



THE CITY OF WINNIPEG

BID OPPORTUNITY

BID OPPORTUNITY NO. 489-2011

CORYDON AVENUE STREETScape REVITALIZATION

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PART B - BIDDING PROCEDURES

B1. CONTRACT TITLE

B1.1 CORYDON AVENUE STREETScape REVITALIZATION

B2. SUBMISSION DEADLINE

B2.1 The Submission Deadline is 12:00 noon Winnipeg time, July 27, 2011.

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

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

B3. SITE INVESTIGATION

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

B4. ENQUIRIES

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

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

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

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

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

B5. ADDENDA

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

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

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

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

B5.3 The Bidder shall acknowledge receipt of each addendum in Paragraph 9 of Form A: Bid. Failure to acknowledge receipt of an addendum may render a Bid non-responsive.

B6. SUBSTITUTES

- B6.1 The Work is based on the Plant, Materials and methods specified in the Bid Opportunity.
- B6.2 Substitutions shall not be allowed unless application has been made to and prior approval has been granted by the Contract Administrator in writing.
- B6.3 Requests for approval of a substitute will not be considered unless received in writing by the Contract Administrator at least five (5) Business Days prior to the Submission Deadline.
- B6.4 The Bidder shall ensure that any and all requests for approval of a substitute:
- (a) provide sufficient information and details to enable the Contract Administrator to determine the acceptability of the Plant, Material or method as either an approved equal or alternative;
 - (b) identify any and all changes required in the applicable Work, and all changes to any other Work, which would become necessary to accommodate the substitute;
 - (c) identify any anticipated cost or time savings that may be associated with the substitute;
 - (d) certify that, in the case of a request for approval as an approved equal, the substitute will fully perform the functions called for by the general design, be of equal or superior substance to that specified, is suited to the same use and capable of performing the same function as that specified and can be incorporated into the Work, strictly in accordance with the proposed work schedule and the dates specified in the Supplemental Conditions for Substantial Performance and Total Performance;
 - (e) certify that, in the case of a request for approval as an approved alternative, the substitute will adequately perform the functions called for by the general design, be similar in substance to that specified, is suited to the same use and capable of performing the same function as that specified and can be incorporated into the Work, strictly in accordance with the proposed work schedule and the dates specified in the Supplemental Conditions for Substantial Performance and Total Performance.
- B6.5 The Contract Administrator, after assessing the request for approval of a substitute, may in his sole discretion grant approval for the use of a substitute as an “approved equal” or as an “approved alternative”, or may refuse to grant approval of the substitute.
- B6.6 The Contract Administrator will provide a response in writing, at least two (2) Business Days prior to the Submission Deadline, only to the Bidder who requested approval of the substitute.
- B6.6.1 The Bidder requesting and obtaining the approval of a substitute shall be entirely responsible for disseminating information regarding the approval to any person or persons he wishes to inform.
- B6.7 If the Contract Administrator approves a substitute as an “approved equal”, any Bidder may use the approved equal in place of the specified item.
- B6.8 If the Contract Administrator approves a substitute as an “approved alternative”, any Bidder bidding that approved alternative may base his Total Bid Price upon the specified item but may also indicate an alternative price based upon the approved alternative. Such alternatives will be evaluated in accordance with B15.
- B6.9 No later claim by the Contractor for an addition to the Total Bid Price because of any other changes in the Work necessitated by the use of an approved equal or an approved alternative will be considered.
- B6.10 Notwithstanding B6.2 to B6.9, and in accordance with B7.6 deviations inconsistent with the Bid Opportunity document shall be evaluated in accordance with B15.1(a).

B7. BID COMPONENTS

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

- (a) Form A: Bid;
 - (b) Form B: Prices;
 - (c) Bid Security
 - (i) Form G1: Bid Bond and Agreement to Bond, or
Form G2: Irrevocable Standby Letter of Credit and Undertaking, or
a certified cheque or draft;
- B7.2 Further to B7.1, the Bidder should include the written correspondence from the Contract Administrator approving a substitute in accordance with B6.
- B7.3 All components of the Bid shall be fully completed or provided, and submitted by the Bidder no later than the Submission Deadline, with all required entries made clearly and completely, to constitute a responsive Bid.
- B7.4 The Bid shall be submitted enclosed and sealed in an envelope clearly marked with the Bid Opportunity number and the Bidder's name and address.
- B7.4.1 Samples or other components of the Bid which cannot reasonably be enclosed in the envelope may be packaged separately, but shall be clearly marked with the Bid Opportunity number, the Bidder's name and address, and an indication that the contents are part of the Bidder's Bid.
- B7.5 Bidders are advised not to include any information/literature except as requested in accordance with B7.1.
- B7.6 Bidders are advised that inclusion of terms and conditions inconsistent with the Bid Opportunity document, including the General Conditions, will be evaluated in accordance with B15.1(a).
- B7.7 Bids submitted by facsimile transmission (fax) or internet electronic mail (e-mail) will not be accepted.
- B7.8 Bids shall be submitted to:
The City of Winnipeg
Corporate Finance Department
Materials Management Division
185 King Street, Main Floor
Winnipeg MB R3B 1J1
- B8. BID**
- B8.1 The Bidder shall complete Form A: Bid, making all required entries.
- B8.2 Paragraph 2 of Form A: Bid shall be completed in accordance with the following requirements:
 - (a) if the Bidder is a sole proprietor carrying on business in his own name, his name shall be inserted;
 - (b) if the Bidder is a partnership, the full name of the partnership shall be inserted;
 - (c) if the Bidder is a corporation, the full name of the corporation shall be inserted;
 - (d) if the Bidder is carrying on business under a name other than his own, the business name and the name of every partner or corporation who is the owner of such business name shall be inserted.
- B8.2.1 If a Bid is submitted jointly by two or more persons, each and all such persons shall identify themselves in accordance with B8.2.
- B8.3 In Paragraph 3 of Form A: Bid, the Bidder shall identify a contact person who is authorized to represent the Bidder for purposes of the Bid.
- B8.4 Paragraph 11 of Form A: Bid shall be signed in accordance with the following requirements:

- (a) if the Bidder is a sole proprietor carrying on business in his own name, it shall be signed by the Bidder;
- (b) if the Bidder is a partnership, it shall be signed by the partner or partners who have authority to sign for the partnership;
- (c) if the Bidder is a corporation, it shall be signed by its duly authorized officer or officers and the corporate seal, if the corporation has one, should be affixed;
- (d) if the Bidder is carrying on business under a name other than his own, it shall be signed by the registered owner of the business name, or by the registered owner's authorized officials if the owner is a partnership or a corporation.

B8.4.1 The name and official capacity of all individuals signing Form A: Bid should be printed below such signatures.

B8.5 If a Bid is submitted jointly by two or more persons, the word "Bidder" shall mean each and all such persons, and the undertakings, covenants and obligations of such joint Bidders in the Bid and the Contract, when awarded, shall be both joint and several.

B9. PRICES

B9.1 The Bidder shall state a price in Canadian funds for each item of the Work identified on Form B: Prices.

B9.2 The quantities listed on Form B: Prices are to be considered approximate only. The City will use said quantities for the purpose of comparing Bids.

B9.3 The quantities for which payment will be made to the Contractor are to be determined by the Work actually performed and completed by the Contractor, to be measured as specified in the applicable Specifications.

B9.4 Payments to Non-Resident Contractors are subject to Non-Resident Withholding Tax pursuant to the Income Tax Act (Canada).

B10. QUALIFICATION

B10.1 The Bidder shall:

- (a) undertake to be in good standing under The Corporations Act (Manitoba), or properly registered under The Business Names Registration Act (Manitoba), or otherwise properly registered, licensed or permitted by law to carry on business in Manitoba; and
- (b) be financially capable of carrying out the terms of the Contract; and
- (c) have all the necessary experience, capital, organization, and equipment to perform the Work in strict accordance with the terms and provisions of the Contract.

B10.2 The Bidder and any proposed Subcontractor (for the portion of the Work proposed to be subcontracted to them) shall:

- (a) be responsible and not be suspended, debarred or in default of any obligations to the City. A list of suspended or debarred individuals and companies is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/debar.stm>

B10.3 The Bidder and/or any proposed Subcontractor (for the portion of the Work proposed to be subcontracted to them) shall:

- (a) have successfully carried out work similar in nature, scope and value to the Work; and
- (b) be fully capable of performing the Work required to be in strict accordance with the terms and provisions of the Contract; and
- (c) have a written workplace safety and health program if required pursuant to The Workplace Safety and Health Act (Manitoba);

- B10.4 Further to B10.3(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/Subcontractor has a workplace safety and health program meeting the requirements of The Workplace Safety and Health Act (Manitoba), by providing:
- (a) a valid COR certification number under the Certificate of Recognition (COR) Program administered by the Manitoba Construction Safety Association or by the Manitoba Heavy Construction Association's Safety, Health and Environment Program; or
 - (b) 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>)
- B10.5 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.
- B10.6 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.

B11. BID SECURITY

- B11.1 The Bidder shall provide bid security in the form of:
- (a) a bid bond, in the amount of at least ten percent (10%) of the Total Bid Price, and agreement to bond of a company registered to conduct the business of a surety in Manitoba, in the form included in the Bid Submission (Form G1: Bid Bond and Agreement to Bond); or
 - (b) an irrevocable standby letter of credit, in the amount of at least ten percent (10%) of the Total Bid Price, and undertaking issued by a bank or other financial institution registered to conduct business in Manitoba and drawn on a branch located in Winnipeg, in the form included in the Bid Submission (Form G2: Irrevocable Standby Letter of Credit and Undertaking); or
 - (c) a certified cheque or draft payable to "The City of Winnipeg", in the amount of at least fifty percent (50%) of the Total Bid Price, drawn on a bank or other financial institution registered to conduct business in Manitoba.
- B11.1.1 If the Bidder submits alternative bids, the bid security shall be in the amount of the specified percentage of the highest Total Bid Price submitted.
- B11.1.2 All signatures on bid securities shall be original.
- B11.1.3 The Bidder shall sign the Bid Bond.
- B11.1.4 The Surety shall sign and affix its corporate seal on the Bid Bond and the Agreement to Bond.
- B11.2 The bid security of the successful Bidder and the next two lowest evaluated responsive and responsible Bidders will be released by the City when a Contract for the Work has been duly executed by the successful Bidder and the performance security furnished as provided herein. The bid securities of all other Bidders will be released when a Contract is awarded.
- B11.2.1 Where the bid security provided by the successful Bidder is in the form of a certified cheque or draft pursuant to B11.1(c), it will be deposited and retained by the City as the performance security and no further submission is required.
 - B11.2.2 The City will not pay any interest on certified cheques or drafts furnished as bid security or subsequently retained as performance security.

B11.3 The bid securities of all Bidders will be released by the City as soon as practicable following notification by the Contract Administrator to the Bidders that no award of Contract will be made pursuant to the Bid Opportunity.

B12. OPENING OF BIDS AND RELEASE OF INFORMATION

B12.1 Bids will be opened publicly, after the Submission Deadline has elapsed, in the office of the Corporate Finance Department, Materials Management Division, or in such other office as may be designated by the Manager of Materials.

B12.1.1 Bidders or their representatives may attend.

B12.2 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/default.stm>

B12.3 After award of Contract, the name(s) of the successful Bidder(s) and the Contract amount(s) will be available on the Closed Bid Opportunities (or Public/Posted Opening & Award Results) page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/default.stm>

B12.4 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.

B13. IRREVOCABLE BID

B13.1 The Bid(s) submitted by the Bidder shall be irrevocable for the time period specified in Paragraph 10 of Form A: Bid.

B13.2 The acceptance by the City of any Bid shall not release the Bids of the next two lowest evaluated responsive Bidders and these Bidders shall be bound by their Bids on such Work until a Contract for the Work has been duly executed and the performance security furnished as herein provided, but any Bid shall be deemed to have lapsed unless accepted within the time period specified in Paragraph 10 of Form A: Bid.

B14. WITHDRAWAL OF BIDS

B14.1 A Bidder may withdraw his Bid without penalty by giving written notice to the Manager of Materials at any time prior to the Submission Deadline.

B14.1.1 Notwithstanding 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.

B14.1.2 The City will assume that any one of the contact persons named in Paragraph 3 of Form A: Bid or the Bidder's authorized representatives named in Paragraph 11 of Form A: Bid, and only such person, has authority to give notice of withdrawal.

B14.1.3 If a Bidder gives notice of withdrawal prior to the Submission Deadline, the Manager of Materials 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 11 of Form A: Bid; and
- (c) if the notice has been given by any one of the persons specified in B14.1.3(b), declare the Bid withdrawn.

B14.2 A Bidder who withdraws his Bid after the Submission Deadline but before his Bid has been released or has lapsed as provided for in B13.2 shall be liable for such damages as are

imposed upon the Bidder by law and subject to such sanctions as the Chief Administrative Officer considers appropriate in the circumstances. The City, in such event, shall be entitled to all rights and remedies available to it at law, including the right to retain the Bidder's bid security.

B15. EVALUATION OF BIDS

B15.1 Award of the Contract shall be based on the following bid evaluation criteria:

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

B15.2 Further to B15.1(a), the Award Authority may reject a Bid as being non-responsive if the Bid 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.

B15.3 Further to B15.1(b), the Award Authority shall reject any Bid submitted by a Bidder who does not demonstrate, in his Bid or in other information required to be submitted, that he is responsible and qualified.

B15.4 Further to B15.1(c), the Total Bid Price shall be the sum of the quantities multiplied by the unit prices for each item shown on Form B: Prices.

B15.4.1 If there is any discrepancy between the Total Bid Price written in figures, the Total Bid Price written in words and the sum of the quantities multiplied by the unit prices for each item, the sum of the quantities multiplied by the unit prices for each item shall take precedence.

B15.4.2 Further to B15.1(a), in the event that a unit price is not provided on Form B: Prices, the City will determine the unit price by dividing the Amount (extended price) by the approximate quantity, for the purposes of evaluation and payment.

B16. AWARD OF CONTRACT

B16.1 The City will give notice of the award of the Contract or will give notice that no award will be made.

B16.2 The City will have no obligation to award a Contract to a Bidder, even though one or all of the Bidders are determined to be responsible and qualified, and the Bids are determined to be responsive.

B16.2.1 Without limiting the generality of B16.2, the City will have no obligation to award a Contract where:

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

B16.3 Where an award of Contract is made by the City, the award shall be made to the responsible and qualified Bidder submitting the lowest evaluated responsive Bid, in accordance with B15.

B16.3.1 Following the award of contract, a Bidder will be provided with information related to the evaluation of his Bid upon written request to the Contract Administrator.

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 construction of festoon light poles and site furniture including concrete foundations, concrete paving, unit paving, concrete curb, lighting, and bike racks.

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

- (a) Concrete paving
- (b) Unit paving
- (c) Concrete curb
- (d) Festoon light poles
- (e) Concrete foundations for light poles
- (f) Bike racks

D3. CONTRACT ADMINISTRATOR

D3.1 The Contract Administrator is McGowan Russell Group Inc., represented by:

Aaron Hirota, MALA, CSLA
Landscape Architect
200-120 Fort Street, Winnipeg, MB, R3C 1C7
Telephone No. (204) 956-0396
Facsimile No. (204) 956-1265

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

D4. CONTRACTOR'S SUPERVISOR

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

D5. NOTICES

D5.1 Except as provided for in C23.2.2, all notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications to the Contractor shall be sent to the address or facsimile number identified by the Contractor in Paragraph 2 of Form A: Bid.

D5.2 All notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications to the City, except as expressly otherwise required in D5.3, D5.4 or elsewhere in the Contract, shall be sent to the attention of the Contract Administrator at the address or facsimile number identified in D3.1.

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

The City of Winnipeg
Chief Financial Officer
Facsimile No.: (204) 949-1174

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

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

D6. FURNISHING OF DOCUMENTS

- D6.1 Upon award of the Contract, the Contractor will be provided with five (5) complete sets of the Bid Opportunity. If the Contractor requires additional sets of the Bid Opportunity, they will be supplied to him at cost.

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) automobile liability insurance for owned automobiles used for or in connection with the Work in the amount of at least two million dollars (\$2,000,000.00) at all times during the performance of the Work and until the date of Total Performance;
- D9.2 Deductibles shall be borne by the Contractor.

D9.3 The Contractor shall provide the City Solicitor 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 the date specified in C4.1 for the return of the executed Contract.

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 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 letter of intent and 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.

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 the date specified in C4.1 for the return of the executed Contract.

D12. DETAILED WORK SCHEDULE

D12.1 The Contractor shall provide the Contract Administrator with a detailed work schedule (Form L: Detailed Work Schedule) at least two (2) Business Days prior to the commencement of any Work on the Site but in no event later than the date specified in C4.1 for the return of the executed Contract.

D12.2 All dates and time periods in the detailed work schedule shall be consistent with Form F: Work Schedule provided in the Contractor's Bid except that:

- (a) if the actual date that the letter of intent is issued is later than the assumed date indicated in B11, the Contractor may adjust fixed dates proposed on Form F: Work Schedule, by not more than the difference between the aforementioned assumed and actual dates;

SCHEDULE OF WORK

D13. COMMENCEMENT

- D13.1 The Contractor shall not commence any Work until he is in receipt of a letter of intent from the Award Authority authorizing the commencement of the Work.
- D13.2 The Contractor shall not commence any Work on the Site until:
- (a) the Contract Administrator has confirmed receipt and approval of:
 - (i) evidence 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;
 - (vii) the detailed work schedule specified in D12; and
 - (b) the Contractor has attended a pre-construction meeting with the Contract Administrator, or the Contract Administrator has waived the requirement for a pre-construction meeting.
- D13.3 The Contractor shall commence the Work on the Site within seven (7) Working Days of receipt of the letter of intent.

D14. WORKING DAYS

- D14.1 Further to C1.1(gg), the Contract Administrator's determination of whether or not atmospheric and Site conditions are such that a Working Day is deemed to have elapsed may be based at one time on one type of work while at another time a Working Day may be based on another type of work. When more than one type of major work is involved, the quantity of equipment that must be able to work in order to meet the requirements of a Working Day may vary considerably from that specified in the General Conditions.
- D14.2 In the event that incidental work is behind schedule which, in the opinion of the Contract Administrator, should have been or could have been carried out by the Contractor in conjunction with or immediately following work of a major type, the City hereby reserves the right to charge Working Days on the incidental work until such time as it is up to schedule.
- D14.3 When the major type of work involves restoration of the site to the condition it was prior to rainfall, Working Days shall not be charged.
- D14.4 The Contract Administrator will furnish the Contractor with a daily record for each major type of work showing various information concerning the equipment, the time it worked, could have worked and Working Days charged. This report is to be signed each day by an authorized representative of the Contractor.

D15. SUBSTANTIAL PERFORMANCE

- D15.1 The Contractor shall achieve Substantial Performance by November 12, 2011.
- D15.2 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.
- D15.3 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.

D16. TOTAL PERFORMANCE

- D16.1 The Contractor shall achieve Total Performance by May 1, 2012.
- D16.2 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.
- D16.3 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.

D17. LIQUIDATED DAMAGES

- D17.1 If the Contractor fails to achieve Substantial Performance in accordance with the Contract by the day fixed herein for Substantial Performance, the Contractor shall pay the City One Thousand dollars (\$1000) per Working Day for each and every Working Day following the day fixed herein for Substantial Performance during which such failure continues.
- D17.2 The amount specified for liquidated damages in D17.1 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.
- D17.3 The City may reduce any payment to the Contractor by the amount of any liquidated damages assessed.

CONTROL OF WORK

D18. JOB MEETINGS

- D18.1 Regular 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.
- D18.2 The Contract Administrator reserves the right to cancel any job meeting or call additional job meetings whenever he deems it necessary.

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

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

MEASUREMENT AND PAYMENT

D20. PAYMENT

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

D21. PAYMENT SCHEDULE

- D21.1 Further to C12, payment shall be in accordance with the following payment schedule:

- (a) Monthly progress billings for all works.

WARRANTY

D22. WARRANTY

- D22.1 Notwithstanding C13.2, the warranty period shall begin on the date of Total Performance and shall expire two (2) years thereafter unless extended pursuant to C13.2.1 or C13.2.2, in which case it shall expire when provided for thereunder.
- D22.2 Notwithstanding C13.2 or D22.1, 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) 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; or
- D22.2.1 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. 489-2011

CORYDON AVENUE STREETScape REVITALIZATION

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. 489-2011
CORYDON AVENUE STREETScape REVITALIZATION

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

(Name of Contractor)

(Address of Contractor)

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

_____ Canadian dollars.

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

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

Partial drawings are permitted.

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

(Address)

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

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

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

(Date)

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

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

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

(Name of bank or financial institution)

Per: _____
(Authorized Signing Officer)

Per: _____
(Authorized Signing Officer)

PART E - SPECIFICATIONS

GENERAL

E1. APPLICABLE SPECIFICATIONS AND DRAWINGS

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

<u>Drawing No.</u>	<u>Drawing Name/Title</u>
L1	Site Layout Plan
L2	Site Layout Plan
L3	Enlargement Plans
L4	Details

GENERAL REQUIREMENTS

E2. SITE CONDITION

- E2.1 The Contractor shall examine the Site and make themselves familiar with the existing conditions (both above and below grade) and nature of Work to be done.
- E2.2 Surface and sub-surface conditions shown on the Drawings and included herein are provided for general information and variations there from shall not affect the terms of the Contract.
- E2.3 The Contractor shall set all necessary control lines, benchmarks, survey, elevation stakes and layout in accordance with the individual Site conditions and in consultation with the Contract Administrator.

E3. LAYOUT OF WORKS

- E3.1 The Contractor will Work from layout information provided in the construction drawings and will be responsible to provide a full time experienced survey crew to layout and continuously check the locations and elevations of all components and paving patterns of the Work included in this Contract.
- E3.2 The Contractor must provide all necessary survey equipment in good operating conditions.
- E3.3 The Contractor shall supply all materials (painting, stakes, ribbon, markers, etc) and labour necessary for the accurate location and setting out of the Work.
- E3.4 From time to time the Contract Administrator may have a survey crew on the Site, but they will check the Work done by the Contractor's survey personnel only. The checking of the Work by the City's surveyors will not relieve the Contractor of any responsibility of the correctness of the Work. Should any structure or paving or any part thereof be installed in any location other than

that shown on the Drawings, then the error shall be rectified by the Contractor all at his own expense and at the satisfaction of, and in a manner specified by the Contract Administrator.

- E3.5 All costs associated with this item of Work shall be included in the unit prices bid for the supply and installation of the various items in the contract.

E4. PROTECTION OF THE SURVEY INFRASTRUCTURE

- E4.1 Notwithstanding clause 4 "Protection of Survey Bars" of the Standard Provisions; Current legislation, The Surveys Act, places the onus on those undertaking construction to protect the Survey Infrastructure from damage as a result of their activity.
- E4.2 Further to C:6.26 (g), at least 72 hours prior to the commencement of the On-Site Work the Contractor shall contact the City of Winnipeg, Geomatics Services Branch at 986-4826 (8:00 am to 4:00 pm Monday to Friday excluding holidays) to obtain underground clearance. Geomatics Services will locate and mark all known outline survey monuments and geodetic control monuments and confirm the physical condition of those monuments upon completion of construction, at no cost to the Contractor.
- E4.3 Where a survey post, bar or control monument lies in the line of the proposed Work and must be disturbed, the Contractor shall provide the Contract Administrator with 48 hours notice to permit referencing for future replacement, at no cost to the Contractor. Failure to provide the specified notice shall result in the Contractor paying for all costs associated with replacing or relocating the disturbed outline survey monuments and geodetic control monuments.
- E4.4 Survey monuments and geodetic control monuments at or adjacent to the Site, not in the line of the proposed construction that are damaged or disturbed by the Contractor shall be replaced or relocated by the City or its agent and all associated costs shall be paid for by the Contractor. An approximate estimate of the costs involved to restore a legal survey monument is \$1,000 per bar and \$3,000 per control monument. Contractors must ensure their landscaping and other subcontractors are aware of this clearance procedure and the potential restoration costs.
- E4.5 Where possible, amounts owed to the City in accordance with the above will be deducted from any payments to be made by the City to the Contractor.

E5. PEDESTRIAN SAFETY AND TRAFFIC MANAGEMENT

- E5.1 Further to CW 1130-R1, the Contractor shall take such measures as are necessary to ensure safe and convenient pedestrian ingress and egress is maintained to private properties while he is Working near them. Any damage caused by the negligence of the Contractor or his Sub-Contractors to the adjacent Works or properties, shall be promptly repaired by him at his own expense, to the satisfaction of the Contract Administrator.
- E5.2 Ambulance/ Emergency vehicle access must be maintained at all times.

E6. CONSTRUCTION FACILITIES AND STAGING

- E6.1 The Contractor shall be responsible for providing his own storage area for storage and handling of all his construction operations. The use of public right-of-ways will not be allowed.

E7. ALL-WEATHER DUMP SITE

- E7.1 The Contractor shall have access to an all-weather dump site throughout the duration of the project. Prior to the start of construction, the Contractor shall provide the Contract Administrator with details in regards to the location of the all-weather dump site.

E8. SURFACE RESTORATIONS

E8.1 The Contractor shall temporarily repair any Work commenced and not completed in the 2011 construction season to the satisfaction of the Contract Administrator. The Contractor shall maintain the temporary repairs in a safe condition as determined by the Contract Administrator until permanent repairs are completed. The Contractor shall bear all costs associated with temporary repairs and their maintenance.

E9. TEMPORARY RELOCATION OF AFFECTED STRUCTURES

E9.1 The Contractor shall temporarily relocate any portable structure such as benches, waste receptacles, picnic benches, etc., which will interfere with the construction of the Work and are not identified as items to be relocated. The Contractor Administrator will identify the temporary locations for the portable structures. Following the completion of the applicable Work the Contractor shall replace the structures to the locations designated by the Contract Administrator. These relocations shall be considered incidental to the associated Works and no separate measurement for payment will be made.

E10. TRUCK WEIGHT LIMITS

E10.1 The City shall not pay for any portion of Material which results in the vehicle exceeding the maximum gross vehicle weight allowed under *The City of Winnipeg Traffic By-Law*, unless such vehicle is operating under special permit.

E11. ACCESS

E11.1 All access is to be on the designated routes through the Site. These routes will be determined at the Pre-Construction Meeting.

E11.2 Access to the Site as required by the Contractor shall be provided and maintained by the Contractor at his own expense and approved by the Contract Administrator.

E11.3 The Contractor's operations shall be limited to the minimum area necessary for undertaking the Work and he shall be responsible for all damage resulting from his Work on private property. The Contractor shall take such measures as are necessary to ensure safe and convenient pedestrian ingress and egress in maintained to private properties while he is working near them. Any damage caused by the negligence of the Contractor or his Sub-Contractors to the adjacent Works or properties, shall be promptly repaired by him at his own expense, to the satisfaction of the Contract Administrator.

E11.4 All necessary precautions shall be exercised by the Contractor so as not to remove, disturb, or damage any existing trees, shrubs, sod, pavements, streets, roads, boulevards, poles, hydrants, water pipes, gas pipes, electrical wires, cables, conduits, sewers or other existing facilities and equipment at the Site of the Work. For all damage incurred in the performance of the Work (either directly or indirectly), the Contractor shall either replace and repair such damage, whichever may be deemed necessary in the opinion of, and acceptable to, the Contract Administrator and the cost of which shall be borne entirely by the Contractor.

E12. EXISTING UNDERGROUND SERVICES

E12.1 The Contractor's attention is drawn to the existing underground lines or services that may be located in the area of the Work.

E12.2 The Contractor shall take all necessary precautions when performing the Work to ensure that no damage is done to these existing services.

E12.3 No responsibility will be assumed by the City for correctness or completeness of the Drawings, when provided, with respect to the existing utilities, pipes or other objects either underground or on the surface, shall not be liable for the incorrectness and inadequacy thereof. It shall be the

responsibility of the Contractor to determine the location of all such utilities, pipes and other objects and to make good any damage done to them.

E12.4 All costs in connection with this item including location of the existing service, repairs to any existing services damaged by the construction operation, etc. shall be included in the unit prices bid for supply and installation of the items included under this Contract.

E12.5 The Contractor will be required to 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.

E12.6 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. EXPOSING EXISTING UNDERGROUND SERVICES AND UTILITIES

E13.1 The exact location and depth of some of the existing underground services and utilities within the project limits are unknown.

E13.2 Therefore, the Contractor shall supply all labour, equipment and materials required to expose all underground services and/or utilities sufficiently far enough in advance of the proposed Works to permit the Contract Administrator where necessary, to adjust the alignment and grade to avoid existing lines and ducts.

E13.3 All costs in connection with this item of Work shall be included in the unit price bid for the various bid items.

E14. EXISTING CURB STOP BOXES

E14.1 During the removal and installation of the concrete pavement, asphalt pathway and unit paving, the Contractor shall take all necessary precautions when Working in the vicinity of any existing curb stop boxes.

E14.2 All existing curb stop boxes not in use as determined by the Contract Administrator shall be abandoned by removing existing curb stop boxes. All costs associated with the abandoning of curb stop boxes are incidental

E14.3 Any existing curb boxes requiring final adjustments (horizontal and/or vertical) are incidental.

E14.4 Any curb stop boxes damaged as a result of the Contractor's operation shall be replaced at his own cost.

E15. MATCHING EXISTING GRADES

E15.1 Wherever the proposed paving, or sod meets existing pathway/pavement, curb edge, or property line, the Contractor shall construct the proposed element to an acceptable grade, as directed by the Contract Administrator, to ensure that proper drainage and accessibility are maintained.

E16. DAMAGE TO EXISTING STRUCTURES, TREES AND PROPERTY

E16.1 All necessary precautions shall be exercised by the Contractor so as not to remove, disturb, or damage any existing trees, shrubs, sod, pavements, streets, roads, boulevards, poles, hydrants, water pipes, gas pipes, electrical wires, cables, conduits, sewers or other existing facilities and equipment at the Site of the Work. For all damage incurred in the performance of the Work (either directly or indirectly), the Contractor shall either replace and repair such damage, whichever may be deemed necessary in the opinion of, and acceptable to City of Winnipeg Contract Administrator, and the cost of which shall be borne entirely by the Contractor. The Contractor shall also indemnify and save harmless the City from all claims made directly or indirectly against it in respect to any such damage.

- E16.2 The Contractor shall take the following precautionary steps to prevent damage from construction activities to existing street trees within the limits of the construction area:
- (a) The Contractor shall not stockpile materials and soil or park vehicles and equipment within 2 metres of existing trees.
 - (b) Trees identified to be at risk by the Contract Administrator are to be strapped with 25x100x2400 wood planks, or suitable protected as approved by the Contract Administrator.
 - (c) Excavation shall be performed in a manner that minimizes damage to the existing root systems. Where possible, excavation shall be carried out such that the edge of the excavation shall be a minimum of 1.5 times the diameter (measured in inches), with the outcome read in feet, from the closest edge of the trunk. Where roots must be cut to facilitate excavation, they shall be pruned neatly at the face of excavation.
 - (d) Operation of equipment within the drip line of the trees shall be kept to a minimum required to perform the Work required. Equipment shall not be parked, repaired, refuelled; construction materials shall not be stored, and earth materials shall not be stockpiled within the drip lines of trees. The drip line of a tree shall be considered to be the ground surface directly beneath the tips of its outermost branches. The Contractor shall ensure that the operations do not cause flooding or sediment deposition on areas where trees are located.
- E16.3 All damage to existing trees caused by the Contractor's activities shall be repaired to the requirements and satisfaction of the Contract Administrator and the City Forester or his/her designate.
- E16.4 No separate measurement or payment will be made for the protection of trees.

E17. PERMITS, NOTICES, LICENCES, CERTIFICATIONS, LAWS, AND RULES

- E17.1 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.
- E17.2 The Site Development Permits (including lot grading and damage deposits) will be obtained and paid for by the City of Winnipeg Planning, Property and Development Department prior to commencement of construction. A copy of this permit will be provided to the Contractor upon award of Contract.
- E17.3 The Contractor shall comply with all laws, ordinances, rules, and regulations that would relate to the Works.

E18. SITE ENCLOSURES

- E18.1 Temporary Site enclosures, as determined necessary at the pre-construction meeting, shall be erected and maintained as required for the duration of the construction period.
- E18.2 Site enclosures shall be considered incidental to the Contract Work.

E19. SITE RESTORATION

- E19.1 Total Performance of the Work shall not be attained until the Contractor has cleaned up the Site and has removed all tools, equipment, waste, debris and surplus foundation earth to the satisfaction of the Contract Administrator. Unless otherwise specified, the Contractor shall restore all areas of the Site beyond the established limit of Work, which have been disturbed by the Contractor's operations to as good as or better than the original condition to the satisfaction of the Contract Administrator. The Contractor shall pay all costs associated with this Work.

E20. REMOVALS

E20.1 Description

E20.1.1 This Specification shall cover the removal of and disposal of all existing site elements, to build all work as shown on the drawings, including, but not limited to:

- (a) Festoon poles including CIP concrete piles
- (b) CIP concrete curb
- (c) Concrete sidewalk and unit paving;
- (d) Bike Racks
- (e) Electrical Work

E20.1.2 Further to City of Winnipeg Specification CW 3110 and due to the extent and nature of underground services in the street right-of-way, the Contractor shall be permitted to use only backhoe type equipment when excavating sub-grade material.

E20.1.3 Further to City of Winnipeg Specifications CW 3230 and CW 3235, the Contractor shall sawcut and remove existing concrete sidewalk, asphalt pavement, concrete pavement and concrete curb as shown on the Drawings and as directed by the Contract Administrator. The removal shall include all existing concrete and base courses where applicable.

E20.1.4 The Work to be done by the Contractor under this Specification shall include the furnishing of all superintendence, overhead, labour, equipment, tools, supplies and all other things necessary for and incidental to the satisfactory performance and completion of all Work hereinafter specified.

E20.2 Equipment

E20.2.1 All equipment shall be of a type approved by the Contract Administrator and shall be kept in good Working order.

E20.3 Construction Methods

E20.3.1 The Contractor shall restrict his activities strictly to within the limits of the Works, unless receiving prior written approval from the Contract Administrator.

E20.3.2 The Contractor shall load and haul all removed material from the Site and dispose of these materials legally at a dump located by the Contractor and approved by the Contract Administrator. Any materials dropped or spilled on any streets during the hauling operations shall be promptly cleaned up at the expense of the Contractor, to the satisfaction of the Contract Administrator.

E20.3.3 The Contractor shall ensure that upon completion of the removal operations, the Site shall be left free of any hazardous depressions and in a neat condition.

E20.3.4 If required and at locations directed by the Contract Administrator, the Contractor shall excavate, remove and dispose of unsuitable subgrade material and replace it with compacted granular material in accordance with Specification CW3110.

E20.3.5 The Contractor shall dispose of all unsuitable and excess materials in accordance with City of Winnipeg Specifications. Disposal is incidental to the unit prices bid.

E20.4 Method of Measurement

E20.4.1 Removal of existing concrete sidewalk paving will be measured on a square meter basis. The square meters to be paid for shall be for all Work and materials supplied in accordance with the specifications and accepted by the Contract Administrator, as computed from measurements made by the Contract Administrator.

E20.4.2 Removal of existing concrete curb will be measured on a lineal meter basis. The lineal meters to be paid for shall be for all Work and materials supplied in accordance with the

specifications and accepted by the Contract Administrator, as computed from measurements made by the Contract Administrator.

E20.4.3 No measurement will be made for filling holes/low areas left by excavation and removals operations as this item shall be incidental to this specification.

E20.4.4 No measurement will be made for the excavation or compaction of the subgrade as this shall be incidental to this specification.

E20.5 Basis of Payment

E20.5.1 Removal of existing concrete sidewalk paving will be paid for at the contract unit price for " Sawcut, remove and dispose of concrete sidewalk paving ", measured as specified herein, which price shall be payment in full for all removals, supplying all materials as required and performing all operations herein described and all other items incidental to the Work included in this specification.

E20.5.2 Removal of existing concrete curb will be paid for at the contract unit price for " Sawcut, remove and dispose of concrete curb", measured as specified herein, which price shall be payment in full for all removals, supplying all materials as required and performing all operations herein described and all other items incidental to the Work included in this specification.

E20.5.3 No payment will be made for filling holes/low areas left by excavation and removals operations as this item shall be incidental to this specification.

E20.5.4 No payment will be made for the excavation or compaction of the subgrade as this shall be incidental to this specification.

E21. CAST-IN-PLACE CONCRETE BASE

E21.1 Description

E21.1.1 The Work covered under this item shall include all concreting operations related to construction of cast-in-place concrete bases for the Festoon Poles in accordance with this Specification and as shown on the Drawings.

E21.1.2 The Work to be done by the Contractor under this Specification shall include the furnishing of all superintendence, overhead, labour, materials, equipment, tools, supplies, etc. necessary for and incidental to satisfactory performance and completion of all Works as hereinafter specified.

E21.2 General

E21.2.1 The Contractor shall be responsible for the supply, safe storage, and handling of all materials set forth in this Specification.

E21.3 Materials

E21.3.1 Handling and Storage of Materials

(a) All materials shall be handled and stored in a careful and Workmanlike manner, to the satisfaction of the Contract Administrator. Storage of materials shall be in accordance with CSA Standard CAN3-A23.1, "Storage of Material", except as otherwise specified herein.

E21.3.2 Testing and Approval

(b) All materials under this Specification shall be subject to inspection and testing by the Contract Administrator or by the Testing laboratory designated by the Contract Administrator. There shall be no charge to the City for any materials taken by the Contract Administrator for testing purposes.

(c) All materials shall conform to CSA Standard CAN3-A23.1

(d) All testing of materials shall conform to CSA Standard CAN3-23.2

- (e) All costs in connection with the testing and approval of concrete bases are incidental and shall be included in the unit price bid for "Supply and Install CIP Concrete Light Standard Base"

E21.4 Cement

- E21.4.1 Cement shall be Type 50, Sulphate-Resistant Cement, conforming to the requirements of CSA Standard CAN3-A5

E21.5 Supplementary Cementing Materials

- E21.5.1 Use of Pozzolans, or silica fume will not be permitted for use in structural concrete supplied under this specification. Fly Ash is permitted to maximum of 15% of cement content

E21.6 Water to CAN/CSA-A23.1-M90

- E21.7 Aggregates to CAN/CSA-A23.1-M90. Coarse aggregates to be normal density.

E21.8 Admixtures

- E21.8.1 No admixtures other than air-entraining agent shall be used without written authorization of the Contract Administrator, unless otherwise specified in these Specifications. It shall be the Contractor's responsibility to ensure that any admixtures is compatible with all other constituent materials.

E21.9 Reinforcing Steel

- E21.9.1 Reinforcing steel shall be deemed to include all reinforcing bars, tie-bars, and dowels.

- E21.9.2 All reinforcing steel to be high strength deformed bars to grade 400MPa (grade 6) deformed Billet Steel Bars. All Bars to conform to CSA G30.12-M1977 / ASTM A615

E21.10 Anchor Bolts, Nuts and Washers

- E21.10.1 Anchor bolts, nuts and washers shall be in accordance with ASTM Grade A325 and shall be hot-dip galvanized in accordance with CSA G164 for a minimum net retention of 600 g/m², for the entire length of the anchor bolts. The treaded portion of the anchor bolts shall extend to the concrete surface.

E21.11 Conduit

- E21.11.1 The conduit shall be 50mm plastic pipe and shall include all incidentals, including watertight splice connections, where applicable.

E21.12 Concrete Mix Design

- E21.12.1 Concrete shall be proportioned in accordance with CAN 3 23.7-77 to meet the following requirements:

- (ii) Minimum Compressive Strength at 28 days = 35 MPa
- (iii) Maximum Water/Cement Ratio = 0.45
- (iv) Minimum Cement Content = 340kg/m³
- (v) Slump = 90mm +/- 13mm
- (vi) Aggregate = 19mm nominal
- (vii) Air Content = 6.0 to 8.0 percent
- (viii) Cement = Type 50

- E21.12.2 All concrete shall be in accordance with CAN23.1, A23.2 and A23.3-M77 (Latest edition)

E21.13 Equipment

- E21.13.1 All equipment shall be of a type approved by the Contract Administrator and shall be kept in good Working order.

E21.14 Construction Methods

E21.14.1 Location and Alignment of Foundations

- (b) Foundations shall be placed in the position shown on the Drawings and as directed by the Contract Administrator in the field.
- (c) Finished foundations shall not deviate from the vertical by more than 1 percent.
- (d) The construction or cast-in-place concrete foundations c/w anchor bolts shall be coordinated with the fabricator of the pole superstructure.

E21.14.2 Buried Utilities

- (e) The Contractor shall exercise extreme caution when constructing the foundations in the vicinity of existing buried utilities. The Contractor shall be responsible for obtaining the exact location of the buried utilities from the appropriate Utility Authority prior to installing the foundations. The Contractor may be required to hand dig to locate street cables, MTS conduits, gas mains, etc., prior to installing the foundations.
- (f) The proposed locations of the pile foundations may be changed by the Contract Administrator if they interfere with the buried utilities.
- (g) The Contractor shall be responsible for all costs that may be incurred for repair/rectification of any damage caused to the existing buried utilities as a result of the Contractor's operations in constructing cast-in-place concrete foundations, as determined by the Contract Administrator.

E21.14.3 Placing Reinforcing Steel

- (h) The Supply and installation of reinforcing steel will be incidental to the Works of this Specification.
- (i) Reinforcing shall be:
 - (i) Place in accordance with the details shown on the Drawings
 - (ii) Rigidly fastened together, and
 - (iii) Lowered in the bore intact before concrete is placed.

E21.14.4 Placing Anchor Bolts

- (j) The supply and installation of anchor bolts will be incidental to the Works of this Specification.
- (k) The anchor bolts shall be aligned with a steel template supplied by the light structure fabricator matching the bolt holes in the sign structure base plate. The setting templates shall be held in place by the top and bottom nuts of the anchor bolts. Extreme care shall be used in this operation.
- (l) Placement of anchor bolts without the steel template will not be permitted.
- (m) The threaded portion of the anchor bolts shall be coated with oil, before the concrete is poured, to minimize the fouling of threads splattered by concrete residue. The portion of anchor bolts projecting from the foundation shall be fully threaded.

E21.14.5 Installation of Conduits

- (n) The supply and installation of plastic conduits will be considered incidental to the Work of this Specification. The Contractor should include the cost of this Work in the construction of concrete foundation Works.
- (o) The number of plastic conduits to be installed in each base will be stipulated on the Drawings or as directed by the Contract Administrator. The conduits shall enter 600mm minimum below ground level and shall protrude the centre of the concrete base. All conduits so terminated above ground shall be plugged by means of plastic plugs, which are to fit snugly in the end of the conduit.

E21.14.6 Placing Concrete

- (p) Care shall be taken to ensure that anchor bolts are vertically aligned and that anchor bolts and conduits are properly positioned prior to placement of concrete.
- (q) Concrete shall not have a free fall of more than 1.5m and shall be placed so that the aggregates will not separate or segregate. The slump of the concrete shall not exceed 110mm. The concrete shall be vibrated throughout the entire length of the foundation.
- (r) Concrete shall be placed to the elevations as shown on the Drawings. The top surface of the foundation shall be finished smooth and even with a hand float.
- (s) Concrete shall be free of water prior to placing concrete. Concrete shall not be placed in or through water unless authorized by Contract Administrator.

E21.14.7 Protection of Newly Placed Concrete

- (t) Newly laid concrete threatened with damage by rain, snow, fog, or mist shall be protected with tarpaulin or other approved means.

E21.14.8 Curing Concrete

- (u) The top of the freshly finished concrete foundations shall be covered and kept moist by means of wet polyester blankets immediately following finishing operations and shall be maintained at above 10 degrees Celsius for at least seven (7) consecutive days thereafter.
- (v) After the finishing is completed, the surface shall be promptly covered with a minimum of a single layer of clean, damp polyester blanket.
- (w) Concrete shall be protected from the harmful effects of sunshine, drying winds, surface dripping or running water, vibration and mechanical shock. Concrete shall be protected from freezing until at least twenty-four (24) hours after the end of the curing period.
- (x) Changes in temperature of the concrete shall be uniform and gradual and shall not exceed 3 degrees Celsius in an hour or 20 degrees Celsius in twenty-four (24) hours.
- (y) Immediately after stripping and patching, formed surfaces shall receive an application of the approved concrete cure and protection system in accordance with the manufacturer's instructions.

E21.14.9 Formwork Removal

- (z) Forms shall not be removed for a period of at least 24 hours after the concrete has been placed. Removal of forms shall be done in a manner to avoid damage to, or spalling of, the concrete.
- (aa) The minimum strength of concrete in place for safe removal of forms shall be 20 Mpa.
- (bb) Field-cured test specimens representative of the in-place concrete being stripped, will be tested to verify the concrete strength.

E21.14.10 Patching of Formed Surfaces

- (cc) Immediately after forms around the top of foundation have been removed, but before any repairing of surface finishing is started, the concrete surface shall be inspected by the Contract Administrator. Any repair of surface finishing stated before this inspection may be rejected and required to be removed.
- (dd) All formed concrete surfaces shall have bolts, ties, struts, and all other timber or metal parts not specifically required for construction purpose cut back fifty (50) mm from the surface before patching.
- (ee) Minor surface defects caused by honeycomb, air pockets greater than 4mm in diameter, and voids left by strutting, and tie holes shall be repaired by removing the defective concrete to sound concrete, dampening the area to be patched and the applying patching mortar. A slurry grout consisting of water and cement, shall be well brushed onto the area to be patched. When the slurry grout begins to lose the water sheen, the patching mortar shall be applied. It shall be struck-off slightly higher than the surface and left for one hour before final finishing to permit initial shrinkage of the patching mortar and it shall be touched up until it is satisfactory to the Contract Administrator. The patch shall be sanded as specified in this Specification, and the final colour shall match the surrounding concrete.

E21.15 Method of Measurement

E21.15.1 The construction of cast-in-place concrete festoon pole foundations will be measured on a unit basis supplied and installed in accordance with the Drawings and Specifications and accepted by the Contract Administrator, as computed from measurements made by the Contract Administrator.

E21.16 Basis of Payment

E21.16.1 The supply and installation of cast-in-place concrete festoon pole foundations will be paid at the contract unit price per unit for "Supply and Install cast-in-place concrete festoon pole foundations" measured as specified herein, which price shall be payment in full for performing all operations herein described and all other items incidental to the Work included in this Specification.

E22. CAST IN PLACE CONCRETE

E22.1 General

E22.1.1 The "General Conditions and Supplemental Conditions" of this Specification and all documents listed in the Bid Opportunity shall apply to and govern all phases of the Work hereinafter specified and/or shown on the Drawings.

E22.1.2 All Work to be to CW 3110 and CW3240.

E22.2 Scope of Work

- (a) The Work of this section comprises the furnishing of all labour, equipment and materials required to complete the supply and installation of all cast-in-place concrete including but not limited to Concrete Curbs, and Landscape Curbs as shown on the Drawings and as hereinafter specified, including, but not necessarily confined to the following:
- (i) Excavation including disposal of excess material.
 - (ii) Subgrade Compaction as required.
 - (iii) Compacted Granular fill Work as required.
 - (iv) Supply, erection and removal of all formwork as required.
 - (v) Design of concrete mixes.
 - (vi) Supply, placing and curing of all Landscape Curbs.
 - (vii) Surface preparation and waterproofing of concrete Works.
 - (viii) Cleanup.

E22.2.1 Samples

- (a) At least 1 week prior to commencing Work, inform Contract Administrator of proposed source of aggregates and provide access for sampling.

E22.2.2 Certificates

- (a) Minimum 1 week prior to starting concrete Work submit (if requested) to Contract Administrator manufacturer's test data and certification by qualified independent inspection and testing laboratory that the following materials will meet specified requirements:
- (i) Portland cement.
 - (ii) Cement slurry bonding agent.
 - (iii) Admixtures.
 - (iv) Aggregates.
 - (v) Water.
 - (vi) Waterproofing
 - (vii) Emulsified asphalt.
 - (viii) Epoxy grout.

- (b) Provide certification that plant, equipment, and materials to be used in concrete complies with requirements of CAN/CSA-A23.1-M90 and that mix design is adjusted to prevent alkali aggregate reactivity problems.
- (c) Provide certification that mix proportions selected will produce concrete of specified quality and yield and that strength will comply with CAN/CSA-A23.1-M90 and that mix design is adjusted to prevent alkali aggregate reactivity problems.

E22.2.3 Construction Quality Control and Placement Procedures.

- (a) Submit proposed quality control procedures for Contract Administrator's approval.
- (b) Submit proposed concrete placement procedures for Contract Administrator's approval.

E22.3 Materials

E22.3.1 Portland cement to CAN3-A5-M1983.

E22.3.2 Water to CAN/CSA-A23.1-M90.

E22.3.3 Aggregates to CAN/CSA-A23.1-M90. Coarse aggregates to be normal density.

E22.3.4 Chemical admixtures to CAN3-A266.2-M78. Contract Administrator to approve accelerating or set retarding admixtures during cold and hot weather placing. Use of calcium chloride is not permitted.

E22.3.5 Curing and sealing compound to: CAN/CSA-A23.1-M90, CPD Acrylic cure and seal or equal and to ASTM C309-81, Type 1 - chlorinated rubber.

E22.3.6 Premoulded joint fillers:

- (a) Bituminous impregnated fibre board: to ASTM D1751-83.

E22.3.7 Concrete Mixes

- (a) All concrete Work shall be in accordance with CSA A23.1 M94-Concrete Materials and methods of concrete construction.
- (b) Proportion normal density concrete in accordance with CSA A23.1-M94 to give the following properties:
- (c) Concrete for Landscape Curbs
 - (i) Cement: Type 10
 - (ii) Maximum Coarse Aggregate: 20mm
 - (iii) Minimum Compressive Strength at 28 days: 32Mpa
 - (iv) Minimum Cement Content: 340 / kg/ cu.m
 - (v) Maximum Water/ Cement Ratio: 0.45
 - (vi) Class of Exposure: C-2
 - (vii) Maximum Slump: 80mm
 - (viii) Air Content: 6-8%
- (d) Do not change concrete mix without prior approval of Contract Administrator.

E22.4 Construction Methods

E22.4.1 Workmanship

- (a) Do all concrete Work in accordance with CAN/CSA-A23.1-M90. All testing of concrete shall be done in accordance with CAN/CSA-A23.2-M90. Obtain Contract Administrator's approval before placing concrete. Provide 3 days notice prior to placing of concrete.
- (b) Pumping of concrete is permitted only after approval of equipment and mix.
- (c) Ensure reinforcement and inserts are not disturbed during concrete placement.

- (d) Do not place load upon new concrete until authorized by Contract Administrator as per City of Winnipeg Standards.

E22.4.2 Construction Joints

(a) Joint Fillers

- (i) Furnish filler for each joint in a single piece for depth and width required for joint, unless otherwise authorized by Contract Administrator. When more than one piece is required for a joint, fasten abutting ends and hold securely by stapling or other positive fastening.

E22.4.3 Finishing of Concrete

(a) General

- (i) Finish concrete in accordance with CAN/CSA/A23.1-M90. Float surface with metal float and bring surface to true grade.

(b) Landscape Curb and Exposed Foundations

- (i) All shall be finished by a specialty concrete finishing subcontractor.
- (ii) The size of finishing crews shall be planned with due regard for the effects of concrete temperatures and atmospheric conditions of the rate of hardening of the concrete.
- (iii) The elevation of the finished shelter slab shall not vary more than 4mm +/- from the design elevation.
- (iv) Finish of all items shall be smooth and clean with no pits, chips, bumps or other surface imperfections.

E22.4.4 Cleanup and Damage

- (a) Immediately on completion of concrete Work the Contractor shall remove from Site all equipment, timbers, shores, excavated materials, unused concrete, rubbish etc. caused by his operations, and leave the Site clean, level and ready for other Works.
- (b) The Contractor shall be responsible for making good all areas damaged by his operations in connection with this Contract regardless of the limits of the Contract as shown on the Drawings.

E22.5 Method of Measurement

E22.5.1 Cast-in-place Concrete will be measured on a linear metre basis as follows:

(a) Supply and Install CIP Concrete Curb

(b) Supply and Install CIP Concrete Landscape Curb

The length to be paid for shall be the total number of linear metres installed in accordance with this Specification and acceptable to the Contract Administrator, as computed from measurements made by the Contract Administrator.

E22.6 Basis of Payment

E22.6.1 Landscape Curb will be paid for at the contract unit price per linear metre for:

(a) "Supply and Install CIP Concrete Curb"

(b) "Supply and Install CIP Concrete Landscape Curb"

measured as specified herein, which price shall be payment in full for performing all operations herein described and all other items incidental to the Work included in this Specification.

E23. CONCRETE SIDEWALK

E23.1 This Specification shall supplement Standard Construction Specification CW 3110 and CW 3325 and shall cover all operations related to the supply and installation of concrete sidewalk.

- E23.2 The Contractor shall construct the proposed sidewalk with block-outs (for brick paving stone) with a minimum 100mm depth of concrete as shown on the Drawings. The block-outs shall be constructed utilizing forming techniques capable of accommodating the proposed paving stone and brick paving to the dimensions and tolerances as shown on the Drawings and as confirmed with brick manufacturer.
- E23.3 The concrete sidewalk shall be poured such that the block-outs and remaining sidewalk act as a monolithic section.
- E23.4 All costs in connection with the additional forming and placement of concrete as a result of the block-outs and additional depths in areas as shown on the Drawing are incidental and shall be included in the unit price bid for "Supply and Install Concrete Sidewalk".
- E23.5 The Contractor shall construct sidewalk ramps to City of Winnipeg SD 229a, SD 229b, SD 229c, SD 229d, SD 229e. All costs in connection with the construction of sidewalk ramps are incidental and shall be included in the unit price bid for "Supply and Install Concrete Sidewalk".
- E23.6 The Contractor shall adjust existing catch basins, manholes, watermain valve boxes, curb stop boxes, etc. to City of Winnipeg specification CW 3210 to meet the finished grade of the proposed sidewalk. All costs in connection with the adjustment of existing catch basins, manholes, watermain valve boxes, curb stop boxes, etc. are incidental and shall be included in the unit price bid for "Supply and Install Concrete Sidewalk".
- E23.7 Method of Measurement
- E23.7.1 Supply and installation of concrete sidewalk will be measured on an area basis. The number to be paid for will be the total number of square metres installed in accordance with this Specification and accepted by the Contract Administrator, as computed by the Contract Administrator.
- E23.8 Basis of Payment
- E23.8.1 Supply and installation of concrete sidewalk will be paid for at the Contract Unit Price per square metre for "Supply and install concrete sidewalk", which price shall be payment in full for supply of all materials and performing all operations herein described and for all other items incidental to the Work included in this Specification.

E24. UNIT PAVING STONE AND BRICK PAVERS

- E24.1 This Specification shall supplement Standard Construction Specification CW 3335 and shall cover all operations related to the supply and installation of Brick Pavers on concrete sidewalk base.
- E24.2 The Work to be done by the Contractor under this Specification shall include the furnishing of all superintendence, overhead, labour, materials, equipment, tools, supplies and all other things necessary for and incidental to the satisfactory performance and completion of all Work as hereinafter specified.
- E24.3 General
- E24.3.1 Store units in a protected location, immediately upon arrival on the Site.
- E24.3.2 Remove from Site any units which have been damaged during transportation and replace.
- E24.4 Materials
- E24.4.1 Brick Pavers on Concrete Sidewalk Base.
- (a) Brick Pavers shall be Belden Brick Pavers, supplied by Alsip's (Contact Jason Alsip 667-3330) as shown on the Construction Drawings and as follows:
- (i) Regimental Red Brick Paver- 93 (3 5/8") x 194 (7 5/8") x 57 (2 1/4") mm
- E24.4.2 Grout

- (a) Grout as specified hereinafter shall be used for grouting paving stone and brick in areas indicated on the drawings. The grout shall have a compressive strength of 25 MPA at 28 days, determined on 50 mm cubes stored and tested in accordance with ASTM C109, and shall consist of normal portland cement, sand and water.
- (b) The water-cement ratio shall be kept in the range of 0.45 to 0.55.
- (c) The grout shall have between 3% and 5% entrained air.
- (d) Acryl stix or approved equal to be used in grout at approximately 4 litres Acryl stix to 3 litres water.
- (e) Admixtures to be used in the grout shall be supplied in accordance with the requirements of the City of Winnipeg Standard CW 3310.
- (f) The grout shall be of a consistency suitable for the application intended as approved by the Contract Administrator.
- (g) The Contractor shall provide the Contract Administrator with a mix design statement certifying the constituent materials and mix proportions that will be used in the grout for approval prior to construction.
- (h) Grout color to match existing color on Site

E24.4.3 Dry Sand/Cement Mix

- (a) Dry sand/cement mix shall consist of 1 part Portland dry mix to 3 parts sand.

E24.4.4 Bedding Sand

- (a) Bedding sand shall be fine aggregate as specified in Section 5.4.1 of Specification CW 3310, with the exception that the sand shall have a minimum of 30% of the particle larger than 3mm.

E24.4.5 Filler Sand

- (a) Filler sand shall have a maximum aggregate size of 3mm.

E24.5 Construction Methods

E24.5.1 Excavation

- (a) Excavation shall comply with Specification CW 3110.
- (b) The excavation shall not extend beyond the specified limits of excavation. The limits of excavation shall be taken as a vertical plane not more than 150mm beyond the limits of the proposed paving stone and brick sidewalk, unless otherwise specified on the Drawings or in the Specifications for the Work.
- (c) The sub-grade shall be excavated to the minimum depth shown on Detail SD-240B, unless otherwise directed by the Contract Administrator.

E24.5.2 Concrete Sidewalk Base

- (a) The Concrete Sidewalk Base shall be constructed in accordance with Specification CW 3325 and as shown on the drawings.

E24.5.3 Preparation of Sand Base

- (a) On top of the concrete sidewalk base, lean mix concrete base and existing areaways a layer of sand shall be placed, depth as indicated on the details.
- (b) The bedding sand layer shall be spread and levelled so that the brick and paving stones when installed are 5mm higher than the finished grade. No more sand shall be spread than can be covered same day by paving stones and brick. The bedding sand layer shall not be compacted prior to laying the paving stones and brick.
- (c) The cost of supplying and placing bedding sand shall be incidental to the installation of the paving stones and brick.
- (d) No paving stones or brick shall be placed until construction of the underlying layers has been approved by the Contract Administrator.

E24.5.4 Installation of Brick Pavers

- (a) Brick Pavers shall be installed in block out areas on concrete sidewalk
- (b) Contractor to verify the exact dimensions of Brick Pavers prior to Installation.
 - (i) Install sand bed to depth specified on Drawings.
 - (ii) Spread only sufficient area which can be covered with pavers and brick same day.
 - (iii) Lay pavers and brick on sand bed hand tight.
 - (iv)
 - i) Where paving pattern is interrupted by vertical structural elements set into underlying concrete base and/or proposed or existing concrete foundation pads - pavers and brick must be sawcut and fit true and hand tight.
 - ii) Vertical Structural Elements are to be set into underlying concrete base and/or concrete slab foundations prior to installation of brick.
 - (v) Commence installation of brick against block-out to obtain straightest possible course for installation.
 - (vi) Brick shall be cut with a saw only, to obtain true even undamaged edges. Chipped pavers are unacceptable.
 - (vii) Crews shall Work on installed brick, not on sand layer.
 - (viii) Sweep remaining sand over all paving stone and brick areas and remove from Site.
 - (ix) Replace at no extra cost all whole or cut stones and brick marked as unacceptable.
 - (x) Remove cracked, chipped, broken or otherwise damaged paving materials from Site immediately.
 - (xi) Upon completion, clean in accordance with manufacturer's recommendations.
 - (xii) Grout in place all paving stones.
 - (xiii) In the area of all sidewalk ramps cut paving stones and brick as required so that they lay flush with no edges extending above finished grade of ramp surface. Ensure that all cuts are made in a logically and aesthetically pleasing manner as approved by Contract Administrator on Site.

E24.6 Method of Measurement

E24.6.1 Supply and installation of Paving Stone and Brick Pavers will be measured on a surface area basis as follows:

- (i) Supply and Install Brick Pavers;
- (ii) Supply and Install Brick Pavers with grout

The surface area to be paid for shall be the total number of square metres supplied and installed in accordance with the Drawings and Specifications and accepted by the Contract Administrator, as computed from measurements made by the Contract Administrator.

E24.7 Basis of Payment

E24.7.1 The supply and installation of Paving Stones will be paid for at the Contract Unit Price per square metre as follows:

- (i) Supply and Install Brick Pavers;
- (ii) Supply and Install Brick Pavers with grout

measured as specified herein, which price shall be payment in full for supplying and installing all materials and performing all operations herein described and all other items incidental to the Work included in this Specification.

E25. FESTOON POLES

E25.1 General

E25.1.1 Description

- (a) The following list generally describes the scope of this section:

Supply and install festoon poles including all mounting/installation hardware and anchor bolts

E25.1.2 Delivery and Storage

- (a) Store units in a protected location, immediately upon arrival on the Site.
(b) Remove from Site any units which have been damaged during transportation and replace.

E25.1.3 Codes

- (a) The following codes to be met:

- | | | |
|------|--------------------------|---------------------------|
| (i) | CAN/CSA-G164-M92 (R2003) | Hot Dip Galvanizing |
| (ii) | CAN3-Z299.3-85 (R2003) | Quality Assurance Program |

E25.2 Products

- E25.2.1 Festoon pole c/w banner bracket, festoon lighting, with electrical connections (model # 9050-00) as supplied by:

Valmont / West Coast Engineering Group Ltd.
1450 Saskatchewan Avenue
Winnipeg, MB R3E 0G3
Contact: Gary Goertzen
T (204) 987-3110
F:(204) 775-9066

- E25.2.2 Anchor bolts and templates to be supplied and delivered for installation in concrete bases.

E25.2.3 Shop Drawings

- (a) Submit shop drawings for all items which are to be custom fabricated.
(b) Contractor shall submit shop drawings, stamped and signed by structural engineer licensed to practice in the Province of Manitoba to Contract Administrator for approval prior to fabrication.

E25.3 Installation

- E25.3.1 Contractor to notify Contract Administrator when all off Site metal work is complete for review and approval of components prior to delivery to Site. Any works delivered to Site that have not been approved by the Contract Administrator may be rejected and will be redone at Contractor's own costs.

- E25.3.2 Festoon poles shall be installed by Valmont - West Coast Engineering on concrete base as indicated on the Construction Drawings.

E25.3.3 Protection after Completion

- (a) Protect and maintain festoon poles, until acceptance of project Work.
(b) Immediately remove from Site, damaged poles and hardware. Replace, repair, re-finish, or otherwise make good to satisfaction of the Contract Administrator.

E25.4 Method of Measurement

- E25.4.1 Supply and installation of festoon pole including banner, festoon lighting, and electrical work will be measured on a unit basis. The number of each item to be paid for will be the total number placed in accordance with this Specification and accepted by the Contract Administrator, as computed by the Contract Administrator.

E25.5 Basis of Payment

- E25.5.1 Supply and installation of festoon pole including banner, festoon lighting, and electrical work will be paid for at the Contract Unit Price for each item, which price shall be payment in full for supply of all materials and performing all operations herein described and for all other items incidental to the Work included in this Specification.
- E25.5.2 No measurement or payment will be made for the supply and installation of hardware, anchor bolts and bolt template as these items are incidental to this specification.

E26. SIGNAGE

E26.1 General

- E26.1.1 The following list generally describes the scope of this Section:

Supply and installation of:

- (a) Aluminium ornamental banners including all mounting hardware.

E26.2 Delivery and Storage

- E26.2.1 Store units in a protected location, immediately upon arrival on the Site.
- E26.2.2 Remove from Site any units which have been damaged during transportation and replace.

E26.3 Materials

- E26.3.1 Banner signs to be manufactured from H32 3mm(.125") Aluminium. Metals shall be free from defaults impairing strength, durability or appearance.
- (a) Finish: The surfaces of the aluminium signs shall be free of visible oil, grease, dirt, mill scale, rust scale, oxides and other foreign matter leaving only shadows and/or streaks caused by rust stain and mill scale oxide.
- (b) Surfaces contaminated with grease, oil or chemicals, or mill scale, must be cleaned prior to painting.
- (c) Clean aluminium with zylol or an equivalent reducer/dry carefully while removing any residue or foreign material.
- (d) Apply an acid wash to the items and dry carefully again. The acid wash should be applied within 2 hours of washing with reducers.
- (e) Apply Sikken's (or approved equal) 2-part primer to the item after the acid wash has set. (Approximately 20 minutes). If the primer cannot be applied within 6 hours of the acid wash, the item must be acid washed again.
- (f) Apply a top coat of paint as per manufacturer's specifications 30 minutes after applying primer and no later than 5 hours after applying the primer. If this cannot be done, the item must be scuff sanded and reprimed again.
- (g) The topcoat for signs shall be one coat of powder coated white colour.
- E26.3.2 In accordance with D22 all signs shall be under warranty for a period of one year.
- E26.3.3 Contract Administrator to supply digital sign design to manufacturer upon contract award.
- E26.3.4 Any damage to paint incurred prior to or during installation shall be repaired within three (3) days of installation.
- E26.3.5 Silkscreen Inks
- (a) Silkscreen artwork with matched UV stable, waterproof transparent inks, 3M Scotchlite 700
- (b) Series enamel-based ink system. Inks shall be compatible to comply with reflective sheeting

- E26.3.6 All signs shall be screen printed or digitally printed with a minimum five (5) year outdoor durability warranty.
- E26.3.7 Street sign toppers are to be printed on both sides.
- E26.3.8 The Contractor shall provide a sample decal in full colour for approval by the City of Winnipeg, prior to beginning on the entire project. Once the sample has been approved by the Contract Administrator, the Contractor shall produce the entire order.

E26.4 Pre-Manufacturer's Approvals

- E26.4.1 After Contract Award and prior to manufacture, Contractor to submit to Contract Administrator one full proof of sign for layout/font approval by Contract Administrator and City of Winnipeg representative.

E26.5 Fabrication

- E26.5.1 Fabrication shall be carried out in accordance with these Specifications and Drawings which form a part of this Contract.
- E26.5.2 The workmanship shall meet established practice in modern shops.
- E26.5.3 The manufacturer's identification marks on signs will not be allowed unless authorized in writing by the Contract Administrator.
- E26.5.4 If damage occurs to the aluminium during fabrication, the Contract Administrator shall be notified to facilitate the implementation of remedial measures. Remedial repair measures will be subject to the approval of the Contract Administrator.
- E26.5.5 Dimensions and fabrication which control the field matching of parts shall receive careful attention in order to avoid field adjustments. Contractor to co-ordinate with Traffic Services regarding method of installation for street sign toppers.

E26.6 Quality Control

- E26.6.1 All workmanship and all material furnished and supplied under this Special Provision are subject to a close and systematic inspection and testing by the Contract Administrator including all operations from the selection and production of materials, the sizing images, etc. through to final acceptance of the Work. The Contractor shall be wholly responsible for the control of all operations, incidental thereto notwithstanding any inspection or approval that may have been previously given. The Contract Administrator reserves the right to reject any materials or Works which are not in accordance with the requirements of this Special Provision.

E26.7 Installation

- E26.7.1 Banner signs shall be installed onto hydro light poles and festoon poles in the manner indicated by the Manufacturer and approval by the Contract Administrator.
- E26.7.2 Protect and maintain signage, including accessories, until acceptance of project Work.
- E26.7.3 Immediately remove from Site, damaged signage and accessories. Replace, repair, re-finish, or otherwise make good to approval of Contract Administrator.

E26.8 Method of Measurement / Basis of Payment

- E26.8.1 No measurement or payment will be made for the supply and installation of banners as these items are incidental and shall be included in the unit price bid for "Supply and Install festoon pole".

E27. ELECTRICAL WORKS

E27.1 General Provisions

- E27.1.1 Contractor to provide electrical shop drawings to Contract Administrator for review and approval prior to any construction.
- E27.1.2 Furnish all labour, materials, equipment and services for the complete installation of the electrical Work as shown on the plans and specified. Complete system to operate to total satisfaction of the Contract Administrator
- E27.1.3 Conform with all Codes and pay all permits and Fees. Upon completion, present a "Certificate of Approval" for electrical Work from the Inspection Department.
- E27.1.4 Examine the Site and local conditions affecting the Work under this contract.
- E27.1.5 Refer to associated drawings and specifications for electrical Work in connection therewith.
- E27.1.6 Install all Work promptly and in advance of concrete pouring and/or construction.
- E27.1.7 The Contractor shall be responsible to make good all "Cutting and Patching" required by his section of the Contract. Include all trenching, backfilling and surface repair. Contractor to push wires where possible at all locations.
- E27.1.8 All Work shall be executed in a first class and workmanlike manner. All supports, hangers, and securing devices shall be solid and substantial. All Work shall be laid out neatly in its mechanical appearance. It shall be logically arranged for simplicity of installation and accessibility.
- E27.1.9 Provide corrected "as-built" drawings on completion of the project. All underground services shall be indicated on as-builts and dimensioned.
- E27.1.10 Identify circuits/equipment with lamacoid nameplates.
- E27.1.11 All electrical apparatus shall be properly grounded according to the latest edition of the "Canadian Electrical Code"
- E27.1.12 All equipment, wiring, conduit, grounding, seals, etc., shall be in compliance with the latest edition of the "Canadian Electrical" and local "Codes". Wiring in finished grade shall be in rigid PVC conduits, complete with ground conductor.
- E27.1.13 Supply and install electrical service and dip at nearest hydro pole in backlane north of Corydon as directed on Site.
- E27.1.14 Supply and install electrical conduit, wiring and connection to festoon poles
- E27.1.15 Co-ordinate installation with Manitoba Hydro. Installation to conform with all utility requirements.
- E27.1.16 Provide ground rod and grounding connections to suit Manitoba Hydro and City of Winnipeg Inspection Department.
- E27.1.17 The Contractor shall carefully examine all drawings relating to the Work, to be certain that the Work under this Contract can be carried out and, prior to the submission of his/her Bid in accordance with B4, report at once to the Contract Administrator any defect, discrepancy, omission or interference affecting the work of this section or the guarantee of same.
- E27.1.18 The Contractor shall be responsible for any damage caused the City or their Contractors by improperly carrying out this contract.
- E27.1.19 The Contractor shall guarantee the satisfactory operation of all work and apparatus included and installed under this section for a period of twelve (12) calendar months after the final acceptance of the project.
- E27.2 Method of Measurement / Basis of Payment
 - E27.2.1 No measurement or payment will be made for electrical work as these items are incidental and shall be included in the unit price bid for "Supply and Install festoon pole".

E28. BIKE RACKS

E28.1 Description

E28.1.1 General

- (a) This Specification covers the supply and installation of bike racks.
- (b) The Work to be done by the Contractor under this Specification shall include the furnishing of all superintendence, overhead, labour, materials, equipment, tools, supplies and all other things necessary or/and incidental to the satisfactory performance and completion of all Work as hereinafter specified.

E28.2 Products

- E28.2.1 Custom bike rack as supplied by:
Urban Park
49 Life Sciences Parkway
Steinbach, MB R5G 2G7
Contact: Myron Krentz
T (800) 775-0018

E28.3 Materials

E28.3.1 General

- (a) Submit shop drawings for bike racks, in accordance with Specification CW 1110. Indicate dimensions, assembly, materials, finishes, anchorage and installation details.

E28.3.2 Bike Racks

- (a) Bike rack to be constructed of aluminium.
- (b) Tubular and plate aluminium shall be 6061-T6.
- (c) Welding in accordance with all applicable specifications and standards.
- (d) All stainless steel components and fastenings shall be 304 or better. Provide plastic spacers and inserts as required to ensure galvanic corrosion does not occur with aluminium components.
- (e) All fasteners and all mounting hardware use to fasten the shelter to the concrete base at ground level must be stainless steel or approved equal
- (f) All paint to be powder paint. Colour as per drawings. Finish to be one layer corrosion resistant, meeting SAE J2334 Scribe specifications. Min. two layers of power paint meeting all applicable specifications and standards. Finish must be applied to ensure that there is no rusting at holes, edges and welds.

E28.4 Detailed Design and Shop Drawings

- E28.4.1 The Contractor shall submit dimensioned, detailed design drawings within five (5) working days when contacted by the Contract Administrator for bike rack. The drawings shall show all details of construction, fastenings, materials and colours.

- E28.4.2 Autocad files of the drawings are available to be emailed upon written request to the Contract Administrator.

E28.5 Construction Methods

E28.5.1 General

- (a) Install surface mount bike rack on concrete paving as shown on the Drawings and as per manufacturer's specifications. Ensure bike rack true and plumb, in accordance with manufacturer's written instructions.
- (b) Bicycle loops to be mounted to sidewalk with chemical anchors or stainless steel expansion Hilti bolts.

E28.5.2 Protection

- (a) Protect installed bike racks from damage from subsequent construction operations. Time operations to minimize risk of damage.
- (b) Remove protection materials upon Substantial Performance of Work, or when risk of damage is no longer present.
- (c) Immediately remove from site, damaged bike racks. Replace, repair, re-finish, or otherwise make good to approval of Contract Administrator.

E28.6 Method of Measurement

- E28.6.1 Supply and Installation of Bike Racks as specified in the Schedule of Prices and as shown on the Drawings will be measured on a unit basis. The number of each item to be paid for will be the total number placed in accordance with this Specification and accepted by the Contract Administrator, as computed by the Contract Administrator.

E28.7 Basis of Payment

- E28.7.1 Supply and Installation of Bike Racks will be paid for at the Contract Unit Price for each item for "Supply and Install Bike Rack", which price shall be payment in full for supply of all material and performing all operations herein described and for all other items incidental to the work included in this Specification.

E29. SODDING

- E29.1 All Work to be to CW 3510 and CW3540.

E29.2 Method of Measurement

- E29.2.1 Sodding will be measured on an area basis. The area to be paid for shall be the total number of square metres sodded and maintained in accordance with this Specification and accepted by the Contract Administrator, as computed from measurements made by the Contract Administrator.

E29.3 Basis of Payment

- E29.3.1 Sodding will be paid for at the Contract Unit Price per square metre for 'Supply and install sod and topsoil', measured as specified herein, which price shall be payment in full for completing all operations herein described and all other items incidental to the Work included in this Specification.