



**THE CITY OF WINNIPEG**

# **BID OPPORTUNITY**

**BID OPPORTUNITY NO. 367-2010**

**NORQUAY COMMUNITY CENTRE PLAYGROUND DEVELOPMENT – SITE WORK**

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## **PART B - BIDDING PROCEDURES**

### **B1. CONTRACT TITLE**

B1.1 NORQUAY COMMUNITY CENTRE PLAYGROUND DEVELOPMENT – SITE WORK

### **B2. SUBMISSION DEADLINE**

B2.1 The Submission Deadline is 4:00 p.m. Winnipeg time, June 7, 2010.

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 D4.1.

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

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

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

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

### **B5. ADDENDA**

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

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

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

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

B5.2.3 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.

## **B6. SUBSTITUTES**

- B6.1 The Work is based on the Plant, Materials and methods specified in the Bid Opportunity.
- B6.2 Substitutions shall not be allowed unless application has been made to and prior approval has been granted by the Contract Administrator in writing.
- B6.3 Requests for approval of a substitute will not be considered unless received in writing by the Contract Administrator at least five (5) Business Days prior to the Submission Deadline.
- B6.4 The Bidder shall ensure that any and all requests for approval of a substitute:
- (a) provide sufficient information and details to enable the Contract Administrator to determine the acceptability of the Plant, Material or method as either an approved equal or alternative;
  - (b) identify any and all changes required in the applicable Work, and all changes to any other Work, which would become necessary to accommodate the substitute;
  - (c) identify any anticipated cost or time savings that may be associated with the substitute;
  - (d) certify that, in the case of a request for approval as an approved equal, the substitute will fully perform the functions called for by the general design, be of equal or superior substance to that specified, is suited to the same use and capable of performing the same function as that specified and can be incorporated into the Work, strictly in accordance with the proposed work schedule and the dates specified in the Supplemental Conditions for Substantial Performance and Total Performance;
  - (e) certify that, in the case of a request for approval as an approved alternative, the substitute will adequately perform the functions called for by the general design, be similar in substance to that specified, is suited to the same use and capable of performing the same function as that specified and can be incorporated into the Work, strictly in accordance with the proposed work schedule and the dates specified in the Supplemental Conditions for Substantial Performance and Total Performance.
- B6.5 The Contract Administrator, after assessing the request for approval of a substitute, may in his sole discretion grant approval for the use of a substitute as an “approved equal” or as an “approved alternative”, or may refuse to grant approval of the substitute.
- B6.6 The Contract Administrator will provide a response in writing, at least two (2) Business Days prior to the Submission Deadline, only to the Bidder who requested approval of the substitute.
- B6.6.1 The Bidder requesting and obtaining the approval of a substitute shall be entirely responsible for disseminating information regarding the approval to any person or persons he wishes to inform.
- B6.7 If the Contract Administrator approves a substitute as an “approved equal”, any Bidder may use the approved equal in place of the specified item.
- B6.8 If the Contract Administrator approves a substitute as an “approved alternative”, any Bidder bidding that approved alternative may base his 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 B14.
- B6.9 No later claim by the Contractor for an addition to the Total Bid Price because of any other changes in the Work necessitated by the use of an approved equal or an approved alternative will be considered.
- B6.10 Notwithstanding B6.2 to B6.9, and in accordance with B7.7, deviations inconsistent with the Bid Opportunity document shall be evaluated in accordance with B14.1(a).

## **B7. BID COMPONENTS**

- B7.1 The Bid shall consist of the following components:

- (a) Form A: Bid;
- (b) Form B: Prices;

- B7.2 Further to B7.1, the Bidder should include the written correspondence from the Contract Administrator approving a substitute in accordance with B6.
- B7.3 All components of the Bid shall be fully completed or provided, and submitted by the Bidder no later than the Submission Deadline, with all required entries made clearly and completely, to constitute a responsive Bid.
- B7.4 The Bid Submission may be submitted by mail, courier or personal delivery, or by facsimile transmission.
- B7.5 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
- B7.5.1 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.
- B7.6 Bidders are advised not to include any information/literature except as requested in accordance with B7.1.
- B7.7 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 B14.1(a).
- B7.8 If the Bid Submission is submitted by facsimile transmission, it shall be submitted to (204) 949-1178.
- B7.8.1 The Bidder is advised that the City cannot take responsibility for the availability of the facsimile machine at any time.
- B7.8.2 Bids submitted by internet electronic mail (e-mail) will not be accepted.

## **B8. BID**

- B8.1 The Bidder shall complete Form A: Bid, making all required entries.
- B8.2 Paragraph 2 of Form A: Bid shall be completed in accordance with the following requirements:
- (a) if the Bidder is a sole proprietor carrying on business in his own name, his 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 own, the business name and the name of every partner or corporation who is the owner of such business name shall be inserted.
- B8.2.1 If a Bid is submitted jointly by two or more persons, each and all such persons shall identify themselves in accordance with B8.2.
- B8.3 In Paragraph 3 of Form A: Bid, the Bidder shall identify a contact person who is authorized to represent the Bidder for purposes of the Bid.

- B8.4 Paragraph 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 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 own, it shall be signed by the registered owner of the business name, or by the registered owner's authorized officials if the owner is a partnership or a corporation.
- B8.4.1 The name and official capacity of all individuals signing Form A: Bid should be printed below such signatures.
- B8.4.2 All signatures shall be original.
- B8.5 If a Bid is submitted jointly by two or more persons, the word "Bidder" shall mean each and all such persons, and the undertakings, covenants and obligations of such joint Bidders in the Bid and the Contract, when awarded, shall be both joint and several.

## **B9. PRICES**

- B9.1 The Bidder shall state a price in Canadian funds for each item of the Work identified on Form B: Prices.
- B9.1.1 Notwithstanding C.12.2.3(c), prices on Form B: Prices shall include the Manitoba Retail Sales Tax (MRST, also known as PST), but exclude the GST, which shall be extra where applicable.
- B9.2 The quantities listed on Form B: Prices are to be considered approximate only. The City will use said quantities for the purpose of comparing Bids.
- B9.3 The quantities for which payment will be made to the Contractor are to be determined by the Work actually performed and completed by the Contractor, to be measured as specified in the applicable Specifications.
- B9.4 Prices from Non-Resident Bidders are subject to a Non-Resident Withholding Tax pursuant to the Income Tax Act (Canada).

## **B10. QUALIFICATION**

- B10.1 The Bidder shall:
- (a) undertake to be in good standing under The Corporations Act (Manitoba), or properly registered under The Business Names Registration Act (Manitoba), or otherwise properly registered, licensed or permitted by law to carry on business in Manitoba; and
  - (b) be financially capable of carrying out the terms of the Contract; and
  - (c) have all the necessary experience, capital, organization, and equipment to perform the Work in strict accordance with the terms and provisions of the Contract.
- B10.2 The Bidder and any proposed Subcontractor (for the portion of the Work proposed to be subcontracted to them) shall:
- (a) be responsible and not be suspended, debarred or in default of any obligations to the City. A list of suspended or debarred individuals and companies is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/debar.stm>
- B10.3 The Bidder and/or any proposed Subcontractor (for the portion of the Work proposed to be subcontracted to them) shall:

- (a) have successfully carried out work similar in nature, scope and value to the Work; and
- (b) be fully capable of performing the Work required to be in strict accordance with the terms and provisions of the Contract; and
- (c) have a written workplace safety and health program if required pursuant to The Workplace Safety and Health Act (Manitoba);

B10.4 The Bidder shall submit, within three (3) Business Days of a request by the Contract Administrator, proof satisfactory to the Contract Administrator of the qualifications of the Bidder and of any proposed Subcontractor.

B10.5 The Bidder shall provide, on the request of the Contract Administrator, full access to any of the Bidder's equipment and facilities to confirm, to the Contract Administrator's satisfaction, that the Bidder's equipment and facilities are adequate to perform the Work.

### **B11. OPENING OF BIDS AND RELEASE OF INFORMATION**

B11.1 Bids will not be opened publicly.

B11.2 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>

B11.3 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>

B11.4 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.

### **B12. IRREVOCABLE BID**

B12.1 The Bid(s) submitted by the Bidder shall be irrevocable for the time period specified in Paragraph 9 of Form A: Bid.

B12.2 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.

### **B13. WITHDRAWAL OF BIDS**

B13.1 A Bidder may withdraw his Bid without penalty by giving written notice to the Manager of Materials at any time prior to the Submission Deadline.

B13.1.1 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.

B13.1.2 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.

B13.1.3 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 B13.1.3(b), declare the Bid withdrawn.

B13.2 A Bidder who withdraws his Bid after the Submission Deadline but before his Bid has been released or has lapsed as provided for in B12.2 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.

#### **B14. EVALUATION OF BIDS**

B14.1 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.

B14.2 Further to B14.1(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.

B14.3 Further to B14.1(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.

B14.4 Further to B14.1(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 adjusted, if necessary, as follows:

- (a) if the lowest evaluated responsive Bid submitted by a responsible and qualified Bidder is within the budgetary provision for the Work, no adjustment will be made to the Total Bid Price; or
- (b) if the lowest evaluated responsive Bid submitted by a responsible and qualified Bidder exceeds the budgetary provision for the Work, the Total Bid Prices of all responsive Bids submitted by responsible and qualified Bidders will be adjusted by deducting item 10 and replacing item 10 with an additional 58 square meters of item 9 at the unit price indicated for item 9 on Form B: Prices, to achieve a Total Bid Price within the budgetary provision.

B14.4.1 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.

B14.4.2 Further to B14.1(a), in the event that a unit price is not provided on Form B: Prices, the City will determine the unit price by dividing the Amount (extended price) by the approximate quantity, for the purposes of evaluation and payment.

#### **B15. AWARD OF CONTRACT**

B15.1 The City will give notice of the award of the Contract or will give notice that no award will be made.

B15.2 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.

B15.2.1 Without limiting the generality of B15.2, 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.

B15.3 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 B14.

B15.3.1 Following the award of contract, a Bidder will be provided with information related to the evaluation of his Bid upon written request to the Contract Administrator.

B15.4 Notwithstanding C4, the City will issue a Purchase Order to the successful Bidder in lieu of the execution of a Contract.

B15.5 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](http://www.winnipeg.ca/matmgt/gen_cond.stm)
- C0.2 A reference in the Bid Opportunity to a section, clause or subclause with the prefix “**C**” designates a section, clause or subclause in the *General Conditions for Construction*.

## **PART D - SUPPLEMENTAL CONDITIONS**

### **GENERAL**

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

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

#### **D2. SCOPE OF WORK**

D2.1 The Work to be done under the Contract shall consist of removal and disposal of paving materials, site grading, excavation for new play areas, supply and installation of paving, site furnishings, topsoil, bark mulch, sod, shrubs and perennials. Due to the presence of a High Voltage (69,000 Volts) Underground Hydro line running through the site, some of the work will require the presence of a Hydro Safety Watcher on site. Any excavation work (demolition and / or construction) that occurs within the two (2) metre offset from the centreline of the Hydro line will be done by hand or by Hydro Vac (water wash method).

D2.2 The major components of the Work are as follows:

- (a) Removals and Site preparation
- (b) Sawcut, excavation, remove and dispose of existing paving and unsuitable base courses;
- (c) Excavation and rough grading;
- (d) Construction of crushed granular paving;
- (e) Construction of concrete walkway, concrete curbing, para ramp and pavers;
- (f) Supply and installation of boulder riprap and flagstone stepping stones;
- (g) Supply and installation of site furnishings;
- (h) Shrub bed preparation, supply and installation shrubs, perennials and bark mulch;
- (i) Supply and installation of topsoil and sod as required in accordance with the requirements attached;

D2.3 The Work to be done shall also be coordinated with the Community Centre operation and associated spray pad. The Contractor shall be responsible for providing and maintaining safe, designated routes to both the Community Centre building and the spray pad.

#### **D3. DEFINITIONS**

D3.1 When used in this Bid Opportunity:

- (a) "**CSA**" means Canadian Standards Association;
- (b) "**ASTM**" means American Society for Testing and Materials;

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

D4.1 The Contract Administrator is Scatliff+Miller+Murray Inc., represented by:

Ms. Jennifer Wagner  
8<sup>th</sup> Floor – 136 Market Avenue  
Winnipeg, MB  
R3B 0P4

Telephone No. (204) 927-3444  
Facsimile No. (204) 927-3443

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

**D5. CONTRACTOR'S SUPERVISOR**

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

**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 address or facsimile number identified in D4.1.

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 address or facsimile number:

The City of Winnipeg  
Chief Financial Officer  
Administration Building, 3rd Floor  
510 Main Street  
Winnipeg MB R3B 1B9  
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 address or facsimile number:

The City of Winnipeg  
Internal Services Department  
Legal Services Division  
Attn: City Solicitor  
185 King Street, 3rd Floor  
Winnipeg MB R3B 1J1  
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/matmgt/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) automobile liability insurance for owned automobiles used for or in connection with the Work in the amount of at least two million dollars (\$2,000,000.00) at all times during the performance of the Work and until the date of Total Performance;
- D9.2 Deductibles shall be borne by the Contractor.
- D9.3 The Contractor shall provide the Contract Administrator with a certificate(s) of insurance, in a form satisfactory to the City Solicitor, at least two (2) Business Days prior to the commencement of any Work but in no event later than 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.

## **SCHEDULE OF WORK**

### **D12. COMMENCEMENT**

- D12.1 The Contractor shall not commence any Work until he is in receipt of a Purchase Order from the Award Authority authorizing the commencement of the Work.
- D12.2 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.
  - (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.
  - (c) the Contractor has provided a written schedule of work outlining dates and duties to be performed.
- D12.3 The City intends to award this Contract by June 21, 2010.
- D12.4 The Contractor shall commence the Work on the Site no later than July 5, 2010.

### **D13. WORK BY OTHERS**

- D13.1 Works by others on or near the Site will include but not necessarily be limited to:
- (a) Maintenance Work by City of Winnipeg;
  - (b) Supply and Installation of Play Equipment and Safety Surfacing by Play Equipment Contractor(s);
  - (c) Electrical Work;
  - (d) Removal and reinstallation of picnic tables by City of Winnipeg.

### **D14. SUBSTANTIAL PERFORMANCE**

- D14.1 The Contractor shall achieve Substantial Performance within twenty-five (25) consecutive Working Days of the commencement of the Work as specified in D12.
- 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 D12.

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) Shrubs and perennials as specified in E28;
- (b) Topsoil and Sod as specified in E29.

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.

#### **CONTROL OF WORK**

##### **D18. JOB MEETINGS**

D18.1 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, one representative of the Contractor and one representative of the Community Centre. 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.

D18.2 The Contract Administrator reserves the right to cancel any job meeting or call additional job meetings whenever he deems it necessary.

##### **D19. PRIME CONTRACTOR – THE WORKPLACE SAFETY AND HEALTH ACT (MANITOBA)**

D19.1 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**

### **D20. PAYMENT**

D20.1 Further to C12, the City may at its option pay the Contractor by direct deposit to the Contractor's banking institution.

## **WARRANTY**

### **D21. WARRANTY**

D21.1 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. 367-2010

NORQUAY COMMUNITY CENTRE PLAYGROUND DEVELOPMENT – SITE WORK

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  
Internal Services Department  
Legal Services Division  
185 King Street, 3rd Floor  
Winnipeg MB R3B 1J1

RE: PERFORMANCE SECURITY - BID OPPORTUNITY NO. 367-2010

NORQUAY COMMUNITY CENTRE PLAYGROUND DEVELOPMENT – SITE WORK

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

\_\_\_\_\_  
(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>Specification No.</u>	<u>Specification Title</u>
CW 1110	General Instruction
CW 1120	Existing Services, Utilities and Structures
CW 1130	Site Requirements
CW 3010	Clearing and Grubbing
CW 3110	Sub-Grade, Sub-Base and Base Course Construction
CW 3120	Installation of Sub Drains
CW 3130	Supply and Installation of Geotextile Fabrics
CW 3310	Portland Cement Concrete Pavement Works
CW 3170	Earthwork and Grading
CW 3325	Portland Cement Concrete Sidewalk
CW 3330	Installation of Interlocking Pavement Stones
CW 3510	Sodding
CW 3540	Topsoil and Finish Grading for Establishment of Turf Areas
CW 3615	Riprap

<u>Drawing No.</u>	<u>Drawing Name/Title</u>
L00	Site Plan – Existing Conditions and Removals
L01	General Site Plan – Phase I
L02	Layout Plan
L03	Grading Plan
L04	Planting Plan
L05	Details
SCD 119	Waste Receptacle Metal Slat Type
88 Series PL	Bench
SD-229B	Curb Ramp Layout – Medians and Approaches
SD-229C	Curb Ramp For Concrete Pavement

- E1.3.1 Above drawing is available on request in AutoCAD .dwg format from the Contract Administrator.

#### E2. SOILS INVESTIGATION REPORT

- E2.1 Further to C3.1, no soil inspection has been done. Contractor to supply soils investigation report if site conditions warrant.

### **E3. HAZARDOUS MATERIALS**

- E3.1 If asbestos or other hazardous materials are encountered during the Work of the Contract, the Contractor shall stop all work and notify the Contract Administrator immediately. Removal of hazardous materials shall be dealt with by the City and the Contractor shall await further instruction by the Contract Administrator.

### **E4. PRE-CONSTRUCTION MEETING**

- E4.1 The Contractor shall not begin the Work under this Contract until a pre-construction meeting has been held between representatives of the Play Equipment Contractor, the Site Works Contractor, the City of Winnipeg (Parks and Open Space, Electrical Services and Forestry), Norquay Community Centre, Manitoba Hydro and the Contract Administrator.

### **E5. SITE ACCESS**

- E5.1 All access to be on the designated routes through the Site. These routes will be as shown on the Drawings.
- E5.2 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.
- E5.3 The Contractor's operation 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. Damage to areas beyond the marked routes shall be repaired by and at the expense of the Contractor to the satisfaction of the Contract Administrator.

### **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.
- E6.3 The Contractor shall provide and maintain safe, designated routes to both the Community Centre building and the associated spray pad. Work immediately adjacent to the spray pad shall be coordinated with its maintenance and operation on a daily basis.

### **E7. SITE CONDITION**

- E7.1 The Contractor shall examine the Site and make themselves familiar with the existing conditions (both above and below grade) and nature of Work to be done.
- E7.2 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. Surface and sub-surface conditions shown on the Drawings and included herein are provided for general information and variations there from shall not affect the terms of the Contract. 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.
- E7.3 The Contractor shall set all necessary control lines, benchmarks, survey, elevation stakes and layout in accordance with the individual site conditions and in consultation with the Contract Administrator.

## **E8. PROTECTION OF EXISTING TREES**

- E8.1 The Contractor shall take the following precautionary steps to prevent damage from construction activities:
- (a) All trees will have a 3m radius protective zone calculated from the circumference at the base of the trunk which will remain free of digging, trenching, grade changes, stock piling of materials and soil compaction, except as minimum to construct berm or swales throughout the duration of the Contract. Protective fencing around these areas is required.
  - (b) Trees within and immediately adjacent to proposed construction and those identified to be at risk by the Contract Administrator are to be strapped with 25 x 100 x 2400 mm wood planks, or suitably protected as approved by the Contract Administrator. Do not use nails or other fasteners that penetrate the tree trunk. The width and length of strapping may be reduced to suit the tree being protected as approved by the Contract Administrator.
  - (c) Excavation shall be performed in a manner that minimizes damage to the existing root systems. Where possible, excavation shall be carried out such that the edge of the excavation shall be a minimum of 1.5 times the diameter (measured in inches) where 1 inch diameter equals 1 foot measured from the outside edge of the trunk of the tree at 6 inches above grade. Where roots must be cut to facilitate excavation, they shall be pruned neatly at the face of excavation. They must be properly trimmed with sharp tools to prevent crushing or being pulled by construction equipment. No paint is required. All exposed roots must be mulched until the excavated area is filled with clean earth to avoid exposure to sunlight and desiccation.
  - (d) Operation of equipment within the dripline of the trees shall be kept to the minimum required to perform the Work required. Equipment shall not be parked, repaired, refuelled; construction materials shall not be stored, and earth materials shall not be stockpiled within the driplines of trees. The dripline of a tree shall be considered to be the ground surface directly beneath the tips of its outermost branches. The Contractor shall ensure that the operations do not cause flooding or sediment deposition on areas where trees are located.
  - (e) Work on-site shall be carried out in such a manner so as to minimize damage to existing tree branches. Where damage to branches does occur, they shall be neatly pruned.
  - (f) Repair, replace and maintain tree protection materials during construction until the Project completion.
  - (g) Carefully remove safety fencing and strapping material without harming the tree as soon as the construction and restoration Work is complete.
- E8.2 All damage to existing trees caused by the Contractor's activities shall be repaired to the requirements and satisfaction of the Contract Administrator and the City Forester or his designate.
- E8.3 No separate measurement or payment will be made for the protection of existing structures, trees and property.

## **E9. EXISTING SERVICES AND UTILITIES**

- E9.1 This Specification shall amend and supplement CW 1120-R1.
- E9.2 Other than required to be done by the Contractor under the Work of this contract, all necessary precautions shall be exercised by the Contractor so as not to remove, disturb, or damage any existing plant material, pavements, streets, roads, boulevards, light standards, hydro poles, fences, fire hydrants, culverts, 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 the 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.

- E9.3 The Contractor's attention is drawn to the existing underground lines or services that may be located in the area of the Work.
- (a) The Contractor is to make note of the location of the High Voltage (69,000 Volts) Underground Hydro line running through the site and noted on the Drawings.**
- E9.4 The Contractor shall take all necessary precautions when performing the Work to ensure that no damage is done to these existing services.
- E9.5 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.
- E9.6 All costs in connection with this item including location of the existing service, repairs to any existing services damaged by the construction operation, etc. shall be included in the unit prices bid for supply and installation of the items included under this Contract.
- E9.7 The Contractor will be required to make his own arrangements in connection with the temporary use of lighting, power, gas, sewer, water or other utilities, and pay all costs in connection therewith.
- E9.8 All necessary permits, fees and other like expenses as well as the cost of temporary connections to existing facilities shall be arranged and paid for by the Contractor.

#### **E10. PERMITS, NOTICES, LICENSES, CERTIFICATES, LAWS AND RULES**

- E10.1 The City of Winnipeg will take out a Development Permit for the Work described within this bid opportunity at this site.
- E10.2 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.
- E10.3 The Contractor shall comply with all laws, ordinances, rules and regulations that would relate to the Work.
- E10.4 All notices, consents, approvals, statements, authorizations, documents or other communications to the City shall be submitted to the Contract Administrator.
- E10.5 All Work shall be performed in compliance with the Manitoba Workplace Health and Safety Act.
- E10.6 All Work shall be performed in compliance with the Manitoba Workplace Health and Safety Fall Protection guidelines.
- E10.7 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.

#### **E11. PROTECTION OF SURVEY INFRASTRUCTURE**

- E11.1 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.
- E11.2 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 986-4826 (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.

- E11.3 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.
- E11.4 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.
- E11.5 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.

## **E12. STAKES AND MARKS**

- E12.1 The Contractor will mark, to the extent he determines to be necessary, the location, alignment and elevation of the Work by means of stakes or marks, for review and approval by the Contract Administrator. The Contractor shall make the completed Works conform to the lines and marks thus approved and indicated.
- E12.2 The Contractor shall notify the Contract Administrator immediately of the disturbance of any such stakes or marks. The cost of correcting any errors arising out of neglect of the Contractor to so notify the Contract Administrator shall be borne entirely by the Contractor, as well as the cost of replacing any disturbed stakes or marks.
- E12.3 Before commencing Work, the Contractor shall satisfy himself as to the meaning and correctness of all stakes and marks and no claims shall be entertained by the City on account of any alleged inaccuracies. If any error is suspected in the Drawings, Specifications or the directions of the Contract Administrator, Work shall be discontinued until the errors are rectified, but no claims shall be made on account of any delay occasioned thereby.
- E12.4 The Contractor shall determine and provide all dimensions and elevations measured from the stakes or marks.
- E12.5 The Contract Administrator shall be advised of the staking of the play area layout at least twenty-four (24) hours in advance in order that the layout may be inspected and adjusted as required prior to construction. The cost of correcting any errors arising out of neglect of the Contractor to so notify the Contract Administrator shall be borne entirely by the Contractor, as well as the cost of removing and reinstalling the timbers to suit the play equipment layout.

## **E13. SITE ENCLOSURES**

- E13.1 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.
- E13.2 Site enclosures shall be considered incidental to the Contract Work.

## **E14. PRODUCT APPROVALS**

- E14.1 The Contractor shall, following award, prepare a complete list of all material to be used on the project and submit the list to the Contract Administrator seventy-two (72) hours prior to start of construction.

- E14.2 The Contractor shall only use material which has been approved by City of Winnipeg or by the Contract Administrator. The list shall provide the product, the manufacturer and the supplier.
- E14.3 All Workmanship and materials furnished and supplied under this Specification are subject to close and systematic inspection and testing by the Contract Administrator. The Contract Administrator reserves the right to reject any materials or Works which are not in accordance with the requirements of the Specifications.
- E14.4 The Contractor shall wholly be responsible for the supply, safe storage, and handling of all materials set forth in this specification, and the control of all operations, incidental thereto notwithstanding any inspection or approval that may have been previously given.

## **E15. SURFACE RESTORATION**

- E15.1 Further to Section 3.3 of CW 1130-R1, the Contractor shall temporarily repair any Work commenced and not completed in the 2010 construction season to the satisfaction of the Contract Administrator. The Contractor shall maintain the temporary repairs in a safe condition as determined by the Contract Administrator until permanent repairs are completed. The Contractor shall bear all costs associated with temporary repairs and their maintenance.

## **SITE DEVELOPMENT**

### **E16. HYDRO SAFETY WATCH**

- E16.1 The Contractor's attention is drawn to the existing underground High Voltage (69,000 Volts) Underground Hydro line running through the site and located in the area of the Work.
- E16.2 Further to E9, the Contractor shall take all necessary precautions when performing the Work to ensure that no damage is done to this line. This includes
- (a) Maintaining offsets in accordance with Hydro requirements:
    - (i) Four (4) metre offset from centreline of the cable alignment for any installations;
    - (ii) Five (5) metre offset from centreline of the cable alignment for tree planting;
    - (iii) Two (2) metre offset from centreline of the cable for any excavation by equipment;
    - (iv) Work within Two (2) metre offset requires review and approval by Hydro;
  - (b) Protecting the integrity of both the cable and the thermal backfill surrounding the cable, any Work taking place within two (2) metre offset this zone:
    - (i) will require all digging to be done by hand or Hydro Vac (water wash method),
    - (ii) is not to encroach below the depth of the concrete block protection (approx 750mm depth); and
    - (iii) will require a Hydro Safety Watcher on site.
  - (c) E16(b) applies to both demolition and construction Works.
  - (d) Line will be de-energized between June 30 and September 15 – special arrangements for extended “de-energizing” will need to be made if Work occurs outside of this time frame.
  - (e) Turf areas may occur over the line
- E16.3 The Contractor shall be responsible for coordinating all work with Manitoba Hydro and the need for the Hydro Safety Watch to be on site.
- E16.4 The costs associated with this item shall be borne by the Contractor. No separate payment shall be made.

## **E17. REMOVALS**

### **E17.1 Description**

E17.1.1 This Specification is supplemental to CW 3010-R4 and CW3110-R11.

E17.1.2 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 herein specified.

E17.1.3 Work shall include, but not necessarily confined to, the following:

- (a) Supervision from a Hydro Safety Watcher due to the presence of a High Voltage (69,000 volts) Underground Hydro line running through the site as noted on the Drawings;
- (b) Stockpile suitable, approved material on site for reuse (clean topsoil, clay fill and gravel fill) in a secure location. Remove and legally dispose of unsuitable material. Stockpile location to be restored to original condition following removal and re-use of material;
- (c) Sawcut, remove and legally dispose of asphalt paving, base course, gravel and stone as identified on drawing L00;
- (d) Remove and legally dispose of existing sod as identified on drawing L00.
- (e) Remove and stockpile existing bike racks located adjacent to spray park for reinstallation.

### **E17.2 Construction Methods**

E17.2.1 The Contractor shall remove existing pavement in accordance with CW 3110-R11.

E17.2.2 Prior to beginning the earthwork and grading the Contractor shall clear the Site and remove all existing trees and shrubs to be removed as indicate on the Removal Plan, including roots masses, and debris, etc. that is located within the limits of the Work. Obtain Contract Administrators approval prior to removing any trees. The material shall be loaded, hauled and legally disposed of off site at a location approved by the Contract Administrator.

E17.2.3 All tree stumps for removed trees shall be removed to the satisfaction of the Contract Administrator. The Contractor shall load and haul all stumps, rubbish and all other surface litter from the Site and legally dispose of these materials at dumps located by the Contractor and approved by the Contract Administrator. Any materials dropped or spilled on any streets during the hauling operations shall be promptly cleaned up by and at the expense of the Contractor, to the satisfaction of the Contract Administrator.

E17.2.4 All foundations shall be removed to full depth to the satisfaction of the Contract Administrator. Fill all holes resulting from removals with compacted clay fill in seeded or sodded areas and compacted granular fill in paved areas.

E17.2.5 Excavate and remove existing paving and base courses. Dispose of unsuitable material off site at a facility approved by the City of Winnipeg. The Contractor shall sawcut the existing paving to produce a clean straight edge when excavating.

E17.2.6 The Contractor shall ensure that upon completion of the removal operations, the Site is left in a neat condition free from debris, etc. for approval by the Contract Administrator prior to placing base courses and clean fill.

E17.2.7 The Contractor and all sub-contractors shall examine the Site and make themselves familiar with the existing conditions and the nature of the Work to be done.

E17.2.8 Prevent damage to surface or underground utility lines which are to remain. Make good any damage.

E17.2.9 Do not disturb soil within branch spread of trees to remain.

- E17.2.10 All extraneous materials to be removed from the Site and disposed of in a safe and legal manner. This specification shall amend and supplement City of Winnipeg Standard Construction Specifications CW 3110-R11.
- E17.2.11 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.
- E17.2.12 Contractor must coordinate with the Contract Administrator for a site inspection to ensure all removals have occurred.
- E17.3 Method of Measurement
- E17.3.1 Removals, sawcutting, disposal and related Work in accordance with the Drawings and Specification shall be incidental to the lump sum prices for "Removals and Site Preparation" as indicated in Form B: Price. No payment will be made for material removed outside of the limits of excavation as established by the Contract Administrator.
- E17.3.2 Quantities of units are based on the proposed design drawings as supplied by the Contract Administrator.
- E17.4 Basis of Payment
- E17.4.1 Removals, sawcutting, disposal and related Work will be paid for at the Contract Unit Prices for Item 1): "Removal and Site Preparation" on Form B: Prices and measured as specified herein. 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 accepted by the Contract Administrator.

## **E18. EXCAVATION AND GRADING**

- E18.1 Description
- E18.1.1 This Specification shall amend and supplement CW 3110-R11 and CW 3170-R3.
- E18.1.2 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 herein specified.
- E18.1.3 Work shall include, but not necessarily confined to, the following:
- (a) Excavation, removals, sawcutting, disposal, subgrade compaction and rough grading of the existing Site for the construction of concrete paving, sodded areas, planting areas and play areas to the design requirements noted on the Drawings and the Specifications, approved on site by the Contract Administrator, to depths as required for each surface;
  - (b) Hand Excavation for any area that lies within the two (2) metre offset from the centerline of the High Voltage Underground Hydro cable line as shown on drawings;
    - (i) All work within the two (2) metre offset requires review and approval by Hydro and supervision by a Hydro Safety Watcher;
  - (c) Earthwork and grading of the existing Site (cut and fill including compaction of subgrade and fill material) to ensure positive drainage in all paved areas, adjacent sodded areas and play areas;
  - (d) Supply and install imported fill in areas as required to ensure positive drainage;
  - (e) Excavate, remove and legally dispose for play areas in accordance with the proposed design drawings and to the depths required for each play surface;
  - (f) Excavate, remove and legally dispose of unsuitable subgrade and replace with compacted granular material;

- (g) Excavate, remove, legally dispose, rough grade and fill areas where items were removed and will not be replaced.

E18.2 Materials

E18.2.1 All fill materials shall conform to CW 3170-R3.

E18.3 Construction Methods

E18.3.1 The Contractor shall construct the Site, within the limits indicated, to the design elevations and gradients noted on the Drawings (less the appropriate surface treatment depths specified) and shall excavate, remove and dispose of all unsuitable materials of whatever nature encountered.

E18.3.2 The Contractor shall construct all sub-grades in accordance with Specification CW 3110-R11. Excavation will be performed as per Section 4.3 of CW 3110-R11. Unsuitable Excavated material shall be disposed of as per Section 3.4 of CW 1130-R1. The Contractor is advised that there may be a surplus of fill on the Site after the design sub-grade level has been achieved. All surplus material will be disposed of in accordance with Section 3.4 of CW 1130-R1.

E18.3.3 Excavated or graded materials to be approved before use as fill for grading Work. Protect such approved material from contamination. Stockpile in approved locations. Protection and stockpiling are incidental to unit price bid for removals, excavation and rough grading.

E18.3.4 The Contractor shall excavate topsoil as per Section 4.3 of CW 3110-R11. Topsoil excavation is incidental to the unit price bid for removals, excavation and rough grading.

E18.3.5 The Contractor and all sub-contractors shall examine the Site and make themselves familiar with the existing conditions and the nature of the Work to be done.

E18.3.6 Prevent damage to surface or underground utility lines which are to remain. Make good any damage.

E18.3.7 The Contractor shall excavate to the design grades shown less the appropriate allowance for surface treatment and shall excavate, remove and dispose of all unsuitable materials of whatever nature encountered.

- (a) The Contractor shall construct the sub-grade surface to the following depths below the finished grades for each area:

(i) Concrete Walkway	250 mm
(ii) Crushed Granular Path	200 mm
(iii) Sod	100 mm
(iv) Play Areas with Wood Fibre Safety Surfacing	375 mm
(v) Planting Beds	300 mm

E18.3.8 Except for drainage swales, berms and embankments indicated, the design gradient for all other areas shall be considered to be straight grade between the design elevations shown. Changes in grade at swales, berms, embankments and field shall be gently contoured as directed by the Contract Administrator to provide future ease of grass mowing operation.

E18.3.9 In fill areas, where the difference between the existing grade elevation and the design elevation is less than 300mm the Contractor shall scarify the existing ground to a minimum depth of 150mm prior to placement of any fill.

E18.3.10 The Contractor is advised that there may be useable clay and gravel fill on site. All suitable material will be reviewed and approved by Contract Administrator and then re-used on site. The re-use of this material on site may reduce the quantity of imported gravel and clean earth fill required. The Contractor shall re-use existing site material prior to delivering new material to the Site.

E18.3.11 No direct payment will be made for placing and grading of existing fill as all costs for this Work is incidental to the unit price bid for excavation, rough grading and site grading.

- E18.3.12      Areas to Fill
- (a) Fill low areas in subgrade of paved areas (concrete and concrete pavers on concrete base) with compacted granular subbase material specified in E20 . Cost incidental to unit price bid for paved areas.
  - (b) Fill low areas in sodded areas with excavated clay material (from site excavations or imported as required) free from roots, muskeg, organic or cohesive matter, building debris, waste materials, rubble, rubbish, frozen portions, soluble materials and rocks larger than 25mm (1") in diameter and capable of sustaining plant and seed growth. Compact to 90% S.P.D. in 150mm (6") lifts. Cost of site excavated materials incidental to unit price bid for excavation, rough grading and site grading.
  - (c) Construct berms, sloped areas using excavated clay material (from site excavations or imported as required) free from roots, muskeg, organic or cohesive matter, building debris, waste materials, rubble, rubbish, frozen portions, soluble materials and rocks larger than 25mm (1") in diameter and capable of sustaining plant and seed growth. Compact to 90% S.P.D. in 150mm (6") lifts.
  - (d) Prior to placing fill over existing ground, scarify surface to depth of 150mm. Maintain fill and existing surface at approximately the same moisture content to facilitate bonding.
- E18.3.13      The Contractor shall construct all subgrades in accordance with Specification CW 3110-R11. This shall include the use of sheep's foot or other suitable compaction equipment as approved by the Contract Administrator to achieve a minimum compaction of 98% Standard Proctor Density below all paved areas (asphalt, concrete, stone chip and limestone paving), and 90% Standard Proctor Density in all other areas disturbed under this Contract unless otherwise indicated
- E18.3.14      Areas of the Site which are new play areas are to be excavated to the depths required to accept granular surfacing and a minimum of 300mm depth (after compaction) of wood fibre (top of safety surface to be flush with top of surrounding concrete walkway). Exact excavation depth required for safety surface to be coordinated with Play Equipment Contractor. The areas shall be within the available areas for new play equipment as shown on Drawings and in accordance with Details 1/L6.
- E18.3.15      Areas of the Site which are to be sodded are to be excavated to meet the depths as per E29.
- E18.3.16      The Contractor is advised that all excavations, removals, disposal, rough grading, compaction and related Work for construction of sub-base, base course, granular paving and planting areas and sodded areas (adjacent to paved areas) shall be incidental to the unit prices bid for each item as listed in the Schedule of Prices.
- E18.3.17      Following earth moving, rough grading and compaction the Work areas shall be fine graded to provide a maximum deviation of 50mm in 10 metres from the design grade with no low areas that hold water. The finished surface of all disturbed areas shall be dragged and smoothed in such a manner that there are no loose soil particles greater than 50mm in maximum dimensions.
- E18.3.18      Do not disturb soil within branch spread of trees to remain.
- E18.3.19      If required and at locations directed by the Contract Administrator the Contractor shall excavate and remove unsuitable subgrade material and replace it with compacted granular material in accordance with Specification CW3110-R11.
- E18.3.20      Excavation and rough grading includes the removal of items as indicated on the Drawings and as directed by the Contract Administrator. Work includes the satisfactory disposal of unsuitable Site material such as clay susceptible to frost-heaving, silts, rock rubble rubbish and any surplus suitable Site material. Do not disturb adjacent items designated to remain in place.

- E18.3.21 All extraneous materials to be removed from the Site and disposed of in a safe and legal manner. This specification shall amend and supplement City of Winnipeg Standard Construction Specifications CW 3110-R11.
- E18.3.22 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.
- E18.3.23 The Contractor is to coordinate the layout of play area with the Play Equipment Contractor to ensure that CSA requirements are met. Final layout of all play spaces has to be approved by Contract Administrator prior to any construction or removal.
- E18.3.24 Excavation should be coordinated with the installation of play equipment so as not to leave an open excavation area subject to ponding water.
- E18.4 Method of Measurement
- E18.4.1 All Excavation and Rough Grading shall be measured on a cubic metre basis. The numbers to be paid shall be the total number of cubic meters completed in accordance with the Drawings and Specifications. The quantity of units is based on the proposed design drawings as supplied by the Contract Administrator.
- E18.5 Basis of Payment
- E18.5.1 Excavation and Rough Grading will be paid for at the Contract Unit Prices per cubic meter for Item 2): "Excavation and Rough Grading" on Form B: Prices and measured as specified herein. The amount to be paid for shall be the total number of cubic meter, 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 accepted by the Contract Administrator.

## **E19. MATCHING EXISTING GRADES**

- E19.1 Whenever the proposed paving or sod meets existing building edge, doorway, or property line, the Contractor shall construct the proposed element to an acceptable grade, as directed by the Contract Administrator, to ensure that proper drainage and accessibility are maintained.

## **E20. BASE COURSE MATERIAL**

- E20.1 The Specification shall supplement Standard Construction Specification CW 3110-R11 and CW 3130-R2.
- E20.2 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) Supply and Placement of Base Course Material;
  - (b) Supply and Placement of Sub-Base;
  - (c) Supply and Installation of Separation/ Reinforcement Geotextile Fabric;
  - (d) Compaction.
- E20.3 There will be no separate measurement and payment for supply and placement of sub-base. All Work shall be considered incidental to this specification.
- E20.4 There will be no separate measurement and payment for supply and installation of Separation/ Reinforcement Geotextile Fabric. All Work shall be considered incidental to this specification.

- E20.5 There will be no separate measurement and payment for compaction. All Work shall be considered incidental to this specification.
- E20.6 All costs in connection with the testing and approval of base courses shall be considered incidental to this specification.
- E20.7 Method of Measurement/ Basis of Payment
  - E20.7.1 The Contractor is advised that all Work under this section is incidental to the unit prices bid in those items for which base course material is required under this Contract.

**E21. SUB-SURFACE DRAINAGE**

E21.1 Description

E21.1.1 This Work shall consist of providing and placing a geocomposite prefabricated drain system as described in the drawings. The drainage system shall be installed in accordance with these Specifications and in reasonably close conformity with the locations and dimensions as shown on the drawings or specified by the Contract Administrator. The quantities of drain as shown on the drawings may be increased or decreased at the direction of the Contract Administrator based on actual Site conditions that occur during construction of the project. Such variations in quantity will not be considered as alterations in the details of construction or a change in the character of the Work.

E21.2 Materials

E21.2.1 The drain conduit shall be of flexible, prefabricated, rounded rectangular shaped, composite product. The drain conduit shall be wrapped with a non-woven geotextile and shall be a non-woven needle-punched construction and consist of long-chain polymeric fibers composed of polypropylene, polyethylene or polyamide. The fibers shall 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 shall be free of any chemical treatment or coating, which reduces permeability and shall be inert to chemicals commonly found in soil. The geotextile shall 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

E21.2.2 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,	ASTM D-4716	30

gpm/ft***		
Compressive Strength, psf	ASTM D-1621 (modified sand method)	6000
Pipe Stiffness, pii	ASTM D-2412	100

\*\*\* At gradient = 0.01, pressure = 10 psi for 100 hours.

- E21.2.3 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.
- E21.2.4 Drainage pipe shall be Multi-Flow or approved substitute in accordance with B6. Size shall be 150 mm. All fittings shall be sized to fit approved for use with Multi-Flow or approved substitute in accordance with B6. Cleanouts shall be provided as indicated on the drawing.
- E21.2.5 Where specified the emitter shall be NDS #620 or approved substitute in accordance with B6.
- E21.2.6 Pipe for edge drain outlet laterals shall be either PVC pipe meeting the requirements of ASTM D-2729 or ASTM F-949, or high-density polyethylene pipe meeting the requirements of AASHTO M252. 2.4. A rodent screen made of 7.6 mm by 7.6 mm square opening size, 1.6 mm 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 required.
- E21.2.7 Backfill shall be course sand whose particle size is defined as less than 5% retained on a #10 screen, and less than 5% passing through a # 30 screen. (US Std Sieve) In no case shall more than 1% pass a #60 screen.
- E21.3 Construction Methods
- E21.3.1 Installation of Subdrain is not to proceed until after the excavation/grading has been approved by the Contract Administrator.
- E21.3.2 The layout of the Subdrain is to be marked on Site and approved by the Contract Administrator prior to trenching.
- E21.3.3 Trenches are to be excavated with a trenching machine or by hand. Locations where the trench has to cross existing utilities, existing irrigation pipes and all other subsurface 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 shall be of the width specified on the Drawings.
- E21.3.4 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 excavation shall be backfilled to the proper grade with 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 sod the excavated material is not to remain on the grassed surface for a period longer than 24 hours. Excavated material if not required as fill elsewhere on Site shall be removed from Site and disposed of legally.
- E21.3.5 Multi-Flow drain pipe is to be placed in trench using 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. In the case of trenches extending into existing grassed areas course sand backfill is to be seeded with grass seed.
- E21.3.6 Contractor is to maintain top surface of the backfilled sand even with the surrounding grade during the grow in phase.

- E21.3.7 Fittings for the drain shall be installed in accordance with the manufacturer's recommendations.
- E21.3.8 Any damaged edge drain or outlet lateral shall be replaced or repaired by splicing in an undamaged section of drain at the Contractor's expense.
- E21.3.9 The Contractor shall be responsible for restoration of any surfaces damaged during the Work under this section. There shall be no separate measurement or payment for restoration Work required as a result of this Work.
- E21.4 Measurement and payment
- E21.4.1 Measurement and payment for Subsurface Drainage Multi-Flow Lines will be measured on a linear metre basis for and paid for at the unit prices on item 3): "Subsurface Drainage Multi-Flow Lines" 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.
- E21.4.2 Measurement and payment for Subsurface Drainage Emitter will be measured on a lump sum basis for and paid for at the unit prices on item 4): "Subsurface Drainage Emitter" 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.
- E21.4.3 Measurement and payment for Connection to City Drainage System will be measured on a lump sum basis for and paid for at the unit prices on item 5): "Connection to City Drainage System" 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.
- E21.4.4 All trenching, backfill, fittings, cleanouts, are to be considered incidental to the supply and installation of the pipe. Only the pipe installed according to the drawings will be measured.

## **E22. CONCRETE WALKWAYS AND CURBS**

- E22.1 Description
- E22.1.1 The specification shall supplement City of Winnipeg Specification CW 3310-R13 and CW 3325-R3.
- E22.2 Material
- E22.2.1 All material shall conform to Specification CW 3310-R13 and CW 3325-R3..
- E22.3 Supply of Materials and Equipment
- E22.3.1 The Contractor shall supply all materials and use equipment in accordance with Specification CW 3325-R3.
- E22.4 Construction Methods
- E22.4.1 No concrete work shall commence until the excavation has been completed in accordance with Specification CW 3110-R11 and the drawings and has been approved by the Contract Administrator.
- E22.4.2 Sub-base compaction shall be in accordance with Specification CW 3110-R11.
- E22.4.3 Base Course to be installed to a depth of 150mm in accordance with Specification CW 3110-R11 and the drawings.
- E22.4.4 Curb Ramp shall be 10mm ht, Monolithic, installed as shown per SD-229 B and C, in accordance with Specification CW 3310-R13 and CW 3325-R3.
- E22.4.5 Flush Concrete Curbing shall be installed as shown on Drawings in accordance with Specification CW 3310-R13.

- E22.4.6 Raised Roadway Curb shall be installed as shown on Drawings in accordance with Specification CW 3310-R13.
- E22.4.7 Sidewalk joints shall be constructed, where required, as directed by the Contract Administrator and shall be completed in accordance with Specification CW 3325-R3.
- E22.4.8 Concrete Placement for concrete walkways shall be installed to a depth of 100mm in accordance with Specification CW 3310-R13, Section 9.4.
- E22.5 Method of Measurement
- E22.5.1 Concrete Walkway shall be measured on an area basis. The area to be paid for shall be the total number of square meters that are installed in accordance with this Specification and the Construction Drawings, and as acceptable to the Contract Administrator.
- E22.5.2 Curb Ramp shall be measured on a lump sum basis. The amount to be paid for shall be the total number of units that are installed in accordance with this Specification and the Construction Drawings, and as acceptable to the Contract Administrator.
- E22.5.3 Flush Concrete Curbing shall be measured on a linear meter basis. The length to be paid for shall be the total number of linear meters that are installed in accordance with this Specification and the Construction Drawings, and as acceptable to the Contract Administrator.
- E22.5.4 Raised Roadway Curb shall be measured on a linear meter basis. The length to be paid for shall be the total number of linear meters that are installed in accordance with this Specification and the Construction Drawings, and as acceptable to the Contract Administrator.
- E22.6 Basis of Payment
- E22.6.1 Concrete Walkway will be paid for at the Contract Unit Prices per square meter for Item 6): "Concrete Walkway" measured as specified herein, which price shall be payment in full for supplying all labour, equipment and materials, and performing all operations herein described and all other items incidental to the Work included in this Specification.
- E22.6.2 Curb Ramp will be paid for at the Contract Unit Prices on a lump sum basis for Item 8): "Curb Ramp" measured as specified herein, which price shall be payment in full for supplying all labour, equipment and materials, and performing all operations herein described and all other items incidental to the Work included in this Specification.
- E22.6.3 Flush Concrete Curbing will be paid for at the Contract Unit Prices per linear meter for Item 9): "Flush Concrete Curbing" measured as specified herein, which price shall be payment in full for supplying all labour, equipment and materials, and performing all operations herein described and all other items incidental to the Work included in this Specification.
- E22.6.4 Raised Roadway Curb will be paid for at the Contract Unit Prices per linear meter for Item 10): "Raised Roadway Curb" measured as specified herein, which price shall be payment in full for supplying all labour, equipment and materials, and performing all operations herein described and all other items incidental to the Work included in this Specification.

### **E23. CONCRETE PAVERS ON CONCRETE BASE**

#### **E23.1 Description**

- E23.1.1 The specification shall supplement Specification CW 3310-R13, CW 3325-R3, CW 3330-R5 and CW 3335-R1.
- E23.1.2 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) Supply and installation of concrete pavers on concrete base for areas as indicated on the Drawing.

E23.1.3 Submit Full size sample of paving stones for Contract Administrator's approval. Deliver samples prepaid to Contract Administrator's business address and Notify Contract Administrator in writing, at time of submission of deviations in samples from requirements of Contract Documents

#### E23.2 Material

E23.2.1 Concrete Mix shall be supplied as specified in CW 3310-R13.

E23.2.2 Concrete Unit Pavers: Barkman Holland, Charcoal, Sizes to be 210mm x 105mm x 60mm;

E23.2.3 Bedding sand shall be fine aggregate as specified in Section 5.3.1 of CW 3310-R13 and Section 5.2.3 of CW 3330-R5;

E23.2.4 Filler Sand shall have a maximum aggregate size of 2.5mm.

#### E23.3 Construction Methods

##### E23.3.1 Excavation

- (a) Excavation shall comply with CW 3110-R11.
- (b) The excavation shall not extend beyond the specified limits of excavation. The limits of excavation shall be taken as a vertical plane 150mm beyond the limits of the proposed walkway, 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.

##### E23.3.2 Preparation of Sub-Grade, Concrete Base and Bedding Sand

- (a) The construction of sub-grade shall be completed in accordance with CW 3110-R11 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 5 mm 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 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.

##### E23.3.3 Installation of Paving Stones

- (a) The paving stones shall be installed such that spaces between joints do not exceed 5 mm. Spaces between paving stones shall be uniform and consistent while maintaining straight and true patterns.
- (b) Work shall commence with edge stones along the longest straight section of curb or property line and work towards the opposite edge. Edge stones shall be used along the limits of the sidewalk.
- (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 curbs or other structures.

- (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 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.

#### E23.4 Method of Measurement

E23.4.1 Concrete Pavers shall be measured on an area basis. The area to be paid for shall be the total number of square meters that are installed in accordance with this Specification and the Construction Drawings, and as acceptable to the Contract Administrator.

#### E23.5 Basis of Payment

E23.5.1 Concrete Pavers will be paid for at the Contract Unit Prices per square meter for Item 7): "Concrete Pavers" on Form B: Prices and measured as specified herein. This price shall be payment in full for supplying all labour, equipment and materials, and performing all operations herein described and all other items incidental to the Work included in this Specification and accepted by the Contract Administrator.

### **E24. CRUSHED GRANULAR PAVING**

#### E24.1 Description

E24.1.1 The specification shall supplement City of Winnipeg specification CW 3110-R11.

E24.1.2 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) Supply and Installation of granular base course, surface course materials and geotextile fabric, for crushed granular paving area as indicated on the Drawings.

#### E24.2 Material

E24.2.1 All material shall conform to CW 3110-R11, CW3130-R2 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.

#### E24.2.2 Granular Base Course

- (a) Granular base course material for the pathway shall consist of 150mm of 20mm down crushed limestone and shall conform to CW3110-R10 for crushed limestone base course material.

#### E24.2.3 Granular Surface Course for Granular Surface Pathway

- (a) Granular surface course material for the pathway shall consist of 50mm of crusher fines/ toppings crushed limestone.

#### E24.2.4 Geotextile Fabric

- (a) Geotextile fabric shall be in accordance with CW 3130-R2.

#### E24.3 Construction Methods

E24.3.1 Construction method shall conform to Specification CW 3110-R11 'Sub-grade, Sub-base, and Base Course Construction'.

E24.3.2 Contractor shall visit the Site and verify all data and dimensions and report any errors, omissions or discrepancies to the Contract Administrator prior to any installation.

- E24.3.3 Contract Administrator to layout pathways. Contractor shall be responsible for interpretation of grades and protection of stakes.
- E24.3.4 Sub-Grade
- (a) Prepare compacted sub-grade to the lines and grades as shown on Drawings. Contract Administrator to review sub-grade preparation prior to placement of granular base.
- E24.3.5 Granular Base
- (a) Geotextile fabric to be placed between Subgrade and granular base as per CW 3130-R2.
- (b) Place granular base material to the lines and grades as shown on Drawings. Extend base minimum 150mm beyond width of 1800mm wide surface course.
- (c) Compact material to a minimum of 95 percent Standard Proctor Density.
- E24.3.6 Granular Surface Course
- (a) Place granular surface course material to the lines and grades as shown on Drawings.
- (b) Compact material to a minimum of 95 percent Standard Proctor Density.
- E24.4 Method of Measurement
- E24.4.1 Crushed Granular Paving shall be measured on an area basis. The area to be paid for shall be the total number of square meters that are installed in accordance with this Specification and the Construction Drawings, and as acceptable to the Contract Administrator.
- E24.5 Basis of Payment
- E24.5.1 Crushed Granular Paving will be paid for at the Contract Unit Prices per square meter for Item 11):“Crushed Granular Paving” on Form B: Prices and measured as specified herein. This price shall be payment in full for supplying all labour, equipment and materials, and performing all operations herein described and all other items incidental to the Work included in this Specification.

## **E25. BOULDER RIPRAP**

- E25.1 Description
- E25.1.1 The specification shall supplement Specification CW 3110-R11, CW3130-R2 and CW3615-R2.
- E25.1.2 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) Supply and installation of Boulder Riprap and geotextile fabric as indicated on the Drawings.
- E25.2 Materials
- E25.2.1 All materials shall conform to CW 3110-R11, CW 3130-R2, CW3615-R2 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.
- E25.2.2 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 material on the truck at the site prior to unloading and installing.

E25.2.3 Boulder Riprap shall be clean fieldstone of random profile with no cracks or splits. Boulders shall be light to medium grey in colour with diameters ranging from 300mm to 500mm and shall conform to CW 3615-R2 as per Random Stone Rip Rap.

E25.2.4 Filter Fabric shall conform to CW 3130-R2.

### E25.3 Method

#### E25.3.1 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. No filter fabric or riprap shall be placed until the bed has been approved. No riprap shall be unloaded and placed until the boulder material has been approved.

#### E25.3.2 Installation of Filter Fabric

- (a) The filter fabric shall be installed in width as shown on drawings, in accordance with the manufacturer's recommended procedure. The filter 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 filter fabric shall be overlapped not less than 0.5 metres.
- (c) Securing pins with washers shall be inserted through the fabric at intervals not greater than 1.5 metres along a line 100 mm from both the lowest and highest exterior edge of the filter fabric.
- (d) The supply and installation of the securing pins shall be incidental to the cost of the filter fabric.

#### E25.3.3 Placement of Boulder Riprap

- (a) Boulder riprap shall be pushed or rolled into place in such a manner that the larger boulders are uniformly distributed around the planting first and smaller boulders serve to fill the places between the larger boulders. Protect plantings at all time. Sufficient handwork and work/equipment shall be utilized to ensure gaps between boulders are filled to the satisfaction of the Contract Administrator.

### E25.4 Method of Measurement and Basis of Payment

#### E25.4.1 Method of Measurement shall be as follows:

- (a) Boulder Riprap shall be measured on an area basis. The area to be paid for shall be the total number of square meters that are installed in accordance with this Specification and the Construction Drawings, and as acceptable to the Contract Administrator.

#### E25.4.2 Basis of Payment shall be as follows:

- (a) Boulder Riprap will be paid for at the Contract Unit Prices per square meter for Item 12): "Large Boulder Riprap (with geotextile fabric)" on Form B: Prices and measured as specified herein. This price shall be payment in full for supplying all labour, equipment and materials, and performing all operations herein described and all other items incidental to the Work included in this Specification and accepted by the Contract Administrator.

## E26. SITE FURNISHINGS

### E26.1 Description

E26.1.1 The Work to be done by the Contractor under this Specification shall include the furnishing of all superintendence, overhead, labour, materials, equipment, tools, supplies and all 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) Bike Rack Relocation
- (b) Benches and Waste Receptacle Installation.

## E26.2 Materials

E26.2.1 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.

E26.2.2 Benches shall be "Dumor Bench - 88-60PL, "Grey" Recycled Plastic with Arms, Black powder coated metal, 72" length, embedment option, or substitute approved in accordance with B6.

- (a) Contact for Benches:  
Neil Buller  
GAT Home Company Ltd.  
289 King Street  
Winnipeg, MB

Telephone No. (204) 943-5505  
Facsimile No. (204) 947-3800

E26.2.3 Waste Receptacles shall be "Waste Receptacle Metal Slat Type" (with metal basket), as per SCD 119, Product #52501062, or substitute approved in accordance with B6.

- (a) Contact for Waste Receptacle:  
Aaron Lennon  
Supervisor of Central Repair/Manufacturing Facility  
City of Winnipeg  
Fleet Management Agency Division  
Public Works Department  
215 Tecumseh St  
Winnipeg. MB R3E 3S4

Telephone No. (204) 986-5505  
Facsimile No. (204) 986-1248

## E26.3 Construction Methods

E26.3.1 All Work is to be located and installed in accordance with the drawings 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.

E26.3.2 All furnishings and fixtures to be installed plumb and true to correct elevations and location, as directed the Contract Administrator. The Contractor shall confirm proposed locations of all Site furnishings with Contract Administrator prior to installation.

E26.3.3 All furnishings and fixtures to be carefully handled so that no parts will be bent, broken or otherwise damaged. Hammering, which will injure or distort fixture, is prohibited.

E26.3.4 Contact the City of Winnipeg to arrange for removal, storage and reinstallation

- (a) Contact: Andy Farrer

Phone Number: (204) – 794-4267

E26.3.5 Install Benches as per manufacturer's specifications

E26.3.6 Install Waste Receptacles as per SCD 119

## E26.4 Method of Measurement and Basis of Payment

E26.4.1 Method of Measurement shall be as follows:

- (a) Bike Rack Relocation will be measured on a lump sum basis. The units to be paid for shall be the total number of units that are installed in accordance with this

Specification and the Construction Drawings, and as acceptable to the Contract Administrator.

- (b) Site Furnishings will be measured on a per unit basis for the supply and installation of the following Items as noted on Form B: Prices:
  - (i) Item 15): Dumor Bench with Arms
  - (ii) Item 16): Waste Receptacle

E26.4.2 Basis of Payment shall be as follows:

- (a) Bike Rack Reinstallation will be paid for at the Contract Unit Prices as indicated on Form B: Prices and measured as specified herein. This price shall be payment in full for supplying all labour, equipment and materials, and performing all operations herein described and all other items incidental to the Work included in this Specification and accepted by the Contract Administrator.
- (b) Benches will be paid for at the Contract Unit Prices as indicated on Form B: Prices. The total unit to be paid for shall be the total number of units that are installed in accordance with this Specification and the Construction Drawings, and as acceptable to the Contract Administrator. 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.
- (c) Waste Receptacle installation will be paid for at the Contract Unit Prices as indicated on Form B: Prices. The total unit to be paid for shall be the total number of units that are installed in accordance with this Specification and the Construction Drawings, and as acceptable to the Contract Administrator. 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.

## **E27. PLANTING BED PREPARATION AND BARK MULCH**

E27.1 Description

E27.1.1 The Work to be done by the Contractor under this Specification shall cover planting bed preparation, 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 herein specified.

E27.2 Materials

Planting Soil

E27.2.1 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 is not to contain couch or crab grass rhizomes.

Mulch

E27.2.2 Mulch shall be locally available clean bark or wood chip mulch free of leaves, branches and other extraneous matter. The recommended mulch shall consist of chips not less than 15mm not larger than 75mm in size and not more than 20mm thick.

Water

E27.2.3 Water shall be potable and free of minerals which may be detrimental to plant growth.

Fertilizer

E27.2.4 Fertilizer shall be complete synthetic slow release fertilizer with maximum 35% water-soluble nitrogen.

### E27.3 Construction Methods

#### General

E27.3.1 Contractor shall visit the Site and verify all data and dimensions and report any errors, omissions or discrepancies to the Contract Administrator prior to any installation.

#### Planting Bed Preparation

E27.3.2 Contractor shall co-ordinate Site excavation Works with landscaping to ensure minimal additional excavation for shrub beds. All remaining areas to be excavated shall be to the shape shown on the Drawings. Planting Beds shall be excavated with vertical sides and material removed to a minimum depth of 300mm in areas as shown on Drawings.

E27.3.3 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 City of Winnipeg Standard Construction Specification CW 3540-R5 to a 300mm depth.

E27.3.4 All areas and locations provided for planting shall be staked according to layout shown on the Drawings. Excavation shall not proceed until the layout has been inspected and approved by the Contract Administrator. Excavation shall not be undertaken until all underground utilities have been located and protected.

#### Supply and Installation of Mulch

E27.3.5 Contractor to supply and install bark mulch in planting bed area. Mulch supplied shall cover entire planting area to a consistent depth of 100mm.

### E27.4 Method of Measurement

E27.4.1 Planting Bed Preparation shall be measured on a volume basis. The area to be paid for shall be the total number of cubic meters of Shrub Bed Preparation, acceptably constructed in accordance with this Specification and the Construction Drawings, and as acceptable to the Contract Administrator.

E27.4.2 Mulch shall be measured on a volume basis. The area to be paid for shall be the total number of cubic meters of Shrub Bed Preparation, acceptably constructed in accordance with this Specification and the Construction Drawings, and as acceptable to the Contract Administrator.

### E27.5 Basis of Payment

E27.5.1 Planting Bed Preparation will be paid for at the Contract Unit Prices per cubic meter for Item 17): "Planting Bed Preparation" on Form B: Prices and measured as specified herein. This price shall be payment in full for supplying all labour, equipment and materials, and performing all operations herein described and all other items incidental to the Work included in this Specification and accepted by the Contract Administrator.

E27.5.2 Planting Bed Preparation will be paid for at the Contract Unit Prices per cubic meter for Item 20): "Bark Mulch (100mm depth)" on Form B: Prices and measured as specified herein. This price shall be payment in full for supplying all labour, equipment and materials, and performing all operations herein described and all other items incidental to the Work included in this Specification and accepted by the Contract Administrator.

## E28. SHRUBS AND PERENNIALS PLANTING

E28.1 Description

- E28.1.1 The Work to be done by the Contractor under this Specification shall include the furnishing of all superintendence, overhead, labour, materials, equipment, tools, supplies and all 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 shrubs and perennials.
- E28.1.2 Reference
- (a) Install shrubs and perennials work in accordance with the Canadian Standards for Nursery Stock Current Edition, published by the Canadian Nursery Trades Association, except where specified otherwise.
- E28.1.3 Source Quality Control
- (a) All plant material shall be randomly inspected at the source upon request of the Contract Administrator.
- E28.1.4 Maintenance
- (a) The Contractor shall be responsible for the maintenance of the shrubs and perennials for a period of one (1) year from the date of Substantial Performance. Any areas planted after September 15th, the maintenance period will commence on May 15th of the following year or such date as mutually agreed upon by all parties.
  - (b) Water to ensure soil moisture conditions for optimum growth and health of plant material. Ensure watering techniques do not cause erosion.
  - (c) Reform damaged watering saucers.
  - (d) Remove weeds bi-monthly.
  - (e) Replace or re-spread damaged, missing or disturbed mulch.
  - (f) If required to control insects, fungus and disease, use appropriate control methods in accordance with Federal, Provincial and Municipal regulations. Obtain product approval from Contract Administrator prior to application.
  - (g) Apply fertilizer as directed by manufacturer's specifications.
  - (h) Remove dead, broken or hazardous branches from plant material.
  - (i) Remove and replace dead plants and plants not in healthy growing condition. Make replacements in same manner as specified for original plantings.
  - (j) Submit monthly written reports to Contract Administrator identifying:
    - (i) Maintenance work carried out.
    - (ii) Development and condition of plant material.
    - (iii) Preventative or corrective measures required which are outside Contractor's responsibility.
- E28.1.5 Warranty
- (a) The Contractor shall, at his/her expense, warrant the Work against any and all defects or deficiencies resulting from insect infestation, disease and mechanical damage due to improper handling, installation or maintenance, for a period of one (1) year for shrubs and perennials from the date of the Total Performance. Nursery stock damaged by vandalism or reasons beyond the control of the Contractor shall be replaced by the client.
  - (b) End-of-Warranty inspection will be conducted by the Contract Administrator.
  - (c) The Contract Administrator reserves the right to request material replacement or extend the Contractor's Maintenance responsibilities for an additional one (1) year if, at the end of the Warranty Period, leaf development and growth are not sufficient to ensure future survival of the plant material.
- E28.1.6 Replacements

- (a) During the Maintenance Period, the Contractor shall remove from Site any plant material that has died or failed to grow satisfactorily as determined by the Contract Administrator and replace as per Specifications within a maximum ten (10) day period from notification.
- (b) Defective plants shall be replaced within three (3) days of notification to the Contractor.
- (c) The Contractor shall extend Maintenance and Warranty on replacement plants for a period equal to the original Maintenance and Warranty Periods.
- (d) The Contractor shall continue such replacement, Maintenance and Warranty until plant is acceptable.

## E28.2 Materials

### E28.2.1 Miscellaneous Materials

### E28.2.2 Plant Material

- (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.

### E28.2.3 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.

### E28.2.4 Wound Dressing

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

### E28.3 Construction Methods

#### E28.3.1 Excavation

- (a) Refer to specification E27 - Planting Bed Preparation for preparation of planting beds.
- (b) Excavate planting pits as indicated by stakes or paint marks.
- (c) Protect bottom of excavations against freezing.
- (d) Remove water which enters excavations prior to planting. Ensure source of water is not ground water and notify Contract Administrator.

#### E28.3.2 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
- (e) The Contractor must obtain all above and below ground clearances from all the utilities as well as the appropriate District Operations Branch in a timely manner so as not to jeopardize the schedule of the complete tree planting Contract.

#### E28.3.3 Fertilizing

- (a) When planting is completed, give surface of planting saucer dressing of fertilizer meeting the requirements of Specification. Mix fertilizer thoroughly with top layer of planting soil and water in well.

### E28.4 Guarantee of Nursery Stock

E28.4.1 The Contractor shall agree and guarantee to replace and replant any nursery stock found dead and/or in poor condition within one year 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 one-year guarantee period. All plants must be in a healthy condition for a full year before the warranty on the year will be considered fulfilled.

### E28.5 Method of Measurement

E28.5.1 Installation of shrubs and perennials shall be measured on a per unit basis. The amount to be paid for shall be the total number of shrubs and perennials supplied and installed in

accordance with this Specification and the Construction Drawings, and as acceptable to the Contract Administrator.

#### E28.6 Basis of Payment

E28.6.1 Payment for Installation of shrubs and perennials shall be paid for at the Contract Unit Prices for the "Items of Work" listed below. This price shall be payment in full for supplying all labour, equipment and materials, and performing all operations herein described and all other items incidental to the Work included in this Specification and accepted by the Contract Administrator.

Item of Work:

18) Shrubs and Perennials (c/w warranty)

19) One year Plant Maintenance

### **E29. TOPSOIL AND SOD**

#### E29.1 Description

E29.1.1 The specification shall amend and supplement City of Winnipeg specification CW 3510-R9 and CW 3540-R5.

E29.1.2 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) Supply and Installation of imported topsoil, to a minimum 75mm compacted thickness, for areas to be sodded.
- (b) Supply and Installation of mineral sod as required.

#### E29.2 Materials and Construction Methods

E29.2.1 The Contractor shall install topsoil and sod in any existing play areas where material is removed and not re-established as play area, or where play surfacing is not proposed.

E29.2.2 The Contractor shall install topsoil and sod around the perimeter of the newly constructed area to clean up turf disturbed by the Work. Sod and topsoil shall be installed as shown on Drawings a distance of a maximum of 1000mm from the concrete walkway as per Detail Drawings.

E29.2.3 The Contractor shall install topsoil and sod in any existing pathway area where material is removed and not re-established as pathway.

E29.2.4 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 sod and topsoil unless otherwise directed by the Contract Administrator.

#### E29.3 Method of Measurement

E29.3.1 Supply, placement and maintenance of topsoil and sod will be measured on an area basis. The area to be paid for shall be the total number of square meters placed and maintained in accordance with this Specification and accepted by the Contract Administrator.

E29.3.2 Quantities of units are based on the proposed design drawings as supplied by the Contract Administrator.

#### E29.4 Basis of Payment

E29.4.1 Supply, placement and maintenance of topsoil and sod will be paid for at the Contract Unit Prices per square meter for Item 21): "Sod, includes 75mm topsoil" on Form B: Price and measured as specified herein. This 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 included in this Specification and accepted by the Contract Administrator.

**E30. SITE CLEAN UP**

- E30.1 The Contractor shall upon the completion of Work each day, load and dispose of all excess asphalt cuttings, spoiled concrete, reinforcing steel, granular and other material associated with the Works from the Work Site. The Contractor shall secure or remove all of his machinery and equipment at the end of each day from the immediate work site. The Contractor will not be permitted to store machinery, equipment, or materials on public roads overnight. Any costs in connection with the above mentioned Works are incidental.
- E30.2 Unless otherwise specified the Contractor shall restore all areas which have been disturbed by his operations to as good as or better than original condition including removal of all construction debris, repair all vegetation, sod, concrete pavement, concrete curbs, concrete sidewalk and asphalt paving to remain etc. to the satisfaction of the Contract Administrator. Any costs incurred in connection with the above mentioned Work are incidental to unit prices bid under this contract.
- E30.3 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.
- E30.4 Sod and Topsoil (repair to damaged areas). The Contractor shall install mineral sod and a minimum 75mm compacted thickness of topsoil, as required, and in accordance with CW 3510-R9 and CW 3540-R5.

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Entry Plaza\08 Specs + Tender Docs  
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Subject: Construction - Low risk  
Author: Corinne  
Keywords:  
Comments: PO in lieu of executed contract  
No Bid Security, Performance Security optional  
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