



THE CITY OF WINNIPEG

BID OPPORTUNITY

BID OPPORTUNITY NO. 140-2006

MAPLE LEAF PARK – SITE RENOVATIONS

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PART B - BIDDING PROCEDURES

B1. PROJECT TITLE

B1.1 MAPLE LEAF PARK – SITE RENOVATIONS

B2. SUBMISSION DEADLINE

B2.1 The Submission Deadline is 12:00 noon Winnipeg time, March 30, 2006.

B2.2 Bid Submissions 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 GC:3.1, the Bidder may view the Site without making an appointment.

B4. ENQUIRIES

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

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

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

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

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

B5. 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 Branch internet site 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 Branch internet site for addenda shortly before submitting his Bid.

B5.3 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 shall 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.

B7. BID SUBMISSION

B7.1 The Bid Submission consists of the following components:

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

B7.2 The Bid Submission shall be submitted enclosed and sealed in an envelope clearly marked with the Bid Opportunity number and the Bidder's name and address.

B7.2.1 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.

B7.3 Bid Submissions submitted by facsimile transmission (fax) or internet electronic mail (e-mail) will not be accepted.

B7.4 Bid Submissions shall be submitted to:

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

B8. BID

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

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

- (a) if the Bidder is a sole proprietor carrying on business in his 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 2 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 shall 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 Submission 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.

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;
- (b) be responsible and not be suspended, debarred or in default of any obligation to the City;
- (c) be financially capable of carrying out the terms of the Contract;
- (d) have all the necessary experience, capital, organization, and equipment to perform the Work in strict accordance with the terms and provisions of the Contract;
- (e) have successfully carried out Work, similar in nature, scope and value to the Work;
- (f) employ only Subcontractors who:
 - (i) are responsible and not suspended, debarred or in default of any obligation 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 Branch internet site at <http://www.winnipeg.ca/matmgt>); and
 - (ii) have successfully carried out Work similar in nature, scope and value to the portion of the Work proposed to be subcontracted to them, and are fully capable of performing the Work required to be done in accordance with the terms of the Contract;
- (g) have a written workplace safety and health program in accordance with The Workplace Safety and Health Act (Manitoba);

B10.2 The Bidder shall be prepared to 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.

B10.3 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 Bid Submissions will be opened publicly, after the Submission Deadline has elapsed, in the office of the Corporate Finance Department, Materials Management Branch, or in such other office as may be designated by the Manager of Materials.

B11.1.1 Bidders or their representatives may attend.

B11.2 After the public opening, the names of the Bidders and their Total Bid Prices as read out (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 Branch internet site at <http://www.winnipeg.ca/matmgt>.

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 Branch internet site at <http://www.winnipeg.ca/matmgt>.

B11.4 The Bidder is advised that any information contained in any Bid Submission 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 GC:23.3, 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 shall:

- (a) retain the Bid Submission until after the Submission Deadline has elapsed;
- (b) open the Bid Submission 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 (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 Submission 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 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 Submission or in other information required to be submitted, that he is responsible and qualified.

B14.4 Further to B14.1(c), the Total Bid Price shall be the sum of the quantities multiplied by the unit prices for each item shown on Form B: Prices.

B14.4.1 If there is any discrepancy between the Total Bid Price written in figures, the Total Bid Price written in words and the sum of the quantities multiplied by the unit prices for each item, the sum of the quantities multiplied by the unit prices for each item shall take precedence.

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.

- B15.4 Notwithstanding GC:4, 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 GC:1.1, 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

C1. GENERAL CONDITIONS

C1.1 The *General Conditions for Construction Contracts* (Revision 2000 11 09) are applicable to the Work of the Contract.

C1.1.1 The *General Conditions for Construction Contracts* are available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at <http://www.winnipeg.ca/matmgt>.

PART D - SUPPLEMENTAL CONDITIONS

GENERAL

D1. GENERAL CONDITIONS

- D1.1 In addition to the *General Conditions for Construction Contracts*, these Supplemental Conditions are applicable to the Work of the Contract.
- D1.2 The General Conditions are amended by striking out "The City of Winnipeg Act" wherever it appears in the General Conditions and substituting "The City of Winnipeg Charter".
- D1.3 The General Conditions are amended by striking out "Tender Package" wherever it appears in the General Conditions and substituting "Bid Opportunity".
- D1.4 The General Conditions are amended by striking out "Tender Submission" wherever it appears in the General Conditions and substituting "Bid Submission".
- D1.5 The General Conditions are amended by deleting GC:6.16 and GC:6.17. The City of Winnipeg is now within the jurisdiction of the Manitoba Ombudsman pursuant to The Ombudsman Act.

D2. SCOPE OF WORK

- D2.1 The Work to be done under the Contract shall consist of drainage, playground and landscape renovation at Maple Grove Park.
- D2.2 The major components of the Work are as follows:
- (a) Installation of swails, a catch basin, culverts, and geocomposite drains throughout the park,
 - (b) Refurbishment of the existing gazebo including foundation repairs, resetting the existing pavers, refurbishment of the Site furniture.
 - (c) Renovation of the existing playground including the replacement of the junior playstructure, installation of geocomposite drains, installation of new playground surfacing, and repairs to existing bollards and wooden playground curbing.
 - (d) Repairs to the paving at each of the entry arbours.
 - (e) Renovation of existing gravel paths and Site furniture.
 - (f) Repairs to the tennis court fencing and net anchors

D3. CONTRACT ADMINISTRATOR

- D3.1 The Contract Administrator is Dean Spearman Landscape Architect, represented by:

Dean Spearman
Principal
83 Lafayette Bay
Winnipeg, Manitoba
R3T 3J9

Telephone No. (204) 261-4137

Facsimile No. (204) 261-4137

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 GC:23.2.2, 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 All notices of appeal to the Chief Administrative Officer shall be sent to the attention of the Chief Financial Officer at the following address or facsimile number:

The City of Winnipeg
Chief Administrative Officer Secretariat
Administration Building, 3rd Floor
510 Main Street
Winnipeg MB R3B 1B9
Facsimile No.: (204) 949-1174

D5.4 All notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications required to be submitted or returned to the City Solicitor shall be sent to the following address or facsimile number:

The City of Winnipeg
Corporate Services Department
Legal Services Division
185 King Street, 3rd Floor
Winnipeg MB R3B 1J1
Facsimile No.: (204) 947-9155

D6. PERMITS, NOTICES, LICENSES, CERTIFICATES, LAWS AND RULES

D6.1 Further to GC:6.12 the Contractor shall give all necessary notices, obtain all necessary permits, and pay all fees in order that the Work may be carried out. The Contractor shall submit all plans required by any inspection authority and obtain approval of same before proceeding with the Work, and pay any cost attached to the inspection and approval of such plans.

D6.2 All notices, consents, approvals, statements, authorizations, documents, or other communications to the City shall be submitted to the Contract Administrator.

D6.3 The Contractor shall comply with all laws, ordinances, rules and regulations that would relate to the Work.

D6.4 All Work shall be performed in a manner compliant with the Manitoba Workplace Health and Safety act.

D6.5 All Work shall be performed in a manner compliant with the Manitoba Workplace Health and Safety Fall Protection Guidelines

D6.6 The Contractor and SubContractors shall be fully aware of all Work involving hazardous materials. All Work shall be performed in compliance with the Manitoba Department of Labour Workplace Safety and Health Guidelines and all other applicable codes. The Contractor is responsible for the immediate notification to the Contract Administrator or his/her encountering of suspected hazardous material during the course of Work.

D7. DAMAGE TO EXISTING STRUCTURES AND PROPERTY

D7.1 Further to GC:17, all necessary precautions shall be exercised by the Contractor so as not to remove, disturb, or damage any existing trees, shrub, sod, pavements, streets, roads, boulevards, poles, hydrants, water pipes, gas pipes, electrical wires, cables, conduits, sewers, or other existing facilities and equipment at the Site of Work. For all damage incurred thereto in the performance of the Work, the Contractor shall upon instructions from and to the satisfaction of the Contract Administrator, either replace and repair such damage, whichever may be deemed necessary in the opinion of, and acceptable to, the Contract Administrator. The cost of which shall be borne entirely by the Contractor.

D7.2 The Contractor shall also indemnify and save harmless the City and the Contract Administrator, from all claims made directly or indirectly against it in respect to such damage.

D7.3 The Contractors operations shall be limited to the minimum area necessary for undertaking the Work and he shall be responsible for all damage resulting from his Work on private property. The Contractor shall take such measures as are necessary to ensure safe and convenient pedestrian ingress and egress is maintained to private properties while he is Working near them.

D7.4 Any damage caused by the negligence of the Contractor or his Sub-Contractors to the adjacent Works or properties, shall be promptly repaired by him at his own expense, to the satisfaction of the Contract Administrator.

D8. TEMPORARY UTILITIES

D8.1 Further to GC:6.12, the Contractor shall make his own arrangements in connection with the temporary use of lighting, power, gas, sewer, water or other utilities, and pay all costs in connection therewith.

D8.2 All necessary permits, fees, and other like expenses as well as the cost of temporary connections to existing facilities shall be arranged and paid for by the Contractor.

D9. PROTECTION OF THE SURVEY INFRASTRUCTURE

D9.1 Nonwithstanding CW 1130-R1 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.

D9.2 Further to GC:6.28(g), at least 72 hours prior to the commencement of the On-Site Work the Contractor shall contact the City of Winnipeg, Geomatics Services Branch at 986-4826 (8:00 a.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. The Contractor should quote Geomatics Job Number 20060009

D9.3 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.

- D9.4 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 Subcontractors are aware of this clearance procedure and the potential restoration costs.
- D9.5 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.

SUBMISSIONS

D10. INSURANCE

- D10.1 The Contractor shall provide and maintain the following insurance coverage:
- (a) commercial general liability insurance, in the amount of at least two million dollars (\$2,000,000.00) all inclusive, with The City of Winnipeg being added as an additional insured, with a cross-liability clause, such liability policy to also contain a contractual liability, an unlicensed motor vehicle liability and a products and completed operations endorsement to remain in place at all times during the performance of the Work and throughout the warranty period;
 - (b) automobile liability insurance for owned and non-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;
- D10.2 Deductibles shall be borne by the Contractor.
- D10.3 The Contractor shall provide the City Solicitor with a certificate of insurance of each policy, in a form satisfactory to the City Solicitor, at least two (2) Business Days prior to the commencement of any Work on the Site but in no event later than seven (7) Calendar Days from notification of the award of Contract.
- D10.4 The Contractor shall not cancel, materially alter, or cause each policy to lapse without providing at least fifteen (15) Calendar Days prior written notice to the Contract Administrator.

D11. PERFORMANCE SECURITY

- D11.1 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.

- D11.1.1 Where the performance security is in the form of a certified cheque or draft, it will be deposited by the City. The City will not pay any interest on certified cheques or drafts furnished as performance security.
- D11.2 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.

D12. SUBCONTRACTOR LIST

- D12.1 The Contractor shall provide the Contract Administrator with a complete list of the Subcontractors whom the Contractor proposes to engage (Form J: Subcontractor List) at least two (2) Business Days prior to the commencement of any Work on the Site but in no event later than seven (7) Calendar Days from notification of the award of Contract.

SCHEDULE OF WORK

D13. COMMENCEMENT

- D13.1 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.
- D13.2 The Contractor shall not commence any Work on the Site until:
 - (a) the Contract Administrator has confirmed receipt and approval of:
 - (i) evidence that the Contractor is 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;
 - (ii) evidence of the workers compensation coverage specified in GC:6.14;
 - (iii) evidence of the insurance specified in D10;
 - (iv) the performance security specified in D11;
 - (v) the Subcontractor list specified in D12; and
 - (b) the Contractor has attended a pre-construction meeting with the Contract Administrator, or the Contract Administrator has waived the requirement for a pre-construction meeting.
- D13.3 The Contractor shall commence the Work on the Site within fourteen (14) Working Days of receipt of the Purchase Order.

D14. SUBSTANTIAL PERFORMANCE

- D14.1 The Contractor shall achieve Substantial Performance within sixty (60) consecutive Working Days of the commencement of the Work as specified in D13.
- D14.2 When the Contractor considers the Work to be substantially performed, the Contractor shall arrange, attend and assist in the inspection of the Work with the Contract Administrator for purposes of verifying Substantial Performance. Any defects or deficiencies in the Work noted during that inspection shall be remedied by the Contractor at the earliest possible instance and the Contract Administrator notified so that the Work can be reinspected.

D14.3 The date on which the Work has been certified by the Contract Administrator as being substantially performed to the requirements of the Contract through the issue of a certificate of Substantial Performance is the date on which Substantial Performance has been achieved.

D15. TOTAL PERFORMANCE

D15.1 The Contractor shall achieve Total Performance within seventy (70) consecutive Working Days of the commencement of the Work as specified in D13.

D15.2 When the Contractor or the Contract Administrator considers the Work to be totally performed, the Contractor shall arrange, attend and assist in the inspection of the Work with the Contract Administrator for purposes of verifying Total Performance. Any defects or deficiencies in the Work noted during that inspection shall be remedied by the Contractor at the earliest possible instance and the Contract Administrator notified so that the Work can be reinspected.

D15.3 The date on which the Work has been certified by the Contract Administrator as being totally performed to the requirements of the Contract through the issue of a certificate of Total Performance is the date on which Total Performance has been achieved.

D16. LIQUIDATED DAMAGES

D16.1 If the Contractor fails to achieve Substantial Performance in accordance with the Contract by the day fixed herein for Substantial Performance, the Contractor shall pay the City Two Hundred Fifty dollars (\$250.00) per Working Day for each and every Working Day following the day fixed herein for Substantial Performance during which such failure continues.

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

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

D17. SCHEDULED MAINTENANCE

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

- (a) Maintenance of Sod as specified in E7;
- (b) Tree Maintenance as specified in E11;

D17.2 Determination of Substantial Performance and Total Performance shall be exclusive of scheduled maintenance identified herein. All scheduled maintenance shall be completed prior to the expiration of the warranty period. Where the scheduled maintenance cannot be completed during the warranty period, the warranty period shall be extended for such period of time as it takes the Contractor to complete the scheduled maintenance.

CONTROL OF WORK

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

D18.1 Further to GC:6.26, 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).

D19. SAFETY

- D19.1 The Contractor shall comply with the following:
- (a) The City of Winnipeg's Safety in the Workplace Policy for Alcohol or any Mood or Mind Altering Drug in the Workplace.
 - (b) The City of Winnipeg Safety Manual
 - (c) The Public Works Department's Safety Regulations
 - (d) The Province of Manitoba Workplace, Safety and Health Act.
- D19.2 The Contract Administrator and the City of Winnipeg, Public Works Department's Safety Officer has the authority to enforce all the above listed safety and/or health regulations.
- D19.3 Notwithstanding D17.1 and D17.2 the Contractor shall be solely responsible for construction and public safety at the Site and for securing the Site at all times to prevent public access.
- D19.4 The Contractor shall, at his own expense, do whatever is necessary to ensure that when Work is stopped, and the Contractor leaves the Site for whatever reason, the Site and Work is made safe, including but not limited to:
- (a) The removal and/or safe storage of all construction equipment and materials.
 - (b) The equipment installed and/or in the process of installation be completed or secured to ensure that no public hazards exist.
 - (c) That all open excavations be filled; and
- D19.5 That all construction debris and surplus excavation material be removed from the Site.

FORM H1: PERFORMANCE BOND
(See D11)

KNOW ALL MEN BY THESE PRESENTS THAT

_____ ,
(hereinafter called the "Principal"), and

_____ ,
(hereinafter called the "Surety"), are held and firmly bound unto **THE CITY OF WINNIPEG** (hereinafter called the "Obligee"), in the sum of

_____ dollars (\$_____)

of lawful money of Canada to be paid to the Obligee, or its successors or assigns, for the payment of which sum the Principal and the Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS the Principal has entered into a written contract with the Obligee dated the

_____ day of _____, 20____, for:

BID OPPORTUNITY NO. 140-2006

MAPLE LEAF PARK – SITE RENOVATIONS

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)

(Name of Principal)

Per: _____ (Seal)

Per: _____

(Name of Surety)

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

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, STANDARD DETAILS AND DRAWINGS

- E1.1 *The City of Winnipeg Standard Construction Specifications* in its entirety, whether or not specifically listed on Form B: Prices, shall apply to the Work.
- E1.1.1 *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>.
- E1.1.2 The version in effect three (3) Business Days before the Submission Deadline shall apply.
- E1.1.3 Further to GC:2.4(d), Specifications included in the Bid Opportunity shall govern over *The City of Winnipeg Standard Construction Specifications*.
- E1.2 The following Drawings are applicable to the Work:

<u>Drawing No.</u>	<u>Drawing Name/Title</u>
L-1	Site Location Plan
L-2	Grading Drainage Plan
L-3	Tree Protection, Surface Restoration
L-4	Playground
L-5	Gazebo, Paving, and Tennis Courts
L-6	Tennis Courts and Site Furniture
C-1	Site Drainage - Civil

E2. LOCATION OF WORK

- E2.1 The Work is located within Maple Leaf Park in Transcona. Maple Leaf Park is located south of Kildare Ave. W. and north of Whittier Ave. West, east of Madeline and west of Winona.

E3. LAYOUT OF WORK

- E3.1 As a part of the Contract, the Contractor shall be responsible for all survey requirements including but not limited to the location of all items of the contract.
- E3.2 The Contractor shall establish and maintain all control lines and grade stakes in accordance with City of Winnipeg geodetic information and the information supplied on the working drawings. Expense incurred for the re establishment of grade stakes, control lines, monuments and other related survey information or requirements shall be entirely paid for by the Contractor.
- E3.3 All layout Work shall be inspected and approved by the Contract Administrator prior to construction.
- E3.4 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 or the Contract Administrator 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 through consultation with the Contract Administrator

identified in D 3.1 and the City of Winnipeg, Public Works Department representative. No claims shall be made on account of any delay occasioned thereby.

E4. SITE CLEANUP AND RESTORATION

- E4.1 All pathways, streets, approaches, driveways, and properties near the Work Site shall be kept clean at all times by the Contractor.
- E4.2 Upon completion of the Work the Contractor shall immediately remove all excess materials and debris from the Work Site.
- E4.3 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 earth, to the satisfaction of the Contract Administrator. Unless otherwise specified, the Contractor shall restore all areas of the Site which have been disturbed by the Contractor's operations to as good or better than the original condition to the satisfaction of the Contract Administrator. The Contractor shall pay all costs associated with this Work.

WORK

E5. SUB-SURFACE DRAINAGE

- E5.1 This Work shall consist of providing and placing a geocomposite prefabricated drain system as described in the plans. The drainage system shall be installed in accordance with these Specifications and in reasonably close conformity with the locations and dimensions as shown on the plans or specified by the Contract Administrator. The quantities of drain as shown on the plans may be increased or decreased at the direction of the Contract Administrator based on actual Site conditions that occur during construction of the project. Such variations in quantity will not be considered as alterations in the details of construction or a change in the character of the Work.
- E5.2 The drain conduit shall be of flexible, prefabricated, rounded rectangular shaped, composite product. The drain conduit shall be wrapped with a non-woven geotextile and shall be a non-woven needle-punched construction and consist of long-chain polymeric fibers composed of polypropylene, polyethylene or polyamide. The fibers shall be oriented into a multi-directional stable network whereby they retain their positions relative with each other and allow the passage of water as specified. The fabric shall be free of any chemical treatment or coating, which reduces permeability and shall be inert to chemicals commonly found in soil. The geotextile shall conform to the following minimum average roll values.

Weight	ASTM D-3776	3.0 - 4.0
Tensile Strength	ASTM D-4632	100 - 130
Elongation %	ASTM D-4632	50 - 70
Puncture, lb	ASTM D-751	35 - 60
Mullen Burst, psi	ASTM D-3786	110 - 215
Trapezoidal Tear, lb	ASTM D-4533	40 - 42
Coefficient of Permeability	ASTM D-4491	.2 - .4 cm/sec

Flow Rate, gpm/ft ²	ASTM D-4491	100 - 140
Permittivity, 1/sec	ASTM D-4491	1.3 - 2.0
Apparent Opening Size	ASTM D-4751	60/70 Max. US Std Sieve Opening
Seam Strength, lb/ft	ASTM D-4595	100
Fungus	ASTM G-21	No growth

E5.3 The drainage core shall be made of a high-density polyethylene. The core shall be constructed using interconnected corrugated pipes that define and provide the flow channels and structural integrity of the drain. The geotextile shall function only as a filter. The core of the edge drain shall conform to the following physical property requirements.

Thickness, inches	ASTM D-1777	1.0
Flow Rate, gpm/ft ^{***}	ASTM D-4716	30
Compressive Strength, psf	STM D-1621 (modified sand method)	6000
Pipe Stiffness, pii	ASTM D-2412	100

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

- E5.4 The fittings used with the edge drain shall be of a "snap together" design. In no case shall any drainage product be joined without the use of the manufacturers connector designed specifically for the purpose.
- E5.5 Drainage pipe shall be Multi-Flow or approved substitute in accordance with B6. Size shall be 150 mm. All fittings shall be sized to fit approved for use with Multi-Flow or approved substitute by the manufacturer. Cleanouts shall be provided as indicated on the drawing..
- E5.6 Pipe for edge drain outlet laterals shall be either PVC pipe meeting the requirements of ASTM D-2729 or ASTM F-949, or high-density polyethylene pipe meeting the requirements of AASHTO M252. 2.4 A rodent screen made of 7.6 mm by 7.6 mm square opening size, 1.6 mm gauge, stainless steel or galvanized, welded wire mesh shall be installed in each outlet lateral line. When using galvanized welded wire mesh, the rodent screen shall be galvanized after it has been formed to the shape and dimensions required.
- E5.7 Backfill shall be course sand whose particle size is defined as less than 5% retained on a #10 screen, and less than 5% passing through a # 30 screen. (US Std Sieve) In no case shall more than 1% pass a #60 screen.
- E5.8 The layout of the subdrain is to be marked on Site and approved by the Contract Administrator prior to trenching.
- E5.9 Trenches are to be excavated with a trenching machine or by hand. Locations where the trench has to cross existing utilities, existing irrigation pipes and all other subsurface pipes or fixtures are to be excavated by hand. The amount of trench excavated at any time shall not exceed the amount of drain that can be set and backfilled completely prior to the end of that Working Day. Trench shall be of the width specified on the drawings.

- E5.10 The bottom surface of the trench is to be free of loose particles and is to have the slope shown on the drawings. Over excavation in the bottom of the excavation shall be backfilled to the proper grade with excavated material or sand prior to the placement of the drain. Where sand or excavated material is used to fill the trench to the proper elevation that material shall be compacted to 95% of standard proctor density using appropriate means. Where the trench is to pass through an area of existing sod the excavated material is not to remain on the grassed surface for a period longer than 24 hours. Excavated material if not required as fill elsewhere on Site shall be removed from Site and disposed of legally.
- E5.11 Multi-Flow drain pipe is to be placed in trench using Multi-Flow centering device. Trench is to be backfilled with coarse sand to the surface. Backfill shall be placed in maximum of 45 cm loose lifts. Backfill is to be lightly tamped into place and watered. In the case of trenches extending into existing grassed areas coarse sand backfill is to be seeded with grass seed.
- E5.12 Contractor is to maintain top surface of the backfilled sand even with the surrounding grade during the grow in phase.
- E5.13 Fittings for the drain shall be installed in accordance with the manufacturer's recommendations.
- E5.14 Any damaged edge drain or outlet lateral shall be replaced or repaired by splicing in an undamaged section of drain at the contractor's expense.
- E5.15 The Contractor shall be responsible for restoration of any surfaces damaged during the Work under this section. There shall be no separate measurement or payment for restoration Work required as a result of this Work.
- E5.16 Measurement and payment shall be on a per linear meter basis for the actual length of pipe installed. All trenching, backfill, fittings, cleanouts, connections to existing drainage are to be considered incidental to the supply and installation of the pipe.

E6. DEMOLITION AND REMOVALS

- E6.1 This section shall cover the removal of existing crusher fines path and crusher fines paved area where it is called for on the drawings. It shall also cover the removal of surplus or poor condition timber curb, removal of the existing concrete curb, removal of the existing play surfacing, removal of the existing sandbox and junior play structure, trees and removal of the existing bollard fence where called for on the drawings.
- E6.2 To the extent and limits shown on the drawings, where the existing crusher fines path is to be removed, the existing crusher fines path is to be excavated to a depth sufficient to remove the existing granular material in its entirety. The Contractor is to lay out the area of the path to be removed from Site and the Contract Administrator is to approve the location and the extent of this Work prior to Work beginning.
- E6.3 Excavated granular material is to be removed from the Site and disposed of in a legally acceptable manner. Should the quality of existing granular material be acceptable and the contamination of the material with clay or soil be minimal and following inspection and approval of the granular material by the Contract Administrator, the granular material may be used in the base layer of the new crusher fines path.
- E6.4 Trees specified for removal shall be removed from the Site in their entirety (top and roots). Removed trees may be chipped for reuse on the local wood chip path or removed from the Site and disposed of in a legal manner.

- E6.5 Timbers, bollards, and fence posts designated for removal are to be removed from the Site and disposed of in a legal manner. Holes left by the removal of these items are to be filled immediately with bentonite clay compacted in 15 cm lifts.
- E6.6 Grassed areas specified for removal shall have the grass surface and growing medium (soil) removed to the elevation of subsurface layer (clay). The excavated material shall be removed from the Site and taken to a Site designated by the Contract Administrator.
- E6.7 Portions of the existing wooden play curb and wooden curbs from unit paver areas designated for removal and concrete curbing designated for removal are to be removed from the Site and disposed of in a legal and environmentally responsible manner. Holes left by the removal of these items are to be filled immediately with bentonite clay compacted in 15 cm lifts.
- E6.8 The Junior play structure as noted on the drawings is to be completely removed from the Site and disposed of in a safe and environmentally responsible manner. Holes left by the removal of these items are to be filled immediately with bentonite clay compacted in 15 cm lifts.
- E6.9 Measurement and payment for this section shall be on the following basis;
- (a) Removal of surplus fill material shall be considered incidental to the portions of Work that generated the fill. There will be no separate measurement or payment for this portion of the Work.
 - (b) Removal of existing concrete curb shall be measured on a linear meter basis and paid for according to the rate specified on Form B :Prices.
 - (c) Removal of existing bollards shall be measured on per item basis and paid for according to the rate specified on Form B :Prices.
 - (d) Removal of the play structure shall be considered incidental to the supply and installation of the new junior play structure and shall not be measured or paid for separately.
 - (e) Removal of portions of the existing timber curbing in the playground area shall be considered incidental to the repair of the play curb and shall not be measured or paid for separately.
 - (f) Removal of the existing play sand shall be considered incidental to the grading of the play ground area and shall not be measured or paid for separately.
 - (g) Removal of the existing sand box shall be measured on a lump sum basis and paid for at the rate stipulated on Form B: Prices.
 - (h) Removal of wood curb (to be replaced with Snap edge) shall be considered incidental to the installation of the Snap Edge and not paid for separately.
 - (i) Removal of broken or deteriorated paving stone shall be considered incidental to the refurbishment of these areas and shall not be measured or paid for separately.
 - (j) Removal of crusher fines path shall be considered incidental to the supply and installation of the new materials specified on the drawings. There will be no measurement or separate payment for this Work.
 - (k) Removal of Trees and other plant material shall be considered incidental to the grading operations and will not be measured or paid for separately.
- E6.10 There will be no measurement or additional payment for removal of any material beyond that approved by the Contract Administrator prior to the commencement of excavation/demolition.

E7. REGRADING AND RESODDING

- E7.1 This specification covers the excavation and disposal of unsuitable or excess material, the supply and installation of topsoil and sod, the topdressing and seeding of seam, edges and

- areas of minor Site restoration. It shall also cover Site regrading where called for on the drawings.
- E7.2 Areas to be graded, or regraded and resodded are to be laid out on Site and approved by Contract Administrator before commencing regrading Work. Work outside the limits approved by the Contract Administrator will not be measured and will not be paid for under this section but considered incidental to the Work. Incidental Site restoration shall conform to the same specifications.
- E7.3 Prior to excavation, the perimeter of the areas being sodded are to be cut with a sod cutter in straight lines.
- E7.4 Where new sod meets existing turf the transition shall be a uniform even surface that is consistent with existing grades. Such joints are to be topdressed and seeded at the discretion of the Contract Administrator. There shall be no additional measurement or payment for topdressing and seeding.
- E7.5 Excavate in-situ material and/or supply additional sub-base material to accommodate the topsoil and sod in a manner conforming to the drainage pattern described in the drawings. Where no new drainage pattern is described in the drawings the excavation and/or installation of fill shall be consistent with existing drainage patterns. In no case shall grading operations impede Site drainage. Placed fill material shall be compacted to 95% of proctor density. Excess material is to be disposed of at a Site designated by the Contract Administrator in Kilcona Park/HarbourView Recreation Center.
- E7.6 Grading operations and movement of trucks and other equipment shall be limited to those areas designated on the drawing or approved by the Contract Administrator prior to the commencement of operations. Excavation equipment shall be track based. There shall be no movement of equipment on the Site outside of those areas designated for such use.
- E7.7 Topsoil and sod are to be supplied and installed and maintained as per CW 3510 and CW 3540.
- E7.8 Measurement and Payment for the grading and or excavation of the swails shall be at the Contract unit price per square meter for 'Swail Grading' and said price shall be understood to include the excavation and removal of in-situ material as required to establish the grades shown on the drawings after the application of finish materials.
- E7.9 Measurement and Payment for the supply and installation of sod and topsoil shall be at the Contract unit price per square meter for 'Sod c.w. Topsoil' and shall be understood to include;:
- (a) Supply and installation of topsoil.
 - (b) Supply and placement of sod.
 - (c) maintenance of sod.
- E7.10 Payment for removing existing play sand and grading the playground area will be at the Contract unit price per square meter for 'PlayGround Regrading'. Measurement shall be of the actual area regraded in the play ground. Price shall be payment in full for supplying materials and for performing this regrading.
- E7.11 There will be no measurement and payment for excavation and or grading operations in areas where crusher fines paving, precast concrete retaining wall and culverts, or interlock paving is called for. Said excavation or grading shall be considered incidental to the Crusher Fines Paving or the Interlock Paving.

E8. CRUSHER FINES PAVING

- E8.1 This specification covers the supply and installation of Crusher fines paving including all excavation, compaction, geotextile, sub-base and base construction as well as gravel surfacing, and repair of existing sod to ensure a smooth transition to the roadway. Other items necessary to complete this portion of the Work and not noted elsewhere are considered incidental to this Work. This specification shall also cover the rehabilitation of existing crusher fines paving.
- E8.2 Sub-base, base materials and depths are as noted on drawing.
- E8.3 Except as specifically noted on the drawing areas of crusher fines paving are to be constructed so as to function with existing drainage patterns and are to have a minimum cross slope of 2%.
- E8.4 Crusher fines paving is to meet existing landscaping, concrete paving and crusher fines paving in a neat and precise manner.
- E8.5 Where rehabilitation of crusher fines paving is called for the Contractor shall destroy any weeds in the crusher fines path, scarify the path surface, compact, and install 40 mm of new 5 to 10 mm crusher fines limestone, wet the surface, and compact.
- E8.6 Measurement and Payment for new crusher fines paving will be at the Contract unit price per square meter for 'Crusher Fines Paving'. Measurement shall be of the actual area covered by Crusher fines. Price shall be payment in full for supplying materials and for performing all operations listed below:
- (a) Excavate in-situ material to accommodate the pavement structure including base and subbase. Disposal of excess material.
 - (b) Supply and installation of Geotextile.
 - (c) Supply and placement of Crushed limestone base course.
 - (d) Supply and placement of Crushed surfacing.
 - (e) Repair of grass (tie-in) at edge of newly constructed paving.
- E8.7 Measurement and payment for rehabilitated crusher fines paving shall be at the unit price per square meter for "Renovate Existing Crusher Fines Paving". Measurement shall be of the actual area of paving rehabilitated. Price shall be payment in full for supplying materials and for performing all operations required in connection with this Work.

E9. WOOD BOLLARD FENCING

- E9.1 This specification shall cover the resetting of the existing bollard fence.
- E9.2 Granular material for backfilling is to be 18 mm down limestone.
- E9.3 Where resetting of the bollard fence is called for on the drawings the existing bollard fence is to have the chain removed and the bollards pulled from the ground.
- E9.4 Reinstall bollards in minimum 300 mm diameter holes minimum 900 mm below existing grade. Excavated material is not to be placed on adjacent grass surfaces. Excavated materials may be placed on plywood sitting on adjacent grassed surface. Plywood or fill is not to remain on the grassed surface for a period longer than 24 hours. Excavated material shall be removed from Site and disposed of legally.
- E9.5 Post holes are to be backfilled with compacted granular material in 150 mm lifts and hand tamped. Bollards are to be set plumb with the tops of bollards at a consistent height above existing grade. The top 10 cm of backfill shall be topsoil and have grass seed applied. The resulting grade at the base of the post is to be 2 to 5 cm above the surrounding grade.

- E9.6 Contractor is to note that should settlement of the backfill occur during the warranty period additional fill and seeding will be required as part of the warranty obligations.
- E9.7 Where the existing bollards scheduled for resetting are unsound they are to be replaced with a new bollard cut to match the existing.
- E9.8 Chain is not to be reinstalled.
- E9.9 Contractor is to note that any damage to existing grassed areas not scheduled for refurbishment or replacement is to be made good at the expense of the Contractor. If a skid steer auger is to be used that skid steer is to be fitted with tracks in order to minimize compaction of surrounding surfaces.
- E9.10 Measurement and payment for Bollard fencing will be per bollard reinstalled at the Contract unit price per bollard. This price shall be deemed to include removal and replacement of the existing bollard.

E10. TREES

- E10.1 This section shall cover the supply and installation of trees.
- E10.2 Trees shall be of the size and type specified. Trees which fail to meet this specification will be rejected.
- E10.3 The Contract Administrator reserves the right to inspect trees at their original source and the give direction as to root and branch pruning requirements.
- E10.4 Plant material shall be of quality and sizing consistent with all sections of "Canadian Guide for Nursery Stock" latest edition as published by the Canadian Nursery Trades Association. Plants are to be measured when in their natural position. Height and spread dimensions refer to the main body of the plant and not to the distance from branch tip to branch tip. Measurement of calliper is to be at a height of 15 cm above the base of the tree as measured in the nursery. All other measurements are to be as per Canadian Guide for Nursery Stock.
- E10.5 Trees shall be of number one grade having only sturdy stems that are reasonably straight for type, a well balanced crown and a single dominant leader. Trees shall be well branched, true to type, and structurally sound. Contract Administrator reserves the right to reject any trees that do not meet this criteria or show signs of disease, mechanical damage, insect or rodent damage, sunscald, frost cracks. All parts of the tree shall be moist and show live, green cambium beneath the surface of the bark.
- E10.6 Plants from native stands, woodlots, orchards or abandon nurseries shall be deem 'collected'. The use of collected plants will not be permitted.
- E10.7 Nomenclature for plants specified 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. Names not found within the Standardized Plant Names shall be understood to be in accordance with locally accepted practice. Where there is doubt or ambiguity the Bidder/Contractor shall notify the Contract Administrator and request clarification. The clarification of the Contract Administrator shall be considered final.
- E10.8 Topsoil Backfill mix shall be screened garden soil with a mixture of two parts black loam topsoil, one part sand and one part peatmoss.
- E10.9 Tree stakes shall be heavy duty T rail iron stakes 37 mm x 37mm by 2.4 m primed with one coat of black zinc rich plant paint to CGSB 1GP-181B. Section of stake above ground shall be painted with one coat of black enamel paint.

E10.10 Protection of stock

- (a) All nursery stock shall be well protected from damage from the time of digging until the time of planting on Site. Supplier and Installer are to ensure that the root ball is protected from drying out, and that all roots have been cleanly cut.
- (b) Transport of nursery stock shall be done in a manner so that trees do not suffer damage during transport. Branches shall be tied to reduce the risk of mechanical damage. Equipment used to handle nursery stock shall be padded. Nursery stock shall be maintained in a moist condition from the time of arrival on Site until the time of planting.

E10.11 All trees installed as a part of this Contract shall be guaranteed for a period of two years from the recognized completion date. Any plants found in poor condition or dead during this period shall be replaced with stock meeting the original specification and using methods/techniques consistent with the original specification, without cost to the owner. During the growing season this replacement shall occur within two weeks of the Contractor being notified of the condition of the plants. In the event that an acceptable replacement tree is not available at the time a replacement is called for the Contractor shall remove the dead plant from the Site within the two-week period and restore the planting hole. The replacement tree shall be installed at the time it becomes available. Excepted is material or items damaged as a result of accidental causes or vandalism, which will not be subject to warranty.

E10.12 Contract Administrator reserves the right to extend the Contractor's warranty obligations for an additional one year period if, at the end of the initial warranty period leaf development and growth are not sufficient to ensure future survival.

E10.13 Plants shall be planted in locations determined on Site by the Contract Administrator.

E10.14 Replacement plant material installed under the terms of the warranty shall be maintained for a period of two years from the date that the replacement plant is installed. At the end of the maintenance period the Contractor is to remove any stakes, guy wires from the Site.

E10.15 Plants shall be measured and paid for at the unit prices for their size and type. All stakes, guywires, tree protection, mulch and topsoil are to be considered incidental to the installation of the tree and will not be measured or paid for separately.

E10.16 Plant List

Common Name/ <i>Botanical Name</i>	Size / Notes
Fall Gold Ash / <i>Fraxinus nigra</i> 'Fall Gold	65 mm calliper, Min. 3m height. 80 cm. wire basket. Specimen quality. Well branched head above 1.8 m ht. Single straight trunk.

E11. TREE MAINTENANCE

E11.1 This section shall cover the maintenance for all trees supplied and installed or transplanted during the course of this Contract.

E11.2 The Contractor shall be responsible for maintaining the plant material from installation for a period of two years from the date of installation or from the date of total performance which ever is later. It is expected that the plants shall be actively maintained from May 1 to October 31st of each year.

E11.3 The replacement of any deciduous or coniferous plant material shall initiate the start of an additional 2 year maintenance on the replaced plant.

- E11.4 Active maintenance is to include;
- (a) Watering
 - (b) Weeding control (tree well only)
 - (c) Pest and Disease control
 - (d) Pruning
 - (e) Tree Support and tie maintenance and adjustment
 - (f) Winter protection
- E11.5 Water shall be applied as required to maintain optimum conditions. During dry weather the Contractor should expect to water on a weekly basis. Each tree is to be thoroughly watered when it is watered (40 liters per 25 mm of calliper). Contractor is to avoid over watering by reducing the frequency during wet weather.
- E11.6 Contractor shall maintain tree pits in a weed free condition throughout the maintenance period. Weed should be removed frequently and not left to establish for a period greater than 10 days.
- E11.7 Contractor is to control pests and diseases as required. Contractor shall inform the Contract Administrator prior to applying pesticides and use only those pesticides of low mammalian toxicity. Persons applying pesticides shall have a valid pesticide applicators license and strictly follow manufacturers instructions regarding the application of the chemicals and the safety precautions required to apply them.
- E11.8 Pruning shall be done by persons with a valid Manitoba Tree Pruners license. Pruning shall be as necessary to remove dead or damaged limbs as well as maintain species typical form and healthy growth. Pruning shall be done in accordance with industry accepted methods to standard good practice. In the event of a disagreement the opinion of the Contract Administrator as to what constituted standard good practice shall be considered final.
- E11.9 Tree support and stakes are to be inspected at each weeding/watering to ensure that they are properly adjusted.
- E11.10 At the end of each growing season Contractor is to ensure that tree is properly fitted with rodent protection as per the planting detail.
- E11.11 Maintenance operation are to be diarised. Each diary entry is to contain the following;
- (a) Maintenance Site Forman
 - (b) Date
 - (c) Weather conditions
 - (d) Actions performed
- E11.12 Maintenance of the installed trees shall be paid at the rate specified in the unit prices for tree maintenance and paid for at the end of the maintenance period. Maintenance of the transplanted tree shall be paid at the rate specified in the unit prices for tree maintenance and paid for at the end of the maintenance period.

E12. SITE FURNITURE

- E12.1 This specification will cover the supply and installation of new Site furniture as well as the relocation and refurbishment of existing Site furniture.
- E12.2 The following park furniture may be obtained by contacting Fleet Management Agency, City of Winnipeg, Central Manufacturing/Repair Facility, 215 Tecumseh Street, attn Bill Dowbyhuz or Murray Burton.

- (a) Metal slat waste receptacle. Finish shall be black
- (b) Picnic Table

- E12.3 New Benches are to be Gametime UF3648 Sedona Series 8' bench. Colour is to match existing Sedona benches.
- E12.4 Benches and waste receptacles shall be installed into concrete filled holes, minimum 400 mm diameter by 600 mm depth. Top of the concrete shall be minimum 100 mm below the finish surface of the granular paving. Top of concrete shall be sloped to drain away from the post.
- E12.5 Benches and picnic tables to be refurbished shall be removed from their current location. All concrete shall be removed from the post. Metal parts shall be sandblasted, and powder coated in colour to match original. Wooden parts shall be removed, sanded or replaced, and refinished to match the new benches. Benches and picnic tables shall then be reassembled and installed in the same manner as new benches.
- E12.6 Existing waste receptacle shall be removed. All concrete shall be removed from the post. Metal parts shall be repaired as necessary, sandblasted, bare metal primed, and painted with rust inhibiting black enamel.
- E12.7 Measurement and payment shall be for each as per the schedule of prices. Said price shall include all Work necessary to supply and/or remove and refurbish and install each item of Site furniture.

E13. PRECAST CONCRETE UNIT PAVERS

- E13.1 This section shall cover the refurbishment of existing precast concrete unit pavers.

Products

- E13.2 Paving stone shall be existing paving stone as currently in place on Site.
- E13.3 Granular limestone base is to be crushed stone or gravel having hard angular particles, free from clay lumps, cementation, organic material, frozen material or other deleterious materials. It is to be compacted to 100% of proctor density.
- E13.4 Bedding sand is to be 2 mm concrete sand with less than 5 % passing a 0.160 mm sieve and 80% passing a 2.5 mm sieve.

Execution

- E13.5 Where indicated on the drawings or otherwise required the contractor is to reset the existing paving stone so that it is set flush with the new edge restraint and has a consistent grade. The contractor is advised that it is not the intent that the paving stone be removed and reinstalled in toto. It is also the intent that where existing stones are damaged or missing they should be replaced with new.
- E13.6 Individual stones that are uneven or damaged are to be removed. The base for the paving stones is to be modified either by removing surplus base material or installing new sand bedding and tamping it into place using appropriate means. Blocks are to be laid on top of the base to maintain the pattern current on Site and as documented in the drawings. If no pattern is specified or if it is unclear how the pattern is to be applied to the form the Contractor is to clarify the desired pattern with the Contract Administrator prior to laying the blocks.

Measurement and Payment

- E13.7 Measurement shall be for the actual area of paving refurbished.

E13.8 Payment shall be at the Contract unit price for the actual area of interlock paving refurbished on the Site under this agreement.

E14. SNAP EDGE PAVING RESTRAINT

E14.1 Unit paver edge restraint shall be Snap Edge or approved substitute in accordance with B6.

E14.2 Base for Snap Edge shall be 18 mm down limestone.

E14.3 Contractor is to ensure that base for snap edge is consistently a minimum of 15 cm depth, 15 cm past the edge of the unit paver and compacted to a minimum of 95% of proctor density.

E14.4 Paving stones are to be placed on bedding sand (but not compacted) prior to the installation of the snap edge.

E14.5 Snap edge is to be placed directly on the base and not on the bedding sand.

E14.6 Place edging all along exposed edges of the pavers in full pieces wherever possible. Make sure the unique snap together feature is used to firmly join one piece to the next. If a short piece must be used, snap it at one end and then place nail through every hole for extra support. Avoid using pieces that don't snap into at least one neighboring piece.

E14.7 Snap Edge is to be anchored as follows;

- (a) A 20 cm spike every 60 cm at minimum
- (b) At corners a 20 cm spike shall be placed one on each side.
- (c) On curves one 20 cm spike shall be placed in each hole.

E14.8 Once installed snap edge shall be covered with the adjacent surface material as is appropriate.

E14.9 Snap edge shall be measured on a per linear meter basis. Snap edge shall be paid for according to the unit price for Snap Edge except where wood curbing is to be removed and replaced with snap edge in which case the unit price for Remove wood curbing and replace with Snap Edge will be used.

E15. PROTECTION OF EXISTING TREES

E15.1 The Contractor shall take the following precautionary steps to prevent damage from construction activities to existing trees, and trees within the Site, within the limits of the construction area. If the Contractor requires further information on these specifications, contact the City of Winnipeg Forestry Branch at 986-2004.

- (a) All construction traffic shall be restricted to the limits of construction shown on the drawings.
- (b) Excavation equipment shall be track based.
- (c) For trees greater than 100 mm in diameter, located within 3 meters of the limits of construction, attach wood strapping material having a minimum thickness of 25 millimetres and minimum length of 2440 millimetres around the tree trunks in a manner that will not harm the trees. Do not use nails or other fasteners that penetrate the tree trunk. The width of the strapping may be reduced to suit tree being protected. Length of strapping may be reduced to suit tree being protected as approved by the Contract Administrator.
- (d) For trees less than 100 mm in diameter, install PVC safety fencing around the tree to a 2.0 metre radius complete with installation hardware, to adequately support the safety fence. The 2.0 metre radius safety fence may be reduced to suit the tree being protected as approved by the Contract Administrator.

- (e) PVC Safety fencing is to be installed at the locations shown on the drawings and to the extent shown on the drawings.
- (f) Operation of equipment within the dripline of the trees shall be kept to the minimum required to perform the Work and shall be approved by the Contract Administrator prior to the commencement of Work. Equipment shall not be parked, repaired, refuelled; construction materials shall not be stored, and earth materials shall not be stockpiled within the driplines of the trees. The dripline of a tree shall be considered to be the ground surface directly beneath tree from the tree trunk to the tips of its outermost branches. The Contractor shall ensure that the operations do not cause flooding or sediment deposition on areas where trees are located.
- (g) Repair, replace and maintain tree protection materials during construction until such time no equipment will be working in the area.
- (h) Remove safety fencing and strapping material without harming the trees as soon as the construction and restoration Work is complete.

- E15.2 Obtain approval from the Contract Administrator to excavate within 2.0 metres of a tree.
- E15.3 Excavate in a manner to minimize damage to the tree root systems. Keep exposed roots in excavations and trenches moist or shaded. If stockpiling of excavated soil material is required, stockpile in areas away from the tree roots if possible.
- E15.4 Tree protection PVC fencing shall be measured on a linear meter basis for fencing actually installed on the Site in accordance with the drawings. It shall be paid for on the basis of the unit price in the schedule of prices.
- E15.5 Tree protection (Trunk armouring) as described in E15.1 (c) shall be measured on a per tree basis. Only trees falling within the limits shown on the drawings and noted in E15.1 (c) shall be measured. Trunk protection shall be paid for on the basis of the unit price in the schedule of prices.
- E15.6 All other items of tree protection shall be considered incidental to the Work and shall not be measured or paid for separately.

E16. TIMBER CURBING

- E16.1 This section shall cover the refurbishment of the playground curbing.
- E16.2 All wood shall be stained spruce, pine or fir, No 2 or better. Timbers shall **not** be treated. No wane, bark, checking, or splitting will be permitted. Wood shall be smooth and free of rough areas. Lower course timbers are to be 150 mm x 150 mm and have an installed length of 3.65 m with no more than one piece that has a minimum length 1200 mm. Upper level (cap) timbers are to be 38mm x 150 mm. and have an installed length not less than 1200 mm. Top edges of all exposed timbers shall have an 8mm (45 degree) chamfer.
- E16.3 Layout shall be as per the drawings. Lower level timbers are to be replaced as noted. A continuous cap is to be attached to the entire play curb.
- E16.4 Base course timbers shall be pinned with a minimum of two (2) 19 mm diameter x 900 mm rebar at maximum 1200 mm on center. Cap shall be securely spiked with a minimum of two (2) 12 mm diameter x 250 mm spikes predrilled at a maximum 1200 mm on center. Joints are to be staggered between base course and top course (cap).
- E16.5 All timbers shall be cut neatly to fit together with no spaces or gaps between adjacent timbers. All cuts shall be stained before timbers are secured. Finished elevations shall ensure that all timbers are smooth, level, set plumb and spaced uniformly. Finished elevation of timber shall be typically 10 cm above adjacent sod but shall in no case be less than 7.5 cm.

E16.6 Measurement shall be per linear meter of upper layer (cap) timber actually installed. Payment shall be at the contract unit price 'Cap and Repair Existing Play Ground Curb'.

E17. GAZEBO FOUNDATION REPAIRS

- E17.1 This section shall cover the Supply and Installation of the new foundation for the existing gazebo as well as all other items of Work that are necessary and or incidental to the replacement of the gazebo foundation.
- E17.2 Materials shall be as specified on the drawings and shall meet City of Winnipeg standard specifications as applicable these materials as used in these applications.
- E17.3 The Contractor shall brace, support and otherwise take all steps necessary to ensure the integrity of the existing Gazebo during these operations.
- E17.4 Following the bracing of the structure individual posts shall be removed from the structure, a hole bored for the new foundation and said new foundation constructed as per the drawings. If water is present in the hole the Contractor shall dewater the hole prior to installing the new foundation.
- E17.5 The Contractor shall provide the Contract Administrator with 48 hours notice of the boring of holes to facilitate construction observation during this process.
- E17.6 The existing post shall be reconnected to the gazebo roof structure in a manner consistent with the original method of attachment. The post shall be reattached so as to ensure that when the process is completed the Gazebo roof is returned to a level condition as shown in the drawings.
- E17.7 Following the replacement of the foundation, and on an ongoing basis during the foundation Work, the Contractor shall ensure that the Gazebo roof is sound by tightening existing connectors and adding connectors as necessary.
- E17.8 Once Work is completed the Contractor shall remove all bracing from the Site.
- E17.9 Measurement shall be per post foundation actually installed on the Site. Payment shall be as per the unit price in the Schedule of prices for this Work. No other measurement or payment shall take place. All other Work necessary to this scope of Work shall be considered incidental to the replacement of the foundation.

E18. REPLACEMENT OF THE JUNIOR PLAYSTRUCTURE

- E18.1 This section shall cover the supply and installation of a new Junior Play Structure. The Contractor shall furnish all labour, materials, equipment, required to supply and install the Play Structure as described on the drawings and in this specification.
- E18.2 The play structure shall be a gametime structure or substitute approved in accordance with B6. It shall consist of the following major components ;

Item	Catalog	Quantity
(a) Upper Body Trainer	81690	1
(b) 8' Upright Assembly (alum)	80015	4
(c) 3'0" Transfer Point 45.5' w	18254	1
(d) 45 1/2" Sq. Deck P/T	18250	2
(e) Storefront Panel	12932	1
(f) 4'0"/4'6" Clover Leaf Climber, 45 1/2"	12883	1

(g)	3'o" Double Chuter	12855	1
(h)	4' Fat Pipe Climber 45 1/2"	12702	1
(i)	12" Barrier	12441	1
(j)	Barrier w/Steering Wheel	12432	1
(k)	Barrier Enclosure	12430	1
(l)	3 1/2" Upright Ass'Y Alum 10'	12025	4
(m)	3 1/2" Upright Ass'Y Alum 9'	12024	2

- E18.3 New play equipment, including the structure and its component parts, are to have colours that match the existing structure that is to be retained on the Site.
- E18.4 The Contractor shall ensure that the Play Structure and other Play Components are located and installed in such a way as to meet and/or exceed all Canadian Standards Association (CSA) guidelines including but not limited to those concerning safety zones.
- E18.5 Installation of Play Structure and Play Components shall be consistent with Manufacturers recommendations.
- E18.6 All playground equipment posts, bases and anchors are to be set in concrete footings or piles sufficient to ensure stability and prevent frost heaving. Concrete shall conform to the Standard Construction Specification of the City of Winnipeg, CW 2160 (revision in effect 3 days before Bid Opportunity close). The concrete shall "type B" 32 mpa concrete.
- E18.7 The top of concrete footings shall be below finish grade of playground stone and have top corners rounded and all rough edges removed.
- E18.8 Contractor shall notify the Contract Administrator at least 48 hours prior to the installation of the concrete. The Contractor must obtain approval from the Contract Administrator for the size and depth of the auger holes and the temporary location of the play structure prior to the installation of the concrete.
- E18.9 Playstructure posts shall have a minimum 350 mm diameter (14") concrete footing and shall be centered in the concrete footing.
- E18.10 Depth of the footing shall be sufficient to ensure stability and prevent frost heaving.
- E18.11 Footings shall meet or exceed manufacturers recommendations and National Standard of Canada Can/CSA-Z614-03.
- E18.12 Vertical posts shall be placed so that they are plum and true.
- E18.13 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.
- E18.14 Play structure and all components shall be measured and paid for on a lump sum basis using the price from Form B: Schedule of Prices. Said price will be deemed to include all items necessary and/ incidental to the installation of the Play Structure as well as the removal of existing equipment where called for on the drawings.

E19. PLAY SURFACING

- E19.1 This specification shall cover the supply and installation of protective surfacing in the playground area.

- E19.2 Safety stone shall be Playground Stone, composition shall be 4 to 10 mm river washed granite only. Stone shall be rounded and not angular. The stone shall be washed and screened with the following gradation;
- (a) 100 % passing 10 mm screen
 - (b) 85% passing 5 mm screen
 - (c) 10% passing 2.5 mm screen
 - (d) 4% passing 1.25 mm screen
 - (e) 1% passing 0.8 mm screen.
- E19.3 Playground stone shall not be installed until after the rough grading and the subsurface drainage have been inspected and approved by the Contract Administrator.
- E19.4 Playground stone shall be installed within all play areas, as defined by concrete edging, to a minimum depth of 30 cm.
- E19.5 The play stone shall be installed immediately after the play structure has been installed and prior to the play structure being rendered usable.
- E19.6 Installation shall be done by equipment sized to suit the Work being done and the Playground Stone shall be spread by hand as necessary in the immediate vicinity of the playstructures so as not to damage same. Contractor is cautioned that equipment is not to drive over subsurface drains without suitable protection being provided for drains prior to Work being done. The playstructures shall be swept clean to the satisfaction of the Contract Administrator after the installation of the Playground Stone.
- E19.7 Measurement and payment shall be for the actual area covered by the stone as called for on the drawings and actually covered on the Site. Measurement shall be per square meter covered and payment shall be at the unit price identified in the schedule of prices.

E20. TENNIS COURT RENOVATIONS

- E20.1 This section shall cover the modifications to the tennis court fencing and Tennis court net piling as described on the drawings.
- E20.2 Fence Posts scheduled to be reset by pushing shall be pushed into the ground such that the top of the post is level with surrounding posts and the fence fabric mesh meets the ground. Where the asphalt playing surface is not level the mesh should meet the ground as much as is practical but in no case shall the bottom of the fence be above the existing asphalt surface to an extent that it is possible for a tennis ball to go under the fence.
- E20.3 Corner posts scheduled to be replaced shall have the mesh detached from the post and the post removed. Concrete shall be removed from the base of the post. A new post hole shall be drilled with a diameter of 30 cm and a depth of 3 m. The post hole shall be filled with concrete to a depth 30 cm below the existing ground surface. The post shall be reset in place such that the top of the post shall be level with the surrounding posts. Once the concrete has cured the mesh shall be reattached and stretched.
- E20.4 Tennis Court net posts shall be removed. The top of the piles shall be cut such that the pile top is level with the existing asphalt surface. The existing net post shall be reattached to the pile.
- E20.5 Measurement for fence posts reset by pushing shall be per each fence post actually pushed and scheduled for pushing on the drawings. Payment shall be at the unit price for "Reset Existing Tennis Court Fence Posts" on Form B:Prices.

E20.6 Measurement for replacement of the tennis court corner posts shall be each for the posts replaced. Payment shall be at the unit price for "Replace Existing Corner Fence Posts" on Form B: Prices.

E20.7 Measurement for resetting Tennis Court Net Posts shall be each for the posts reset. Payment shall be at the unit price for "Reset Tennis Court Net Posts" on Form B: Prices.

E21. REFURBISH PADS FOR PICNIC TABLES AND BENCHES

E21.1 This section will cover the repair/ replacement of the existing precast pads for the picnic tables.

E21.2 Precast pads shall be 60 cm x 60 cm exposed aggregate precast paving slab as manufactured by Barkman Concrete or equal approved in accordance with B6.

E21.3 Granular limestone base is to be crushed stone or gravel having hard angular particles, free from clay lumps, cementation, organic material, frozen material or other deleterious materials. It is to be compacted to 100% of proctor density.

E21.4 Bedding sand is to be 2 mm concrete sand with less than 5 % passing a 0.160 mm sieve and 80% passing a 2.5 mm sieve.

Execution

E21.5 Lift existing paving stones.

E21.6 Examine existing base. Remove any existing vegetation. Add/Remove granular as required to ensure a smooth even surface free from vegetation. Compact to ensure 95% of Proctor density.

E21.7 Install sand bedding, lay blocks on top of sand bedding. Blocks shall be laid in the pattern originally present on Site or as shown on the drawings. Should an existing block be unsound the block is to be replaced with new. Blocks shall be installed evenly so that the edges do not present a trip hazard.

E21.8 Picnic table or bench is to be reinstalled as per the original detail.

Measurement and Payment

E21.9 Measurement shall be for the actual area of paving refurbished.

E21.10 Payment shall be at the Contract unit price for the actual area paving refurbished on the Site under this agreement.

E22. PRECAST CONCRETE RETAINING WALLS

E22.1 This section shall cover the supply and installation of precast concrete retaining walls.

E22.2 Retaining walls shall be Barkman Pisa II walls or substitute approved in accordance with B6. Colour shall be Charcoal.

E22.3 Capstone shall be Barkman Split face cap or substitute approved in accordance with B6. Colour shall be Charcoal.

E22.4 Granular limestone base is to be crushed stone or gravel having hard angular particles, free from clay lumps, cementation, organic material, frozen material or other deleterious materials.

E22.5 Geotextile shall be non-woven and installed as shown on the drawings. It shall have an apparent opening size of between 0.149 mm and .210 mm and a minimum unit weight of 135 grams per sq. m.

- E22.6 The Contractor shall excavate for the base course, compact, install the geotextile, install the base granular and compact to 100% of proctor density. He shall then build the wall in accordance with manufacturers instructions, backfilling with granular as necessary.
- E22.7 The top two courses of the wall shall be attached with continuous concrete adhesive. (mastic)
- E22.8 Measurement and payment shall be per Square Meter of vertical wall face as shown on the Drawings. Measurement shall be from the base of the footing course to the top of the coping course multiplied by the length of the wall. Walls segments of different heights will be measured separately. Said measure and payment shall be understood to include all items necessary and incidental to supply and installation of the wall including but not limited to excavation, compaction, adhesives, and granular.