



THE CITY OF WINNIPEG

BID OPPORTUNITY

BID OPPORTUNITY NO. 334-2010

**OLD EX PARK PLAYGROUND PLAZA SITE WORKS & PLAYGROUND
EQUIPMENT**

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PART B - BIDDING PROCEDURES

B1. CONTRACT TITLE

B1.1 OLD EX PARK PLAYGROUND PLAZA SITE WORKS & PLAYGROUND EQUIPMENT

B2. SUBMISSION DEADLINE

B2.1 The Submission Deadline is 4:00 p.m. Winnipeg time, May 26, 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.

B3.2 The Bidder is advised that the existing utilities shown on the drawings and limit of concrete area approximate only and site measurements for locations will be required for construction.

B4. ENQUIRIES

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

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

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

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

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

B5. ADDENDA

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

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

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

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 B7.6, 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 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.

B7.3 The Bid Submission may be submitted by mail, courier or personal delivery, or by facsimile transmission.

B7.4 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

B7.4.1 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.

B7.5 Bidders are advised not to include any information/literature except as requested in accordance with B7.1.

B7.6 Bidders are advised that inclusion of terms and conditions inconsistent with the Bid Opportunity document, including the General Conditions, will be evaluated in accordance with B14.1(a).

B7.7 If the Bid Submission is submitted by facsimile transmission, it shall be submitted to (204) 949-1178.

B7.7.1 The Bidder is advised that the City cannot take responsibility for the availability of the facsimile machine at any time.

B7.7.2 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.
- B9.2 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 Further to B10.3(c), the Bidder shall, within five (5) Business Days of a request by the Contract Administrator, provide proof satisfactory to the Contract Administrator that the Bidder/Subcontractors has a workplace safety and health program meeting the requirements of The Workplace Safety and Health Act (Manitoba), by providing:

- (a) a valid COR certification number under the Certificate of Recognition (COR) Program administered by the Manitoba Construction Safety Association or by the Manitoba Heavy Construction Association's Safety, Health and Environment Program; or
- (b) a report or letter to that effect from an independent reviewer acceptable to the City. (A list of acceptable reviewers and the review template are available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt>)

B10.5 The Bidder shall submit, within three (3) Business Days of a request by the Contract Administrator, proof satisfactory to the Contract Administrator of the qualifications of the Bidder and of any proposed Subcontractor.

B10.6 The Bidder shall provide, on the request of the Contract Administrator, full access to any of the Bidder's equipment and facilities to confirm, to the Contract Administrator's satisfaction, that the Bidder's equipment and facilities are adequate to perform the Work.

B11. 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.
- 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
- 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 supply and installation of play area with concrete sidewalk and curb, fencing, planting areas and trees.

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

- (a) Removal of existing asphalt pathway;
- (b) Removal of existing concrete paving;
- (c) Removal and salvage of chain link fencing;
- (d) Excavation and rough grading;
- (e) Concrete sidewalk with unit paver insert and thickened edge;
- (f) Play equipment and safety surfacing;
- (g) Drainage tile and connection to catch basin;
- (h) Supply and installation of site furniture;
- (i) Planting bed;
- (j) Supply and installation of plant material.

D3. CONTRACT ADMINISTRATOR

D3.1 The Contract Administrator is McGowan Russell Group, represented by:

Ms. Susan Russell
Landscape Architect
200-120 Fort St. Winnipeg, MB. R3C 1C7
Telephone No. (204) 956-0396
Facsimile No. (204) 956-1265

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

D4. CONTRACTOR'S SUPERVISOR

D4.1 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.

D5. NOTICES

D5.1 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.

D5.2 All notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications to the City, except as expressly otherwise required in D5.3,

D5.4 or elsewhere in the Contract, shall be sent to the attention of the Contract Administrator at the address or facsimile number identified in D3.1.

D5.3 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

D5.4 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

D6. AUTHORITY TO CARRY ON BUSINESS

D6.1 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.

D7. SAFE WORK PLAN

D7.1 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.

D7.2 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>

D8. INSURANCE

D8.1 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;

D8.2 Deductibles shall be borne by the Contractor.

D8.3 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.

D8.4 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.

D9. PERFORMANCE SECURITY

D9.1 If the Contract Price exceeds twenty-five thousand dollars (\$25,000.00), 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.

D9.1.1 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.

D9.2 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.

D10. SUBCONTRACTOR LIST

D10.1 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

D11. COMMENCEMENT

D11.1 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.

D11.2 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 D6;
 - (ii) evidence of the workers compensation coverage specified in C6.15;
 - (iii) COR certification number as specified in B10.4;

- (iv) the Safe Work Plan specified in D7;
 - (v) evidence of the insurance specified in D8;
 - (vi) the performance security specified in D9;
 - (vii) the Subcontractor list specified in D10.
- (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.

D11.3 The Contractor shall commence the Work on the Site within seven (7) Working Days of receipt of the Purchase Order.

D11.4 The City intends to award this Contract by June 4, 2010.

D11.4.1 If the actual date of award is later than the intended date, the dates specified for Substantial Performance, and Total Performance will be adjusted by the difference between the aforementioned intended and actual dates.

D12. CRITICAL STAGES

D12.1 The Contractor shall achieve critical stages of the Work in accordance with the following requirements:

- (a) Site works to be completed by August 31, 2010;
- (b) Bases for playground equipment and safety surfacing to be completed by August 31, 2010.

D13. SUBSTANTIAL PERFORMANCE

D13.1 The Contractor shall achieve Substantial Performance by September 10, 2010.

D13.2 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.

D13.3 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.

D14. TOTAL PERFORMANCE

D14.1 The Contractor shall achieve Total Performance by September 24, 2010.

D14.2 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.

D14.3 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.

D15. LIQUIDATED DAMAGES

D15.1 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 (\$500.00) per Calendar Day for each and every Calendar Day following the day fixed herein for Total Performance during which such failure continues.

- (a) Site works to be completed by August 31, 2010- five hundred dollars (\$500.00);
- (b) Bases for playground equipment and safety surfacing to be completed by August 31, 2010- five hundred dollars (\$500.00).

D15.2 The amount specified for liquidated damages in D15.1 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.

D15.3 The City may reduce any payment to the Contractor by the amount of any liquidated damages assessed.

D16. SCHEDULED MAINTENANCE

D16.1 The Contractor shall perform the following scheduled maintenance in the manner and within the time periods required by the Specifications:

- (a) 30 Day sod Maintenance as specified in E34;
- (b) Maintenance of Plant Material to Total Performance as specified in E32;
- (c) Extended Two Year Maintenance of Plant Material as specified in E33.

D16.2 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

D17. JOB MEETINGS

D17.1 Regular weekly job meetings will be held at the Site. These meetings shall be attended by a minimum of one representative of the Contract Administrator, one representative of the City and one representative of the Contractor. Each representative shall be a responsible person capable of expressing the position of the Contract Administrator, the City and the Contractor respectively on any matter discussed at the meeting including the Work schedule and the need to make any revisions to the Work schedule. The progress of the Work will be reviewed at each of these meetings.

D17.2 The Contract Administrator reserves the right to cancel any job meeting or call additional job meetings whenever he deems it necessary.

D18. PRIME CONTRACTOR – THE WORKPLACE SAFETY AND HEALTH ACT (MANITOBA)

D18.1 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

D19. PAYMENT

D19.1 Further to C12, the City may at its option pay the Contractor by direct deposit to the Contractor's banking institution.

WARRANTY

D20. WARRANTY

- D20.1 Notwithstanding C13.2, the warranty period shall begin on the date of Total Performance and shall expire two (2) years thereafter unless extended pursuant to C13.2.1 or C13.2.2, in which case it shall expire when provided for thereunder.

FORM H1: PERFORMANCE BOND
(See D9)

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. 334-2010

OLD EX PARK PLAYGROUND PLAZA SITE WORKS & PLAYGROUND EQUIPMENT

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 D9)**

(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. 334-2010

OLD EX PARK PLAYGROUND PLAZA SITE WORKS & PLAYGROUND EQUIPMENT

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>Drawing No.</u>	<u>Drawing Name/Title</u>
L1	Layout Plan
L2	Grading Plan
L3	Planting Plan
L4	Details
City of Winnipeg	Details;
SCD 139	Tache Bench
SCD 119	Waste Receptacle

GENERAL REQUIREMENTS

E2. PROTECTION OF EXISTING TREES

- E2.1 The Contractor shall take the following precautionary steps to prevent damage from construction activities.
- E2.2 All trees will have a protective zone at the dripline of the crown, which will remain free of digging, trenching, grade changes, stock piling of materials and soil compaction, throughout the duration of the Contract. Protective snow fencing around these areas is required.
- E2.3 Trees within and immediately adjacent to proposed construction areas and those identified to be at risk by the Contract Administrator, will require 25 x 100 x 2400mm wood planks strapped to the tree trunk to completely protect the tree trunk from impact damage during the entire construction period or as agreed upon by the Contract Administrator. (Smaller trees will be similarly protected using proportionally sized wood planks.)
- E2.4 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 3m from the closest edge of the trunk. Where roots must be cut to facilitate excavation, they shall be pruned neatly at the face of excavation by an arborist certified to practice in the Province of Manitoba. They must be properly trimmed with sharp tools to prevent crushing or being pulled up 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.
- E2.5 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.

E2.6 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.

E2.7 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.

E2.8 No separate measurement or payment will be made for the protection of trees.

E2.9 Auguring under existing trees will be the only acceptable method of underground installations. Any other excavations must be approved by the Forestry Branch.

E3. PROTECTION OF SURVEY INFRASTRUCTURE

E3.1 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.

E3.2 Further to C6.26(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.

E3.3 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.

E3.4 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.

E3.5 Where possible, amounts owed to the City in accordance with the above will be deducted from any Protection of survey infrastructure payments to be made by the City to the Contractor.

E4. PEDESTRIAN SAFETY AND TRAFFIC MANAGEMENT

E4.1 During the project, pedestrian access shall be maintained at all times on public right of way and on adjacent properties. A clear pathway unobstructed from any materials or equipment must be provided. No pedestrian access is required on the construction site.

E4.2 Vehicle access must be maintained at all times on public right of way and on adjacent properties.

E5. STAKES AND MARKS

E5.1 Further to C6.26(h), 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 Contract Administrator. The Contractor shall make the completed Works conform to the lines and marks thus approved and indicated.

- E5.2 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.
- E5.3 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.
- E5.4 The Contractor shall determine and provide all dimensions and elevations measured from the stakes or marks

E6. WATER USED BY CONTRACTOR

- E6.1 Notwithstanding CW 1120.3.7:
- E6.2 Water for use by the Contractor may be obtained from the City of Winnipeg waterworks system.
- E6.3 Should the Contractor wish to obtain water from a City hydrant, he shall make application either in person or by phoning the Permits Clerk at 986-3184 (8:30 am to 4:30 pm Monday to Friday excluding holidays). The Contractor shall advise the Permits Clerk of the hydrant he wishes to use. The Water Services Divisions of the Water and Waste Department will inspect the hydrant to ensure that the location is suitable and that the hydrant is in good working condition. If the requested hydrant is found to be unacceptable, arrangements will be made for the use of an alternate hydrant.
- E6.4 When the application has been approved, the Permits Clerk will contact the Contractor and issue the permit. The permit may not be issued the same day the application is made. The Contractor shall obtain the permit for hydrant use from the Customer Services Division of the Public Works Department, 107-1155 Pacific Avenue. Permit fees will be charged in accordance with the latest version of the Waterworks By-law. All water used shall be metered and protected against contamination by the use of approved backflow prevention devices. The City will rent the meter to the Contractor at the rate established by the Waterworks By-law. The Contractor shall provide a lockable box, piping, valves, and backflow prevention equipment in accordance with Waterwork's guidelines. The backflow preventer(s) must be tested by a plumber licensed to test backflow preventers. The Permits Clerk can provide a list of licensed plumbers and additional information on the requirements for obtaining a use of hydrant permit.
- E6.5 The Contractor shall pay for all water used in accordance with the Waterworks By-law. Sewer charges will not be assessed for water obtained from a hydrant.

E7. SURFACE RESTORATIONS

- E7.1 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.

E8. TEMPORARY RELOCATION OF AFFECTED STRUCTURES

- E8.1 The Contractor shall temporarily relocate any portable structure such as benches, waste receptacles, picnic benches, etc., which will interfere with the construction of the Work and are not identified as items to be relocated. The Contractor Administrator will identify the temporary locations for the portable structures. Following the completion of the applicable Work the Contractor shall replace the structures to the locations designated by the Contract

Administrator. These relocations shall be considered incidental to the associated Works and no separate measurement for payment will be made.

E9. TRUCK WEIGHT LIMITS

E9.1 The City shall not pay for any portion of Material which results in the vehicle exceeding the maximum gross vehicle weight allowed under *The City of Winnipeg Traffic By-Law*, unless such vehicle is operating under special permit.

E10. PRE-CONSTRUCTION MEETING

E10.1 The Contractor shall not begin the Work under this Contract. until a pre-construction meeting has been held between representatives of the Contractor, and the Contract Administrator

E11. ACCESS

E11.1 All access is to be on the designated routes through the Site. These routes will be determined at the Pre-Construction Meeting.

E11.2 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.

E11.3 The Contractor's operations shall be limited to the minimum area necessary for undertaking the Work and he shall be responsible for all damage resulting from his Work on private property. The Contractor shall take such measures as are necessary to ensure safe and convenient pedestrian ingress and egress in 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.

E11.4 All necessary precautions shall be exercised by the Contractor so as not to remove, disturb, or damage any existing trees, shrubs, sod, pavements, streets, roads, boulevards, poles, hydrants, water pipes, gas pipes, electrical wires, cables, conduits, sewers or other existing facilities and equipment at the Site of the Work. For all damage incurred in the performance of the Work (either directly or indirectly), the Contractor shall either replace and repair such damage, whichever may be deemed necessary in the opinion of, and acceptable to, the Contract Administrator and the cost of which shall be borne entirely by the Contractor.

E12. SITE CONDITION

E12.1 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.

E12.2 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.

E12.3 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.

E13. LAYOUT OF WORKS

E13.1 The Contractor will Work from layout information provided in the construction drawings and will be responsible to provide a full time experienced survey crew to layout and continuously check the locations and elevations of all components and paving patterns of the Work included in this Contract.

E13.2 The Contractor must provide all necessary survey equipment in good operating conditions.

E13.3 The Contractor shall supply all materials (painting, stakes, ribbon, markers, etc) and labour necessary for the accurate location and setting out of the Work.

E13.4 From time to time the Contract Administrator may have a survey crew on the Site, but they will check the Work done by the Contractor's survey personnel only. The checking of the Work by the City's surveyors will not relieve the Contractor of any responsibility of the correctness of the Work. Should any structure or paving or any part thereof be installed in any location other than that shown on the Drawings, then the error shall be rectified by the Contractor all at his own expense and at the satisfaction of, and in a manner specified by the Contract Administrator.

E14. EXISTING UNDERGROUND SERVICES

E14.1 The Contractor's attention is drawn to the existing underground lines or services that may be located in the area of the Work.

E14.2 The Contractor shall take all necessary precautions when performing the Work to ensure that no damage is done to these existing services.

E14.3 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, 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.

E14.4 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.

E14.5 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.

E14.6 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.

E15. EXPOSING EXISTING UNDERGROUND SERVICES AND UTILITIES

E15.1 The exact location and depth of some of the existing underground services and utilities within the project limits are unknown.

E15.2 Therefore, the Contractor shall supply all labour, equipment and materials required to expose all underground services and/or utilities sufficiently far enough in advance of the proposed Works to permit the Contract Administrator where necessary, to adjust the alignment and grade to avoid existing lines and ducts.

E15.3 All costs in connection with this item of Work shall be included in the unit price bid for the various bid items.

E16. EXISTING CURB STOP BOXES

E16.1 During the removal and installation of the concrete pavement, asphalt pathway and unit paving, the Contractor shall take all necessary precautions when Working in the vicinity of any existing curb stop boxes.

E16.2 All existing curb stop boxes not in use as determined by the Contract Administrator shall be abandoned by removing existing curb stop boxes. All costs associated with the abandoning of curb stop boxes are incidental

E16.3 Any existing curb boxes requiring final adjustments (horizontal and/or vertical) are incidental.

E16.4 Any curb stop boxes damaged as a result of the Contractor's operation shall be replaced at his own cost.

E17. PRODUCT APPROVALS

E17.1 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.

E17.2 The Contractor shall only use material which has been approved by Specification CW3710 or by the Contract Administrator. The list shall provide the product, the manufacturer and the supplier.

E17.3 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, boulevard, poles, hydrants, water pipes, gas pipes, electrical wires, cables, conduits, sewers or other existing facilities and equipment at the Site of the Work. For all damage incurred thereto in the performance of the Work, the Contractor shall upon instructions from the Contractor Administrator, either replace or repair such damage, whichever may be deemed necessary in the opinion of, and acceptable to the Contract Administrator and the costs of which shall be borne entirely by the Contractor.

E17.4 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.

E17.5 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.

E18. DAMAGE TO STREETS AND STRUCTURES

E18.1 The Contractor is to be advised of the following existing Site features to be retained and protected to the City of Winnipeg Standards:

- | | | |
|-------------|-----------------------------|-----------------|
| a) trees | e) light standards | i) hydro poles |
| b) curbs | f) fire hydrants | j) catch basins |
| c) sidewalk | g) street signs | k) curb inlets |
| d) sod | h) all underground services | l) fences |

E19. PERMITS, NOTICES, LICENCES, CERTIFICATIONS, LAWS, AND RULES

E19.1 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.

E19.2 The Site Development Permits (including lot grading and damage deposits) will be obtained and paid for by the City of Winnipeg Planning, Property and Development Department prior to commencement of construction. A copy of this permit will be provided to the Contractor upon award of Contract.

E19.3 The Contractor shall comply with all laws, ordinances, rules, and regulations that would relate to the Works.

E20. EXCAVATION, REMOVALS, ROUGH GRADING AND SUBGRADE COMPACTION

E20.1 Further to City of Winnipeg Specification CW 3110 and CW 3170 due to the extent and nature of underground services in the park area, the Contractor shall be permitted to use only backhoe type equipment when excavating sub-grade material.

Description

- E20.2 The Work of this section comprises the furnishing of all labour, equipment and materials required to complete the excavation and related Work including, but not necessarily confined to, the following:
- (a) Removal of existing chain link fence and salvaging of existing mesh.
 - (b) Removal and disposal of existing asphalt pathway.
 - (c) Sawcut, removal and disposal of portion of concrete wading pool apron.
 - (d) Excavation, removals, disposal, subgrade compaction and rough grading of the existing Site for the construction of concrete sidewalk, shrub beds, play areas and sodded areas to the design requirements noted on the Drawings, approved on Site by the Contract Administrator, less the appropriate surface finish allowance.
 - (e) Stockpile suitable, approved material on Site for reuse (clean topsoil, clean earth fill and gravel fill). Remove and dispose of unsuitable material.
 - (f) 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, swales and adjacent sodded areas and planting beds.
 - (g) Excavation, removals, and disposal of unsuitable subgrade and replacement with compacted granular base material.
- E20.3 The Work to be done by the Contractor under this Specification shall include the furnishing of all superintendence, overhead, labour, equipment, tools, supplies and all other things necessary for and incidental to the satisfactory performance and completion of all Work hereinafter specified.

Equipment

- E20.4 All equipment shall be of a type approved by the Contract Administrator and shall be kept in good Working order.

Construction Methods

- E20.5 The Contractor shall restrict his activities strictly to within the limits of the Works, unless receiving prior written approval from the Contract Administrator.
- E20.6 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.
- E20.7 The Contractor shall construct all sub-grades in accordance with Specification CW 3110. Excavation will be performed as per Item 9.1 of CW 3110. The Contractor shall remove existing pavement in accordance with 9.2 of CW 3110. Unsuitable Excavated material shall be disposed of as per Item 9.3 of CW 3110. All surplus material will be disposed of in accordance with Item 9.3 of CW 3110.
- E20.8 The Contractor shall restrict his activities strictly to within the limits of the Work, unless receiving prior written approval from the Contract Administrator. The Contractor shall take all precautions to prevent damage to traffic structures, pole lines, existing trees, Site services and adjacent property and he shall be liable for any damages occurring in the performance of this Work.
- E20.9 The Contractor shall examine the Site and make themselves familiar with the existing conditions and the nature of the Work to be done.
- E20.10 Prevent damage to surface or underground utility lines which are to remain. Make good any damage.

- E20.11 Contractor shall remove sections of the existing chain link fence along the property line and the wading pool and salvage the chain link fabric for reinstallation. Where possible salvage existing posts for reinstallation on concrete paving.
- E20.12 Contractor to breakout and remove existing asphalt pathway and base materials as indicated on the Drawings. Dispose of material off Site in legal manner.
- E20.13 Contractor to sawcut and remove portion of existing concrete apron around wading pool for installation of new concrete sidewalk as indicated on the Drawings. Contractor to remove concrete, reinforcing and base material to full depth and dispose of off Site in legal manner
- E20.14 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.
- E20.15 Excavated or graded materials to be approved before use as fill for grading Work. Protect such approved material from contamination. Stockpile in approved locations on Site. Protection and stockpiling are incidental to unit prices bid for excavation, removals and rough grading.
- E20.16 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 sodded areas and compacted granular fill in paved areas.
- E20.17 The Contractor shall excavate topsoil as per CW 3170 Section 9.2. Topsoil excavation is incidental to the unit prices bid for excavation, removal and rough grading.
- E20.18 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.
- E20.19 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.
- E20.20 The Contractor is advised that there may be useable topsoil and earth fill on Site. All suitable material will be reviewed and approved by the Contract Administrator and then re-used on Site. The re-use of this material on Site may reduce the quantity of imported topsoil and clean earth fill required. The Contractor shall re-use existing Site material prior to delivering new material to Site.
- E20.21 No direct payment will be made for placing and grading of existing fill as all costs for this Work shall be included in the lump sum bid for excavation, removals and rough grading within the limit of the Work.
- E20.22 Compaction 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 and play areas, and 95% Standard Proctor Density in all other areas disturbed under this Contract.
- E20.23 The Contractor shall construct the compacted sub-grade surface to the following depths below the grades shown on the Drawings for each area:
- | | |
|--|-------------|
| (a) Concrete sidewalk | 150 mm |
| (b) Concrete sidewalk with unit paver insert | 225mm |
| (c) Concrete sidewalk with thickened edge | 225mm |
| (d) Play areas | 275mm-425mm |
| (e) Planting bed | 1000mm |
| (f) Sodded areas | 100mm |

- E20.24 Excavation for all items of new construction are incidental to the unit prices bid under this contract. No separate payment will be made.
- E20.25 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 to 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.
- E20.26 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. Only areas beyond required excavation for paved areas will be measured and paid.
- E20.27 The Contractor shall load and haul all removed material from the Site and dispose of these materials legally at a dump 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 at the expense of the Contractor, to the satisfaction of the Contract Administrator.
- E20.28 The Contractor shall ensure that upon completion of the removal operations, the Site shall be left free of any hazardous depressions and in a neat condition.
- E20.29 The Contractor shall dispose of all unsuitable and excess materials in accordance with City of Winnipeg Specifications. Disposal is incidental to the unit prices bid.

Method of Measurement and Basis of Payment

- E20.30 Removal of chain link fence will be measured and paid for at the contract unit price per meter for "Remove and salvage existing chain link fence" as specified herein, which price shall be payment in full for performing all operations herein described and all other items incidental to the Work included in this Specification. The total number of metres to be paid for shall be the total number removed in accordance with this Specification as computed from measurements made by the Contract Administrator.
- E20.31 Removal of asphalt pathway will be measured and paid for at the contract unit price per square meter for "Remove and dispose of asphalt pathway" as specified herein, which price shall be payment in full for performing all operations herein described and all other items incidental to the Work included in this Specification. The total number of metres to be paid for shall be the total number removed in accordance with this Specification as computed from measurements made by the Contract Administrator.
- E20.32 Removal of concrete paving will be measured and paid for at the contract unit price per meter for "Sawcut and Remove concrete paving" as specified herein, which price shall be payment in full for performing all operations herein described and all other items incidental to the Work included in this Specification. The total number of metres to be paid for shall be the total number removed in accordance with this Specification as computed from measurements made by the Contract Administrator.
- E20.33 Removal of unsuitable subgrade and replacement with compacted granular base will be measured and paid for at the contract unit price per cubic meter for "Remove existing unsuitable subgrade and replace with compacted granular base" as specified herein, which price shall be payment in full for performing all operations herein described and all other items incidental to the Work included in this Specification. The total number of cubic metres to be paid for shall be the total number removed and replaced in accordance with this Specification as computed from measurements made by the Contract Administrator.

E21. MATCHING EXISTING GRADES

- E21.1 Wherever the proposed paving, or sod meets existing pathway/pavement, curb edge, 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.

E22. DRAIN TILE

Description

E22.1 The Work of this section comprises the furnishing of all labour, equipment and materials required to complete the supply and installation of drain tile as shown on the drawings and as hereinafter specified, including, but not necessarily confined to the following:

- (a) Excavation,
- (b) Geotextile,
- (c) Clean granular stone,
- (d) perforated drain tile with sock,
- (e) solid pvc pipe connection to catchbasin,
- (f) Clean-up.

Materials

E22.2 Geotextile to CW3130 for use in material separation.

E22.3 Clean granular to be 19mm clean washed stone free of fines and particulates.

E22.4 Perforated drain line to be 100mm diameter pvc pipe with integrated geotextile sock.

E22.5 Solid PVC pipe to be 150mm pipe rated for use as land drainage sewer including fittings.

Construction

E22.6 Trench to be laid out in play areas and planting areas in locations as shown on the Drawings .

E22.7 Construct trench under play areas and planting areas as per the Drawings.

E22.8 Connect pipe to solid pvc pipe ensuring no blockage, leakage or separation.

E22.9 Connect pvc pipe to catch basin, including breaking into catch basin and related works.

Method of Measurement and Basis of Payment

E22.10 Drain Tile will be measured and paid for at the contract unit price per linear metre for "Supply and Install Drain Tile" measured as specified herein, , which price shall be payment in full for supplying all materials including compacted base course as required and performing all operations herein described and all other items incidental to the Work included in this specification. The length to be paid for shall be the total number of metres supplied in accordance with the specifications and accepted by the Contract Administrator, as computed from measurements made by the Contract Administrator.

E23. ADJUSTMENT OF CATCH BASIN

Description

E23.1 The work of this section comprises the furnishing of all labour, equipment and materials required to complete the lowering of catch basin rim to the elevation shown on the Drawings.

Materials

E23.2 Contractor to provide precast concrete ring with catch basin frame to match existing cover to fit existing catch basin.

E23.3 Materials to conform to City of Winnipeg Specifications.

Construction

E23.4 Contractor to inspect existing catch basin and pipe inverts with City of Winnipeg prior to removal of catch basin frame.

E23.5 Elevation of catch basin rim to be adjusted to the satisfaction of Contract Administrator and City of Winnipeg.

E23.6 Contractor to cut catch basin down and supply and install ring(s) with catch basin frame to approved elevation.

E23.7 Area around catch basin to be compacted following connection of drainage tile to catch basin.

E23.8 Repair sod and topsoil.

Method of Measurement and Basis of Payment

E23.9 Adjustment of catch basin will be measured and paid for at the contract lump sum price for "Adjustment of catch basin" measured as specified herein, which price shall be payment in full for performing all operations herein described and all other items incidental to the work included in this Specification.

E24. CAST-IN-PLACE CONCRETE

Description

E24.1 The Work of this section comprises the furnishing of all labour, equipment and materials required to complete the supply and installation of cast-in-place concrete footings for Site furniture as shown on the drawings and as hereinafter specified, including, but not necessarily confined to the following:

- (a) Excavation
- (b) Granular Fill Work as required
- (c) Supply, erection and removal of all formwork as required
- (d) Design of concrete mixes
- (e) Supply, placing and curing of bases for bench and waste receptacle
- (f) Supply, placing and curing of bases for play equipment
- (g) Supply and installation of concrete curb and integral curb.
- (h) Supply and installation of all joint material in concrete Work.
- (i) Supply and Installation of compacted granular base courses not supplied by other sections.
- (j) Clean-up.

E24.2 The following items of Work are specified under other sections of the specifications and are not included in this section:

- (a) Supply of miscellaneous metal anchors, bolts, inserts, etc.

Materials

E24.3 All concrete Work shall be in accordance with CAN3-A23.1-Concrete Materials and Methods of Concrete Constructions. Proportion normal density concrete in accordance with CAN3-A23.1 to govern the following properties.

E24.4 Concrete for cast-in-place site furniture bases as follows:

Cement: Type 50

Max. Coarse Aggregate: 40mm
Min Compressive Strength at 28 days = 25 Mpa
Min. Cement Content: 310 kg/cu.m
Max. Water Cement Ratio: 0.45
Class of Exposure: S-2
Max. Slump: 90mm ± 20mm
Air Content: 4 to 7%
Flyash content: Max 15% of Cementitious Material

- E24.5 Concrete for curbs shall be to CW3310.
- E24.6 Fine aggregate shall consist of natural sand or manufactured sand and shall conform to all requirements of CAN3.A23.1.
- E24.7 Coarse aggregate shall consist of hard, strong, uncoated durable particles of crushed stone, gravel or approved combination thereof and shall be free from an excess of thin, elongated or soft pieces, frozen lumps, vegetable matter or other deleterious matter, and shall conform with all the requirements of CAN3-A23.1. Maximum size of coarse aggregate shall be 20 mm.
- E24.8 Water for concrete shall be clean and free from injurious amounts of oil, acid, alkali, salts, silt, organic matter or other deleterious matter. The quality of the water shall be equal to or better than that of potable water.
- E24.9 A non-detergent type of air-entraining admixture, supplied in liquid form, shall be metered into the mix. The total air in the placed concrete shall be 5% - 8%.
- E24.10 Curing compound shall be Sternson ritcure or approved equal.
- E24.11 Bonding agent shall be Sternson ST 431 Epoxy Bonding Agent.
- E24.12 Form Coating Shall be Sternson's Formseal or approved equal.
- E24.13 Compacted granular base courses for all cast in place concrete Works shall be in accordance with City of Winnipeg Specifications.
- E24.14 The Contract Administrator may engage a fully qualified Inspecting Engineer and Testing Laboratory to:
- (a) Inspect the pile excavations to determine that they have been augured to the specified depth, are of the specified size, are clean and level, and meet the design criteria.
 - (b) Take test cylinders during concrete placing and carry out compression tests to determine whether concrete produced complies with these Specifications.
 - (c) Take compaction tests of compacted granular sub-base and sub-grade material.
 - (d) Submit reports to the Contract Administrator of all materials, concrete, and caisson tests and inspections.
 - (e) Three concrete test cylinders to be taken for pile cast. One cylinder from each group shall be tested at 7 days, one at 14 days and the remainder at 28 days. Sampling and testing procedures shall be according to CAN3-A23.1 latest edition.
- E24.15 Curing and Protection
- (a) Curing shall immediately following the finishing operation as in CSA A23.1, Section 18 and shall continue for a minimum of five (5) days at 10°C.
 - (b) When the outside temperature is less than 4°C. the temperature of the concrete shall be maintained between 10°C. and 21°C. for the required curing period.
 - (c) When heat required for curing is being removed, the maximum temperature change shall not exceed 2.5°C. per hour or 27°C., in any 24 hour period.
 - (d) Unless adequate protection is provided, no concrete shall be placed during rain, sleet or snow.

- (e) Rainwater shall not be allowed to increase the mixing water nor damage the surface finish.

Clean up and Damage

- E24.16 Immediately on completion of all piles and foundations Contractor shall remove from Site all equipment, timbers, shores, excavated material, unused concrete, rubbish, etc., caused by his operations, and leave the Site clean, level and ready for placing of grade beams.
- E24.17 This Contractor shall be responsible for making good all areas damaged by his operations in connection with this Contract regardless of the limits of the Contract as shown on the Drawings.

Method of Measurement and Basis of Payment

- E24.18 No separate measurement or payment shall be made for C.I.P. concrete bases for site furniture or play equipment as this Work is incidental to the unit prices bid for installation of those items.
- E24.19 Concrete curb and integral concrete curb shall be measured and paid for at the Contract Unit Price per linear meter for "Supply and install concrete curb" ", measured as specified herein, which price shall be payment in full for supplying all materials including compacted base course as required and performing all operations herein described and all other items incidental to the Work included in this specification. The length to be paid for shall be the total number of metres supplied in accordance with the specifications and accepted by the Contract Administrator, as computed from measurements made by the Contract Administrator.

E25. CONCRETE SIDEWALK

- E25.1 All Work in this section shall be to City of Winnipeg Specification CW 3325 for Supply and Installation of Concrete Sidewalk.
- E25.2 Blockouts for all paving bands in sidewalk to be constructed as per the Drawings. All forming is incidental to the unit price bid for concrete sidewalk.
- E25.3 Thickened edge of sidewalk will be incidental to the unit prices bid for concrete sidewalk.
- E25.4 Integral concrete curb will be measured and paid for under concrete curb as specified in E24.
- E25.5 Doweling into existing concrete pavement will be incidental to the unit prices bid for concrete sidewalk.

Method of Measurement and Basis of Payment

- E25.6 Supply and installation of concrete sidewalk will be measured and paid for at the contract square metre price for "Supply and install concrete sidewalk", measured as specified herein, which price shall be payment in full for supplying all materials including compacted base course as required and performing all operations herein described and all other items incidental to the Work included in this specification. The surface area to be paid for shall be the total number of square metres supplied in accordance with the specifications and accepted by the Contract Administrator, as computed from measurements made by the Contract Administrator.

E26. INTERLOCKING PAVING STONES

Description

- E26.1 Further to CW 3335 this Specification shall cover the:
- (a) supply and installation of interlocking paving stones (unit pavers),
 - (b) supply and installation of sand setting bed,
 - (c) supply and installation of grout,

E26.2 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 or incidental to the satisfactory performance and completion of all Work as hereinafter specified.

Materials

E26.3 Concrete interlocking paving stones (unit pavers) shall be Holland Stone Pavers, supplied by Barkman Concrete, contact Wayne Wiebe, phone 667-3310, as shown on the Drawings and as follows:

- (a) Intense Red Holland Stone 105x210x60mm

E26.4 Sand:

- (a) Clean brick sand as joint filler.
- (b) Clean brick sand as minimum 13mm depth setting bed

E26.5 Grout:

- (a) Grout as specified hereinafter shall be used for grouting paving stone and brick in areas indicated on the drawings. The grout shall have a compressive strength of 25 MPA at 28 days, determined on 50 mm cubes stored and tested in accordance with ASTM C109, and shall consist of normal Portland cement, sand and water.
- (b) The water-cement ratio shall be kept in the range of 0.45 to 0.55.
- (c) The grout shall have between 3% and 5% entrained air.
- (d) Acryl-Stik or approved equal to be used in grout at approximately 4 litres Acryl-Stik to 3 litres water.
- (e) Admixtures to be used in the grout shall be supplied in accordance with the requirements of the City of Winnipeg Standard CW 3310.
- (f) The grout shall be of a consistency suitable for the application intended as approved by the Contract Administrator.
- (g) The Contractor shall provide the Contract Administrator with a mix design statement certifying the constituent materials and mix proportions that will be used in the grout for approval prior to construction.

Construction Methods

E26.6 Interlocking paving stones shall be installed in block out in concrete sidewalk or on granular base as per the Drawings.

Installation

E26.7 Contractor to install stockpiled pavers prior to supply and installation of new pavers.

E26.8 Install sand setting bed for pavers on granular base as shown on the Drawings.

E26.9 Contractor to verify the exact dimensions of pavers and panels prior to construction of block outs in concrete sidewalk.

- (a) Install concrete sidewalk as specified on Drawings.
- (b) Install sand bed to minimum 13mm depth as specified on Drawings. Adjust depth of pavers under areas to be relevelled to ensure surface of pavers is flush with adjacent paving.
- (c) Do not compact setting bed prior to installation of pavers.
- (d) Spread only sufficient area which can be covered with pavers same day.
- (e) Lay pavers on sand bed hand tight.
- (f) In areas where pavers are to be grouted in place clean existing concrete, install grout bed and then place pavers on grout.

- (g) Grout between pavers as required to ensure stability.
- (h) Remove adjacent pavers in bands as required to ensure that bricks do not require cutting on straight bands.
- (i) Where paving pattern is interrupted by vertical structural elements pavers must be sawcut and fit true and hand tight.
- (j) Commence installation of pavers against edge to obtain straightest possible course for installation.
- (k) Pavers shall be cut with a saw only, to obtain true even undamaged edges. Chipped pavers are unacceptable.
- (l) Crews shall Work on installed pavers, not on sand layer.
- (m) Spread and fine grade brick sand over paving surface and sweep into joints, in several directions. Sand is incidental to the price for supply and installation of pavers.
- (n) Compact pavers with vibratory plate compactor having mass of at least 113kg. Compaction is incidental to the price for supply and installation of paving stone.
- (o) Sweep remaining sand over all paving areas and remove from Site.
- (p) Replace at no extra cost all whole or cut stones marked as unacceptable.
- (q) Remove cracked, chipped, broken or otherwise damaged paving materials from Site immediately.
- (r) Upon completion, clean in accordance with manufacturer's recommendations.

Method of Measurement and Basis of Payment

E26.10 Supply and installation of interlocking paving stones will be measured and paid for at the Contract Unit Price per square metre for "Supply and install interlocking paving stones" measured as specified herein, which price shall be payment in full for supplying all materials and performing all operations herein described and all other items incidental to the Work included in this Specification. The surface area to be paid for shall be the total number of square metres installed in accordance with the Drawings and Specifications and accepted by the Contract Administrator, as computed from measurements made by the Contract Administrator.

E27. PROTECTIVE SURFACING

Description

E27.1 This specification shall cover the supply and installation of Wood fibre surfacing within the play area, as shown on the Drawings.

Materials

E27.2 Wood fibre product shall be either Zeager Woodcarpet or Fibar FibarSystem 200 or Fibar FibarSystem 300 products or substitute in accordance with B6.

- (i) Contact for Woodcarpet:
Zeagar Bros. Inc.
4000 East Harrisburg Pike ·
Middletown, PA 17057
USA
Ph: (1-888) 346-8524 or (717) 944-7481 ·
Fax (717) 944-7681
sales@zeager.com
- (ii) Contact for Fibar FibarSystem 200 or FibarSystem 300:
The Fibar Group LLC
80 Business Park Drive, Suite 300
Armonk, NY 10504-1705
USA

Ph: (800) 342-2721
Fax: (914) 273-8659
info@FibarPlaygrounds.com

E27.3 Wood fibre surfacing shall include wood fibre, filter cloth, and subsurface drainage course. All work and materials to be included in the unit price bid for supply and installation of wood fibre safety surfacing.

Construction Methods

E27.4 Wood fibre shall be installed within the play area, as defined by the concrete edger, to the minimum depth required by CSA standards (after compaction). In play areas where the maximum fall height is greater than 2.4m (8'), depth of material to directly correspond to maximum fall height of play equipment in accordance with manufacturer's specifications and CSA standards.

E27.5 The installation of the wood fibre shall be done immediately after the play equipment has been installed.

E27.6 Installation of entire system, including fibre, filter cloth, and subsurface drainage shall be done according manufacturer's instructions. Contractor to ensure adequate drainage within play equipment area must be ensured as per same.

E27.7 Installation shall be done by equipment sized to suit the Work being done and the wood fibre shall be spread by hand as necessary in the immediate vicinity of the play equipment so as not to damage same. The play equipment shall be swept clean to the satisfaction of the Contract Administrator after installation of the wood fibre.

Method of Measurement and Basis of Payment

E27.8 Protective Surfacing will be measured and paid for at the Contract square metre for "Supply and install wood fibre protective surfacing", measured as specified herein, which price shall be payment in full for supplying all materials and performing all operations herein described and all other items incidental to the Work included in this Specification. The number to be paid for will be the total number supplied and placed in accordance with this Specification and accepted by the Contract Administrator, as measured by the Contract Administrator.

E28. PLAY EQUIPMENT

Description

E28.1 The Work of this section comprises the furnishing of all labour, equipment and materials required to complete the supply and installation of play equipment as follows:

- (a) Supply and install adventure tower as per drawings;
- (b) Supply and install Mobius climber as per drawings;
- (c) Supply and install midsized rotating net with deck as per drawings;
- (d) Supply and install custom Galaxy structure as per drawings;
- (e) Supply and install swing set as per drawings;
- (f) Supply and install horse seesaw as per drawings;
- (g) Supply and install daffodil play element as per drawings;
- (h) Supply and install double arch swing as per drawings;
- (i) Concrete foundations for all play equipment as per manufacturer's recommendations (including stamped structural details). This Work is incidental to cost of supply and installation of all play equipment listed above.

E28.2 This specification does not include the pre-installation Site preparation Work and perimeter edging. Contractor to ensure layout of these Works is co-ordinated with layout and installation of play equipment and concrete bases.

General

E28.3 The Contractor shall furnish all labour, materials, equipment and services necessary to complete the Work according to the drawings and specifications.

E28.4 The layout of playground equipment to be as shown on the Drawings and as specified herein.

Materials

E28.5 Posts / Caps

- (a) All posts shall be a minimum of 5" O.D. round tubing. All posts shall be fabricated from either aluminum (0.125" min. wall thickness) or galvanized steel (0.120" min. wall thickness) tubing with a baked-on polyester powder coating. The powder coating finish shall meet or exceed ASTM standards for hardness, adhesion, impact and salt spray resistance. Colour scheme as per Detail drawings. All fabrication cuts drill holes and weld joints shall be sprayed with a corrosion resistant coating prior to powder coating. The bottom end of the posts is to be sealed with a moisture barrier.
- (b) Top caps for posts shall be aluminium die cast and powder coated the same as the post colour. All caps shall be factory installed and secured in place with tamper proof, self-sealing rivets.

E28.6 Decks

- (a) All metal decks shall be manufactured from vinyl-coated perforated steel.

E28.7 Clamping System

- (a) All deck, rail and play component clamping systems shall be fabricated from zinc plated, and galvanized steel, stainless steel or aluminium, and baked-on polyester powder coated to match post colour unless noted on Detail drawings. Tamper proof, corrosion resistant fasteners shall be used to retain clamping systems.

E28.8 Handrails, Safety Rails and Hand loops

- (a) All metal handrails, safety rails and handloops shall be fabricated using a minimum of 1 1/8" O.D. with a 0.125" wall thickness steel tubing. After all fabrication activities have occurred including end cuts, drill holes, bends and weld joints, all components shall be hot dipped galvanized and baked-on polyester powder coated. Colours as per Detail drawings.
- (b) Hand Rails shall consist of 2.5" (64mm) x 5.5" (140 mm) pressure treated southern yellow pine machined to the appropriate shape.
- (c) Horizontal Guard Rail Panel shall consist of two 2.5" (64 mm) x 5.5" (140 mm) pressure treated southern yellow pine rails fastened directly to the vertical posts.

E28.9 Hardware

- (a) All fasteners shall be socketed and tamper proof in design, and either carbon steel plated with zinc/nickel and iridescent chromate finish or stainless steel.

E28.10 Poly Components

- (a) Poly components such as slides, hoods, and roofs shall be fabricated from U.V. stabilized, rotationally moulded liner low density polyethylene. All play components must be durable and of heavy duty construction to meet all requirements and specifications.
- (b) Poly components such as play panels shall be fabricated from compression molded solid colour, U.V. stabilized high density polyethylene.

- E28.11 The adventure tower shall be Kompan Adventure Tower (MSC6419) or approved substitute in accordance with B6 as supplied by:

Playworks Inc.
Ph: 414-2990
Contact: Jeff Kuby

- E28.12 The Mobius climber shall be Landscape Structures 12 Panel Mobius Climber (Model # 150638A) or approved substitute in accordance with B6 as supplied by:

Playgrounds-R-Us
250 Transport Road
Winnipeg MB
Ph. 932-7000
Contact: Jodi Marr

- E28.13 The midsize rotating net with deck shall be Elephant Play Mid Sized Rotating Net with Deck with crimped replaceable ball joints or approved substitute in accordance with B6 as supplied by:

Playworks Inc.
Ph: 414-2990
Contact: Jeff Kuby

- E28.14 The custom Galaxy structure shall be Kompan Custom Galaxy Structure or approved substitute in accordance with B6 as supplied by:

Playworks Inc.
Ph: 414-2990
Contact: Jeff Kuby

- E28.15 The swing set shall be Landscape Structures 5000 Series Swing with bucket seats or approved substitute in accordance with B6 as supplied by:

Playgrounds-R-Us
250 Transport Road
Winnipeg MB
Ph. 932-7000
Contact: Jodi Marr

- E28.16 The horse seesaw shall be Kompan horse seesaw (M182) or approved substitute in accordance with B6 as supplied by:

Playworks Inc.
Ph: 414-2990
Contact: Jeff Kuby

- E28.17 The daffodil play element shall be Kompan Daffodil (M629) or approved substitute in accordance with B6 as supplied by:

Playworks Inc.
Ph: 414-2990
Contact: Jeff Kuby

- E28.18 The double arch swing shall be Elephant Play Double Arch Swing or approved substitute in accordance with B6 as supplied by:

Playworks Inc.
Ph: 414-2990
Contact: Jeff Kuby

Canadian Standards Association Guidelines

- E28.19 All playground equipment supplied and the method of installation shall be in accordance with the most recent edition of the "National Standard of Canada, CAN/CSA-Z614-98".
- E28.20 The Contractor shall submit, within two (2) Business Days of request of Contract Administrator, a written statement confirming compliance with this guideline and shall be prepared, if requested, to provide data supporting compliance within ten (10) Working days of such a request, at no cost to the City.

Installation

- E28.21 Install all components as per manufacturer's specifications. Install manufacturer's standard fittings, fasteners and hardware as required. All posts and anchors to be installed in concrete footings as per manufacturer's specification and details. Impervious seal to be applied around all in-ground components, to prevent water seepage, as per manufacturer's specifications.
- E28.22 Play structures and Swing Standards shall be installed as per the Canadian Standards Association Guidelines. All posts and other vertical items shall be true to vertical. All decks shall be level.

Manufacturer's Shop Drawings and Specifications

- E28.23 The Contractor shall submit, THREE (3) COPIES of the manufacturers' shop drawings and specifications for all the play equipment for review, evaluation and approval purposes within five (5) Business Days of award of Contract. One (1) approved copy will be returned to the successful Contractor. Shop drawings shall be drawn to scale and include all components, proposed layout and dimensions.
- E28.24 Review of the Shop Drawings in no way relieves the Contractor of the final responsibility for correctness of the dimensions, sizes, fabrication details, errors made therein, or for any changes made by the bid opportunity or specifications not covered by the Contractor's written notification to the Contract Administrator. No reprint of the Bid Opportunity Drawings shall be used as the shop drawings.

Concrete Foundations

- E28.25 All playground equipment posts, bases and anchors are to be set in concrete footings or piles to ensure stability and prevent frost heaving. The current Standard Construction Specifications of the City of Winnipeg, CW 2160 - Concrete to be Used in Underground Works, is to be utilized in the installation of the concrete Works for all below ground components. All foundations are to be stamped by a Structural Engineer licensed to practice in the province of Manitoba.
- E28.26 The specific concrete requirements shall be:
Sulfate resistant, Type 50 Cement
28 day compressive strength of 30 Mpa
maximum aggregate size of 40mm, nominal
slump 90 20mm
maximum water/cement ratio 0.45
- E28.27 No separate payment will be made for concrete foundation for play equipment. All Work is incidental to the unit prices bid for the items.

Installation

- E28.28 Contractor to layout playground for review and approval by Contract Administrator prior to excavating for piles.

- E28.29 Contractor shall notify the Contract Administrator at least 48 hours prior to installation of concrete, so that footings may be inspected in advance of concrete being poured.
- E28.30 Play structure posts shall be centered in concrete footing with a minimum 200mm band of concrete on all sides.
- E28.31 Concrete Bases shall be buried below the bottom of the protective surfacing and have top corners rounded and all rough edges removed according to CSA standards.
- E28.32 Concrete Bases shall be sized appropriately to withstand constant stresses and prevent any shifting of the components. Contractor shall be prepared to supply detailed dimension and specification for the concrete foundations/footings for all components.

Maintenance Kits

- E28.33 All play equipment shall include the supply of maintenance kits. Maintenance kits shall include maintenance manuals, complete manufacturer's parts lists, touch-up paint, PVC repair paint, 10% extra of each bolt, washer and any other hardware utilized on the play equipment, and all special tools necessary for assembly and maintenance.

Method of Measurement and Basis of Payment

- E28.34 Supply and installation of play equipment shall be measured and paid for on a per item basis for "Supply and install play equipment" measured as specified herein, which price shall be payment in full for supplying all materials (including concrete foundations) and performing all operations herein described and all other items incidental to the Work included in this Specification. The number of units to be paid shall be the total number of units supplied and installed in accordance with the Specifications and accepted by the Contract Administrator, as computed from measurements made by the Contract Administrator.

E29. CHAIN LINK FENCE

Description

- E29.1 Further to CW 3550 specification for Commercial Grade Chain Link Fencing this specification shall cover the reinstallation and supply and installation of chain link fencing.

Materials

- E29.2 New chain link fencing to be to CW3550.
- E29.3 Salvaged chain link fabric to be approved salvaged on Site material.
- E29.4 Salvaged posts to be approved salvaged posts cut to length for reinstallation.
- E29.5 Base plates to be galvanized plates with welded posts as per the Drawings.

Construction Methods

- E29.6 Contractor to install new and salvaged chain link fence in ground to CW3550.
- E29.7 Contractor to install baffle gate configuration as per City of Winnipeg details.
- E29.8 Contractor to install fence on concrete paving with base plates as per the Drawings and as follows:
- (a) Measure length of fencing to be installed prior to construction. Install base plates as per detail and adjust post spacing at ends of fencing runs to provide minimum 1.5m length panels at ends.
 - (b) Mark out locations for base plates and predrill holes into concrete.

- (c) Mount base plates to concrete ensuring that posts are plumb and in line with mechanical anchors and tamperproof bolts.
- (d) Cut down salvaged post to required height and treat all surfaces with zinc coating.
- (e) Place posts and fasten to base plates as per the Drawings.
- (f) Install salvaged and/or new chain link mesh with all required fastenings to CW3550.

Method of Measurement and Basis of Payment

- E29.9 Chain link fence shall be measured and paid for at the Contract Unit Price per linear meter for "Supply and install chain link fence", measured as specified herein, which price shall be payment in full for supplying all materials including compacted base course as required and performing all operations herein described and all other items incidental to the Work included in this specification. The length to be paid for shall be the total number of metres supplied in accordance with the specifications and accepted by the Contract Administrator, as computed from measurements made by the Contract Administrator.
- E29.10 Reinstall salvaged chain link fence shall be measured and paid for at the Contract Unit Price per linear meter for "Reinstall salvaged chain link fence", measured as specified herein, which price shall be payment in full for supplying all materials including compacted base course as required and performing all operations herein described and all other items incidental to the Work included in this specification. The length to be paid for shall be the total number of metres supplied in accordance with the specifications and accepted by the Contract Administrator, as computed from measurements made by the Contract Administrator.

E30. SITE FURNITURE

Description

- E30.1 This specification covers the supply and installation of:
- (a) Waste Receptacles – Ornamental flat iron slat c/w inserts painted black including concrete base.
 - (b) 1.82m length Tache Style Recycled Plastic Benches with Back and Armrests including concrete base.
 - (c) 1.82m length Tache Style Recycled Plastic Backless Benches with Armrests including concrete base.

General

- E30.2 Store units in a protected location, immediately upon arrival on the Site.
- E30.3 Remove from Site any units which have been damaged during transportation and replace.

Products

- E30.4 Relocate existing Site furniture as noted on the drawings to locations as specified by Contract Administrator.
- E30.5 Waste Receptacles as supplied by:

City of Winnipeg
Public Works, Equipment and Material Services,
102 1155 Pacific Ave.
Winnipeg, Manitoba R3E 1G6
Ph: (204) 986-5504 Fax: (204) 783-1248
Attn. Foreman

- E30.6 Recycled Plastic Benches -1.82m length Tache Style bench with back and armrests as supplied by:

City of Winnipeg
Public Works, Equipment and Material Services,
102 1155 Pacific Ave.
Winnipeg, Manitoba R3E 1G6
Ph: (204) 986-5504 Fax: (204) 783-1248
Attn. Foreman

Installation

- E30.7 Site Furniture shall be installed in locations as indicated on the Construction Drawings.
- E30.8 Benches and Waste Receptacles to be installed as per City of Winnipeg Specifications and details.
 - (a) Tache Bench SCD 139
 - (b) Waste Receptacle SCD 119
- E30.9 Protect and maintain Site furnishings, including accessories, until acceptance of project Work.
- E30.10 Immediately remove from Site, damaged furnishing and accessories. Replace, repair, re-finish, or otherwise make good to approval of Contract Administrator.
- E30.11 Concrete bases as per E23 and as shown on the Drawings. No separate payment will be made for concrete foundation for site furniture. All Work is incidental to the unit prices bid for the items.

Method of Measurement and Basis of Payment

- E30.12 Supply and installation of Tache benches will be measured and paid for at the contract unit price per item for "Supply and install Tache bench", measured as specified herein, which price shall be payment in full for supplying all materials and performing all operations herein described and all other items incidental to the Work included in this Specification. The number to be paid for will be the total number supplied and placed in accordance with this Specification and accepted by the Contract Administrator, as measured by the Contract Administrator.
- E30.13 Supply and installation of backless Tache benches will be measured and paid for at the contract unit price per item for "Supply and install backless Tache bench", measured as specified herein, which price shall be payment in full for supplying all materials and performing all operations herein described and all other items incidental to the Work included in this Specification. The number to be paid for will be the total number supplied and placed in accordance with this Specification and accepted by the Contract Administrator, as measured by the Contract Administrator.
- E30.14 Supply and installation of waste receptacles will be measured and paid for at the contract unit price per item for "Supply and waste receptacles", measured as specified herein, which price shall be payment in full for supplying all materials and performing all operations herein described and all other items incidental to the Work included in this Specification. The number to be paid for will be the total number supplied and placed in accordance with this Specification and accepted by the Contract Administrator, as measured by the Contract Administrator.

E31. PLANTING BED PREPARATION

Description

- E31.1 The following list generally describes the scope of this Section:
 - (a) Cultivate subsoil
 - (b) Supply and install planting soil mixture in planting beds
 - (c) Supply and install wood chip mulch
- E31.2 Submit to the Contract Administrator samples of the following materials:

- (a) Planting Soil Mixture: 1 kg
- (b) Wood chip mulch: 500g

Delivery and Storage

- E31.3 Deliver and store fertilizer in waterproof bags showing weight, analysis and name of manufacturer.

Materials

- E31.4 Planting Soil: For planting of native plugs, mix imported topsoil with 20% peatmoss loose by volume, and 5% sand loose by volume. Incorporate bonemeal into planting soil at rate of 5 lbs /cu.yd. of soil mixture. Planting soil items to be comprised as follows:
- E31.5 Peatmoss: horticultural grade Class "A" decomposed plant material, fairly elastic and homogeneous. Free of decomposed colloidal residue, weed, sulphur and iron. To have pH value of 5.9 to 7.0, 60% organic matter by weight, moisture content not exceeding 15% and water absorption capacity of not less than 300% by weight on oven dry basis.
- E31.6 Bonemeal: shall be raw bonemeal, finely ground with a minimum analysis of 3% nitrogen and 20% phosphoric acid.
- E31.7 Imported topsoil: natural, fertile, agricultural soil typical of locality, capable of sustaining vigorous plant growth, from well drained Site that is free of flooding, not in frozen or muddy condition, not less than 6% organic matter to a maximum 25% organic matter by volume, and pH value of 5.9 to 7.0. Free from subsoil, slag or clay, stones, lumps, live plants and their roots, sticks, crabgrass, couchgrass, noxious weeds and foreign matter.
- E31.8 Sand: hard, granular natural beach sand, washed free of impurities, chemical or organic matter.
- E31.9 Fertilizer: commercial type with 50% of the elements derived from organic sources.
- E31.10 Red Shredded Wood chip mulch: varying in size from 15-25 mm and 5-20 mm thick, from local source.

Construction Methods

- E31.11 Remove debris, broken roots, branches, stones in excess of 50mm diameter and other deleterious materials. Remove subsoil that has been contaminated with oil, gasoline or calcium chloride. Dispose of removed materials as directed.
- E31.12 Excavate bed to a depth of 500mm as per details on the Drawings.
- E31.13 Cultivate entire area of bed bottom to 100mm depth.
- E31.14 Do not spread planting soil mixture until Contract Administrator has inspected sub-grade.
- E31.15 Spread planting soil mixture with adequate moisture in uniform layers during dry weather over approved, dry, unfrozen sub-grade, where planting is indicated.
- E31.16 Bring planting soil mixture up to 50 mm finished grade in beds.
- E31.17 Remove stones, roots, grass, weeds, construction materials, debris and foreign non-organic objects from soil mixture.
- E31.18 Spread fertilizer at manufacturer's recommended rate of application. Mix fertilizer thoroughly into upper 50mm of planting soil.
- E31.19 Fine grade entire planting soil area to 50mm below level of pathway or adjacent sodded area. Eliminate rough spots.

E31.20 Compact planting soil to leave surface smooth, uniform, firm against deep foot printing, with a fine, loose texture. Tolerance: plus or minus 15mm of design grade.

E31.21 Supply and install 50mm wood chip mulch in beds.

Method of Measurement and Basis of Payment

E31.22 Supply and install planting bed shall be measured and paid for at the Contract unit price per square meter for 'Supply and install planting bed' which price shall be payment in full for supply of all materials and performing all operations herein described and for all other items incidental to the Work included in this Specification. The area to be paid for shall be the total number of square metres in place in accordance with this Specification acceptable to the Contract Administrator, as computed from measurements made by the Contract Administrator.

E32. PLANT MATERIAL

Description

E32.1 The following list generally describes the scope of this section:

- (a) Supply and installation of trees and shrubs including preparation, digging, transport and planting.
- (b) Maintenance of Trees during establishment period (minimum 30 days or until Total Performance whichever is longer). Refer to Extended Maintenance of Trees and Plant Material for extended tree and shrub maintenance period.

General

E32.2 Obtain approval of plant material at source.

E32.3 Notify Contract Administrator of source of material at least 7 days in advance of shipment. No Work under this Special Provision is to proceed without approval.

E32.4 Acceptance of plant material at source does not prevent rejection at Site prior to or after planting operations.

E32.5 Source of all plant material to be Manitoba.

Shipment and Pre-Planting Care

E32.6 Co-ordinate shipping of plants and excavation of holes to ensure minimum time lapse between digging and planting.

E32.7 Tie branches of trees and shrubs securely and protect plant material against abrasion, exposure and extreme temperature change during transit. Avoid binding of planting stock with rope or wire which would damage bark, break branches or destroy natural shape of plant. Give full support to root ball of large trees during lifting.

E32.8 Cover plant foliage with tarpaulin, and protect bare roots by means of dampened straw, peat moss, sawdust or other acceptable material to prevent loss of moisture during transit and storage.

E32.9 Remove broken and damaged roots with sharp pruning shears. Make clean cut and cover cuts over 50 mm diameter with wound dressing.

E32.10 Keep roots moist and protected from sun and wind. Heel-in trees, which cannot be planted immediately, in shaded areas, and water well.

Guarantee

- E32.11 The Contractor hereby warrants that the plant material as itemized on the plant list will remain free of defects for the duration of the two year maintenance period indicated in E29. End-of-warranty inspection will be conducted.
- E32.12 The Contractor agrees and guarantees to replace and replant any nursery stock found dead or in poor condition for the warranty period from date of Certificate of Total Performance, without cost to the City. "Poor Condition" shall be interpreted as meaning nursery stock on which branches are dead or dying, or have not shown satisfactory growth in leaves. Exempted is nursery stock damaged by accidental causes or vandalism, which stock shall be replaced at the cost of the owner.
- E32.13 The Contract Administrator reserves the right to extend Contractor's warranty responsibilities for an additional one year if, at end of initial warranty period, leaf development and growth is not sufficient to ensure future survival.

Replacement

- E32.14 During warranty period, remove from Site any plant material that has died or failed to grow satisfactorily as determined by the Contract Administrator.
- E32.15 Replace plant material as directed by the Contract Administrator.
- E32.16 Extend warranty on replacement plant material for a period equal to the original warranty period.
- E32.17 Continue such replacement and warranty until plant material is acceptable.

Materials

- E32.18 Water should be potable and free of minerals, which may be detrimental to plant growth.
- E32.19 Root Ball Burlap
- (a) Root ball burlap should be 150 g Hessian burlap.
- E32.20 Anti-Desiccant
- (a) Anti-desiccant should be wax-like emulsion to provide film over plant surface reducing evaporation but permeable enough to permit transpiration.
 - (b) Anti desiccant should be used only as requested by Contract Administrator
- E32.21 Wound Dressing
- (a) Wound dressing should be horticulturally accepted non-toxic, non-hardening emulsion.
- E32.22 Plant Material
- (a) Quality and Source: Comply with Guide Specification for Nursery Stock, 1982 Edition of Canadian Nursery Trades Association, referring to size and development of plant material and root ball.
 - (b) Measure plants when branches are in their natural position. Height and spread dimensions refer to main body of plant and not from branch tip to branch tip. Use trees and shrubs of No. 1 grade.
 - (c) Use trees and shrubs with strong fibrous root system free of disease, insects, defects or injuries and structurally sound. Use trees with straight trunks, well and characteristically branched for species. Plant must have been root pruned regularly, but not earlier than one growing season prior to arrival on Site.
- E32.23 Cold Storage
- (a) Approval required for plant material which has been held in cold storage.
- E32.24 Container - Grown Stock

- (a) Acceptable if containers large enough for root development. Trees must have grown in container for minimum of one growing season but not longer than two.
- (b) Root system must be able to "hold" soil when removed from container. Plants that have become root bound are not acceptable. Container stock must have been fertilized with slow releasing fertilizer.

E32.25 Balled and Burlapped

- (a) Deciduous trees in excess of 3m height must have been dug with large firm ball. Root balls must include 75% of fibrous and feeder root system. This excludes use of native trees grown in light sandy or rocky soil. Secure root balls with burlap, heavy twine and rope. For large trees: wrap ball in double layer of burlap and drum lace with minimum 10 mm dia. rope. Protect root balls against sudden changes in temperature and exposure to heavy rainfall.

E32.26 Tree Spade Dug Material

- (a) Dig plant material with mechanized digging equipment of hydraulic spade or clam-shell type. Root balls to satisfy CNTA standards. Lift root ball from hole, place in wire basket designed for purpose and line with burlap. Replace root ball and tie basket to ball with heavy rope. Take care not to injure trunk of tree with wire basket ties or rope.

E32.27 Substitutions

- (a) Substitutions to plant material as indicated on plantings plan are not permitted unless written approval has been provided in accordance with B6.

Construction Methods

E32.28 Workmanship

- (a) Stake out location of trees and shrubs as per the Construction Drawings. Obtain approval prior to excavating.
- (b) Apply anti-desiccant in accordance with material manufacturer's instructions.
- (c) Co-ordinate operations. Keep Site clean and planting holes drained. Immediately remove soil or debris spilled onto pavement.

E32.29 Planting Time

- (a) When permission has been obtained to plant materials after buds have broken, spray plants with anti-desiccant to slow down transpiration prior to transplanting.
- (b) When permission has been obtained, trees and shrubs growing in containers may be planted throughout growing season.
- (c) Plant only under conditions that are conducive to health and physical conditions of plants.
- (d) Provide planting schedule. Extending planting operations over long period using limited crew will not be accepted.

E32.30 Excavations

- (a) Refer to Preparation of Planting Beds. All excavation for installation of plant material is incidental and shall be included in the unit price bid for supply and installation of Plant Material unless otherwise noted.
- (b) Protect bottom of excavations against freezing.
- (c) Remove water which enters excavations prior to planting. Ensure source of water is not ground water.

E32.31 Planting

- (a) Loosen bottom of planting hole to depth of 150 to 200 mm.

- (b) Plant trees and shrubs vertically with roots placed straight out in hole. Orient plant material to give best appearance in relation to structure, roads and walks.
- (c) Place plant material to depth equal to depth they were originally growing in nursery.
- (d) With balled and burlapped roots balls, loosen burlap and cut away minimum top 1/3 without disturbing root ball. Do not pull burlap or rope from under root ball. With container stock, remove entire container without disturbing root ball. Non bio-degradable wrappings must be removed.
- (e) Tamp planting soil around root system in layers of 150 mm eliminating air voids. Frozen or saturated planting soil is unacceptable. When 2/3 of planting soil has been placed, fill hole with water. After water has been completely penetrated into soil, complete backfilling.
- (f) Build 100 mm deep saucer around outer edge of hole to assist with maintenance watering.
- (g) When planting is completed, give surface of planting saucer dressing of organic 10-6-4 fertilizer at rate of 12 kg/100 m for shrub beds or 40 to 50 g/mm of calliper for trees. Mix fertilizer thoroughly with top layer of planting soil and water in well.

E32.32 Pruning

- (a) Prune trees after planting as noted below. Postpone pruning of those trees where heavy bleeding may occur, until in full leaf. Employ clean sharp tools and make cuts flush with main branch, smooth and sloping as to prevent accumulation of water.
- (b) Remove projecting stumps on trunks or main branches. Remove dead and injured branches and branches that rub causing damage to bark. Trim trees without changing their natural shape. Do not damage lead branches or remove smaller twigs along main branches.
- (c) Prune Deciduous Trees to min 1.8m clear stem height.

Maintenance

- E32.33 Refer to E33 for Extended Maintenance of all plant material (Two Year Maintenance) Extended maintenance to begin when plant material has been accepted and Certificate of Total Performance has been issued.
- E32.34 After completion of planting operation to the satisfaction of the Contract Administrator, the Contractor shall be responsible for the maintenance of the plant material during establishment period until accepted and Certificate of Total Performance has been issued.
- E32.35 Replace any dead or damaged plant material during the maintenance period, including replacement of vandalized material.
- E32.36 Water sufficiently to maintain optimum growing conditions. Ensure adequate moisture in root zone at freeze-up.
- E32.37 The Contractor shall provide all necessary equipment, including: tractors, mowers, hand mowers, trimmers, fertilizer spreaders, pruning tools, hoses, water meters, and any other items necessary for the maintenance of the plant material indicated in this Specification.

Personnel

- E32.38 The Contractor shall provide all necessary personnel for the ongoing maintenance operations.
- E32.39 Personnel should have at least one year of experience in landscape maintenance and should be under the direction of a foreman, in all cases, with not less than five years of experience with similar maintenance operations.

Maintenance Methods

- E32.40 Watering Shrubs and Trees
- (a) All trees and shrubs shall be watered as required.

- (b) To determine the need for watering, make a soil test weekly with a one-inch auger. Take a test sample from both the planting soil and from the root area by drilling to a minimum depth of 600 mm. The soil shall contain enough moisture to hold together when compressed in the hand, but not be muddy.
- (c) During the hot season soak thoroughly approximately every week to ten days, depending on soil conditions. Take soil sample periodically, using an earth auger, until the maintenance personnel are familiar with soil conditions.
- (d) If soil is dry because of insufficient rain in the late fall, water plant material sufficiently to soak the entire root area before the earth freezes.

E32.41 Fertilizing Shrubs and Trees

- (a) Fertilizing shrub beds using a 10-6-4 mixture of fertilizer.
- (b) Fertilize trees using a 10-6-4 mixture of fertilizer.

E32.42 Cultivation

- (a) Cultivate planters and tree pits to keep the top layer of soil loose, friable and free of weeds. Never cultivate soil more than 50 mm. Maintain 100 mm depth of wood chip mulch in planters and planting beds.

E32.43 Spraying

- (a) Spray trees, shrubs, perennials and annuals to control insect pests and diseases. Use horticulturally recommended compounds specific for the problem to be contained. Do not use DDT or sprays prohibited by Agriculture Canada.

E32.44 Adjustments

- (a) Make adjustments requested by the Contract Administrator including straightening.

Method of Measurement and Basis of Payment

- E32.45 Supply and installation of plant material will be measured and paid for at the Contract Unit Price per unit type and size specified for "Supply and install plant material", measured as specified herein, which price shall be payment in full for performing all operations herein described and all other items incidental to the Work included in this Specification. The number of units to be paid shall be the total number of each type and size of units supplied and installed in accordance with the Drawings and Specifications and as measured and accepted by the Contract Administrator.

E33. EXTENDED MAINTENANCE OF PLANT MATERIAL

Description

- E33.1 This Specification shall deal with the maintenance of the trees for two (2) calendar years after the date of the Certificate of Total Performance.

Scope of the Work

- E33.2 The following generally describes the scope of this Specification:
- (a) Maintenance of trees from date of Total Performance for 2 years;
 - (b) Replacement of trees.

Materials

- E33.3 The Contractor shall provide all necessary equipment, including: tractors, trimmers, fertilizer spreaders, pruning tools, water trucks, hoses, water meters, and any other items necessary for the maintenance of the area indicated in this Specification.

Personnel

E33.4 The Contractor shall provide all necessary personnel for the ongoing maintenance operations.

Work Included

E33.5 Water Trees

- (a) All trees shall be watered bi-weekly, or during the summer, if temperatures are fairly high and there has been no rainfall, water approximately once a week. Where irrigation is not available this should be executed by leaving a hose, with a gentle rate of flow, running into the saucer of the root ball for about one hour.
- (b) To determine the need for watering, make a soil test weekly with a one-inch auger. Take a test sample from both the planting soil and from the root ball by drilling to a minimum depth of 600 mm. The soil shall contain enough moisture to hold together when compressed in the hand, but shall not be muddy.

E33.6 Fertilizing, Pruning and Spraying Deciduous Trees

- (a) Because of the specialized nature of such operations, this should be done by a qualified local arborist.
- (b) Fertilize in the fall over the surface of the ground surrounding the plants, then soak the area thoroughly. Use 10-6-4 analysis fertilizer spreading a maximum of 0.13 kg per square meter.
- (c) Spray trees to control insect pests and diseases. Use horticulturally recommended compounds specific for the problem to be contained.

E33.7 Tighten, or remove, turnbuckles or guy wires for trees as required or directed by the Contract Administrator.

E33.8 Straighten trees as required and directed by the Contract Administrator.

E33.9 Weed planting bed and tree wells

E33.10 Clean up litter and debris around trees bi-weekly.

Maintenance of Trees

E33.11 From time of acceptance by Contract Administrator to end of warranty period, perform following maintenance operations:

- (a) Water to maintain soil moisture conditions for optimum growth and health of plant materials without causing erosion.
- (b) Reform damaged watering saucers.
- (c) Remove weeds monthly.
- (d) Replace or respread damaged, missing or distributed mulch.
- (e) For non-mulched areas, cultivate monthly to keep top layer of soil friable.
- (f) Apply pesticides in accordance with Federal, Provincial and Municipal regulations as and when required to control insects, fungus and disease. Obtain product approval from Contract Administrator prior to application.
- (g) Apply fertilizer in early spring based on soil test results.
- (h) Remove dead, broken, or hazardous branches from plant material.
- (i) Keep tree supports in proper repair and adjustment.
- (j) Remove tree supports and level watering saucers at end of warranty period.
- (k) Remove and replace dead plants and plants not in healthy growing condition. Make replacements in same manner as specified for original plantings.
- (l) 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.

Guarantee of Work

E33.12 The Contractor shall agree and guarantee to replace and replant any nursery stock found dead or in poor condition throughout the maintenance period and at the completion of the maintenance period. "Poor Condition" shall be interpreted as meaning nursery stock in which branches are dead or dying, or have not shown satisfactory growth of leaves. All replacements shall be of same size and species, as specified. Maintenance of the replaced plant material will be for 2 years from the date of replacement.

Acceptance

E33.13 Upon the second anniversary of the recognized date of completion, or similarly the end of the required maintenance period, a Site inspection shall be held. If at this time, all material and Works is satisfactory the Contract for maintenance and warranty shall be terminated.

Method of Measurement and Basis of Payment

E33.14 Extended Maintenance will be measured and paid for at the Contract lump sum price for "Extended maintenance on plant material", measured as specified herein, which price shall be payment in full for completing all operations herein described and all other items incidental to the Work included in this Specification. Payment shall be made in two equal instalments (50% each), payable on satisfactory completion on the first and second anniversary of the recognized date of completion for Two Years Maintenance.

E34. TOPSOIL AND FINISH GRADING

E34.1 All Work to be to CW 3510.

Method of Measurement and Basis of Payment

E34.2 There shall be no separate measurement for the Work associated with this Specification.

E34.3 Payment for Work specified under this Specification is to be included with the price for Sodding.

E35. SODDING

E35.1 All Work to be to CW 3510.

Method of Measurement and Basis of Payment

E35.2 Sodding will be measured and paid for at the Contract Unit Price per square metre for 'Supply and Install Sod', measured as specified herein, which price shall be payment in full for completing all operations herein described and all other items incidental to the Work included in this Specification. The area to be paid for shall be the total number of square metres sodded and maintained in accordance with this Specification and accepted by the Contract Administrator, as computed from measurements made by the Contract Administrator.