



**THE CITY OF WINNIPEG**

# **BID OPPORTUNITY**

**BID OPPORTUNITY NO. 605-2007**

**PLAYGROUND RENOVATION – LISTOWELL PARK**

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## **PART B - BIDDING PROCEDURES**

### **B1. CONTRACT TITLE**

B1.1 PLAYGROUND RENOVATION – LISTOWELL PARK

### **B2. SUBMISSION DEADLINE**

B2.1 The Submission Deadline is 12:00 noon Winnipeg time, September 21, 2007.

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 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.

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

## **B6. SUBSTITUTES**

- B6.1 The Work is based on the Plant, Materials and methods specified in the Bid Opportunity.
- B6.2 Substitutions shall not be allowed unless application has been made to and prior approval has been granted by the Contract Administrator in writing.
- B6.3 Requests for approval of a substitute will not be considered unless received in writing by the Contract Administrator at least five (5) Business Days prior to the Submission Deadline.
- B6.4 The Bidder shall ensure that any and all requests for approval of a substitute:
- (a) provide sufficient information and details to enable the Contract Administrator to determine the acceptability of the Plant, Material or method as either an approved equal or alternative;
  - (b) identify any and all changes required in the applicable Work, and all changes to any other Work, which would become necessary to accommodate the substitute;
  - (c) identify any anticipated cost or time savings that may be associated with the substitute;
  - (d) certify that, in the case of a request for approval as an approved equal, the substitute will fully perform the functions called for by the general design, be of equal or superior substance to that specified, is suited to the same use and capable of performing the same function as that specified and can be incorporated into the Work, strictly in accordance with the proposed work schedule and the dates specified in the Supplemental Conditions for Substantial Performance and Total Performance;
  - (e) certify that, in the case of a request for approval as an approved alternative, the substitute will adequately perform the functions called for by the general design, be similar in substance to that specified, is suited to the same use and capable of performing the same function as that specified and can be incorporated into the Work, strictly in accordance with the proposed work schedule and the dates specified in the Supplemental Conditions for Substantial Performance and Total Performance.
- B6.5 The Contract Administrator, after assessing the request for approval of a substitute, may in his sole discretion grant approval for the use of a substitute as an “approved equal” or as an “approved alternative”, or may refuse to grant approval of the substitute.
- B6.6 The Contract Administrator will provide a response in writing, at least two (2) Business Days prior to the Submission Deadline, only to the Bidder who requested approval of the substitute.
- B6.6.1 The Bidder requesting and obtaining the approval of a substitute shall be entirely responsible for disseminating information regarding the approval to any person or persons he wishes to inform.
- B6.7 If the Contract Administrator approves a substitute as an “approved equal”, any Bidder may use the approved equal in place of the specified item.
- B6.8 If the Contract Administrator approves a substitute as an “approved alternative”, any Bidder bidding that approved alternative may base his Total Bid Price upon the specified item but may also indicate an alternative price based upon the approved alternative. Such alternatives will be evaluated in accordance with B14.
- B6.9 No later claim by the Contractor for an addition to the Total Bid Price because of any other changes in the Work necessitated by the use of an approved equal or an approved alternative will be considered.

## **B7. BID COMPONENTS**

- B7.1 The Bid shall consist of the following components:
- (a) Form A: Bid;

(b) Form B: Prices.

- B7.2 Further to B7.1, the Bidder should include the written correspondence from the Contract Administrator approving a substitute in accordance with B6.
- B7.3 All components of the Bid shall be fully completed or provided, and submitted by the Bidder no later than the Submission Deadline, with all required entries made clearly and completely, to constitute a responsive Bid.
- B7.4 The Bid shall be submitted enclosed and sealed in an envelope clearly marked with the Bid Opportunity number and the Bidder's name and address.
- B7.4.1 Samples or other components of the Bid 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.
- B7.5 Bidders are advised not to include any information/literature except as requested in accordance with B7.1.
- B7.6 Bidders are advised that inclusion of terms and conditions inconsistent with the Bid Opportunity document, including the General Conditions, may result in the Bid being determined to be non-responsive.
- B7.7 Bids submitted by facsimile transmission (fax) or internet electronic mail (e-mail) will not be accepted.
- B7.8 Bids shall be submitted to:  
The City of Winnipeg  
Corporate Finance Department  
Materials Management Branch  
185 King Street, Main Floor  
Winnipeg MB R3B 1J1

**B8. BID**

- B8.1 The Bidder shall complete Form A: Bid, making all required entries.
- B8.2 Paragraph 2 of Form A: Bid shall be completed in accordance with the following requirements:
- (a) if the Bidder is a sole proprietor carrying on business in his own name, his name shall be inserted;
  - (b) if the Bidder is a partnership, the full name of the partnership shall be inserted;
  - (c) if the Bidder is a corporation, the full name of the corporation shall be inserted;
  - (d) if the Bidder is carrying on business under a name other than his own, the business name and the name of every partner or corporation who is the owner of such business name shall be inserted.
- B8.2.1 If a Bid is submitted jointly by two or more persons, each and all such persons shall identify themselves in accordance with B8.2.
- B8.3 In Paragraph 3 of Form A: Bid, the Bidder shall identify a contact person who is authorized to represent the Bidder for purposes of the Bid.
- B8.4 Paragraph 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 shall be printed below such signatures.

B8.4.2 All signatures should 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 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 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.

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

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. OPENING OF BIDS AND RELEASE OF INFORMATION**

B11.1 Bids will be opened publicly, after the Submission Deadline has elapsed, in the office of the Corporate Finance Department, Materials Management Branch, or in such other office as may be designated by the Manager of Materials.

B11.1.1 Bidders or their representatives may attend.

B11.2 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 Branch internet site at <http://www.winnipeg.ca/matmgt>.

B11.3 After award of Contract, the name(s) of the successful Bidder(s) and the Contract Amount(s) will be available on the Closed Bid Opportunities (or Public/Posted Opening & Award Results) page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at <http://www.winnipeg.ca/matmgt>.

B11.4 The Bidder is advised that any information contained in any Bid may be released if required by City policy or procedures, by The Freedom of Information and Protection of Privacy Act (Manitoba), by other authorities having jurisdiction, or by law.

### **B12. IRREVOCABLE BID**

B12.1 The Bid(s) submitted by the Bidder shall be irrevocable for the time period specified in Paragraph 9 of Form A: Bid.

B12.2 The acceptance by the City of any Bid shall not release the Bids of the next two lowest evaluated responsive Bidders and these Bidders shall be bound by their Bids on such Work for the time period specified in Paragraph 9 of Form A: Bid.

### **B13. WITHDRAWAL OF BIDS**

B13.1 A Bidder may withdraw his Bid without penalty by giving written notice to the Manager of Materials at any time prior to the Submission Deadline.

B13.1.1 Notwithstanding C23.3, the time and date of receipt of any notice withdrawing a Bid shall be the time and date of receipt as determined by the Manager of Materials.

B13.1.2 The City will assume that any one of the contact persons named in Paragraph 3 of Form A: Bid or the Bidder's authorized representatives named in Paragraph 10 of Form A: Bid, and only such person, has authority to give notice of withdrawal.

B13.1.3 If a Bidder gives notice of withdrawal prior to the Submission Deadline, the Manager of Materials will:

- (a) retain the Bid until after the Submission Deadline has elapsed;
- (b) open the Bid to identify the contact person named in Paragraph 3 of Form A: Bid and the Bidder's authorized representatives named in Paragraph 10 of Form A: Bid; and
- (c) if the notice has been given by any one of the persons specified in B13.1.3(b), declare the Bid withdrawn.



B13.2 A Bidder who withdraws his Bid after the Submission Deadline but before his Bid has been released or has lapsed as provided for in B12.2 shall be liable for such damages as are imposed upon the Bidder by law and subject to such sanctions as the Chief Administrative Officer considers appropriate in the circumstances. The City, in such event, shall be entitled to all rights and remedies available to it at law.

#### **B14. EVALUATION OF BIDS**

B14.1 Award of the Contract shall be based on the following bid evaluation criteria:

- (a) compliance by the Bidder with the requirements of the Bid Opportunity (pass/fail);
- (b) qualifications of the Bidder and the Subcontractors, if any, pursuant to B10 (pass/fail);
- (c) Total Bid Price;
- (d) economic analysis of any approved alternative pursuant to B6.

B14.2 Further to B14.1(a), the Award Authority may reject a Bid as being non-responsive if the Bid is incomplete, obscure or conditional, or contains additions, deletions, alterations or other irregularities. The Award Authority may reject all or any part of any Bid, or waive technical requirements or minor informalities or irregularities, if the interests of the City so require.

B14.3 Further to B14.1(b), the Award Authority shall reject any Bid submitted by a Bidder who does not demonstrate, in his Bid or in other information required to be submitted, that he is responsible and qualified.

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

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

#### **B15. AWARD OF CONTRACT**

B15.1 The City will give notice of the award of the Contract or will give notice that no award will be made.

B15.2 The City will have no obligation to award a Contract to a Bidder, even though one or all of the Bidders are determined to be responsible and qualified, and the Bids are determined to be responsive.

B15.2.1 Without limiting the generality of B15.2, the City will have no obligation to award a Contract where:

- (a) the prices exceed the available City funds for the Work;
- (b) the prices are materially in excess of the prices received for similar work in the past;
- (c) the prices are materially in excess of the City's cost to perform the Work, or a significant portion thereof, with its own forces;
- (d) only one Bid is received; or
- (e) in the judgment of the Award Authority, the interests of the City would best be served by not awarding a Contract.

B15.3 Subject to B15.2, where an award of Contract is made by the City, the award shall be made to the responsible and qualified Bidder submitting the lowest evaluated responsive Bid.

B15.3.1 Following the award of contract, a Bidder will be provided with information related to the evaluation of his Bid upon written request to the Contract Administrator.

- B15.4 Notwithstanding C4, the City will issue a Purchase Order to the successful Bidder in lieu of the execution of a Contract.
- B15.5 The Contract, as defined in C1.1, in its entirety shall be deemed to be incorporated in and to form a part of the Purchase Order notwithstanding that it is not necessarily attached to or accompany said Purchase Order.

## **PART C - GENERAL CONDITIONS**

### **C0. GENERAL CONDITIONS**

- C0.1 The *General Conditions for Construction* (Revision 2006 12 15) are applicable to the Work of the Contract.
- C0.1.1 The *General Conditions for Construction* are available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at <http://www.winnipeg.ca/matmgt>.
- 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 the renovation of the playground at Listowell Park.

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

- (a) Removal of existing play equipment.
- (b) Supply and installation of new play equipment, timber edging and safety surfacing.

#### **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. llamb@dwla.ca

#### **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 All notices of appeal to the Chief Administrative Officer shall be sent to the following address or facsimile number:

The City of Winnipeg  
Chief Administrative Officer Secretariat  
Attn: Chief Administrative Officer  
Administration Building, 3rd Floor  
510 Main Street  
Winnipeg MB R3B 1B9

Facsimile No.: (204) 949-1174

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

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

## **SUBMISSIONS**

### **D6. AUTHORITY TO CARRY ON BUSINESS**

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

### **D7. INSURANCE**

- D7.1 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;
- D7.2 Deductibles shall be borne by the Contractor.
- D7.3 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.
- D7.4 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

### **D8. SUBCONTRACTOR LIST**

- D8.1 The Contractor shall provide the Contract Administrator with a complete list of the Subcontractors whom the Contractor proposes to engage (Form J: Subcontractor List) at least two (2) Business Days prior to the commencement of any Work on the Site but in no event later than seven (7) Calendar Days from notification of the award of Contract.

## **SCHEDULE OF WORK**

### **D9. COMMENCEMENT**

- D9.1 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.
- D9.2 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) evidence of the insurance specified in D7; and
    - (iv) the Subcontractor list specified in D8.
  - (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.
- D9.3 The Contractor shall order the play equipment within five (5) Working Days of receipt of the letter of intent and commence the Work on the Site five (5) Working Days prior to the scheduled installation of the equipment.

### **D10. SUBSTANTIAL PERFORMANCE**

- D10.1 The Contractor shall achieve Substantial Performance within 20 (twenty) consecutive Working Days of the commencement of the Work as specified in D9.
- D10.1 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.
- D10.2 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.

### **D11. TOTAL PERFORMANCE**

- D11.1 The Contractor shall achieve Total Performance within 30 (thirty) consecutive Working Days of the commencement of the Work as specified in D9.
- D11.2 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.
- D11.3 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.

### **D12. LIQUIDATED DAMAGES**

- D12.1 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 four hundred dollars (\$400) per Calendar Day for each and every CalendarDay following the day fixed herein for Total Performance during which such failure continues.

- D12.2 The amount specified for liquidated damages in D12.1 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.
- D12.3 The City may reduce any payment to the Contractor by the amount of any liquidated damages assessed.

**D13. SCHEDULED MAINTENANCE**

- D13.1 The Contractor shall perform the following scheduled maintenance in the manner and within the time periods required by the Specifications:
- (a) Turf Renovation as specified in E17.
- D13.2 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**

**D14. JOB MEETINGS**

- D14.1 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.
- D14.2 The Contract Administrator reserves the right to cancel any job meeting or call additional job meetings whenever he deems it necessary.

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

- D15.1 Further to C6.24, the Contractor shall be the Prime Contractor and shall serve as, and have the duties of the Prime Contractor in accordance with The Workplace Safety and Health Act (Manitoba).

**MEASUREMENT AND PAYMENT**

**D16. PAYMENT**

- D16.1 Further to C12, effective January 1, 2007 the City may at its option pay the Contractor by direct deposit to the Contractor's banking institution.





## 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 Branch internet site at <http://www.winnipeg.ca/matmgt>.
- 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	LISTOWELL PARK – Existing Conditions and Removals
L2	LISTOWELL PARK – Playground Renovation
SCD-120A	TACHE BENCH - COMPOSITE
19489-1-1	LISTOWELL PARK – Evos Playstructure

### GENERAL REQUIREMENTS

#### E2. SITE ACCESS

- E2.1 Access to the Sites will be determined at the pre-construction meeting. These access areas 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 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 C6.12, 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 C17, 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.
- E4.2 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.
- E4.3 Existing Services and Utilities
- 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.

#### **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 C6.12, 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. SITE ENCLOSURES**

- E7.1 Temporary Site enclosures, as determined necessary at the pre-construction meeting, shall be erected and maintained as required for the duration of the construction period.
- E7.2 Site enclosures shall be considered incidental to the Contract Work.

## **E8. LAYOUT**

- E8.1 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 supplier to ensure that CSA requirements are met.
- E8.2 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.

## **E9. CANADIAN STANDARDS ASSOCIATION GUIDELINES**

- E9.1 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".

## **E10. MAINTENANCE KITS**

- E10.1 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**

### **E11. REMOVALS AND SITE PREPARATION**

- E11.1 General Description
- (a) This specification shall cover the removal of items such as play equipment, safety bases, and site furniture as specified on the Removals Drawings.
- E11.2 Removals
- (a) Play equipment and benches are to be removed including any bases or foundations in their entirety. All play equipment is to be removed and legally disposed of; and, under no circumstances, is any of it to be sold or reused. Removals are to be scheduled such that no partial or unsafe structures are left unsecured.
- (b) All existing safety base is to be excavated and removed.
- (c) All removed materials are to be disposed of off Site in a safe and legal manner.
- E11.3 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 removal, excavation and disposal.
- (b) Items of Work:
- (i) Removals

### **E12. TIMBER EDGING**

- E12.1 General Description
- E12.2 This specification shall cover the supply and installation of timber edging to contain the safety surfacing for the playground areas.
- E12.3 Materials
- (a) Timber Edging shall be subject to inspection and approval by the Contract Administrator.

- (b) For timber edging that will be in contact with the ground soil, wood shall be spruce, pine or fir, No. 2 or better, no wane, bark, checking or splitting permitted. Wood shall be smooth and free of rough areas. All timbers to be 150 x 150mm with a minimum length of 1200mm.
- (c) The wood shall be ACQ treated as approved for use by Environment Canada. All ends and cuts shall be treated with preservative before being secured.
- (d) Cap shall be Pedra and shall not be treated. Top edges of all exposed timbers shall have a 8mm (45°) chamfer.

#### E12.4 Methods

- (a) Layout of edging shall be as shown on Drawings and to adequately provide safety surfacing area beneath play equipment, based on the most recent CSA safety zone requirements.
- (b) The layout of the timber edging shall be coordinated with the installation of the play equipment to ensure that the proper safety zones are created around the equipment.
- (c) Timbers shall be installed as per Drawings. Base course timbers shall be pinned with a minimum of two (2) 19mm diameter by 900mm rebar at maximum 1200mm O.C. The Pedra cap shall be screwed with two screws at each end of the timber and at alternating sides at 60cm O.C.
- (d) All timbers shall be cut neatly for a proper fit with no spaces or gaps between. All cuts shall be stained before being secured. Finished elevations shall ensure that all timbers are smooth, level, set plumb and spaced uniformly.
- (e) Turf shall be repaired as required around edging in accordance with City of Winnipeg Standard Specifications for Topsoil and Sodding. This shall be considered incidental to the timber edging Work.

#### E12.5 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) Timber Edging

### **E13. SUB SURFACE DRAINAGE**

#### E13.1 General Description

- (a) This specification shall cover the supply and installation of sub-surface drainage systems, to drain those play areas using wood fibre surfacing systems.
- (b) This sub-surface drainage is to be used in conjunction with the drainage system that is included with the wood fibre surfacing systems in E15.
  - (i) Multi Flow Drain System to rock filled sump.

#### E13.2 Materials and Methods

- (a) Granular sump material: 38 mm Diameter Crushed Washed Stone
- (b) Geotextile: filter cloth
- (c) Drainage pipe shall be Multi-Flow Drainage System or approved substitute in accordance with B6. Size shall be 150mm as shown on Drawings. All fittings shall be sized to fit and approved by the manufacturer for use with the Multi-Flow or approved substitute.

- (d) Backfill for Trenches
  - (i) Backfill 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.
- (e) Multi flow drain pipe is to be installed along the lower edge of the play area and the wood fibre drain system is to drain to it.
- (f) Multi flow drain is to flow to a 1m diameter rock filled sump, 1m deep. The sump shall be located down hill from the play area and as determined on Site with the Contract Administrator.

#### E13.3 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 supply, excavation, proper material installation and any associated Site restoration.
- (b) Items of Work
  - (i) Drainage System to Sump

### **E14. SAFETY STONE PLAY SURFACES**

#### E14.1 General Description

- (a) This specification shall cover the supply and installation of Safety Stone for play areas.

#### E14.2 Materials

- (a) Safety Stone shall be 6.0mm Playground Stone, composition shall be Typical Birds Hill glacial till material, 100% clean river-washed granite conforming to the following sizes of sieve:

100% passing 10mm  
45% passing 5mm  
Up to 10% passing 2.5mm  
Up to 4% passing 1.25mm  
0% passing 0.8mm sieve

- (b) Samples of the specified material shall be submitted for approval to the Contract Administrator at least seven (7) Calendar Days prior to ordering of the material.

#### E14.3 Method

- (a) Play areas are to be excavated to the depth required for correct depth of stone as shown on the Drawings.
- (b) All contaminated and surplus materials shall be disposed of as per Clause 9.3 of CW 3110.
- (c) Safety Stone shall be installed within the swing area to a minimum depth of 36 cm (14") as shown on the Drawings.
- (d) Installation shall be done by equipment sized to suit the Work being done and the stone shall be spread by hand in the immediate vicinity of the play equipment so as not to damage the same.
- (e) The play equipment shall be cleaned as required after installation of the stone.

#### E14.4 Basis of Payment

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

- (b) Items of Work
  - (i) Safety Stone Surfacing

## **E15. WOOD FIBRE PLAY SURFACES**

### **E15.1 Description**

- (a) This specification shall cover the supply and installation of Wood Fibre Surfacing.

### **E15.2 Materials**

- (a) Wood Fibre product shall be either Zeager Woodcarpet or Fibar FibarSystem 300 products or substitute acceptable to Contract Administrator.

- (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](mailto:sales@zeager.com)

- (ii) Contact for FibarSystem 300:

The Fibar Group LLC  
80 Business Park Drive, Suite 300  
Armonk, NY 10504-1705  
USA  
Ph: (800) 342-2721  
Fax: (914) 273-8659  
[info@FibarPlaygrounds.com](mailto:info@FibarPlaygrounds.com)

As supplied by:

Playgrounds-R-Us  
Ph: (204) 632-7000

- (b) Wood Fibre surfacing shall include wood fibre, filter cloth, subsurface drainage system and mats for bottom of slides.

### **E15.3 Methods**

- (a) Wood Fibre shall be installed within the play area, as defined by the timber edging, to the depth required by the latest version of CSA and the manufacturer's specification.
  - (i) The drainage system and subgrade shall be sloped min. 1% to the lower end of the play area and shall be connected to a sub-surface drainage system as specified in E13. It is to be connected to a rock filled sump.
- (b) The installation of the Wood Fibre shall be done immediately after the play equipment has been installed.
- (c) 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. Refer to E13.
- (d) 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.

**E15.4 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 for the wood fibre system, sub-grade preparation, and proper material installation.
- (b) Items of Work:
  - (i) Wood Fibre Surfacing System

**E16. GRANULAR PAVING**

**E16.1 General Description**

- (a) Further to CW 3110-R10, this specification shall cover the supply and installation of granular paving including sub-grade preparation for the pads under benches.

**E16.2 Materials and Method**

- (a) Granular Paving
  - (i) Sub-base: 100 mm depth of 50 mm down crushed limestone compacted in two layers over compacted sub-grade.
  - (ii) Base: 50 mm depth of 19 mm down crushed limestone, compacted.
  - (iii) Top: 25 mm of 6 mm down crushed limestone, compacted.

**E16.3 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, and proper material installation.
- (b) Items of Work:
  - (i) Granular Paving

**E17. TURF RENOVATION**

**E17.1 General Description**

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

**E17.2 Materials and Methods**

- (a) Topsoil: As per CW 3540-R5.
- (b) Sodding
  - (i) As per CW 3510-R9.
  - (ii) Sod shall be mineral base.
- (c) Areas to be renovated shall be excavated and surplus materials removed off-site in a legal manner.
- (d) 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.
- (e) Seams between new and old turf are to be topdressed and seeded.
- (f) 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.

**E17.3 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-R9.



**E17.4 Basis of Payment**

- (i) 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

**E18. SITE FURNITURE**

**E18.1 General Description**

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

**E18.2 Materials and Method**

- (a) Benches
  - (i) Benches: Tache style composite bench, Drawing No. SCD-120A, Product No. 52501067, 1.8 M length (6'), manufactured by the City of Winnipeg:  
Contact:  
Aaron Lennon  
Supervisor of Central Repair/Manufacturing Facility  
City of Winnipeg  
Telephone No.: (204) 986-5505
  - (ii) Benches are to be purchased from the City and installed according to Drawings and City specifications.
- (b) Benches are to be installed in conjunction with the paving. Tops of concrete footings are to be 200 mm below finished grade of all paving. 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.

**E18.3 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

**E19. FOUNDATIONS**

**E19.1** All Site furniture and 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-R6 – Concrete Underground Structures and Works, is to be utilized in the installation of the concrete works for all below ground components.

**E19.2** 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.

### E19.3 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 90cm depth or in accordance with manufacturer's specifications, whichever is greater.
- (d) Work under this section is considered incidental to the installation of playstructures and Site furniture.

## E20. PLAYSTRUCTURES

### E20.1 General description

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

### E20.2 Products

- (a) Landscape Structures Inc, Evos System #19489-1-1, as depicted on the attached Drawings; or, approved Substitute in accordance with B6.

### E20.3 Colours

- (a) Cranberry posts and metals, Black ball connectors, and Granite plastics.

### E20.4 Installation

- (a) Playstructures shall be installed as per the Canadian Standards Association Guidelines. All vertical items shall be true to vertical. For foundations, refer to Clause E19.
- (b) Playstructures shall be installed by factory certified installers only and to manufacturer's specifications.
- (c) Installation of playstructures shall be coordinated with associated Site development Work. The playstructures shall be secured and rendered unusable until safety surface is in place.

### E20.5 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) Playstructure

## E21. SWINGS

### E21.1 General Description

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

### E21.2 Product

- (a) SportsPlay Equipment Inc, Model #581-640H: Tri-pod Leg, Three Bay, Heavy Duty Swing Frame, 2.4 m (8') high, complete with four (4) slash-proof rubber belt seats, two (2) slash-proof rubber, enclosed infant seat, heavy duty chain, swing hangers and hammer locks; or, approved Substitute in accordance with B6.

### E21.3 Materials

- (a) Topbeam

- (i) All topbeams shall be fabricated from min. 90 mm (3 1/2") O.D. 7 gauge, RS40 galvanized steel pipe.
- (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.

#### E21.4 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 slashproof. 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 slashproof. 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.

#### E21.5 Installation

- (a) Swings shall be installed as per the Canadian Standards Association Guidelines. Refer to Clause E9. For foundations refer to Clause E19.
- (b) Installation of swings shall be coordinated with associated Site development Work. Swings shall be secured and rendered unusable until safety surfacing is in place.
- (c) Swings shall be installed by factory certified installers only and to manufacturer's specifications.

#### E21.6 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) Swings