



THE CITY OF WINNIPEG

BID OPPORTUNITY

BID OPPORTUNITY NO. 781-2011

**CONCRETE PRESERVATION PROGRAM – DIAMOND GRINDING OF BISHOP
GRANDIN BOULEVARD FROM LAGIMODIERE BOULEVARD TO STE. ANNES
ROAD WESTBOUND, & PORTAGE AVENUE FROM AINSLEY STREET TO ALDINE
STREET EASTBOUND-WESTBOUND**

TABLE OF CONTENTS

PART A - BID SUBMISSION

Form A: Bid	1
Form B: Prices	4
Form G1: Bid Bond and Agreement to Bond	5
Form G2: Irrevocable Standby Letter of Credit and Undertaking	7

PART B - BIDDING PROCEDURES

B1. Contract Title	1
B2. Submission Deadline	1
B3. Enquiries	1
B4. Addenda	1
B5. Substitutes	2
B6. Bid Components	3
B7. Bid	3
B8. Prices	4
B9. Qualification	4
B10. Bid Security	5
B11. Opening of Bids and Release of Information	6
B12. Irrevocable Bid	6
B13. Withdrawal of Bids	7
B14. Evaluation of Bids	7
B15. Award of Contract	8

PART C - GENERAL CONDITIONS

C0. General Conditions	1
------------------------	---

PART D - SUPPLEMENTAL CONDITIONS

General

D1. General Conditions	1
D2. Scope of Work	1
D3. Contract Administrator	1
D4. Contractor's Supervisor	1
D5. Notices	2
D6. Furnishing of Documents	2

Submissions

D7. Authority to Carry on Business	2
D8. Safe Work Plan	2
D9. Insurance	3
D10. Performance Security	3
D11. Subcontractor List	3
D12. Detailed Work Schedule	4

Schedule of Work

D13. Commencement	4
D14. Working Days	4
D15. Restricted Work Hours	4
D16. Work By Others	5
D17. Sequence of Work	5
D18. Substantial Performance	6
D19. Total Performance	6

Control of Work

D20. Job Meetings	6
D21. Prime Contractor – The Workplace Safety and Health Act (Manitoba)	6

Measurement and Payment

D22. Payment	6
Form H1: Performance Bond	7
Form H2: Irrevocable Standby Letter of Credit	9
Form J: Subcontractor List	11
Form L: Detailed Work Schedule	12

PART E - SPECIFICATIONS

General

E1. Applicable Specifications and Drawings	1
E2. Traffic Control	1
E3. Traffic Management	2
E4. Water Obtained From the City	2
E5. Diamond Grinding	2
E6. Coordination of Construction with the Railway Company	5

PART B - BIDDING PROCEDURES

B1. CONTRACT TITLE

- B1.1 Concrete Preservation Program – Diamond Grinding of Bishop Grandin Boulevard from Lagimodiere Boulevard to Ste. Annes Road Westbound, & Portage Avenue from Ainsley Street to Aldine Street Eastbound-Westbound

B2. SUBMISSION DEADLINE

- B2.1 The Submission Deadline is 12:00 noon Winnipeg time, September 23, 2011.
- B2.2 Bids determined by the Manager of Materials to have been received later than the Submission Deadline will not be accepted and will be returned upon request.
- B2.3 The Contract Administrator or the Manager of Materials may extend the Submission Deadline by issuing an addendum at any time prior to the time and date specified in B2.1.

B3. 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. ADDENDA

- B4.1 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.
- B4.2 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.
- B4.2.1 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>
- B4.2.2 The Bidder is responsible for ensuring that he has received all addenda and is advised to check the Materials Management Division website for addenda regularly and shortly before the Submission Deadline, as may be amended by addendum.
- B4.3 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.

B5. SUBSTITUTES

- B5.1 The Work is based on the Plant, Materials and methods specified in the Bid Opportunity.
- B5.2 Substitutions shall not be allowed unless application has been made to and prior approval has been granted by the Contract Administrator in writing.
- B5.3 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.
- B5.4 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.
- B5.5 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.
- B5.6 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.
- B5.6.1 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.
- B5.7 If the Contract Administrator approves a substitute as an “approved equal”, any Bidder may use the approved equal in place of the specified item.
- B5.8 If the Contract Administrator approves a substitute as an “approved alternative”, any Bidder bidding that approved alternative may base his Total Bid Price upon the specified item but may also indicate an alternative price based upon the approved alternative. Such alternatives will be evaluated in accordance with B14.
- B5.9 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.
- B5.10 Notwithstanding B5.2 to B5.9, in accordance with B6.6, deviations inconsistent with the Bid Opportunity document shall be evaluated in accordance with B14.1(a).

B6. BID COMPONENTS

- B6.1 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;
- B6.2 Further to B6.1, the Bidder should include the written correspondence from the Contract Administrator approving a substitute in accordance with B5.
- B6.3 All components of the Bid shall be fully completed or provided, and submitted by the Bidder no later than the Submission Deadline, with all required entries made clearly and completely, to constitute a responsive Bid.
- B6.4 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.
- B6.4.1 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.
- B6.4.2 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.
- B6.5 Bidders are advised not to include any information/literature except as requested in accordance with B6.1.
- B6.6 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 B14.1(a).
- B6.7 Bids submitted by facsimile transmission (fax) or internet electronic mail (e-mail) will not be accepted.
- B6.8 Bids shall be submitted to:
- The City of Winnipeg
Corporate Finance Department
Materials Management Division
185 King Street, Main Floor
Winnipeg MB R3B 1J1

B7. BID

- B7.1 The Bidder shall complete Form A: Bid, making all required entries.
- B7.2 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.

B7.2.1 If a Bid is submitted jointly by two or more persons, each and all such persons shall identify themselves in accordance with B7.2.

B7.3 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.

B7.4 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, shall 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.

B7.4.1 The name and official capacity of all individuals signing Form A: Bid should be printed below such signatures.

B7.5 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.

B8. PRICES

B8.1 The Bidder shall state a price in Canadian funds for each item of the Work identified on Form B: Prices.

B8.1.1 For the convenience of Bidders, and pursuant to B6.4.2 and B14.4.3, 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>

B8.2 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.

B8.3 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.

B8.4 Payments to Non-Resident Contractors are subject to Non-Resident Withholding Tax pursuant to the Income Tax Act (Canada).

B8.5 Form B: Prices is organized into Parts: Part 1 of the Work and Part 2 of the Work. Bidders shall provide a total price for each Part and, on the summary sheet, a Total Bid Price consisting of the sum of prices for Part 1 and Part 2.

B9. QUALIFICATION

B9.1 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.

B9.2 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>

B9.3 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);

B9.4 Further to B9.3(c), the Bidder shall, within five (5) Business Days of a request by the Contract Administrator, provide proof satisfactory to the Contract Administrator that the Bidder/Subcontractor has a workplace safety and health program meeting the requirements of The Workplace Safety and Health Act (Manitoba), by providing:

- (a) a valid COR certification number under the Certificate of Recognition (COR) Program administered by the Manitoba Construction Safety Association or by the Manitoba Heavy Construction Association's Safety, Health and Environment Program; or
- (b) a report or letter to that effect from an independent reviewer acceptable to the City. (A list of acceptable reviewers and the review template are available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt>)

B9.5 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.

B9.6 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.

B10. BID SECURITY

B10.1 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.

- B10.1.1 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.
- B10.1.2 All signatures on bid securities shall be original.
- B10.1.3 The Bidder shall sign the Bid Bond.
- B10.1.4 The Surety shall sign and affix its corporate seal on the Bid Bond and the Agreement to Bond.
- B10.2 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.
- B10.2.1 Where the bid security provided by the successful Bidder is in the form of a certified cheque or draft pursuant to B10.1(c), it will be deposited and retained by the City as the performance security and no further submission is required.
- B10.2.2 The City will not pay any interest on certified cheques or drafts furnished as bid security or subsequently retained as performance security.
- B10.3 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.

B11. OPENING OF BIDS AND RELEASE OF INFORMATION

- B11.1 Bids will be opened publicly, after the Submission Deadline has elapsed, in the office of the Corporate Finance Department, Materials Management Division, or in such other office as may be designated by the Manager of Materials.
 - B11.1.1 Bidders or their representatives may attend.
 - B11.1.2 Bids determined by the Manager of Materials, or his designate, to not include the bid security specified in B10 will not be read out.
- B11.2 Following the submission deadline, the names of the Bidders and their Total Bid Prices (unevaluated, and pending review and verification of conformance with requirements) will be available on the Closed Bid Opportunities (or Public/Posted Opening & Award Results) page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt>
- B11.3 After award of Contract, the name(s) of the successful Bidder(s) and the Contract amount(s) will be available on the Closed Bid Opportunities (or Public/Posted Opening & Award Results) page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt>
- B11.4 The Bidder is advised that any information contained in any Bid may be released if required by City policy or procedures, by The Freedom of Information and Protection of Privacy Act (Manitoba), by other authorities having jurisdiction, or by law.

B12. IRREVOCABLE BID

- B12.1 The Bid(s) submitted by the Bidder shall be irrevocable for the time period specified in Paragraph 11 of Form A: Bid.
- B12.2 The acceptance by the City of any Bid shall not release the Bids of the next two lowest evaluated responsive Bidders and these Bidders shall be bound by their Bids on such Work

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.

B13. WITHDRAWAL OF BIDS

- B13.1 A Bidder may withdraw his Bid without penalty by giving written notice to the Manager of Materials at any time prior to the Submission Deadline.
- B13.1.1 Notwithstanding C23.3, the time and date of receipt of any notice withdrawing a Bid shall be the time and date of receipt as determined by the Manager of Materials.
- B13.1.2 The City will assume that any one of the contact persons named in Paragraph 3 of Form A: Bid or the Bidder's authorized representatives named in Paragraph 12 of Form A: Bid, and only such person, has authority to give notice of withdrawal.
- B13.1.3 If a Bidder gives notice of withdrawal prior to the Submission Deadline, the Manager of Materials will:
- (a) retain the Bid until after the Submission Deadline has elapsed;
 - (b) open the Bid to identify the contact person named in Paragraph 3 of Form A: Bid and the Bidder's authorized representatives named in Paragraph 12 of Form A: Bid; and
 - (c) if the notice has been given by any one of the persons specified in B13.1.3(b), declare the Bid withdrawn.
- B13.2 A Bidder who withdraws his Bid after the Submission Deadline but before his Bid has been released or has lapsed as provided for in B12.2 shall be liable for such damages as are imposed upon the Bidder by law and subject to such sanctions as the Chief Administrative Officer considers appropriate in the circumstances. The City, in such event, shall be entitled to all rights and remedies available to it at law, including the right to retain the Bidder's bid security.

B14. EVALUATION OF BIDS

- B14.1 Award of the Contract shall be based on the following bid evaluation criteria:
- (a) compliance by the Bidder with the requirements of the Bid Opportunity, or acceptable deviation therefrom (pass/fail);
 - (b) qualifications of the Bidder and the Subcontractors, if any, pursuant to B9 (pass/fail);
 - (c) Total Bid Price;
 - (d) economic analysis of any approved alternative pursuant to B5.
- B14.2 Further to B14.1(a), the Award Authority may reject a Bid as being non-responsive if the Bid is incomplete, obscure or conditional, or contains additions, deletions, alterations or other irregularities. The Award Authority may reject all or any part of any Bid, or waive technical requirements or minor informalities or irregularities, if the interests of the City so require.
- B14.3 Further to B14.1(b), the Award Authority shall reject any Bid submitted by a Bidder who does not demonstrate, in his Bid or in other information required to be submitted, that he is responsible and qualified.
- B14.4 Further to B14.1(c), the Total Bid Price shall be the sum of the quantities multiplied by the unit prices for each item shown on Form B: Prices.
- B14.4.1 If there is any discrepancy between the Total Bid Price written in figures, the Total Bid Price written in words and the sum of the quantities multiplied by the unit prices for each item, the sum of the quantities multiplied by the unit prices for each item shall take precedence.

- B14.4.2 Further to B14.1(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.
- B14.4.3 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.

B15. AWARD OF CONTRACT

- B15.1 The City will give notice of the award of the Contract or will give notice that no award will be made.
- B15.2 The City will have no obligation to award a Contract to a Bidder, even though one or all of the Bidders are determined to be responsible and qualified, and the Bids are determined to be responsive.
- B15.2.1 Without limiting the generality of B15.2, the City will have no obligation to award a Contract where:
- (a) the prices exceed the available City funds for the Work;
 - (b) the prices are materially in excess of the prices received for similar work in the past;
 - (c) the prices are materially in excess of the City's cost to perform the Work, or a significant portion thereof, with its own forces;
 - (d) only one Bid is received; or
 - (e) in the judgment of the Award Authority, the interests of the City would best be served by not awarding a Contract.
- B15.3 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 B14.
- B15.3.1 Following the award of contract, a Bidder will be provided with information related to the evaluation of his Bid upon written request to the Contract Administrator.

PART C - GENERAL CONDITIONS

C0. GENERAL CONDITIONS

- C0.1 The *General Conditions for Construction* (Revision 2006 12 15) are applicable to the Work of the Contract.
- C0.1.1 The *General Conditions for Construction* are available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at http://www.winnipeg.ca/matmgt/gen_cond.stm
- C0.2 A reference in the Bid Opportunity to a section, clause or subclause with the prefix “**C**” designates a section, clause or subclause in the *General Conditions for Construction*.

PART D - SUPPLEMENTAL CONDITIONS

GENERAL

D1. GENERAL CONDITIONS

D1.1 In addition to the General Conditions for Construction, these Supplemental Conditions are applicable to the Work of the Contract.

D2. SCOPE OF WORK

D2.1 The Work to be done under the Contract shall consist of:

- (a) Concrete diamond grinding of Bishop Grandin Boulevard from Lagimodiere Boulevard to Ste. Annes Road WB;
- (b) Concrete diamond grinding of Portage Avenue from Ainsley St to Aldine Street EB-WB;

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

- (a) Concrete diamond grinding of Bishop Grandin Boulevard from Lagimodiere Boulevard to Ste. Annes Road WB
 - (i) Initial profiling of existing pavement;
 - (ii) Diamond grinding;
 - (iii) Final profiling of acceptance;
 - (iv) Regrinding and profiling of localized areas (as required)
- (b) Concrete diamond grinding of Portage Avenue from Ainsley St to Aldine Street EB-WB
 - (i) Initial profiling of existing pavement;
 - (ii) Diamond grinding;
 - (iii) Final profiling of acceptance;
 - (iv) Regrinding and profiling of localized areas (as required)

D3. CONTRACT ADMINISTRATOR

D3.1 The Contract Administrator is Stantec Consulting Ltd., represented by:

Vilko Maroti , CET, P.Eng.
Senior Transportation Engineer
100-1355 Taylor Ave
Winnipeg, MB R3M 3Y9

Telephone No. (204) 928-8834

Facsimile No. (204) 284-4795

D3.2 At the pre-construction meeting, Vilko Maroti 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.

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. NOTICES

- D5.1 Except as provided for in C23.2.2, all notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications to the Contractor shall be sent to the address or facsimile number identified by the Contractor in Paragraph 2 of Form A: Bid.
- D5.2 All notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications to the City, except as expressly otherwise required in D5.3, D5.4 or elsewhere in the Contract, shall be sent to the attention of the Contract Administrator at the address or facsimile number identified in D3.1.
- D5.3 Notwithstanding C21., all notices of appeal to the Chief Administrative Officer shall be sent to the attention of the Chief Financial Officer at the following facsimile number:
- The City of Winnipeg
Chief Financial Officer
Facsimile No.: (204) 949-1174
- D5.4 All notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications required to be submitted or returned to the City Solicitor shall be sent to the following address or facsimile number:
- The City of Winnipeg
Legal Services Department
Attn: Director of Legal Services
185 King Street, 3rd Floor
Winnipeg MB R3B 1J1
Facsimile No.: (204) 947-9155

D6. FURNISHING OF DOCUMENTS

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

SUBMISSIONS

D7. AUTHORITY TO CARRY ON BUSINESS

- D7.1 The Contractor shall be in good standing under The Corporations Act (Manitoba), or properly registered under The Business Names Registration Act (Manitoba), or otherwise properly registered, licensed or permitted by law to carry on business in Manitoba, or if the Contractor does not carry on business in Manitoba, in the jurisdiction where the Contractor does carry on business, throughout the term of the Contract, and shall provide the Contract Administrator with evidence thereof upon request.

D8. SAFE WORK PLAN

- D8.1 The Contractor shall provide the Contract Administrator with a Safe Work Plan at least five (5) Business Days prior to the commencement of any Work on the Site but in no event later than the date specified in C4.1 for the return of the executed Contract.
- D8.2 The Safe Work Plan 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. INSURANCE

- D9.1 The Contractor shall provide and maintain the following insurance coverage:
- (a) commercial general liability insurance, in the amount of at least two million dollars (\$2,000,000.00) inclusive, with The City of Winnipeg added as an additional insured, with a cross-liability clause, such liability policy to also contain contractual liability, unlicensed motor vehicle liability, non-owned automobile liability, 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) automobile liability insurance for owned automobiles used for or in connection with the Work in the amount of at least two million dollars (\$2,000,000.00) at all times during the performance of the Work and until the date of Total Performance;
 - (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.
- D9.2 Deductibles shall be borne by the Contractor.
- D9.3 The Contractor shall provide the City Solicitor with a certificate(s) of insurance, in a form satisfactory to the City Solicitor, at least two (2) Business Days prior to the commencement of any Work but in no event later than the date specified in the C4.1 for the return of the executed Contract.
- D9.4 The Contractor shall not cancel, materially alter, or cause each policy to lapse without providing at least thirty (30) Calendar Days prior written notice to the Contract Administrator.

D10. PERFORMANCE SECURITY

- D10.1 The Contractor shall provide and maintain performance security until the expiration of the warranty period in the form of:
- (a) a performance bond of a company registered to conduct the business of a surety in Manitoba, in the form attached to these Supplemental Conditions (Form H1: Performance Bond), in the amount of fifty percent (50%) of the Contract Price; or
 - (b) an irrevocable standby letter of credit issued by a bank or other financial institution registered to conduct business in Manitoba and drawn on a branch located in Winnipeg, in the form attached to these Supplemental Conditions (Form H2: Irrevocable Standby Letter of Credit), in the amount of fifty percent (50%) of the Contract Price; or
 - (c) a certified cheque or draft payable to "The City of Winnipeg", drawn on a bank or other financial institution registered to conduct business in Manitoba, in the amount of fifty percent (50%) of the Contract Price.
- D10.1.1 Where the performance security is in the form of a certified cheque or draft, it will be deposited by the City. The City will not pay any interest on certified cheques or drafts furnished as performance security.
- D10.2 If the bid security provided in his Bid was not a certified cheque or draft pursuant to B10.1(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.

D11. SUBCONTRACTOR LIST

- D11.1 The Contractor shall provide the Contract Administrator with a complete list of the Subcontractors whom the Contractor proposes to engage (Form J: Subcontractor List) at 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.

D12. DETAILED WORK SCHEDULE

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

SCHEDULE OF WORK

D13. COMMENCEMENT

D13.1 The Contractor shall not commence any Work until he is in receipt of a letter of intent from the Award Authority authorizing the commencement of the Work.

D13.2 The Contractor shall not commence any Work on the Site until:

- (a) the Contract Administrator has confirmed receipt and approval of:
 - (i) evidence of authority to carry on business specified in D7;
 - (ii) evidence of the workers compensation coverage specified in C6.15;
 - (iii) the twenty-four (24) hour emergency response phone number specified in D4.2.
 - (iv) the Safe Work Plan specified in D8;
 - (v) evidence of the insurance specified in D9;
 - (vi) the performance security specified in D10;
 - (vii) the subcontractor list specified in D11;
 - (viii) the detailed work schedule specified in D12; and
- (b) the Contractor has attended a pre-construction meeting with the Contract Administrator, or the Contract Administrator has waived the requirement for a pre-construction meeting.

D13.3 The Contractor shall commence the Work on the Site within seven (7) Working Days of receipt of the letter of intent.

D13.4 The City intends to award this Contract by September 30, 2011.

D13.4.1 If the actual date of award is later than the intended date, the dates specified for Substantial Performance, and Total Performance will be adjusted by the difference between the aforementioned intended and actual dates.

D14. WORKING DAYS

D14.1 Further to C1.1(gg);

D14.1.1 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.

D14.1.2 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.

D15. RESTRICTED WORK HOURS

D15.1 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 Saturdays, Sundays, Statutory Holidays and or Civic Holidays.

D15.2 The following work hour restrictions shall also apply:

- (a) Bishop Grandin Boulevard from Lagimodiere Boulevard to Ste. Annes Road WB-0600 to 1800 hours
- (b) Portage Avenue from Ainsley St to Aldine Street EB-WB Intersection -0600 to 1800 hours

D16. WORK BY OTHERS

D16.1 Work by others on or near the Site will include but not necessarily be limited to:

- (a) City of Winnipeg Street Maintenance – Partial and Full depth concrete repairs on Bishop Grandin from Lakewood Boulevard to Ste. Annes Rd – WB. Concrete works are expected to be completed by October 17, 2011
- (b) City of Winnipeg Street Maintenance – Partial and Full depth concrete repairs on Portage Ave from Ainsley St. to Aldine St. – WB-EB. Concrete works are expected to be completed by October 17, 2011 and Portage Ave
- (c) Winnipeg Transit – The Contractor will coordinate with Winnipeg Transit to maintain their service flow during construction.

D17. SEQUENCE OF WORK

D17.1.1 The Work shall be divided into 2 phases . Each Phase shall be subdivided into stages. Stages are further subdivided into major items of work.

D17.1.2 **Phase I** - Concrete diamond grinding of Bishop Grandin Boulevard from Lagimodiere Boulevard to Ste. Annes Road WB

- (a) **Stage I** – Westbound Lanes
 - (i) Diamond grind driving lane;
 - (ii) Diamond grind passing lane;

D17.1.3 **Phase II** - Concrete diamond grinding of Portage Avenue from Ainsley St to Aldine Street EB-WB

- (a) **Stage I** – Westbound Lanes
 - (i) Diamond grind driving lane;
 - (ii) Diamond grind passing lane;
- (b) **Stage II** – Eastbound Lanes
 - (i) Diamond grind driving lane;
 - (ii) Diamond grind passing lane;

D17.1.4 The order that the Phases of Work are completed shall be determined by the Contractor and outlined in Form L: Detailed Work Schedule.

D17.1.5 Complete street closures will be required during the diamond grinding phases adjacent to the centerline of the roadway for streets where curbs restrict the available lane width to provide a lane of through vehicular traffic. The locations and limits of the street closures are as follows;

D17.1.6 Portage Avenue from Ainsley St to Aldine Street EB-WB Intersection

D17.1.7 Feathering of the shoulders, intersections and auxiliary lanes and grinding to within 150mm of the face of curb can be completed with the main lane grinding or at the end of the project.

D17.1.8 At the end of the project, the Contractor shall be responsible to clean-up the slurry disposal sites. The clean-up shall include removal of excess water, removal of remaining grinding solids and regrading of the site to original condition prior to commencement of the grinding disposal operation.

D18. SUBSTANTIAL PERFORMANCE

- D18.1 The Contractor shall achieve Substantial Performance by October 24, 2011.
- D18.2 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.
- D18.3 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.

D19. TOTAL PERFORMANCE

- D19.1 The Contractor shall achieve Total Performance by November 18, 2011.
- D19.2 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.
- D19.3 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.

CONTROL OF WORK

D20. JOB MEETINGS

- D20.1 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.
- D20.2 The Contract Administrator reserves the right to cancel any job meeting or call additional job meetings whenever he deems it necessary.

D21. PRIME CONTRACTOR – THE WORKPLACE SAFETY AND HEALTH ACT (MANITOBA)

- D21.1 Further to C6.24, the Contractor shall be the Prime Contractor and shall serve as, and have the duties of the Prime Contractor in accordance with The Workplace Safety and Health Act (Manitoba).

MEASUREMENT AND PAYMENT

D22. PAYMENT

- D22.1 Further to C12, the City may at its option pay the Contractor by direct deposit to the Contractor's banking institution.

FORM H1: PERFORMANCE BOND
(See D10)

KNOW ALL MEN BY THESE PRESENTS THAT

_____ ,
(hereinafter called the "Principal"), and

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

_____ dollars (\$_____)

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

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

BID OPPORTUNITY NO. 781-2011

Concrete Preservation Program – Diamond Grinding of Bishop Grandin Boulevard from Lagimodiere Boulevard to Ste. Annes Road Westbound, & Portage Avenue from Ainsley Street to Aldine Street Eastbound-Westbound
which is by reference made part hereof and is hereinafter referred to as the "Contract".

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

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

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

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

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

_____ day of _____, 20____ .

SIGNED AND SEALED
in the presence of:

(Witness as to Principal if no seal)

(Name of Principal)

Per: _____ (Seal)

Per: _____

(Name of Surety)

By: _____ (Seal)
(Attorney-in-Fact)

**FORM H2: IRREVOCABLE STANDBY LETTER OF CREDIT
(PERFORMANCE SECURITY)**
(See D10)

(Date)

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

RE: PERFORMANCE SECURITY – BID OPPORTUNITY NO. 781-2011

Concrete Preservation Program – Diamond Grinding of Bishop Grandin Boulevard from
Lagimodiere Boulevard to Ste. Annes Road Westbound, & Portage Avenue from Ainsley Street to Aldine
Street Eastbound-Westbound

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

(Name of Contractor)

(Address of Contractor)

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

_____ Canadian dollars.

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

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

Partial drawings are permitted.

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

(Address)

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

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

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

(Date)

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

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

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

(Name of bank or financial institution)

Per: _____
(Authorized Signing Officer)

Per: _____
(Authorized Signing Officer)

PART E - SPECIFICATIONS

GENERAL

E1. APPLICABLE SPECIFICATIONS AND DRAWINGS

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

<u>Drawing No.</u>	<u>Drawing Name/Title</u>	<u>Drawing (Original) Sheet Size</u>
C-101	2011 Diamond Grinding Program Portage Avenue From Aldine St. to Ainsley St. From Sta.0+080 to Sta. 0+320	11x17
C-102	2011 Diamond Grinding Program Bishop Grandin Blvd. St. Anne's Rd. to Lagimodiere Blvd. From Sta. 0+140 to Sta. 0+600	11x17
C-103	2011 Diamond Grinding Program Bishop Grandin Blvd. St. Anne's Rd. to Lagimodiere Blvd. From Sta. 0+600 to Sta. 1+260	11x17
C-104	2011 Diamond Grinding Program Bishop Grandin Blvd. St. Anne's Rd. to Lagimodiere Blvd. From Sta. 1+260 to Sta. 1+900	11x17
C-105	2011 Diamond Grinding Program Bishop Grandin Blvd. St. Anne's Rd. to Lagimodiere Blvd. From Sta. 1+900 to Sta. 2+560	11x17
C-106	2011 Diamond Grinding Program Bishop Grandin Blvd. St. Anne's Rd. to Lagimodiere Blvd. From Sta. 2+560 to Sta. 3+140	11x17

E2. TRAFFIC CONTROL

- E2.1 Further to clauses 3.6 and 3.7 of CW 1130:
- Where directed, 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.
 - In accordance with the Manual of Temporary Traffic Control in Work Areas on City Streets, the Contractor ("Agency" in the manual) shall make arrangements with the Traffic Services Branch 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 Branch of the City of Winnipeg in connection with the works undertaken by the Contractor.

E3. TRAFFIC MANAGEMENT

E3.1 Further to clause 3.7 of CW 1130:

E3.1.1 Maintain a minimum of one lane of traffic on Bishop Grandin Boulevard westbound, Portage Avenue eastbound, and Portage Avenue westbound during all construction activities.

E3.1.2 Where left turn lanes exist, an additional lane to accommodate the left turn storage lane shall be maintained at all times.

E3.1.3 Where right turn lanes exist, an additional lane to accommodate the right turn storage lane shall be maintained at all times.

E3.1.4 North/South and East/West traffic at Portage Avenue and Moray Street intersection must be maintained during construction to allow for one lane of traffic in each direction to go straight through and another lane in each direction to turn left. When no work is being performed in the intersection and providing it is safe for vehicles, north and south lane closures in the intersection will not be permitted.

E3.1.5 Intersecting street and private approach access shall be maintained at all times.

E3.1.6 Should the Contractor be unable to maintain pedestrian or vehicular access to a residence or business, he 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.

E3.1.7 Pedestrian and ambulance/emergency vehicle access must be maintained at all times.

E4. WATER OBTAINED FROM THE CITY

E4.1 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.

E5. DIAMOND GRINDING

DESCRIPTION

E5.1 General

E5.1.1 This specification covers the Diamond Grinding of existing concrete pavements.

EQUIPMENT

E5.2 Grinding Machine

E5.2.1 The grinding machine shall be self-propelled complete with a mounted grinding head with diamond blades capable of grinding a minimum width of 1.2 meters designed for grinding and texturing pavement. The machine shall have a minimum total weight of 15,876 kilograms (including the grinding head) and an effective wheel base of no less than 3.65 meters.

E5.2.2 The grinding machine shall have a positive means of vacuuming the grinding slurry residue from the pavement surface, leaving the pavement surface in a clean, near-dry condition.

E5.2.3 All equipment shall be maintained to ensure it is in proper working order. The "roundness" of the match and depth control wheels of the grinding machine shall be regularly monitored; any wheels found to be out of round shall be immediately replaced.

E5.2.4 Any equipment that causes ravelling, aggregate fractures or disturbance to the pavement joints shall not be permitted.

E5.3 Inertial Profiler

- E5.3.1 The Inertial Profiler shall conform to the Class 1 requirements in accordance with the latest revision of ASTM E-950.
- E5.3.2 The Inertial Profiler must be properly calibrated and certified for use for the current construction season. Acceptable certification shall be Mn/DOT or approved equal
- E5.3.3 Documentation of the certification must be provided to Contract Administrator prior to commencement of any measurements.

CONSTRUCTION METHODS

E5.4 Weather Requirements

- E5.4.1 Air and/or surface temperature should meet minimum agency requirements (typically 2 °C [35 °F] and rising) for diamond grinding operations in accordance with contract documents.
- E5.4.2 Diamond grinding shall not proceed if icy weather conditions are imminent.

E5.5 Pavement Grinding

- E5.5.1 The pavement grinding shall be scheduled and completed on the mainline pavement lanes in a manner that produces a neat, uniform finished surface.
- E5.5.2 The pavement grinding shall not commence on Moray Street until the Partial and Full-Depth Repairs have been completed by others.
- E5.5.3 The pavement shall be ground in the longitudinal direction parallel to the pavement center line.
- E5.5.4 The pavement grinding shall commence on the low side of the pavement.
- E5.5.5 For pavements with existing curbs, grinding shall be completed to within 150mm of the face of curb.
- E5.5.6 Grinding shall be completed in a manner that removes joint or crack faults and maintains lateral drainage and constant cross slope. The maximum allowable difference between the adjacent sides of the joints and cracks shall be 2mm.
- E5.5.7 The maximum grinding depth shall not exceed 20mm.
- E5.5.8 The Contractor shall be responsible for arranging and supplying all water required for the project. Water obtained for the City of Winnipeg shall be in accordance with E4.
- E5.5.9 The edges of adjacent pavement shoulders and auxiliary lanes shall be feathered along the edge of the mainline grinding as required to provide drainage. Feathering shall be required when the mainline grinding leaves a vertical lip greater than 5 mm to the adjacent pavement surface
- E5.5.10 Existing structures such as manholes, curb and gutter inlets and water valves shall be feathered to the satisfaction of the Contract Administrator.
- E5.5.11 When directed by the Contract Administrator, the grinding shall extend 5 meters into an existing asphalt surface.

E5.6 Final Surface Finish

- E5.6.1 The grinding process shall produce a pavement surface that is true in grade and uniform in appearance with a longitudinal line-type texture. The line-type texture shall contain grooves that are parallel to the centerline and present a narrow ridge corduroy type appearance. The peaks of ridges shall be a minimum 1.6mm to a maximum 3.2 mm higher than the ground pavement surface. The finished grooves shall be evenly spaced 2 to 3 mm apart.
- E5.6.2 The Contractor shall be responsible for the selection of the number and type of blades to be used to provide the proper surface finish for the aggregate type present. Unbroken fins shall be removed to the satisfaction of the Contract Administrator.

- E5.6.3 The Contractor shall be responsible to determine the proper sequence of operations to meet the specification. Multiple passes may be required to meet the specifications
- E5.6.4 A minimum of 98% of the pavement surface area shall be ground or textured.
- E5.6.5 Localized depressed pavement areas will be exempt from texture and smoothness requirements. Additional grinding of these areas may be required and will be as directed by the Contract Administrator.
- E5.7 Slurry Removal
- E5.7.1 The Contractor shall remove and dispose of all grinding slurry from in a manner and at a location to satisfy environmental regulations.
- E5.7.2 All slurry removal operations shall be approved by the Contract Administrator.
- E5.7.3 No grinding slurry shall be allowed to flow across lanes occupied by traffic or enter into closed drainage systems.
- E5.7.4 All grinding slurry for this project shall be disposed off site.
- E5.8 Slurry Handling
- E5.8.1 The grinding slurry to be removed from the site shall be collected in water-tight haul units and transported to disposal facilities as listed in E5.9 of this specification.
- E5.9 Slurry Disposal Sites
- E5.9.1 The Contractor shall dispose of grinding slurry at the designated disposal sites provided by the City of Winnipeg
- E5.9.2 The Contractor shall ensure that the site is only utilized for disposal of the material from this project. The site shall be secured at all times.
- E5.9.3 At completion of the grinding disposal operations, the Contractor shall clean up the sites to the satisfaction of the Contract Administrator.
- E5.9.4 The site clean-up shall include removal of excess water, removal of remaining grinding solids and regrading of the site to original condition prior to commencement of the grinding disposal operations.
- E5.10 Smoothness Requirements
- E5.10.1 The Contractor shall be responsible for all profile testing to meet the requirements of this contract.
- E5.10.2 All testing shall be continuous and be run in the direction of the traffic. Stationing shall be provided by the Contract Administrator and for all testing.
- E5.10.3 The Profiler shall be operated at optimum speed as defined by the manufacturer.
- E5.10.4 Prior to performing any grinding work, the Contractor shall provide a control profilograph trace. The control trace will be used to identify the required smoothness for the project
- E5.10.5 All testing shall be reported in 100 metre segments complete with a summary of all dip and bump measurements and locations.
- E5.10.6 Upon completion of the grinding operations, acceptance measurements shall be completed.
- E5.10.7 The Contractor shall run the profile in both wheel paths of each individual lane and average the resulting IRI results to determine acceptance. The profiles shall be run 0.9 meters from each lane line. A guide shall be used to ensure proper alignment of the profile. The Contract Administrator will have a representative present during all testing periods.
- E5.10.8 Each lane will be evaluated separately in 100 metre segments. The finished surface shall have a final IRI of 1.2 m/km.

- E5.10.9 The Contractor shall regrind, at no additional cost, any areas found not meeting the smoothness requirements.
- E5.10.10 The finished ground surface shall not include any bumps exceeding 10mm in 7.5 meters
- E5.10.11 Areas of depressed pavement areas due to subsidence or other localized causes and areas that have reached the maximum removal will be excluded from the smoothness requirements. These areas shall be reviewed and approved by the Contract Administrator.
- E5.10.12 The Contractor shall provide a print out of all smoothness measurements, a profilogram and a copy of the raw profile data in an unfiltered ERD file format.

MEASUREMENT AND PAYMENT

E5.11 Diamond Grinding

- E5.11.1 Diamond Grinding will be measured on an area basis and paid for at the Contract Unit Price per square metre for "Diamond Grinding". The area to be paid for will be the total number of square metres of pavement surface ground, textured and grinding slurry hauled and disposed of off-site in accordance with this specification, accepted and measured by the Contract Administrator.
- E5.11.2 Diamond Grinding with slurry deposited on the pavement side slopes will be measured on an area basis and paid for at the Contract Unit Price per square metre for "Diamond Grinding with Slurry Deposited on the Pavement Side Slopes". The area to be paid for will be the total number of square metres of pavement surface ground, textured and grinding slurry deposited on the pavement side slopes in accordance with this specification, accepted and measured by the Contract Administrator.
- E5.11.3 Pavement edges of adjacent pavement shoulders and auxiliary lanes identified by the Contract Administrator to be feathered will be measured and included in payment at one metre width regardless of actual grinding width required to feather the lip. The minimum length of feather pass will be 30 metres.
- E5.11.4 No additional measurement or payment will be made if multiple passes of the grinding equipment are required to meet the smoothness requirements. The area of the pavement ground will only be considered for payment once unless regrinding is directed by the Contract Administrator.
- E5.11.5 No additional measurement or payment will be for testing to net the smoothness requirements of this contract.

E6. COORDINATION OF CONSTRUCTION WITH THE RAILWAY COMPANY

E6.1 General Requirements

- E6.1.1 The Contractor shall be responsible to meet all Canadian Pacific Railway (CP) constraints, requirements, and safety measures.

E6.2 Railway Flagging Costs

- E6.2.1 CP will provide a Protecting Foreman for the protection of the railway's plant and equipment and the cost of such shall be borne by the Contractor. No measurement for payment will be made for performing all operations herein described and all other items included in the Work described.