



THE CITY OF WINNIPEG

BID OPPORTUNITY

BID OPPORTUNITY NO. 601-2006

SARGENT PARK SKATEPARK

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PART B - BIDDING PROCEDURES

B1. PROJECT TITLE

B1.1 SARGENT PARK SKATEPARK

B2. SUBMISSION DEADLINE

B2.1 The Submission Deadline is 12:00 noon Winnipeg time, October 3, 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 regularly and shortly before the Submission Deadline, as may be amended by addendum.

B5.3 The Bidder shall acknowledge receipt of each addendum in Paragraph 10 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 B15.

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;
- (c) Form G1: Bid Bond and Agreement to Bond, or
Form G2: Irrevocable Standby Letter of Credit and Undertaking, or
a certified cheque or draft.

B7.2 All components of the Bid Submission shall be fully completed or provided, and submitted by the Bidder no later than the Submission Deadline, with all required entries made clearly and completely in ink, to constitute a responsive Bid.

B7.3 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.

B7.3.1 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.

B7.4 Bid Submissions submitted by facsimile transmission (fax) or internet electronic mail (e-mail) will not be accepted.

B7.5 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.

B8.2.2 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 12 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 and the corporate seal, if the corporation has one, should be affixed;
 - (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 and shall be witnessed except where a corporate seal has been affixed.
- 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 the lump sum price in Canadian funds for the Work on Form B: Prices.
- B9.2 The Bidder shall state a separate price in Canadian funds for each of the following items of Work on Form B: Prices:
- (a) Separate Price - Item No. 1 shall be the amount to be deducted from the lump sum price if rigid insulation, as shown on detail 1/D2, is deleted in accordance with E14 of the Specifications;
 - (b) Separate Price - Item No. 2 shall be the amount to be deducted from the lump sum price if sub-base material of 50mm clean stone, as shown on detail 1/D2, is reduced from 300mm depth to 225mm depth in accordance with E14 of the Specifications;
 - (c) Separate Price - Item No. 3 shall be the amount to be deducted from the lump sum price if geotextile, as shown on detail 1/D2, is deleted in accordance with E14 of the 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 Further to B10.1(g), the Bidder shall, within three (3) Business Days of a request by the Contract Administrator, provide proof satisfactory to the Contract Administrator that the Bidder has a workplace safety and health program meeting the requirements of The Workplace Safety and Health Act (Manitoba), by providing:
- (a) a valid COR certification number under the Certificate of Recognition (COR) Program - Option 1 administered by the Manitoba Heavy Construction Association's Safety, Health and Environment Program; or
 - (b) a valid COR certification number under the Certificate of Recognition (COR) Program administered by the Manitoba Construction Safety Association; or
 - (c) a report or letter to that effect from an independent reviewer acceptable to the City. (A list of acceptable reviewers and the review template are available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at <http://www.winnipeg.ca/matmgt>.)
- B10.3 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.
- B10.4 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. BID SECURITY

- B11.1 The Bidder shall provide bid security in the form of:
- (a) a bid bond, in the amount of at least ten percent (10%) of the Total Bid Price, and agreement to bond of a company registered to conduct the business of a surety in Manitoba, in the form included in the Bid Submission (Form G1: Bid Bond and Agreement to Bond); or
 - (b) an irrevocable standby letter of credit, in the amount of at least ten percent (10%) of the Total Bid Price, and undertaking 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 included in the Bid Submission (Form G2: Irrevocable Standby Letter of Credit and Undertaking); or
 - (c) a certified cheque or draft payable to "The City of Winnipeg", in the amount of at least fifty percent (50%) of the Total Bid Price, drawn on a bank or other financial institution registered to conduct business in Manitoba.
- B11.1.1 If the Bidder submits alternative bids, the bid security shall be in the amount of the specified percentage of the highest Total Bid Price submitted.
- B11.2 The bid security of the successful Bidder and the next two lowest evaluated responsive and responsible Bidders will be released by the City when a Contract for the Work has been duly

executed by the successful Bidder and the performance security furnished as provided herein. The bid securities of all other Bidders will be released when a Contract is awarded.

- B11.2.1 Where the bid security provided by the successful Bidder is in the form of a certified cheque or draft pursuant to B11.1(c), it will be deposited and retained by the City as the performance security and no further submission is required.
- B11.2.2 The City will not pay any interest on certified cheques or drafts furnished as bid security or subsequently retained as performance security.
- B11.3 The bid securities of all Bidders will be released by the City as soon as practicable following notification by the Contract Administrator to the Bidders that no award of Contract will be made pursuant to the Bid Opportunity.

B12. OPENING OF BIDS AND RELEASE OF INFORMATION

- B12.1 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.
 - B12.1.1 Bidders or their representatives may attend.
 - B12.1.2 Bid Submissions determined by the Manager of Materials, or his designate, to not include the bid security specified in B11 will not be read out.
- B12.2 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>.
- B12.3 After award of Contract, the name(s) of the successful Bidder(s) and the Contract Amount(s) will be available on the Closed Bid Opportunities (or Public/Posted Opening & Award Results) page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at <http://www.winnipeg.ca/matmgt>.
- B12.4 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.

B13. IRREVOCABLE BID

- B13.1 The Bid(s) submitted by the Bidder shall be irrevocable for the time period specified in Paragraph 11 of Form A: Bid.
- B13.2 The acceptance by the City of any Bid shall not release the Bids of the next two lowest evaluated responsive Bidders and these Bidders shall be bound by their Bids on such Work until a Contract for the Work has been duly executed and the performance security furnished as herein provided, but any Bid shall be deemed to have lapsed unless accepted within the time period specified in Paragraph 11 of Form A: Bid.

B14. WITHDRAWAL OF BIDS

- B14.1 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.
 - B14.1.1 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.

- B14.1.2 The City will assume that any one of the contact persons named in Paragraph 3 of Form A: Bid or the Bidder's authorized representatives named in Paragraph 12 of Form A: Bid, and only such person, has authority to give notice of withdrawal.
- B14.1.3 If a Bidder gives notice of withdrawal prior to the Submission Deadline, the Manager of Materials 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 12 of Form A: Bid; and
 - (c) if the notice has been given by any one of the persons specified in B14.1.3(b), declare the Bid withdrawn.
- B14.2 A Bidder who withdraws his Bid after the Submission Deadline but before his Bid has been released or has lapsed as provided for in B13.2 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, including the right to retain the Bidder's bid security.

B15. EVALUATION OF BIDS

- B15.1 Award of the Contract shall be based on the following bid evaluation criteria:
- (a) compliance by the Bidder with the requirements of the Bid Opportunity (pass/fail);
 - (b) qualifications of the Bidder and the Subcontractors, if any, pursuant to B10 (pass/fail);
 - (c) Total Bid Price;
 - (d) economic analysis of any approved alternative pursuant to B6.
- B15.2 Further to B15.1(a), the Award Authority may reject a Bid as being non-responsive if the Bid 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.
- B15.3 Further to B15.1(b), the Award Authority shall reject any Bid submitted by a Bidder who does not demonstrate, in his Bid Submission or in other information required to be submitted, that he is responsible and qualified.
- B15.4 Further to B15.1(c), the Total Bid Price shall be the lump sum price shown on Form B: Prices adjusted, if necessary, as follows:
- (a) if the lowest evaluated responsive Bid submitted by a responsible and qualified Bidder is within the budgetary provision for the Work, no adjustment will be made to the lump sum price bid; or
 - (b) if the lowest evaluated responsive Bid submitted by a responsible and qualified Bidder exceeds the budgetary provision for the Work, the lump sum prices of all responsive Bids submitted by responsible and qualified Bidders will be adjusted by progressively deducting separate prices in the order listed in B9.2 until a Total Bid Price within the budgetary provision is achieved, i.e., Total Bid Price = Lump Sum Price - Separate Price No. 1 - Separate Price No. 2 - Separate Price No. 3.
- B15.4.1 If there is any discrepancy between the lump sum price written in figures and the lump sum price written in words, the price written in words shall take precedence.

B16. AWARD OF CONTRACT

- B16.1 The City will give notice of the award of the Contract by way of a letter of intent, or will give notice that no award will be made.
- B16.2 The City will have no obligation to award a Contract to a Bidder, even though one or all of the Bidders are determined to be responsible and qualified, and the Bids are determined to be responsive.
- B16.2.1 Without limiting the generality of B16.2, the City will have no obligation to award a Contract where:
- (a) the prices exceed the available City funds for the Work;
 - (b) the prices are materially in excess of the prices received for similar work in the past;
 - (c) the prices are materially in excess of the City's cost to perform the Work, or a significant portion thereof, with its own forces;
 - (d) only one Bid is received; or
 - (e) in the judgment of the Award Authority, the interests of the City would best be served by not awarding a Contract.
- B16.3 Where an award of Contract is made by the City, the award shall be made to the responsible and qualified Bidder submitting the lowest evaluated responsive Bid.

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 the construction of a skateboard park, baseball diamond and associated site Work.
- D2.2 The major components of the Work are as follows:
- (a) Specialized poured-in-place concrete/Skatepark
 - (b) Steel grind edges and rails
 - (c) Base preparation and drainage, including catch basins and subsurface drainage
 - (d) Baseball diamond including infield mix and chain link backstop and fencing
 - (e) Sodding
 - (f) Site furniture

D3. CONTRACT ADMINISTRATOR

- D3.1 The Contract Administrator is David Wagner Associates Inc., represented by:
- David Wagner
Landscape Architect
4-430 River Avenue, Winnipeg, Manitoba, R3L 0C6
Telephone No. (204) 452-2426
E-mail. dwagner@dwla.ca
- D3.2 At the pre-construction meeting, David Wagner will identify additional personnel representing the Contract Administrator and their respective roles and responsibilities for the Work.

D4. CONTRACTOR'S SUPERVISOR

- D4.1 At the pre-construction meeting, the Contractor shall identify his designated supervisor and any additional personnel representing the Contractor and their respective roles and responsibilities for the Work.

D5. NOTICES

- D5.1 Except as provided for in 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 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. FURNISHING OF DOCUMENTS

- D6.1 Upon award of the Contract, the Contractor will be provided with one (1) set of the Contract documents in electronic pdf format.

SUBMISSIONS

D7. SAFE WORK PLAN

- D7.1 The Contractor shall provide the Contract Administrator with a Safe Work Plan at least five (5) Business Days prior to the commencement of any Work on the Site but in no event later than the date specified in GC:4.1 for the return of the executed Contract.
- D7.2 The Safe Work Plan should be prepared and submitted in the format shown in the City's template which is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at <http://www.winnipeg.ca/matmgt>.

D8. INSURANCE

- D8.1 The Contractor shall provide and maintain the following insurance coverage:
- (a) commercial general liability insurance, in the amount of at least two million dollars (\$2,000,000.00) all inclusive, with The City of Winnipeg and David Wagner Associates Inc.

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;

D8.2 Deductibles shall be borne by the Contractor.

D8.3 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 the date specified in GC:4.1 for the return of the executed Contract.

D8.4 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.

D9. PERFORMANCE SECURITY

D9.1 The Contractor shall provide and maintain performance security until the expiration of the warranty period in the form of:

- (a) a performance bond of a company registered to conduct the business of a surety in Manitoba, in the form attached to these Supplemental Conditions (Form H1: Performance Bond), in the amount of fifty percent (50%) of the Contract Price; or
- (b) an irrevocable standby letter of credit issued by a bank or other financial institution registered to conduct business in Manitoba and drawn on a branch located in Winnipeg, in the form attached to these Supplemental Conditions (Form H2: Irrevocable Standby Letter of Credit), in the amount of fifty percent (50%) of the Contract Price; or
- (c) a certified cheque or draft payable to "The City of Winnipeg", drawn on a bank or other financial institution registered to conduct business in Manitoba, in the amount of fifty percent (50%) of the Contract Price.

D9.1.1 Where the performance security is in the form of a certified cheque or draft, it will be deposited by the City. The City will not pay any interest on certified cheques or drafts furnished as performance security.

D9.2 If the bid security provided in his Bid Submission was not a certified cheque or draft pursuant to B11.1(c), 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 letter of intent and prior to the commencement of any Work on the Site but in no event later than the date specified in GC:4.1 for the return of the executed Contract.

D10. SUBCONTRACTOR LIST

D10.1 The Contractor shall provide the Contract Administrator with a complete list of the Subcontractors whom the Contractor proposes to engage (Form J: Subcontractor List) at least two (2) Business Days prior to the commencement of any Work on the Site but in no event later than the date specified in the General Conditions for the return of the executed Contract.

D11. DETAILED WORK SCHEDULE

D11.1 The Contractor shall provide the Contract Administrator with a detailed work schedule at least two (2) Business Days prior to the commencement of any Work on the Site but in no event later than the date specified in GC:4.1 for the return of the executed Contract.

- D11.2 The detailed work schedule shall consist of the following:
- (a) a critical path method (C.P.M.) schedule for the Work; and
 - (b) a daily manpower schedule for the Work;
- all acceptable to the Contract Administrator.
- D11.3 Further to D11.2(a), the C.P.M. schedule shall clearly identify the start and completion dates of all of the following activities/tasks making up the Work as well as showing those activities/tasks on the critical path:
- (a) Commencement of the Work,
 - (b) Base preparation, site grading and drainage Works,
 - (c) Pour Sequencing as per Joint Plan,
 - (d) Baseball diamond Work,
 - (e) Landscaping and site furniture,
 - (f) Date of Substantial Performance,
 - (g) Site restoration and demobilization, and
 - (h) Date of Total Performance.
- D11.4 Further to D11.2(b), the daily manpower schedule shall list the daily number of individuals on the Site for each trade.

SCHEDULE OF WORK

D12. COMMENCEMENT

- D12.1 The Contractor shall not commence any Work until he is in receipt of a letter of intent from the Award Authority authorizing the commencement of the Work.
- D12.2 The Contractor shall not commence any Work on the Site until:
- (a) the Contract Administrator has confirmed receipt and approval of:
 - (i) evidence 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) the Safe Work Plan specified in D7;
 - (iv) evidence of the insurance specified in D8;
 - (v) the performance security specified in D9;
 - (vi) the Subcontractor list specified in D10;
 - (vii) the detailed Work schedule specified in D11; 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.
- D12.3 The Contractor shall commence the Work on the Site within seven (7) Working Days of receipt of the letter of intent.

D13. SUBSTANTIAL PERFORMANCE

- D13.1 The Contractor shall achieve Substantial Performance by July 15, 2007.
- D13.2 When the Contractor considers the Work to be substantially performed, the Contractor shall arrange, attend and assist in the inspection of the Work with the Contract Administrator for purposes of verifying Substantial Performance. Any defects or deficiencies in the Work noted during that inspection shall be remedied by the Contractor at the earliest possible instance and the Contract Administrator notified so that the Work can be reinspected.
- D13.3 The date on which the Work has been certified by the Contract Administrator as being substantially performed to the requirements of the Contract through the issue of a certificate of Substantial Performance is the date on which Substantial Performance has been achieved.

D14. TOTAL PERFORMANCE

- D14.1 The Contractor shall achieve Total Performance by July 30, 2007.
- D14.2 When the Contractor or the Contract Administrator considers the Work to be totally performed, the Contractor shall arrange, attend and assist in the inspection of the Work with the Contract Administrator for purposes of verifying Total Performance. Any defects or deficiencies in the Work noted during that inspection shall be remedied by the Contractor at the earliest possible instance and the Contract Administrator notified so that the Work can be reinspected.
- D14.3 The date on which the Work has been certified by the Contract Administrator as being totally performed to the requirements of the Contract through the issue of a certificate of Total Performance is the date on which Total Performance has been achieved.

D15. LIQUIDATED DAMAGES

- D15.1 If the Contractor fails to achieve Substantial Performance in accordance with the Contract by the day fixed herein for Substantial Performance, the Contractor shall pay the City one thousand dollars (\$1000) per Calendar Day for each and every Calendar Day following the day fixed herein for Total Performance during which such failure continues.
- D15.2 The amount specified for liquidated damages in D15.1 is based on a genuine pre-estimate of the City's losses in the event that the Contractor does not achieve Total Performance by the day fixed herein for same.
- D15.3 The City may reduce any payment to the Contractor by the amount of any liquidated damages assessed.

D16. SCHEDULED MAINTENANCE

- D16.1 The Contractor shall perform the following scheduled maintenance in the manner and within the time periods required by the Specifications:
- (a) Sodding as specified in E24.
- D16.2 Determination of Substantial Performance and Total Performance shall be exclusive of scheduled maintenance identified herein. All scheduled maintenance shall be completed prior to the expiration of the warranty period. Where the scheduled maintenance cannot be completed during the warranty period, the warranty period shall be extended for such period of time as it takes the Contractor to complete the scheduled maintenance.

CONTROL OF WORK

D17. JOB MEETINGS

- D17.1 Regular job meetings will be held at the Site. These meetings shall be attended by a minimum of one representative of the Contract Administrator, one representative of the City and one representative of the Contractor. Each representative shall be a responsible person capable of expressing the position of the Contract Administrator, the City and the Contractor respectively on any matter discussed at the meeting including the Work schedule and the need to make any revisions to the Work schedule. The progress of the Work will be reviewed at each of these meetings.
- D17.2 The Contract Administrator reserves the right to cancel any job meeting or call additional job meetings whenever he deems it necessary.

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

- D18.1 Further to 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).

FORM H1: PERFORMANCE BOND
(See D9)

KNOW ALL MEN BY THESE PRESENTS THAT

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

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

_____ dollars (\$_____.)

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

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

_____ day of _____, 20____, for:

BID OPPORTUNITY NO. 601-2006

SARGENT PARK SKATEPARK

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)

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

(Date)

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

RE: PERFORMANCE SECURITY - BID OPPORTUNITY NO. 601-2006
SARGENT PARK SKATEPARK

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

(Name of Contractor)

(Address of Contractor)

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

_____ Canadian dollars.

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

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

Partial drawings are permitted.

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

(Address)

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

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

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

(Date)

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

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

This credit is subject to the Uniform Customs and Practice for Documentary Credit (1993 Revision), International Chamber of Commerce Publication Number 500.

(Name of bank or financial institution)

Per: _____
(Authorized Signing Officer)

Per: _____
(Authorized Signing Officer)

PART E - SPECIFICATIONS

GENERAL

E1. APPLICABLE SPECIFICATIONS, 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>
L1	Existing Conditions, Site Survey and Removals Plan
L2	Site Plan
L3	Site Grading and Drainage Plan
L4	Skate Park & Entrance Courts
L5	Skate Plaza Layout and Ordinate Plan
L6	Joint Plan
L7	Skate Plaza Grading and Drainage Plan
L8	3D Context
D1	Detail Sections
D2	Construction Details
0.6-M1	Old Exhibition Grounds Redevelopment 1998, Backstop Details

GENERAL REQUIREMENTS

E2. SITE ACCESS

- E2.1 Access to the Site will be determined at the pre-construction meeting. The access area shall be maintained and restored by the Contractor at his own expense and approved by the Contract Administrator.
- E2.2 The Contractor shall be restricted to the Site access location and route only so that there is a minimum of disturbance to the existing ground surface. Damage to areas beyond the marked routes shall be repaired by and at the expense of the Contractor to the satisfaction of the Contract Administrator.

E3. PERMITS, NOTICES, LICENSES, CERTIFICATES, LAWS AND RULES

- E3.1 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 of such plans.
- E3.2 The Contractor shall comply with all laws, ordinances, rules and regulations that would relate to the Work.

- E3.3 All notices, consents, approvals, statements, authorizations, documents or other communications to the City shall be submitted to the Contract Administrator.
- E3.4 All Work shall be performed in compliance with the Manitoba Workplace Health and Safety Act.
- E3.5 All Work shall be performed in compliance with the Manitoba Workplace Health and Safety Fall Protection guidelines.
- E3.6 The Contractor and Sub-contractors must be fully aware of all Work involving hazardous materials. All Work must be performed in compliance with the Manitoba Department of Labour Workplace Health and Safety Guidelines and all other applicable codes. The Contractor is responsible for the immediate notification to the Contract Administrator of his/her encountering of suspected hazardous material during their course of Work.

E4. DAMAGE TO EXISTING STRUCTURES AND PROPERTY AND SERVICES AND UTILITIES

- E4.1 Further to GC: 17, all necessary precautions shall be exercised by the Contractor so as not to remove, disturb, or damage any existing trees, shrubs, sod, pavements, streets, roads, boulevards, poles, hydrants, water pipes, gas pipes, electrical wires, cables, conduits, sewers or other existing facilities and equipment at the Site of the Work. For all damage incurred thereto in the performance of the Work, the Contractor shall upon instructions from and to the satisfaction of the Contract Administrator thereof, 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.
- E4.2 For protection of survey monuments, the Geomatics Job number is on the Drawings.
- E4.3 The Contractor's operations shall be limited to the minimum area necessary for undertaking the Work and he shall be responsible for all damage resulting from his Work on private property. The Contractor shall take such measures as are necessary to ensure safe and convenient pedestrian ingress and egress is maintained to private properties while he is working near them. Any damage caused by the negligence of the Contractor or his Sub-contractors to the adjacent Works or properties, shall be promptly repaired by him at his own expense, to the satisfaction of the Contract administrator.
- E4.4 Existing Services and Utilities
- No responsibility will be assumed by the City for correctness or completeness of the Drawings, when provided, with respect to the existing utilities, pipes or other objects either underground or on the surface; the City shall not be liable for the incorrectness and inadequacy thereof. It shall be the responsibility of the Contractor to determine the location of all such utilities, pipes and other objects and to make good any damage done to them.

E5. PROTECTION OF EXISTING TREES

- E5.1 The Contractor shall take the following precautionary steps to prevent damage from construction activities to existing trees within the limits of the construction area:
- (a) Trees greater than 100 mm diameter or trees identified to be at risk by the Contract Administrator are to be strapped with 25x100x2440 mm wood planks, or other suitable protection as approved by the Contract Administrator. Do not use nails or other fasteners that penetrate the tree trunk. The width and length of strapping may be reduced to suit the tree being protected as approved by the Contract Administrator.
 - (b) Excavation shall be performed in a manner that minimizes damage to the existing root systems. Where possible, excavation shall be carried out such that the edge of the excavation shall be a minimum of 1.5 times the diameter (measured in inches) where 1 inch diameter equals 1 foot measured from the outside edge of the trunk of the tree at 6

inches above grade. Where roots must be cut to facilitate excavation, they shall be pruned neatly at the face of excavation.

- (c) Equipment shall not be operated within the drip line without written permission from the Contract Administrator. Equipment shall not be parked, repaired, refuelled; construction materials shall not be stored, and earth materials shall not be stockpiled within the drip lines of trees. The drip line of a tree shall be considered to be the entire ground surface located directly beneath the tree and radiating out 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.
- (d) Repair, replace and maintain tree protection materials during construction until the Project completion.
- (e) Carefully remove safety fencing and strapping material without harming the trees as soon as the construction and restoration Work is complete.

- E5.2 Obtain approval from the Contract Administrator to excavate within 2.0 M of a tree.
- E5.3 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.
- E5.4 Prune exposed roots with equipment such as trencher, chain saws, root cutters or other methods acceptable to the Contract Administrator in a manner that will leave a neat, clean root end.
- E5.5 Take precautions to ensure tree limbs overhanging the Work area are not damaged by construction equipment. Contact the Forestry Branch for consultation or pruning of overhanging or damaged limbs and branches and other unanticipated problems with trees during the construction of the Works.
- E5.6 The City of Winnipeg Naturalist Branch, also has authority for Natural stands of forested/brush/native grass areas, and may also instruct the Contractor on protective measures to protect the riverbank vegetation.
- E5.7 Further to the Naturalist requirements the Contractor must set up a temporary orange safety fence to define the agreed upon Work area to ensure that additional damage does not occur to adjacent vegetation. Damage to vegetation and established trees beyond the defined Work will result in additional charges based on the Forestry Branch assessment of the tree valuation.
- E5.8 All damage or pruning required to existing trees caused by the Contractor's activities shall be repaired to the requirements and satisfaction of the Contract Administrator and the Forestry Branch. Damages must be repaired by an Individual with a Manitoba Arborist Licence or by the Forestry Branch.
- E5.9 Protection of existing trees, repair of trees and pruning of damaged limbs will not be measured for payment and is to be included with the Underground or Surface Works. Removal and replacement of existing trees by the Forestry Branch deemed to have died or that are dying due to damage from carelessness during construction, will be at the Contractor's cost. The Contractor will be invoiced for the cost, or have the cost deducted from any payments owing.

E6. TEMPORARY UTILITIES

- E6.1 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.

E6.2 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.

E7. LAYOUT

E7.1 The Contractor is responsible for the layout of all Work.

E7.2 The Contract Administrator shall be advised of the staking of the layout at least twenty-four (24) hours in advance in order that the layout may be inspected and adjusted as required prior to construction.

E7.3 Before commencing Work the Contractor shall satisfy himself as to the meaning and correctness of all stakes and marks, and no claims shall be entertained by the City of Winnipeg or the Contract Administrator on account of 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. No claims shall be made on account of any delay occasioned thereby.

E8. PROTECTION

E8.1 Further to GC:10, the Contractor will be responsible for protecting the Work until the Work has been completed, fully cured and set; also for protecting other surfaces during execution of Work in accordance with the Specifications.

E8.2 Should the Work be suspended for any cause whatsoever, the Contractor shall assume all responsibility for proper protection during such period.

E8.3 The Contractor is responsible for securing the Site at all times. Experience has shown that a security guard is required 24/7 during the critical concrete curing stages to prevent trespassing onto the Site. Security fencing is not sufficient to prevent such trespassing.

E9. SAMPLES

E9.1 Samples called for in the Specification or requested by the Contract Administrator shall be submitted within fifteen (15) Calendar Days of request.

- (a) Identify samples with name of project, date, name of Contractor, name of supplier/manufacturer and use of material represented by sample.
- (b) Do not proceed with delivery of materials until samples are reviewed by the Contract Administrator. No deviation is permitted after approval of sample.
- (c) Approval of samples does not imply acceptance of finished Work.
- (d) Where required, submit a range of samples, as may be reasonable.

E10. TEST REPORTS

E10.1 Where required by the Contract Administrator, provide certified copies of tests upon materials to be used in construction of the Work, indicating that the materials comply with the Specifications.

E10.2 Submit test results to the Contract Administrator within ten (10) Calendar Days of request.

E11. AS-BUILT RECORD DRAWINGS

E11.1 The Contractor shall maintain on site a set of full-scale drawings at all times.

E11.2 The Contractor shall provide a set of full-scale white prints for RECORD drawing purposes.

- (a) Maintain record drawings and accurately record significant changes from the Contract Documents caused by site conditions and changes ordered by the Contract Administrator.
- (b) Mark up all record drawing changes, on the white prints, in red ink.
- (c) Record the following information:
 - (i) Horizontal and vertical location of underground utilities or drainage structures and referenced to permanent surface improvements.
 - (ii) Field changes of dimensions and detail.
 - (iii) Changes made by Change Order or Field Order.
- (d) The marked up record drawings shall be submitted to the Contract Administrator at completion of the project and prior to final inspection.
- (e) The Contractor will not be considered to have achieved Total Performance until the completed record drawings have been received and approved as accurate by the Contract Administrator.
- (f) Additional information required:
 - (i) Names, address and phone number of all Subcontractors and suppliers.

SPECIFICATIONS

E12. SITE PREPARATION AND REMOVALS

E12.1 General Description

- (a) This specification shall cover the removal of items such as baseball diamonds, infield mix, asphalt and fencing as specified on the Drawings.

E12.2 Execution

- (a) All removal items are to be removed including any bases or foundations in their entirety. Baseball infield mix is to be removed down to sub grade.
- (b) All removed materials are to be disposed of off Site in a safe and legal manner.
- (c) Removal of the corner of the existing tennis courts is to include the removal of sections of chain link fencing, the asphalt paving and any base material. Existing lights are to remain. A separate Contract for the redevelopment of the tennis courts may be underway at the same time and coordination between Contractors may be required.
- (d) Where sections of chain link fence are removed, new end posts (terminal posts) are to be installed as required and the existing fence mesh reattached as per CW 3550. This shall be considered incidental to the removal Work.

E13. SITE GRADING

E13.1 General Description

- (a) Further to CW 3170-R3, this specification shall cover the Site grading, including:
 - (i) The cut and fill required to achieve the proposed site grades.

E13.2 Land Drainage System

- (a) There is an existing land drainage system and two catch basins in place.
- (b) The adjustments to the catch basins shall be as indicated on Drawings and included in the Work.

E13.3 Methods

- (a) The construction area is to be excavated or filled to achieve rough grade.
 - (i) Rough grade is to be to levels, profiles and contours allowing for surface treatment as indicated on Drawings.
- (b) Minimal site disturbance is to occur in the playing fields and area of the new baseball diamond. The existing grades and turf on the playing field are to be maintained.
 - (i) The area of the removed north baseball diamond is to be graded to drain as shown on Drawings and to meet existing perimeter grades.
 - (ii) Minimal site grading is to be done to fit the new baseball infield into the existing field.
 - (iii) Where the corner of the tennis court is removed, the area is to be graded to drain to the adjusted catch basin. A separate Contract for the redevelopment of the tennis courts may be underway at the same time and coordination between Contractors may be required.
 - (iv) Existing turf is to be retained and protected wherever possible.
- (c) Excavation for the Skatepark is specified under E14.
- (d) Construction of the berm is included in this Work.
- (e) Wherever the proposed Site grading is to meet existing Site grades, the grades are to match and positive Site drainage is to be maintained.
- (f) In fill areas, the Contractor shall scarify the existing ground to a minimum depth of 150mm prior to the placement of any fill.
- (g) Compaction shall include the use of sheep's foot or other suitable compaction equipment as approved by the Contract Administrator to achieve a minimum compaction of 95% Proctor Density.
- (h) All surplus materials shall be disposed of as per CW 3110.
- (i) Following rough grading and compaction, the Work area shall be fine graded to provide a maximum deviation of 25mm in 10 metres from the design grade with no low areas to hold water. The finished surface of all disturbed areas shall be dragged smooth in such a manner that there are no loose soil particles greater than 25mm in maximum dimensions.

E14. SKATEPARK EXCAVATION AND BASE PREPARATION

E14.1 General Description

- (a) Further to CW 3170-R3 and CW 3110-R9, this specification shall cover the excavation and base preparation for the Skatepark, including:
 - (i) The excavation for the "plaza" and "river" areas of the Skatepark.
 - (ii) The base preparation for the Skatepark, entrance courts, viewing platform and adjoining skate pathways.

E14.2 Related Work

- (a) Sub-surface drainage systems as specified in E15.

E14.3 Materials

- (a) Geotextile: CW 3130-R1
- (b) Sub-Base: 50mm clean stone
- (c) Base: 18mm clean stone
- (d) Rigid Insulation: Type III and IV Polystyrene / XPS

E14.4 Excavation

- (a) Skatepark area shall be excavated to depths required to allow for base materials.

- (b) Sub-grade shall be graded to same slopes as the finished surface grades and towards trench drain. Sub-grade shall be proof rolled to 95% Standard Proctor Density.

E14.5 Base Installation

- (a) South and North Entrance Courts and the sidewalks associated with the viewing platform are to Standard City Sidewalk specification.
- (b) The Skatepark and the concrete skate pathways are to specifications shown on Drawings.
 - (i) Base materials are to be compacted to 95% Standard Proctor Density.
 - (ii) Work is to be coordinated with the installation of the sub-surface drainage system.
 - (iii) A clay cap is to be installed around the perimeter of the Skatepark as shown on Drawings.

E15. SUB-SURFACE DRAINAGE SYSTEMS

E15.1 General Description

- (a) Further to CW 3120-R1, this specification shall cover the sub-surface drainage systems:
 - (i) The trench drain under the Skatepark “river”.
 - (ii) The Skatepark perimeter drain system.
 - (iii) The Skatepark “river” bottom catch basin system.
 - (iv) The multi flow drainage system associated with the baseball diamond.
- (b) This Work shall consist of providing and placing drainage systems as shown on the Drawings. The drainage systems shall be in accordance with these Specifications and in reasonably close conformity with the locations and dimensions as shown on the plans or as specified by the Contract Administrator. The quantities of drainage system materials as shown may be increased or decreased at the discretion of the Contract Administrator based on actual Site conditions that occur during construction. Such variations in quantity will not be considered as alterations in the details of construction or a change in the character of the Work

E15.2 Materials

- (a) Multi Flow Drain System
 - (i) Drainage pipe shall be Multi-Flow, or approved substitute in accordance with B6. Size shall be 150mm as shown on Drawings. All fittings shall be sized to fit and approved for use with Multi-Flow or approved substitute by the manufacturer.
 - (ii) 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 fibres composed of polypropylene, polyethylene or polyamide. The fibres 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

- (iii) 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 system. The geotextile shall function only as a filter. The core of the conduit 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	ASTM D-1621 (modified sand method)	6000
Pipe Stiffness, pii	ASTM D-2412	100

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

- (iv) Fittings - The fittings used with the multi flow drainage system shall be of a snap together design. In no case shall any product be joined without the use of the manufacturer's connector designed specifically for the purpose.
- (b) Trench Drain Pipe and Skatepark Perimeter Drain Pipe
- (i) 100mm diameter Big "O" perforated drain pipe complete with filter sock.
- (c) River Bottom Catch Basins
- (i) NDS 300x300mm manganese bronze square grate, model # 1214, or approved substitute in accordance with B6.
- (ii) NDS 300mm catch basin complete with 150mm risers and universal outlets as required, or approved substitute in accordance with B6.
- (d) Outlet Pipe
- (i) Pipe for drain outlets shall be 150mm diameter high density polyethylene (HDPE) pipe, non-perforated.
- (e) Backfill for Trenches
- (i) Backfill for multi flow trenches shall be coarse 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.
- (ii) Backfill for trench drain and perimeter drain shall be 10mm clean pea stone.

E15.3 Methods

- (a) The layout of the sub-drain systems are to be marked on Site and approved by the Contract Administrator.
- (b) Multi Flow System
- (i) Trenches are to be excavated with a trenching machine or by hand. Locations, where the trench crosses existing utilities, irrigation pipes and all other sub-surface pipes or fixtures, are to be excavated by hand. The amount of trench excavated at

any time shall not exceed the amount of drain that can be set and backfilled completely prior to the end of that Working Day. Trench width shall be as specified on the Drawings.

- (ii) The bottom surface of the trench is to be free of loose particles and is to have the slope shown on the Drawings. Over excavation in the bottom of the trench shall be backfilled to the proper grade with the excavated material or sand prior to the placement of the drain. Where sand or excavated material is used to fill the trench to the proper elevation that material shall be compacted to 95% of standard proctor density using appropriate means. Where the trench is to pass through an area of existing turf, the excavated material is not to remain on the grassed surface for a period of longer than 24 hours. All excavated material shall be removed from the Site daily and disposed of legally.
 - (iii) Multi-Flow drain pipe is to be placed in the trench using a Multi-Flow centering device. Trench is to be backfilled with coarse sand to the surface. Backfill shall be placed in maximum of 45 cm loose lifts. Backfill is to be lightly tamped into place and watered.
 - (iv) Fittings for the drain shall be installed in accordance with manufacturer's recommendations.
 - (v) Any damaged drain system shall be replaced or repaired by splicing in an undamaged section of like material at the Contractor's expense.
 - (vi) The sand backfill is to be seeded with grass seed.
 - (vii) The connections to existing catch basins are as per CW 3120-R1.
 - (viii) The Contractor shall be responsible for restoration of any surfaces damaged during the Work under this section.
- (c) Trench Drain and Perimeter Drain Systems
- (i) Drainage systems are to be installed as shown on the Drawings and as per CW 3120-R1.
 - (ii) Work is to be coordinated with base preparation for Skatepark.
- (d) River Bottom Catch Drain System
- (i) Catch Basins are to be installed as per Drawings.
 - (ii) Grate is to be set flush with adjacent finished concrete.
- (e) Connections to Existing Catch Basins
- (i) Drainage systems are to connect to existing catch basins on Site as indicated on Drawings.
 - (ii) The connections to existing catch basins are as per CW 3120-R1.

E16. CONCRETE WORK

E16.1 General Description

- (a) Further to CW 3310-R10, this specification shall cover the supply and installation of concrete for the construction of the Skatepark.

E16.2 Reference Standards

- (a) All concrete Work shall be to The City of Winnipeg Standard Construction Specifications and the following:
 - (i) CAN3-CSA A23.1 "Concrete Materials and Methods of Concrete Construction", latest edition.
 - (ii) CAN3-CSA A23.2 "Method of Test for Concrete", latest edition.

- (b) Where discrepancies may occur between Drawings, Specifications and Standards, the highest quality specification shall apply.

E16.3 Mix Designs

- (a) Contractor is to submit mix design to Contract Administrator for approval a minimum of one week prior to the first pour.
- (b) Mix design shall be as shown on Drawing D2.

E16.4 Sample Panels

- (a) Test panels for concrete Work will be required prior to authorization for general concrete Work within the Skatepark. The Contractor shall prepare one bank panel complete with radius at bottom for review of shape and finish.
- (b) The contractor may choose to construct the test panel within the Contract area but may be required to remove the Work if it does not meet specification for shape and finish.
- (c) The Contractor may choose to construct a smaller panel outside of the Contract area for the purpose of review and approval only.
 - (i) Obtain approval of Contract Administrator for test sections.
 - (ii) Prepare a representative test section of each finish on site in an inconspicuous location, at least one square meter.
 - (iii) The test section must be produced by the same workers who will complete the Work.
- (d) The Contract Administrator will utilize a 3m straight edge or other specified devise to check for consistent shape over the entire panel. An approved radius template, supplied by the Contractor, will be used to check the shape of the toe of the bank. Areas showing irregularities in the finish surface exceeding 3mm shall be removed and replaced by the Contractor. Grinding or rub finishing are not permissible methods of remedying irregularities.
- (e) Written approval from the Contract Administrator is required prior to additional concrete Work.

E16.5 Materials

- (a) Materials are to comply with CSA A23.
- (b) Cement: Type 10 - Normal Portland cement.
- (c) Aggregates: CW 3310-R10
- (d) Additives: CW 3310-R10 unless specified differently on Drawing D2.
- (e) Reinforcement: as per Drawing D2.

E16.6 Coloured Concrete

- (a) Concrete colour shall be finalized at a later date. Colour shall be integral throughout the concrete.
- (b) Colour must be consistent from one pour to the next.
- (c) Contractor is to supply colour samples, one square metre in size, to the satisfaction of the Contract Administrator, prior to installation.

E16.7 Formwork

- (a) Forms shall be so constructed that the finished concrete will conform to the shapes, lines grades and dimensions shown on the Drawings.
- (b) Formply plywood shall be used for exposed concrete surfaces.

- (c) Walls shall be formed using plastic cone ties. All ties shall be arranged in symmetrical, aligned vertical and horizontal rows. They shall be so arranged that when the forms are removed, no ties shall be within 25mm of any exposed surface. Wire ties may be permitted only on light work and shall not be used through surfaces where discolouration will be objectionable. All wall reinforcing shall be continuous at corners and intersections. Corner bars or hooks shall be used.
- (d) All cracks and holes are to be plugged, taped and sealed in forms to withstand pressure and remain watertight.
- (e) Forms are to be designed to permit removal without damage to finish.
- (f) Formwork is to be cleaned and conditioned before each use. Damaged forms are not permitted.
- (g) After removal of plastic cone ties, tie ends are to be treated with rust inhibitive coating. Cement plugs are to be recessed to uniform depth, taking care not to damage surrounding edge of concrete.
- (h) Lumber used in forms shall be free from warp. For any exposed surfaces, it shall be dressed to a uniform width and thickness and be free from loose knots, decay or other defects. For unexposed surfaces and rough work, undressed lumber may be used if means are taken to prevent leakage.
- (i) The inside of forms shall be coated with non-staining mineral oil or other approved liquid or thoroughly wetted (except in freezing weather). Where oil is used, it shall be applied before the reinforcement is placed.
- (j) Care is to be taken to ensure that forms do not become dried and warped before concrete is deposited. Before concrete is placed, forms and reinforcement shall be checked and approved by the Contract Administrator.
- (k) Forms shall not be disturbed until the concrete has adequately hardened. Forms are to be removed in a regular sequence of elapsed time between pour and removal so as to maintain colour consistency.
- (l) All exposed edges of concrete shall have a 25mm radius.

E16.8 Shaping Templates

- (a) The shape of the skate-able features is critical to the success of the facility.
- (b) All wooden templates must be prepared in a controlled environment to ensure accuracy and prevent warping. Templates must be approved through shop drawings and numbered to relate to the contract drawings for ease of assembly on site.

E16.9 Workmanship

- (a) The Skatepark shall be constructed in accordance with the Drawings provided. Finishing shall produce a first class, smooth surface, free from irregularities or imperfections greater than 3mm from specified surface finishes.
- (b) Curved and flat surfaces are to be screeded using accurately cut screed boards and templates in accordance with Drawing sections.
 - (i) Screeds and templates are to be reinforced and of manageable size to avoid distortion.
- (c) Formed surfaces shall be inspected for defects immediately after removal of formwork. The Contract Administrator will utilize a 3m straight edge or other specified device to check for consistent shape. An approved radius template, supplied by the Contractor, will be used to check the shape of the toe of the bank. Areas showing irregularities in the finish surface exceeding 3mm shall be removed and replaced by the Contractor. Grinding or rub finishing are not permissible methods of remedying irregularities.

E16.10 Tolerances for Concrete

- (a) Variations from level or plumb of wall and slab surfaces:
 - (i) Plus or minus 3mm over 3m distance for all banks and slabs. Level and true concrete panels are extremely important to the safety and 'ride-ability' of the Skatepark.
- (b) Variation in thickness of slabs and walls:
 - (i) Plus or minus 6mm.

E16.11 Tolerances for Reinforcing

- (a) Shear and bending tolerance:
 - (i) Straight bars: plus or minus 25mm.
 - (ii) Stirrups, ties or spirals: plus or minus 12mm.
 - (iii) Bents bars – length: plus or minus 12mm.
- (b) Placing tolerance:
 - (i) Place within 6mm with respect to concrete thickness and center to center spacing.

E16.12 Joints

- (a) Joints are to conform to Drawings unless otherwise indicated.
- (b) Saw cuts shall be completed when concrete has sufficiently hardened that cutting can be performed without damaging slabs.
- (c) Expansion joints shall be installed around catch basins and along vertical elements such as walls and ledges.

E16.13 Concrete Pouring

- (a) Typically the Skatepark concrete is placed in individual panels and segments to suit the designed, compound surfaces. These are placed in 'leap frog' fashion, allowing 5-7 days for maximum shrinkage to take place before placing intermediate segments.
- (b) Drainage slopes must be planned with care from base of banks, stairs and other elements to drain to edge of skate plaza or to drains.

E16.14 Curing and Protection

- (a) Slabs shall be kept moist for at least 7 consecutive days after placing unless otherwise approved by the Contract Administrator.
- (b) All concrete shall cure for 28 days prior to allowing any traffic. Protective barriers are to be installed to prevent traffic into the Skatepark. Refer to E8.

E16.15 Winter Concrete

- (a) Not permitted.

E16.16 Finishing Surfaces

- (a) Smooth Finish
 - (i) Concrete finish for banks, ledges and walls shall be a hard trowel finish (12 passes) to produce a smooth, dense surface with no irregularities. Smooth finish is to be non-textural with no exposed aggregate. Flat slabs are to be power trowelled.
 - (ii) For both hand and power trowelled surfaces, on Site test panels are to be done prior to start to establish acceptance and criteria for Skatepark standards
- (b) Broom Finish

- (i) Broom finish with a trowel edge shall be used only on non-skateable surfaces such as the North and South Entrance Courts and the pathway to the viewing platform, as shown on Drawings. A light broom finish is to be used on stair treads only.
- (c) All edges shall be rounded with a 25mm radius rounding tool unless shown differently on Drawings.
- (d) Concrete surfaces are to be complete and tight against steel grind edges. Proper coping protection to prevent concrete build-up on steel surfaces must be maintained at all times.
- (e) All steel inserts are to be grouted in strict conformance with grout manufacturer's printed instructions.
- (f) Prior to final completion of concrete elements, dress all areas with dressing stone and grinder as directed by Contract Administrator. This will include slab surfaces, edges, control and construction joints, and walls.

E17. MISCELLANEOUS METALS

E17.1 General Description

- (a) This specification shall cover the supply and installation of miscellaneous metal Work including steel grind rails and edges.

E17.2 Workmanship

- (a) Metal Work shall be finished straight, even and smooth and free of any defects to sizes specified and required.
- (b) Work shall include all necessary angles, brackets, metal inserts, rivets, anchor bolts, frames, adjusting screws, gaskets and other items necessary for the complete installation of the Work.
- (c) Welding is to be neat, symmetrical, clean and unobtrusive in appearance.

E17.3 Reference Standards

- (a) Canadian Institute of Steel Construction (CISC)
- (b) American Society for Testing and Materials (ASTM)
- (c) Canadian Standards Association (CSA)

E17.4 Submittals

- (a) Samples of any component, requested by the Contract Administrator, shall be submitted prior to fabrication.
- (b) Shop Drawings shall be submitted for grind rails and grind edges. All dimensions are to be verified prior to fabrication.

E17.5 Materials

- (a) Unless detailed or specified otherwise, standard products will be acceptable if construction details and installation meet the intent of the Drawings and Specifications in the opinion of the Contract Administrator.
- (b) Materials as shown on Drawings.
- (c) Work is to be free from defects which impair the strength or durability or which are visible. Work is to be new or best quality, and free from rust, waves or buckles.
- (d) Fasteners: Unless otherwise specified, provide fasteners as follows:
 - (i) Steel anchor bolts to conform to ASTM A307.
 - (ii) Steel bolts and lag screws to conform to ASTM A325.

E17.6 Fabrication

- (a) Site measurements are to be taken before fabrication to ensure accurate fitting.
- (b) Weld joints tight, flush, and grind smooth, in true planes with base materials. Make welds continuous.

E17.7 Installation

- (a) As per Drawings.
- (b) Install Work plumb, true, square, level, straight, and accurately and tightly fitted together and to surrounding Work.

E18. JOINT SEALANT

E18.1 General Description

- (a) Further to CW CW 3310-R10, this specification shall cover the supply and installation of joint sealants for concrete.

E18.2 References

- (a) Conform to CAN2-19.13-M82.

E18.3 Submittals

- (a) Provide samples of manufacturer's product brochures and product names, range of colours in each type of sealant for selection by Contract Administrator.

E18.4 Warranty

- (a) Promptly correct, at no expense to City, any defects or deficiencies which become apparent within warranty period. Defects shall include, but shall not be limited to, sag and failure in adhesion or cohesion, air and moisture leakage, hardening, running, sagging, change of colour, crumbling, melting, bubbling, and staining of adjacent materials.

E18.5 Environmental Conditions

- (a) Do not apply any sealant at ambient temperatures below 5°C without consulting manufacturer and obtaining Contract Administrator's approval. Apply only to completely dry surfaces.

E18.6 Materials

- (a) All sealants utilized in the sealant system shall be compatible.
- (b) Provide sealant formulation recommended by the manufacturer for the type of joint, substrate and service conditions applicable.
- (c) Colours: charcoal/grey so as to blend with surround concrete features.
- (d) Sealant Type A: Multi-component, polyurethane base, chemical curing, CAN2-19.24-M80, Dymeric by Tremco Ltd., 2200 Wicksteed Ave., Toronto, (416) 421-3300, or approved substitute in accordance with B6.
- (e) Sealant Type B: Self-levelling, multi-component, polyurethane base, chemical curing, THC-900 and THC 900 Joint Primer by Tremco Ltd., 2200 Wicksteed Ave., Toronto, (416) 421-3300, or approved substitute in accordance with B6.
- (f) Sealant Backing: Extruded, foamed, closed cell, round, polyethylene urethane, neoprene or vinyl rod, 30% greater diameter than joint width, with Shore 'A' hardness of 20 and 830 – 900 KPa tensile strength, and manufactured especially for the purpose.
- (g) Expansion Joint Filler: Preformed PVC closed cell, Rodofoam by Sternson Canada Limited, or approved substitute in accordance with B6.

- (h) Joint Primer: As recommended by sealant manufacturer for type of surface being primed.

E18.7 Preparation

- (a) Clean joints and spaces which are to be sealed and ensure that they are dry and free of dust, loose mortar, oil, grease and other foreign material. Clean ferrous metals of all rust, mill scale and foreign materials by wire brushing, grinding or sanding.
- (b) Wipe all metal surfaces to be sealed, except pre-coated metals, with cellulose sponges or clean rags soaked with ethyl alcohol, ketone solvent, xylol or toluol and wipe dry with clean cloth. Where joints are to be sealed with silicone based sealants clean joint with methyl-ethyl-ketone (MEK) only. Clean pre-coated metals with solutions or compounds which will not injure finish and which are compatible with joint primer and sealant. Check that ferrous metal surfaces are painted before applying sealant.
- (c) Examine joint sizes and correct to achieve proper width/depth ratio and as per drawings:
 - (i) 6 mm x 6 mm minimum joint size
 - (ii) 6 mm to 12 mm depth shall equal width
 - (iii) 12 mm to 50 mm depth equal 1/3 of width or 12 mm whichever is less
- (d) Install joint backing or apply bond breaker tape to achieve correct joint depth.
- (e) On horizontal traffic surfaces, support joint filler against vertical movement which might result from traffic loads, including foot traffic.
- (f) Where surfaces adjacent to joints are likely to become coated with sealant during application, mask them prior to priming and sealing.
- (g) Prime sides of joints, if priming is recommended by sealant manufacturer for type of surface being sealed.
- (h) Check form release agent used on concrete for compatibility with primer and sealant. If they are incompatible inform Contract Administrator and change primer and sealant to compatible types approved by Contract Administrator or clean concrete to Contract Administrator's approval.

E18.8 Application

- (a) Apply sealant using air or hand operated guns fitted with suitable nozzles and equipment approved by sealant manufacturer. Apply in strict accordance with manufacturer's directions and recommendations.
- (b) Apply sealant under pressure to assure good adhesion to sides of joints and to completely fill all voids in joint.
- (c) Form surface of sealant smooth, concave, free from ridges, wrinkles, sags, air pockets and embedded foreign matter.
- (d) Upon completion, remove masking, sealant smears and droppings from adjacent and other surfaces.
- (e) Use one of sealants specified for each type in following locations. Ensure that sealant chosen for each location is recommended by manufacturer for use for conditions encountered.
 - (i) Type A: Vertical joints in exterior concrete surfaces; joints in paving; and all other locations where sealing is required except in locations designated for Type B and except where sealing specified in other Sections.
 - (ii) Type B: Joints in exterior horizontal concrete surfaces.

E19. UNIT PAVING

E19.1 General Description

- (a) Further to CW 3330-R3, this specification shall cover the supply and installation of unit paving in the viewing platform as shown on the Drawings.

E19.2 Materials

- (a) Unit Pavers – Barkman Concrete, Holland, colour charcoal, 21x10mm stones.
- (b) Stones to be installed in herringbone pattern.

E20. SITE FURNITURE

E20.1 General Description

- (a) This specification shall cover the supply and installation of site furniture as shown on the Drawings.

E20.2 Materials and Method

- (a) Picnic Table
 - (i) City of Winnipeg – Tache picnic table, product # 52501102. Contact person: Aaron Lennon at 986-5505.
 - (ii) Table is to be installed according to Drawings and manufacturer's specifications.
- (b) Benches
 - (i) Barkman Concrete - Brandon Curved Benches, product # 45-98550. benches are to be anchored to the concrete paving. Available from Barkman Concrete, 667-3310.
 - (ii) Cascades, The Contoured Series Bench 238, recycled plastic. They shall be 1.8M (6') in length and have arm rests. They shall have the in ground support option Colour shall be Black for the metal and grey for the recycled plastic. Available from Playgrounds-R-U's, 632-7000.
 - (iii) Skatewave skate bench – product # 146441. Available from Playgrounds-R-U's, 632-7000.
 - (iv) Benches are to be installed according to Drawings and manufacturer's specifications.
- (c) Bike Rack
 - (i) Madrax 9 Loop Heavy Duty Winder, product # HW238-11-SF-G, surface flange mount, hot-dipped galvanize finish. Available from Crozier Agencies, 774-6084.
 - (ii) Bike racks are to be installed according to Drawings and manufacturer's specifications.
- (d) Basketball Standard
 - (i) Sportsplay single heavy duty basketball standard, product # 541-616 , 114mm O.D. galvanized steel post, 1200mm extension, aluminum backboard, super goal (double rimmed) and chain net. Available from Playgrounds-R-U's, 632-7000.
 - (ii) Basketball standard is to be installed according to Drawings and manufacturer's specifications.

E21. CHAIN LINK FENCING

E21.1 General Description

- (a) Further to CW 3550-R2, this specification shall cover the supply and installation of chain link fencing as shown on the Drawings.
 - (i) Baseball Backstop including player's boxes and benches
 - (ii) Fence extension to baseball backstop
 - (iii) End posts (terminal posts) for existing fences where sections have been removed.

E21.2 Materials and Methods

- (a) As specified in CW 3550-R2 and on Drawings.
- (b) Baseball backstop details are as per Drawing 0.6-M1.
- (c) Baseball backstop is to include the supply and installation of the player's benches and fence extension as specified on Drawings.
- (d) Replacement of fence end posts (terminal posts), where sections of existing fence have been removed, shall be considered incidental to the removal of existing fence as specified in E12.

E22. BASEBALL INFIELD SURFACING

E22.1 General Description

- (a) This specification shall cover the supply and installation of baseball infield surfacing as shown on the Drawings.

E22.2 Materials

- (a) The baseball diamond infield mix shall consist of natural sand and pink-red crushed limestone.
 - (i) A sample will be required prior to delivery.
- (b) Fine Sand

Metric Sieve Size	% Passing
5000	100
2500	90-100
435	70-90
315	60-80
80	0-3
- (c) "Pink-Red" Crushed Limestone
 - (i) 6mm to dust "pink-red" crushed limestone with a minus 80 M.M.S. proportion not exceeding 35%.
- (d) Mixing Requirements
 - (i) A mixture of 60% limestone and 40% sand in accordance to the gradation requirements.
 - (ii) Thoroughly bucket mix the two materials at the stated ratio to create a uniform blend of sand products.
 - (iii) After mixing is completed as stated all material must then be final screened through a 0.03mm (1/8") slotted screener, and the gradation requirements for the specified product is 100% passing for the screen.

E22.3 Method

- (a) The baseball infield area shall be as shown on Drawings and dimensioned as shown on Drawing 0.6-M1.
- (b) The infield shall be graded as shown on Drawings and as directed by the Contract Administrator. The high point is to be located at the pitcher's mound. The subgrade is to be inspected by the Contract Administrator. The subgrade is to be proof rolled to check for unstable areas.
- (c) The infield is to be filled with infield mix and the material shall be evenly spread for a total minimum depth of 150mm.

- (d) The entire infield shall be compacted to 95% standard proctor density.
- (e) Infield material is to meet surrounding turf at slightly higher level so that drainage is not impeded at turf edge. All sod edges are to be trimmed straight with a sod cutter.

E23. TOPSOIL AND FINISH GRADING

E23.1 General Description

- (a) Further to CW 3540-R4, this specification shall cover the supply and installation of topsoil for the establishment of turf and plant material.

E23.2 Materials

- (a) Topsoil: As per CW 3540-R4.

E23.3 Methods

- (a) The topsoil and finish grading shall be installed as per CW3540-R4 or as directed by the Contract Administrator.
- (b) Planting beds are to have a minimum 300mm depth of soil.

E24. SODDING

E24.1 General Description

- (a) Further to CW 3510-R8, this specification shall cover the supply and installation of sod.

E24.2 Materials and Method

- (a) Sodding
 - (i) As per CW 3510-R8.
 - (ii) Sod shall be mineral base, big roll sod.
- (b) Where the new sod meets existing turf, the existing turf is to be cut with a sod cutter to create neat and even edges. The sod is to meet the existing turf in a level manner after rolling. Seams shall be topdressed and seeded.
- (c) Areas to be sodded are as shown on Drawings. Site restoration, outside of those areas, remains the responsibility of the Contractor.

E24.3 Maintenance Period

- (a) The Contractor shall maintain the sod for 30 Calendar Days after the completion of the installation or until such a time as the turf is established in accordance with CW 3510-R8.