



THE CITY OF WINNIPEG

BID OPPORTUNITY

BID OPPORTUNITY NO. 148-2011

JOE MALONE PARK SITE IMPROVEMENTS

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PART B - BIDDING PROCEDURES

B1. CONTRACT TITLE

B1.1 JOE MALONE PARK SITE IMPROVEMENTS

B2. SUBMISSION DEADLINE

B2.1 The Submission Deadline is 4:00 p.m. Winnipeg time, April 28, 2011.

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 Site should be inspected prior to submitting a bid to fully understand the location/implication of the underground utilities, and the restrictions they will place on installing the new Works.

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 B7.7, deviations inconsistent with the Bid Opportunity document shall be evaluated in accordance with B14.1(a).

B7. BID COMPONENTS

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

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

B7.2 Further to B7.1, the Bidder should include the written correspondence from the Contract Administrator approving a substitute in accordance with B6.

B7.3 All components of the Bid shall be fully completed or provided, and submitted by the Bidder no later than the Submission Deadline, with all required entries made clearly and completely, to constitute a responsive Bid.

B7.4 The Bid Submission may be submitted by mail, courier or personal delivery, or by facsimile transmission.

B7.5 If the Bid Submission is submitted by mail, courier or personal delivery, it shall be enclosed and sealed in an envelope clearly marked with the Bid Opportunity number and the Bidder's name and address, and shall be submitted to:

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

B7.5.1 Samples or other components of the Bid Submission which cannot reasonably be enclosed in the envelope may be packaged separately, but shall be clearly marked with the Bid Opportunity number, the Bidder's name and address, and an indication that the contents are part of the Bidder's Bid Submission.

B7.6 Bidders are advised not to include any information/literature except as requested in accordance with B7.1.

B7.7 Bidders are advised that inclusion of terms and conditions inconsistent with the Bid Opportunity document, including the General Conditions, will be evaluated in accordance with B14.1(a).

B7.8 If the Bid Submission is submitted by facsimile transmission, it shall be submitted to (204) 949-1178.

B7.8.1 The Bidder is advised that the City cannot take responsibility for the availability of the facsimile machine at any time.

B7.8.2 Bids submitted by internet electronic mail (e-mail) will not be accepted.

B8. BID

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

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

- (a) if the Bidder is a sole proprietor carrying on business in his own name, his name shall be inserted;
- (b) if the Bidder is a partnership, the full name of the partnership shall be inserted;
- (c) if the Bidder is a corporation, the full name of the corporation shall be inserted;

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

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

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

B8.4 Paragraph 10 of Form A: Bid shall be signed in accordance with the following requirements:

- (a) if the Bidder is a sole proprietor carrying on business in his own name, it shall be signed by the Bidder;
- (b) if the Bidder is a partnership, it shall be signed by the partner or partners who have authority to sign for the partnership;
- (c) if the Bidder is a corporation, it shall be signed by its duly authorized officer or officers;
- (d) if the Bidder is carrying on business under a name other than his own, it shall be signed by the registered owner of the business name, or by the registered owner's authorized officials if the owner is a partnership or a corporation.

B8.4.1 The name and official capacity of all individuals signing Form A: Bid should be printed below such signatures.

B8.4.2 All signatures shall be original.

B8.5 If a Bid is submitted jointly by two or more persons, the word "Bidder" shall mean each and all such persons, and the undertakings, covenants and obligations of such joint Bidders in the Bid and the Contract, when awarded, shall be both joint and several.

B9. PRICES

B9.1 The Bidder shall state a price in Canadian funds for each item of the Work identified on Form B: Prices.

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

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

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

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 adjusted, if necessary, as follows:

- (a) if the lowest evaluated responsive Bid submitted by a responsible and qualified Bidder is within the budgetary provision for the Work, no adjustment will be made to the Total Bid Price; or
- (b) if the lowest evaluated responsive Bid submitted by a responsible and qualified Bidder exceeds the budgetary provision for the Work, the Total Bid Prices of all responsive Bids submitted by responsible and qualified Bidders will be adjusted by progressively deducting

item(s) 13a, 13b, 13c, 13d, 13e, 13f, 13g, 13h, 13i, 13j, 13k, 13l, 13m, 13n, 13o and 13p in the order listed, until a Total Bid Price within the budgetary provision is achieved.

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 Site modifications to the existing Joe Malone Park and the new Site improvements to the old C.N.R. railway property (now part of the Park).

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

- (a) Supply and installation of gravel walkways.
- (b) Supply and installation of a gravel parking lot c/w new concrete road approach.
- (c) Supply and installation of play equipment and site furniture.
- (d) Supply and installation of sod, and trees.
- (e) Supply and installation of wood bollards and chain link fencing
- (f) Earthwork and site grading.

D3. CONTRACT ADMINISTRATOR

D3.1 The Contract Administrator is Ken Rech Landscape Architects Inc, represented by:

Ken Rech
Landscape Architect
1480 Wellington Crescent, Winnipeg, R3N 0B3
Telephone No. (204) 489-6616
E-mail: kenrech@mts.net

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

D3.3 At the pre-construction meeting, the Contract Administrator will identify additional personnel representing the Contract Administrator and their respective roles and responsibilities for the Work.

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 facsimile number:

The City of Winnipeg
Chief Financial Officer

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
Legal Services Department
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 and Ken Rech Landscape Architects Inc. 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.
R3B 1L1

SCHEDULE OF WORK

D10. COMMENCEMENT

D10.1 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.

D10.2 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) the Safe Work Plan specified in D7;
 - (iv) evidence of the insurance specified in D8;
 - (v) the performance security specified in D9;
- (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.

D10.3 The Contractor shall commence the Work on the Site within seven (7) Working Days of receipt of the Purchase Order.

D11. SUBSTANTIAL PERFORMANCE

- D11.1 The Contractor shall achieve Substantial Performance within forty (40) consecutive Working Days of the commencement of the Work as specified in D10.
- D11.2 When the Contractor considers the Work to be substantially performed, the Contractor shall arrange, attend and assist in the inspection of the Work with the Contract Administrator for purposes of verifying Substantial Performance. Any defects or deficiencies in the Work noted during that inspection shall be remedied by the Contractor at the earliest possible instance and the Contract Administrator notified so that the Work can be re-inspected.
- D11.3 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.

D12. TOTAL PERFORMANCE

- D12.1 The Contractor shall achieve Total Performance within forty five (45) consecutive Working Days of the commencement of the Work as specified in D10.
- D12.2 When the Contractor or the Contract Administrator considers the Work to be totally performed, the Contractor shall arrange, attend and assist in the inspection of the Work with the Contract Administrator for purposes of verifying Total Performance. Any defects or deficiencies in the Work noted during that inspection shall be remedied by the Contractor at the earliest possible instance and the Contract Administrator notified so that the Work can be re-inspected.
- D12.3 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.

D13. LIQUIDATED DAMAGES

- D13.1 If the Contractor fails to achieve Substantial Performance or Total Performance in accordance with the Contract by the days fixed herein for same, the Contractor shall pay the City the following amounts per Calendar Day for each and every Calendar Day following the days fixed herein for same during which such failure continues:
- (a) Substantial Performance – five hundred dollars (\$500.00);
 - (b) Total Performance – five hundred dollars (\$500.00).
- D13.2 The amounts specified for liquidated damages in D13.1 are based on a genuine pre-estimate of the City's losses in the event that the Contractor does not achieve critical stages, Substantial Performance or Total Performance by the days fixed herein for same.
- D13.3 The City may reduce any payment to the Contractor by the amount of any liquidated damages assessed.

D14. SCHEDULED MAINTENANCE

- D14.1 The Contractor shall perform the following scheduled maintenance in the manner and within the time periods required by the Specifications:
- (a) Watering and establishment of the grass, and trees as specified in E16 Sodding and E18 Tree Maintenance Schedule;
- D14.2 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

D15. PRIME CONTRACTOR – THE WORKPLACE SAFETY AND HEALTH ACT (MANITOBA)

D15.1 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

D16. INVOICES

D16.1 Further to C12, the Contractor shall submit an invoice for each order delivered to:

The City of Winnipeg
Corporate Finance - Accounts Payable
4th Floor, Administration Building, 510 Main Street
Winnipeg MB R3B 1B9

Facsimile No.: (204) 949-0864
Email: CityWpgAP@winnipeg.ca

D16.2 Invoices must clearly indicate, as a minimum:

- (a) the City's purchase order number;
- (b) date of delivery;
- (c) delivery address;
- (d) type and quantity of goods delivered;
- (e) the amount payable with GST and MRST shown as separate amounts; and
- (f) the Contractor's GST registration number.

D16.3 The City will bear no responsibility for delays in approval of invoices which are improperly submitted.

D16.4 Bids Submissions must be submitted to the address in B7.5.

D17. PAYMENT

D17.1 Further to C12, the City may at its option pay the Contractor by direct deposit to the Contractor's banking institution.

WARRANTY

D18. WARRANTY

D18.1 Notwithstanding C13.2, the warranty period shall begin on the date of Total Performance and shall expire one (1) year thereafter, except where longer warranty periods are specified in the respective Specification sections, unless extended pursuant to C13.2.1 or C13.2.2, in which case it shall expire when provided for there-under.

D18.1.1 For the purpose of Performance Security, the warranty period shall be one (1) year.

D18.2 Notwithstanding C13.2, the Contract Administrator may permit the warranty period for a portion or portions of the Work to begin prior to the date of Total Performance if a portion of the Work cannot be completed because of unseasonable weather or other conditions reasonably beyond the control of the Contractor but that portion does not prevent the balance of the Work from being put to its intended use.

D18.2.1 In such case, the date specified by the Contract Administrator for the warranty period to begin shall be substituted for the date specified in C13.2 for the warranty period to begin.

FORM H1: PERFORMANCE BOND
(See 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. 148-2011

JOE MALONE PARK SITE IMPROVEMENTS

which is by reference made part hereof and is hereinafter referred to as the "Contract".

NOW THEREFORE the condition of the above obligation is such that if the Principal shall:

- (a) carry out and perform the Contract and every part thereof in the manner and within the times set forth in the Contract and in accordance with the terms and conditions specified in the Contract;
- (b) perform the Work in a good, proper, workmanlike manner;
- (c) make all the payments whether to the Obligee or to others as therein provided;
- (d) in every other respect comply with the conditions and perform the covenants contained in the Contract; and
- (e) indemnify and save harmless the Obligee against and from all loss, costs, damages, claims, and demands of every description as set forth in the Contract, and from all penalties, assessments, claims, actions for loss, damages or compensation whether arising under "The Workers Compensation Act", or any other Act or otherwise arising out of or in any way connected with the performance or non-performance of the Contract or any part thereof during the term of the Contract and the warranty period provided for therein;

THEN THIS OBLIGATION SHALL BE VOID, but otherwise shall remain in full force and effect. The Surety shall not, however, be liable for a greater sum than the sum specified above.

AND IT IS HEREBY DECLARED AND AGREED that the Surety shall be liable as Principal, and that nothing of any kind or matter whatsoever that will not discharge the Principal shall operate as a discharge or release of liability of the Surety, any law or usage relating to the liability of Sureties to the contrary notwithstanding.

IN WITNESS WHEREOF the Principal and Surety have signed and sealed this bond the

_____ day of _____, 20____ .

SIGNED AND SEALED
in the presence of:

(Witness as to Principal if no seal)

(Name of Principal)

Per: _____ (Seal)

Per: _____

(Name of Surety)

By: _____ (Seal)
(Attorney-in-Fact)

**FORM H2: IRREVOCABLE STANDBY LETTER OF CREDIT
(PERFORMANCE SECURITY)**
(See D9)

(Date)

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

RE: PERFORMANCE SECURITY - BID OPPORTUNITY NO. 148-2011
JOE MALONE PARK SITE IMPROVEMENTS

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

(Name of Contractor)

(Address of Contractor)

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

_____ Canadian dollars.

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

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

Partial drawings are permitted.

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

(Address)

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

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

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

(Date)

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

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

This credit is subject to the Uniform Customs and Practice for Documentary Credit (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	Demolition and New Site Layout Plan
L2	Landscape Plan and Miscellaneous Details
SCD-515	Coniferous Tree Planting (Parks)
SCD-517	Standard Guidelines for the Planting of Trees
SCD-656	Accessible Playground Ramp

E2. PROTECTION OF UNDERGROUND UTILITIES

- E2.1 The Contractor is made aware there are major underground utilities running through the Work area and as noted on drawing detail 2-L1. The Contractor shall contact all utilities and ensure all utilities are located and protected prior to commencing any Work. Where conflicts occur between the new designs, the Contractor shall make the Contract Administrator aware of the conflicts, and await further clarification or direction from the Contract Administrator.

E3. HAZARDOUS MATERIALS

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

E4. LAYOUT OF WORK

- E4.1 The Contractor shall set control lines and bench marks by means of stakes, buoys or marks and the Contractor shall make the completed works conform to the lines and marks thus indicated. The Contractor shall furnish all other lines and levels required. The Contractor shall be responsible for the careful preservation of all stakes and marks. Care must be taken that the Contract Administrator be notified immediately of the disturbance of any such stakes or marks; the cost of correcting any errors arising out of neglect of the Contractor or his agent or his employees, 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.
- E4.2 All layout Work shall be inspected and approved by the Contract Administrator prior to construction.
- E4.3 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 of Winnipeg

on account of any alleged inaccuracies. If any error is suspected in the plans, 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.

- E4.4 All proposed tree planting locations shall be staked with minimum 610mm height vertical markers, and be approved by the Contract Administrator prior to excavating the tree pit.
- E4.5 The Contractor shall locate and protect all underground utilities prior to commencing construction.

E5. EXISTING SURVEY INFORMATION

- E5.1 The Site plan is based on drawing data supplied by the City of Winnipeg and supplemental field data supplied by Ken Rech Landscape Architects and Michalenko Surveys. See drawing General Note No: 1, drawing L1 for survey dates.
- E5.2 There are no existing grade survey elevations for the Park area where the new granular walk is to be installed flush with the existing grass/finish grade elevation.

E6. SITE ACCESS

- E6.1 Access to the Work areas shall be via the rear lane west of Centennial Street. Access via Boulton Bay is not be utilized, except for construction of the new granular walk located between the Boulton Retirement Home and Boulton Bay.

E7. DEMOLITION AND SALVAGE

- E7.1 In general terms Demolition will involve the following:
 - (a) Removal of existing play equipment, timber edge, safety surface and benches
 - (b) Removal of the most easterly tennis court, paving, chain link fence, and tennis posts
 - (c) Removal of wood bollards west of the existing tennis court area
 - (d) General site grading required for installation of the new walkways and parking lot.
- E7.2 In general terms Salvage will involve the following:
 - (a) Relocation of one existing large boulder dedication plaque
 - (b) Salvage and relocate one existing chain link gate by the tennis courts
 - (c) Salvaging of the existing granular base under the old railway tracks
- E7.3 Items indicated to be demolished are to be legally disposed of off Site. The granular base below the asphalt paved tennis courts may be utilized as fill at the bottom layer of the new proposed berm areas.
- E7.4 The Contractor shall salvage the most southeast man gate and associated mounting hardware, from the tennis court area for reinstallation in the new location shown on drawing 3-L1.
- E7.5 All fence posts, wood posts, play structure posts, and bench footings and other miscellaneous footings which are removed, shall have the holes backfilled with compacted sand to a 100 mm depth below new finish grade elevations. The old holes shall than be surfaced with the appropriate new materials.
- E7.6 Where the one tennis court net post is removed in the asphalt area to be retained, the hole shall be backfilled with compacted sand to 300 mm below grade, and then 225 mm of compacted 19 mm dia. limestone down installed. The surface is to be finished with a 75 mm layer of asphalt paving, compacted smooth to match the existing surrounding pavement elevations and slope. No separate payment will be made for the asphalt paving.

E7.7 Demolition will be paid on a lump sum basis and is included is to be included in Unit Cost Item No. 2 "Site Demolition". The cost for all demolition Work shall include the removal of the item, backfilling of any footings, and legal disposal of the items off Site. The cost for salvage and reinstallation Work is to be included in the appropriate unit price form. The salvage and reinstallation of the existing large boulder plaque will be paid for on a lump sum basis, and as indicated in Unit Price No: 3 "Relocate Existing Boulder Dedication Plaque". The cost for relocating the existing boulder dedication plaque shall include all costs for the salvage, installation of the gravel base, and relocation of the boulder.

E8. SITE RESTORATION

E8.1 Total Performance of the Work shall not be attained until the Contractor has cleaned up the Site and has removed all plant, tools, equipment, waste, debris and surplus foundation earth to the satisfaction of the Contract Administrator. Unless otherwise specified, the Contractor shall restore all areas of the Site beyond the established limit of Work, which have been disturbed by the Contractor's operations to as good as or better than the original condition to the satisfaction of the Contract Administrator. The Contractor shall pay all costs associated with this Work.

E9. EARTHWORK AND ROUGH GRADING

E9.1 This specification shall amend and supplement City Specification CW 3170 and cover the operations relating to the earthwork and grading of the Site as shown on the Construction Drawings.

E9.2 The Contractor shall protect all underground utilities, survey monuments, buildings, fences, and areas of landscape to be retained.

E9.3 The Contractor shall grade and contour the old C.N.R. railway property to the new grade elevations shown on drawing detail 2-L1. The new berm size may be enlarged as noted on the drawing, in order to utilize any surplus fill, subject to the approval of the Contract Administrator.

E9.4 The existing granular base, where the old railway tracks were located, was excavated in three locations and the average depth was 400-600 mm and the average width was 3-3.6 metres. The gravel consisted of a pit run sand and gravel. This gravel is to be salvaged and utilized as the sub base for the new gravel parking lot. The Contractor may salvage only as much gravel as they need to construct the parking lot. However, the existing gravel must be removed to a 300 mm depth below new finish grade elevations for any sodded or tree planted landscape areas. Surplus gravel may be installed as a base for all new berm construction, provided there is a minimum 300 mm depth of clay or topsoil cover over top of the gravel base.

E9.5 Any existing organic material located below the new granular paved parking lot and approach road is to be removed to a 100 mm depth, and reused for constructing the new berms.

E9.6 The Contractor shall excavate or fill to the design grades shown less the appropriate allowance for surface treatment, topsoil and sod, gravel paving. All unsuitable materials of whatever nature encountered shall be excavated, removed and disposed of by the Contractor to the satisfaction of the Contract Administrator. Where design grades are not shown, the new surface materials shall be installed to meet flush with surrounding grades, and sloped so as not to impede the existing drainage pattern.

E9.7 Construction to the new design grades shall be accomplished by the excavation of material from high areas, and using suitable excavated material supplement with imported clean earth fill, for filling in the low areas, as indicated by the elevations shown on Construction Drawings. Backfill shall be placed in a dry, thawed condition and shall be maintained free of moisture or frost.

E9.8 The design gradient for all areas shall be considered to be straight grade between the finished design elevations shown. Changes in grade at swales or where it meets existing sod to remain shall be gently contoured as directed by the Contract Administrator to provide future ease of grass mowing operations.

- E9.9 The Contractor shall construct all sub-grades in accordance with Specification CW 3110. This shall include the use of suitable compaction equipment as approved by the Contract Administrator to achieve a minimum compaction of 95% Standard proctor Density. Lifts shall not exceed a compacted thickness of 150 mm.
- E9.10 Following earthmoving, rough grading and compaction, the Work areas shall be fine graded to provide a maximum deviation of 25 mm in 10 metres from the design grade with no low areas that hold water. The finished surface of all disturbed areas shall be dragged and smoothed in such a manner that there are no loose soil particles greater than 25 mm in maximum dimensions.

Measurement and Payment

- E9.11 Earthwork and rough grading will be paid on a lump sum basis and is to be included in Unit Cost Item No. 4 "Earthwork and Rough Grading". The price shall include all costs associated with stripping the existing grass, excavation and placement of existing in grade materials, grading, compaction and fine grading of the rough grade, and all other Work incidental to preparing the rough grade. The salvaging and placing of existing railway bed gravel shall be included in Unit Cost Item No. 5 "Granular Parking Paving".

E10. CRUSHED LIMESTONE PAVING

- E10.1 This Specification shall amend and supplement City Specification CW 3150. The Work to be done by the Contractor under this Specification shall cover all phases of supply and placement of crushed limestone surfacing materials necessary to install gravel paved walkways, and the granular parking lot.
- E10.2 New walkway paving shall consist of a 150 mm subbase depth of 50 mm diameter crushed limestone down, a 50 mm base depth of 19 mm diameter crushed limestone down, with a 25 mm capping depth of 6 mm diameter limestone dust. See drawing detail 5-L1.
- E10.3 The new granular parking lot and connecting roadway to the new road approach shall consist of a 150 mm subbase of salvaged gravel from the existing rail bed, and be covered with a 150 mm depth of 19 mm crushed limestone down.
- E10.4 All new walkways are to be excavated to a 225 mm depth below finished grade elevations. All new parking lot and connecting roads are to be excavated, or have the sub base built up to 300 mm below finished grade elevations. The sub grade, after excavation or building up shall be compacted to 95% Standard proctor Density.
- E10.5 Install material to the depth and design elevations indicated on the Construction Drawings. Install only on clean unfrozen surface, properly shaped and compacted. Place the material using methods which do not lead to segregation or degradation of aggregate.
- E10.6 The walkway 50 mm and 19 mm diameter crushed limestone layers are to be compacted with a heavy roller after placement to 95% Standard proctor Density after placing. The 6 mm dia. limestone paving shall be compacted with a plate compactor or roller compactor upon completion.
- E10.7 The finished surface is to be within plus or minus 10 mm of established grade and cross section, but not uniformly high or low. Any surface irregularities shall be corrected by loosening and adding or removing material until surface is within specified tolerance. The walkway shall have a minimum 1 % and maximum 3% cross slope over the walk in the direction of drainage.

Measurement and Payment

- E10.8 The cost for the supply and installation of Crushed Limestone Walkway Paving will be paid for on a per square metre basis, and is to be included in Unit Cost Item No. 4 "Crushed Limestone Walkway Paving" and shall include all costs for the walkway excavation, and granular paving,

E10.9 The cost for the supply and installation of Granular Parking Paving will be paid for on a per square metre basis, and is to be included in Unit Cost Item No. 6 "Granular Parking Paving" and shall include all costs for the excavation or building up of the subgrade, salvage/supply and placement of the old railway granular sub base material, and the supply and placement of the new 19 mm dia. crushed limestone down, compaction of all surfaces, and all other Work incidental to the construction of the granular parking paving.

E11. PIPE CULVERTS

E11.1 Pipe culverts shall be installed in accordance with CW 3610 Specification for Installation of Culverts.

E11.2 Culverts shall be HDPE pipe, 400 mm diameter and length indicated on drawing detail 2-L1.

E11.3 Install culvert in location where the existing grade is the lowest, and in the direction of drainage. Invert of culvert to be 100 mm below existing grade elevations.

E11.4 Backfill around culvert with sand at the underside of the culvert, and compacted clay for the remainder of backfill. Use compacted clay fill to build up walkway approaches to and over culvert.

Measurement and Payment

E11.5 Cost for culverts will be paid for on a per unit basis, as indicated in the unit price form in Unit Cost Item No. 7 & 8 "HDPE Culverts".

E12. CONCRETE ROAD APPROACH

E12.1 The new concrete road approach along Taylor Avenue shall be installed in accordance with the City of Winnipeg Standard Construction Specifications for Surface Works, and to the shape and dimensions required by the Streets and Transportation Dept. The road approach shall be 7.4 metres width.

E12.2 The Contractor shall also install Detectable Warning Surface Tiles on the public walkways immediately on each side of the new road approach.

Measurement and Payment

E12.3 Cost of new road Approach will be paid for on a lump sum basis, as indicated in the unit price form in Unit Cost Item No. 9 "New Concrete Road Approach". The price shall include all costs for permits, removal of the existing curb and related sidewalk, excavation, supply and installation of granular bases, supply and installation of new concrete paving and curb replacement, Detectable warning surface tiles and all other Work incidental to the installation of the new road approach

E13. WOOD BOLLARDS

E13.1 This specification covers the supply and installation of new wood bollards, to be installed in the installed along the Centennial Street lane, new parking lot edge and east property limit. See detail 4-L1 for the construction detail.

E13.2 Materials

- (a) Wood shall be 190 – 230 mm diameter round Pine logs, free of bark. Wood to be ACQ pressure treated, green in colour.
- (b) Granular backfill shall be 6 mm diameter crushed limestone.
- (c) Chain shall be 6 mm dia. galvanized.

- E13.3 Install posts 1800 apart in location shown on drawing detail 2-L1. Install posts in minimum 300 mm diameter holes backfilled with compacted limestone. Posts may also be installed by sharpening the bottom end to a conical point, and pushing the posts into grade, provided the top of the posts are not split or splintered.
- E13.4 Install a two piece chain section between the posts at the east parking lot location, as shown in detail 4-L1. Supply and installation of the chain is considered incidental to the wood bollards and no separate payment will be made for this item.

Measurement and Payment

- E13.5 Wood bollards will be paid for on a per unit basis, as shown in the unit price form, Unit Cost Item No. 10 "Wood Bollards". The price shall include all costs for the excavation of the holes, supply and installation of the wood bollard, gravel backfill, chain, and clean up and removal of the excavated post auger material.

E14. CHAIN LINK FENCE

- E14.1 This specification shall cover the reinstallation of the salvaged man gate and the supply and installation of new fence materials.
- E14.2 This specification supplements and amends C.W. 3550-R2 Chain Link Fencing
- E14.3 All new fencing shall be 3000 mm height, with knuckled top and bottom fabric to match the existing fencing.
- E14.4 Contractor shall salvage the existing man gate and mounting hardware from the southeast corner of the existing tennis court fencing.
- E14.5 The location of new fence and relocated gate is shown in detail 3-L1.

Measurement and Payment

- E14.6 Chain link fencing will be paid for on a per lineal metre basis, as shown in the unit price form, Unit Cost Item No. 11 "New Chain Link Fencing". The price shall include all costs for the supply and installation of new posts, mesh, miscellaneous fastening devices, reinstallation of the gate, and all other Work incidental to the installation of the fence.

E15. TOPSOIL AND FINISH GRADING

- E15.1 This specification shall amend CW 3540 Specification for Topsoil and Finish Grading for Establishment of Turf Areas.
- E15.2 Topsoil depth below sodded areas shall be 75 mm thickness after reasonable settlement.

Measurement and Payment

- E15.3 The cost for supply and installation of topsoil is to be included in the unit price cost for Sodding. No separate payment will be made for topsoil and finish grading.

E16. SODDING

- E16.1 This specification shall amend CW 3510.

- E16.2 Contractor is responsible to restore all damage to existing grass outside the limit of grading/sod repairs shown on drawing detail 1-L2, as a result of their construction activity, at no cost to the City.

Measurement and Payment

- E16.3 The cost for supply and installation of sod shall also include the supply of topsoil below the sod. No separate payment will be made for installing the topsoil below the sod. The cost for the supply and installation of Sodding will be paid for on a per square metre basis, and is to be included in Unit Cost Item No. 12 "Sodding and 75 mm depth topsoil".

E17. PLAY STRUCTURE AND INDEPENDENTS

E17.1 General description

- (a) This specification shall cover the supply and installation of one Playstructure as shown on the attached drawing 2-L2, and as specified herein, or approved equal in accordance with B6.

E17.2 Product

- E17.3 Playstructure shall be Landscape Structures Inc, PlayBooster System as shown on drawing 2-L2, available from Playgrounds-R-U's, tel: 632-7000.

- E17.4 Independents shall be Landscape Structures Inc, as shown on drawing 2-L2, available from Playgrounds-R-U's, tel: 632-7000

E17.5 Materials

(a) Posts / Caps

- (i) All posts shall be a minimum of 125 mm (5") O.D. round tubing. All posts shall be fabricated from aluminum (0.125" min. wall thickness) tubing with a baked-on TGIC polyester powder coating. The powder coating finish shall meet or exceed ASTM standards for hardness, adhesion, impact and salt spray resistance. 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.
- (ii) Top caps for posts shall be aluminum 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.

(b) Decks

- (i) All decks shall be manufactured from vinyl-coated perforated steel. Deck heights, shapes and configurations shall be as shown on the Detail Drawings.

(c) Clamping System

- (i) All deck, rail and play component clamping systems shall be fabricated from aluminum, with polyester powdercoated to match post colour unless noted on Detail drawings. Tamper proof, stainless steel fasteners shall be used to retain clamping systems.

(d) Handrails, Safety Rails, Grab Bars, Pipe Barriers, and Handholds

- (i) All handrails and safety rails shall be fabricated using a minimum of 29 mm (1 1/8") O.D. with a .120" 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 powdercoated.
- (ii) Handholds shall be permalene panels.
- (iii) Grab Bars shall be TenderTuff coated.
- (iv) Pipe Barriers shall be powdercoated.

- (e) Hardware
 - (i) All fasteners shall be socketed and tamper proof in design, stainless steel finish.
- (f) Slides
 - (i) Steel slides are to be 16-gauge 304 stainless steel. Hoods shall be rotationally moulded from U.V. stabilized linear low density polyethylene with built-in handle.

E17.6 Playstructure Play Components

- (a) The following play components are to be included on the Playstructure:
 - (i) one (1) Sky Rail Climber, 64" deck
 - (ii) one (1) Orbiter Spinner
 - (iii) one (1) Pipe Barrier, above deck
 - (iv) one (1) Slidewinder2 Slide, 64" deck height
 - (v) one (1) Vertical Ascent Climber, 56" deck
 - (vi) one (1) Pilot Panel, above deck
 - (vii) one (1) Bongo Reach Panel, ground level
 - (viii) one (1) Deck Link w/Barriers, 1 step
 - (ix) one (1) ABC Climber, 40" deck
 - (x) one (1) Stainless Steel 18" wide Slide, 40" deck height
 - (xi) one (1) Curved Transfer Module Right, 40" deck
 - (xii) three (3) Square decks
- (b) All playstructures shall have kickplates and handhold panels as required to meet the CAN/CSA -Z614-98.
- (c) Colours
 - (i) Pine Green: Posts and Component Metal
 - (ii) Black: Clamps
 - (iii) Green: Slides and Slide Hoods
 - (iv) Red: Bongos
 - (v) Green: Handholds and Panels
 - (vi) Green over Black: Panels
 - (vii) Red: TenderTuff Coating

E17.7 Independent Components

- (a) The following independent components are to be included:
 - (i) one (1) Saddle Spinner, Model 152179A, 16" seat height, direct bury
 - (ii) one (1) Double Bobble Rider, Model 164075B, direct bury
- (b) Colours
 - (i) Saddle Spinner: Pine Green Post and Red Seat
 - (ii) Double Bobble Rider: Red

E17.8 Installation

- (a) Playstructure and independents shall be installed as per the Canadian Standards Association Guidelines. Refer to E22. All posts and other vertical items shall be true to vertical. All decks shall be level. For foundations refer to E21.
- (b) Playstructure and independents shall be installed by factory certified installers only and to manufacturer's specifications.
- (c) Installation of playstructure and independents shall be coordinated with associated Site development Work. Playstructure and independents shall be secured and rendered unusable until safety surfacing is in place.

- (d) Playstructure and independents shall be ordered and installation dates scheduled immediately upon award of Contract.

E17.9 Basis of Payment

- (a) Payment for the Playstructure specified under this section shall be paid for at the Unit Price, measured on lump sum price basis and as shown in the unit price form, Unit Cost Item No. 14 "Supply and Install Playstructure". The price shall include all costs for the supply and installation of all the components of the playstructure and accessory items.
- (b) Payment for the Saddle Spinner specified under this section shall be paid for at the Unit Price, measured on lump sum price basis and as shown in the unit price form, Unit Cost Item No. 15 "Supply and Install Saddle Spinner". The price shall include all costs for the supply and installation of the independent and footings.
- (c) Payment for the Double Bobble Spring Rider specified under this section shall be paid for at the Unit Price, measured on lump sum price basis and as shown in the unit price form, Unit Cost Item No. 16 "Supply and Install Double Bobble Spring Rider". The price shall include all costs for the supply and installation of the independent and all footings.

E18. SWINGS

E18.1 General Description

- (a) This specification shall cover the supply and installation of complete Swing sets as specified herein.

E18.2 Quantities

- (a) One (1) four two bay (2), (4) Place set.

E18.3 Materials

- (a) Product Description, or approved equal in accordance with B6.
- (i) Landscape Structures Inc, Model #157111C, 5000 Series, 2.4m (8') high, two (2) place, powdercoated legs and beams, anti-wrap hangers, ProGuard chain finish and two (2) belt seats.
 - (ii) Landscape Structures Inc, Model #157112C, 5000 Series, 2.4m (8') high, additional two (2) place, powdercoated legs and beams, anti-wrap hangers, ProGuard chain finish and two (2) infant seats.
- (b) Topbeam and legs
- (i) All topbeams and legs shall be fabricated from 60.5 mm (2 3/8") O.D. galvanized steel tubing (.130"-.140") with a baked-on polyester powdercoating. The power coating finish shall meet or exceed ASTM standards for hardness, adhesion, impact and salt spray resistance. All fabrication cuts, drill holes and weld joints shall be sprayed with a corrosion resistant coating and the bottom end of the posts shall be sealed with a moisture barrier.
- (c) Swing Hanger clamp assembly
- (i) All swing hangers shall be fabricated from cast aluminum with powdercoated finish.
- (d) Swing Chain
- (i) All swing chain shall be 3/16" straight link, 800 lb. working load, ProGuard finish.
- (e) Enclosed Infant (Bucket) Seats
- (i) All enclosed infant seats shall be moulded of U.V. stabilized, high quality, rubber with a tempered stainless steel reinforcement plate insert moulded inside, rendering

the seats slashproof. Infant seats shall be fully enclosed to prevent slipping out and provide extra lower back support.

E18.4 Installation

- (a) Swings shall be installed as per the Canadian Standards Association Guidelines, refer to E22. For Foundations refer to E21.
- (b) Installation of swings shall be coordinated with associated Site development Work. Swing shall be secured and rendered unusable until safety surfacing is in place.
- (c) Swings shall be installed by factory certified installers only and to manufacturer's specifications

E18.5 Basis of Payment

E18.6 Payment for Work specified under this section shall be paid for at the Unit Price, measured on lump sum price basis and as shown in the unit price form, Unit Cost Item No. 17 "Supply and Install 4 Place Swing". The price shall include all costs for the supply and installation of all the components of the swing and accessory items.

E19. TIMBER EDGE

E19.1 This Specification shall cover the supply and installation of timber edge around the play equipment, as located in detail 3-L1 and 2-L2, and as per construction detail 3-L2.

E19.2 Materials

- (a) Levelling base shall be 19 mm crushed limestone.
- (b) Bottom base timbers shall be No: 2 or better, ACQ pressure treated pine, Cedartone colour, 150 x 150, smooth 4 sides.
- (c) Top cap timber shall be Pedra hardwood, 32 x 150 mm size with an 8 mm round-over edge along both outside top edges.
- (d) End cut preservative shall be as manufactured and recommended by wood preservative manufacturer.
- (e) Fasteners for securing P.T. timbers shall be 19 mm dia. x 500 mm steel re-bar.
- (f) Screws for fastening Pedra hardwood shall be No: 10 Screws, 75 mm long, and suitable for use with ACQ wood.
- (g) Geotextile shall be Armtex 200 or approved equal.

E19.3 Contractor to install the timber wall to the layout shown on drawing 3-L1, as per detail 3-L2. Secure two bottom timber layers to grade with r-bar stakes spaced 1200 mm on centre. Pre-drill 15 mm dia. holes for re-bar to pass through.

E19.4 Install Accessible Playground Ramp to SCD-656.

E19.5 All cuts are to be treated with end cut preservative.

E19.6 Stagger corner connections from one layer to another to interlock layers, and minimum 600 mm the between courses. Minimum length of timber shall be 1200 mm.

E19.7 Install Pedra cap with grain of wood curved down. Secure with wood screws, countersunk 2 mm. Install 2 screws at each end and every 600 mm alternating sides along its length.

E19.8 Basis of Payment

E19.9 Payment for Work specified under this section shall be paid for at the Unit Price, measured on per lineal metre basis and as shown in the unit price form, Unit Cost Item No. 18 "Supply and

Install Timber Edging". The price shall include all costs for the supply and installation, excavation, granular levelling base, geotextile, all timbers and fastening devices, and all other Work incidental to the installation of the timber edge.

E20. SAFETY SURFACE AND UNDERGROUND DRAINAGE LINE

E20.1 General Description

- (a) This specification shall cover the supply and installation of Wood Fibar Safety surface and underground drainage pipe within the play structure area.

E20.2 Materials

- (a) Fibar: as manufacture red by Fibar FibarSystem 312 and shall include wood fibre, fibardrain, filter cloth and mats under swings and ends of slides.
- (b) Drainage pipe shall be as manufactured by Prinsco Inc. Goldline Polyethylene, perforated, 100 mm dia. or approved equal.
- (c) Samples of the specified materials shall be submitted for approval to the Contract Administrator at least seven (7) Calendar Days prior to installation.

E20.3 Method

- (a) Play areas to receive Fibar are to be excavated to a 300 mm depth required for correct depth of Fibar. The bottom of the excavation shall slope from the outside perimeter timber edge at a 1% to the central drainage channel as indicated in drawing detail 3-L1. Depth of Fibar to be installed in a level line between opposing timber edges and thus the depth of Fibar over the drainage trench will be greater due to the sub-grade slope.
- (b) Centre drainage line trench shall be 200 deeper than general Fibar sub grade, and min. 200 mm wide. Locate trench in location shown on drawing detail 3-L1. Bottom of trench shall slope at minimum 1% to the catch basin.
- (c) Install drainage pipe in bottom of the trench, extending it a minimum of 200 mm inside of catch basin, by coring through side wall of the catch basin. Grout pipe into catch basin wall. Install end cap on drainage pipe at high point to prevent debris from clogging the pipe.
- (d) Install Fibar by hand around play equipment, to prevent damage to play equipment. Install minimum 300 mm depth with tops surface raked level between opposing timber edges. Top of Fibar shall be installed to top of P.T. timber layers.

E20.4 Basis of Payment

- (a) Payment for the Fibar specified under this section shall be paid for at the Unit Price, measured on per square metre basis, and as shown in the unit price form, Unit Cost Item No. 19 "Fibar Safety Surface". The price shall include all costs for the supply and installation of the Fibar safety surface.
- (b) Payment for the Drainage Pipe specified under this section shall be paid for on a lump sum basis, and as shown in the unit price form, Unit Cost Item No. 20 "Drainage Pipe". The price shall include all costs for the supply and installation of the drainage pipe, excavation of the trench, and coring the existing catch basin wall, and all other Work incidental to the installation of the drainage pipe. General Description

E21. FOUNDATIONS

- E21.1 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 utilize in the installation of the concrete Works for all below ground components.

E21.2 The specific concrete requirements shall be:

- (a) Sulfate resistant, Type 50 Cement
- (b) 28 day compressive strength of 30 Mpa
- (c) maximum aggregate size of 40mm, nominal
- (d) slump 90⁺ - 20mm
- (e) maximum water/cement ratio 0.45

E21.3 Installation

- (a) 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.

E21.4 Playstructure posts shall have a minimum 300mm (12") diameter concrete footing and shall be centred in the concrete footing to provide a minimum 50mm (2") band of concrete on all sides.

E22. CANADIAN STANDARDS ASSOCIATION GUIDELINES

E22.1 All playground equipment supplied and the method of installation shall be in accordance with the latest edition of the "National Standard of Canada, CAN/CSA-Z614-03".

E23. MAINTENANCE KIT

E23.1 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.

E24. SUPPLY AND INSTALLATION OF SITE FURNITURE

E24.1 This specification will cover the supply and installation of the benches.

E24.2 Materials

- (a) Benches shall be Cascades Re-Plast 6' (1830mm) Deluxe Contour Bench, model 230 C inground mount, Metallic Charcoal coloured frame, sand lumber colour c/w two (2) arms at each end of the bench. Quantity required six (6). Local product representative is Playgrounds R Us, Tel: 632-7000.
- (b) Concrete footings shall be in accordance with CW 2160 Concrete Underground Structures and Work
- (c) Gravel surfacing shall be 19 mm crushed limestone down.

E24.3 Install benches in 400 mm diameter by 600 mm deep concrete pile. Form top 300 mm of concrete pile in sonotube.

E24.4 Benches located in grass areas shall be installed within a gravel surface 2.1 metres x 3.6 metres area, and 150 mm depth of gravel. See detail 5-L2 for layout plan.

E24.5 Basis of Payment

- (a) Payment for the Benches specified under this section shall be paid for at the Unit Price, measured on per unit basis, and as shown in the unit price form, Unit Cost Item No. 21 "Benches". The price shall include all costs for the supply and installation of the Bench and concrete footings.
- (b) Payment for the Bench Gravel Pads specified under this section is included in itemized price No: 5 Crushed Limestone Walkway paving.

E25. PLANT MATERIAL

E26. TREE PLANTING IN PARKS

- E26.1 This specification shall cover the supply and installation of nursery grown trees in accordance with the working drawings and the Contract documents on all properties that are owned by, or under the jurisdiction of, the City of Winnipeg.
- E26.2 The Contractor shall ensure only experienced personnel, under the direction of a skilled supervisor, shall execute all of the Work. The supervisor shall be on Site at all times during the Work and shall be authorized to make binding decisions on behalf of the Contractor.
- E26.3 It is understood that the Contract Administrator shall consult with the City Forester on matters which do not conform to, or which are not addressed, by these Specifications.
- E26.4 *The City of Winnipeg Standard Construction Specifications* in its entirety, whether or not specifically listed in Form B Prices, shall apply to the Work.
- (a) *The City of Winnipeg Standard Construction Specifications* is available on the information. Connection page at the City of Winnipeg Corporate Finance, Materials Management Branch internet site at <http://www.winnipeg.ca/matmgt>.
- (b) The version in effect three (3) Business Days before the Submission Deadline shall apply.

PUBLIC SAFETY/TRAFFIC CONTROL

- E26.5 In accordance with the Manual of Temporary Traffic Control, the Contractor ("Agency" in the manual) shall make arrangements with the Traffic Services Section of the City of Winnipeg to place all temporary regulatory signs. The Contractor shall bear all costs associated with the placement of temporary traffic control devices by the Traffic Services Section of the City of Winnipeg in connection with the works undertaken by the Contractor. The requirements shall include the following:
- (a) The Contractor shall barricade the sidewalk surrounding the Work;
- (b) The Contractor shall maintain traffic flow and ensure that protection is afforded to the road user and that the Contractor's operations shall in no way interfere with the safe operation of traffic.

E27. TREE SITES & LAYOUT

- E27.1 The park sites and approximate tree planting locations are found within the attached Drawings. Exact planting locations are to be determined on Site by the Contract Administrator.
- E27.1.1 The Contractor shall obtain all necessary utility clearances prior to the commencement of planting and in a timely manner so as not to jeopardize the schedule of the complete tree planting operation.
- E27.1.2 The Contractor is to comply with the instructions on the utility clearance sheets.
- E27.1.3 Trees are not to be planted directly above underground utilities, unless hydro-excavation techniques are used.
- E27.1.4 Where a specified planting Site conflicts with underground utilities, the Contractor may modify the precise location in compliance with the utility clearances and the following Minimum Distance Guidelines:
- (a) Intersections: 6m;
- (b) Private approaches: 1.5m;
- (c) Light standards, hydro poles, hydrants, manholes and sewer grates: 3m

E27.1.5 Where a planting Site must be modified by more than 1 metre, the Contractor must receive prior approval from the Contract Administrator or designate.

E28. SUPPLY & PREPLANTING CARE OF TREES

E28.1 The Contractor shall be responsible for supplying and transporting trees to the appropriate planting Sites.

E28.2 The Contractor shall coordinate the shipping of trees and excavation of tree pits to ensure no more than a maximum of a 24 hour time lapse has occurred between the plant material arriving on Site and the installation of that plant material.

(a) Trees shall be transported with care taken to prevent damage:

(i) Protect trees against abrasion, exposure and extreme temperature change during transit;

(ii) Avoid binding of trees with rope or wire that would damage bark, break branches or destroy natural shape of tree;

(iii) Point of contact with equipment shall be padded;

(iv) Give full support to root ball of trees during lifting:

(A) Each balled specimen shall be handled with sufficient care, so that the root balls shall not be broken;

(B) Broken root balls or root ball consisting of loose soil will not be accepted and shall be replaced;

(C) Broken roots of deciduous stock shall be pruned back prior to planting.

(b) Trees with broken or damaged trunks or branches are not acceptable. Trees with damaged trunks, however caused, will be rejected. No exceptions shall be made in this respect;

(c) Keep roots moist and protected from sun and wind:

(i) Trees that cannot be planted immediately shall be well protected against damage and drying out; if necessary, trees shall be heeled-in in a shaded area and watered well.

E29. TREE PLANTING MATERIALS

E29.1 The Contractor shall be responsible for the supply of

(a) plant material,

(b) the safe handling, pick up and delivery of trees to the planting Sites,

(c) the supply of soil, water, trunk protection, and T-bars as set forth in these Specifications.

E29.2 All materials supplied by the Contractor under these Specifications shall be subject to random inspection and testing by the Contract Administrator.

E29.2.1 The Contract Administrator may reject any material(s) that do not comply.

E29.2.2 There shall be no charge to the City for any material samples taken for testing by the Contract Administrator.

TREES

E29.3 Trees shall be the size and variety noted on the Plant List shown on the drawing. Plant material which does not have the specified root ball diameter as mentioned in plant list will be rejected.

E29.4 All nursery stock supplied shall be Canadian prairie nursery grown, of the species and sizes indicated on the drawings. Quality shall be in accordance with the latest "Guide Specification for Nursery Stock of the Canadian Nursery Trades Association".

- E29.5 Any nursery stock dug from native stands, wood lots, orchards or neglected nurseries and which have not received proper cultural maintenance as advocated by the Canadian Nursery Trades Association, shall be designated as “collected plants”. The use of “collected plants” will not be permitted unless approved by the Contract Administrator.
- E29.6 The Contract Administrator reserves the right to inspect the plant material at their original source, and to instruct the supplier on root and branch pruning requirements.
- E29.7 Nomenclature of specified nursery stock shall conform to the International Code of Nomenclature for Cultivated Plants and shall be in accordance with the approved scientific names given in the latest edition of standardized Plant Names. The names of varieties not names therein are generally in conformity with the names accepted in the nursery trades.
- E29.8 Plants larger than specified may be used if approved by the Contract Administrator. The use of such plants shall not increase the Contract price.
- E29.9 All nursery stock shall be measured when the branches are in their normal position. Height and spread dimensions specified refer to the main body of the plant and not from branch tip.
- E29.10 Where trees are measured by calliper (cal.), reference is made to the diameter of the trunk measured 300 mm above ground as the tree stands in the nursery.
- E29.11 All nursery stock shall be well branched, true to type, structurally sound, possess a well developed, undamaged root system and shall be free of disease, insect infestations, rodent damage, sunscald, frost cracks and other abrasion or scare to the bark. All parts of the nursery stock shall be moist and show live, green cambium when cut.
- E29.12 All trees shall have one only, sturdy, reasonably straight and vertical trunk and a well balanced crown with fully developed leader. All evergreens shall be symmetrically grown and branched from ground level up, and must be balled and burlapped unless noted otherwise on the plant list. At least one plant of each variety supplied shall bear a tag showing both the botanical and common name of the plant.
- E29.13 Protection of Stock
- (a) All nursery stock shall be well protected from damage and drying out from the time of digging until the time of planting on Site. All roots shall be cleanly cut; split roots are not acceptable.
 - (b) Nursery stock shall be transplanted with care to prevent damage. Points of contact with equipment shall be padded. All nursery stock, which cannot be planted immediately upon arrival at the Site, shall be well protected to prevent drying out and shall be kept moist until commencement of planting.

PLANTING SOIL

- E29.14 The planting soil shall be topsoil that complies with CW 3540, Section 5.2.
- (a) Further to CW 3540 Section 5.2, planting soil shall contain maximum ten percent (10%) organic matter (peat, rotted manure or composted material).
- E29.15 At the discretion of the Contractor Administrator, planting soil may be subject to tests for nitrate, phosphate, potassium, sulphate, pH, E.C. (salinity), and volume of organic matter, by a testing laboratory designated by the Contract Administrator.
- E29.16 The Contract Administrator reserves the right to reject planting soil not conforming to the requirements of these Specifications.

WATER

- E29.17 The Contractor shall provide water, so that

- (a) All costs to provide water for the watering operation and all associated costs shall be borne by the Contractor. These costs may include hydrant permit and meter rental fees.
- (b) Further to clause 3.7 of CW 1120-R1, the Contractor shall pay for all costs associated with obtaining water in accordance with the Waterworks By-law. Sewer charges will not be assessed for water obtained from a hydrant.

E29.17.1 Water shall be free of oils, acids, alkalis, salts and other substances that may be detrimental to plant growth. Water suitable for human consumption shall be acceptable without testing.

E29.17.2 Water from rivers and streams shall not be used without prior approval of the Contract Administrator.

E29.18 Should the Contract Administrator determine that water quality testing is necessary, an approved testing laboratory shall perform the test at the sole expense of the Contractor.

TREE PROTECTION/SUPPORT DURING INSTALLATION

E29.19 Upon completion of the planting operation, the Contractor shall slice open a 100 mm diameter x 600 mm long section of plastic weeping tile material and place around the base of each tree trunk.

E29.20 Stakes shall be T-rail iron stakes 40 x 40 x 5 x 1540 mm long, primed with 1 brush coat of zinc rich plant paint to CGSB 1-GP-191B. Stakes shall be uniform in style and colour.

- (a) Other products may be used with prior permission in writing from the Contract Administrator.

E29.21 The guying straps shall be attached in accordance with the drawings referenced in SCD- 515 and SCD-517 and shall be of a material that is non-abrasive to the tree to prevent girdling injury:

- (a) Hose-covered wire, flexible belting or any strong, soft wide strips of material is acceptable.

E29.22 Where wire is used, ensure ends are twisted tight:

- (a) Protruding ends are unacceptable.

MULCH

E29.23 The Contractor shall provide mulch. Mulch shall:

- (a) be a clean bark or wood chip free of leaves, branches and other extraneous matter; and
- (b) consist of chips not less than 15 mm nor larger than 75 mm in size and not more than 20 mm thick.

E30. TREE PITS

E30.1 Tree Pits shall be excavated using the following methods (see SCD-517):

- (a) Tree pits shall be minimum 2 times the diameter of the root ball.
- (b) Tree pits shall be excavated using a backhoe or hand shovel.
- (c) Pit depth shall be such that the top of the root ball is even with the existing grade

E30.2 The sides of all tree pits shall be scarified to the depth of one shovel blade.

E30.3 The bottom of all excavations shall be protected against freezing.

E30.4 Tree pits shall be left open for a maximum of 24 hours.

- (a) Pits that are left open overnight must be covered with a sheet of plywood and be marked with a minimum of one (1) safety cone.

- (i) Plywood shall be a minimum thickness of 5/8".

E31. PLANTING PERIOD

- E31.1 The Contractor shall not plant trees during periods of extreme heat, at the discretion of the Contract Administrator.
- (a) The City of Winnipeg reserves the right to refuse acceptance of any or all trees failing to meet the above timing restrictions.

E32. PLANTING

- E32.1 The Contractor is expected to plant trees as follows:
- (a) all trees shall be set plumb and shall be placed in the centre of the tree pit;
 - (b) trees shall be placed on undisturbed soil and to a depth equal to that at which they were originally growing at the nursery.
 - (c) once the tree has been set in its final position, burlap on the root ball shall be cut from the top 1/3 of the root ball:
 - (i) If a wire basket has been used, it shall be cut off from the top 1/3 of the root ball.
 - (ii) All twine shall be removed from the root ball.
 - (d) after the root ball is prepared, fill tree pit with planting soil as per E29.14, in layers of 150 mm depth and compact the independent layers of soil by tamping;
 - (e) tamp soil around root system to eliminate air voids;
 - (f) grade the area around the tree according to the drainage type; and
 - (g) All planting areas shall be levelled, raked and edged to give a neat appearance.
- E32.2 Upon completion of the planting operation, the Contractor shall:
- (a) install tree trunk protection;
 - (b) install stakes and straps;
 - (c) form a water dish from the soil around the outside edge of the root ball with a berm 100 mm in height:
 - (i) Soil shall not be piled around the tree trunk.
 - (d) install wood chips or other mulch ;
 - (e) administer watering:
 - (i) watering must be done slowly to ensure that water does not run away from the root zone and so the top 300 mm of the soil around the root system of the tree are well saturated;
 - (ii) use a low-pressure open flow nozzle and hose; and
 - (iii) The water stream must not gouge out a hole in the soil or mulch.

E33. TREE MAINTENANCE

GENERAL

- E33.1 The Contractor shall cover the maintenance of trees for a period of two years from the date of the tree planting was completed. The Contractor shall furnish all labour, materials, equipment and services necessary to perform ongoing care of the plant material, which shall include but not be limited to:
- (a) Mulching, in accordance with E29.23 and E33.2(d);
 - (b) Watering, in accordance with E29.17, E29.18 and E33.2(e);
 - (c) Weed Control, in accordance with E33.2(f).

METHODS

E33.2 The Contractor shall:

- (a) program the timing of operations to plant growth, weather conditions and use of the Site;
- (b) do each operation continuously and complete within a reasonable time period;
- (c) store equipment and materials off-site;
- (d) add additional mulch as required to maintain minimum constant depth of mulch;
 - (i) clean up edges and contain mulch within the designated area;
- (e) water trees as follows:
 - (i) immediately upon being planted and every week for the first three (3) weeks after planting;
 - (ii) thereafter, watering shall be done every 7 – 14 days between May and October or as frequently as necessary (compensating appropriately for weather) to sustain vigorous plant growth;
 - (iii) by watering slowly to ensure that water does not run away from the root zone and so the top 300 mm of soil around the root system of the tree is well saturated;
 - (iv) by using a low pressure open flow nozzle and hose. The water stream must not gouge out a hole in the soil or mulch;
 - (v) by using the recognized standard for tree watering as approximately 8-10 times during the growing season with the following amounts of water depending on the calliper of the tree – the rule of thumb is 40 litres of water per 25 mm calliper;
 - (vi) by recognizing watering requirements of trees are dependant upon on a number of variables such as tree species, soil type, when planted, and weather including precipitation. These watering requirements are a minimum standard and shall be followed unless otherwise directed by the Contract Administrator or his designate.
 - (vii) by applying a final watering for all trees, regardless of when planted, that shall be completed after temperatures fall below freezing to ensure adequate moisture in root zone at freeze-up;
- (f) maintain surface of tree pit by hand weeding during the watering process as follows:
 - (i) do not allow weeds to establish for a period longer than two (2) weeks; and
 - (ii) do not use any herbicides for weed control near trees unless authorized by the Contract Administrator.

E33.3 The Contractor must inform the Contract Administrator of watering progress and schedule by 9:00 AM each day of watering.

E33.4 The Contractor must inform the Contract Administrator immediately of any equipment breakdown or delay in watering and maintenance. Once a watering cycle is completed, submit a log-sheet to the Contract Administrator identifying the following:

- (a) the location where maintenance Work is carried out; and
- (b) preventative or corrective measures required which are outside Contractors' responsibility.

E33.5 Any trees planted to replace trees that have died during the maintenance period will receive full 2 years maintenance from the date that the replacement tree was accepted.

TREE PROTECTION/SUPPORT

E33.6 The tree protection collars, staking material and all attachments to trees shall be removed by the Contractor upon completion of the maintenance period.

E34. TREE MORTALITY

CONTRACTOR SUPPLIED TREES

- E34.1 If a Contractor-supplied tree dies and the Contractor has not been submitting the regular maintenance records in accordance with these specifications, then the cost to supply, plant and maintain a replacement tree as originally indicated in the Contract document, shall be at the sole expense of the Contractor.
- E34.2 If a Contractor-supplied tree dies and the Contractor has been submitting the regular maintenance records in accordance with these specifications, that tree will be added to the Contract at the originally specified bid price to be supplied, planted and maintained by the Contractor in accordance to this specification.
- E34.3 Replacement trees shall receive 2 years maintenance as outlined in the Contract document, from the date of replacement.
- E34.4 Inspections of replacement trees will be conducted by City of Winnipeg staff.

E35. TREE INSTALLATION PAYMENT

- E35.1 Method of Measurement
- E35.2 Plant Material will be measured on a per unit basis. The number to be paid for shall be the total number of each type and size of tree supplied and installed in accordance with the Specification and accepted by the Contract Administration.
- E35.3 Basis of Payment
- (a) The supply and installation of Plant Material will be paid for at the Contract unit price for each tree, Item 13 a to 13p Plant Material, measured as specified herein, which price shall be payment in full including all costs for the tree, tree pit and topsoil backfill, tree stakes, tree rings, pruning, two year maintenance, and all other items incidental to the Work included in this Specification.
 - (b) Twenty five (25) % of the value of all plant material, as itemized on the unit price form, Item 13a to 13p Plant Material, shall be held back to pay for the two year maintenance period.
 - (c) Seventy five (75) % of the value of all plant material, as itemized on the unit price form, Item 13a to 13p Plant Material, will be paid for when the plant material complies with the supply and installation sections of the specification requirements and is accepted by the Contract Administrator.

E36. TWO YEAR TREE MAINTENANCE PAYMENT

- E36.1 Maintenance Period
- (a) The two year maintenance period shall be based on a six month growing season per year. The two year maintenance program will consist of a total of 12 months of maintenance. In general the maintenance shall commence on May 1st and terminate on October 30th of each year. In the event of any early spring, whereby the weather conditions are conducive to plant growth, the Contractor shall start the maintenance period at such time as they deem necessary. However, the City of Winnipeg, Forestry Branch, must be notified prior to commencing the maintenance period. Where the maintenance Contract is started prior to May 1st, the actual number of days that the plant material is maintained prior to May 1st will be deducted from the October 30th completion period.
- E36.2 Cost of Two Year Maintenance Period
- (a) The cost for the Two Year Plant Maintenance Period will be twenty-five (25) % of the total cost of all the trees, as shown in Form B: Prices, Item 13a to 13p inclusive. The remaining seventy five (75) % value will be paid on a per unit basis, for each plant properly installed, and which plant complies with the specification requirements.

E36.3 Payment of Two Year Maintenance Period

E36.4 The basis of payment, will be based on a pro rated basis, based on each full month of maintenance, and the respective proportion of the total twelve (12) months. Progress payments will be made once a year at the end of each growing season.

E37. PROTECTION OF THE SURVEY INFRASTRUCTURE

E37.1 Notwithstanding CW 1130 3.14 'Protection of Survey Infrastructure' of the Standard Construction Specifications, 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.

E37.2 Further to C:6.26(g), at least 72 hours prior to the commencement of the On-Site Work the Contractor shall contact the City of Winnipeg, Geomatics Services Branch at 918-1360 (8:00a.m. to 4:00 pm Monday to Friday excluding holidays) to obtain 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.

E37.3 Where a survey post, bar, or control monument lies in the line of 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.

E37.4 Outline survey monuments and geodetic control monuments at or adjacent to the Site, not in 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 \$1000 per bar and \$3000 per control monument. Contractors must ensure Sub-Contractors are aware of this clearance procedure and the potential restoration costs.

E37.5 Where possible, amounts owed to the City in accordance with the above will be deducted from any payments to be made by the City to the Contractor