



**THE CITY OF WINNIPEG**

# **BID OPPORTUNITY**

**BID OPPORTUNITY NO. 250-2005**

**ST. VITAL CEMETERY SITE EXPANSION – ROADWAY AND PATHWAY  
CONSTRUCTION**

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## **APPENDIX A – GEOTECHNICAL REPORT**

## **PART B - BIDDING PROCEDURES**

### **B1. PROJECT TITLE**

B1.1 ST. VITAL CEMETERY SITE EXPANSION – ROADWAY AND PATHWAY CONSTRUCTION

### **B2. SUBMISSION DEADLINE**

B2.1 The Submission Deadline is 12:00 noon Winnipeg time, May 20, 2005.

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

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

### **B3. SITE INVESTIGATION**

B3.1 Further to GC:3.1, the Bidder must inform the Municipal Cemeteries Branch before visiting the site to avoid disturbing any internment services. The Municipal Cemeteries Branch will confirm whether the requested site investigation time requested is allowable.

B3.2 To confirm a site investigation time, contact:

Jane Saxby, Administrator  
City of Winnipeg  
Planning, Property, Development Department  
Civic Accommodations Division  
Municipal Cemeteries Branch  
c/o Brookside Cemetery  
3001 Notre Dame Ave.  
Winnipeg, MB R3H 1B8  
Phone: 986-4392  
Cell: 794-4254

### **B4. ENQUIRIES**

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

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

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

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

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

## **B5. ADDENDA**

- B5.1 The Contract Administrator may, at any time prior to the Submission Deadline, issue addenda correcting errors, discrepancies or omissions in the Bid Opportunity, or clarifying the meaning or intent of any provision therein.
- B5.2 The Contract Administrator will issue each addendum at least two (2) Business Days prior to the Submission Deadline, or provide at least two (2) Business Days by extending the Submission Deadline.
- B5.2.1 Addenda will be available on the Bid Opportunities page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at <http://www.winnipeg.ca/matmgt>.
- B5.2.2 The Bidder is responsible for ensuring that he has received all addenda and is advised to check the Materials Management Branch internet site for addenda shortly before submitting his Bid.
- B5.3 The Bidder shall acknowledge receipt of each addendum in Paragraph 10 of Form A: Bid. Failure to acknowledge receipt of an addendum may render a Bid non-responsive.

## **B6. SUBSTITUTES**

- B6.1 The Work is based on the Plant, Materials and methods specified in the Bid Opportunity.
- B6.2 Substitutions shall not be allowed unless application has been made to and prior approval has been granted by the Contract Administrator in writing.
- B6.3 Requests for approval of a substitute will not be considered unless received in writing by the Contract Administrator at least five (5) Business Days prior to the Submission Deadline.
- B6.4 The Bidder shall ensure that any and all requests for approval of a substitute:
- (a) provide sufficient information and details to enable the Contract Administrator to determine the acceptability of the Plant, Material or method as either an approved equal or alternative;
  - (b) identify any and all changes required in the applicable Work, and all changes to any other Work, which would become necessary to accommodate the substitute;
  - (c) identify any anticipated cost or time savings that may be associated with the substitute;
  - (d) certify that, in the case of a request for approval as an approved equal, the substitute will fully perform the functions called for by the general design, be of equal or superior substance to that specified, is suited to the same use and capable of performing the same function as that specified and can be incorporated into the Work, strictly in accordance with the proposed work schedule and the dates specified in the Supplemental Conditions for Substantial Performance and Total Performance;
  - (e) certify that, in the case of a request for approval as an approved alternative, the substitute will adequately perform the functions called for by the general design, be similar in substance to that specified, is suited to the same use and capable of performing the same function as that specified and can be incorporated into the Work, strictly in accordance with the proposed work schedule and the dates specified in the Supplemental Conditions for Substantial Performance and Total Performance.
- B6.5 The Contract Administrator, after assessing the request for approval of a substitute, may in his sole discretion grant approval for the use of a substitute as an “approved equal” or as an “approved alternative”, or may refuse to grant approval of the substitute.

B6.6 The Contract Administrator will provide a response in writing, at least two (2) Business Days prior to the Submission Deadline, only to the Bidder who requested approval of the substitute.

B6.6.1 The Bidder requesting and obtaining the approval of a substitute shall be entirely responsible for disseminating information regarding the approval to any person or persons he wishes to inform.

B6.7 If the Contract Administrator approves a substitute as an "approved equal", any Bidder may use the approved equal in place of the specified item.

B6.8 If the Contract Administrator approves a substitute as an "approved alternative", any Bidder bidding that approved alternative shall base his Total Bid Price upon the specified item but may also indicate an alternative price based upon the approved alternative. Such alternatives will be evaluated in accordance with B15.

B6.9 No later claim by the Contractor for an addition to the Total Bid Price because of any other changes in the Work necessitated by the use of an approved equal or an approved alternative will be considered.

## **B7. BID SUBMISSION**

B7.1 The Bid Submission consists of the following components:

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

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

B7.3 The Bid Submission shall be submitted enclosed and sealed in an envelope clearly marked with the Bid Opportunity number and the Bidder's name and address.

B7.3.1 Samples or other components of the Bid Submission which cannot reasonably be enclosed in the envelope may be packaged separately, but shall be clearly marked with the Bid Opportunity number, the Bidder's name and address, and an indication that the contents are part of the Bidder's Bid Submission.

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

B7.5 Bid Submissions shall be submitted to:

The City of Winnipeg  
Corporate Finance Department  
Materials Management Branch  
185 King Street, Main Floor  
Winnipeg MB R3B 1J1

## **B8. BID**

B8.1 The Bidder shall complete Form A: Bid, making all required entries.

B8.2 Paragraph 2 of Form A: Bid shall be completed in accordance with the following requirements:

- (a) if the Bidder is a sole proprietor carrying on business in his own name, his name shall be inserted;
- (b) if the Bidder is a partnership, the full name of the partnership shall be inserted;
- (c) if the Bidder is a corporation, the full name of the corporation shall be inserted;
- (d) if the Bidder is carrying on business under a name other than his own, the business name and the name of every partner or corporation who is the owner of such business name shall be inserted.

B8.2.1 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 12 of Form A: Bid shall be signed in accordance with the following requirements:

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

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

B8.4.2 All signatures shall be original and shall be witnessed except where a corporate seal has been affixed.

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

## **B9. PRICES**

B9.1 The Bidder shall state 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.

## **B10. QUALIFICATION**

B10.1 The Bidder shall:

- (a) undertake to be in good standing under The Corporations Act (Manitoba), or properly registered under The Business Names Registration Act (Manitoba), or otherwise properly registered, licensed or permitted by law to carry on business in Manitoba;

- (b) be responsible and not be suspended, debarred or in default of any obligation to the City;
- (c) be financially capable of carrying out the terms of the Contract;
- (d) have all the necessary experience, capital, organization, and equipment to perform the Work in strict accordance with the terms and provisions of the Contract;
- (e) have successfully carried out work, similar in nature, scope and value to the Work;
- (f) employ only Subcontractors who:
  - (i) are responsible and not suspended, debarred or in default of any obligation to the City (a list of suspended or debarred individuals and companies is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at <http://www.winnipeg.ca/matmgt>); and
  - (ii) have successfully carried out work similar in nature, scope and value to the portion of the Work proposed to be subcontracted to them, and are fully capable of performing the Work required to be done in accordance with the terms of the Contract;
- (g) have a written workplace safety and health program in accordance with The Workplace Safety and Health Act (Manitoba);

B10.2 The Bidder shall be prepared to submit, within three (3) Business Days of a request by the Contract Administrator, proof satisfactory to the Contract Administrator of the qualifications of the Bidder and of any proposed Subcontractor.

B10.3 The Bidder shall provide, on the request of the Contract Administrator, full access to any of the Bidder's equipment and facilities to confirm, to the Contract Administrator's satisfaction, that the Bidder's equipment and facilities are adequate to perform the Work.

## **B11. BID SECURITY**

B11.1 The Bidder shall provide bid security in the form of:

- (a) a bid bond, in the amount of at least ten percent (10%) of the Total Bid Price, and agreement to bond of a company registered to conduct the business of a surety in Manitoba, in the form included in the Bid Submission (Form G1: Bid Bond and Agreement to Bond); or
- (b) an irrevocable standby letter of credit, in the amount of at least ten percent (10%) of the Total Bid Price, and undertaking issued by a bank or other financial institution registered to conduct business in Manitoba and drawn on a branch located in Winnipeg, in the form included in the Bid Submission (Form G2: Irrevocable Standby Letter of Credit and Undertaking); or
- (c) a certified cheque or draft payable to "The City of Winnipeg", in the amount of at least fifty percent (50%) of the Total Bid Price, drawn on a bank or other financial institution registered to conduct business in Manitoba.

B11.1.1 If the Bidder submits alternative bids, the bid security shall be in the amount of the specified percentage of the highest Total Bid Price submitted.

B11.2 The bid security of the successful Bidder and the next two lowest evaluated responsive and responsible Bidders will be released by the City when a Contract for the Work has been duly executed by the successful Bidder and the performance security furnished as provided herein. The bid securities of all other Bidders will be released when a Contract is awarded.

B11.2.1 Where the bid security provided by the successful Bidder is in the form of a certified cheque or draft pursuant to B11.1(c), it will be deposited and retained by the City as the performance security and no further submission is required.

B11.2.2 The City will not pay any interest on certified cheques or drafts furnished as bid security or subsequently retained as performance security.

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

## **B12. OPENING OF BIDS AND RELEASE OF INFORMATION**

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

B12.1.1 Bidders or their representatives may attend.

B12.1.2 Bid Submissions determined by the Manager of Materials, or his designate, to not include the bid security specified in B11 will not be read out.

B12.2 After the public opening, the names of the Bidders and their Total Bid Prices as read out (unevaluated, and pending review and verification of conformance with requirements) will be available on the Closed Bid Opportunities (or Public/Posted Opening & Award Results) page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at <http://www.winnipeg.ca/matmgt>.

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

B12.4 The Bidder is advised that any information contained in any Bid Submission may be released if required by City policy or procedures, by The Freedom of Information and Protection of Privacy Act (Manitoba), by other authorities having jurisdiction, or by law.

## **B13. IRREVOCABLE BID**

B13.1 The Bid(s) submitted by the Bidder shall be irrevocable for the time period specified in Paragraph 11 of Form A: Bid.

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

## **B14. WITHDRAWAL OF BIDS**

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

B14.1.1 Notwithstanding GC:23.3, the time and date of receipt of any notice withdrawing a Bid shall be the time and date of receipt as determined by the Manager of Materials.

B14.1.2 The City will assume that any one of the contact persons named in Paragraph 3 of Form A: Bid or the Bidder's authorized representatives named in Paragraph 12 of Form A: Bid, and only such person, has authority to give notice of withdrawal.

B14.1.3 If a Bidder gives notice of withdrawal prior to the Submission Deadline, the Manager of Materials shall:

- (a) retain the Bid Submission until after the Submission Deadline has elapsed;
- (b) open the Bid Submission to identify the contact person named in Paragraph 3 of Form A: Bid and the Bidder's authorized representatives named in Paragraph 12 of Form A: Bid; and
- (c) if the notice has been given by any one of the persons specified in B14.1.3(b), declare the Bid withdrawn.

B14.2 A Bidder who withdraws his Bid after the Submission Deadline but before his Bid has been released or has lapsed as provided for in B13.2 shall be liable for such damages as are imposed upon the Bidder by law and subject to such sanctions as the Chief Administrative Officer considers appropriate in the circumstances. The City, in such event, shall be entitled to all rights and remedies available to it at law, including the right to retain the Bidder's bid security.

## **B15. EVALUATION OF BIDS**

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

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

B15.2 Further to B15.1(a), the Award Authority may reject a Bid as being non-responsive if the Bid Submission is incomplete, obscure or conditional, or contains additions, deletions, alterations or other irregularities. The Award Authority may reject all or any part of any Bid, or waive technical requirements if the interests of the City so require.

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

B15.4 Further to B15.1(c), the Total Bid Price shall be the 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.

## **B16. AWARD OF CONTRACT**

B16.1 The City will give notice of the award of the Contract by way of a letter of intent, or will give notice that no award will be made.

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

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

- (a) the prices exceed the available City funds for the Work;
- (b) the prices are materially in excess of the prices received for similar work in the past;

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

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

## **PART C - GENERAL CONDITIONS**

### **C1. GENERAL CONDITIONS**

C1.1 The *General Conditions for Construction Contracts* (Revision 2000 11 09) are applicable to the Work of the Contract.

C1.1.1 The *General Conditions for Construction Contracts* are available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at <http://www.winnipeg.ca/matmgt>.

## **PART D - SUPPLEMENTAL CONDITIONS**

### **GENERAL**

#### **D1. GENERAL CONDITIONS**

- D1.1 In addition to the *General Conditions for Construction Contracts*, these Supplemental Conditions are applicable to the Work of the Contract.
- D1.2 The General Conditions are amended by striking out "The City of Winnipeg Act" wherever it appears in the General Conditions and substituting "The City of Winnipeg Charter".
- D1.3 The General Conditions are amended by striking out "Tender Package" wherever it appears in the General Conditions and substituting "Bid Opportunity".
- D1.4 The General Conditions are amended by striking out "Tender Submission" wherever it appears in the General Conditions and substituting "Bid Submission".
- D1.5 The General Conditions are amended by deleting GC:6.16 and GC:6.17. The City of Winnipeg is now within the jurisdiction of the Manitoba Ombudsman pursuant to The Ombudsman Act.

#### **D2. SCOPE OF WORK**

- D2.1 The Work to be done under the Contract shall consist of constructing a new asphalt surfaced roadway and asphalt serviced pathway to service the north west portion of the St. Vital Cemetery.
- D2.2 The major components of the Work are as follows:
- (a) Stripping and stockpiling topsoil in roadway area
  - (b) Roadway and pathway excavation
  - (c) Sub-base and base course placement and compaction
  - (d) Ditch excavation and existing ditch regrading
  - (e) Widening of existing concrete entrance to Cemetery
  - (f) Placement of asphalt pavement on roadway and pathway using automated paver
  - (g) Final site grading around roadway, ditches, and pathway

#### **D3. CONTRACT ADMINISTRATOR**

- D3.1 The Contract Administrator is Dillon Consulting Limited, represented by:  
David Wiebe, P.Eng.  
Project Manager  
Suite 200 – 895 Waverley Street  
Winnipeg, MB R3T 5P4  
  
Telephone No. (204) 453-2301  
Facsimile No. (204) 452-4412
- D3.2 At the pre-construction meeting, David Wiebe, P.Eng. will identify additional personnel representing the Contract Administrator and their respective roles and responsibilities for the Work.

#### **D4. CONTRACTOR'S SUPERVISOR**

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

#### **D5. NOTICES**

- D5.1 Except as provided for in GC:23.2.2, all notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications to the Contractor shall be sent to the address or facsimile number identified by the Contractor in Paragraph 2 of Form A: Bid.
- D5.2 All notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications to the City, except as expressly otherwise required in D5.3, D5.4 or elsewhere in the Contract, shall be sent to the attention of the Contract Administrator at the address or facsimile number identified in D3.1.
- D5.3 All notices of appeal to the Chief Administrative Officer shall be sent to the attention of the Chief Financial Officer at the following address or facsimile number:

The City of Winnipeg  
Chief Administrative Officer Secretariat  
Administration Building, 3rd Floor  
510 Main Street  
Winnipeg MB R3B 1B9  
Facsimile No.: (204) 949-1174

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

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

#### **D6. FURNISHING OF DOCUMENTS**

- D6.1 Upon award of the Contract, the Contractor will be provided with 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. INSURANCE**

- D7.1 The Contractor shall provide and maintain the following insurance coverage:
- (a) commercial general liability insurance, in the amount of at least two million dollars (\$2,000,000.00) all inclusive, with The City of Winnipeg being added as an additional insured, with a cross-liability clause, such liability policy to also contain a contractual liability, an unlicensed motor vehicle liability and a products and completed operations

endorsement to remain in place at all times during the performance of the Work and throughout the warranty period;

- (b) automobile liability insurance for owned and non-owned automobiles used for or in connection with the Work in the amount of at least two million dollars (\$2,000,000.00) at all times during the performance of the Work and until the date of Total Performance;

D7.2 Deductibles shall be borne by the Contractor.

D7.3 The Contractor shall provide the City Solicitor with a certified true copy or a certificate of insurance of each policy, in a form satisfactory to the City Solicitor, at least two (2) Business Days prior to the commencement of any Work on the Site but in no event later than the date specified in GC:4.1 for the return of the executed Contract.

D7.4 The Contractor shall not cancel, materially alter, or cause each policy to lapse without providing at least fifteen (15) Calendar Days prior written notice to the Contract Administrator.

## **D8. PERFORMANCE SECURITY**

D8.1 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.

D8.1.1 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.

D8.2 If the bid security provided in his Bid Submission was not a certified cheque or draft pursuant to B11.1(c), the Contractor shall provide the City Solicitor with the required performance security within seven (7) Calendar Days of notification of the award of the Contract by way of letter of intent and prior to the commencement of any Work on the Site but in no event later than the date specified in GC:4.1 for the return of the executed Contract.

## **D9. SUBCONTRACTOR LIST**

D9.1 The Contractor shall provide the Contract Administrator with a complete list of the Subcontractors whom the Contractor proposes to engage (Form J: Subcontractor List) at least two (2) Business Days prior to the commencement of any Work on the Site but in no event later than the date specified in the General Conditions for the return of the executed Contract.

## **SCHEDULE OF WORK**

### **D10. COMMENCEMENT**

D10.1 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.

- D10.2 The Contractor shall not commence any Work on the Site until:
- (a) the Contract Administrator has confirmed receipt and approval of:
    - (i) evidence that the Contractor is in good standing under The Corporations Act (Manitoba), or properly registered under The Business Names Registration Act (Manitoba), or otherwise properly registered, licensed or permitted by law to carry on business in Manitoba;
    - (ii) evidence of the workers compensation coverage specified in GC:6.14;
    - (iii) evidence of the insurance specified in D7;
    - (iv) the performance security specified in D8; and
    - (v) the Subcontractor list specified in D9.
  - (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.
- D10.3 The Contractor shall not commence the Work on the Site before June 6, 2005. , and shall commence the Work on Site no later than June 13, 2005, as directed by the Contract Administrator and weather permitting.

## **D11. WORKING DAYS**

- D11.1 Further to GC:1.1(gg);
- D11.1.1 The Contract Administrator will determine daily if a Working Day has elapsed and will record his assessment. On a weekly basis the Contract Administrator will provide the Contractor with a record of the Working Days assessed for the preceding week. The Contractor shall sign each report signifying that he agrees with the Contract Administrator's determination of the Working Days assessed for the report period.
- D11.1.2 Work done to restore the Site to a condition suitable for Work, shall not be considered "work" as defined in the definition of a Working Day.
- D11.1.3 When the Work includes two or more major types of Work that can be performed under different atmospheric conditions, the Contract Administrator shall consider all major types of Work in determining whether the Contractor was able to work in assessing Working Days.

## **D12. RESTRICTED WORK HOURS**

- D12.1 Further to clause 3.10 of CW 1130, the Contractor shall require written permission 48 hours in advance from the Contract Administrator for any work to be performed between 2000 hours and 0700 hours, or on Saturdays, Sundays, Statutory Holidays and or Civic Holidays.
- D12.2 The Contractor shall call the Cemeteries Branch as listed in B3 daily to check if any internments are scheduled for that day. When an internment is scheduled and the funeral procession enters the main cemetery gate, all construction shall cease and motorized equipment shall be turned off. Construction can resume once the formal service has ended. The St. Vital Cemetery typically has 2 – 3 internments a week lasting 30 minutes each during the timeframe of this project.
- D12.3 The normal operating hours of the Cemetery to the public is 0700 to 2100 hours every day. The Contractor will be supplied with two sets of keys to the gates for access outside of normal operating hours. Further to GC 6.27, when the site is closed to the public, the Contractor shall be responsible for keeping the gates locked, or ensuring proper signage and/or security is in place indicating the site is closed if constant access is required for truck hauling or other activities.

**D13. SUBSTANTIAL PERFORMANCE**

- D13.1 The Contractor shall achieve Substantial Performance within ten (10) consecutive Working Days of the commencement of the Work as specified in D10.
- D13.2 When the Contractor considers the Work to be substantially performed, the Contractor shall arrange, attend and assist in the inspection of the Work with the Contract Administrator for purposes of verifying Substantial Performance. Any defects or deficiencies in the Work noted during that inspection shall be remedied by the Contractor at the earliest possible instance and the Contract Administrator notified so that the Work can be reinspected.
- D13.3 The date on which the Work has been certified by the Contract Administrator as being substantially performed to the requirements of the Contract through the issue of a certificate of Substantial Performance is the date on which Substantial Performance has been achieved.

**D14. TOTAL PERFORMANCE**

- D14.1 The Contractor shall achieve Total Performance within twelve (12) consecutive Working Days of the commencement of the Work as specified in D10.
- D14.2 When the Contractor or the Contract Administrator considers the Work to be totally performed, the Contractor shall arrange, attend and assist in the inspection of the Work with the Contract Administrator for purposes of verifying Total Performance. Any defects or deficiencies in the Work noted during that inspection shall be remedied by the Contractor at the earliest possible instance and the Contract Administrator notified so that the Work can be reinspected.
- D14.3 The date on which the Work has been certified by the Contract Administrator as being totally performed to the requirements of the Contract through the issue of a certificate of Total Performance is the date on which Total Performance has been achieved.

**D15. LIQUIDATED DAMAGES**

- D15.1 If the Contractor fails to achieve Total Performance in accordance with the Contract by the day fixed herein for Total Performance, the Contractor shall pay the City eight hundred dollars (\$800.00) per Working Day for each and every Working Day following the day fixed herein for Total Performance during which such failure continues.
- D15.2 The amount specified for liquidated damages in D15.1 is based on a genuine pre-estimate of the City's losses in the event that the Contractor does not achieve Total Performance by the day fixed herein for same.
- D15.3 The City may reduce any payment to the Contractor by the amount of any liquidated damages assessed.

**D16. SCHEDULED MAINTENANCE**

- D16.1 The Contractor shall perform the following scheduled maintenance in the manner and within the time periods required by the Specifications:
- (a) Reflective Crack Maintenance (during one year warranty period) as specified in CW 3250-R6;
- D16.2 Determination of Substantial Performance and Total Performance shall be exclusive of scheduled maintenance identified herein. All scheduled maintenance shall be completed prior to the expiration of the warranty period. Where the scheduled maintenance cannot be completed during the warranty period, the warranty period shall be extended for such period of time as it takes the Contractor to complete the scheduled maintenance.

## **CONTROL OF WORK**

### **D17. JOB MEETINGS**

- D17.1 Regular 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.
- D17.2 The Contract Administrator reserves the right to cancel any job meeting or call additional job meetings whenever he deems it necessary.

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

- D18.1 Further to GC:6.26, the Contractor shall be the Prime Contractor and shall serve as, and have the duties of the Prime Contractor in accordance with The Workplace Safety and Health Act (Manitoba).

**FORM H1: PERFORMANCE BOND**  
(See D8)

KNOW ALL MEN BY THESE PRESENTS THAT

\_\_\_\_\_ ,  
(hereinafter called the "Principal"), and

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

\_\_\_\_\_ dollars (\$\_\_\_\_\_.)

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

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

\_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, for:

BID OPPORTUNITY NO. 250-2005

ST. VITAL CEMETERY SITE EXPANSION – ROADWAY AND PATHWAY CONSTRUCTION

which is by reference made part hereof and is hereinafter referred to as the "Contract".

NOW THEREFORE the condition of the above obligation is such that if the Principal shall:

- (a) carry out and perform the Contract and every part thereof in the manner and within the times set forth in the Contract and in accordance with the terms and conditions specified in the Contract;
- (b) perform the Work in a good, proper, workmanlike manner;
- (c) make all the payments whether to the Obligee or to others as therein provided;
- (d) in every other respect comply with the conditions and perform the covenants contained in the Contract; and
- (e) indemnify and save harmless the Obligee against and from all loss, costs, damages, claims, and demands of every description as set forth in the Contract, and from all penalties, assessments, claims, actions for loss, damages or compensation whether arising under "The Workers Compensation Act", or any other Act or otherwise arising out of or in any way connected with the performance or non-performance of the Contract or any part thereof during the term of the Contract and the warranty period provided for therein;

THEN THIS OBLIGATION SHALL BE VOID, but otherwise shall remain in full force and effect. The Surety shall not, however, be liable for a greater sum than the sum specified above.

AND IT IS HEREBY DECLARED AND AGREED that the Surety shall be liable as Principal, and that nothing of any kind or matter whatsoever that will not discharge the Principal shall operate as a discharge or release of liability of the Surety, any law or usage relating to the liability of Sureties to the contrary notwithstanding.

IN WITNESS WHEREOF the Principal and Surety have signed and sealed this bond the

\_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_ .

SIGNED AND SEALED  
in the presence of:

\_\_\_\_\_  
(Witness)

\_\_\_\_\_  
(Name of Principal)

Per: \_\_\_\_\_ (Seal)

Per: \_\_\_\_\_

\_\_\_\_\_  
(Name of Surety)

By: \_\_\_\_\_ (Seal)  
(Attorney-in-Fact)

**FORM H2: IRREVOCABLE STANDBY LETTER OF CREDIT  
(PERFORMANCE SECURITY)**  
(See D8)

\_\_\_\_\_  
(Date)

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

RE: PERFORMANCE SECURITY - BID OPPORTUNITY NO. 250-2005

ST. VITAL CEMETERY SITE EXPANSION – ROADWAY AND PATHWAY CONSTRUCTION

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)

**FORM J: SUBCONTRACTOR LIST**  
(See D9)

ST. VITAL CEMETERY SITE EXPANSION – ROADWAY AND PATHWAY CONSTRUCTION

<b>Portion of the Work</b>	<b>Name</b>	<b>Address</b>
SUPPLY OF MATERIALS:		
Stripping and Stockpiling Topsoil_____		
Roadway and Pathway Excavation_____		
Sub-Base and Base Course Placement/Compaction_____		
Ditch Work_____		
Widening Existing Entrance to Cemetery_____		
Grading/Imported Topsoil/Sodding_____		
Asphalt Pavement Works_____		
_____		
_____		
_____		
INSTALLATION/PLACEMENT:		
Stripping and Stockpiling Topsoil_____		
Roadway and Pathway Excavation_____		
Sub-Base and Base Course Placement/Compaction_____		
Ditch Work_____		
Widening Existing Entrance to Cemetery_____		
Grading/Imported Topsoil/Sodding_____		
Asphalt Pavement Works_____		
_____		
_____		
_____		

## PART E - SPECIFICATIONS

### GENERAL

#### E1. APPLICABLE SPECIFICATIONS, STANDARD DETAILS AND DRAWINGS

- E1.1 *The City of Winnipeg Standard Construction Specifications* in its entirety, whether or not specifically listed on Form B: Prices, shall apply to the Work.
- E1.1.1 *The City of Winnipeg Standard Construction Specifications* is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at <http://www.winnipeg.ca/matmgt>.
- E1.1.2 The version in effect three (3) Business Days before the Submission Deadline shall apply.
- E1.1.3 Further to GC:2.4(d), Specifications included in the Bid Opportunity shall govern over *The City of Winnipeg Standard Construction Specifications*.
- E1.2 The following Drawings are applicable to the Work:

<u>Drawing No.</u>	<u>Drawing Name/Title</u>
03-2678-2000 Sht 1	Site Plan and Proposed Works
03-2678-2000 Sht 2	Road Layout and Drainage
03-2678-2000 Sht 3	Path Layout and Miscellaneous Details

#### E2. SOILS INVESTIGATION REPORT

- E2.1 Further to GC:3.1, the following geotechnical information is provided to aid the Contractor's evaluation of the existing soil conditions. Five boreholes were dug on April 21, 2005 and the soil visually classified by Dillon Consulting Limited. Selected soil samples were submitted to National Testing Laboratories Limited for analysis. The soil sample testing results are contained in Appendix 'A'.
- E2.2 The information presented is considered accurate at the locations stated and at the time of drilling. However, variations in soil conditions may exist between test holes and fluctuations in groundwater levels can be expected seasonally and may occur as a result of construction activities. The nature and extent of variations may not become evident until construction commences.
- E2.2.1 Borehole Visual Soil Classification

(a) Borehole 1 (approx. Station 0+025, road centreline)

Interval		Description
From (m)	To (m)	
0	0.15	Topsoil, black, organics, trace pebbles, loose.
0.15	0.60	CH Clay, black to dark brown, trace silt, firm plastic.
0.60	1.65	*CI to CH Clay, light brown, silty, trace sand.

(b) Borehole 2 (approx. Station 0+100, road centreline)

Interval		Description
From (m)	To (m)	
0	0.15	Topsoil, black, organics, trace pebbles, loose.

0.15	0.91	CH Clay, black to dark brown, trace silt, firm plastic.
0.91	1.83	CI to CH Clay, light brown, silty, trace sand.

(c) Borehole 3 (approx. Station 0+180 road centreline)

Interval		Description
From (m)	To (m)	
0	0.15	Topsoil, black, organics, trace pebbles, loose.
0.15	0.45	Clean fill, clay, brown, , some pebbles, firm plastic.
0.45	1.83	CI to CH Clay, black to dark brown, trace silt, firm plastic.

(d) Borehole 4 (approx. Station 0+250 road centreline)

Interval		Description
From (m)	To (m)	
0	0.15	Topsoil, black, organics, trace pebbles, loose.
0.15	0.91	CH Clay, black to dark brown, trace silt, firm plastic.
0.91	1.83	*CI to CH Clay, light brown, silt interbeds mixed throughout, plastic.

(e) Borehole 5 (approx. Station 0+060 road centreline)

Interval		Description
From (m)	To (m)	
0	0.15	Topsoil, black, organics, trace pebbles, loose.
0.15	0.60	CH Clay, black to dark brown, trace silt, firm plastic.
0.60	1.65	Ci to CH Clay, light brown, silty, trace sand.

\*Sample tested and results in Appendix A.

### E3. PROTECTION OF EXISTING TREES

E3.1 The Contractor shall take the following precautionary steps to prevent damage from construction activities to existing trees within the limits of the construction area:

- (a) The Contractor shall not stockpile materials and soil or park vehicles and equipment within 2 metres of trees.
- (b) Trees within 2 metres of the proposed roadway or pathway or those identified to be at risk by the Contract Administrator are to be strapped with 25 x 100 x 2400mm wood planks, or suitably 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 the 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.
- (e) Work on-site shall be carried out in such a manner so as to minimize damage to existing tree branches. Where damage to branches does occur, they shall be neatly pruned.

E3.2 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 designate.

E3.3 No separate measurement or payment will be made for the protection of trees.

E3.4 Elm trees cannot be trimmed between April 1 and July 31, inclusive.

#### **E4. TRAFFIC CONTROL**

E4.1 Further to clauses 3.6 and 3.7 of CW 1130-R1:

- (a) The Contractor shall ensure there is temporary access to the Cemetery when working on the widening of the main entrance and tying into the existing internal roadway. No measurement for payment will be made for this work.
- (b) In accordance with the Manual of Temporary Traffic Control, the Contractor ("Agency" in the manual) shall make arrangements with the Traffic Services Section of the City of Winnipeg to place all temporary regulatory signs. The Contractor shall bear all costs associated with the placement of temporary traffic control devices by the Traffic Services Section of the City of Winnipeg in connection with the works undertaken by the Contractor.

#### **E5. WATER USED BY CONTRACTOR**

E5.1 Further to clause 3.7 of CW 1120-R1, the Contractor shall pay for all costs associated with obtaining water in accordance with the Waterworks By-law. Sewer charges will not be assessed for water obtained from a hydrant.

#### **E6. FIELD SURVEYING AND ENGINEERING**

E6.1 General

E6.1.1 The Contract Administrator will provide reference base lines and reference elevations for the work. The Contractor is responsible to maintain the reference base lines, elevations, and layout information and provide surveying materials.

E6.2 Responsibilities of Contract Administrator

E6.2.1 The Contract Administrator will be responsible for:

- (a) Establishing at least three temporary benchmarks on the project site.
- (b) Establishing baselines for both legs of the roadway, and the pathway.
- (c) Establishing control points as necessary including critical radii and stations.
- (d) Grading baselines.
- (e) Surveying and measurement for all payment quantities.
- (f) Verification of construction to lines and grades indicated on the design drawings.

### E6.3 Responsibilities of Contractor

E6.3.1 The Contractor will be responsible for:

- (a) Protection and maintaining all surveying baselines, control points, benchmarks, and grading.
- (b) Resetting damaged or missing stakes to lines and grades indicated on plans or by Contract Administrator.
- (c) Provide the Contract Administrator with stakes, lathe, ribbon, and paint for use in setting baselines and control points.

## E7. SITE GRADING

E7.1 The Contractor to note that site grading is limited to the "immediate" right of way of the construction items in the project. Minor site grading is expected within four (4) metres of the outer limits of the roadway or ditches to account for construction vehicle movement. No separate measurement or payment for site grading within these limits will be made.

E7.2 The Contractor is to limit construction activity, vehicle use, vehicle/equipment storage to areas under construction or areas required to be traversed for the purposes of construction, such as a route to the topsoil storage area in the NE portion of the site.

E7.3 No activity at all is to take place on existing burial plots. The Contractor shall not park, walk, or place materials/equipment within three (3) metres of existing burial plots.

E7.4 Site grading shall be taken to mean restoring the ground surface to 100 mm below finished sod height, with positive drainage. Topsoil and sodding will be completed by others after construction is complete.

E7.5 Any site damage outside the limits identified above, including vehicle tracks, temporary soil stockpiles, or temporary sumps/drainage channels, will be restored to the same or better condition by the Contractor at no cost to the Owner.

## E8. ON-SITE/OFF SITE STORAGE OF TOPSOIL AND COMMON EXCAVATION MATERIALS

E8.1 Further to CW-3170-R3, surface soil, topsoil, organic growth shall be stockpiled onsite in the location designated in the Contract Drawings or as instructed by the Contract Administrator. The underlying clay type soils are to be disposed of off-site.

## E9. PATHWAY CONSTRUCTION

### DESCRIPTION

E9.1 General

E9.1.1 This specification covers the construction of the asphalt pathway in the northwest portion of the site. Construction is similar to roadway construction.

E9.1.2 Referenced Standard Construction Specifications

- (a) CW 3110-R7 – Sub-Grade, Sub-Base and Base Course Construction
- (b) CW 3170-R7 – Earthwork and Grading
- (c) CW 3410-R6 – Asphaltic Concrete Pavement Works

## MATERIALS

### E9.2 Sub-Grade, Sub-Base and Base Course

E9.2.1 As per requirements of CW 3110-R7.

### E9.3 Asphaltic Concrete Pavement

E9.3.1 Type 1A (Surface Course) as per requirements of CW 3410-R6.

## CONSTRUCTION METHODS

### E9.4 General

E9.4.1 Construction as per detail and layout in contract drawings or as directed by Contract Administrator.

### E9.5 Excavation and Sub-Grade Compaction

E9.5.1 Excavate to lines and grades indicated, including topsoil and underlying sub-grade as per requirements of CW 3170-R7.

E9.5.2 Compact suitable sub-grade as per requirements of CW 3110-R7.

### E9.6 Sub-Base and Base Course

E9.6.1 Place and compact material to lines and grades indicated as per requirements of CW 3170-R7, except compaction of sub-grade to minimum 98% Standard Proctor Density.

### E9.7 Asphaltic Concrete Pavement Works

E9.7.1 Place and compact asphalt pavement to lines and grades indicated as per requirements of CW 3410-R6.

## MEASUREMENT AND PAYMENT

### E9.8 Excavation and Sub-Grade Compaction

E9.8.1 As per CW 3110-R7 and CW 3170-R7.

E9.8.2 No distinction made by Contract Administrator between roadway or pathway quantities.

### E9.9 Sub-Base and Base Course

E9.9.1 As per CW 3110-R7.

E9.9.2 No distinction made by Contract Administrator between roadway or pathway quantities.

### E9.10 Asphaltic Concrete Pavement Works

E9.10.1 Asphaltic Concrete Pavement Works will be measured on a weight basis and paid for at the Contract Unit Price per tonne for the "Items of Work" listed below. The weight to be paid for will be the total number of tonnes of material that is supplied, placed, and compacted in accordance with this specification, accepted and measured by the Contract Administrator.

Items of Work:

Construction of Asphaltic Concrete Pavements

- (i) Main Line Paving
  - a) Type 1A - Pathway

## **E10. CHAIN LINK FENCE**

### DESCRIPTION

#### E10.1 General

E10.1.1 This specification covers the removal and salvaging of existing chain link fencing in the NW portion of the site, the re-installation of said fencing along a new alignment, and the removal of the existing gate and installation of a new gate at the Cemetery entrance.

#### E10.1.2 Referenced Standard Construction Specifications

(a) CW 3550-R2 – Chain Link Fencing.

### MATERIALS

#### E10.2 General

E10.2.1 All new materials as per CW 3550-R2. Salvaged fence materials as existing on site.

#### E10.3 New Gate

E10.3.1 Materials as per CW-3550-R2. Furnish as double gate with drop bolts and wheels.

E10.3.2 The Contractor shall supply shop drawings of gate to be supplied prior to manufacture for the Contract Administrator's approval.

### CONSTRUCTION METHODS

#### E10.4 General

E10.4.1 Construction as per detail in contract drawings and as per CW 3550-R2.

#### E10.5 Salvage Fence

E10.5.1 Remove and temporarily store fencing for future reinstallation or stockpiling.

E10.5.2 Remove any concrete piles/bases within 0.3 metres of the ground surface. Backfill holes with soil.

E10.5.3 Salvage useable posts, fabric, turnbuckles, braces, and midrails.

E10.5.4 Excess fencing not required for reinstallation shall be the property of the Owner. The posts, fence fabric, and other useable materials shall be bundled and stockpiled onsite at the direction of the Contract Administrator.

#### E10.6 Reinstall Fence

E10.6.1 Reinstall fencing utilizing salvaged materials. New concrete piles required. Other new miscellaneous hardware may be required.

E10.6.2 Reinstall fencing as required around new gate at Cemetery entrance.

#### E10.7 New Gate

E10.7.1 Remove the existing chain link gate and dispose. Remove existing concrete piles for gate completely and restore ground surface. Payment for removal of existing gate is incidental to the installation of a new gate.

E10.7.2 Reinstall fencing adjacent to new gate as required to provide for clean, finished appearance installation, and to correct fence geometry.

## MEASUREMENT AND PAYMENT

### E10.8 Salvage Fence

E10.8.1 Removal and temporary storage/stockpiling of existing fence will be measured on a length basis and paid for at the Contract Unit Price per lineal metre for the "Items of Work" listed below. The length to be paid for will be the total amount of existing fencing that is removed, post holes filled, and fencing stored in accordance with this specification, accepted and measured by the Contract Administrator.

E10.8.2 Reinstallation of fencing will be measured on a length basis and paid for at the Contract Unit Price per lineal metre for the "Items of Work" listed below. The length to be paid for will be the total amount of fencing that is reinstalled, including new concrete piles and any other new hardware required to install the fence in accordance with this specification, accepted and measured by the Contract Administrator.

E10.8.3 Installation of gates will be measured on a length basis and paid for at the Contract Unit Price per lineal metre for the "Items of Work" listed below. The length to be paid for will be the total length of the gate that is installed in accordance with this specification, accepted and measured by the Contract Administrator.

#### Items of Work:

##### Chain Link Fence

- (i) Salvage 1.22m Height
- (ii) Reinstall 1.22m Height (End, Gate, Corner, Straining Posts with Concrete Piles)

##### Gates

## E11. STEEL BOLLARD AND CONCRETE BASE

### DESCRIPTION

#### E11.1 General

E11.1.1 This specification covers the supply and installation of a removable steel bollard and concrete base in the east end of the pathway to prevent vehicle access.

E11.1.2 Referenced Standard Construction Specifications

- (a) CW 2160-R6 – Concrete Underground Structures and Works.

### MATERIALS

#### E11.2 Concrete

E11.2.1 Concrete base material in accordance with "Type A" in Table CW 2160.1 of CW 2160-R6 utilizing Type 50 sulphate-resistant cement.

#### E11.3 Steel

E11.3.1 All steel to be hot dipped galvanized to CSA G164.

### CONSTRUCTION METHODS

#### E11.4 General

E11.4.1 Construction as per detail in contract drawings.

E11.4.2 Place concrete base prior to pathway asphalt placement.

E11.4.3 Grade concrete base slightly away from bollard for drainage.

E11.4.4 Install bollard straight and true.

#### MEASUREMENT AND PAYMENT

E11.5 Steel Bollard and Concrete Base

E11.5.1 Supply and installation of Steel Bollard and Concrete Base will be measured on a unit basis and paid for at the Contract Unit Price for each "Steel Bollard and Concrete Base (hot dip galvanized)". The number to be paid for will be the total number of units supplied and installed in accordance with this specification, accepted and measured by the Contract Administrator.

### **E12. PAINTED TRAFFIC LINES AND MARKINGS**

#### DESCRIPTION

E12.1 General

E12.1.1 This specification covers the line painting of the parking stalls and "no parking" area at the west end of the roadway loop.

E12.1.2 Referenced Specifications

(a) CGSB1-GP-12c-[68], Standard Paint Colours.

(b) CGSB1-GP-74M-[79], Paint, Traffic, Alkyd.CW

#### MATERIALS

E12.2 Paint

E12.2.1 To CGSB1-GP-74M, alkyd traffic paint.

E12.2.2 Colour: to CGSB1-GP-12C, yellow 505-308.

#### CONSTRUCTION METHODS

E12.3 General

E12.3.1 Line layout as per detail in contract drawings or as directed by Contract Administrator.

E12.4 Equipment Requirements

E12.4.1 Paint applicator to be an approved pressure type mobile distributor capable of applying paint in single, double and dashed lines. Applicator to be capable of applying marking components uniformly, at rates specified, and to dimensions as indicated, and to have positive shut-off.

E12.5 Application

E12.5.1 Pavement surface to be dry, free from ponded water, frost, ice, dust, oil, grease and other foreign materials.

E12.5.2 Pavement markings to be laid out by Contractor based on Contract Drawings.

E12.5.3 Unless otherwise approved by Contract Administrator, apply paint only when air temperature is above 10°C, wind speed is less than 40km/h and no rain is forecast within next 4 hours.

E12.5.4 Apply traffic paint evenly at rate of 3m<sup>2</sup>/L.

- E12.5.5 Do not thin paint unless approved by Contract Administrator.
- E12.5.6 Paint lines to be of uniform colour and density with sharp edges.
- E12.5.7 Protect pavement markings until dry.

#### MEASUREMENT AND PAYMENT

- E12.6 Painted Traffic Lines and Markings
  - E12.6.1 Painted Traffic Lines and Markings will be measured on a length basis and paid for at the Contract Unit Price per lineal metre for "Painted Traffic Lines and Markings". The total length to be paid for will be the total number of lineal metres of markings that is placed in accordance with this specification and the Contract Drawings, accepted and measured by the Contract Administrator.

# **APPENDIX 'A'**

# **GEOTECHNICAL REPORT**

**TABLE 1  
ST. VITAL CEMETERY  
PLASTICITY INDEX TEST DATA**

Sample I.D.	Liquid Limit	Plastic Limit	Plasticity Index	% Retained on 0.425 mm Sieve
TH1-3'	66	20	46	0.1
TH4-5'	80	24	56	0.1

**Notes:**

1. Tests conducted in accordance with ASTM D4318 Method B (single point liquid limit).
2. Samples were air-dried during sample preparation.

**TABLE 2  
ST. VITAL CEMETERY  
PARTICLE SIZE ANALYSIS TEST DATA**

Sample I.D.	Gravel, % 75 to 4.75 mm	Sand, %			Silt, % <0.075 to 0.005 mm	Clay, % < 0.005 mm	Colloids, % < 0.001 mm
		Coarse <4.75 to 2.0 mm	Medium <2.0 to 0.425 mm	Fine <0.425 to 0.075 mm			
TH1-3'	0.0	0.0	0.1	1.0	34.0	64.9	45.8

**Notes:**

1. A high speed stirring device was used for 1 minute to disperse the test sample.
2. The percentage of colloids is also included in the clay size fraction.