



**THE CITY OF WINNIPEG**

# **BID OPPORTUNITY**

**BID OPPORTUNITY NO. 529-2017**

**2017 INDUSTRIAL STREETS PACKAGE - ST. MATTHEWS AVENUE, BOURNAIS  
DRIVE AND VARIOUS OTHER LOCATIONS**

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## **PART B - BIDDING PROCEDURES**

### **B1. CONTRACT TITLE**

- B1.1 2017 Industrial Streets Package - St. Matthews Avenue, Bournais Drive and Various Other Locations

### **B2. SUBMISSION DEADLINE**

- B2.1 The Submission Deadline is 12:00 noon Winnipeg time, July 5, 2017.
- 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. ENQUIRIES**

- B3.1 All enquiries shall be directed to the Contract Administrator identified in D3.1.
- B3.2 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.
- B3.3 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.
- B3.4 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.
- B3.5 The Bidder shall not be entitled to rely on any response or interpretation received pursuant to B3 unless that response or interpretation is provided by the Contract Administrator in writing.

### **B4. CONFIDENTIALITY**

- B4.1 Information provided to a Bidder by the City or acquired by a Bidder by way of further enquiries or through investigation is confidential. Such information shall not be used or disclosed in any way without the prior written authorization of the Contract Administrator. The use and disclosure of the confidential information shall not apply to information which:
- (a) was known to the Bidder before receipt hereof; or
  - (b) becomes publicly known other than through the Bidder; or
  - (c) is disclosed pursuant to the requirements of a governmental authority or judicial order.
- B4.2 The Bidder shall not make any statement of fact or opinion regarding any aspect of the Bid Opportunity to the media or any member of the public without the prior written authorization of the Contract Administrator.

### **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/she has received all addenda and is advised to check the Materials Management Division website for addenda regularly and shortly before the Submission Deadline, as may be amended by addendum.
- 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/her sole discretion grant approval for the use of a substitute as an “approved equal” or as an “approved alternative”, or may refuse to grant approval of the substitute.
- B6.6 The Contract Administrator will provide a response in writing, at least two (2) Business Days prior to the Submission Deadline, to the Bidder who requested approval of the substitute.
- B6.6.1 The Contract Administrator will issue an Addendum, disclosing the approved materials, equipment, methods and products to all potential Bidders. The Bidder requesting and obtaining the approval of a substitute shall be responsible for disseminating information regarding the approval to any person or persons he/she wishes to inform.
- 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/her Total Bid Price upon the specified item but may also indicate an alternative price based upon the approved alternative. Such alternatives will be evaluated in accordance with B16.
- B6.9 No later claim by the Contractor for an addition to the Total Bid Price because of any other changes in the Work necessitated by the use of an approved equal or an approved alternative will be considered.

## **B7. BID COMPONENTS**

- B7.1 The Bid shall consist of the following components:
- (a) Form A: Bid;
  - (b) Form B: Prices, hard copy;
  - (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.
- 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.
- B7.4.2 A hard copy of Form B: Prices must be submitted with the Bid. If there is any discrepancy between the Adobe PDF version of Form B: Prices and the Microsoft Excel version of Form B: Prices, the PDF version shall take precedence.
- 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 B16.1(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/her own name, his/her name shall be inserted;
  - (b) if the Bidder is a partnership, the full name of the partnership shall be inserted;
  - (c) if the Bidder is a corporation, the full name of the corporation shall be inserted;
  - (d) if the Bidder is carrying on business under a name other than his/her own, the business name and the name of every partner or corporation who is the owner of such business name shall be inserted.
- 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/her own name, it shall be signed by the Bidder;
  - (b) if the Bidder is a partnership, it shall be signed by the partner or partners who have authority to sign for the partnership;
  - (c) if the Bidder is a corporation, it shall be signed by its duly authorized officer or officers and the corporate seal, if the corporation has one, shall be affixed;
  - (d) if the Bidder is carrying on business under a name other than his/her own, it shall be signed by the registered owner of the business name, or by the registered owner's authorized officials if the owner is a partnership or a corporation.
- 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.
- B9.1.1 For the convenience of Bidders, and pursuant to B7.4.2 and B16.4.2, an electronic spreadsheet Form B: Prices in Microsoft Excel (.xls) format is available along with the Adobe PDF documents for this Bid Opportunity on the Bid Opportunities page at the Materials Management Division website at <http://www.winnipeg.ca/matmgt/>
- 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. DISCLOSURE**

- B10.1 Various Persons provided information or services with respect to this Work. In the City's opinion, this relationship or association does not create a conflict of interest because of this full

disclosure. Where applicable, additional material available as a result of contact with these Persons is listed below.

B10.2 The Persons are:

- (a) N/A

## **B11. QUALIFICATION**

B11.1 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.

B11.2 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>

B11.3 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);

B11.4 Further to B11.3(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) Written confirmation of a safety and health certification meeting SAFE Work Manitoba's SAFE Work Certified Standard (e.g., COR™ and SECOR™) or
  - (i) a copy of their valid Manitoba COR certificate and Letter of Good Standing (or Manitoba equivalency) as issued under the Certificate of Recognition (COR) Program administered by the Construction Safety Association of Manitoba or by the Manitoba Heavy Construction Association's WORKSAFELY™ COR™ Program; or
  - (ii) a copy of their valid Manitoba SECOR™ certificate and Letter of Good Standing (or Manitoba equivalency) as issued under the Small Employer Certificate of Recognition Program (SECOR™) administered by the Construction Safety Association of Manitoba or by the Manitoba Heavy Construction Association's WORKSAFELY™ COR™ Program or
- (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/>.)

B11.5 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.

B11.6 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.

## **B12. BID SECURITY**

B12.1 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.

B12.1.1 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.

B12.1.2 All signatures on bid securities shall be original.

B12.1.3 The Bidder shall sign the Bid Bond.

B12.1.4 The Surety shall sign and affix its corporate seal on the Bid Bond and the Agreement to Bond.

B12.2 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.

B12.2.1 Where the bid security provided by the successful Bidder is in the form of a certified cheque or draft pursuant to B12.1(c), it will be deposited and retained by the City as the performance security and no further submission is required.

B12.2.2 The City will not pay any interest on certified cheques or drafts furnished as bid security or subsequently retained as performance security.

B12.3 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.

## **B13. OPENING OF BIDS AND RELEASE OF INFORMATION**

B13.1 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.

B13.1.1 Bidders or their representatives may attend.

B13.1.2 Bids determined by the Manager of Materials, or his/her designate, to not include the bid security specified in B12 will not be read out.

B13.2 Following the submission deadline, the names of the Bidders and their Total Bid Prices (unevaluated, and pending review and verification of conformance with requirements) will be available on the Closed Bid Opportunities (or Public/Posted Opening & Award Results) page at

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

- B13.3 After award of Contract, the name(s) of the successful Bidder(s) and the Contract amount(s) will be available on the Closed Bid Opportunities (or Public/Posted Opening & Award Results) page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/>
- B13.4 The Bidder is advised that any information contained in any Bid may be released if required by The Freedom of Information and Protection of Privacy Act (Manitoba), by other authorities having jurisdiction, or by law or by City policy or procedures (which may include access by members of City Council).

#### **B14. IRREVOCABLE BID**

- B14.1 The Bid(s) submitted by the Bidder shall be irrevocable for the time period specified in Paragraph 11 of Form A: Bid.
- B14.2 The acceptance by the City of any Bid shall not release the Bids of the next two lowest evaluated responsive Bidders and these Bidders shall be bound by their Bids on such Work 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.

#### **B15. WITHDRAWAL OF BIDS**

- B15.1 A Bidder may withdraw his/her Bid without penalty by giving written notice to the Manager of Materials at any time prior to the Submission Deadline.
- B15.1.1 Notwithstanding C23.3, the time and date of receipt of any notice withdrawing a Bid shall be the time and date of receipt as determined by the Manager of Materials.
- B15.1.2 The City will assume that any one of the contact persons named in Paragraph 3 of Form A: Bid or the Bidder's authorized representatives named in Paragraph 12 of Form A: Bid, and only such person, has authority to give notice of withdrawal.
- B15.1.3 If a Bidder gives notice of withdrawal prior to the Submission Deadline, the Manager of Materials will:
- (a) retain the Bid until after the Submission Deadline has elapsed;
  - (b) open the Bid to identify the contact person named in Paragraph 3 of Form A: Bid and the Bidder's authorized representatives named in Paragraph 12 of Form A: Bid; and
  - (c) if the notice has been given by any one of the persons specified in B15.1.3(b), declare the Bid withdrawn.
- B15.2 A Bidder who withdraws his/her Bid after the Submission Deadline but before his/her Bid has been released or has lapsed as provided for in B14.2 shall be liable for such damages as are imposed upon the Bidder by law and subject to such sanctions as the Chief Administrative Officer considers appropriate in the circumstances. The City, in such event, shall be entitled to all rights and remedies available to it at law, including the right to retain the Bidder's bid security.

#### **B16. EVALUATION OF BIDS**

- B16.1 Award of the Contract shall be based on the following bid evaluation criteria:
- (a) compliance by the Bidder with the requirements of the Bid Opportunity, or acceptable deviation therefrom (pass/fail);
  - (b) qualifications of the Bidder and the Subcontractors, if any, pursuant to B11 (pass/fail);
  - (c) Total Bid Price;

(d) economic analysis of any approved alternative pursuant to B6.

B16.2 Further to B16.1(a), the Award Authority may reject a Bid as being non-responsive if the Bid is incomplete, obscure or conditional, or contains additions, deletions, alterations or other irregularities. The Award Authority may reject all or any part of any Bid, or waive technical requirements or minor informalities or irregularities, if the interests of the City so require.

B16.3 Further to B16.1(b), the Award Authority shall reject any Bid submitted by a Bidder who does not demonstrate, in his/her Bid or in other information required to be submitted, that he/she is responsible and qualified.

B16.4 Further to B16.1(c), the Total Bid Price shall be the sum of the quantities multiplied by the unit prices for each item shown on Form B: Prices.

B16.4.1 Further to B16.1(a), in the event that a unit price is not provided on Form B: Prices, the City will determine the unit price by dividing the Amount (extended price) by the approximate quantity, for the purposes of evaluation and payment.

B16.4.2 The electronic Form B: Prices and the formulas imbedded in that spreadsheet are only provided for the convenience of Bidders. The City makes no representations or warranties as to the correctness of the imbedded formulas. It is the Bidder's responsibility to ensure the extensions of the unit prices and the sum of Total Bid Price performed as a function of the formulas within the electronic Form B: Prices are correct.

## **B17. AWARD OF CONTRACT**

B17.1 The City will give notice of the award of the Contract or will give notice that no award will be made.

B17.2 The City will have no obligation to award a Contract to a Bidder, even though one or all of the Bidders are determined to be responsible and qualified, and the Bids are determined to be responsive.

B17.2.1 Without limiting the generality of B17.2, the City will have no obligation to award a Contract where:

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

B17.3 Where an award of Contract is made by the City, the award shall be made to the responsible and qualified Bidder submitting the lowest evaluated responsive Bid, in accordance with B16.

B17.3.1 Following the award of contract, a Bidder will be provided with information related to the evaluation of his/her 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](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:

- (a) Concrete Pavement Reconstruction
  - (i) St. Matthews Avenue from Ferry Street to Berry Street
  - (ii) Bournais Drive from CN Redditt Rail Line Crossing to Dugald Road
  - (iii) Beghin Avenue from Dugald Road to De Baets Street
  - (iv) De Baets Street from Beghin Avenue to Paquin Road
  - (v) Paquin Road from De Baets Street to Paquin Road South Leg
- (b) Asphalt Resurfacing and Related Works - Pavement Rehabilitation
  - (i) St. Matthews Avenue from Berry Street to Century Street

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

- (a) Concrete Pavement Reconstruction
  - (i) Removal of existing concrete pavement, curb and sidewalk;
  - (ii) Excavation of roadway and boulevard;
  - (iii) External point repairs (if required)
  - (iv) Removal of existing catch basins;
  - (v) Installation of catch basins, drainage connection pipes and subdrains;
  - (vi) Adjustment of existing pavement and boulevard structures;
  - (vii) Compaction of sub-grade;
  - (viii) Placement of separation geotextile fabric and/or geogrid;
  - (ix) Placement of sub-base and base course materials;
  - (x) Construction of 230 mm plain dowelled concrete pavement and 200 mm reinforced concrete pavement;
  - (xi) Construction of barrier curb and safety median;
  - (xii) Construction of 100 mm concrete sidewalk;
  - (xiii) Installation of detectable warning surface tiles;
  - (xiv) Installation of inlaid longitudinal lane line marking tape;
  - (xv) Boulevard restoration
- (b) Asphalt Resurfacing and Related Works – Pavement Rehabilitation
  - (i) Planing of asphalt overlay;
  - (ii) Removal of existing curb, boulevard and sidewalks;
  - (iii) Removal of existing bullnose and median slabs;
  - (iv) Replacement of catchpits and catchbasins including drainage connection pipe;
  - (v) Catchbasin lead repairs;
  - (vi) Full depth concrete repairs of existing slabs and joints;
  - (vii) Adjustment of drainage inlets, water valves and manholes;
  - (viii) Construction of barrier and modified barrier curb;
  - (ix) Construction of sidewalk;

- (x) Installation of detectable warning tiles;
- (xi) Installation of pavement repair fabric;
- (xii) Placement asphalt overlay (average thickness – 65mm);
- (xiii) Installation of inlaid longitudinal lane line marking tape; and
- (xiv) Boulevard restoration

### **D3. CONTRACT ADMINISTRATOR**

D3.1 The Contract Administrator is KGS Group, represented by:

Craig Rowbotham, P.Eng.  
Senior Project Engineer

Telephone No. 204 896-1209

Email Address c.rowbotham@ksgroup.com

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

D3.3 Bids Submissions must be submitted to the address in B7

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

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

D4.2 At least two (2) business days prior to the commencement of any Work on the site, the Contractor shall provide the Contract Administrator with a phone number where the supervisor identified in D4.1 or an alternate can be contacted twenty-four (24) hours a day to respond to an emergency.

### **D5. OWNERSHIP OF INFORMATION, CONFIDENTIALITY AND NON DISCLOSURE**

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

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

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

- (a) information provided to the Contractor by the City or acquired by the Contractor during the course of the Work;
- (b) the Contract, all deliverables produced or developed; and
- (c) any statement of fact or opinion regarding any aspect of the Contract.

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

## **D6. NOTICES**

- D6.1 Except as provided for in C23.2.2, all notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications to the Contractor shall be sent to the address or facsimile number identified by the Contractor in Paragraph 2 of Form A: Bid.
- D6.2 All notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications to the City, except as expressly otherwise required in D6.3 or elsewhere in the Contract, shall be sent to the attention of the Contract Administrator at the facsimile number identified in D3.1.
- D6.3 All notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications required to be submitted or returned to the City Solicitor shall be sent to the following facsimile number:
- The City of Winnipeg  
Legal Services Department  
Attn: Director of Legal Services  
Facsimile No.: 204-947-9155
- D6.4 Bids Submissions must not be submitted to this facsimile number. Bids must be submitted in accordance with B7.**

## **D7. FURNISHING OF DOCUMENTS**

- D7.1 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/her at cost.

## **SUBMISSIONS**

### **D8. AUTHORITY TO CARRY ON BUSINESS**

- D8.1 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.

### **D9. SAFE WORK PLAN**

- D9.1 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.
- D9.2 The Safe Work Plan shall 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>
- D9.3 Notwithstanding D9.1, D9.2, and Appendix 'C' CN Safety Requirements, the Contractor shall conform and operate in accordance with the CN Safety Guidelines for Contractors for works within CN Right-of-Way.

## **D10. INSURANCE**

D10.1 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, broad form property damage cover and products and completed operations, to remain in place at all times during the performance of the Work and throughout the warranty period;
- (b) if applicable, Automobile Liability Insurance covering all motor vehicles, owned and operated and used or to be used by the Contractor directly or indirectly in the performance of the Work. The Limit of Liability shall not be less than \$2,000,000 inclusive for loss or damage including personal injuries and death resulting from any one accident or occurrence;
- (c) an all risks Installation Floater carrying adequate limits to cover all machinery, equipment, supplies and/or materials intended to enter into and form part of any installation.

D10.2 Deductibles shall be borne by the Contractor.

D10.3 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 the C4.1 for the return of the executed Contract.

D10.4 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.

## **D11. PERFORMANCE SECURITY**

D11.1 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.

D11.1.1 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.

D11.2 If the bid security provided in his/her Bid was not a certified cheque or draft pursuant to B12.1(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 and in no event later than the date specified in the C4.1 for the return of the executed Contract.

## **D12. SUBCONTRACTOR LIST**

D12.1 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 or prior to a pre-construction meeting, or 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 C4.1 for the return of the executed Contract.

## **D13. DETAILED WORK SCHEDULE**

D13.1 The Contractor shall provide the Contract Administrator with a 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 the General Conditions for the return of the executed Contract.

D13.2 The detailed work schedule shall consist of the following:

- (a) a Gantt chart for the Work acceptable to the Contract Administrator.

D13.3 Further to D13.2(a), the Gantt chart shall show the time on a weekly basis, required to carry out the Work of each trade, or specification division. The time shall be on the horizontal axis, and the type of trade shall be on the vertical axis.

## **SCHEDULE OF WORK**

### **D14. COMMENCEMENT**

D14.1 The Contractor shall not commence any Work until he/she is in receipt of a letter of intent from the Award Authority authorizing the commencement of the Work.

D14.2 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 D8;
  - (ii) evidence of the workers compensation coverage specified in C6.15;
  - (iii) the twenty-four (24) hour emergency response phone number specified in D4.2.
  - (iv) the Safe Work Plan specified in D9;
  - (v) evidence of the insurance specified in D10;
  - (vi) the performance security specified in D11;
  - (vii) the subcontractor list specified in D12; and
  - (viii) the detailed work schedule specified in D13.
- (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.

D14.3 The Contractor shall commence the Work on the Site within seven (7) Working Days of receipt of the letter of intent.

D14.4 The City intends to award this Contract by July 26, 2017.

D14.4.1 If the actual date of award is later than the intended date, the dates specified for Critical Stages, Substantial Performance, and Total Performance will be adjusted by the difference between the aforementioned intended and actual dates.

### **D15. WORKING DAYS**

D15.1 Further to C1.1(jj);

D15.1.1 The definition of a Working Day shall be amended to include Saturdays.

- D15.1.2 The Contract Administrator will determine daily if a Working Day has elapsed and will record his/her 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/she agrees with the Contract Administrator's determination of the Working Days assessed for the report period.
- D15.1.3 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.
- D15.1.4 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.

#### **D16. RESTRICTED WORK HOURS**

- D16.1 Further to clause 3.10 of CW 1130, the Contractor shall require written permission forty-eight (48) hours in advance from the Contract Administrator for any work to be performed between 2000 hours and 0700 hours, or on Sundays, Statutory Holidays and or Civic Holidays.

#### **D17. WORK BY OTHERS**

- D17.1 Work by others on or near the Site will include but not necessarily be limited to:
- (a) City of Winnipeg Traffic Signals Branch
    - (i) Installation of loops and signals plant;
    - (ii) Removal and relocation of traffic signals;
  - (b) City of Winnipeg Traffic Services Branch
    - (i) Traffic regulatory signage and transverse pavement markings;
  - (c) City of Winnipeg Water and Waste Department
    - (i) 2017 Watermain renewal on St. Matthews Avenue between Ferry Street and Berry Street
  - (d) MTS
  - (e) Manitoba Hydro – relocation and installation of street lighting as required;
  - (f) Canadian National (CN) – safety watch for construction within railway right-of-way on Bournais Drive;
  - (g) MTS and Shaw – adjustments as required;
  - (h) City of Winnipeg Geomatics Branch – various work on survey monuments.

#### **D18. CRITICAL STAGES**

- D18.1 The Contractor shall achieve critical stages of the Work in accordance with the following requirements:
- (a) Complete construction of all St. Boniface Industrial Park sites by November 10, 2017 including:
    - (i) Bournais Drive from CN Redditt Rail Line Crossing to Dugald Road
    - (ii) Beghin Avenue from Dugald Road to De Baets Street
    - (iii) De Baets Street from Beghin Avenue to Paquin Road
    - (iv) Paquin Road from De Baets Street to Paquin Road South Leg
- D18.2 When the Contractor considers the Work associated with D18.1 to be completed, the Contractor shall arrange, attend and assist in the inspection of the Work with the Contract Administrator for purposes of verifying Completion. 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 re-inspected.

D18.3 The date on which the D18.1(a) Work has been accepted by the Contract Administrator as being completed to the requirements of the Contract is the date on which completion of D18.1(a) has been achieved.

#### **D19. SUBSTANTIAL PERFORMANCE**

D19.1 The Contractor shall achieve Substantial Performance within eighty (80) consecutive Working Days of the commencement of the Work as specified in D14.

D19.2 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 re-inspected.

D19.3 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.

#### **D20. TOTAL PERFORMANCE**

D20.1 The Contractor shall achieve Total Performance within eighty-five (85) consecutive Working Days of the commencement of the Work as specified in D14.

D20.2 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 re-inspected.

D20.3 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.

#### **D21. LIQUIDATED DAMAGES**

D21.1 If the Contractor fails to achieve Critical Stages, Substantial Performance or Total Performance in accordance with the Contract by the days fixed herein for same, the Contractor shall pay the City the following amounts per Working Day for each and every Working Day following the days fixed herein for same during which such failure continues:

- (a) Critical Stage (St. Boniface Industrial Park Sites) - three thousand dollars (\$3,000);
- (b) Substantial Performance - three thousand dollars (\$3,000);
- (c) Total Performance - one thousand dollars (\$1,000).

D21.2 The amounts specified for liquidated damages in D21.1 are based on a genuine pre-estimate of the City's losses in the event that the Contractor does not achieve critical stages, Substantial Performance or Total Performance by the days fixed herein for same.

D21.3 The City may reduce any payment to the Contractor by the amount of any liquidated damages assessed.

#### **D22. SCHEDULED MAINTENANCE**

D22.1 The Contractor shall perform the following scheduled maintenance in the manner and within the time periods required by the Specifications:

- (a) Sod maintenance as specified in CW 3510.

- D22.2 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**

### **D23. JOB MEETINGS**

- D23.1 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.
- D23.2 The Contract Administrator reserves the right to cancel any job meeting or call additional job meetings whenever he/she deems it necessary.

### **D24. PRIME CONTRACTOR – THE WORKPLACE SAFETY AND HEALTH ACT (MANITOBA)**

- D24.1 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).

### **D25. THE WORKPLACE SAFETY AND HEALTH ACT (MANITOBA) – QUALIFICATIONS**

- D25.1 Further to B11.4, the Contractor/Subcontractor must, throughout the term of the Contract, have a Workplace Safety and Health Program meeting the requirements of The Workplace Safety and Health Act (Manitoba). At any time during the term of the Contract, the City may, at its sole discretion and acting reasonably, require updated proof of compliance, as set out in B11.4.

## **MEASUREMENT AND PAYMENT**

### **D26. PAYMENT**

- D26.1 Further to C12, the City may at its option pay the Contractor by direct deposit to the Contractor's banking institution.

## **WARRANTY**

### **D27. WARRANTY**

- D27.1 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.
- D27.2 Notwithstanding C13.2 or D27.1, 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.
- D27.2.1 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 D11)

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. 529-2017

2017 Industrial Streets Package - St. Matthews Avenue, Bournais Drive and Various Other Locations 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 D11)

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

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

RE: PERFORMANCE SECURITY – BID OPPORTUNITY NO. 529-2017

2017 Industrial Streets Package - St. Matthews Avenue, Bournais Drive and Various Other Locations

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

\_\_\_\_\_  
(Name of Contractor)

\_\_\_\_\_  
(Address of Contractor)

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

\_\_\_\_\_  
Canadian dollars.

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

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

Partial drawings are permitted.

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

\_\_\_\_\_  
(Address)

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

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

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

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

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

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

This credit is subject to the Uniform Customs and Practice for Documentary Credit (2007 Revision), International Chamber of Commerce Publication Number 600.

\_\_\_\_\_  
(Name of bank or financial institution)

Per: \_\_\_\_\_  
(Authorized Signing Officer)

Per: \_\_\_\_\_  
(Authorized Signing Officer)

**FORM J: SUBCONTRACTOR LIST**  
 (See D12)

2017 Industrial Streets Package - St. Matthews Avenue, Bournais Drive and Various Other Locations

<u>Portion of the Work</u>	<u>Name</u>	<u>Address</u>
SURFACE WORKS:		
Supply of Materials:		
Concrete		
Asphalt		
Base Course & Sub-Base		
Sod		
Catchbasins		
Separation Fabric		
Frames & Covers		
Pipe		
MMA Marking		
Installation/Placement:		
Concrete		
Asphalt		
Excavation		
Base Course & Sub-Base		
Underground Works		
Sewer Televising		
Landscaping		
MMA Marking		
Others:		

## 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>	<u>Drawing (Original) Sheet Size</u>
	Cover Sheet	A1
C101	Horizontal Geometry – Beghin Avenue and Bournais Drive	A1
<u>Paquin Road</u>		
C102	Plan/Profile – Paquin Road to Sta 2+25	A1
C103	Plan/Profile – Sta 2+25 to De Baets Street	A1
<u>De Baets Street</u>		
C104	Plan/Profile – Beghin Avenue to Sta 2+25	A1
C105	Plan/Profile – Sta 2+25 to Sta 3+50	A1
C106	Plan/Profile – Sta 3+50 to Sta 4+75	A1
C107	Plan/Profile – Sta 4+75 to Paquin Road	A1
<u>Beghin Avenue</u>		
C108	Plan/Profile – De Baets Street to Sta 2+25	A1
C109	Plan/Profile – Sta 2+25 to Dugald Road	A1
<u>Bournais Drive</u>		
C110	Plan/Profile – Dugald Road to Sta 4+75	A1
C111	Plan/Profile – Sta 4+75 to Sta 6+00	A1
C112	Plan/Profile – Sta 6+00 to Sta 7+25	A1
C113	Plan/Profile – Sta 7+25 to CN Redditt Line	A1
<u>St. Boniface Industrial Park</u>		
C114	Sections and Details	A1
<u>St. Matthews Avenue</u>		
C201	Horizontal Geometry – Sta 1+00 to Sta 10+50	A1
C202	Plan/Profile – Sta 1+00 to Sta 2+25	A1
C203	Plan/Profile – Sta 2+25 to Sta 3+50	A1
C204	Plan/Profile – Sta 3+50 to Sta 4+50	A1
C205	Plan/Profile – Sta 4+50 to Sta 5+75	A1
C206	Plan/Profile – Sta 5+75 to Sta 7+00	A1
C207	Plan/Profile – Sta 7+00 to Sta 8+25	A1
C208	Plan/Profile – Sta 8+25 to Sta 9+50	A1
C209	Plan/Profile – Sta 9+50 to Sta 10+50	A1
C210	Inlaid Longitudinal Lane Markings	A1
C211	Construction Staging Plan	A1
C212	Sections and Details	A1

## **E2. GEOTECHNICAL REPORT**

E2.1 Further to C3.1, the geotechnical report is provided to aid the Contractor's evaluation of the pavement structure and/or existing soil conditions. The geotechnical report is contained 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 boulevard trees within the limits of the construction area:
- (a) The Contractor shall not stockpile materials and soil or park vehicles and equipment on boulevards within 2 metres of trees.
  - (b) Trees 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 dripline 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 driplines of trees. The dripline 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/her designate.
- E3.3 No separate measurement or payment will be made for the protection of trees.
- E3.4 Except as required in clause E3.1(c) and E3.1(e), Elm trees shall not be pruned at any time between April 1 and July 31.

## **E4. TRAFFIC CONTROL**

- E4.1 Further to clauses 3.6, 3.7 and 3.8 of CW 1130:
- (a) Where directed by the Contract Administrator, the Contractor shall construct and maintain temporary asphalt ramps to alleviate vertical pavement obstructions such as manholes and planing drop-offs to the satisfaction of the Contract Administrator. Payment shall be in accordance with CW3410.
  - (b) In accordance with the Manual of Temporary Traffic Control on City Streets (MTTC), the Contractor ("Construction Agency" in the manual) shall be responsible for placing, maintaining and removing the appropriate temporary traffic control devices as specified by the MTTC or by the Traffic Management Branch of the City of Winnipeg Public Works Department. The Contractor shall bear all costs associated with the placement of temporary traffic control devices by their own forces or subcontractor.
- E4.2 Notwithstanding E4.1, in accordance with the MTTC, the Contract Administrator shall make arrangements with the **Traffic Services Branch of the City of Winnipeg** to place, maintain, and remove all **regulatory signs** and traffic control devices authorized and/or required by the Traffic Management Branch in the following situations:
- (a) Parking restrictions,

- (b) Stopping restrictions,
- (c) Turn restrictions,
- (d) Diamond lane removal,
- (e) Full or directional closures on a Regional Street,
- (f) Traffic routed across a median,
- (g) Full or directional closure of a non-regional street where there is a requirement for regulatory signs (turn restrictions, bus stop relocations, etc.) to implement the closure.
- (h) Approved Designated Construction Zones with a temporary posted speed limit reduction. Traffic Services will be responsible for placing all of the advance signs and 'Construction Ends' (TC-4) signs. The Contractor is still responsible for all other temporary traffic control including but not limited to barricades, barrels and tall cones.

E4.2.1 An exception to E4.2 is the 'KEEP RIGHT/KEEP LEFT' sign (RB-25 / RB-25L) which shall be supplied, installed, and maintained by the Contractor at their own expense.

E4.2.2 Further to E4.2, where the Contract Administrator has determined that the services of the Traffic Services Branch are required, the City shall bear the costs associated with the placement of temporary traffic control devices by the Traffic Services Branch of the City of Winnipeg in connection with the works undertaken by the Contractor.

## **E5. TRAFFIC MANAGEMENT**

E5.1 Further to clause 3.7 of CW 1130:

- (a) Single lane closures on intersecting and/or adjoining Regional Streets shall only be permitted during non-peak periods when required for construction activities when approved by the Traffic Management Branch. Storage/parking of materials, equipment or vehicles is not permitted on Regional Streets at any time unless approved by the Contract Administrator, in consultation with the Traffic Management Branch.

E5.1.1 Maintain a minimum of one lane of traffic on Paquin Road and De Baets Street. Traffic on Paquin Road will be maintained in the northbound direction at all times. Traffic on De Baets Street will be maintained in the westbound direction at all times.

E5.1.2 Maintain a minimum of one lane of traffic in each direction on Beghin Avenue and St. Matthews Avenue.

E5.1.3 Full Closure of Bournais Drive between July 1, 2017 and August 31, 2017. Maintain a minimum of one lane of traffic in each direction outside this scheduled closure.

E5.1.4 Intersecting local street, median opening and private approach access shall be maintained at all times unless joint/slab repairs or planing/paving operations require temporary closure. Temporary closures are to be staggered such that consecutive intersections are not closed at the same time. Traffic on intersecting regional/collector streets (Dugald, Century) shall be maintained at all times unless planing/paving operations require temporary complete closures. Temporary complete closures shall be no longer than 10 minutes during asphalt planing/paving operations and shall be completed during off peak hours.

E5.1.5 Flag persons may be necessary to maintain the flow of traffic during certain work operations.

E5.1.6 Should the Contractor be unable to maintain pedestrian or vehicular access to a residence or business, he/she shall review the planned disruption with the business or residence and the Contract Administrator, and take reasonable measures to minimize the impact. The Contractor shall provide a minimum of 24 hours notification to the affected residence or business and the Contract Administrator, prior to disruption of access.

E5.1.7 Pedestrian and ambulance/emergency vehicle access must be maintained at all times.

## **E6. REFUSE AND RECYCLING COLLECTION**

E6.1 While access to refuse and/or recycling collection vehicles is restricted, on collection day(s) the Contractor shall move all of the affected property owners refuse and/or recycling materials to a nearby common area, prior to an established time, in accordance with E6.2 to permit the normal collection vehicles to collect the materials. Immediately following recycling collection the Contractor shall return recycling receptacles to the addresses marked on the receptacles

E6.2 Collection Schedule:

### **St. Matthews Avenue from Ferry Street to Kensington Street.**

*Collection Day(s):*                    **Friday, B**  
*Collection Time:*                    **07:00 to 22:00**  
*Common Collection Area:*        **St. Matthews Avenue**

### **Bournais Drive from CN Redditt Rail Line Crossing to Dugald Road.**

*Collection Day(s):*                    **Thursday, B**  
*Collection Time:*                    **07:00 to 22:00**  
*Common Collection Area:*        **Bournais Drive**

### **Beghin Avenue from Dugald Road to De Baets Street**

*Collection Day(s):*                    **Thursday, B**  
*Collection Time:*                    **07:00 to 22:00**  
*Common Collection Area:*        **Beghin Avenue**

### **De Baets Street from Beghin Avenue to Paquin Road.**

*Collection Day(s):*                    **Thursday, B**  
*Collection Time:*                    **07:00 to 22:00**  
*Common Collection Area:*        **De Baets Street**

### **Paquin Road from De Baets Street to Paquin Road South Leg.**

*Collection Day(s):*                    **Thursday, B**  
*Collection Time:*                    **07:00 to 22:00**  
*Common Collection Area:*        **Paquin Road**

## **E7. WATER OBTAINED FROM THE CITY**

E7.1 Further to clause 3.7 of CW 1120, the Contractor shall pay for all costs, including sewer charges, associated with obtaining water from the City in accordance with the Waterworks and Sewer By-laws.

## **E8. SURFACE RESTORATIONS**

E8.1 Further to clause 3.3 of CW 1130, when Total Performance is not achieved in the year the Contract is commenced, the Contractor shall temporarily repair any Work commenced and not completed 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. INFRASTRUCTURE SIGNS**

E9.1 The Contractor shall obtain infrastructure signs from the Traffic Services Sign Shop at 421 Osborne Street. The Contractor shall mount each sign securely to a rigid backing material approved by the Contract Administrator. The Contractor shall fasten each sign to a suitable support and erect and maintain one sign at each street as directed by the Contract Administrator. When the Contract Administrator considers the Work on the street complete, the Contractor shall remove and dispose of the signs and supports. No measurement for payment will be made for performing all operations herein described and all other items incidental to the work described

## **E10. SUPPLY AND INSTALLATION OF INLAID LONGITUDINAL LANE LINE MARKING**

E10.1 This specification covers the supply and installation of inlaid longitudinal lane line marking tape in concrete and asphaltic concrete overlay

### **GENERAL**

E10.2 Drawing and Manuals

- (a) Drawing C-19 – Inlaid Longitudinal Lane Line Markings
- (b) Appendix B Manual – Stamark™ Pavement Marking Tape and Liquid Pavement Markings
- (c) Appendix B Manual – Application Guidelines for Pavement Markings in Grooved Pavement Surfaces

### **MATERIAL**

E10.3 PB 380I ES - 3M™ Stamark™ High Performance Tape Series 380I ES (white)

E10.4 Surface Preparation Adhesive P-50 for 3M™ Stamark™ Pavement Marking Tape

E10.5 Source

- (a) 3M Canada
- (b) Available From: Guardian Traffic Services, 982 Powell Avenue Winnipeg Manitoba, R3H 0H6. Ph: (204) 233-1600

### **CONSTRUCTION METHODS**

E10.6 Prepare the concrete or asphaltic concrete overlay surface in accordance with Manufacturer's pavement surface preparation and application techniques manual (attached).

E10.7 Groove concrete or asphaltic concrete overlay and install pavement marking tape in accordance with Manufacturer's installation manual (attached).

### **MEASUREMENT AND PAYMENT**

E10.8 Supply and installation of inlaid longitudinal lane line marking tape will be measured on a length basis and paid for at the Contract Unit Price per metre for "Supply and Installation of Inlaid Longitudinal Lane Line Marking Tape". The length to be paid for will be the total number of metres of inlaid longitudinal lane line marking tape supplied and installed in accordance with this specification, accepted and measured by the Contract Administrator.

E10.9 Preparation and grooving of existing concrete or asphaltic concrete overlay for inlaid longitudinal lane line marking tape shall be included in the cost of "Supply and Installation of Inlaid Longitudinal Lane Line Marking Tape" and no separate measurement and payment will be made.

## **E11. TREE REMOVAL**

- E11.1 Further to CW 3010 – Clearing and Grubbing, tree removal including the roots shall be measured on a unit basis for the number of trees removed in accordance with CW 3010. Payment shall be at the Contract Unit Price bid for “Tree Removal” measured as specified herein for the total number of trees removed in accordance with this Specification, accepted and measured by the Contract Administrator.

## **E12. HYDRO EXCAVATION**

### DESCRIPTION

- E12.1 This Specification shall cover the removal of earthen material immediately adjacent to underground utilities infrastructure by means of high pressure water spray, and the recovery of excavated material by vacuum type means or equivalent method as approved by the Contract Administrator.

### CONSTRUCTION METHODS

#### E12.2 Hydro-Removal of Earthen Material

- E12.2.1 The Contractor shall only be compensated for hydro-excavation undertaken with prior permission of the Contract Administrator.
- E12.2.2 Earthen material adjacent to utility entity shall be sprayed with high pressure water so as to remove all such material identified by the Contract Administrator. Expose the buried utility by using a sweeping motion only, perpendicular to the locate markings, until the line is sighted. After sighting, the line shall not be contacted by spray or vacuum to avoid damage.
- E12.2.3 Maximum settings when excavating within 1 m of marked utilities will be 38°C (100°F) temperature and 10,342 kPa (1500 psi) pressure.

#### E12.3 Recovery of Excavated Material

- E12.3.1 The recovery of excavated material shall be done using a vacuum type method, or other type method as approved by the Contract Administrator.
- E12.3.2 The recovery of material shall follow immediately behind the excavation, to avoid excavated areas from filling with excavated material.
- E12.3.3 The use of mechanical sweepers will not be allowed.
- E12.3.4 Dispose of material in accordance with CW 1130-R3.

#### E12.4 Backfill of Hydro Excavated Material

- E12.4.1 The Contractor shall be responsible for the backfill of the hydro excavated hole upon acceptance of the Work described herein by the Contract Administrator.

### MEASUREMENT AND PAYMENT

#### E12.5 Hydro Excavation

- E12.6 Hydro-Excavation of earthen material and its recovery and disposal as well as backfilling the hole will be measured on an hourly basis and paid for at the Contract Unit Price per hour for “Hydro-Excavation”. The hours to be paid for will be the total number of hours of hydro-excavation completed in accordance with this Specification, accepted and measured by the Contract Administrator.

## **E13. COORDINATION OF CONSTRUCTION WITH CANADIAN NATIONAL (CN)**

- E13.1 Description

#### E13.1.1 General Requirements

- (a) The Contractor shall be responsible to meet all Canadian National (CN), constraints, requirements, and safety measures.
- (b) The Contractor shall be responsible for any damage, delay, disruption and/or inconvenience caused to CN by their equipment or operations of Work to the tracks, the railway's operation or their property.
- (c) CN has the right to shut down any construction activity within its property and near any operated track and remove the contractor from the Site for violations of their safety requirements. The Contractor shall be responsible for any costs and scheduled delays resulting from the violation.
- (d) If any emergency occurs, CN can be contacted through its Emergency CN Police Line 1-800-465-9239.
- (e) The Contractor shall follow the requirements of CN as stipulated in the CN Safety Requirements herein in this Bid Opportunity Appendix C. All employees of the Contractor shall obtain the CN Contractor Orientation Identification card and sticker prior to working on Site.
- (f) The Contractor shall provide CN with a twenty-four (24) hour phone number through which the Contractor can be contacted for emergency purposes.
- (g) CN and their contractor(s) will be constructing the shoofly tracks and main tracks as well as removing trackage as required. Full cooperation, including meeting milestone dates with these forces is required.

#### E13.2 Temporary Construction Crossing Permit

- E13.2.1 Should CN allow a temporary construction crossing, the Contractor shall be responsible for the application and payment for the temporary construction crossing permit. The Contractor together with the Contract Administrator will meet with the appropriate CN representative and determine the best location for the crossing. A detailed safety plan regarding vehicle and equipment crossing will need to be submitted with the permit. The plan must at a minimum identify procedures, positioning of contractor's employee(s) designated to control all movements over tracks and all other requirements as identified in CN Safety Requirements Appendix C.
- E13.2.2 On a daily basis the designated Contractor's employee will discuss the day's equipment movement over the crossing with the Protecting Foreman.
- E13.2.3 At the end of each working day the Contractor will be responsible to barricade the crossing to stop vehicle/equipment movements across the active rail lines.
- E13.2.4 All costs including its construction and operation, liabilities, cleaning up and restoring of Site after removal of the crossing will be the Contractor's responsibility.

#### E13.3 Contractor's Use of Site

- E13.3.1 The Contractor shall confine storage of materials and the operations of equipment, workmen, and erection of trailers to the limits indicated on the Contract Drawings.
- E13.3.2 No materials shall be stored closer than 5 m of the nearest rail of any operated track. Material shall not be stockpiled higher than 1.5 m.
- E13.3.3 All costs, liabilities, cleaning up and restoring of Site after completion of the Project will be the Contractor's responsibility.

#### E13.4 Flag Protection of Work

- E13.4.1 The Contractor will not be required to supply flag protection for this Project.
- E13.4.2 The CN Protecting Foreman has the total authority over all activities near the track regardless of what work is being performed as per Appendix C.

### E13.5 Signals and Communication Cables

E13.5.1 The Contractor shall request CN to locate their cables before commencement of any Work.

E13.5.2 The Contractor shall give CN seventy-two (72) hour's notice to locate cables.

E13.5.3 The Contractor shall use extreme caution when working in the vicinity of any signal and communication cables.

E13.5.4 As a result of damage to any cable, fibre optic line or associated equipment by their operations, the Contractor shall be held responsible for all costs required to repair the cable, as well as the loss of all revenue incurred by CN.

### E13.6 Barricades and Signage

E13.6.1 The Contractor shall observe all necessary precautions and provide, erect, and maintain suitable signs, barricades, and lights to protect all persons from injury and all vehicles from damage during the progress of the Work, all to the approval of the Contract Administrator or any authority having jurisdiction at this location.

### E13.7 Down Time

E13.7.1 The Contractor is advised that for parts of the Work of the Contract in the vicinity of railway there may be unproductive time (also known as down time) related to ongoing CN rail operations and train traffic through the site. The Contractor shall accommodate all CN rail operations and train traffic through the site throughout the performance of the Work. No compensation will be considered for variation in the duration or frequency of CN rail operations and train traffic, nor for down time as a result of these operations.

### E13.8 Measurement and Payment

E13.8.1 No measurement or payment will be made for the work associated with this specification.

## **E14. SUBGRADE AND SUBBASE COMPACTION NEAR OIL LINES**

### DESCRIPTION

#### E14.1 General

E14.1.1 This Specification covers all operations relating to the subgrade and subbase compaction in close vicinity to either the Imperial Oil (Esso) or Shell oil lines in accordance with this Specification and as shown on the Contract Drawings.

E14.1.2 The Work to be done by the Contractor under this Specification shall include the furnishing of all superintendence, overhead, labour, materials, equipment, tools, supplies, and all things necessary for and incidental to the satisfactory performance and completion of all Works as hereinafter specified.

#### E14.2 Reference Standard Construction Specifications

E14.2.1 The latest version of the City of Winnipeg Standard Construction Specification CW 3110 – Sub-Grade, Sub-Base and Base Course Construction

E14.2.2 The latest version of the City of Winnipeg Standard Construction Specification CW 3170 – Earthworks and Grading.

### MATERIALS

#### E14.3 General

E14.3.1 The Contractor shall be responsible for the supply, safe storage and handling of all materials set forth in this Specification. All materials supplied under this Specification shall be subject to inspection and acceptance by the Contract Administrator.

- E14.4 In accordance with the latest version of the City of Winnipeg Standard Construction Specification CW 3110, Section 2 and CW3170, Section 5.

#### CONSTRUCTION METHODS

- E14.5 In accordance with the latest version of the City of Winnipeg Standard Construction Specification CW 3110, Section 3 and CW 3170, Section 9.
- E14.6 During the placement and compaction of the subgrade, subbase, or base course material above an oil line utility, the Contractor will not be permitted to utilize vibratory compaction to reach the required Standard Proctor Density, but rather will only be permitted to utilize static rolling compaction.

#### MEASUREMENT AND PAYMENT

- E14.7 No additional measurement or payment will be made for the Work performed in accordance with this Specification.

### **E15. SUPPLY AND INSTALLATION OF METHYL METHACRYLATE AREA MARKING**

#### DESCRIPTION

- E15.1 This specification covers the supply and installation of Methyl Methacrylate Area (MMA) Marking in concrete and asphalt pavements at select locations along St. Matthews Avenue.
- E15.2 Drawings and Manuals
- (a) Contract Drawings; C214 – Inlaid Longitudinal Lane Markings
  - (b) Attached Manual; Appendix 'D' – Application Instructions – CycleGrip® MMAX Corundum Bike Lane Treatment System
  - (c) Attached Manual; Appendix 'E' – MMAX Specification – Methyl Methacrylate Bike Lane Treatment

#### MATERIALS

- E15.3 Product
- (a) CycleGrip® MMAX kit – includes CycleGrip® MMAX Resin (E-F Bike Lane Green), CycleGrip® MMAX Aggregate and Catalyst
- E15.4 Source
- (a) ENNIS-FLINT
  - (b) Attention: Deryk Upton. Ph: (604) 315-8765. Email: [dupton@ennisflint.com](mailto:dupton@ennisflint.com). Web: [www.ennisflint.com](http://www.ennisflint.com)

#### CONSTRUCTION METHODS

- E15.5 Preparation and Installation
- E15.5.1 Where the MMA Markings is to be placed, the surface of the concrete sidewalk must be texture grooved to a width of 0.3m and a depth of 1.25mm(min) to 2.5mm(max).
- E15.5.2 Note: The use of grooving equipment with gang stacked diamond cutting blades is required for texturing concrete sidewalk surfaces.
- E15.5.3 Prepare the concrete sidewalk surface in accordance with Manufacturer's application instructions and MMAX Area Markings specification (attached).

#### MEASUREMENT AND PAYMENT

E15.6 Supply and installation of MMA marking with anti-skid will be measured on a length basis and paid for at the Contract Unit Price per metre for "Supply and Installation of CycleGrid® MMAX Marking"

E15.7

E15.8 MMA Marking with Anti-Skid". The length to be paid for will be the total number of metres of MMA marking with anti-skid supplied and installed in accordance with this specification, accepted and measured by the Contract Administrator.

E15.9 Grooving and preparation of concrete sidewalk for MMA marking with anti-skid shall be included in the cost for "Supply and Installation of CycleGrid® MMAX Marking" and no separate measurement and payment will be made.

## **E16. CONSTRUCTION OF COLOURED CONCRETE**

### DESCRIPTION

E16.1 General

E16.1.1 This specification covers the construction of "charcoal" tinted concrete pavement, intended to delineate flush median slab at select intersections along St. Matthews Avenue. The tinted concrete is finished at grade and is the width of the adjacent median. Care must be taken with consistency in water/cement ratio and finishing as the color can be affected load to load.

E16.2 Reference Standard Construction Specifications

E16.2.1 The latest version of the City of Winnipeg Standard Construction CW 3310 – Portland Cement Concrete Pavement Works.

### MATERIALS

E16.3 Concrete Materials

E16.3.1 The Contractor shall base the tinted concrete mix on a mix design that has been approved for the current construction season by the City of Winnipeg Research and Standards Department.

E16.3.2 The base mix design shall conform to Section 6 of CW 3310 with the following alterations:

- (a) Type 1 mix as per Section 6.2 of CW 3310.
- (b) Slump for hand placement shall be 80 mm +/- 20 mm prior to adding superplasticizers (if needed) to facilitate finishing without adding water to the surface.

E16.3.3 Alterations to the base mix design will be considered by the Contract Administrator if necessary to account for the concrete tint material and finishing operations.

E16.4 Concrete Colour

E16.4.1 "Charcoal" coloured metal oxide pigment used to permanently color ready-mix concrete.

E16.4.2 Approved Product List

- (a) LaFarge "Steel Gray" marketed under the Artivia trademark.

E16.4.3 Contractor to cast one coloured concrete sample minimum 200 mm X 200 mm in area using base concrete mix for approval by Contract Administrator.

E16.4.4 Tinted concrete shall not be placed until sample color has been accepted by the Contract Administrator. The Contractor shall demonstrate that the sample will achieve the approximate color advertised by the pigment supplier using local concrete mix materials.

E16.5 Superplasticizers

E16.5.1 Superplasticizers shall conform to the requirements of CSA CAN3-A266.5 and CAN3-A266.6, but must be compatible with the air-entraining agent. The agent shall be free of chlorides and shall not affect the air-entraining agent's ability to produce a satisfactory air void system.

E16.6 Liquid Membrane-Forming Curing Compound

E16.6.1 Curing Compound shall be clear (no pigment), and water based conforming to the requirements of ASTM C309.

E16.7 Other Materials

E16.7.1 All other materials as per CW 3310.

E16.8 Floating and Finishing Equipment

E16.8.1 Use only wood or magnesium floats. Bull floats used for initial finishing shall be constructed of wood only.

E16.9 Other Equipment

E16.9.1 All other equipment as per CW 3310.

#### CONSTRUCTION METHODS

E16.10 Concrete formwork, steel reinforcement, placement, curing, and joint sealing as per CW 3310 except as modified in the following clauses.

E16.11 Construct formed 50 mm headers to define the lane edge and transverse termination of at-grade coloured concrete where the adjacent pavement is to be asphalt overlaid.

E16.12 Clean finishing tools and equipment and let dry prior to finishing. Wet tools will fade the colouring. Wetting of tools during finishing operation is not permitted.

E16.13 Place concrete at a consistent slump. No water shall be added on Site. Superplasticizer may be added at a rate suggested by the concrete supplier if additional workability is needed.

E16.14 Clear curing compound only shall be used. The use of water curing or plastic film is not allowed. Plastic film for insulation in cold weather must be approved by the Contract Administrator.

#### MEASUREMENT AND PAYMENT

E16.15 Construction of Coloured Concrete

E16.15.1 Construction of Coloured Concrete will be measured on an area basis and paid for at the Contract Unit Price per square metre for "Construction of 230 mm Concrete Pavement (Plain-Dowelled, Coloured)". The area to be paid for will be the total number of square metres of tinted concrete supplied and placed at grade, or below an asphalt overlay in accordance with this specification and accepted by the Contract Administrator.

#### E17. TESTING OF SUB-BASE AND BASE COURSE MATERIALS

E17.1 Further to clause 2.6.2 of CW 3110:

- (a) Where Crushed Recycled Concrete is selected for use as a Sub-Base and/or Base Material, the associated stockpile shall be assessed by the Contract Administrator prior to hauling.

E17.2 Further to clause 2.6.3 of CW 3110:

- (a) If material on-site appears inconsistent with the source, the Contract Administrator reserves the right to test the supplied material.

- (b) Re-tested material shall not be placed until results meet the requirements of this Specification and are consistent with the original source results.