



THE CITY OF WINNIPEG

BID OPPORTUNITY

BID OPPORTUNITY NO. 318-2011

CHAMPLAIN COMMUNITY CENTRE PLAYGROUND RENOVATIONS

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PART B - BIDDING PROCEDURES

B1. CONTRACT TITLE

B1.1 CHAMPLAIN COMMUNITY CENTRE PLAYGROUND RENOVATIONS

B2. SUBMISSION DEADLINE

B2.1 The Submission Deadline is 4:00 p.m. Winnipeg time, June 30, 2011.

B2.2 Bids determined by the Manager of Materials to have been received later than the Submission Deadline will not be accepted and will be returned upon request.

B2.3 The Contract Administrator or the Manager of Materials may extend the Submission Deadline by issuing an addendum at any time prior to the time and date specified in B2.1.

B3. SITE INVESTIGATION

B3.1 Further to C3.1, the Bidder may view the Site without making an appointment.

B4. ENQUIRIES

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

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

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

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

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

B5. ADDENDA

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

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

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

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

B5.2.3 The Bidder shall acknowledge receipt of each addendum in Paragraph 8 of Form A: Bid. Failure to acknowledge receipt of an addendum may render a Bid non-responsive.

B6. SUBSTITUTES

- B6.1 The Work is based on the Plant, Materials and methods specified in the Bid Opportunity.
- B6.2 Substitutions shall not be allowed unless application has been made to and prior approval has been granted by the Contract Administrator in writing.
- B6.3 Requests for approval of a substitute will not be considered unless received in writing by the Contract Administrator at least five (5) Business Days prior to the Submission Deadline.
- B6.4 The Bidder shall ensure that any and all requests for approval of a substitute:
- (a) provide sufficient information and details to enable the Contract Administrator to determine the acceptability of the Plant, Material or method as either an approved equal or alternative;
 - (b) identify any and all changes required in the applicable Work, and all changes to any other Work, which would become necessary to accommodate the substitute;
 - (c) identify any anticipated cost or time savings that may be associated with the substitute;
 - (d) certify that, in the case of a request for approval as an approved equal, the substitute will fully perform the functions called for by the general design, be of equal or superior substance to that specified, is suited to the same use and capable of performing the same function as that specified and can be incorporated into the Work, strictly in accordance with the proposed work schedule and the dates specified in the Supplemental Conditions for Substantial Performance and Total Performance;
 - (e) certify that, in the case of a request for approval as an approved alternative, the substitute will adequately perform the functions called for by the general design, be similar in substance to that specified, is suited to the same use and capable of performing the same function as that specified and can be incorporated into the Work, strictly in accordance with the proposed work schedule and the dates specified in the Supplemental Conditions for Substantial Performance and Total Performance.
- B6.5 The Contract Administrator, after assessing the request for approval of a substitute, may in his sole discretion grant approval for the use of a substitute as an “approved equal” or as an “approved alternative”, or may refuse to grant approval of the substitute.
- B6.6 The Contract Administrator will provide a response in writing, at least two (2) Business Days prior to the Submission Deadline, only to the Bidder who requested approval of the substitute.
- B6.6.1 The Bidder requesting and obtaining the approval of a substitute shall be entirely responsible for disseminating information regarding the approval to any person or persons he wishes to inform.
- B6.7 If the Contract Administrator approves a substitute as an “approved equal”, any Bidder may use the approved equal in place of the specified item.
- B6.8 If the Contract Administrator approves a substitute as an “approved alternative”, any Bidder bidding that approved alternative may base his Total Bid Price upon the specified item but may also indicate an alternative price based upon the approved alternative. Such alternatives will be evaluated in accordance with B16.
- B6.9 No later claim by the Contractor for an addition to the Total Bid Price because of any other changes in the Work necessitated by the use of an approved equal or an approved alternative will be considered.
- B6.10 Notwithstanding B6.2 to B6.9, and in accordance with B7.7, deviations inconsistent with the Bid Opportunity document shall be evaluated in accordance with B16.1(a).

B7. BID COMPONENTS

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

- B8.2.1 If a Bid is submitted jointly by two or more persons, each and all such persons shall identify themselves in accordance with B8.2.
- B8.3 In Paragraph 3 of Form A: Bid, the Bidder shall identify a contact person who is authorized to represent the Bidder for purposes of the Bid.
- B8.4 Paragraph 10 of Form A: Bid shall be signed in accordance with the following requirements:
- (a) if the Bidder is a sole proprietor carrying on business in his own name, it shall be signed by the Bidder;
 - (b) if the Bidder is a partnership, it shall be signed by the partner or partners who have authority to sign for the partnership;
 - (c) if the Bidder is a corporation, it shall be signed by its duly authorized officer or officers;
 - (d) if the Bidder is carrying on business under a name other than his own, it shall be signed by the registered owner of the business name, or by the registered owner's authorized officials if the owner is a partnership or a corporation.
- B8.4.1 The name and official capacity of all individuals signing Form A: Bid should be printed below such signatures.
- B8.4.2 All signatures shall be original.
- B8.5 If a Bid is submitted jointly by two or more persons, the word "Bidder" shall mean each and all such persons, and the undertakings, covenants and obligations of such joint Bidders in the Bid and the Contract, when awarded, shall be both joint and several.

B9. PRICES

- B9.1 The Bidder shall state a price in Canadian funds for each item of the Work identified on Form B: Prices.
- B9.1.1 Notwithstanding C12.2.3(c), prices on Form B: Prices shall include the Manitoba Retail Sales Tax (MRST, also known as PST), but exclude the GST.
- B9.2 The quantities listed on Form B: Prices are to be considered approximate only. The City will use said quantities for the purpose of comparing Bids.
- B9.3 The quantities for which payment will be made to the Contractor are to be determined by the Work actually performed and completed by the Contractor, to be measured as specified in the applicable Specifications.
- B9.4 Payments to Non-Resident Contractors are subject to Non-Resident Withholding Tax pursuant to the Income Tax Act (Canada).

B10. QUALIFICATION

- B10.1 The Bidder shall:
- (a) undertake to be in good standing under The Corporations Act (Manitoba), or properly registered under The Business Names Registration Act (Manitoba), or otherwise properly registered, licensed or permitted by law to carry on business in Manitoba; and
 - (b) be financially capable of carrying out the terms of the Contract; and
 - (c) have all the necessary experience, capital, organization, and equipment to perform the Work in strict accordance with the terms and provisions of the Contract.
- B10.2 The Bidder and any proposed Subcontractor (for the portion of the Work proposed to be subcontracted to them) shall:
- (a) be responsible and not be suspended, debarred or in default of any obligations to the City. A list of suspended or debarred individuals and companies is available on the Information

Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/debar.stm>

- B10.3 The Bidder and/or any proposed Subcontractor (for the portion of the Work proposed to be subcontracted to them) shall:
- (a) have successfully carried out work similar in nature, scope and value to the Work; and
 - (b) be fully capable of performing the Work required to be in strict accordance with the terms and provisions of the Contract; and
 - (c) have a written workplace safety and health program if required pursuant to The Workplace Safety and Health Act (Manitoba).
- B10.4 The Bidder shall submit, within three (3) Business Days of a request by the Contract Administrator, proof satisfactory to the Contract Administrator of the qualifications of the Bidder and of any proposed Subcontractor.
- B10.5 The Bidder shall provide, on the request of the Contract Administrator, full access to any of the Bidder's equipment and facilities to confirm, to the Contract Administrator's satisfaction, that the Bidder's equipment and facilities are adequate to perform the Work.

B11. DESIGN DRAWINGS

- B11.1 The Bidder shall submit drawings, which illustrate the proposed design and play equipment, such as plan, colour perspective, and any other submissions to illustrate the design intent. Additional drawings may be requested prior to award for more detailed evaluation.

B12. COMPONENT DESCRIPTION

- B12.1 The Bidder shall submit component description and/or graphic or catalogue reference outlining specifications of all play equipment components.

B13. OPENING OF BIDS AND RELEASE OF INFORMATION

- B13.1 Bids will not be opened publicly.
- B13.2 Following the submission deadline, the names of the Bidders and their Total Bid Prices (unevaluated, and pending review and verification of conformance with requirements) will be available on the Closed Bid Opportunities (or Public/Posted Opening & Award Results) page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/bidopp.asp>
- B13.3 After award of Contract, the name(s) of the successful Bidder(s) and the Contract amount(s) will be available on the Closed Bid Opportunities (or Public/Posted Opening & Award Results) page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt>
- B13.4 The Bidder is advised that any information contained in any Bid may be released if required by City policy or procedures, by The Freedom of Information and Protection of Privacy Act (Manitoba), by other authorities having jurisdiction, or by law.

B14. IRREVOCABLE BID

- B14.1 The Bid(s) submitted by the Bidder shall be irrevocable for the time period specified in Paragraph 9 of Form A: Bid.
- B14.2 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.

B15. WITHDRAWAL OF BIDS

- B15.1 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.
- B15.1.1 Notwithstanding C23.3, the time and date of receipt of any notice withdrawing a Bid shall be the time and date of receipt as determined by the Manager of Materials.
- B15.1.2 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.
- B15.1.3 If a Bidder gives notice of withdrawal prior to the Submission Deadline, the Manager of Materials will:
- (a) retain the Bid until after the Submission Deadline has elapsed;
 - (b) open the Bid to identify the contact person named in Paragraph 3 of Form A: Bid and the Bidder's authorized representatives named in Paragraph 10 of Form A: Bid; and
 - (c) if the notice has been given by any one of the persons specified in B15.1.3(b), declare the Bid withdrawn.
- B15.2 A Bidder who withdraws his Bid after the Submission Deadline but before his Bid has been released or has lapsed as provided for in B14.2 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.

B16. EVALUATION OF BIDS

- B16.1 Award of the Contract shall be based on the following bid evaluation criteria:
- (a) compliance by the Bidder with the requirements of the Bid Opportunity or acceptable deviation there from (pass/fail);
 - (b) qualifications of the Bidder and the Subcontractors, if any, pursuant to B10 (pass/fail);
 - (c) Total Bid Price (10 Points) pursuant to B16.6;
 - (d) Design Drawings and Component Description (90 Points) pursuant to B16.7;
 - (e) economic analysis of any approved alternative pursuant to B6.
- B16.2 Further to B16.1(a), the Award Authority may reject a Bid as being non-responsive if the Bid is incomplete, obscure or conditional, or contains additions, deletions, alterations or other irregularities. The Award Authority may reject all or any part of any Bid, or waive technical requirements or minor informalities or irregularities, if the interests of the City so require.
- B16.3 Further to B16.1(b), the Award Authority shall reject any Bid submitted by a Bidder who does not demonstrate, in his Bid or in other information required to be submitted, that he is responsible and qualified.
- B16.4 Further to B16.1(c) the Award Authority may reject a Bid as being non-responsive if it exceeds the budget as shown on Form B: Prices.
- B16.5 Further to B16.1(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.
- B16.5.1 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.

- B16.5.2 Further to B16.1(a), in the event that a unit price is not provided on Form B: Prices, the City will determine the unit price by dividing the Amount (extended price) by the approximate quantity, for the purposes of evaluation and payment.
- B16.6 The Total Bid Price shall be evaluated with a weighting of 10 points out of a total of 100 possible points. As such, the lowest Bidder shall receive the full 10 points, and the second lowest Bidder and subsequent Bidders shall be pro-rated accordingly.
- B16.7 Further to B16.1(d), Design Drawings and Component Description shall be evaluated with a weighting of 90 points out of a total of 100 possible points. Design Drawings will be evaluated considering the Bidder's Bid Submission and any other information required.
- B16.7.1 The Design shall be evaluated on the following criteria:
- (a) Compliance with CSA Standards (pass/fail);
 - (b) Theme and Aesthetics (maximum 10 points):
 - (i) 5 points – Nature theme;
 - (ii) 5 points – Overall aesthetic and coordination of components.
 - (c) Play value (maximum 40 points):
 - (i) 10 points - Variety of activities and play experiences provided;
 - (ii) 5 points - Variety of access points & egress points including one “easy” access route to all areas of the structure;
 - (iii) 5 points - Provides opportunities for social / interpersonal interaction, creative and cooperative play;
 - (iv) 5 points - Provides for both fine and gross motor development;
 - (v) 15 points – Inclusion and selection of independent play components.
 - (d) Designed for inclusive play using Universal Design (maximum 13 points):
 - (i) Complies with section 4.5.4 of the 2006 City of Winnipeg Accessibility Design Standards (www.winnipeg.ca/ppd/UD/default.stm) (pass/fail);
 - (ii) 5 points – Provide minimum one (1) slide to be easily accessible by transfer system and well-integrated with other play;
 - (iii) 3 points – Layout of the play area for integration of wheelchair accessible ground level components to promote inclusive play;
 - (iv) 5 points – Provision of tactile and auditory play experiences.
 - (e) Layout/circulation (maximum 17 points):
 - (i) 5 points – Efficient use of space within and between play elements;
 - (ii) 5 points – Flow and relationship between play area activities;
 - (iii) 2 points – Relationship between play activities and adjacent site features such as paths and benches;
 - (iv) 2 points – Grouping/separation of junior and senior play components within the play area;
 - (v) 3 points – Slide orientation.
 - (f) Durability and Service (maximum 10 points):
 - (i) 7 points – Use of durable/tamper-resistant materials, low maintenance finishes and connector systems, and ease of repair/replacement of the products used;
 - (ii) 3 points – Bidder's warranty service history.
- B16.8 Further to B16.7.1(a), if Bidder states play equipment components and layouts are compliant with CSA Standards and they are not, liquidated damages shall be charged as per D16 should this result in additional design and/or meeting time on the part of the Contract Administrator.

B17. AWARD OF CONTRACT

- B17.1 The City will give notice of the award of the Contract or will give notice that no award will be made.
- B17.2 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.
- B17.2.1 Without limiting the generality of B17.2, 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.
- B17.3 Where an award of Contract is made by the City, the award shall be made to the responsible and qualified Bidder submitting the lowest evaluated responsive Bid, in accordance with B16.
- B17.3.1 Following the award of contract, a Bidder will be provided with information related to the evaluation of his Bid upon written request to the Contract Administrator.
- B17.4 Notwithstanding C4, the City will issue a Purchase Order to the successful Bidder in lieu of the execution of a Contract.
- B17.5 The Contract, as defined in C1.1, in its entirety shall be deemed to be incorporated in and to form a part of the Purchase Order notwithstanding that it is not necessarily attached to or accompany said Purchase Order.

PART C - GENERAL CONDITIONS

C0. GENERAL CONDITIONS

- C0.1 The *General Conditions for Construction* (Revision 2006 12 15) are applicable to the Work of the Contract.
- C0.1.1 The *General Conditions for Construction* are available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at http://www.winnipeg.ca/matmgt/gen_cond.stm
- C0.2 A reference in the Bid Opportunity to a section, clause or subclause with the prefix “**C**” designates a section, clause or subclause in the *General Conditions for Construction*.

PART D - SUPPLEMENTAL CONDITIONS

GENERAL

D1. GENERAL CONDITIONS

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

D2. SCOPE OF WORK

D2.1 The Work to be done under the Contract shall consist of renovations of the Champlain Community Centre playground, located at 282 Niverville Avenue, Winnipeg.

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

- (a) Site preparation;
- (b) Supply and installation of concrete edging;
- (c) Supply and installation of concrete paving;
- (d) Supply and installation of sub-surface drainage systems;
- (e) Supply and installation of wood fibre protective surfacing systems;
- (f) Supply and installation of new swings and other play equipment;
- (g) Supply and installation of benches;
- (h) Supply, installation, and maintenance of sod.

D3. CONTRACT ADMINISTRATOR

D3.1 The Contract Administrator is David Wagner Associates Inc., represented by:

Laurie Lamb Wagner
Landscape Architect
4-430 River Avenue
Winnipeg, Manitoba
R3L 0C6
Telephone No. (204) 452-2426
E-mail address: llamb@dwla.ca

D3.2 At the pre-construction meeting, Laurie Lamb 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 C23.2.2, all notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications to the Contractor shall be sent to the address or facsimile number identified by the Contractor in Paragraph 2 of Form A: Bid.

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

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

D5.3 Notwithstanding C21., all notices of appeal to the Chief Administrative Officer shall be sent to the attention of the Chief Financial Officer at the following facsimile number:

The City of Winnipeg
Chief Financial Officer

Facsimile No.: (204) 949-1174

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

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

Facsimile No.: (204) 947-9155

SUBMISSIONS

D6. AUTHORITY TO CARRY ON BUSINESS

D6.1 The Contractor shall be in good standing under The Corporations Act (Manitoba), or properly registered under The Business Names Registration Act (Manitoba), or otherwise properly registered, licensed or permitted by law to carry on business in Manitoba, or if the Contractor does not carry on business in Manitoba, in the jurisdiction where the Contractor does carry on business, throughout the term of the Contract, and shall provide the Contract Administrator with evidence thereof upon request.

D7. SAFE WORK PLAN

D7.1 The Contractor shall provide the Contract Administrator with a Safe Work Plan at least five (5) Business Days prior to the commencement of any Work on the Site but in no event later than the date specified in C4.1 for the return of the executed Contract.

D7.2 The Safe Work Plan should be prepared and submitted in the format shown in the City's template which is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/Safety/default.stm>

D8. INSURANCE

D8.1 The Contractor shall provide and maintain the following insurance coverage:

- (a) commercial general liability insurance, in the amount of at least two million dollars (\$2,000,000.00) inclusive, with The City of Winnipeg and David Wagner Associates Inc. added as an additional insured, with a cross-liability clause, such liability policy to also contain contractual liability, unlicensed motor vehicle liability, non-owned automobile liability and products and completed operations, to remain in place at all times during the performance of the Work and throughout the warranty period;
- (b) automobile liability insurance for owned automobiles used for or in connection with the Work in the amount of at least two million dollars (\$2,000,000.00) at all times during the performance of the Work and until the date of Total Performance;

D8.2 Deductibles shall be borne by the Contractor.

D8.3 The Contractor shall provide the Contract Administrator with a certificate(s) of insurance, in a form satisfactory to the City Solicitor, at least two (2) Business Days prior to the commencement of any Work but in no event later than seven (7) Calendar Days from notification of the award of Contract by Purchase Order.

D8.4 The Contractor shall not cancel, materially alter, or cause each policy to lapse without providing at least thirty (30) Calendar Days prior written notice to the Contract Administrator.

D9. PERFORMANCE SECURITY

D9.1 If the Contract Price exceeds twenty-five thousand dollars (\$25,000.00), the Contractor shall provide and maintain performance security until the expiration of the warranty period in the form of:

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

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

D9.2 The Contractor shall provide the City Solicitor with the required performance security within seven (7) Calendar Days of notification of the award of the Contract by way of Purchase Order and prior to the commencement of any Work on the Site.

D10. SUBCONTRACTOR LIST

D10.1 The Contractor shall provide the Contract Administrator with a complete list of the Subcontractors whom the Contractor proposes to engage (Form J: Subcontractor List) at least two (2) Business Days prior to the commencement of any Work on the Site but in no event later than seven (7) Calendar Days from notification of the award of Contract.

D11. DETAILED WORK SCHEDULE

D11.1 The Bidder shall provide a detailed work schedule.

D11.2 The detailed work schedule shall consist of the following:

- (a) Ordering of play equipment, refer to D13.3;
- (b) Delivery of play equipment;
- (c) Start of Work on Site;
- (d) Excavation and site preparation;
- (e) Installation of play equipment including the excavation of holes and concrete pouring for posts;
- (f) Site development and site restoration;
- (g) Completion.

SCHEDULE OF WORK

D12. COMMENCEMENT

- D12.1 The Contractor shall not commence any Work until he is in receipt of a Purchase Order from the Award Authority authorizing the commencement of the Work.
- D12.2 The Contractor shall not commence any Work on the Site until:
- (a) the Contract Administrator has confirmed receipt and approval of:
 - (i) evidence of authority to carry on business specified in D6;
 - (ii) evidence of the workers compensation coverage specified in C6.15;
 - (iii) the Safe Work Plan specified in D7;
 - (iv) evidence of the insurance specified in D8;
 - (v) the performance security specified in D9;
 - (vi) the Subcontractor list specified in D10; and
 - (vii) the final layout of play equipment specified in D11.
 - (b) the Contractor has attended a pre-construction meeting with the Contract Administrator, or the Contract Administrator has waived the requirement for a pre-construction meeting.
- D12.3 Upon review of the final layout of all the play equipment by the Contract Administrator in Clause D11, the Contractor shall order the play equipment within seven (7) Calendar Days of receipt of the Purchase Order and provide the Contract Administrator with written confirmation of the delivery date.
- D12.4 The Contractor shall not commence the Work on the Site before September 5, 2011.

D13. SUBSTANTIAL PERFORMANCE

- D13.1 The Contractor shall achieve Substantial Performance by September 30, 2011.
- 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 October 14, 2011.
- D14.2 When the Contractor or the Contract Administrator considers the Work to be totally performed, the Contractor shall arrange, attend and assist in the inspection of the Work with the Contract Administrator for purposes of verifying Total Performance. Any defects or deficiencies in the Work noted during that inspection shall be remedied by the Contractor at the earliest possible instance and the Contract Administrator notified so that the Work can be reinspected.
- D14.3 The date on which the Work has been certified by the Contract Administrator as being totally performed to the requirements of the Contract through the issue of a certificate of Total Performance is the date on which Total Performance has been achieved.

D15. LIQUIDATED DAMAGES

- D15.1 If the Contractor fails to achieve Total Performance in accordance with the Contract by the day fixed herein for Total Performance, the Contractor shall pay the City five hundred dollars (\$500) per Working Day for each and every Working 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 damages in the event that the Contractor does not achieve Total Performance by the day fixed herein for same.
- D15.3 The City may reduce any payment to the Contractor by the amount of any liquidated damages assessed.

D16. SCHEDULED MAINTENANCE

- D16.1 The Contractor shall perform the following scheduled maintenance in the manner and within the time periods required by the Specifications:
- (a) Sodding as specified in E22.3.
- 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.

D17. SITE RESTORATION

- D17.1 Total Performance of the Work shall not be attained until the Contractor has cleaned up the Site and has removed all tools, equipment, waste, debris, and surplus foundation earth to the satisfaction of the Contract Administrator. Unless otherwise specified, the Contractor shall restore all areas of the Site beyond the established limit of Work, which have been disturbed by the Contractor's operations to as good as or better than the original condition to the satisfaction of the Contract Administrator. The Contractor shall pay all costs associated with this Work.

CONTROL OF WORK

D18. JOB MEETINGS

- D18.1 Job meetings will be held at the Site as required. 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.
- D18.2 The Contract Administrator reserves the right to cancel any job meeting or call additional job meetings whenever he deems it necessary.

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

- D19.1 Further to C6.24, the Contractor shall be the Prime Contractor and shall serve as, and have the duties of the Prime Contractor in accordance with The Workplace Safety and Health Act (Manitoba).

MEASUREMENT AND PAYMENT

D20. PAYMENT

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

WARRANTY

D21. WARRANTY

D21.1 Warranty is as stated in C13.

D21.2 Manufacturer's warranties on play equipment and safety surfacing shall apply.

FORM H1: PERFORMANCE BOND
(See D9)

KNOW ALL MEN BY THESE PRESENTS THAT

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

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

_____ dollars (\$_____)

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

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

BID OPPORTUNITY NO. 318-2011

CHAMPLAIN COMMUNITY CENTRE PLAYGROUND 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 as to Principal if no seal)

(Name of Principal)

Per: _____ (Seal)

Per: _____

(Name of Surety)

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

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

(Date)

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

RE: PERFORMANCE SECURITY - BID OPPORTUNITY NO. 318-2011
CHAMPLAIN COMMUNITY CENTRE PLAYGROUND RENOVATIONS

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

(Name of Contractor)

(Address of Contractor)

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

_____ Canadian dollars.

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

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

Partial drawings are permitted.

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

(Address)

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

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

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

(Date)

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

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

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

(Name of bank or financial institution)

Per: _____
(Authorized Signing Officer)

Per: _____
(Authorized Signing Officer)

PART E - SPECIFICATIONS

GENERAL

E1. APPLICABLE SPECIFICATIONS AND DRAWINGS

- E1.1 These Specifications shall apply to the Work.
- E1.2 *The City of Winnipeg Standard Construction Specifications* in its entirety, whether or not specifically listed on Form B: Prices, shall apply to the Work.
- E1.2.1 *The City of Winnipeg Standard Construction Specifications* is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/Spec/Default.stm>
- E1.2.2 The version in effect three (3) Business Days before the Submission Deadline shall apply.
- E1.2.3 Further to C2.4(d), Specifications included in the Bid Opportunity shall govern over *The City of Winnipeg Standard Construction Specifications*.
- E1.3 The following are applicable to the Work:

<u>Drawing No.</u>	<u>Drawing Name/Title</u>
L1	Site Survey
L2	Existing Conditions and Removals Plan
L3	Development Plan
L4	Layout Plan
L5	Grading Schematic Plan
L6	Details

- E1.3.1 Drawings are available on request in AutoCAD .dwg format or Vectorworks format from the Contract Administrator.

GENERAL REQUIREMENTS

E2. SITE ACCESS

- E2.1 Access to the Site will be determined at the pre-construction meeting. The access shall be provided and maintained by the Contractor at his own expense and approved by the Contract Administrator.
- E2.2 The Contractor shall be restricted to the Site access locations and routes 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 C: 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 related 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 Manitoba Workplace Safety and Health.
- E3.5 All Work shall be performed in compliance with Manitoba Workplace Safety and Health 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 Safety and Health 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. PROTECTION OF SURVEY INFRASTRUCTURE

- E4.1 Further to CW1130, the Site has been cleared for survey monuments. The Geomatics Cleared Job Number is 12389.

E5. DAMAGE TO EXISTING STRUCTURES AND PROPERTY

- E5.1 Further to C: 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 Sites 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 and the owners thereof, either replace and repair such damage, whichever may be deemed necessary in the opinion of, and acceptable to, the Contract Administrator and the owners thereof. The cost of which shall be borne entirely by the Contractor. The Contractor shall also indemnify and save harmless the City and David Wagner Associates Inc. from all claims made directly or indirectly against it in respect to any such damage.

E6. EXISTING SERVICES AND UTILITIES

- E6.1 No responsibility will be assumed by the Owner 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 Owner 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.

E7. PROTECTION OF EXISTING TREES

- E7.1 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 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. Where roots must be cut to facilitate excavation, they shall be pruned neatly at the face of excavation.
 - (c) Operation of equipment within the drip line shall be kept to a minimum required to perform the Work required. Equipment shall not be parked, repaired, refuelled; construction materials shall not be stored, and earth materials shall not be stockpiled within the 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.

- E7.2 Obtain approval from the Contract Administrator to excavate within 2.0 M of a tree.
- E7.3 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.
- E7.4 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.
- E7.5 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.
- E7.6 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.
- E7.7 No separate measurement or payment will be made for the protection of trees.

E8. TEMPORARY UTILITIES

- E8.1 Further to C: 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.
- E8.2 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.

E9. SITE ENCLOSURES

- E9.1 Temporary Site enclosures, if determined necessary at the pre-construction meeting, shall be erected and maintained as required for the duration of the construction period.
- E9.2 Site enclosures shall be considered incidental to the Contract Work.

E10. LAYOUT

- E10.1 The Contractor is responsible for the layout of all Work. The Contractor is to coordinate the layout of all play spaces with the play equipment suppliers to ensure that CSA requirements are met.
- E10.2 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.

E11. CANADIAN STANDARDS ASSOCIATION

E11.1 All playground equipment supplied and the method of installation shall be in accordance with the latest edition of the "National Standard of Canada, CAN/CSA-Z614-07".

E12. MAINTENANCE KITS

E12.1 All play equipment shall include, at no extra cost, 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.

WORKS

E13. REMOVALS

E13.1 Removals by Others

- (a) Removals of existing play equipment, timber edging and site furniture shall be by the City of Winnipeg.
- (b) The Contractor is to advise the Contract Administrator of the expected start date at least ten (10) Working Days in advance so that the removals can be done.

E14. EXCAVATION AND SITE PREPARATION

E14.1 General Description

- (a) This specification shall cover:
 - (i) The excavation and removal of existing sand protective surfacing.
 - (ii) The preparation of play areas to receive new edging and protective surfacing.
 - (iii) The removal of asphalt paving.
 - (iv) The recycling of the bike rack.

E14.2 Excavation and Removals

- (a) Existing sand protective surfacing and any other extraneous materials shall be removed from the Site and disposed of in a safe and legal manner.
- (b) Sand shall be removed to the depths required by the new Works in those locations:
 - (i) Areas that are to receive Turf Renovation are to be prepared to the depth required for topsoil and sod as specified in E22. This Work shall be incidental to the Turf Renovation.
 - (ii) Areas that are to receive Concrete Paving are to be prepared to the depth required for the specified paving. This Work shall be incidental to the Concrete Paving.
- (c) The existing asphalt paving shall be removed and disposed of in a safe and legal manner.
- (d) The existing bike rack is to be removed, sanded and painted, and reinstalled as shown on the Drawings.
 - (i) The paint is to be one coat of Tremclad professional rust primer and two coats of Tremclad professional rust enamel, colour Gloss Black, to manufacturer's instructions.
 - (ii) Reinstall bike rack with concrete footings and set height to accommodate new site grades.
- (e) The three existing benches, shown on the Drawings 'to remain', are to remain in place and be protected during construction.

E14.3 Site Preparation of Play Area

- (a) The new play area is to be excavated or filled to achieve the grades required for the installation of concrete edging and correct depth of protective surfacing as shown on the Drawings and as required in E11. All extraneous materials are to be removed from the Site and disposed of in a safe and legal manner.
- (b) The elevations of the sub-grade (mud grade) of the play area are to be as shown on the Drawings and as determined in consultation with the Contract Administrator.
 - (i) Sub-grade is to slope to drain towards the sub-surface drainage system as specified in E15.
 - (ii) Grades around the perimeter of the play area are to slope up to the finished edging as shown on the Drawings.

E14.4 Basis of Payment

- (a) Payment for Work specified under this section shall be paid for at the Unit Price, measured on a square metre basis, which price shall include all costs of excavation, proper disposal, rough grading and any associated Site restoration.
- (b) Items of Work:
 - (i) Removal of Asphalt Paving
 - (ii) Site Preparation of Play Area
 - (iii) Bike Rack – Paint and Reinstall

E15. SUB-SURFACE DRAINAGE

E15.1 General Description

- (a) This specification shall cover the supply and installation of a geocomposite prefabricated drainage system to take water out of the play area as shown on the Drawings.
 - (i) The drainage system 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 quantity 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.
 - (ii) This drainage system is in addition to any sub-surface drainage called for by the manufacturer of the play safety surfacing.

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.

- (b) Fittings
- (i) The fittings used with the 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.
- (c) Pipe
- (i) Pipe for drain outlets shall be 75mm (3") 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.
- (ii) A rodent screen made of 7.6 mm by 7.6 mm square opening size, 1.6 mm gauge, stainless steel or galvanized welded mesh shall be installed in each outlet line. When using galvanized welded wire mesh, the rodent screen shall be galvanized after it has been formed to the shape and dimensions required.
- (d) Emitter
- (i) NDS#620, 75mm (3") polyolefin pop-up emitter with elbow joint, or approved substitute in accordance with B6. It is to be connected to the drain pipe using manufacturer's adaptor.
- (e) Granular Backfill
- (i) Backfill for the trenches shall be 6mm clean washed stone.
- (ii) Geotextile Fabric to CW 3130-R2.

E15.3 Methods

- (a) The layout of the sub-drain is to be marked on Site and reviewed by the Contract Administrator.
- (b) The layout of the sub-drain is to be coordinated with the layout of the play equipment as per the Bidder's design so that there is no conflict between the sub-drain and the post holes.

- (c) Sub-drain is to be installed on the prepared surface to facilitate cross movement of water. Sub-drain shall be installed below geotextile and as shown on the Drawings.
 - (i) Play area is to be graded to drain towards the sub-drain. This sub-drain is to be used in conjunction with the appropriate wood fibre drainage system to bring water out of the play area.
 - (ii) The geotextile shall be considered incidental to the Wood Fibre Protective Surfacing.
- (d) 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.
- (e) 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.
- (f) Trenches are to be inspected by the Contract Administrator prior to backfilling.
- (g) Multi-Flow drain pipe is to be placed in the trench and the trench is to be backfilled according to detail Drawings. Backfill is to be lightly tamped into place to eliminate any voids.
- (h) Fittings for the drain shall be installed in accordance with manufacturer's recommendations.
- (i) Any damaged drain system shall be replaced or repaired by splicing in an undamaged section of like material at the Contractor's expense.
- (j) Sub-surface drainage required as part of the safety surfacing installation shall be considered incidental to the Wood Fibre Protective Surfacing.
- (k) The Contractor shall be responsible for restoration of any surfaces damaged during the Work under this section.

E15.4 Basis of Payment

- (a) Payment for Work specified under this section shall be paid for at the Unit Price, measured on a lineal metre basis, for the Items of Work listed below, which price shall include all costs of material supply, piping, fittings, trenching, proper material installation, backfill, Site restoration and all other items incidental to the Work.
- (b) Items of Work
 - (i) Multi-Flow Drain System

E16. POURED-IN PLACE CONCRETE EDGING

E16.1 General Description

- (a) Further to CW 3310, this specification shall cover the supply and installation of poured-in-place concrete edging to contain the protective surfacing for the play areas.

E16.2 Materials

- (a) Concrete shall be Type 1 as per CW3310.
- (b) Granular base shall be 19mm down crushed limestone.
- (c) Reinforcing steel shall be 15M with 10M ties at 400mm O.C.

E16.3 Methods

- (a) Layout is to be established on Site after excavation and grading operations and reviewed by the Contract Administrator prior to formwork being completed.
- (b) Layout of edging shall be as shown on the Drawings and as per Bidder's proposed design to adequately provide protective surfacing area around play equipment, based on the most recent CSA safety zone requirements.
 - (i) Contractor is to confirm and warrant that the play equipment, complete with the required safety zones, will fit within the curbs as laid out on Site.
- (c) Granular base, formwork and reinforcing are to be reviewed on Site by the Contract Administrator prior to pouring of concrete.
- (d) Concrete is to be trowel finish. All exposed edges are to be rounded as shown on the Drawings. Front, top and back of curb are to be finished.
- (e) Concrete edging shall be rounded down 50mm where it meets the concrete paving. The edging curb shall be tied into the thickened edge of the concrete paving using rebar.
- (f) Concrete edging shall have saw cut control joints at 1.5m intervals.

E16.4 Basis of Payment

- (a) Payment for Work specified under this section shall be paid for at the Unit Price, measured on a linear metre basis for the Items of Work listed below, which price shall include all costs of material supply, excavation, sub-grade preparation, proper material installation and any associated Site restoration.
- (b) Items of Work
 - (i) Concrete Edging

E17. CONCRETE PAVING

E17.1 General Description

- (a) Further to CW 3325, this specification shall cover the supply and installation of concrete paving for sidewalks and sitting areas as shown on the Drawings.

E17.2 Materials

- (a) Concrete paving to CW 3325.

E17.3 Methods

- (a) Concrete paving:
 - (i) 100mm sidewalks to CW 3325.
 - (ii) Layout, grades and details for concrete sidewalks and sitting areas are to be as shown on the Drawings.
 - (iii) A thickened edge is to be created along the accessible entrances to the play area and the paving is to be tied into the adjacent curb with rebar.
 - (iv) Granular base and formwork are to be reviewed on Site by the Contract Administrator prior to pouring of concrete.
 - (v) Saw cut locations to be reviewed by the Contract Administrator prior to implementation.
 - (vi) Work is to be coordinated with the installation of site furniture.

E17.4 Basis of Payment

- (a) Payment for Work specified under this section shall be paid for at the Unit Price, measured on a square metre basis, for the Items of Work listed below, which price shall include all costs of base preparation, proper material installation, and any associated Site restoration.
- (b) Items of Work
 - Concrete Paving

E18. GRANULAR PAVING

E18.1 General Description

- (a) Further to CW 3110, this specification shall cover the supply and installation of granular paving, including sub-grade preparation, to create pads for the benches.

E18.2 Materials

- (a) Granular Paving
 - (i) Base: 150 mm depth of 20 mm down crushed limestone, compacted.
 - (ii) Top: 25.4 mm of 6 mm down crushed limestone, compacted.

E18.3 Method

- (a) Granular pads shall be constructed as per the Drawings. The pad shall be set higher than the surrounding turf so it will drain.
- (b) This Work shall be coordinated with the installation of the site furniture.

E18.4 Basis of Payment

- (a) Payment for Work specified under this section shall be paid for at the Unit Price, measured on a square metre basis, for the Items of Work listed below, which price shall include all costs of material supply, sub-grade preparation, proper material installation and site restoration.
- (b) Items of Work:
 - (i) Granular Paving

E19. SANDBOX

E19.1 General Description

- (a) This specification shall cover the pick-up and installation of the sandbox, and the supply and installation of sand.

E19.2 Materials

- (a) Painted Wooden Sandbox as supplied by the City of Winnipeg:
Contact: Carl Woloshyn
Foreman II
City of Winnipeg, Parks and Open Space Division
825 Tache Avenue, Winnipeg, R2H 2C1
Telephone No. (204) 986-3835
- (b) Sand: two (2) cubic metres of natural washed 'sandbox' sand of rounded particles, free of fines, clay, silt stones or other debris and shall meet the following criteria:
 - (i) 100% passing 6.7 mm sieve;
 - (ii) 99.5% passing 4.75 mm sieve;
 - (iii) 97-100% passing 2.36 mm sieve;
 - (iv) 70-90% passing 1.18 mm sieve;
 - (v) 25-60% passing 600 um sieve;
 - (vi) 5-25% passing 300 um sieve;
 - (vii) 0-3% passing 150 um sieve;
 - (viii) 0-1% passing 75 um sieve.
- (c) Samples of the specified material shall be submitted for review by the Contract Administrator at least seven (7) Calendar Days prior to ordering of the material.

E19.3 Methods

- (a) The sandbox is to be ordered and picked up from the Tache Avenue location. The cost of supply shall be borne by the City of Winnipeg.
- (b) The area for the sandbox installation shall be level and set high enough that the surrounding ground drains away from the sandbox.
- (c) The sandbox shall be installed as per the manufacturer's instructions.
- (d) New sand shall be installed in the sandbox.

E19.4 Basis of Payment

- (a) Payment for Work specified under this section shall be paid for at the Unit Price, measured on a lump sum basis, for the Items of Work listed below, which price shall include all costs of material pick-up and/or supply, proper material installation and any associated Site restoration.
- (b) Items of Work
 - (i) Sandbox

E20. WOOD FIBRE PROTECTIVE SURFACING

E20.1 Description

- (a) This specification shall cover the supply and installation of engineered wood fibre protective surfacing and associated drainage system within the play area.

E20.2 Materials

- (a) Wood Fibre product shall be either Zeager Woodcarpet or Fibar FibarSystem 300 products or approved substitute in accordance with B6.
 - (i) Contact for Woodcarpet:
Zeagar Bros. Inc.
4000 East Harrisburg Pike ·
Middletown, PA 17057
USA
Ph: (1-888) 346-8524 or (717) 944-7481 ·
Fax (717) 944-7681
sales@zeager.com
 - (ii) Contact for Fibar System 200 or 300:
The Fibar Group LLC
80 Business Park Drive, Suite 300
Armonk, NY 10504-1705
USA
Ph: (800) 342-2721
Fax: (914) 273-8659
info@FibarPlaygrounds.com
Also supplied by:
Playgrounds-R-Us
Ph: (204) 632-7000
- (b) Wood Fibre surfacing shall include wood fibre, geotextile, subsurface drainage system and mats for bottom of slides and under swings.

E20.3 Methods

- (a) Sub-grade preparation shall be inspected by the Contract Administrator prior to installation of safety surfacing.
- (b) Sub-surface drainage Work specified in E15 shall be coordinated with the safety surfacing drainage system to create a total working system.

- (c) Wood Fibre shall be installed within the play area to adequately provide the correct depth based on the fall heights and most recent CSA safety requirements.
- (d) The installation of the Wood Fibre shall be done immediately after the play equipment has been installed.
- (e) Installation of entire system, including fibre, filter cloth, subsurface drainage and mats shall be done according manufacturer's instructions. Adequate drainage within play equipment area must be ensured as per same.
- (f) Installation shall be done by equipment sized to suit the Work being done and the Wood Fibre shall be spread by hand as necessary in the immediate vicinity of the play equipment so as not to damage same. The play equipment shall be swept clean to the satisfaction of the Contract Administrator after installation of the Wood Fibre.

E20.4 Basis of Payment

- (a) Payment for Work specified under this section shall be paid for at the Unit Price, measured on a square metre basis, for the Items of Work listed below, which price shall include all costs of material supplied for the wood fibre system, proper material installation, and any associated Site restoration.
- (b) Items of Work:
 - (i) Wood Fibre Protective Surfacing c/w Drainage System

E21. TURF RENOVATION

E21.1 General Description

- (a) This specification shall cover the supply and installation of topsoil and sod for the renovation of turf.

E21.2 Materials and Methods

- (a) Topsoil: As per CW 3540.
- (b) Sodding
 - (i) As per CW 3510.
 - (ii) Sod shall be mineral base.
- (c) Areas to be sodded shall be excavated and/or filled with clean fill to meet the grades required for the installation of topsoil and sod. Surplus materials shall be removed off-site in a legal manner.
- (d) No area for Turf Renovation shall be less than the width of a full piece of sod.
- (e) Where Turf Renovation meets existing turf, the edges are to be cut neatly in straight lines and new sod is to be installed to match the existing grades of the surrounding turf. Positive drainage away from play areas is to be maintained.
- (f) The raising of the grade around the perimeter of the play areas shall be considered incidental to the Site Preparation.
- (g) Seams between new and old turf are to be topdressed, seeded and rolled.
- (h) Only those areas shown on the Drawings as Turf Renovation shall be paid for under this section. All other Site restoration shall be considered incidental to other Works.

E21.3 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.

E21.4 Basis of Payment

- (a) Payment for Work specified under this section shall be paid for at the Unit Price, measured on a square metre basis, for the Items of Work listed below, which price shall include all

costs of material supply, sub-grade preparation, proper material installation, maintenance and all other items incidental to the Work.

- (b) Items of Work
 - (i) Turf Renovation

E22. FOUNDATIONS

E22.1 All playground equipment posts, bases and anchors are to be set in concrete footings or piles to ensure stability and prevent frost heaving. The current Standard Construction Specifications of the City of Winnipeg, CW 2160 – Concrete Underground Structures and Works, is to be utilized in the installation of the concrete works for all below ground components.

E22.2 The specific concrete requirements shall be;

- (a) Sulfate resistant, Type 50 Cement;
- (b) 28 day compressive strength of 30 Mpa;
- (c) maximum aggregate size of 20 mm, nominal;
- (d) slump 80 ±20 mm;
- (e) maximum water/cement ratio 0.49.

E22.3 Installation

- (a) Contractor shall notify the Contract Administrator at least 48 hours prior to installation of concrete, so that footings may be inspected in advance of concrete being poured.
- (b) Playstructure posts shall have a minimum 300mm (12") diameter concrete footing and shall be centred in the concrete footing to provide a minimum 50mm (2") band of concrete on all sides.
- (c) All concrete footings for play equipment shall be a minimum of 900mm depth or in accordance with manufacturer's specifications, whichever is greater.
- (d) Work under this section is considered incidental to the installation of play equipment and site furniture.

E23. SITE FURNITURE

E23.1 General Description

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

E23.2 Materials

- (a) Benches
 - (i) Benches: Tache Composite Bench with Arms, Drawing No. SCD-139, 1.8 M length (6'), manufactured by the City of Winnipeg.
- (b) The contact for all site furniture is:
 - Aaron Lennon
 - Supervisor of Central Repair/Manufacturing Facility
 - City of Winnipeg
 - Fax No.: (204) 783-1248
 - Email: alennon@winnipeg.ca
- (i) For pricing enquiries and ordering of site furniture, please contact Aaron Lennon by email. If you do not have access to email, you may fax the information.

E23.3 Methods

- (a) Benches are to be purchased from the City and installed according to Drawings and City specifications. Benches are to be installed level across their length rather than following ground slope.

- (b) Site furnishings are to be kept clean of any granular, concrete, or other materials. Any damaged surfaces shall be touched-up to the satisfaction of the Contract Administrator.

E23.4 Basis of Payment

- (a) Payment for Work specified under this section shall be paid for at the Unit Price, measured on a per unit basis, for the Items of Work listed below, which price shall include all costs of material supply, and proper material installation. Site restoration work and required foundations shall be considered incidental to the Work.
- (b) Items of Work:
 - (i) Benches

PLAY EQUIPMENT

E24. GENERAL COMMENTS

- E24.1 This specification shall cover the supply and installation of the Play Equipment as listed below and specified herein.
- E24.2 The Contractor shall furnish all labour, materials, equipment and services necessary to complete the Work according to the drawings and specifications.
- E24.3 The Contractor shall obtain all approvals including the requisite Development Permit.
- E24.4 The Contractor shall be responsible for the layout of all play equipment and thus the extent of the safety surfacing required to comply with CSA standards.
 - (a) The layout of the edging is shown on the Drawings and if the Bidder chooses to adjust the dimensions to accommodate their proposed design it may affect their evaluation.
- E24.5 Shop Drawings
 - (a) Further to D11 and CW 1110, shop drawings shall be submitted to the Contract Administrator for all the play equipment specified in this Section, within five (5) Calendar Days of receipt of a Purchase Order.
 - (b) The plan and layout shall be in AutoCAD .dwg format or Vectorworks format.
 - (c) Shop Drawings shall include, but not be limited to:
 - (i) Layout and configuration of equipment including required safety zones and edging;
 - (ii) Colours;
 - (iii) Custom graphics or products.
- E24.6 Colour:
 - (a) If colour is a feature of posts, top caps and panels, the Contract Administrator shall have the ability to modify specified colours from the proposed design after Contract Award. If the price of the equipment in the Bid Submission is subject to the colours of the proposed design, this must be indicated in the Bid Submission.
 - (b) All play equipment shall be of a coordinating 'Nature' colour scheme.
- E24.7 Components which are unacceptable are the following:
 - (a) Wooden structures;
 - (b) Tube (enclosed) slides and crawl tubes;
 - (c) Cable rides;
 - (d) Merry-go-rounds;
 - (e) Talk tubes;
 - (f) Barrel rollers; and

- (g) Large number of hollow plastic components.

E25. PLAY AREA REQUIREMENTS

E25.1 The design for the play area must meet the following requirements:

- (a) The play equipment at this park shall be for children ages 2-12. While the playground is for the entire neighbourhood, it will be often used by the adjacent daycare.
- (b) The play equipment is to have a 'nature' theme and related colour scheme.
- (c) Play area is to have wood fibre protective surfacing as specified in E20.
- (d) Play area is to include one (1) accessible playstructure:
 - (i) The playstructure shall be divided into two areas, one of which is composed of components designed for children ages 2-5 and the other composed of components designed for children ages 5-12;
 - (ii) The playstructure is to include accessible components or equipment to meet the City of Winnipeg Accessibility Design Standards with one of the slides easily accessible with a transfer system;
 - (iii) All deck areas of the structure shall be accessed by a minimum of one "easy" route;
 - (iv) Minimum one (1) slide per age group, of which at least one (1) must be metal and one (1) for the children ages 2-5 must be a double slide with a min. 1m height;
 - (v) Minimum one (1) moving/spinning component of the type that both hands and feet are in contact with the component, designed for children ages 5-12;
 - (vi) Minimum three (3) climbing components providing different experiences and age appropriateness;
 - (vii) Areas on and under the structure for appropriate social/creative/imaginative play;
 - (viii) To include other play components such as overhead events and bridges as budget and space allow.
- (e) Play area is to include a minimum of three (3) different independent play components designed for children ages 2-5.
 - (i) Minimum two (2) play components are to be motion components such as spring toys, seesaws, spinners or similar. Preference will be given for components that accommodate more than one child at a time.
 - (ii) Minimum one (1) play component is to promote balance and coordination.
 - (iii) Independents shall be located such that they are close to the portion of the playstructure that is of similar age appropriateness.
- (f) Swings are to be located as shown on the Drawings and are to be as specified in E26.
- (g) The price for the playstructure and the independent components shall be combined and listed as Play Equipment on Form B: Prices.
- (h) The prices for the Senior and Junior Swings shall be separate from the other play equipment on Form B: Prices.

E25.2 Basis of Payment

- (a) Payment for Work specified under this section shall be paid for at the unit price for the "Items of Work" listed below, which price shall include all costs of supply and installation.
- (b) Items of Work:
 - (i) Play Equipment

E26. PLAYSTRUCTURE

E26.1 This specification shall cover the supply and installation of the playstructure as per Bidder's proposed design.

E26.2 Materials

(a) Posts / Caps

- (i) All posts shall be a minimum of 127 mm (5") O.D. round tubing. All posts shall be fabricated from aluminum (0.125" min. wall thickness) tubing with a baked-on TGIC polyester powder coating. The powder coating finish shall meet or exceed ASTM standards for hardness, adhesion, impact and salt spray resistance. All fabrication cuts, drill holes and weld joints shall be sprayed with a corrosion resistant coating prior to powder coating. The bottom end of the posts is to be sealed with a moisture barrier.
- (ii) Top caps for posts shall be aluminum die cast and powder coated the same as the post colour. All caps shall be factory installed and secured in place with tamper proof, self-sealing rivets.

(b) Decks

- (i) All decks shall be manufactured from vinyl-coated, perforated steel.
- (ii) Increments between deck heights shall be a min. 200 mm (8") and max. 300 mm (12") unless connected by a climbing component.

(c) Clamping System

- (i) All deck, rail and play component clamping systems shall be fabricated from zinc plated, galvanized steel, stainless steel or aluminum, and baked-on polyester powdercoated. Tamper proof, corrosion resistant fasteners shall be used to retain clamping systems.

(d) Handrails, Safety Rails and Handloops

- (i) All handrails and safety rails shall be fabricated using a minimum of 1 1/8" O.D. with a 0.120" wall thickness steel tubing. After all fabrication activities have occurred including end cuts, drill holes, bends and weld joints, all components shall be smoothed and free from burrs, cracks, defects and other imperfections.
- (ii) All components shall be hot dipped galvanized and baked-on polyester powdercoated.

(e) Hardware

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

(f) Poly Components

- (i) Poly components such as play panels and handloops shall be fabricated from compression moulded solid colour, U.V. stabilized, high-density polyethylene.

(g) Slides

- (i) Stainless steel is preferred for slide beds, although a plastic slide may be used if there is a stainless steel slide also on the Site. North orientation is preferred for all slides.
- (ii) Poly slides that are costly and /or difficult to replace shall not be acceptable.
- (iii) Poly components such as slides and hoods shall be fabricated from U.V. stabilized, rotationally moulded linear low-density polyethylene.
- (iv) Steel slides are to be 16-gauge 304 stainless steel.

- (h) The playstructure shall have kick plates and hand loops as required to meet the most recent Canadian Standards Association Standards.

E26.3 If applicable to the Bidder's design submission, the following specifications shall apply:

(a) Cable Net Components

- (i) Cable nets shall be fully assembled and made of tightly woven, polyester-wrapped, six-stranded galvanized steel cable.

- (b) Rock and Tree Climbers
 - (i) The rock and tree climbers shall be manufactured from Glass Fibre Reinforced Concrete (GFRC) and made to look like real rocks or trees.
 - (ii) If attached to the playstructure, they must be designed for such purpose.
- (c) Spinning Components
 - (i) Spinning components that are attached to playstructure posts are to be structurally stable with a minimum of two arms connecting it to the post(s).

E26.4 Installation

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

E27. INDEPENDENT PLAY COMPONENTS

E27.1 General Description

- (a) This specification shall cover the supply and installation of independent play equipment as per Bidder's proposed design.

E27.2 Materials

- (a) All materials shall be structurally sound and suitable for safe play. Durability shall be ensured on all parts and materials.
- (b) Spring toys and seesaws shall be as follows:
 - (i) The body, if poly, shall be fabricated from compressed or rotationally moulded, high-density polyethylene with U.V. stabilizers and all edges chamfered. Colours and graphics are to be moulded-in.
 - (ii) The body, if metal, shall be fabricated from galvanized steel tubing with a baked-on TGIC polyester powder coating.
 - (iii) Hollow plastic and cast aluminum spring toys are not acceptable.
- (c) Finishes
 - (i) Finishes shall meet or exceed ASTM standards for hardness, adhesion, impact and salt spray resistance. All fabrication cuts, drill holes and weld joints shall be sprayed with a corrosion resistant coating prior to powder coating.
- (d) Hardware
 - (i) All fasteners shall be tamper proof in design, requiring special tools. The fasteners shall be either carbon steel plated with zinc/nickel and iridescent chromate finish or stainless steel.

E27.3 Installation

- (a) All play equipment locations are to be approved by the Contract Administrator prior to installation.
- (b) All play equipment shall be installed as per the Canadian Standards Association Guidelines. Refer to Clause E11.
- (c) All play equipment shall be installed by factory certified installers only and to manufacturer's specifications. For foundations refer to Clause E22.

E28. SWINGS

E28.1 General Description

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

E28.2 Product

- (a) Senior Swings: Tri-pod Leg, Two Bay, Heavy Duty Swing Frame, 2.4 m (8') high, complete with four (4) slash-proof rubber belt seats, heavy duty chain, anti-wrap swing hangers and hammer locks.
- (b) Junior Swings: Tri-pod Leg, One Bay, Heavy Duty Swing Frame, 2.4 m (8') high, complete with two (2) slash-proof rubber enclosed infant seats, heavy duty chain, anti-wrap swing hangers and hammer locks.

E28.3 Materials – Swing Frame

- (a) Topbeam
 - (i) All topbeams shall be fabricated from min. 90mm (3 1/2") O.D. 7 gauge, RS40 galvanized steel pipe or 60mm (2 3/8") 5 gauge, RS40 galvanized steel pipe with anti-wrap swings. All fabrication cuts, drill holes and weld joints shall be sprayed with a corrosion resistant coating.
- (b) Legs
 - (i) All legs shall be fabricated from min. 60 mm (2 3/8") O.D. 10 gauge, RS40 galvanized steel pipe. All fabrication cuts, drill holes and weld joints shall be sprayed with a corrosion resistant coating and the bottom end of the posts shall be sealed with a moisture barrier.
- (c) Yoke Clamps
 - (i) All yoke clamps shall be either one piece construction and fabricated from 8 gauge, RS40 galvanized steel or two piece, compression clamping cast aluminum or galvanized metal with baked on polyester powdercoating. They shall be complete with tamper-proof hardware.
- (d) Swing Hangers
 - (i) All swing hangers shall be fabricated from galvanized malleable iron and have oil impregnated bearings pressed in.
- (e) Colour
 - (i) Any coloured portion of the swing frame shall match the playstructure or as directed by the Contract Administrator.

E28.4 Materials - Accessories

- (a) Swing Chain
 - (i) All swing chain shall be 4/0 straight link, galvanized steel.
- (b) Enclosed Infant (Bucket) Seats
 - (i) All enclosed infant seats shall be moulded of U.V. stabilized, high quality, rubber with a tempered stainless steel reinforcement plate insert moulded inside, rendering the seats slash proof. Infant seats shall be fully enclosed to prevent slipping out and provide extra lower back support.
- (c) Belt Seats
 - (i) All belt seats shall be moulded of U.V. stabilized, high quality, rubber with a tempered stainless steel reinforcement plate insert moulded inside, rendering the seats slash proof. The perimeter shall be moulded to form a blunt, impact absorbing edge.

(d) Hardware

- (i) All fasteners shall be socketed and tamperproof in design, and either carbon steel plated with zinc/nickel and iridescent chromate finish or stainless steel. Bolt links and "S" hooks shall be drop forged carbon steel, heat treated and hot dipped galvanized.

E28.5 Installation

- (a) Swings shall be installed as per the Canadian Standards Association Guidelines. Refer to Clause E11. For foundations refer to Clause E22.
- (b) The topbeam shall be installed level.
- (c) Installation of swings shall be coordinated with associated Site development Work. Swings shall be secured and rendered unusable until protective surfacing is in place.
- (d) Swings shall be installed by factory certified installers only and to manufacturer's specifications.

E28.6 Basis of Payment

- (a) Payment for Work specified under this section shall be paid for at the unit price for the "Items of Work" listed below, which price shall include all costs of supply and installation.
- (b) Items of Work:
 - (i) Senior Swings
 - (ii) Junior Swings