



THE CITY OF WINNIPEG

BID OPPORTUNITY

BID OPPORTUNITY NO. 921-2015

**PAN AM INDOOR POOL PARKING LOT REDEVELOPMENT PROJECT – STAGE 2
25 POSEIDON BAY**

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PART B - BIDDING PROCEDURES

B1. CONTRACT TITLE

- B1.1 PAM AM INDOOR POOL PARKING LOT REDEVELOPMENT PROJECT – STAGE 2 – 25 POSEIDON BAY

B2. SUBMISSION DEADLINE

- B2.1 The Submission Deadline is 4:00 p.m. Winnipeg time, March 29, 2016.
- 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 Contract Administrator or an authorized representative will be available at the Site at 10:00 a.m. on March 16, 2016 to provide Bidders access to the Site. Bidders shall meet at South Entrance Lobby at Pan Am Indoor Pool.
- B3.2 The Bidder is advised that attendance at the Site meeting is not mandatory, however the bidder may take this opportunity to familiarize themselves with the Site, and make any enquiries specific to their bid.
- B3.3 The Bidder shall not be entitled to rely on any information or interpretation received at the Site investigation unless that information or interpretation is the Bidder's direct observation, or is provided by the Contract Administrator in writing.

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. CONFIDENTIALITY

- B5.1 Information provided to a Bidder by the City or acquired by a Bidder by way of further enquiries or through investigation is confidential. Such information shall not be used or disclosed in any way without the prior written authorization of the Contract Administrator. The use and disclosure of the confidential information shall not apply to information which:
- (a) was known to the Bidder before receipt hereof; or

- (b) becomes publicly known other than through the Bidder; or
- (c) is disclosed pursuant to the requirements of a governmental authority or judicial order.

B5.2 The Bidder shall not make any statement of fact or opinion regarding any aspect of the Bid Opportunity to the media or any member of the public without the prior written authorization of the Contract Administrator.

B6. ADDENDA

B6.1 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.

B6.2 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.

B6.2.1 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/>

B6.2.2 The Bidder is responsible for ensuring that he/she 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.

B6.2.3 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.

B7. SUBSTITUTES

B7.1 The Work is based on the Plant, Materials and methods specified in the Bid Opportunity.

B7.2 Substitutions shall not be allowed unless application has been made to and prior approval has been granted by the Contract Administrator in writing.

B7.3 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.

B7.4 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.

- B7.5 The Contract Administrator, after assessing the request for approval of a substitute, may in his/her 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.
- B7.6 The Contract Administrator will provide a response in writing, at least two (2) Business Days prior to the Submission Deadline, to the Bidder who requested approval of the substitute.
- B7.6.1 The Contract Administrator will issue an Addendum, disclosing the approved materials, equipment, methods and products to all potential Bidders. The Bidder requesting and obtaining the approval of a substitute shall be responsible for disseminating information regarding the approval to any person or persons he/she wishes to inform.
- B7.7 If the Contract Administrator approves a substitute as an “approved equal”, any Bidder may use the approved equal in place of the specified item.
- B7.8 If the Contract Administrator approves a substitute as an “approved alternative”, any Bidder bidding that approved alternative may base his/her 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.
- B7.9 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.

B8. BID COMPONENTS

- B8.1 The Bid shall consist of the following components:
- (a) Form A: Bid;
 - (b) Form B: Prices;
- B8.2 Further to B8.1, the Bidder should include the written correspondence from the Contract Administrator approving a substitute in accordance with B7.
- B8.3 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.
- B8.4 The Bid Submission may be submitted by mail, courier or personal delivery, or by facsimile transmission.
- B8.5 If the Bid Submission is submitted by mail, courier or personal delivery, it shall be enclosed and sealed in an envelope clearly marked with the Bid Opportunity number and the Bidder's name and address, and shall be submitted to:
- The City of Winnipeg
Corporate Finance Department
Materials Management Division
185 King Street, Main Floor
Winnipeg, MB R3B 1J1
- B8.5.1 Samples or other components of the Bid Submission which cannot reasonably be enclosed in the envelope may be packaged separately, but shall be clearly marked with the Bid Opportunity number, the Bidder's name and address, and an indication that the contents are part of the Bidder's Bid Submission.
- B8.6 Bidders are advised not to include any information/literature except as requested in accordance with B8.1.
- B8.7 Bidders are advised that inclusion of terms and conditions inconsistent with the Bid Opportunity document, including the General Conditions, will be evaluated in accordance with B16.1(a).

B8.8 If the Bid Submission is submitted by facsimile transmission, it shall be submitted to 204 949-1178.

B8.8.1 The Bidder is advised that the City cannot take responsibility for the availability of the facsimile machine at any time.

B8.8.2 Bids submitted by internet electronic mail (e-mail) will not be accepted.

B9. BID

B9.1 The Bidder shall complete Form A: Bid, making all required entries.

B9.2 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/her own name, his/her 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/her own, the business name and the name of every partner or corporation who is the owner of such business name shall be inserted.

B9.2.1 If a Bid is submitted jointly by two or more persons, each and all such persons shall identify themselves in accordance with B9.2.

B9.3 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.

B9.4 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/her 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/her 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.

B9.4.1 The name and official capacity of all individuals signing Form A: Bid should be printed below such signatures.

B9.4.2 All signatures shall be original.

B9.5 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.

B10. PRICES

B10.1 The Bidder shall state a price in Canadian funds for each item of the Work identified on Form B: Prices.

B10.2 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.

B10.3 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.

B10.4 Payments to Non-Resident Contractors are subject to Non-Resident Withholding Tax pursuant to the Income Tax Act (Canada).

B11. DISCLOSURE

B11.1 Various Persons provided information or services with respect to this Work. In the City's opinion, this relationship or association does not create a conflict of interest because of this full disclosure. Where applicable, additional material available as a result of contact with these Persons is listed below.

B11.2 The Persons are:

- (a) WSP Canada Inc.

B12. QUALIFICATION

B12.1 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.

B12.2 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>

B12.3 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).

B12.4 Further to B12.3(c), the Bidder shall, within five (5) Business Days of a request by the Contract Administrator, provide proof satisfactory to the Contract Administrator that the Bidder/Subcontractors has a workplace safety and health program meeting the requirements of The Workplace Safety and Health Act (Manitoba), by providing:

- (a) a copy of their valid Manitoba COR certificate and Letter of Good Standing (or Manitoba equivalency) as issued under the Certificate of Recognition (COR) Program administered by the Construction Safety Association of Manitoba or by the Manitoba Heavy Construction Association's WORKSAFELY™ COR™ Program; or
- (b) a copy of their valid Manitoba SECOR™ certificate and Letter of Good Standing (or Manitoba equivalency) as issued under the Small Employer Certificate of Recognition Program (SECOR™) administered by the Construction Safety Association of Manitoba or by the Manitoba Heavy Construction Association's WORKSAFELY™ COR™ Program; or
- (c) a report or letter to that effect from an independent reviewer acceptable to the City. (A list of acceptable reviewers and the review template are available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/>).

B12.5 The Bidder shall submit, within three (3) Business Days of a request by the Contract Administrator, proof satisfactory to the Contract Administrator of the qualifications of the Bidder and of any proposed Subcontractor.

B12.6 The Bidder shall provide, on the request of the Contract Administrator, full access to any of the Bidder's equipment and facilities to confirm, to the Contract Administrator's satisfaction, that the Bidder's equipment and facilities are adequate to perform the Work.

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/her 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/her Bid after the Submission Deadline but before his/her 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 B12 (pass/fail);
- (c) Total Bid Price;
- (d) economic analysis of any approved alternative pursuant to B7.

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/her Bid or in other information required to be submitted, that he/she is responsible and qualified.

B16.4 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.

B16.4.1 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.

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 The Work of this Contract is contingent upon Council approval of sufficient funding in the 2016 Capital Budget. If the Capital Budget approved by Council does not include sufficient funding for the Work, the City will have no obligation to award a Contract.

B17.4 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.

B17.4.1 Following the award of contract, a Bidder will be provided with information related to the evaluation of his/her Bid upon written request to the Contract Administrator.

- B17.5 Notwithstanding C4, the City may issue a Purchase Order to the successful Bidder in lieu of the execution of a Contract.
- B17.6 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 the redevelopment and construction of new parking lot – Stage 2.

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

- (a) Demolition and removals
- (b) Land drainage and landscaping
- (c) Earth and Base Works
- (d) Asphalt and Concrete Paving with Concrete Curbs
- (e) Fencing, Signage and Miscellaneous Work
- (f) Electrical Work

D3. CONTRACT ADMINISTRATOR

D3.1 The Contract Administrator is Sison Blackburn Consulting Inc., represented by:

Reynold Cabigting, P.Eng.
Project Manager

Telephone No. 204 505-0855
Email No. RCabigting@SBCinc.ca

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

D3.3 Bids Submissions must be submitted to the address in B8.5.

D4. CONTRACTOR'S SUPERVISOR

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

D5. OWNERSHIP OF INFORMATION, CONFIDENTIALITY AND NON DISCLOSURE

D5.1 The Contract, all deliverables produced or developed, and information provided to or acquired by the Contractor are the property of the City and shall not be appropriated for the Contractors own use, or for the use of any third party.

D5.2 The Contractor shall not make any public announcements or press releases regarding the Contract, without the prior written authorization of the Contract Administrator.

D5.3 The following shall be confidential and shall not be disclosed by the Contractor to the media or any member of the public without the prior written authorization of the Contract Administrator;

- (a) information provided to the Contractor by the City or acquired by the Contractor during the course of the Work;

- (b) the Contract, all deliverables produced or developed; and
- (c) any statement of fact or opinion regarding any aspect of the Contract.

D5.4 A Contractor who violates any provision of D5 may be determined to be in breach of Contract.

D6. NOTICES

D6.1 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.

D6.2 All notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications to the City, except as expressly otherwise required in D6.3, D6.4 or elsewhere in the Contract, shall be sent to the attention of the Contract Administrator at the facsimile number identified in D3.1.

D6.3 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

D6.4 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 facsimile number:

The City of Winnipeg
Legal Services Department
Attn: Director of Legal Services

Facsimile No.: 204 947-9155

D6.5 Bids Submissions must be submitted to the address in B8.5.

SUBMISSIONS

D7. AUTHORITY TO CARRY ON BUSINESS

D7.1 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.

D8. SAFE WORK PLAN

D8.1 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.

D8.2 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>

D9. INSURANCE

- D9.1 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 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) if applicable, Automobile Liability Insurance covering all motor vehicles, owned and operated and used or to be used by the Contractor directly or indirectly in the performance of the Work. The Limit of Liability shall not be less than \$2,000,000 inclusive for loss or damage including personal injuries and death resulting from any one accident or occurrence;
 - (c) all risks installation floater, carrying adequate limits to cover all machinery, equipment, supplies and/or materials intended to enter into and form part of any installation.
- D9.2 Deductibles shall be borne by the Contractor.
- D9.3 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.
- D9.4 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.

D10. PERFORMANCE SECURITY

- D10.1 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.
- D10.1.1 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.
- D10.2 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.

D11. SUBCONTRACTOR LIST

- D11.1 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

D12. COMMENCEMENT

- D12.1 The Contractor shall not commence any Work until he/she 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 D7;
 - (ii) evidence of the workers compensation coverage specified in C6.15;
 - (iii) the Safe Work Plan specified in D8;
 - (iv) evidence of the insurance specified in D9;
 - (v) the performance security specified in D10;
 - (vi) the Subcontractor list specified in D11; and
 - (vii) the detailed work schedule specified in **Error! Reference source not found..**
 - (b) the Contractor has attended a pre-construction meeting with the Contract Administrator, or the Contract Administrator has waived the requirement for a pre-construction meeting.
- D12.3 The Contractor shall commence the Work on the Site within seven (7) Working Days of receipt of the Purchase Order.

D13. SUBSTANTIAL PERFORMANCE

- D13.1 The Contractor shall achieve Substantial Performance by July 29, 2016.
- 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 August 31, 2016.
- 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 two hundred and fifty dollars (\$250.00) per Working Day for each and every Working Day following the day fixed herein for Substantial Performance during which such failure continues.

- 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 Substantial 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.

CONTROL OF WORK

D16. JOB MEETINGS

- D16.1 Regular bi-weekly 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.
- D16.2 The Contract Administrator reserves the right to cancel any job meeting or call additional job meetings whenever he/she deems it necessary.

D17. PRIME CONTRACTOR – THE WORKPLACE SAFETY AND HEALTH ACT (MANITOBA)

- D17.1 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).

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

- D18.1 Further to B12.4, the Contractor/Subcontractor must, throughout the term of the Contract, have a Workplace Safety and Health Program meeting the requirements of The Workplace Safety and Health Act (Manitoba). At any time during the term of the Contract, the City may, at its sole discretion and acting reasonably, require updated proof of compliance, as set out in B12.4.

MEASUREMENT AND PAYMENT

D19. INVOICES

- D19.1 Further to C12, the Contractor shall submit an invoice for each portion of Work performed. to:
The City of Winnipeg
Corporate Finance - Accounts Payable
4th Floor, Administration Building, 510 Main Street
Winnipeg MB R3B 1B9
Facsimile No.: 204-949-0864
Email: CityWpgAP@winnipeg.ca
- D19.2 Invoices must clearly indicate, as a minimum:
- (a) the City's purchase order number;
 - (b) date of delivery;
 - (c) delivery address;
 - (d) type and quantity of work performed;
 - (e) the amount payable with GST and MRST shown as separate amounts; and
 - (f) the Contractor's GST registration number.

D19.3 The City will bear no responsibility for delays in approval of invoices which are improperly submitted.

D19.4 Bids Submissions must be submitted to the address in B8.5.

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

D21.1.1 For the purpose of Performance Security, the warranty period shall be one (1) year.

D21.2 Notwithstanding C13.2, the Contract Administrator may permit the warranty period for a portion or portions of the Work to begin prior to the date of Total Performance if a portion of the Work cannot be completed because of unseasonable weather or other conditions reasonably beyond the control of the Contractor but that portion does not prevent the balance of the Work from being put to its intended use.

D21.2.1 In such case, the date specified by the Contract Administrator for the warranty period to begin shall be substituted for the date specified in C13.2 for the warranty period to begin.

FORM H1: PERFORMANCE BOND
(See D10)

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. 921-2015

PAN AM INDOOR POOL PARKING LOT REDEVELOPMENT PROJECT – STAGE 2 –
25 POSEIDON BAY

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 D10)

(Date)

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

RE: PERFORMANCE SECURITY - BID OPPORTUNITY NO. 921-2015

PAN AM INDOOR POOL PARKING LOT REDEVELOPMENT – STAGE 2 – 25 POSEIDON BAY

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 (2007 Revision), International Chamber of Commerce Publication Number 600.

(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>
921-2015-C00	Cover Sheet
921-2015-C01	Existing Site Plan
921-2015-C02	Removals Plan
921-2015-C03	Layout Plan
921-2015-C04	Grading Plan
921-2015-C05	Landscaping, Site Furnishings, and Signage Plan
921-2015-E01	Electrical Plan

E2. SOILS INVESTIGATION REPORT

- E2.1 Further to C3.1, descriptions of the test hole logs are provided in 'Appendix A', to aid the Contractor's evaluation of the pavement structure and/or existing soil conditions.

E3. HAZARDOUS MATERIALS

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

E4. PROTECTION OF EXISTING TREES

- E4.1 Protection of Existing Trees applies to all trees where construction activities will occur within a tree's Tree Protection Zone (TPZ) as defined in E4.2 and E4.3, unless otherwise specified in advance of any construction by the City Forester.
- E4.2 Tree Protection Zone (TPZ).
- (a) A TPZ shall be established surrounding all trees that are to be protected.
- (i) The size of the TPZ is based on a tree's DBH (see E4.3) and cannot be altered except by the City Forester.
 - (ii) No activity is permitted inside the TPZ, including any traffic, construction, storage, disposal of materials, or flooding.
 - (iii) The outside boundary of the TPZ shall be delineated by a barrier to create a Barrier Protected Area (BPA) as specified in E4.4 and E4.5.

- (iv) Exceptions to conduct restricted activities within the TPZ may be permitted by the CA or City Forester under special circumstances. (see "Barrier Relocations Approved by CA" E4.6 and "Exceptions to Restricted Activities" E4.13)

E4.3 TPZ Setback Distances

- (a) The following chart identifies optimal setback distances for a TPZ. Distances are to be measured from the outside edge of the tree trunk.

<u>Trunk Diameter (DBH)</u>	<u>Minimum Protection Distances Required</u>
<10 cm	2.0m
11-40cm	2.4m
41-50cm	3.0m
51-60cm	3.6m
61-70cm	4.2m
71-80cm	4.8m
81-90cm	5.4m
91-100cm+	6.0m

E4.4 Barrier Protected Area (BPA)

- (a) A BPA shall be established prior to the commencement of any construction on the Site by erecting barriers as described in E4.5.
 - (i) The Contractor shall notify the Contract Administrator prior to commencing any construction to confirm that the barriers are in place.
 - (ii) No activity is permitted inside the BPA under any circumstances, including any traffic, construction, storage, disposal of materials, or flooding.
 - (iii) Barriers are to remain in place and fully functional throughout the duration of the project.

E4.5 Barriers for the BPA shall meet the following specifications:

- (a) Consist of a steel fence or orange plastic web snow fencing on a 2" x 4" frame.
- (b) Be 1.2 metres (4ft) high and installed outside the perimeter of the TPZ.
- (c) Where fill or excavation material must be stored within 1m of a BPA, a plywood barrier must be used to ensure no material enters the BPA.

E4.6 Barrier Relocations Approved by CA (see "Exceptions to Restricted Activities" E4.13)

- (a) The BPA may be altered under the following conditions with the approval of the CA.
 - (i) Where the tree is flanked by a hard surface area, the barrier may be installed at the furthest extent of the boulevard area.
 - (ii) Where barriers are not feasible for completion of a construction project as determined by the CA, tree protection shall be as described below:
 - (i) Trees with a DBH greater than 100 mm in diameter shall have trunk protection installed consisting of planks with a minimum thickness of 25mm and minimum length of 2440mm attached around the trunk with strapping in a manner that will not harm the trees. Nails or other penetrating fasteners may not be used. The width of protection planks should suit the size of the tree being protected. Length of tree protection planks may be reduced to suit the tree as approved by the CA. No separate measurement or payment will be made for the protection of trees.

E4.7 Construction Access Routes (see "Exceptions to Restricted Activities" E4.13)

- (a) Where a construction access route must cross over a TPZ as approved by the CA:
 - (i) Barriers may be adjusted to maintain the largest percentage of the TPZ possible.

- (ii) If a barrier is not feasible, trunk protection must be installed as described in E4.7 (b) (i)
- (iii) Root protection shall be installed as described in E4.9 and E4.10.
- (iv) As soon as the access route is no longer required, the root protection material must be removed in a manner that will not further compact the area or damage any roots.

E4.8 Damage and Pruning of Tree Branches

- (a) Work shall be carried out so as to minimize damage to tree branches.
- (b) Any damage to branches shall be pruned in accordance with current accepted arboriculture standards to the satisfaction of the City Forester.
- (c) Tree pruning of City of Winnipeg-owned trees shall be performed by a qualified Contractor as outlined in the list of pre-qualified contractors at the following link:
http://winnipeg.ca/publicworks/Forestry/Homeowner_Tree_Maintenance_Guidelines.asp
or a contractor approved by the City Forester.
- (d) The Contractor shall be responsible for the cost of any pruning required to repair damages.
- (e) Elm trees are not to be pruned from April 1st to July 31st inclusive as directed by the Manitoba Forest Health Protection Act and Regulations.

E4.9 Root Protection and Remediation

- (a) Root protection shall consist of a layer of 100mm (4") of wood chip mulch covered with plywood having a minimum thickness of 7/16".
- (b) As soon as root protection is no longer required, the root protection material must be removed in manner that will not further compact the area or damage any roots.
- (c) If the TPZ was damaged by soil compaction, a qualified arborist must be hired to aerate the soil.
- (d) If roots within a TPZ have been damaged, the area must be watered post construction to the satisfaction of the City Forester.

E4.10 Root Pruning

- (a) Where an approved excavation is planned within a TPZ, a saw cut 300mm (12") deep shall be made in advance of the work at the edge of the work area closest to the tree in order to cleanly cut the roots.
- (b) Where an advance saw cut is not practical or required (for example, sidewalk renewal), reasonable efforts shall be made to minimize damage to roots.
- (c) All exposed or surface roots greater than 40mm (1.5") diameter damaged within the TPZ shall be cut cleanly by sawing. Severing or crushing roots by excavator or other mechanical device is not acceptable as a final cut.
- (d) Exposed or surface roots greater than 150mm (6") shall not be cut without approval from the City Forester.

E4.11 Directional Boring

- (a) Where work must be performed within a TPZ to install or repair underground utilities, tunneling or directional boring is preferred to open trenching across the roots. In these cases modification to the TPZ may be permitted with approval of the CA (as defined in CW2110 and CW2130).

E4.12 Trees Damaged Beyond Repair

- (a) Trees determined by the City Forester to be damaged beyond repair shall be removed by the Contractor. Financial compensation for lost trees shall be forwarded to the City and will be calculated as follows.

- (i) For trees 10 cm DBH or less, compensation values will be determined by the Urban Forestry Branch's current cost for replacement (for the same or similar species trees).
- (ii) For trees greater than 10 cm DBH, compensation values will be determined by using the method described in the current edition of The Guide for Plant Appraisal by the Council of Tree and Landscape Appraisers.

E4.13 Exceptions to Restricted Activities

- (a) Any exceptions as to restricted activities within the TPZ must be approved by the CA.
- (b) Each restricted activity that is excepted within the TPZ must be specified in writing. (Or: Each restricted activity that is allowed within the TPZ must be specifically listed in writing.)
- (c) Storing or transferring any toxic substances (including fuel, oil, alcohol) within the TPZ is never permitted.
- (d) Any excavation that encroaches within 2m of a tree must be approved by the City Forester.

E4.14 No separate measurement or payment will be made for the protection of trees.

E5. CONSTRUCTION STAGING

E5.1 In addition to a construction schedule, the Contractor shall provide a proposed construction staging plan to the Contract Administrator for approval, a minimum seven (7) Business Days in advance of commencing Work. The Contractor shall schedule construction activities to meet the following access requirements:

- (a) Ambulance, fire lane and emergency vehicle access must be maintained at all times to the main entrance of the building.
- (b) A minimum of 9 handicap spaces must be available to facility users and staff at all times within the existing surrounding lots during construction. Any temporary handicap parking areas shall be approved by the Pan Am Pool's Operations Management staff, and have temporary line painting and regulatory signs installed.
- (c) Safe pedestrian access to the main entrance of the building must be maintained at all times from the parking and sidewalk areas. Should the Contractor be unable to maintain access to the main entrance, the Contractor shall provide a minimum of 48 hours notification to the Contract Administrator and shall install pedestrian detours to an alternate entrance approved by the Pan Am Pool Operations Management Staff.
- (d) Refuse and recycling collection vehicle access must be maintained at all times.

E5.2 The Contractor shall bear all costs associated with providing and maintaining access and parking for all vehicles and pedestrians during construction, as part of his construction staging plan.

E6. TRAFFIC CONTROL

E6.1 Further to Clauses 3.6 and 3.7 of CW 1130, latest edition:

- (a) The Contractor shall construct and maintain temporary asphalt ramps to alleviate vertical pavement obstructions to the satisfaction of the Contract Administrator. No separate measurement or payment will be made for this work.
- (b) In accordance with the Manual of Temporary Traffic Control, the Contractor ("Agency" in this manual), shall make arrangements with the Traffic Services Section of the City of Winnipeg to place temporary regulatory signs. The Contractor shall bear all costs associated with the placement of temporary traffic control devices by the Traffic Services Section of the City of Winnipeg in connection with the Works undertaken by the Contractor.

E7. PEDESTRIAN SAFETY

E7.1 During the project, the Contractor shall install temporary snow fence and barricades around open excavations and constructions areas. The Contractor shall be responsible for maintaining the snow fence and barricades in a proper working condition. No separate measurement or payment will be made for supply and installation of the snow fence or barricades.

E8. WATER USED BY CONTRACTOR

E8.1 Further to clause 3.7 of CW1120, latest edition, the contractor shall pay for all costs associated with obtaining water in accordance with the Waterworks By-Law. Sewer charges will not be assessed for water obtained from a hydrant.

E9. PERMITS

DESCRIPTION

E9.1 General

E9.1.1 Further to GC:6.12, the Contractor shall give all necessary notices, obtain all necessary permits and pay all fees in order that the Work may be carried out. The Contractor shall submit all plans required by any inspection authority and obtain approval of same before proceeding with the Work, and pay any cost attached to the inspection of such plans.

E9.1.2 The Contractor shall comply with all laws, ordinances, rules and regulations that would relate the Work.

E9.1.3 All notices, consents, approvals, statements, authorizations, documents or communications to the City shall be submitted to the Contract Administrator.

E9.1.4 All Work shall be performed in compliance with the Manitoba Workplace Health and Safety Act.

E10. TEMPORARY UTILITIES

DESCRIPTION

E10.1 General

E10.1.1 Further to GC:6.12 the Contractor shall make his own arrangements in connection with the temporary use of lighting, power, gas, sewer, water or other utilities, and pay all costs in connection therewith.

E10.1.2 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.

E11. LAYOUT OF WORK

DESCRIPTION

E11.1 General

E11.1.1 The Contractor shall mark to the extent determined necessary, the location, alignment and elevation of the work by means of stakes, buoys or marks. The Contractor will set control lines and benchmarks by means of stakes, buoys or marks and the Contractor shall make the completed works conform to the lines and marks thus indicated. The Contractor shall furnish all other lines and levels required. The Contractor shall be responsible for the careful preservation of all stakes and marks so set whether relating to his own or to other work. Care must be taken that the Contractor be notified immediately of the disturbance of any such stakes or marks; the cost of correcting any errors arising out of neglect of the Contractor or his agent or his employees, to so notify the Contract Administrator shall be borne entirely by the Contractor.

- E11.1.2 All layouts shall be reviewed and approved by the Contract Administrator prior to construction.
- E11.1.3 Before commencing Work the Contractor shall satisfy himself as to the meaning and correctness of all stakes and marks and no claims shall be entertained by the City of Winnipeg on account of any alleged inaccuracies. If any error or suspected in the plans, specifications or the directions of the Contract Administrator, Work shall be discontinued until the errors are rectified, but no claims shall be made on account of any delay occasioned thereby.
- E11.1.4 The Contractor is responsible to determine the location of all underground utilities and obtain clearances prior to construction. Underground structures as shown on the drawings are based on the best information available but no guarantee is given that all existing utilities are shown or that given locations are exact.

E12. SITE RESTORATION

DESCRIPTION

- E12.1 General
- E12.1.1 Total Performance of the Work shall not be attained until the Contractor has cleaned up the Site and has removed all plant, tools, equipment, waste, debris and surplus foundation earth to the satisfaction of the Contract Administrator. Unless otherwise specified the Contractor shall restore all areas of the Site beyond the established limit of Work, which have been disturbed by the Contractor's operations to as good as or better than the original condition to the satisfaction of the Contract Administrator. The Contractor shall pay all costs associated with this work.
- E12.1.2 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.

E13. REMOVALS

DESCRIPTION

- E13.1 General
- E13.1.1 This Specification covers any removal, demolition and temporary relocation work required for new construction and shall amend and supplement Specification CW 3110, latest edition.

CONSTRUCTION METHODS

- E13.2 General
- E13.2.1 Removals shall be as per the Drawings and as directed by the Contract Administrator.
- E13.2.2 All removal and temporary relocation work shall be done in a careful, workmanlike manner. The use of equipment which might damage portions of the existing items or materials to be relocated will not be permitted. Relocated items shall be placed in areas designated by the Contract Administrator.
- E13.2.3 All debris from removals shall be disposed of by the Contractor.
- E13.3 Pavement Removal
- E13.3.1 Remove existing concrete and asphalt pavement, including parking lot, curbs, approaches, sidewalks, and pads at locations shown on the Drawings and as directed by the Contract Administrator.
- E13.4 Tree and Shrub Removal

- E13.4.1 Remove existing trees and shrubs at locations shown on the Drawings and as directed by the Contract Administrator.
- E13.5 Remove and Salvage Existing Tree Grates
 - E13.5.1 Remove and salvage existing tree grates and hardware secured to existing pavement areas to be removed, at locations shown on the Drawings and as directed by the Contract Administrator.
- E13.6 Remove and Salvage Existing Door Handrails
 - E13.6.1 Remove and salvage existing door handrails secured to existing pavement areas to be removed, including hardware, at locations shown on the Drawings and as directed by the Contract Administrator.
- E13.7 Remove and Existing Benches
 - E13.7.1 Remove existing benches secured to existing pavement areas to be removed, including hardware and buried concrete bases, at locations shown on the Drawings and as directed by the Contract Administrator.
 - E13.7.2 All existing benches removed shall be disposed of, unless otherwise directed by the Contract Administrator to salvage upon request from the facility. Any salvaged pinned benches shall be delivered to the Pan Am Pool Maintenance Supervisor.

MEASUREMENT AND PAYMENT

- E13.8 Trees and Shrub Removal
 - E13.8.1 No separate measurement or payment will be made for the removal of existing trees and shrubs. Removal of existing trees and shrubs will be included in the payment for "Pavement Removal".
- E13.9 Remove and Salvage Existing Tree Grates
 - E13.9.1 Removal and salvage of tree grates will be measured on a unit basis and paid for at the Contract Unit Price for "Remove and Salvage Existing Tree Grates". The amount to be paid for will be the total number of tree grates removed and salvaged in accordance with this specification, accepted and measured by the Contract Administrator.
- E13.10 Remove and Salvage Door Handrails
 - E13.10.1 Removal and salvage of door handrails will be measured on a unit basis and paid for at the Contract Unit Price for "Remove and Salvage Existing Door Handrails". The amount to be paid for will be the total number of hand rails removed and salvaged in accordance with this specification, accepted and measured by the Contract Administrator.
- E13.11 Remove Existing Benches
 - E13.11.1 Removal of existing benches will be measured on a unit basis and paid for at the Contract Unit Price for "Remove Existing Benches". The amount to be paid for will be the total number of benches removed in accordance with this specification, accepted and measured by the Contract Administrator.
 - E13.11.2 No separate measurement or payment will be made for any benches salvaged upon request from the facility.
- E13.12 Temporary Relocation of Garbage Bins, Recycling Bins, Donation Bins, Bick Racks, and Planters.
 - E13.12.1 Temporary relocation of garbage bins, recycling bins, donation bins, bike racks and planters will be included in the payment for "Pavement Removal" and no additional payment will be made.

E14. LAND DRAINAGE SEWER

DESCRIPTION

E14.1 General

- E14.1.1 This Specification covers supply and installation of land drainage sewer and shall amend and supplement Specifications CW 2030 and CW 2130, latest editions.

MATERIALS

E14.2 Bedding and Backfill

- E14.2.1 Bedding and Backfill shall be in accordance with Specification CW 2030, latest edition, with Class 2 Bedding and Backfill used in all pavement areas.

E14.3 Catch Basins

- E14.3.1 All catch basins shall have diameters as shown on the Drawings, with a standard frame with standard grated cover.

CONSTRUCTION METHODS.

E14.4 General

- E14.4.1 Land drainage sewers shall be installed in a trench in accordance with Clause 3.3 of CW 2130, latest edition.
- E14.4.2 Land drainage sewers may be installed using trenchless methods in accordance with Clause 3.4 of CW 2130, as approved by the Contract Administrator.
- E14.4.3 Inlet control devices shall be installed in locations shown on the Drawings, in accordance with Specification CW 2130, latest edition.

MEASUREMENT AND PAYMENT

E14.5 Inlet Flow Restrictor

- E14.5.1 Supply and installation of inlet flow restrictors will be measured on a unit basis for each size and paid for at the Contract Unit Price for "Inlet Flow Restrictor". The amount to be paid for will be the total number of benches removed in accordance with this specification, accepted and measured by the Contract Administrator.

E15. EARTH AND BASE WORKS

DESCRIPTION

E15.1 General

- E15.1.1 This Specification shall amend and supplement Specification CW 3110, latest edition.

MATERIALS

E15.2 Sub-Base

- E15.2.1 Sub-Base shall be crushed limestone and have a maximum aggregate size of 50 millimetres and be supplied in accordance with Clause 2.1 of CW 3110, latest edition.

E15.3 Base Course

- E15.3.1 Base Course shall be crushed limestone in accordance with Clause 2.2 of CW 3110, latest edition.

CONSTRUCTION METHODS

E15.4 General

- E15.4.1 Excavation will be in accordance with Section 3 of CW 3110, latest edition and will be understood to include excavation from existing ground elevation after any pavement removal, to proposed sub-grade elevation. Additional excavation and placement of sub-base material beyond the identified pavement structure will be completed in accordance with CW 3110 as directed by the Contract Administrator.
- E15.4.2 Sub-grade will be prepared in accordance with Clause 3.3 of CW 3110, latest edition. Sub-grade shall be free from any fibrous organics, softened and disturbed soil. The prepared sub-grade shall be proof rolled with a heavy sheep's foot roller (min. 25 passes) and reviewed by the Contract Administrator prior to placement of overlying granular fills.
- E15.4.3 Sub-Base and Base Course will be placed to the compacted thickness as shown on the Drawings. Sub-Base and Base Course will be in accordance with Clauses 3.3 and 3.4 of CW 3110, latest edition.

MEASUREMENT AND PAYMENT

E15.5 Excavation

- E15.5.1 Further to Clause 4.6 of CW 3110-R6, the Contractor will be responsible for providing cross-section surveys and field notes, for review and measurement of quantities by the Contract Administrator. Field notes will include surveyors name, date, and description of Work being measured. All notes will be in neat and legible form and will include both raw data and reduced calculation. All surveys will indicate level circuit closures of 10 mm or less.

E15.6 Base Course

- E15.6.1 Further to Clause 4.6 of CW 3110-R6, the Contractor will be responsible for providing cross-section surveys and field notes, for review and measurement of quantities by the Contract Administrator. Field notes will include surveyors name, date, and description of Work being measured. All notes will be in neat and legible form and will include both raw data and reduced calculation. All surveys will indicate level circuit closures of 10 mm or less.

E16. PAVEMENT CONSTRUCTION

DESCRIPTION

E16.1 General

- E16.1.1 This Specification covers pavement construction including concrete slabs, pads, curb and gutters, asphalt parking areas and pathways, and interlocking paving stones, and shall amend and supplement Specifications CW 3310, CW 3325, CW 3330, CW 3335, and CW 3410, latest editions.

MATERIALS

E16.2 Concrete

- E16.2.1 Concrete entrance slabs, raised walkway slabs, garbage bin pads and curb and gutter sections shall be Type 1 in accordance with Section 6 of CW 3310, latest edition.
- E16.2.2 Concrete median slabs shall be Type 2 in accordance with Section 6 of CW 3310, latest edition.

E16.3 Interlocking Paving Stones

- E16.3.1 Paving stones for raised walkways and concrete medians will be of the same standard type, colour and pattern as existing paving stones in the Phase 1 area.

E16.4 Asphalt

E16.4.1 Asphalt material will be Type 1A and will be supplied in accordance with Sections 5 and 6 of CW 3410, latest edition.

E16.5 Line Painting

E16.5.1 Line painting shall conform to City of Winnipeg specifications for line painting on asphalt surfaces.

(ii) CGSBB1-GP-74 M, alkyd traffic paint

(iii) CGSB 1-GP-12C, Yellow 505-308 for parking lot painting

E16.6 Pinned Parking Curbs

E16.6.1 Pinned parking curbs shall be concrete, 2.44m in length, and pinned securely to the pavement with minimum 20 mm diameter x 500 mm long rebar spikes.

CONSTRUCTION METHODS

E16.7 General

E16.7.1 Concrete slabs and pads shall be constructed according to the details shown on the Drawings and in accordance with Specification CW 3310, latest edition.

E16.7.2 Concrete barrier curb and gutter shall be constructed in accordance to SD-200 with a specified curb height of 150 mm.

E16.7.3 Concrete curb ramp and gutter shall be constructed in accordance to SD-200 with a specified curb in accordance to the curb ramp layout and details in SD-229B and SD-229E.

E16.7.4 Asphalt pavement for parking lots and walkways shall be placed to the compacted thicknesses as shown on the Drawings and in accordance with Specification CW 3410, latest edition.

E16.7.5 Asphalt repairs for construction of the concrete islands shall be done at locations shown on the Drawings and as directed by the Contract Administrator.

E16.7.6 Pinned parking curbs shall be as installed to the locations shown on the Drawings and as directed by the Contract Administrator.

MEASUREMENT AND PAYMENT

E16.8 Concrete Entrance Slab

E16.8.1 Concrete entrance slabs will be measured on an area basis and paid for at the Contract Unit Price for "Construction of 150 mm Entrance Slab (Reinforced)". The amount to be paid for will be the total number of square metres of concrete entrance slab installed in accordance with this specification, accepted and measured by the Contract Administrator.

E16.8.2 Supply and installation of anchors, tie-bars, and shear mat will be included in the payment for "Construction of 150mm Entrance Slab (Reinforced)", and no additional payment will be made.

E16.8.3 Construction of thickened edge portion of concrete entrance slab will be included in the payment for "Construction of 150mm Entrance Slab (Reinforced)", and no additional payment will be made.

E16.9 Raised Concrete Walkway Slab

E16.9.1 Concrete pads will be measured on an area basis and paid for at the Contract Unit Price for "Construction of 200 mm Raised Concrete Walkway Slab (Reinforced)". The amount to be paid for will be the total number of square metres of raised concrete walkway slab installed in accordance with this specification, accepted and measured by the Contract Administrator.

E16.9.2 Construction of formwork for paving stones will be included in the payment for "Construction of 200 mm Raised Concrete Walkway Slab (Reinforced)", and no additional payment will be made.

E16.10 Concrete Garbage Bin Pad

E16.10.1 Concrete pads will be measured on an area basis and paid for at the Contract Unit Price for "Construction of 200 mm Concrete Garbage Bin Pad (Reinforced)". The amount to be paid for will be the total number of square metres of raised concrete garbage bin pad installed in accordance with this specification, accepted and measured by the Contract Administrator.

E16.11 Concrete Median Slab

E16.11.1 Concrete median slabs will be measured on an area basis and paid for at the Contract Unit Price for "Construction of 100 mm Concrete Median Slabs". The amount to be paid for will be the total number of square metres of concrete median slabs installed in accordance with this specification, accepted and measured by the Contract Administrator.

E16.11.2 Construction of formwork for paving stones and ledgers for installation of salvaged tree grates will be included in the payment for "Construction of 100 mm Concrete Median Slabs", and no additional payment will be made.

E16.12 Asphaltic Concrete Pavement

E16.12.1 Construction of asphaltic concrete pavement will be measured on a weight basis and paid for at the Contract Unit Price for "Construction of Asphaltic Concrete Pavement", which will include all Items of Work such as asphalt parking lots, walkways and repairs. The amount to be paid for will be the total number of tonnes placed and compacted in accordance with this specification and accepted by the Contract Administrator.

E16.13 Line Painting

E16.13.1 Line painting will not be measured but will be paid for at the Contract Unit Price per single (1) lump sum item for "Line Painting" in accordance with this Specification and accepted by the Contract Administrator.

E16.14 Pinned Parking Curbs

E16.14.1 Pinned parking curbs will be measured on a unit basis and paid for at the Contract Unit Price for "Supply and Install Pinned Parking Curbs". The amount to be paid for will be the total number of pinned parking curbs supplied and installed in accordance with this specification, accepted and measured by the Contract Administrator.

E17. LANDSCAPING

DESCRIPTION

E17.1 General

E17.1.1 This Specification covers landscaping and shall amend and supplement Specifications CW 3110, CW 3130, CW 3310, CW 3510 and CW 3540, latest editions.

MATERIALS

E17.2 Topsoil and Sodding

E17.2.1 Topsoil shall conform to the materials as outlined in Section 5.2 of CW 3540, latest edition.

E17.2.2 Sod shall conform to the materials as outlined in CW 3510, latest edition.

E17.3 Wood Mulch, Topsoil and Geotextile

- E17.3.1 Wood mulch shall be of the same standard type, size, and dyed colour as existing decorative wood mulch in the Phase 1 area.
- E17.3.2 Geotextile for wood mulch shall be separation fabric in accordance with CW 3130, latest edition.

CONSTRUCTION METHODS

- E17.4 Topsoil and Sodding
 - E17.4.1 Topsoil and Sodding shall be as installed to the limits shown on the Drawings and as directed by the Contract Administrator, in accordance with Specifications CW 3540 and CW 3510.
- E17.5 Wood Mulch, Topsoil and Geotextile
 - E17.5.1 Wood mulch shall be installed according to the details shown on the Drawings.
 - E17.5.2 Geotextile shall be installed in accordance with Specification CW 3130, latest edition.
 - E17.5.3 Topsoil for wood mulch shall be installed in accordance with Specification CW 3540, latest edition.
- E17.6 Salvaged Tree Grates
 - E17.6.1 Salvaged tree grates shall be installed to the locations shown on the Drawings and as directed by the Contract Administrator.

MEASUREMENT AND PAYMENT

- E17.7 Topsoil and Sodding
 - E17.7.1 Topsoil and Sodding will be measured on an area basis and paid for at the Contract Unit Price for "Topsoil and Sodding". The amount to be paid for will be the total number of square metres of topsoil and sod supplied and installed in accordance with this specification, accepted and measured by the Contract Administrator.
- E17.8 Wood Mulch, Topsoil and Geotextile
 - E17.8.1 Wood mulch, topsoil and geotextile will be measured on an area basis and paid for at the Contract Unit Price for "Wood Mulch, Topsoil and Geotextile". The amount to be paid for will be the total number of square metres of wood mulch, topsoil and geotextile supplied and installed in accordance with this specification, accepted and measured by the Contract Administrator.
- E17.9 Salvaged Tree Grates
 - E17.9.1 Salvaged tree grates will be measured on a unit basis and paid for at the Contract Unit Price for "Install Salvaged Tree Grates". The amount to be paid for will be the total number of salvaged tree grates installed in accordance with this specification, accepted and measured by the Contract Administrator.

E18. SITE FURNITURE AND SIGNAGE

DESCRIPTION

- E18.1 General
 - E18.1.1 This Specification covers site furniture, signage and miscellaneous works. This Specification shall amend and supplement Specifications CW 3110 and CW 3310, latest editions.
 - E18.1.2 The Contractor shall furnish all labour, materials, equipment and services necessary to complete the pick-up or supply, and installation of salvaged or new, site furniture and signage.

MATERIALS

E18.2 Removable Steel Bollards

E18.2.1 Removable steel bollards shall be in-ground mounted and conform to City of Winnipeg Planning Property & Development Parks Planning Standard Construction Detail Drawing SCD-105C: Removable Steel Bollard.

E18.2.2 Removable steel bollards to be supplied by the City of Winnipeg and the Contractor shall make arrangements with the following contact for pick-up:

Mr. Murray Burton
Machine Shop Foreman
City of Winnipeg Fleet Management Agency
Ph: (204) 986-5504
E-mail: mburton@winnipeg.ca

E18.3 Benches

E18.3.1 Benches shall be in-ground mounted and conform to City of Winnipeg Planning Property & Development Parks Planning Standard Construction Detail Drawing SCD-121A: Tache Bench Composite with Arms, and SCD-121C: Tache Backless Bench Composite with Arms, as shown on the Drawings.

E18.3.2 Bench frames shall be galvanized.

E18.3.3 Benches to be supplied by the City of Winnipeg and the Contractor shall make arrangements with the following contact for pick-up:

Mr. Marc Laurin
Parks Foreman
City of Winnipeg Parks and Open Spaces
Ph: (204) 479-5489
E-mail: mlaurin@winnipeg.ca

E18.4 Bike Racks

E18.4.1 Bike racks shall be Dero Rolling Rack Model RR3H – 63", with hot dipped galvanized finish and in ground mounted, as manufactured by Dero Bike Racks.

(a) Supplier contact information for Dero Bike Racks:

Mr. Micheal Lacroix
Vice President of Sales
Playgrounds-R-Us
250 Transport Road
Box 7, GRP 582, RR #5
Ph: (204) 632-7000
E-mail: mike@pru.ca

E18.4.2 Substitutes for bike racks shall be considered by the Contract Administrator in accordance with B7. All bike racks shall have a wave style steel frame with a galvanized finish, be in ground mounted, and conform to the required dimensions as shown on the Drawings.

E18.5 Signage

E18.5.1 All signs shall be in accordance with applicable City of Winnipeg Specifications and By-Laws, and the Transportation Association of Canada's Manual of Uniform Traffic Control Devices for Canada, latest editions. Standard stock unit codes for each sign shown on the Drawings, shall be as follows

- (a) No Parking - Fire Lane: RB-52 L or RB-57L
- (b) No Parking: RB-51

- (c) Stop Sign: RA-1
 - (d) Handicap Parking Only: RB-71 or RV-12
 - (e) Do Not Enter: RB-23
 - (f) One Way: RB-21
 - (g) Pedestrian Crossing: RA-4 R/L
 - (h) Bus Loading Zone – No Parking: RB-60
 - (i) Pick-up and Drop Off Only – No Parking: to be custom ordered
 - (j) Accessible Passenger Loading Zone: to be custom ordered
- E18.5.2 Signs to be custom ordered shall be aluminum, minimum 300mm x 450mm in size, with a reflective finish. Contractor shall confirm design layout of sign with Contract Administrator prior to ordering.
- E18.5.3 Sign posts shall be in accordance to applicable City of Winnipeg Specifications and By-Laws, and the Transportation Association of Canada's Manual of Uniform Traffic Control Devices for Canada, latest editions. All posts and hardware shall be steel with hot-dip galvanized zinc coating, supplied by an approved signage manufacturer. U-channel posts shall be used for sign posts secured to fencing, and square or round posts shall be used for stand alone signs posts.
- (a) Square posts – 2" square, 14 gauge tubing with 7/16" diameter holes on 1" centers, full length on all sides.
 - (b) U-Channel Posts – 2.5" wide with 3/8" diameter holes on 2" centers, full length.
 - (c) Round Posts – 2-3/8" O.D.
- E18.5.4 All signs, sign posts and hardware provided shall be new and no salvaged components from the existing signage removals shall be used.

CONSTRUCTION METHODS

- E18.6 General
- E18.6.1 The Contractor shall confirm proposed locations and types of all site furnishings and signage with Contract Administrator prior to installation.
- E18.6.2 All Work is to be located and installed in accordance with the Drawings, SCDs, and following manufacturer's instructions, using approved non-rusting, vandal resistant fasteners to ensure solid, durable, finished work suitable for the purpose intended.
- E18.6.3 All furnishings and signage to be installed plumb and true to correct elevations and location, as directed by the Contract Administrator. The Contractor shall confirm proposed locations of all site furnishings and signage with Contract Administrator prior to installation.
- E18.6.4 All furnishings and signage to be carefully handled so that no parts will be bent, broken or otherwise damaged. Hammering is prohibited;
- E18.6.5 Install as per manufacturer's instructions and the attached drawings.
- E18.7 Salvaged Door Handrails
- E18.7.1 Salvaged door handrails shall be installed to the locations shown on the Drawings and as directed by the Contract Administrator.
- E18.8 Removable Steel Bollards
- E18.8.1 Removable steel bollard shall be installed to the locations shown on the Drawings and conform to City of Winnipeg Planning Property & Development Parks Planning Standard Construction Detail Drawing SCD-105C: Removable Steel Bollard.
- E18.9 Benches

E18.9.1 Benches shall be installed to the locations shown on the Drawings and conform to City of Winnipeg Planning Property & Development Parks Planning Standard Construction Detail Drawing SCD-121A: Tache Bench Composite with Arms, and SCD-121C: Tache Backless Bench Composite with Arms, as shown on the Drawings.

E18.10 Bike Racks

E18.10.1 Bike Racks shall be installed as per the Manufacturer's installation instructions.

E18.11 Signage

E18.11.1 Signage shall be installed to the locations shown on the Drawings and conform to applicable City of Winnipeg Specifications and By-Laws, and the Transportation Association of Canada's Manual of Uniform Traffic Control Devices for Canada, latest editions.

E18.11.2 Sign posts in pavement areas shall be installed using an anchored base system supplied by the sign post manufacturer and installed in accordance to manufacturer recommendations or applicable standards.

E18.11.3 Sign posts in landscaped areas shall be installed by either direct embedment into the ground or using an anchored base system supplied by the sign post manufacturer and installed in accordance to manufacturer recommendations or applicable standards. Sign posts directly embedded into the ground shall be installed a minimum of 600 mm below grade.

E18.11.4 Sign posts may be secured to fencing located within 600 mm of the proposed sign location, only upon approval from the Contract Administrator.

E18.11.5 Sign post alignment tolerance shall be +/- 6 mm from straight line alignment.

MEASUREMENT AND PAYMENT

E18.12 Salvaged Door Handrails

E18.12.1 Salvaged door handrails will be measured on a unit basis and paid for at the Contract Unit Price for "Install Salvaged Door Handrails". The amount to be paid for will be the total number of salvaged door handrails installed in accordance with this specification, accepted and measured by the Contract Administrator.

E18.13 Removable Steel Bollard

E18.13.1 Benches will be measured on a unit basis and paid for at the Contract Unit Price for "Pick-up and Install Removable Steel Bollard". The amount to be paid for will be the total number of benches picked-up from the City and installed in accordance with this specification, accepted and measured by the Contract Administrator.

E18.13.2 Supply and installation of concrete bases will be included in the payment for "Pick-up and Install Removable Steel Bollard", and no additional payment will be made.

E18.14 Benches

E18.14.1 Benches will be measured on a unit basis and paid for at the Contract Unit Price for "Pick-up and Install Benches". The amount to be paid for will be the total number of benches picked-up from the City and installed in accordance with this specification, accepted and measured by the Contract Administrator.

E18.14.2 Supply and installation of concrete bases will be included in the payment for "Pick-up and Install Benches", and no additional payment will be made.

E18.15 Bike Racks

E18.15.1 Bike racks will be measured on a unit basis and paid for at the Contract Unit Price for "Supply and Install Bike Racks". The amount to be paid for will be the total number of bike

racks supplied and installed in accordance with this specification, accepted and measured by the Contract Administrator.

E18.15.2 Fasteners and assembly hardware for bike rack installation shall be included in the payment for "Supply and Install Bike Racks", and no additional payment will be made.

E18.16 Signage

E18.16.1 Signage will be measured on a unit basis and paid for at the Contract Unit Price for "Supply and Install New Sign, Post and Base". The amount to be paid for will be the total number of signs supplied and installed in accordance with this specification, accepted and measured by the Contract Administrator.

E18.16.2 Fasteners and assembly hardware for signage installation shall be included in the payment for "Supply and Install New Sign, Post and Base", and no additional payment will be made.

E19. ELECTRICAL

DESCRIPTION

E19.1 General

E19.1.1 All systems shall be complete and functional. The installation shall be robust and tidy.

E19.1.2 The drawings and specifications identify equipment and systems but do not show all components or details of construction. Include appurtenances, accessories and all other materials and labor necessary for a complete installation.

E19.1.3 Submit to Electrical Inspection Department and supply Authority necessary number of plans and specifications for examination and approval prior to commencement of Work.

E19.1.4 Notify Contract Administrator of changes required by Electrical Inspection Department prior to making changes.

E19.1.5 Pay fees such as for permits, licences, temporary utility service, or any other requirements to perform the Work herein.

E19.1.6 The Contractor shall examine all plans and specifications prior to submitting a bid. Coordinate all work to occur in support of electrical (e.g. concrete work, trenching, backfill and surface restoration, demolition). Coordinate all work required by electrical in support of other trades (controls, starters, wiring, feeders).

E19.1.7 Where a product catalogue number and specified features, sizes, quality or accessories are not in agreement, the Contractor shall contact the Contract Administrator for clarification of the requirements.

E19.1.8 Acceptance of equivalent products will be granted on the basis of the manufacturer and general design only. The individual or firm requesting the acceptance of the product certifies that it will adequately perform the functions called for by the general design plans and associated specifications, be similar and of equal 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 Schedule of Work and Completion Date(s). Furthermore, in the event that the substitute product is accepted, any and all changes required in the applicable Work, and all changes to any other Work, which would become necessary to accommodate the requested substitute, as well as any cost or time impacts that may be associated with the substitute, shall be the responsibility of the individual or firm requesting approval of the substitute product.

E19.1.9 Materials and equipment to be purchased from a Canadian supplier (sales representative) whose sales region includes the project's location.

E19.1.10 Equipment and materials shall tested and listed to CSA standards or another testing agency recognized by the inspection authority. Where there is no alternative to supplying

equipment, which is not certified by a recognized testing agency, obtain special approval from Electrical Inspection Department.

- E19.1.11 Submit shop drawings, product data and samples. Indicate details of construction, dimensions, capacities, weights and electrical performance characteristics of equipment or material. Identify quantities. Identify equipment tags that shop drawings are applicable to. Where applicable, include wiring, single line and schematic diagrams. Include diagrams or plans, showing interconnection with other sections. Provide supplier contact information, including firm and individual name and telephone number, relevant to any equipment to be supplied.
- E19.1.12 During construction, the Contractor shall make any equipment or wiring accessible for review purposes, as requested by the Contract Administrator.
- E19.1.13 Submit record plans detailing all Work as built. Obtain one set of solid white prints to be used for record Work as actually installed. Record on this set, all changes associated with the Work. The Record Drawings must be of the highest quality. Indicate all details of underground runs (conduit type size and quantity, wiring types sizes and quantities, functions of conductors, burial routes and depths).
- E19.1.14 Furnish Certificates of Acceptance from authorities having jurisdiction, to Contract Administrator on completion of Work.
- E19.1.15 Instruct Contract Administrator and City operating and maintenance personnel in the operation, care, and maintenance of equipment.
- E19.1.16 Submit a written guarantee with terms in accordance with those in the Contract Documents.

MATERIALS

E19.2 General

- E19.2.1 Provide wiring as indicated. Wiring shall be copper, minimum size #12AWG or as noted for general power circuits. For outdoor lighting circuits, utilize #6AWG copper.
- E19.2.2 Provide conduit as indicated. Minimum size shall be 21mm. Provide expansion fittings for PVC conduits to accommodate earth and structure movements.
- E19.2.3 In trenches, sand bed shall be nominal 6mm screened sand. Backfill shall be suitable for the area. Meet contract specifications for constructed areas, backfill with original material in suitable locations. Restore disturbed surfaces as required.
- E19.2.4 Identification labels shall be Lamacoid 3mm engraving sheet with black face, white core.

Nameplate Sizes

Size 1	10 x 50 mm - 1 line	3 mm high letters
Size 2	12 x 62 mm - 1 line	6 mm high letters
Size 3	12 x 62 mm - 2 lines	3 mm high letters
Size 4	20 x 75 mm - 1 line	8 mm high letters
Size 5	20 x 75 mm - 2 lines	6 mm high letters
Size 6	25 x 100 mm - 1 line	12 mm high letters
Size 7	25 x 100 mm - 2 lines	8 mm high letters

- E19.2.5 In Category 1&2 areas all rod, bolts, nuts, washers, screws and miscellaneous hardware for electrical item support shall be 304/316 stainless steel unless otherwise specified. The standard of acceptance shall be Unistrut or equivalent. In Category 1&2 areas all Unistrut channels, angles, brackets, etc shall be 304/316 stainless steel. The Contractor may utilize hot-dipped galvanized after fabrication, for supports in dry areas.

- E19.2.6 Metal enclosure surfaces shall be factory finished with primer and two coats.
- E19.2.7 Lugs, terminals, screws used for termination of wiring shall be suitable for either copper or aluminum conductors.
- E19.2.8 For control of pole mounted lighting, provide pole-mounted occupancy sensors by Sensor Switch, model SBOR-6-ODP-BK-3V to match existing. Sensors are IP66. Mount 12 inches below light fixtures. Provide quantity required for 360 degree coverage around each pole. Wire and connect to manufacturer recommendations. Configure dimming and ramping to City preferences.
- E19.2.9 Review existing panelboards. Provide new circuit breakers as required.

CONSTRUCTION METHODS

E19.3 General

- E19.3.1 All works shall be to the Canadian Electrical Code, the Winnipeg Electric Bylaw, the National Building Code, the Manitoba Building Code, National and Provincial Codes and Bulletins, and specifications herein.
- E19.3.2 Installation is to be supervised by a journeyman electrician for entire duration of the project.
- E19.3.3 Maintain wiring phase sequence and colour coding throughout.
- E19.3.4 Manufacturer nameplates and CSA labels shall be visible and legible after installation of equipment.
- E19.3.5 Identify wiring with permanent indelible identifying markings, either numbered or coloured plastic tapes, on both ends of phase conductors of feeders and branch circuit wiring and in junction/pull boxes. Label all wires securely with circuit number or tag numbers in the control panel, junction boxes, and pull boxes.
- E19.3.6 Install conduit and sleeves prior to pouring of concrete. Where plastic sleeves are used in fire rated walls or floors, remove before conduit installation and firestop wall or floor with approved firestopping. Installation of PVC conduit in the hot air flow from heating units shall be avoided.
- E19.3.7 Buried conduit shall be centered horizontally and vertically in sand bed. Marking tape buried to a depth equal to half the trench depth shall be used to indicate the location of the buried conduit. Provide painted lath stakes or other suitable temporary markers to delineate trench during construction to prevent inadvertent damage to conduit. Coordinate trenching and backfill. Provide dimensioned trench layouts on as-built drawings that reference locations of at least two permanent stable visible structures.
- E19.3.8 Firestopping shall be installed where a conduit, wire, cable, cable tray, recessing opening or other penetration is made in a smoke separation, fire separation, firewall, ceiling or floor. The firestop must be ULC approved, installed as part of a ULC approved system. The firestop shall be suitable for the ambient temperature and humidity that it will be normally exposed to.
- E19.3.9 Ensure circuit protective devices such as over current trips, relays and fuses are installed to required values and settings.
- E19.3.10 Megger test circuits, feeders and equipment up to 350 V utilizing a 500 V instrument. Megger test 350-600 V circuits, feeders and equipment with a 1000 V instrument. Provide instruments, meters, equipment and personnel required to conduct tests during and at conclusion of project. Submit test results for Contract Administrator's review.
- E19.3.11 At time of final cleaning (after all construction is complete and floors have been swept), clean lighting reflectors, lenses, and other surfaces that have been exposed to construction and dirt. Clean inside and out, panelboards, splitters, and switchboards, exposed to construction.

MEASUREMENT AND PAYMENT

E19.4 Electrical Work

- E19.4.1 Electrical work will not be measured but will be paid for at the Contract Unit Price per single (1) lump sum item for "Supply and Install all Electrical Components including all Related Work (Including demolition of existing electrical infrastructure)" in accordance with this Specification and accepted by the Contract Administrator.