the availability of the facsimile machine at any time.

B8.8.2 Bids submitted by internet electronic mail (e-mail) will not be accepted.

B9. BID

B9.1 The Bidder shall complete Form A: Bid, making all required entries.

B9.2 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.

B9.2.1 If a Bid is submitted jointly by two or more persons, each and all such persons shall identify themselves in accordance with B9.2.

B9.3 In Paragraph 3 of Form A: Bid, the Bidder shall identify a contact person who is authorized to represent the Bidder for purposes of the Bid.

B9.4 Paragraph 10 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;
- (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.

B9.4.1 The name and official capacity of all individuals signing Form A: Bid should be printed below such signatures.

B9.4.2 All signatures shall be original.

B9.5 If a Bid is submitted jointly by two or more persons, the word "Bidder" shall mean each and all such persons, and the undertakings, covenants and obligations of such joint Bidders in the Bid and the Contract, when awarded, shall be both joint and several.

B10. PRICES

B10.1 The Bidder shall state a price in Canadian funds for each item of the Work identified on Form B: Prices.

B10.2 The quantities listed on Form B: Prices are to be considered approximate only. The City will use said quantities for the purpose of comparing Bids.

B10.3 The quantities for which payment will be made to the Contractor are to be determined by the Work actually performed and completed by the Contractor, to be measured as specified in the applicable Specifications.

B10.4 Payments to Non-Resident Contractors are subject to Non-Resident Withholding Tax pursuant to the Income Tax Act (Canada).

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/Subcontractors 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. OPENING OF BIDS AND RELEASE OF INFORMATION

- B12.1 Bids will not be opened publicly.
- B12.2 Following the submission deadline, the names of the Bidders and their Total Bid Prices (unevaluated, and pending review and verification of conformance with requirements) will be available on the Closed Bid Opportunities (or Public/Posted Opening & Award Results) page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/bidopp.asp>

B12.3 After award of Contract, the name(s) of the successful Bidder(s) and the Contract amount(s) will be available on the Closed Bid Opportunities (or Public/Posted Opening & Award Results) page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/>

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

B13. IRREVOCABLE BID

B13.1 The Bid(s) submitted by the Bidder shall be irrevocable for the time period specified in Paragraph 9 of Form A: Bid.

B13.2 The acceptance by the City of any Bid shall not release the Bids of the next two lowest evaluated responsive Bidders and these Bidders shall be bound by their Bids on such Work for the time period specified in Paragraph 9 of Form A: Bid.

B14. WITHDRAWAL OF BIDS

B14.1 A Bidder may withdraw his/her Bid without penalty by giving written notice to the Manager of Materials at any time prior to the Submission Deadline.

B14.1.1 Notwithstanding C23.3, the time and date of receipt of any notice withdrawing a Bid shall be the time and date of receipt as determined by the Manager of Materials.

B14.1.2 The City will assume that any one of the contact persons named in Paragraph 3 of Form A: Bid or the Bidder's authorized representatives named in Paragraph 10 of Form A: Bid, and only such person, has authority to give notice of withdrawal.

B14.1.3 If a Bidder gives notice of withdrawal prior to the Submission Deadline, the Manager of Materials will:

- (a) retain the Bid until after the Submission Deadline has elapsed;
- (b) open the Bid to identify the contact person named in Paragraph 3 of Form A: Bid and the Bidder's authorized representatives named in Paragraph 10 of Form A: Bid; and
- (c) if the notice has been given by any one of the persons specified in B16.1.3(b), declare the Bid withdrawn.

B14.2 A Bidder who withdraws his/her Bid after the Submission Deadline but before his/her Bid has been released or has lapsed as provided for in B15.2 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.

B15. EVALUATION OF BIDS

B15.1 Award of the Contract shall be based on the following bid evaluation criteria:

- (a) compliance by the Bidder with the requirements of the Bid Opportunity or acceptable deviation there from (pass/fail);
- (b) qualifications of the Bidder and the Subcontractors, if any, pursuant to B10 (pass/fail);
- (c) Total Bid Price;
- (d) economic analysis of any approved alternative pursuant to B6.

B15.2 Further to B15.1(a), the Award Authority may reject a Bid as being non-responsive if the Bid is incomplete, obscure or conditional, or contains additions, deletions, alterations or other irregularities. The Award Authority may reject all or any part of any Bid, or waive technical requirements or minor informalities or irregularities, if the interests of the City so require.

- B15.3 Further to B15.1(b), the Award Authority shall reject any Bid submitted by a Bidder who does not demonstrate, in his Bid or in other information required to be submitted, that he is responsible and qualified.
- B15.4 Further to B15.1(c), the Total Bid Price shall be the sum of the quantities multiplied by the unit prices for each item shown on Form B: Prices.
- B15.4.1 If there is any discrepancy between the Total Bid Price written in figures, the Total Bid Price written in words and the sum of the quantities multiplied by the unit prices for each item, the sum of the quantities multiplied by the unit prices for each item shall take precedence.
- B15.4.2 Further to B15.1(a), in the event that a unit price is not provided on Form B: Prices, the City will determine the unit price by dividing the Amount (extended price) by the approximate quantity, for the purposes of evaluation and payment.

B16. AWARD OF CONTRACT

- B16.1 The City will give notice of the award of the Contract or will give notice that no award will be made.
- B16.2 The City will have no obligation to award a Contract to a Bidder, even though one or all of the Bidders are determined to be responsible and qualified, and the Bids are determined to be responsive.
- B16.2.1 Without limiting the generality of B18.2, the City will have no obligation to award a Contract where:
- (a) the prices exceed the available City funds for the Work;
 - (b) the prices are materially in excess of the prices received for similar work in the past;
 - (c) the prices are materially in excess of the City's cost to perform the Work, or a significant portion thereof, with its own forces;
 - (d) only one Bid is received; or
 - (e) in the judgment of the Award Authority, the interests of the City would best be served by not awarding a Contract.
- B16.3 Where an award of Contract is made by the City, the award shall be made to the responsible and qualified Bidder submitting the lowest evaluated responsive Bid, in accordance with B17.
- B16.3.1 Following the award of contract, a Bidder will be provided with information related to the evaluation of his/her Bid upon written request to the Contract Administrator.
- B16.4 Notwithstanding C4, the City may issue a Purchase Order to the successful Bidder in lieu of the execution of a Contract.
- B16.5 The Contract, as defined in C1.1, in its entirety shall be deemed to be incorporated in and to form a part of the Purchase Order notwithstanding that it is not necessarily attached to or accompany said Purchase Order.

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 major components of the Work to be done under the Contract shall consist of:

- (a) Excavation and Disposal of existing asphalt path;
- (b) Rough Grading;
- (c) Supply and Installation of subsurface drainage;
- (d) Supply and Installation of large boulder;
- (e) Supply and Installation of pre-cast concrete block retaining wall;
- (f) Supply and Installation of concrete pavers on lean-mix concrete base;
- (g) Supply and Installation of boulder rip-rap;
- (h) Supply and Installation of woodchips;
- (i) Supply and Installation of chain link fencing;
- (j) Supply and Installation of asphalt pathway;
- (k) Supply and Installation of shrub beds and shrubs;
- (l) Supply and Installation of ornamental fencing;
- (m) Supply and Installation of soil and sod; and
- (n) Pick Up and Installation of site furniture.

D3. CONTRACT ADMINISTRATOR

D3.1 The Contract Administrator is:

Ian Legge

City of Winnipeg
Urban Design Division
Planning, Property and Development Department

Telephone No. 204 986-5597
E-Mail. ilegge@winnipeg.ca

D3.2 At the pre-construction meeting, the Contract Administrator 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 B8.5.

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.

D5. OWNERSHIP OF INFORMATION, CONFIDENTIALITY AND NON DISCLOSURE

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

D6. NOTICES

- D6.1 Except as provided for in C23.2.2, all notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications to the Contractor shall be sent to the address or facsimile number identified by the Contractor in Paragraph 2 of Form A: Bid.
- D6.2 All notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications to the City, except as expressly otherwise required in D6.3, D6.4 or elsewhere in the Contract, shall be sent to the attention of the Contract Administrator at the facsimile number identified in D3.1.
- D6.3 Notwithstanding C21., all notices of appeal to the Chief Administrative Officer shall be sent to the attention of the Chief Financial Officer at the following facsimile number:
- The City of Winnipeg
Chief Financial Officer
Facsimile No.: 204 949-1174
- D6.4 All notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications required to be submitted or returned to the City Solicitor shall be sent to the following facsimile number:
- The City of Winnipeg
Legal Services Department
Attn: Director of Legal Services
Facsimile No.: 204 947-9155

SUBMISSIONS

D7. AUTHORITY TO CARRY ON BUSINESS

- D7.1 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.

D8. SAFE WORK PLAN

- D8.1 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.
- D8.2 The Safe Work Plan should 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/matmgmt/Safety/default.stm>

D9. INSURANCE

- D9.1 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 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) 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.
- D9.2 Deductibles shall be borne by the Contractor.
- D9.3 The Contractor shall provide the Contract Administrator with a certificate(s) of insurance, **referencing the bid number or the specific operations to be performed**, 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 seven (7) Calendar Days from notification of the award of Contract by Purchase Order.
- D9.4 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.

D10. PERFORMANCE SECURITY

- D10.1 If the Contract Price exceeds one hundred thousand dollars (\$100,000.00), 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.
- D10.1.1 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.

D10.2 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 Purchase Order and prior to the commencement of any Work on the Site.

D11. SUBCONTRACTOR LIST

D11.1 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 least two (2) Business Days prior to the commencement of any Work on the Site but in no event later than seven (7) Calendar Days from notification of the award of Contract.

D12. DETAILED WORK SCHEDULE

D12.1 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 C 4.1 for the return of the executed contract.

D12.2 Detailed Work Schedule shall consist of the following dates:

- (a) Start date;
- (b) Rough Grading;
- (c) Supply and Installation of subsurface drainage;
- (d) Supply and Installation of large boulder;
- (e) Supply and Installation of pre-cast concrete block retaining wall;
- (f) Supply and Installation of concrete pavers on lean-mix concrete base;
- (g) Supply and Installation of boulder rip-rap;
- (h) Supply and Installation of woodchips;
- (i) Supply and Installation of chain link fencing;
- (j) Supply and Installation of asphalt pathway;
- (k) Supply and Installation of shrub beds and shrubs;
- (l) Supply and Installation of ornamental fencing;
- (m) Supply and Installation of soil and sod;
- (n) Pick Up and Installation of site furniture; and
- (o) Expected completion.

D12.3 Other milestone dates appropriate to this project should also be included to make the Contract Administrator Aware of them.

SCHEDULE OF WORK

D13. COMMENCEMENT

D13.1 The Contractor shall not commence any Work until he/she is in receipt of a Purchase Order from the Award Authority authorizing the commencement of the Work.

D13.2 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 D7;
 - (ii) evidence of the workers compensation coverage specified in C6.15;
 - (iii) the Safe Work Plan specified in D8;
 - (iv) evidence of the insurance specified in D9;
 - (v) the performance security specified in D10;

- (vi) the Subcontractor list specified in D11; and
 - (vii) the Detailed Work Schedule specified in D12.
- (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.

D13.3 The contractor shall commence the Work on the Site within seven (7) Working Days of receipt of the Purchase Order **if weather conditions permit; otherwise construction shall commence by May 20th, 2015.**

D13.4 The City intends to award the Contract by **October 27th, 2014.**

D14. SUBSTANTIAL PERFORMANCE

D14.1 The Contractor shall achieve Substantial Performance within thirty (30) consecutive Working Days of the commencement of the Work as specified in D13.

D14.2 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 reinspected.

D14.3 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.

D15. TOTAL PERFORMANCE

D15.1 The Contractor shall achieve Total Performance within thirty five (35) consecutive Working Days of the commencement of the Work as specified in D13.

D15.2 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 reinspected.

D15.3 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.

D16. LIQUIDATED DAMAGES

D16.1 If the Contractor fails to achieve Total Performance in accordance with the Contract by the day fixed herein for Total Performance, the Contractor shall pay the City five hundred dollars (\$500) per Working Day for each and every Working Day following the day fixed herein for Total Performance during which such failure continues.

D16.2 The amount specified for liquidated damages in D16.1 is based on a genuine pre-estimate of the City's damages in the event that the Contractor does not achieve Total Performance by the day fixed herein for same.

D16.3 The City may reduce any payment to the Contractor by the amount of any liquidated damages assessed.

D17. SCHEDULED MAINTENANCE

D17.1 The Contractor shall perform the following scheduled maintenance in the manner and within the time periods required by the Specifications:

- (a) Topsoil and sod as specified in E20, and;
- (b) Shrubs as specified in E19.

D17.2 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.

D18. SITE RESTORATION

D18.1 Total Performance of the Work shall not be attained until the Contractor has cleaned up the Site and has removed all tools, equipment, waste, debris and surplus foundation earth to the satisfaction of the Contract Administrator. Unless otherwise specified, the Contractor shall restore all areas of the Site beyond the established limit of Work, which have been disturbed by the Contractor's operations to as good as or better than the original condition to the satisfaction of the Contract Administrator. The Contractor shall pay all costs associated with this Work.

CONTROL OF WORK

D19. JOB MEETINGS

D19.1 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.

D19.2 The Contract Administrator reserves the right to cancel any job meeting or call additional job meetings whenever he/she deems it necessary.

D20. PRIME CONTRACTOR – THE WORKPLACE SAFETY AND HEALTH ACT (MANITOBA)

D20.1 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).

MEASUREMENT AND PAYMENT

D21. PAYMENT

D21.1 Further to C12, the City may at its option pay the Contractor by direct deposit to the Contractor's banking institution.

WARRANTY

D22. WARRANTY

D22.1 Warranty is as stated in C13.

FORM H1: PERFORMANCE BOND
(See D10)

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. 862-2014

ELMWOOD PARK PATHWAY AND DRAINAGE IMPROVEMENTS

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 D10)

(Date)

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

RE: PERFORMANCE SECURITY - BID OPPORTUNITY NO. 862-2014
ELMWOOD PARK PATHWAY AND DRAINAGE IMPROVEMENTS

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)

PART E - SPECIFICATIONS

GENERAL

E1. APPLICABLE SPECIFICATIONS AND DRAWINGS

- E1.1 These Specifications shall apply to the Work.
- E1.2 *The City of Winnipeg Standard Construction Specifications* in its entirety, whether or not specifically listed on Form B: Prices, shall apply to the Work.
- E1.2.1 *The City of Winnipeg Standard Construction Specifications* is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/Spec/Default.stm>
- E1.2.2 The version in effect three (3) Business Days before the Submission Deadline shall apply.
- E1.2.3 Further to C2.4(d), Specifications included in the Bid Opportunity shall govern over *The City of Winnipeg Standard Construction Specifications*.
- E1.3 The following are applicable to the Work:

<u>Drawing No.</u>	<u>Drawing Name/Title</u>
E.8-1	Elmwood Park – Existing Conditions and Removals
E.8-2	Elmwood Park – Proposed Plan
E.8-3	Elmwood Park – Grading Plan 1 w/ Planting List
E.8-4	Elmwood Park – Grading Plan 2 and Details
E.8-5	Elmwood Park – Layout 1
E.8-6	Elmwood Park – Layout 2
E.8-7	Elmwood Park – Layout 3
SCD-119	Waste Receptacle Metal Slat Type
SCD-121A	Tache Bench – Composite with Arms
SCD-121C	Tache Bench – Backless Composite with Arms
SCD-122A	Tache Style Wheelchair Metal Frame Picnic Table
SCD-648b	Parkway Path Asphalt w/ "A" Base
SCD-659	Multi-Flow Drainage

General

E2. EXISTING SERVICES AND UTILITIES

- E2.1 No responsibility will be assumed by the City for correctness or completeness of the Drawings, when provided, with respect to the existing utilities, pipes or other objects either underground or on the surface; the City shall not be liable for the incorrectness and inadequacy thereof. It shall be the responsibility of the Contractor to determine the location of all such utilities, pipes and other objects and to make good any damage done to them.

E3. ACCESS TO SITE

- E3.1 Access to the Site as required by the Contractor shall be provided and maintained by the Contractor at his own expense and approved by the Contract Administrator.
- E3.2 The Contractor's operations shall be limited to the minimum area necessary for undertaking the Work and he shall be responsible for all damage resulting from his Work on private property.

E4. PERMITS, NOTICES, LICENSES, CERTIFICATES, LAWS AND RULES

- E4.1 Further to C6.12, the Contractor shall give all necessary notices, obtain all necessary permits and pay all fees in order that the Work may be carried out. The Contractor shall submit all plans

required by any inspection authority and obtain approval of same before proceeding with the Work, and pay any cost attached to the inspection of such plans.

- E4.2 The Contractor shall comply with all laws, ordinances, rules and regulations that would relate to the Work.
- E4.3 All notices, consents, approvals, statements, authorizations, documents or other communications to the City shall be submitted to the Contract Administrator.
- E4.4 All Work shall be performed in compliance with the Manitoba Workplace Health and Safety Act.
- E4.5 All Work shall be performed in compliance with the Manitoba Workplace Health and Safety Fall Protection guidelines.
- E4.6 The Contractor and Sub-contractors must be fully aware of all Work involving hazardous materials. All Work must be performed in compliance with the Manitoba Department of Labour Workplace Health and Safety Guidelines and all other applicable codes. The Contractor is responsible for the immediate notification to the Contract Administrator of his/her encountering of suspected hazardous material during their course of Work.

E5. DAMAGE TO EXISTING STRUCTURES, TREES AND PROPERTY

- E5.1 All necessary precautions shall be exercised by the Contractor so as not to remove, disturb, or damage any existing trees, shrubs, sod, pavements, streets, roads, boulevards, poles, hydrants, water pipes, gas pipes, electrical wires, cables, conduits, sewers or other existing facilities and equipment at the Site of the Work. For all damage incurred in the performance of the Work (either directly or indirectly), the Contractor shall either replace and repair such damage, whichever may be deemed necessary in the opinion of, and acceptable to City of Winnipeg Contract Administrator, and the cost of which shall be borne entirely by the Contractor. The Contractor shall also indemnify and save harmless the City from all claims made directly or indirectly against it in respect to any such damage.
- E5.2 The Contractor shall take the following precautionary steps to prevent damage from construction activities to existing park trees within the limits of the construction area:
 - (a) The Contractor shall not stockpile materials and soil or park vehicles and equipment within 2 metres of trees.
 - (b) Trees identified to be at risk by the Contract Administrator are to be strapped with 25x100x2400 wood planks, or suitable protection 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 drip line of the trees shall be kept to a 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 drip lines of trees. The drip line 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.
- E5.3 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.
- E5.4 No separate measurement or payment will be made for the protection of trees.

E6. PEDESTRIAN SAFETY AND TRAFFIC MANAGEMENT

- E6.1 Further to CW 1130-R1, the Contractor shall take such measures as are necessary to ensure safe and convenient pedestrian ingress and egress is maintained to private properties while he is Working near them. Any damage caused by the negligence of the Contractor or his Sub-Contractors to the adjacent Works or properties, shall be promptly repaired by him at his own expense, to the satisfaction of the Contract Administrator.
- E6.2 Ambulance/ Emergency vehicle access must be maintained at all times.

E7. PROTECTION OF THE SURVEY INFRASTRUCTURE

- E7.1 Notwithstanding clause 4 "Protection of Survey Bars" of the Standard Provisions; Current legislation, The Surveys Act, places the onus on those undertaking construction to protect the Survey Infrastructure from damage as a result of their activity.
- E7.2 Further to C:6.26 (g), at least 72 hours prior to the commencement of the On-Site Work the Contractor shall contact the City of Winnipeg, Geomatics Services Branch at 918-1360 (8:00 am to 4:00 pm Monday to Friday excluding holidays) to obtain underground clearance. Geomatics Services will locate and mark all known outline survey monuments and geodetic control monuments and confirm the physical condition of those monuments upon completion of construction, at no cost to the Contractor.
- E7.3 Where a survey post, bar or control monument lies in the line of the proposed Work and must be disturbed, the Contractor shall provide the Contract Administrator with 48 hours notice to permit referencing for future replacement, at no cost to the Contractor. Failure to provide the specified notice shall result in the Contractor paying for all costs associated with replacing or relocating the disturbed outline survey monuments and geodetic control monuments.
- E7.4 Survey monuments and geodetic control monuments at or adjacent to the Site, not in the line of the proposed construction that are damaged or disturbed by the Contractor shall be replaced or relocated by the City or its agent and all associated costs shall be paid for by the Contractor. An approximate estimate of the costs involved to restore a legal survey monument is \$1,000 per bar and \$3,000 per control monument. Contractors must ensure their landscaping and other subcontractors are aware of this clearance procedure and the potential restoration costs.
- E7.5 Where possible, amounts owed to the City in accordance with the above will be deducted from any payments to be made by the City to the Contractor.

E8. SITE ENCLOSURES

- E8.1 Temporary Site enclosures, as determined necessary at the pre-construction meeting, shall be erected and maintained as required for the duration of the construction period.
- E8.2 Site enclosures shall be considered incidental to the Contract Work.

Site Development

E9. EXCAVATION AND GRADING

- E9.1 General Description
- E9.1.1 This specification shall amend and supplement the most up to date revision of CW 3110 and CW 3170. It shall cover the excavation and legal disposal of existing sod surfacing, earthen materials and asphalt pathway to accommodate new granular pathways, unit pavers, sodded areas, subsurface drainage and retaining walls. The Contractor must ensure that the site grading does not create tripping hazards and no areas of standing water remain.
- E9.1.2 All extraneous materials are to be removed from the Site and disposed of in a safe and legal manner. The Work to be done by the Contractor under this specification shall include

all labour, equipment and material necessary for and incidental to the satisfactory performance and completion of the Work herein specified.

E9.1.3 Work shall include but not be limited to the following:

- (a) Excavate, add clean fill if necessary, and rough grade excess soil to the limits shown on Drawings to the depths necessary to achieve finish grade for:
 - (i) Topsoil and Sod that is to cover newly graded areas;
 - (ii) Pre-Cast Concrete Unit Pavers;
 - (iii) New Asphalt Path;
 - (iv) Pre-Cast Concrete Block Retaining Walls,
 - (v) Boulder,
 - (vi) Riprap, and;
 - (vii) Shrub Beds.

E9.2 Construction Methods

E9.2.1 Excavation and Grading includes the removal of items (i.e., earth, asphalt) as indicated on the Drawings and as directed by the Contract Administrator. Work includes the satisfactory disposal of unsuitable Site material such as clays susceptible to frost-heaving, silts, rock, rubble, rubbish and any surplus suitable Site material.

E9.2.2 Grading to include the removal of the sod layer, the movement of earth to the specified grades as indicated in the Drawings, the import of fill if required, and the legal disposal of excess fill if necessary.

- (a) The removal of the sod layer shall be done through the stripping of the top layer of sod in areas for proposed regrading as indicated on Drawings.

E9.2.3 Earthwork and Grading of the existing Site (cut and fill including compaction of subgrade and fill material) to ensure positive drainage in all asphalt pathway areas, unit paver area, shrub beds and adjacent sodded areas.

E9.2.4 Stockpile suitable, approved material on Site for reuse (clean topsoil, clean earth fill,) in a secure location. Remove and dispose of unsuitable material.

E9.2.5 Do not disturb adjacent items designated to remain in place.

E9.2.6 Disposal of material shall be understood to mean the hauling of all unsuitable material from the Site and the unloading in a legal manner acceptable to the Contract Administrator. If arrangements are made in advance excavated material may be disposed of on Site at a location designated by the Contract Administrator.

E9.2.7 Contractor must coordinate with the Contract Administrator to ensure all removals have occurred.

E9.2.8 Excavate to the limits shown and as necessary to achieve finish grades as indicated on the Drawings:

- (a) New Unit Paver Area – 225mm depth, in accordance with Drawings and per E12;
- (b) New Asphalt Path – 275mm depth, in accordance with Drawings and per E11;
- (c) New Pre-Cast Concrete Block Retaining Wall – 200mm depth minimum. This includes 150mm for subgrade preparation and ensuring that at minimum 50mm of base course block is buried. Depth varies according to Site conditions and grades set in Drawings. In accordance with Drawings and per E13;
- (d) New Boulder – 150mm depth, in accordance with Drawings and per E14;
- (e) New Rip Rap – 150mm depth, in accordance with Drawings and per E15;
- (f) New Shrubs Beds – 350mm depth minimum, in accordance with Drawings and per E17.

E9.3 Method of Measurement and Basis of Payment

E9.3.1 Method of Measurement shall be as follows:

- (a) Excavation shall be measured on a square metre basis for:
 - (i) "Excavate and Legally dispose of existing asphalt" on Form B: Prices.
 - (ii) No measurement will be made for the Excavation and Disposal for the new unit paver area as these items are incidental to E12.
 - (iii) No measurement will be made for the Excavation and Disposal for the new asphalt pathway as these items are incidental to E11.
 - (iv) No measurement will be made for the Excavation and Disposal for the new pre-cast concrete block retaining wall as these items are incidental to E13.
 - (v) No measurement will be made for the Excavation and Disposal for the new boulder as these items are incidental to E14.
 - (vi) No measurement will be made for the Excavation and Disposal for the new rip rap as these items are incidental to E15.
 - (vii) No Measurement will be made for the Excavation and Disposal for the new shrub beds as these items are incidental to E17.
- (b) Rough Grading shall be measured on a square metre basis for:
 - (i) "Rough Grading" on Form B: Prices.

E9.3.2 Basis of Payment shall be as follows:

- (a) Excavation and Grading will be paid for at the Contract Unit Prices on Form B: Prices. The amount to be paid for shall be the total number of units, measured as specified herein, which price shall be for full payment for supplying all labour, equipment and materials, and performing all operations herein described and all other items incidental to the Work and as accepted by the Contract Administrator.
- (b) No payment will be made for the Excavation and Disposal for the new unit paver area as these items are incidental to E13.
- (c) No payment will be made for the Excavation and Disposal for the new asphalt pathway as these items are incidental to E12.
- (d) No payment will be made for the Excavation and Disposal for the new pre-cast concrete block retaining wall as these items are incidental to E14.
- (e) No payment will be made for the Excavation and Disposal for the new boulder as these items are incidental to E15.
- (f) No payment will be made for the Excavation and Disposal for the new rip rap as these items are incidental to E16.
- (g) No payment will be made for the Excavation and Disposal for the new shrub beds as these items are incidental to E18.

E10. SUB-SURFACE DRAINAGE

E10.1 Description

E10.1.1 This Work shall include:

- (a) Subsurface drainage to drain low lying turf area, as described in the plans as per SCD-659.

E10.2 Material

E10.2.1 Drainage pipe will be Multi-Flow or approved substitute in accordance with B7. Drainage pipe will be 150 mm (6"). The manufacturer will size and approve all fittings for use with Multi-Flow or approved substitute drainage pipe.

E10.2.2 The drain conduit shall be of flexible, prefabricated, rounded rectangular shaped, composite product. The drain conduit will be wrapped with a non-woven geotextile and will be a non-woven needle-punched construction and consist of long-chain polymeric fibres composed of polypropylene, polyethylene or polyamide. The fibres will be oriented into a

multi-directional stable network whereby they retain their positions relative with each other and allow the passage of water as specified. The fabric will be free of any chemical treatment or coating, which reduces permeability and will be inert to chemical commonly found in soil. The geotextile will conform to the following minimum average roll values.

Weight	ASTM D-3776	3.0 - 4.0
Tensile Strength	ASTM D-4632	100 - 130
Elongation %	ASTM D-4632	50 - 70
Puncture, lb	ASTM D-751	35 - 60
Mullen Burst, psi	ASTM D-3786	110 - 215
Trapezoidal Tear, lb	ASTM D-4533	40 - 42
Coefficient of Permeability	ASTM D-4491	.2 - .4 cm/sec
Flow Rate, gpm/ft2	ASTM D-4491	100 - 140
Permittivity, 1/sec	ASTM D-4491	1.3 - 2.0
Apparent Opening Size	ASTM D-4751	60/70 Max. US Std Sieve Opening
Seam Strength, lb/ft	ASTM D-4595	100
Fungus	ASTM G-21	No Growth

E10.2.3 The drainage core shall be made of a high-density polyethylene. The core shall be constructed using interconnected corrugated pipes that define and provide the flow channels and structural integrity of the drain. The geotextile shall function only as a filter. The core of the edge drain shall conform to the following physical property requirements.

Thickness, inches	ASTM D-1777	1.0
Flow Rate, gpm/ft*	ASTM D-4716	29
Compressive Strength, psf	ASTM D-1621 (modified sand method)	6000
Pipe Stiffness, pii	ASTM D-2412	100

* At gradient = 0.1, pressure = 10 psi for 100 hours.

E10.2.4 Fittings

(a) The fittings used with the edge drain shall be of a snap together design. In no case shall any drainage product be joined without the use of the manufacturers connector designed specifically for the purpose. Cleanouts will be provided as indicated on the drawing.

E10.2.5 Pipe

(a) Pipe for drain outlet laterals will be either 75 mm (3") PVC pipe meeting the requirements of ASTM D-2729 or ASTM F-949, or high-density polyethylene pipe meeting the requirements of AASHTO M252.

(b) A rodent screen made of 0.3 inch by 0.3-inch square opening size, 0.063-inch gauge, stainless steel or galvanized, welded wire mesh shall be installed in each outlet lateral line. When using galvanized welded wire mesh, the rodent screen shall be galvanized after it has been formed to the shape and dimensions shown on the plans or specified by the Contract Administrator.

E10.3 Backfill for Trenches

(a) As per SCD-659

E10.4 Methods

- E10.4.1 Installation of Subdrain is not to proceed until after the excavation/grading has been approved by the Contract Administrator.
- E10.4.2 The layout of the subdrain is to be marked on Site and approved by the Contract Administrator prior to trenching.
- E10.4.3 Trenches are to be excavated with a trenching machine or by hand. Locations, where the trench crosses existing utilities, irrigation pipes and all other sub-surface pipes or fixtures, are to be excavated by hand. The amount of trench excavated at any time shall not exceed the amount of drain that can be set and backfilled completely prior to the end of that Working Day. Trench width shall be as specified on the Drawings.
- E10.4.4 The bottom surface of the trench is to be free of loose particles and is to have the slope shown on the Drawings. Over excavation in the bottom of the trench shall be backfilled to the proper grade with the excavated material or sand prior to the placement of the drain. Where sand or excavated material is used to fill the trench to the proper elevation that material shall be compacted to 95% of standard proctor density using appropriate means. Where the trench is to pass through an area of existing turf, backfill shall be removed from the Site daily and disposed of legally.
- E10.4.5 Multi-Flow drain pipe is to be placed in the trench using a Multi-Flow centering device. Trench is to be backfilled with coarse sand to the surface. Backfill shall be placed in maximum of 45 cm loose lifts. Backfill is to be lightly tamped into place and watered.
- E10.4.6 Contractor is to protect subdrain from excessive weight during the duration of construction and to repair and make good any pipe collapsed prior to acceptance.
- E10.4.7 Fittings for the drain will be installed in accordance with the manufacturer's recommendations and Specification.
- E10.4.8 Any damaged edge drain or outlet lateral will be replaced or repaired by splicing in an undamaged section of drain at the Contractor's expense. The repair must be in accordance with the manufacturer's specification and to the satisfaction of the Contract Administrator.
- E10.4.9 Contractor is to protect subdrain from excessive weight during the duration of construction and to repair and make good any pipe collapsed prior to acceptance.
- E10.4.10 Any damaged edge drain or outlet lateral will be replaced or repaired by splicing in an undamaged section of drain at the Contractor's expense. The repair must be in accordance with the manufacturer's specification and to the satisfaction of the Contract Administrator.
- E10.4.11 The top of the trench is to be finished as shown on the Drawings.
(i) The sand backfill is to be installed to meet existing grades and seeded with grass seed where the trench is located in existing turf.
- E10.4.12 The Multi-Flow drain system is to be connected to a solid pipe in accordance with manufacturer's recommendations and the pipe is then connected to the catch basin.
- E10.4.13 Connecting to existing catch basin will be done as outlined in CW 2130 – item 3.15 – “Connecting New Sewers an Catch Basin Leads to Existing Manholes, Catch Basins and Catch Pits”.
- E10.5 Measurement and Payment
- E10.5.1 Method of Measurement for drainage shall be as follows:
(a) Subdrain will be measured on a linear metre basis for:
(i) “Supply and Install drainage piping complete w/connection into CB” on Form B: Prices.
- E10.5.2 Basis of Payment for subdrain shall be as follows:
(a) Subdrain will be paid for at the Contract Unit Prices. The amount to be paid for shall be the total number of units, as indicated on Form B: Prices. This price shall be full payment for supplying all labour, equipment and materials, and performing all

operations herein described and all other items incidental to the Work and as accepted by the Contract Administrator.

E11. ASPHALT PATHWAY

E11.1 This specification shall cover the supply and installation of an asphalt walkway.

E11.2 Excavation

E11.2.1 Description

- (a) This specification shall be done in accordance the City of Winnipeg's Standard Construction Specification CW 3110– “Sub-Grade, Sub-Base and Base Course Construction” and as per SCD-648B.
- (b) Excavation shall be understood to include all removal of existing insitu material necessary to achieve finished grade and as indicated on Drawings, all in accordance with E9.

E11.2.2 Construction Methods

- (a) Excavation shall be performed as per E10 and as outlined in CW 3310 – Item 3.2 – “Excavation”.
- (b) **In locations where existing tree’s root systems intersect with pathway, excavation shall be done carefully so as not to damage or sever any roots of the trees.**
- (c) If any pavement exists at the limits of the designated area of removal, these shall be saw cut for the full depth of the pavement prior to the demolition and removal operations. All costs in connection with saw cutting are incidental and shall be included in the unit price bid for excavation.
- (d) All excavated material shall be removed, hauled and disposed of off-site to the satisfaction of the Contract Administrator.

E11.3 Sub-Grade Compaction

E11.3.1 Description

- (a) Sub grade compaction shall be done in accordance with City of Winnipeg’s Standard Construction Specification CW 3110 – “Sub-Grade, Sub-Base and Base Course Construction”.

E11.3.2 Construction Methods

- (a) Sub-grade compaction shall be performed as outlined in CW 3110 item 3.3 “Preparation of Sub-Grade and Placement of Sub-Base Material”.
- (b) Sub-grade shall be free of any fibrous organics, softened and disturbed soil. The prepared sub-grade shall be proof rolled with a heavy sheep’s foot roller (min 25 passes) and inspected by the Contract Administrator to detect for any soft spots prior to the placement of overlying granular fills.

E11.4 Geotextile Fabric

E11.4.1 Description

- (a) Geotextile Fabric shall be placed in accordance with City of Winnipeg’s Standard Construction Specification CW 3130 “Supply and Installation of Geotextile Fabrics”.

E11.4.2 Materials

- (a) The separation/ reinforcement geotextile fabric shall conform to the Products Approved as listed in City of Winnipeg Specification for Approved Products for Surface Works.

E11.4.3 Construction Methods

- (a) Separation/ Reinforcement geotextile fabric shall be installed as outlined in CW 3110 item 3.1 "Separation/Reinforcement Geotextile Fabric".

E11.5 "A" Base - Base Course Material

E11.5.1 Description

- (a) "A" base material shall be supplied and installed in accordance with City of Winnipeg's Standard Construction Specification CW 3110 "Sub-Grade, Sub-Base and Base Course Construction" and as per SCD-648B.

E11.5.2 Materials

- (a) Base course material shall be "A" Base aggregate.

(b) SIEVE DESIGNATION	% PASSING
(i) 19mm	100
(ii) 4.75mm	35-70
(iii) 0.425mm	15-30
(iv) 0.075mm	6-17

E11.5.3 Construction Methods

- (a) "A" Base base material shall be supplied and installed as outlined in CW 3110 item 3.4 "Placement of Sub-Base Material with Geotextile Fabric".
- (b) All "A" Base base course material shall be **placed and compacted in maximum 100mm lifts** as specified to finished thickness as shown on the drawings.

E11.6 Asphaltic Pavement

E11.6.1 Description

- (a) Asphaltic Concrete shall be supplied and installed in accordance with City of Winnipeg Standard Construction Specification CW 3410 "Asphaltic Concrete Pavement Works".

E11.6.2 Materials

- (a) Asphaltic Concrete shall be Type 1A as specified and to a thickness of 75mm (3") as shown on the Drawings.

E11.6.3 Construction Methods

- (a) Asphaltic Concrete shall be supplied and installed in accordance with the lines, grades and thickness shown on the Drawings and to City of Winnipeg Construction Specification CW 3410. Asphalt shall be placed in one lift.

E11.7 Crack Sealing

- (a) As a warranty requirement, the Contractor shall rout and seal any and all cracks which may appear during the one-year warranty period. Crack sealing shall conform to the requirements of City of Winnipeg Standard Construction CW 3250.
- (b) No separate payment will be made for this item as it is considered a warranty issue and shall fall under G.C.13- Warranty.

E11.8 Quality Control for Hard Surfaced Areas

- (a) Further to Section 10, Quality Control, of CW 3110 and CW 3410, the Contract Administrator may obtain a qualified independent testing lab to conduct tests on materials to determine the acceptability of the sub-grade, sub-base, base course and asphaltic concrete as placed by the Contractor in accordance with the requirements of this Specification.
- (b) The Contractor shall not proceed with each granular fill placement or asphalt installation until test results have been reviewed and approval to proceed is granted by the Contract Administrator.

- (c) The Contract Administrator will conduct a survey of the operation to verify installation of specified layer thickness.
- (d) Non-conformity with the specified test requirements or compacted layer thickness will constitute sufficient grounds for rejection of the Work.

E11.9 Method of Measurement and Basis of Payment

E11.9.1 Method of Measurement shall be as follows:

- (a) Asphalt will be measured on a square metre basis for: "Supply and Install Asphalt Path and Seating Area" on Form B: Prices.

E11.9.2 Basis of Payment shall be as follows:

- (a) Asphalt Walkway will be paid for at the Contract Unit Prices. The amount to be paid for shall be the total number of units, as indicated on Form B: Prices. This price shall be full payment for supplying all labour, equipment and materials, and performing all operations herein described and all other items incidental to the Work and as accepted by the Contract Administrator.

E12. CONCRETE PAVERS ON CONCRETE BASE

E12.1 Description

- E12.1.1 The specification shall supplement the latest version of Specifications CW 3310, CW 3325 and CW 3330.
- E12.1.2 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 other things necessary for and incidental to the satisfactory performance and completion of all Work as shown on the Drawings and as hereinafter specified, including, but not necessarily confined to the following;
 - (a) Excavation, supply and installation of concrete pavers on concrete base for areas as indicated on the Drawing.
- E12.1.3 Contract Administrator to approve Concrete Unit Pavers before installation commences.

E12.2 Material

- E12.2.1 Concrete Mix shall be supplied as specified in CW 3310 and CW 3325.
- E12.2.2 Concrete Unit Pavers: Barkman Holland, Sierra Grey Colour. Sizes to be 210mm x 105mm x 60mm (4.125" x 8.25" x 2.375").
 - (a) Quantity: 2.9 SM
- E12.2.3 Concrete Unit Pavers: Barkman Holland, Sierra Grey Colour. Sizes to be 210mm x 210mm x 60mm (8.25" x 8.25" x 2.375")
 - (a) Quantity: 8.5 SM
- E12.2.4 Bedding sand shall be fine aggregate as specified in Section 5.3.1 of the latest version of CW 3310 and Section 5.2.3 of the latest version of CW 3330.
- E12.2.5 Filler Sand shall have a maximum aggregate size of 2.5mm

E12.3 Construction Methods

E12.3.1 Excavation

- (a) Excavation shall comply with the latest version of CW 3110.
- (b) The excavation shall not exceed beyond the specified limits of excavation. The limits of excavation shall be taken as a vertical plane 150mm beyond the limits of the proposed node, unless otherwise specified on the Drawings or in the Specifications for the Work

- (c) The sub-grade shall be excavated to the minimum depth as shown on the drawings, unless otherwise directed by the Contract Administrator.

E12.3.2 Preparation of Sub-grade, Concrete Base and Bedding Sand

- (a) The construction of sub-grade shall be completed in accordance with the latest version of CW 3110 and to the depth as specified on the Drawings
- (b) The concrete base shall be placed to a minimum thickness of 100mm. The surface shall be smooth, true to line, grade and cross-section.
- (c) On top of the concrete base a 15mm layer of bedding sand shall be placed.
- (d) The bedding sand layer shall be spread and levelled so that the paving stones when installed are 5mm higher than the finished grade. No more sand shall be spread than can be covered in one day by paving stones. The bedding sand layer shall not be compacted prior to laying the paving stones.
- (e) The cost of supplying and placing the bedding sand shall be incidental to the installation of the paving stones.
- (f) No paving stones shall be placed until construction of the underlying layers has been approved by the Contract Administrator.

E12.3.3 Installation of Paving Stones

- (a) The paving stones shall be installed such that spaces between joints do not exceed 5mm. Spaces between paving stones shall be uniform and consistent while maintaining straight and true patterns.
- (b) Work shall commence with the establishment of the paving border as shown on the Drawings. Grid paving pattern shall be established along the longest straight edge of paving border and work towards the opposite edge.
- (c) If cutting of paving stones is required, the sawn or sheared edges shall be true, even and undamaged. Coloured mortar shall be used to fill small voids between blocks and pre-cast concrete seating wall.
- (d) Paving stones shall be compacted into the sand layer using approved vibratory compactors until they are at the proper grade, uniformly level and free of any movement. Filler sand shall be Polymeric Sand and is to be swept into the joints until full.
- (e) The cost of supplying and placing filler sand shall be incidental to the installation of the paving stones.

E12.3.4 Method of Measurement

- (a) Unit Paving on Concrete base shall be measured on an area basis. Concrete Pavers on Concrete Base will be measured on a square metre basis for: "Supply and Install pre-cast concrete paving stones on lean-mix concrete base" on Form B: Prices

E12.3.5 Basis of Payment

- (a) Concrete Pavers on Concrete Base will be paid for at the Contract Unit Prices. The amount to be paid for shall be the total number of units, as indicated on Form B: Prices. This price shall be full payment for supplying all labour, equipment and materials, and performing all operations herein described and all other items incidental to the Work and as accepted by the Contract Administrator.

E13. PRECAST CONCRETE BLOCK RETAINING WALL

E13.1 Description

- E13.1.1 The specification shall cover the supply and installation of precast concrete retaining wall as shown on the Drawings.

E13.2 Materials

- E13.2.1 Retaining wall blocks shall be Barkman Pisa II or substitute approved in accordance with B6. Colour shall be Sierra Grey.
- E13.2.2 Capstone shall be Barkman 12" splitface cap or substitute approved in accordance with B6. Colour shall be Charcoal.
- E13.2.3 Granular limestone base is to be crushed stone or gravel having hard angular particles, free from clay lumps, cementation, organic material, frozen material or other deleterious materials.
- E13.2.4 Geotextile shall be non-woven and installed as shown on the drawings. It shall have an apparent opening size of between 0.149 mm and .210 mm and a minimum unit weight of 135 grams per sq. m.
- E13.2.5 Drainage pipe shall be placed at the base of the wall in a manner consistent with the details provided. It shall be connected to the playground subsurface drain or drain to air.

E13.3 Construction Methods

- E13.3.1 The Contractor shall excavate for the base course, compact, install the geotextile, install the base granular and compact to 100% of proctor density.
- E13.3.2 The wall shall be then built in accordance with manufacturers instructions, backfilling with granular as necessary.
- E13.3.3 The top two courses of the wall shall be attached with continuous concrete adhesive. (mastic)
- E13.3.4 The capstone shall be attached to the top course with a **double bead** of continuous concrete adhesive. (mastic) Contract Administrator to approve mastic before application.

E13.4 Method of Measurement and Basis of Payment

E13.4.1 Method of Measurement shall be as follows:

- (a) Precast Concrete Retaining Wall shall be measured on a linear metre basis for:
- (i) "Supply and Install precast concrete block retaining wall" on Form B: Prices.

E13.4.2 Basis of Payment shall be as follows:

- (a) Precast Concrete Retaining Wall shall be paid for at the Contract Unit Prices. The amount to be paid for shall be the total number of units, as indicated on Form B: Prices. Walls segments of different heights, individual rows of blocks or capstone length will not be measured separately. Said payment shall be understood to include all items necessary and incidental to supply and installation of the wall including but not limited to excavation, compaction, adhesives, geotextile, weeping tile and granular.

E14. BOULDER

E14.1 Description

- E14.1.1 This specification shall cover the supply and installation of one (1) large limestone boulder to be used as a transition from an inward facing pre-cast concrete block retaining wall to an outdoor facing pre-cast concrete block retaining wall.

E14.2 Materials

E14.2.1 Granular:

- (a) 19mm diameter crushed limestone aggregate;

E14.2.2 Boulder:

- (a) To be from a Manitoba quarry, colour to be approved by Contract Administrator. Boulder should have a rough exterior and shall have a size of approximately:
- (i) Length:

- ◆ 900mm;
- (ii) Width:
 - ◆ Approx. 600mm;
- (iii) Height:
 - ◆ 600mm

- E14.2.3 Fabric:
- (a) To be a Non-Woven Geotextile Landscape Fabric.

E14.3 Construction Methods

E14.3.1 General

- (a) Boulder to be placed as per instructions of Contract Administer.

E14.3.2 Installation

- (a) Excavate to ensure that top of Boulder is approximate 400-450mm (16-18") above grade, an appropriate seat height.
- (b) Compact sub-base.
- (c) Place non-woven geotextile fabric.
- (d) Add 150mm of granular to base of excavated area and compact to 98% Proctor Standard.
- (e) Place boulder and add backfill if necessary to ensure that boulder is stable. Excavation and Supply and Installation of granular base is incidental to the Work in this section.

E14.4 Method of Measurement and Basis of Payment

E14.4.1 Method of Measurement shall be as follows:

- (a) Landscape Rock shall be measured on a square metre basis for:
 - (i) "Supply and Install Boulder" on Form B: Prices.

E14.4.2 Basis of Payment shall be as follows:

- (a) Supply and Installation of the limestone rocks will be paid for at the Contract Unit Prices. The amount to be paid for shall be the total number of units, as indicated on Form B: Prices. This price shall be full payment for supplying all labour, equipment and materials, and performing all operations herein described and all other items incidental to the Work and as accepted by the Contract Administrator.

E15. BOULDER RIPRAP

E15.1 Description

E15.1.1 The specification shall supplement the most up to date version of CW 3110, CW 3130 and CW 3615.

E15.1.2 The work to be done by the Contractor under this Specification shall include the furnishing of all superintendence, overhead, labour, materials, equipment, tolls, supplies and all other things necessary for and incidental to the satisfactory performance and completion of all Work as shown on the Drawings and as hereinafter specified, including, but not necessarily confined to the following:

- (a) Supply and Installation of Boulder Riprap and geotextile fabric as indicated on the Drawings.

E15.2 Materials

E15.2.1 All Materials shall conform to the most up to date versions of CW 3110, CW 3130, CW 3615 and this Specification. Where the two do not agree, this Specification shall take precedence. All materials supplied under this Specification shall be of a type approved by

the Contract Administrator, and shall be subject to inspection and testing by the Contract Administrator.

E15.2.2 It is the Contractor's responsibility to contact the Contract Administrator with a minimum of two (2) days notice to come and approve the riprap materials on the truck at the site prior to unloading and installing.

E15.2.3 Boulder Riprap shall be clean limestone of random profile with no cracks or splits. Boulder Riprap shall be light in colour, with diameters ranging from 350mm to 500mm and shall conform to CW 3615 as per Random Stone Rip Rap.

E15.2.4 Geotextile fabric shall conform to CW 3130.

E15.3 Method

E15.3.1 Bed for Riprap

(a) The bed for the riprap shall be cleared and trimmed to the lines as shown on the drawings or as stated in the field by the Contract Administrator, prior to the placing of any riprap. The bed shall be excavated to a depth of 150mm below finished grade where necessary. No geotextile fabric or riprap shall be placed until the bed has been approved.

E15.3.2 Installation of Geotextile Fabric

- (a) The geotextile fabric shall be installed as shown on drawings, in accordance with the manufacturer's recommended procedure. The fabric shall be installed with the long dimension parallel to the slope and shall be laid smooth and free of tension, stress, folds, wrinkles or creases.
- (b) Joints in the geotextile fabric shall be overlapped not less 0.3 metres.
- (c) Securing pins with washers shall be inserted through the fabric at intervals not greater than 1.5 metres along a line 100mm from both the lowest and highest exterior edge of the geotextile fabric.
- (d) The supply and installation of the geotextile fabric pins shall be incidental to the cost of the installation of Boulder Riprap.

E15.3.3 Placement of Boulder Riprap

- (a) Boulder riprap shall be pushed or rolled into place in such a manner that the larger boulders are distributed around the planting in such a manner that no damage is done to shrubs. Protect plantings at all times. Sufficient handwork and work/equipment shall be utilized to ensure gaps between boulders are filled to the satisfaction of the Contract Administrator.
- (b) Work to be coordinated with installation of pre-cast concrete block retaining wall, planting of shrubs and installation of wood chips.

E15.3.4 Installation of Wood Chips

- (a) Wood Chips to be installed as per Drawings and E16. Ensure that Wood Chips adequately fill voids between individual pieces of riprap.
- (b) The supply and installation of the wood chips shall be incidental to the cost of the installation of the Boulder Riprap.

E15.4 Method of Measurement and Basis of Payment

E15.4.1 Method of Measurement shall be as follows:

- (a) Boulder Riprap shall be measured on a Square Meter basis for:
- (i) "Supply and Install Boulder Riprap" on Form B: Prices.

E15.4.2 Basis of Payment shall be as follows:

- (a) Supply and Installation of the boulder riprap will be paid for at the Contract Unit Prices. The amount to be paid for shall be the total number of units, as indicated on Form B: Prices. This price shall be full payment for supplying all labour, equipment

and materials, and performing all operations herein described and all other items incidental to the Work and as accepted by the Contract Administrator.

E16. WOODCHIPS

E16.1 Description

E16.1.1 This specification shall cover the supply and installation of Woodchip Mulch:

- (a) located within precast concrete block retaining wall area;
- (b) between individual riprap pieces; and
- (c) around shrub plantings.
 - (i) Supply and Installation of wood chips around plantings shall be incidental to the cost of the installation of the shrubs as per E17.

E16.2 Materials

- (a) Woodchips
 - (i) Natural. Clean bark or wood chip mulch with chips not less than 15mm nor larger than 75mm in size and not more than 20mm thick. Mulch is to be free of leaves, branches and other extraneous matter. Quantity 60 SM.

E16.3 Construction Methods

- (a) Woodchip Surfacing surrounding boulder riprap shall include a 100mm layer of compacted woodchips throughout.
- (b) Woodchip Surfacing within planting beds shall include the excavation of the area as per E17 and then the installation of 100mm compacted depth of woodchips.
- (c) Woodchip Surfacing within boulder riprap shall include placement of woodchips to a minimum depth of 150mm while ensuring that all gaps are filled in.

E16.4 Method of Measurement and Basis of Payment

E16.4.1 Method of Measurement shall be as follows:

- (a) The supply and installation of Woodchip Surfacing shall be measured on a per square metre basis for:
 - (i) "Supply and Install Wood Chips", on Form B:Prices.

E16.4.2 Basis of Payment shall be as follows:

- (a) The supply and installation of Woodchips will be paid for at the Contract Unit Prices as indicated on Form B: Prices. The amount to be paid for shall be the total number of units on Form B: Prices. This price shall be full payment for supplying all labour, equipment and materials, and performing all operations herein described and all other items incidental to the Work and as accepted by the Contract Administrator.

E17. PLANTING BED

E17.1 Description

- (a) This specification shall cover the excavation of planting beds and the supply and installation of topsoil and woodchips.
- (b) The City reserves the right to reduce the area of planting beds in order to meet the budgetary constraints.

E17.2 Materials

E17.2.1 Topsoil Mix

- (a) Planting soil shall consist of black top soil, a fertile friable natural loam containing by volume not less than 4% and no more than 25% of organic matter for clay loams, and not less than 2% and no more than 25% for sandy loams, with an acidity value

ranging from pH 6.0 to 8.0 and capable of sustaining vigorous plant growth. Topsoil is to be free of any mixture of subsoil, clay lumps and free of stones and other extraneous matter. It shall not contain couch or crab grass rhizomes.

E17.2.2 Woodchip Mulch

- (a) Mulch to be placed within the proposed planting beds.
- (b) Mulch is to be a clean bark or wood chip mulch with chips not less than 15mm nor larger than 75mm in size and not more than 20mm thick. Mulch is to be free of leaves, branches and other extraneous matter.

E17.3 Construction Methods

E17.3.1 General

- (a) Layout of planting beds shall be as per Drawings.

E17.3.2 Installation

- (a) Excavation shall be in accordance with SCD-501 and E10.
- (b) Upon excavation of the planting bed, the excavation shall be backfilled with a topsoil mixture to a depth to permit adequate installation and stabilization of the plant material. Topsoil shall be placed in accordance with the most up to date version of City of Winnipeg Standard Construction Specification CW 3540 to a 400mm depth. Woodchip Mulch to be placed on top of shrub bed in accordance with SCD-501.

E17.4 Method of Measurement and Basis of Payment

E17.4.1 Method of Measurement shall be as follows:

- (a) Planting Bed will be measured on a per square metre basis for:
 - (i) "Supply and Install Shrub Beds", on Form B: Prices.

E17.4.2 Basis of Payment shall be as follows:

- (a) Planting Bed will be paid for at the Contract Unit Prices as indicated on Form B: Prices. The amount to be paid for shall be the total number of units on Form B: Prices. This price shall be payment in full including all costs for the excavation of the planting bed and supply and installation of the topsoil and woodchips
- (b) This price shall be full payment for supplying all labour, equipment and materials, and performing all operations herein described and all other items incidental to the Work and as accepted by the Contract Administrator.

E18. SHRUBS

E18.1 Description:

- (a) This specification shall cover the supply and installation of nursery grown shrubs.
- (b) The City reserves the right to reduce the quantity of shrubs in order to meet the budgetary constraints.

E18.2 Materials

E18.2.1 General

- (a) All nursery stock supplied shall be Canadian prairie nursery grown, of the species and sizes indicated on the drawings. Quality shall be in accordance with the latest "Guide Specification for Nursery Stock of the Canadian Nursery Trades Association".
- (b) Any nursery stock dug from native stands, wood lots, orchards or neglected nurseries and which have not received proper cultural maintenance as advocated by the Canadian Nursery Trades Association shall be designated as "collected plants". The use of "collected plants" will not be permitted unless approved by the Contract Administrator.

- (c) The Contract Administrator reserves the right to inspect the plant material at their original source, and to instruct the supplier on root and branch pruning requirements.
- (d) Nomenclature of specified nursery stock shall conform to the International Code of Nomenclature for Cultivated Plants and shall be in accordance with the approved scientific names given in the latest edition of standardized Plant Names. The names of varieties not names therein are generally in conformity with the names accepted in the nursery trades.
- (e) Plants larger than specified may be used if approved by the Contract Administrator. The use of such plants shall not increase the Contract price.
- (f) All nursery stock shall be measured when the branches are in their normal position. Height and spread dimensions specified refer to the main body of the plant and not from branch tip.
- (g) All nursery stock shall be well branched, true to type, structurally sound, possess a well developed, undamaged root system and shall be free of disease, insect infestations, rodent damage, sunscald, frost cracks and other abrasion or scare to the bark. All parts of the nursery stock shall be moist and show live, green cambium when cut.
- (h) At least one plant of each variety supplied shall bear a tag showing both the botanical and common name of the plant.

E18.2.2 Protection of Stock

- (a) All nursery stock shall be well protected from damage and drying out from the time of digging until the time of planting on site. All roots shall be cleanly cut; split roots are not acceptable.
- (b) Nursery stock shall be transplanted with care to prevent damage. Branches shall be carefully tied in such a manner so as not to break or damage trunks. Points of contact with equipment shall be padded. All nursery stock, which cannot be planted immediately upon arrival at the site, shall be well protected to prevent drying out and shall be kept moist until commencement of planting.

E18.2.3 Wound Dressing

- (a) Horticulturally accepted non-toxic, non-hardening emulsion. Wound Dressing must be approved by Contract Administrator.

E18.3 Construction Methods

E18.3.1 General

- (a) Planting pits shall be excavated in a square shape with vertical sides to a depth and a minimum width amounting to twice the diameter of the root system and excavated pits shall be refilled with backfill mix as per drawing SCD-501. Hand dig pits where required to protect underground utilities.

E18.3.2 Installation

- (a) Upon excavation of the pits, and protection of any underground utility lines, the holes shall be backfilled with a topsoil mixture to a depth to permit adequate installation and stabilization of the plant material.
- (b) After inserting the plant and filling the planting hole with topsoil, water shall be poured in until the pit is thoroughly soaked. Filling of the hole shall then be completed and the fill-in soil shall be packed firmly around the roots, leaving a concave surface for convenient watering 75 mm below rounding and grade elevation. After filling, the planting shall be watered at frequent intervals.
- (c) Planting shall be done during periods suitable to weather conditions and locally accepted practice. All nursery stock shall be set plumb in the centre of pits and at levels as shown on the planting details after settlement has taken place.
- (d) Nursery stock shall be faced to give the best appearance or relationship to adjacent structures and to the approval of the Contract Administrator.

E18.4 Guarantee of Nursery Stock

E18.4.1 Further to D23, the Contractor shall warranty, including replanting any nursery stock found dead and/or in poor condition within two years from the date of the Certificate of Total Performance, at his cost. "Poor condition" shall be interpreted as meaning nursery stock on which branches are dying, or have not shown satisfactory growth of leaves. All replacements plants shall be installed within from the date of notification from the City, unless the City extends the time period, as a result of seasonal or climatic considerations.

- (a) Exempted is nursery stock damaged by accidental causes or vandalism, which stock shall be replaced at the cost of the City.
- (b) All required replacements shall be by plants of at least the same size and species as specified, and shall be supplied and planted in accordance with the original drawings and Specifications, and the replaced material shall carry an additional two-year warranty period. All plants must be in a healthy condition for a full two years before the warranty on the year will be considered fulfilled.

E18.5 Method of Measurement and Basis of Payment

E18.5.1 Method of Measurement shall be as follows:

- (a) The supply and installation of Plant Material will be measured on a per unit basis for "Supply and Install Shrubs" on Form B: Prices.

E18.5.2 Basis of Payment shall be as follows:

- (a) The supply and installation of Plant Material will be paid for at the Contract unit price for each shrub, measured as specified herein, which price shall be payment in full including all costs for the shrub, two year maintenance, and all other items incidental to the Work included in this Specification.
 - (i) Species and quantities as noted in Unit Price Forms.

E18.6 Plant List

Quantity	Common Name/botanical name	Size / Remarks
11	Dwarf Korean Lilac <i>Syringa meyeri 'Palibin'</i>	2 gal. Specimen quality.
21	Dwarf 'Bailey Compact' American Cranberry <i>Viburnum trilobum 'Bailey Compact'</i>	2 gal. Specimen quality.

E19. SOIL AND SOD

E19.1 Description

- E19.1.1** This Specification shall amend and supplement the most up to date revisions of City of Winnipeg Specifications CW 3510, CW 3520 and CW 3540. The Contractor shall install mineral sod and a minimum 75mm compacted thickness of topsoil, as required.
- E19.1.2** The Contractor shall install topsoil and sod over all graded areas including; around the perimeter of newly constructed sitting area, timber edging and re-graded area.
- E19.1.3** Damaged areas: Restoration of damaged areas other than as outlined above shall be incidental to the Work. No separate payment shall be made. Restoration shall be achieved using topsoil and sod unless otherwise directed by the Contract Administrator.
- E19.1.4** Thirty (30) day maintenance period on sod will commence at **Total Performance** and acceptance.

E19.2 Method of Measurement and Basis of Payment

E19.2.1 Method of Measurement shall be as follows:

- (a) Sodding will be measured on a square metre basis for: "Supply and Install soil and sod" on Form B: Prices.

E19.2.2 Basis of Payment shall be as follows:

- (a) Sodding will be paid for at the Contract Unit Prices. The amount to be paid for shall be the total number of units, as indicated on Form B: Prices. This price shall be full payment for supplying all labour, equipment and materials, and performing all operations herein described and all other items incidental to the Work and as accepted by the Contract Administrator.

E20. ORNAMENTAL FENCING

E20.1 Description

E20.1.1 This specification shall cover the supply and installation of Ornamental Fencing.

E20.1.2 The Contractor shall furnish all labour, materials, equipment and services necessary to complete the Work as shown on Drawings and specified herein.

E20.2 Materials

E20.2.1 All materials supplied under this specification shall be of a type approved by the Contract Administrator, and shall be subject to inspection and testing by the Contract Administrator.

E20.2.2 Fencing shall be:

- (a) Iron Eagle Silver III x 914mm height, or substitute approved in accordance with B7.
- (b) Post Cap shall be:
 - (i) Ball Post Cap;
- (c) Colour shall be:
 - (i) Black.

E20.3 Construction Methods

- (a) All Work is to be located and installed in accordance with the Drawings and following manufacturer's instructions, using approved non-rusting, vandal resistant fasteners to ensure solid, durable, finished work suitable for the purpose intended. Fasteners and assembly hardware shall be incidental to the Work;
- (b) Fencing to be installed plumb and true to correct elevations and location, as directed by the Contract Administrator. The Contractor shall confirm proposed locations confirm layout with Contract Administrator prior to installation;
- (c) Fencing to be carefully handled so that no parts will be bent, broken or otherwise damaged. Hammering is prohibited;
- (d) Install as per manufacturer's instructions.
- (e) Fencing posts shall be driven in instead of the use of concrete footings.
- (f) Fencing posts shall be surface mounted in locations where it sits upon precast concrete unit pavers.
- (g) Contractor shall repair any damage done during construction.

E20.4 Method of Measurement and Basis of Payment.

E20.4.1 Method of Measurement shall be as follows:

- (a) Ornamental Fencing shall be measured on a linear metre basis for:
 - (i) "Supply and Install ornamental fencing" on Form B: Prices.

E20.4.2 Basis of Payment shall be as follows:

- (a) Ornamental Fencing will be paid for at the Contract Unit Prices. The amount to be paid for shall be the total number of units, as indicated on Form B: Prices. This price shall be full payment for supplying all labour, equipment and materials, and

performing all operations herein described and all other items incidental to the Work and as accepted by the Contract Administrator.

E21. CHAIN LINK FENCING

E21.1 Description

E21.1.1 This specification shall supplement CW 3550 Chain Link Fencing and shall cover:

- (a) The installation of a new 1.2m high chain link fence around wading pool as per Drawings;

E21.1.2 Any materials that are deemed to be in good working condition should be re-used where appropriate.

E21.2 Method of Measurement and Basis of Payment.

E21.2.1 Method of Measurement shall be as follows:

- (a) Chain Link Fencing shall be measured on a linear metre basis for:
 - (i) "Supply and Install chain-link fencing including gate" on Form B: Prices.

E21.2.2 Basis of Payment shall be as follows:

- (a) Chain Link Fencing will be paid for at the Contract Unit Prices. The amount to be paid for shall be the total number of units, as indicated on Form B: Prices. This price shall be full payment for supplying all labour, equipment and materials, and performing all operations herein described and all other items incidental to the Work and as accepted by the Contract Administrator.

E22. SITE FURNITURE

E22.1 Description

E22.1.1 This specification shall cover the pick-up and installation of four (4) waste receptacles, one (1) accessible picnic tables w/ duckbill anchors, three (3) backed composite benches and one (1) backless composite bench.

E22.1.2 The Contractor shall furnish all labour, materials, equipment and services necessary to complete the Work as shown on Drawings and specified herein.

E22.2 Materials

E22.2.1 All materials supplied under this specification shall be of a type approved by the Contract Administrator, and shall be subject to inspection and testing by the Contract Administrator.

E22.2.2 Site Furniture shall be:

- (a) Waste Receptacle – Metal Slat Type, "clam shell style" **galvanized frame** as per SCD-119, Product # **52501063GLV**.
- (b) Accessible Picnic Table – Tache Style Wheelchair Metal Frame Picnic Table, **galvanized frame** as per SCD-122A, with wood slats and cedar tone painted finish, complete with duckbill anchor.
- (c) Composite Benches – Tache Style Composite Bench with Arm Rests, **galvanized frame** as per SCD-121A, with composite slats in cedar-tone colour and Backless Tache Style Composite Bench with Arm Rests.

- (i) Contact for Waste Receptacle and Benches:

Aaron Lennon @ 986-5505

Supervisor of Central Repair/Manufacturing Facility

City of Winnipeg

Fleet Management Agency Division

Public Works Department
215 Tecumseh St
Winnipeg, MB R3E 3S4
Email: ALennon@winnipeg.ca

(ii) Contact for Picnic Tables:

Bryan Mayer @ 470-7747, Marc Laurin @ 479-5489 or Todd Hendry @ 470-4834

Centralized Park Services

City of Winnipeg

960 Thomas Ave.

Winnipeg MB R2H 2C1

Email: BMayer@winnipeg.ca

Email: MLaurin@winnipeg.ca

Email: THendry@winnipeg.ca

E22.3 Construction Methods

- (a) All Work is to be located and installed in accordance with the Drawings, SCDs, and following manufacturer's instructions, using approved non-rusting, vandal resistant fasteners to ensure solid, durable, finished work suitable for the purpose intended. Fasteners and assembly hardware shall be incidental to the Work;
- (b) All furnishings and fixtures to be installed plumb and true to correct elevations and location, as directed by the Contract Administrator. The Contractor shall confirm proposed locations of all site furnishings with Contract Administrator prior to installation;
- (c) All furnishings and fixtures to be carefully handled so that no parts will be bent, broken or otherwise damaged. Hammering is prohibited;
- (d) Install as per manufacturer's instructions and the attached drawings.

E22.4 Method of Measurement and Basis of Payment

E22.4.1 Method of Measurement shall be as follows:

- (a) Site Furniture will be measured on a per unit basis for the following items:
 - (i) "Pick Up and Install composite bench";
 - (ii) "Pick Up and Install backless composite bench";
 - (iii) "Pick Up and Install accessible picnic table";
 - (iv) "Pick Up and Install metal slat waste receptacles", on Form B: Prices.

E22.4.2 Basis of Payment shall be as follows:

- (a) Site Furniture will be paid for at the Contract Unit Prices. The amount to be paid for shall be the total number of units, as indicated on Form B: Prices. This price shall be full payment for supplying all labour, equipment and materials, and performing all operations herein described and all other items incidental to the Work and as accepted by the Contract Administrator.