



**THE CITY OF WINNIPEG**

# **BID OPPORTUNITY**

**BID OPPORTUNITY NO. 457-2010**

**2010 WATERMAIN RENEWALS - CONTRACT NO. 8**

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## **PART B - BIDDING PROCEDURES**

### **B1. CONTRACT TITLE**

B1.1 2010 WATERMAIN RENEWALS – CONTRACT 8

### **B2. SUBMISSION DEADLINE**

B2.1 The Submission Deadline is 12:00 noon Winnipeg time, June 25, 2010.

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

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

### **B3. SITE INVESTIGATION**

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

B3.2 The Bidder is advised that access onto C.N.R. Right of Way, north of the Dugald Road Overpass, is restricted. No entry on to C.N.R. property is permitted without a C.N.R. escort.

### **B4. ENQUIRIES**

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

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

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

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

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

### **B5. ADDENDA**

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

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

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

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

B5.3 The Bidder shall acknowledge receipt of each addendum in Paragraph 10 of Form A: Bid. Failure to acknowledge receipt of an addendum may render a Bid non-responsive.

## **B6. SUBSTITUTES**

B6.1 The Work is based on the Plant, Materials and methods specified in the Bid Opportunity.

B6.2 Substitutions shall not be allowed unless application has been made to and prior approval has been granted by the Contract Administrator in writing.

B6.3 Requests for approval of a substitute will not be considered unless received in writing by the Contract Administrator at least five (5) Business Days prior to the Submission Deadline.

B6.4 The Bidder shall ensure that any and all requests for approval of a substitute:

- (a) provide sufficient information and details to enable the Contract Administrator to determine the acceptability of the Plant, Material or method as either an approved equal or alternative;
- (b) identify any and all changes required in the applicable Work, and all changes to any other Work, which would become necessary to accommodate the substitute;
- (c) identify any anticipated cost or time savings that may be associated with the substitute;
- (d) certify that, in the case of a request for approval as an approved equal, the substitute will fully perform the functions called for by the general design, be of equal or superior substance to that specified, is suited to the same use and capable of performing the same function as that specified and can be incorporated into the Work, strictly in accordance with the proposed work schedule and the dates specified in the Supplemental Conditions for Substantial Performance and Total Performance;
- (e) certify that, in the case of a request for approval as an approved alternative, the substitute will adequately perform the functions called for by the general design, be similar in substance to that specified, is suited to the same use and capable of performing the same function as that specified and can be incorporated into the Work, strictly in accordance with the proposed work schedule and the dates specified in the Supplemental Conditions for Substantial Performance and Total Performance.

B6.5 The Contract Administrator, after assessing the request for approval of a substitute, may in his sole discretion grant approval for the use of a substitute as an "approved equal" or as an "approved alternative", or may refuse to grant approval of the substitute.

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

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

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

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

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

B6.10 Notwithstanding B6.2 to B6.9, and in accordance with B7.6 deviations inconsistent with the Bid Opportunity document shall be evaluated in accordance with B15.1(a).

## **B7. BID COMPONENTS**

- B7.1 The Bid shall consist of the following components:
- (a) Form A: Bid;
  - (b) Form B: Prices;
  - (c) Bid Security
    - (i) Form G1: Bid Bond and Agreement to Bond, or Form G2: Irrevocable Standby Letter of Credit and Undertaking, or a certified cheque or draft;
- B7.2 Further to B7.1, the Bidder should include the written correspondence from the Contract Administrator approving a substitute in accordance with B6.
- B7.3 All components of the Bid shall be fully completed or provided, and submitted by the Bidder no later than the Submission Deadline, with all required entries made clearly and completely, to constitute a responsive Bid.
- B7.4 The Bid shall be submitted enclosed and sealed in an envelope clearly marked with the Bid Opportunity number and the Bidder's name and address.
- B7.4.1 Samples or other components of the Bid which cannot reasonably be enclosed in the envelope may be packaged separately, but shall be clearly marked with the Bid Opportunity number, the Bidder's name and address, and an indication that the contents are part of the Bidder's Bid.
- B7.5 Bidders are advised not to include any information/literature except as requested in accordance with B7.1.
- B7.6 Bidders are advised that inclusion of terms and conditions inconsistent with the Bid Opportunity document, including the General Conditions, will be evaluated in accordance with B15.1(a).
- B7.7 Bids submitted by facsimile transmission (fax) or internet electronic mail (e-mail) will not be accepted.
- B7.8 Bids shall be submitted to:
- The City of Winnipeg  
Corporate Finance Department  
Materials Management Division  
185 King Street, Main Floor  
Winnipeg MB R3B 1J1

## **B8. BID**

- B8.1 The Bidder shall complete Form A: Bid, making all required entries.
- B8.2 Paragraph 2 of Form A: Bid shall be completed in accordance with the following requirements:
- (a) if the Bidder is a sole proprietor carrying on business in his own name, his name shall be inserted;
  - (b) if the Bidder is a partnership, the full name of the partnership shall be inserted;
  - (c) if the Bidder is a corporation, the full name of the corporation shall be inserted;
  - (d) if the Bidder is carrying on business under a name other than his own, the business name and the name of every partner or corporation who is the owner of such business name shall be inserted.
- B8.2.1 If a Bid is submitted jointly by two or more persons, each and all such persons shall identify themselves in accordance with B8.2.

- B8.3 In Paragraph 3 of Form A: Bid, the Bidder shall identify a contact person who is authorized to represent the Bidder for purposes of the Bid.
- B8.4 Paragraph 12 of Form A: Bid shall be signed in accordance with the following requirements:
- (a) if the Bidder is a sole proprietor carrying on business in his own name, it shall be signed by the Bidder;
  - (b) if the Bidder is a partnership, it shall be signed by the partner or partners who have authority to sign for the partnership;
  - (c) if the Bidder is a corporation, it shall be signed by its duly authorized officer or officers and the corporate seal, if the corporation has one, should be affixed;
  - (d) if the Bidder is carrying on business under a name other than his own, it shall be signed by the registered owner of the business name, or by the registered owner's authorized officials if the owner is a partnership or a corporation.
- B8.4.1 The name and official capacity of all individuals signing Form A: Bid should be printed below such signatures.
- B8.5 If a Bid is submitted jointly by two or more persons, the word "Bidder" shall mean each and all such persons, and the undertakings, covenants and obligations of such joint Bidders in the Bid and the Contract, when awarded, shall be both joint and several.

## **B9. PRICES**

- B9.1 The Bidder shall state a price in Canadian funds for each item of the Work identified on Form B: Prices.
- B9.2 The quantities listed on Form B: Prices are to be considered approximate only. The City will use said quantities for the purpose of comparing Bids.
- B9.3 The quantities for which payment will be made to the Contractor are to be determined by the Work actually performed and completed by the Contractor, to be measured as specified in the applicable Specifications.
- B9.4 Prices from Non-Resident Bidders are subject to a Non-Resident Withholding Tax pursuant to the Income Tax Act (Canada).

## **B10. QUALIFICATION**

- B10.1 The Bidder shall:
- (a) undertake to be in good standing under The Corporations Act (Manitoba), or properly registered under The Business Names Registration Act (Manitoba), or otherwise properly registered, licensed or permitted by law to carry on business in Manitoba; and
  - (b) be financially capable of carrying out the terms of the Contract; and
  - (c) have all the necessary experience, capital, organization, and equipment to perform the Work in strict accordance with the terms and provisions of the Contract.
- B10.2 The Bidder and any proposed Subcontractor (for the portion of the Work proposed to be subcontracted to them) shall:
- (a) be responsible and not be suspended, debarred or in default of any obligations to the City. A list of suspended or debarred individuals and companies is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/debar.stm>
- B10.3 The Bidder and/or any proposed Subcontractor (for the portion of the Work proposed to be subcontracted to them) shall:
- (a) have successfully carried out work similar in nature, scope and value to the Work; and

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

B10.4 Further to B10.3(c), the Bidder shall, within five (5) Business Days of a request by the Contract Administrator, provide proof satisfactory to the Contract Administrator that the Bidder/Subcontractor has a workplace safety and health program meeting the requirements of The Workplace Safety and Health Act (Manitoba), by providing:

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

B10.5 The Bidder shall submit, within three (3) Business Days of a request by the Contract Administrator, proof satisfactory to the Contract Administrator of the qualifications of the Bidder and of any proposed Subcontractor.

B10.6 The Bidder shall provide, on the request of the Contract Administrator, full access to any of the Bidder's equipment and facilities to confirm, to the Contract Administrator's satisfaction, that the Bidder's equipment and facilities are adequate to perform the Work.

## **B11. BID SECURITY**

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

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

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

B11.1.2 All signatures on bid securities shall be original.

B11.1.3 The Bidder shall sign the Bid Bond.

B11.1.4 The Surety shall sign and affix its corporate seal on the Bid Bond and the Agreement to Bond.

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

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



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

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

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

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

B12.1.1 Bidders or their representatives may attend.

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

B12.2 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>

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

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

## **B13. IRREVOCABLE BID**

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

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

## **B14. WITHDRAWAL OF BIDS**

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

B14.1.1 Notwithstanding C23.3, the time and date of receipt of any notice withdrawing a Bid shall be the time and date of receipt as determined by the Manager of Materials.

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

B14.1.3 If a Bidder gives notice of withdrawal prior to the Submission Deadline, the Manager of Materials 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 B14.1.3(b), declare the Bid withdrawn.

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

## **B15. EVALUATION OF BIDS**

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

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

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

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

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

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

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

## **B16. AWARD OF CONTRACT**

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

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

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

- (a) the prices exceed the available City funds for the Work;
- (b) the prices are materially in excess of the prices received for similar work in the past;
- (c) the prices are materially in excess of the City's cost to perform the Work, or a significant portion thereof, with its own forces;

- (d) only one Bid is received; or
- (e) in the judgment of the Award Authority, the interests of the City would best be served by not awarding a Contract.

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

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

## PART C - GENERAL CONDITIONS

### C0. GENERAL CONDITIONS

- C0.1 The *General Conditions for Construction* (Revision 2006 12 15) are applicable to the Work of the Contract.
- C0.1.1 The *General Conditions for Construction* are available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at [http://www.winnipeg.ca/matmgt/gen\\_cond.stm](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 watermain reveals in various locations within the City of Winnipeg.

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

- (a) Installation of approximately 1350 meters of 150 to 300mm diameter PVC watermain pipe by trenchless methods.
- (b) Installation of watermain gate valves and fire hydrant assemblies
- (c) Reconnection of existing water services to new watermains.
- (d) Abandoning existing watermains, gate valves and removal of existing hydrants.
- (e) Restorations to existing pavements and boulevards after watermain installations.

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

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

James Hines B. Sc.  
Project Coordinator  
905 Waverley St., Winnipeg, MB, R3T 5P4  
Telephone No. (204) 489-5900  
Facsimile No. (204) 453-9012

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

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

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

#### **D5. NOTICES**

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

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

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

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

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

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

## **D6. FURNISHING OF DOCUMENTS**

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

## **SUBMISSIONS**

### **D7. AUTHORITY TO CARRY ON BUSINESS**

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

### **D8. SAFE WORK PLAN**

- D8.1 The Contractor shall provide the Contract Administrator with a Safe Work Plan at least five (5) Business Days prior to the commencement of any Work on the Site but in no event later than the date specified in C4.1 for the return of the executed Contract.
- D8.2 The Safe Work Plan should be prepared and submitted in the format shown in the City's template which is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/Safety/default.stm>

### **D9. INSURANCE**

- D9.1 The Contractor shall provide and maintain the following insurance coverage:
- (a) commercial general liability insurance, in the amount of at least two million dollars (\$2,000,000.00) inclusive, with The City of Winnipeg added as an additional insured, with a cross-liability clause, such liability policy to also contain contractual liability, unlicensed motor vehicle liability, non-owned automobile liability, 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 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 B11.1(c), the Contractor shall provide the City Solicitor with the required performance security within seven (7) Calendar Days of notification of the award of the Contract by way of letter of intent and prior to the commencement of any Work on the Site but in no event later than the date specified in C4.1 for the return of the executed Contract.

## **D11. SECURITY CLEARANCE**

D11.1 Each individual proposed to perform Work under the Contract

- (a) any Work on private property;
- (b) communicating with residents and homeowners in person or by telephone;

shall be required to obtain a Criminal Record Search Certificate from the police service having jurisdiction at his place of residence.

D11.2 Prior to the commencement of any Work, and during the term of the Contract if additional or replacement individuals are proposed to perform Work, the Contractor shall supply the Contract Administrator with a Criminal Record Search Certificate obtained not earlier than one (1) year prior to the Submission Deadline, or a certified true copy thereof, for each individual proposed to perform the Work.

D11.3 Any individual for whom a Criminal Record Search Certificate is not provided, or for whom a Criminal Record Search Certificate indicates any convictions or pending charges related to

property offences or crimes against another person, will not be permitted to perform any Work specified in D11.1.

D11.4 Any Criminal Record Search Certificate obtained thereby will be deemed valid for the duration of the Contract subject to a repeated records search as hereinafter specified.

D11.5 Notwithstanding the foregoing, at any time during the term of the Contract, the City may, at its sole discretion and acting reasonably, require an updated criminal records search. Any individual who fails to provide a satisfactory Criminal Record Search Certificate as a result of a repeated criminal records search will not be permitted to continue to perform any Work specified in D11.1.

## **D12. DETAILED WORK SCHEDULE.**

D12.1 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 C4.1 for the return of the executed Contract.

D12.2 The detailed work schedule shall consist of the following:

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

D12.3 Further to D12.2, the schedule shall clearly identify the start and completion dates of all of the following activities/tasks making up the Work as well as showing those activities/tasks on the critical path. For each block of watermain renewals, include:

- (a) Installation of watermain renewals;
- (b) Pressure Testing and Disinfections;
- (c) Final tie-ins;
- (d) Pavement restorations and
- (e) Boulevard restorations.

## **SCHEDULE OF WORK**

### **D13. COMMENCEMENT**

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

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

- (a) the Contract Administrator has confirmed receipt and approval of:
  - (i) evidence of authority to carry on business specified in D7;
  - (ii) evidence of the workers compensation coverage specified in C6.15;
  - (iii) the Safe Work Plan specified in D8;
  - (iv) evidence of the insurance specified in D9;
  - (v) the performance security specified in D10;
  - (vi) the security clearances specified in D11.
  - (vii) the detailed work schedule specified in D12.
- (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 Commencement of the Work shall be at the discretion of the Contractor provided the commencement date will allow the achievement of Critical Stages in accordance with D15.

D13.3 The City intends to award this Contract by July 16, 2010.



D13.3.1 If the actual date of award is later than the intended date, the dates specified for Performance, and Total Performance will be adjusted by the difference between the aforementioned intended and actual dates.

#### **D14. CRITICAL STAGES**

D14.1 The Contractor shall achieve critical stages of the Work in accordance with the following requirements;

- (a) Construction of the Work on Pulberry Street must be completed within the first 15 working days of the project, including testing and restorations. The Contractor will be required to leave the site after the 15 working days to open the site for a street rehabilitation contractor.

#### **D15. SUBSTANTIAL PERFORMANCE**

D15.1 The Contractor shall achieve Substantial Performance within forty (40) consecutive Working Days of the commencement of the Work as specified in D13.

D15.2 When the Contractor considers the Work to be substantially performed, the Contractor shall arrange, attend and assist in the inspection of the Work with the Contract Administrator for purposes of verifying Substantial Performance. Any defects or deficiencies in the Work noted during that inspection shall be remedied by the Contractor at the earliest possible instance and the Contract Administrator notified so that the Work can be reinspected.

D15.3 The date on which the Work has been certified by the Contract Administrator as being substantially performed to the requirements of the Contract through the issue of a certificate of Substantial Performance is the date on which Substantial Performance has been achieved.

#### **D16. TOTAL PERFORMANCE**

D16.1 The Contractor shall achieve Total Performance within forty-five (45) consecutive Working Days of the commencement of the Work as specified in D13.

D16.2 When the Contractor or the Contract Administrator considers the Work to be totally performed, the Contractor shall arrange, attend and assist in the inspection of the Work with the Contract Administrator for purposes of verifying Total Performance. Any defects or deficiencies in the Work noted during that inspection shall be remedied by the Contractor at the earliest possible instance and the Contract Administrator notified so that the Work can be reinspected.

D16.3 The date on which the Work has been certified by the Contract Administrator as being totally performed to the requirements of the Contract through the issue of a certificate of Total Performance is the date on which Total Performance has been achieved.

#### **D17. LIQUIDATED DAMAGES**

D17.1 If the Contractor fails to achieve Substantial Performance or Total Performance in accordance with the Contract by the days fixed herein for the 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) Completion of the Critical Stages of the Work – One thousand two hundred and fifty dollars (\$1250.00);
- (b) Substantial Performance – One thousand two hundred and fifty dollars (\$1250.00);
- (c) Total Performance – Six hundred dollars (\$600.00).

D17.2 The amount specified for liquidated damages in D17.1 is based on a genuine pre-estimate of the City's damages in the event that the Contractor does not achieve Substantial Performance by the day fixed herein for same.

D17.3 The City may reduce any payment to the Contractor by the amount of any liquidated damages assessed.

#### **D18. SCHEDULED MAINTENANCE**

D18.1 The Contractor shall perform the following scheduled maintenance in the manner and within the time periods required by the Specifications:

(a) Landscape maintenance as specified in CW 3510.

D18.2 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**

##### **D19. JOB MEETINGS**

D19.1 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.

D19.2 The Contract Administrator reserves the right to cancel any job meeting or call additional job meetings whenever he deems it necessary.

##### **D20. TRAFFIC CONTROL**

D20.1 Traffic control shall be carried out in accordance with Section 3.7 of CW 1130.

D20.2 Should the Contract Administrator require that Work on Regional Streets be carried out at night, on Sundays, on public holidays or that Work be restricted or suspended during peak traffic hours, the Contractor shall comply without additional compensation being considered to meet these requirements.

D20.3 Regional Streets in this Contract are:

(a) St. Mary's Road

D20.4 Traffic control during construction shall be as follows:

(a) St. Mary's Road

(i) The northbound curb lane will be closed to traffic.

(ii) Maintain one northbound lane and bus traffic at all times.

(b) All other streets:

(i) Maintain one lane of traffic with streets signed as "Road Closed – Local Traffic Only".

(ii) Intersecting streets and private approaches will be maintained at all times.

(iii) Bus traffic will be maintained at all times.

D20.5 Further to Section 3.6 of CW 1130, the Contractor shall maintain safe pedestrian crossing at intersections at all times. If possible, only one pedestrian crossing at an intersection is to be blocked by construction at any one time. If more than one pedestrian crossing is blocked by construction at an intersection at the same time the Contractor shall provide flag persons to safely escort pedestrians across the intersection. The Contractor shall leave pedestrian crossing locations safe

and free of equipment that may hamper pedestrians when no construction activities are being performed at a particular crossing location.

D20.6 The Contractor shall not park company or private vehicles inside the barricaded work zone in a manner that will block sightlines for vehicles and pedestrians approaching and crossing.

**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).

**D22. WORK PRACTICES ON ASBESTOS CEMENT PIPE**

D22.1 Further to C6.28(d), the Contractor's attention is directed to the possible health dangers associated with working with asbestos cement pipe and all work associated with the existing AC watertains shall conform to the following publications:

“Work Practices for Asbestos-Cement Pipe”, AWWA No. M16, published by the American Water Works Association

“Recommended Work Practices for AC Pipe”, 1977, published by the AC Pipe Producers Association.

D22.2 The Contractor shall state in the “job specific work plan” the proposed procedure for working on AC pipe.

**MEASUREMENT AND PAYMENT**

**D23. PAYMENT**

D23.1 Further to C12, the City may at its option pay the Contractor by direct deposit to the Contractor's banking institution.

**D24. WATER USED ON CITY OF WINNIPEG CONSTRUCTION PROJECTS**

D24.1 Further to Section 3.7 of CW 1120, charges incurred for the permit and water meters shall be paid for the Contractor when taken out. The billing for water usage sent to the Contractor shall be forwarded to the Contract Administrator for payment. The Bid Opportunity number shall be noted on each permit.

**WARRANTY**

**D25. WARRANTY**

D25.1 Warranty is as stated in C13.

**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. 457-2010

2010 WATERMAIN RENEWALS - CONTRACT NO. 8

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)



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>
	Cover Sheet
12078	Fernwood Avenue - St. Mary's Road to 100.0 EEL of St. Mary's Road
12079	Fernwood Avenue – 100.0 EEL of St. Mary's Road to 99.4 WWL of St. David Road
12080	Fernwood Avenue - 99.4 WWL of St. David Road to St. David Road
12081	Dugald Road – 47.5 EEL of Lagimodiere Boulevard to 38.3 WWL of Softley Road
12082	Dugald Road – 38.3 WWL of Softley Road to 49.1 EEL of Softley Road
12083	Dugald Road – 49.1 EEL of Softley Road to 10.5 WWL of CNR Sprague Subdivision ROW
12084	Dugald Road - 10.5 WWL of CNR Sprague Subdivision ROW to 20.8 EEL of CNR Sprague Subdivision ROW
12085	Alderwood Road – Drake Boulevard to 100.0 EEL of Drake Boulevard
12086	Alderwood Road – 100.0 EEL of Drake Boulevard to 80.0 SSL of Elizabeth Road
12087	Alderwood Road – 80.0 SSL of Elizabeth Road to Elizabeth Road
12088	Pulberry Street – Parkville Drive to 100.0 NNL of Parkville Drive
12089	Pulberry Street – 100.0 NNL of Parkville Drive to 87.2 SSL of Moore Avenue
12090	Pulberry Street – 87.2 SSL of Moore Avenue to Moore Avenue

#### E2. SOILS INVESTIGATION REPORT

- E2.1 Contaminated material was discovered in close proximity to the east tie-in of the Dugald Road watermain renewal. Samples of the material were taken and the results are attached in Appendix A.

### GENERAL REQUIREMENTS

#### E3. PROTECTION OF EXISTING TREES

- E3.1 The Contractor shall take the following precautionary steps to avoid damage from his construction activities to existing boulevard trees within and adjacent to the limits of the construction area:
- Do not stockpile materials and soil or park vehicles and equipment on boulevards within 2 metres of any tree.
  - Strap mature tree trunks with 25 x 150 x 2400 wood planks. Smaller trees shall be similarly protected using appropriately sized planks.



- (c) Excavations shall be carried out in a manner to minimize damage to existing root systems. Where roots must be cut to facilitate an excavation they shall be neatly pruned at the face of the excavation.
- (d) Work on site shall be carried out in a manner to minimize damage to existing tree branches. Where damage to tree branches does occur, the Contractor shall neatly prune the damaged branch.

E3.1.2 American Elm trees shall not be pruned between April 1<sup>st</sup> and August 1<sup>st</sup> and Siberian Elm trees between April 1<sup>st</sup> and July 1<sup>st</sup> of any year under the provisions of The Dutch Elm Disease Act.

E3.2 All damage to existing trees due to the Contractor's construction activities shall be repaired to the requirements and satisfaction of the City of Winnipeg, Public Works Department, Forestry Branch.

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

#### **E4. PARTIAL SLAB PATCHES**

E4.1 Construct full depth partial slab patches in accordance with CW 3230.

E4.2 Full depth partial slab patches shall be measured on an area basis and paid for at the Contract Unit price per square meter for "Partial Slab Patches" for each type of pavement.

E4.3 No differentiation will be made for class of patch.

E4.4 No separate measurement or payment will be made for Drilled Dowels or Tie Bars, the cost for which shall be included in the prices bid for "Partial Slab Patches".

#### **E5. PROVISIONAL ITEMS**

E5.1 The Provisional Items listed in the Schedule of Prices are a part of the Contract.

E5.2 The Contractor shall not perform Work included in the Provisional Items without prior authorization from the Contract Administrator. All Work included in the Provisional Items will be carried out within the construction areas shown on the Drawings.

E5.3 Notwithstanding GC:7, the City reserves the right to diminish all or any portion of the Items of Work listed in the Provisional Items and no claim shall be made for damages on grounds of loss of anticipated profit or for any other reason.

#### **E6. MISCELLANEOUS CONCRETE SLAB RENEWALS - SIDEWALKS**

E6.1 Construct miscellaneous concrete slab renewals in accordance with CW 3235. Miscellaneous Concrete slab renewals for sidewalk shall be measured on an area basis and paid for at the Contract Unit Price per square metre for "Miscellaneous Concrete Slab Renewals – Sidewalk" in Form B of the Bid Submission.

#### **E7. OIL AND GAS RESISTANT GASKETS**

E7.1 Further to CW 2110, where indicated on the construction drawings the Contractor shall install watermains with oil and gas resistant gaskets. Within the limits shown all pipe, fittings, and couplings shall be installed with oil and gas resistant gaskets.

E7.2 Oil and gas resistant gaskets shall be installed on all watermain pipe and fittings shown on Drawings D-12081, D-12082, D-12083, and D-12084.

## **E8. STREET LIGHT CABLE**

### **E8.1 Construction Methods**

- E8.1.1 At locations where street lighting cable is to be replaced as directed by the Contract Administrator, the Contractor shall, after completion of backfilling and grading of watermain trenches, construct a trench suitable for the placement of street lighting cable or install a 50 mm HDPE conduit by coring methods. The HDPE conduit will be supplied by the street lighting utility at no cost to the Contractor.
- E8.1.2 The trench or cored pipe shall be constructed on the same alignment as the street light bases or as directed by the Contract Administrator. The bottom of the trench shall be between 600 mm and 750 mm below the top of the curb and shall be no more than 150 mm in width. The invert of cored pipe shall be 600 mm to 750 mm below the top of the curb.
- E8.1.3 The Contractor shall provide 48 hours notice to the Contract Administrator prior to the commencement of trenching or coring operations in order to allow coordination of the cable installation by the street lighting utility.
- E8.1.4 Upon completion of cable installations by the street lighting utility the Contractor shall backfill, compact and grade the boulevard sections disturbed. Backfill shall be Class 4 Backfill in accordance with CW 2030.
- E8.1.5 Sodding boulevards disturbed during street light cable installation will be incidental to the Work.

### **E8.2 Method of Measurement and Payment**

- (a) The installation of street lighting cable shall be measured on a linear meter basis based on measurements take by the Contract Administrator. Payment shall be made at the Contract Unit Price for "Street Light Cable – Trenching", measured as specified herein which price shall be payment in full for performing all operations and supply all materials and all other items incidental to the Work included in this specification. Coring and installation of HDPE conduit shall be measured on a linear metre basis from shaft face to shaft face based on measurements taken by the Contract Administrator. Payment shall be made at the Contract Unit Price for "Street Light Cable – Coring of HDPE Conduit", measured as a specified herein which price shall be payment in full for performing all operations and supplying all materials and all other items incidental to the Work included in this specification.

## **E9. WATERMAIN INSTALLATION ON CN RAIL RIGHT-OF-WAY**

- E9.1 The Contractor shall install the watermain on the Canadian National Railway property at the location shown on the construction drawings in accordance with the requirements of these specifications and the requirements of the Railway Company and the Board of Transport Commissioners Order No. E-10.
- E9.2 The Contractor shall be responsible for coordinating his work with the Railway Company and shall notify Shane McCartney at 231-7763 or 981-9806, at least seven (7) Calendar Days in advance of when he intends to do any work within the Railway's Right-of-Way and shall be governed by their requirements. The Contractor shall be responsible for any charges levied by the Railway Company for track removal, replacement, or realignment and the Railway Company inspection or supervision of the work if the Company deems such is required.
- E9.3 The Contractor shall indemnify the City and the Contract Administrator against all loss or cost, damage, injury, and expense to which the City or the Contract Administrator may be put by the reason of any injury or damage to person or property caused by the pipeline or water carried by the pipeline or by any Works herein provided for, or by the imprudence, neglect, or want of skill of the Contractor's employees or agents in conjunction with the laying, maintenance, renewal, or repair of the pipeline or the use thereof, during the construction and maintenance or Warranty

period of this Contract, unless the cause of such loss, cost, damage, injury or expense can be traced elsewhere.

- E9.4 The Contractor is advised that access onto C.N.R. Right of Way, north of the Dugald Road Overpass, is restricted. No entry on to C.N.R. property is permitted without a C.N.R. escort.
- E9.5 The watermain on the Railway's Right-of-Way shall be installed by trenchless methods with an encasement pipe.
- E9.6 **Steel Encasement Pipe**
- (a) Steel encasement pipe shall conform to CW 2110 and the following:
    - (i) 500 mm outside diameter steel pipe conforming to CW 2110
    - (ii) Minimum wall thickness: 6.35 mm
    - (iii) Minimum yield strength: 241 MPa
    - (iv) Welded joints
    - (v) The pipe exterior shall be protected with a bonded high density polyethylene jacket such as "Yellow Jacket" manufactured by Shaw Pipe Protection Limited Specification No. 5, double wrapped HDPE jacket manufactured by Urecon Ltd., or approved equal.
    - (vi) The pipe shall be cathodically protected in accordance with CW 2110
  - (b) Sacrificial zinc anodes installed on the steel encasement pipe will be measured on a unit basis and paid for at the Contract Unit Price for "10.9 Kilogram Sacrificial Zinc Anodes i) on steel encasement pipe". Number of units to be paid for will be the total number of anodes supplied and installed in accordance with this specification, accepted and measured by the Contract Administrator.
- E9.7 **Warning Signs**
- (a) Steel Post and Warning Sign - Steel post shall be 38 mm nominal diameter steel pipe, as follows;
    - (i) Schedule 40 steel pipe conforming to the latest revision of CAN-Z245.1.
    - (ii) O.D. = 48.3 mm
    - (iii) Wall thickness = 3.7 mm
    - (iv) Galvanized
  - (b) Warning Sign
    - (i) A fully reflectorized white sign with black letters.
    - (ii) Rounded corners but conforming to the nominal dimensions for height and width noted on drawings.
    - (iii) Consistent with City of Winnipeg requirements for "Warning and Information Signs" outlined in Section 5.00 of the "Manual of Temporary Traffic Control in Work Area on City Streets".

## **E10. ASBESTOS CEMENT PIPE**

- E10.1 Remove existing asbestos cement (AC) pipe in accordance with the following at each location where the new connects to an existing AC watermain.
- E10.2 Cut the ends of the AC pipe sample as square as possible to the axis of the pipe.
- E10.3 When cutting AC pipe follow "Work Practises for Asbestos-Cement Pipe", published by the American Water Works Association, "Recommended Work Practises for AC Pipe", published by the AC Pipe producers Association and all applicable Workplace, Safety and Health regulations.

E10.4 Immediately wrap the AC pipe sample in at least 2 layers of minimum 6 mil thick clear polyethylene sheeting. While wrapping the pipe sample insert a warning label provided by the Contract Administrator inside the polyethylene sheeting such that it can be easily read through the wrapping.

E10.5 Dispose of the samples at an approved waste disposal site as directed by the Contract Administrator.

## **E11. DITCH RESTORATION**

E11.1 The Contractor shall restore ditches in accordance with CW 3110. The Contractor shall restore the ditch to match existing grade and slope.

E11.2 Restoration of ditches disturbed due to construction activities will be considered incidental and included as part of the cost of the watermain installation.

## **E12. CONCRETE CURB RENEWALS**

E12.1 Construct concrete curb renewal in accordance with CW 3240. Concrete curb renewal shall be measured on a length basis and paid for at the Contract Unit Price per metre for "Concrete Curb Renewal" in Form B of the Bid Submission.

## **E13. REMOVAL OF CONTAMINATED SOIL**

E13.1 Description

- (a) Further to CW 1130 Clause 3.4, this specification outlines the requirements for the disposal of contaminated soil.

E13.2 Construction Methods

- (a) Prior to any construction activities, excavate test pit in close proximity to known contaminant and as directed by Contract Administrator. Test samples from the test pit will be collected by the Contract Administrator and will be sent to a laboratory to determine of the level of contaminants at a depth of 2.4m.
- (b) Soils requiring removal and disposal will be identified by the Contract Administrator.
- (c) Handle and transport all contaminated soils in accordance with provincial regulations.
- (d) All contaminated soil removed as part of the construction works shall be transported directly to Mid Canada Soil Treatment Facility near Ile des Chenes, MB, or a Licensed Waste Disposal Ground in accordance with provincial regulations.
- (e) Where Class 5 backfill is specified, backfill excavations with suitable excess excavated material from other excavations on site. Before backfill occurs and after the watermain pipe is installed, bentonite clay is to be packed around the cored holes at the face of the shaft in both directions. The bentonite clay will act as a cap to prevent contaminated ground water from running down the cored pipe holes. No additional compensation will be considered for management of backfill materials and bentonite clay.

E13.3 Measurement and Payment

- (a) Disposal of contaminated soil at a Licensed Waste Disposal Grounds in accordance with provincial regulations will be measured on a volume basis paid for at the Contract Unit Price per cubic metre for "Removal of Contaminated Soil". The volume to be paid will be calculated from measurements of the shaft taken by the Contract Administrator. The volume to be paid for will be the total number of cubic metres of contaminated material excavated, and disposed of in accordance with this specification, accepted and measured by the Contract Administrator.

#### **E14. WATERMAIN RENEWALS ON FERNWOOD AVENUE AND PULBERRY STREET**

- E14.1 Watermain renewals on Fernwood Avenue and Pulberry Street are both located in school zones. Hastings School on Pulberry Street resumes classes on September 7, 2010. A street rehabilitation project on Pulberry Street (Bid Opportunity 250-2010) from Parkville Drive to Moore Avenue must be completed by others before classes resume. The Contractor must complete the watermain renewal, restorations, and testing and be off the site within the first 15 working days of the Contract.
- E14.2 Restorations to the road on Pulberry Street can be done with sacrificial concrete in the place of partial slab patches and asphalt patches because of the street rehabilitation project by others after construction of the watermain renewal is complete.
- E14.3 The Christ the King School and Church is serviced off of Lennox Avenue but backs on to Fernwood Avenue, therefore the Work can occur after classes resume in September, if required. Operations of the school and Church shall not be disrupted during operating hours. The Contract Administrator shall relay instructions from the school and church regarding the coordination of bus pick up and drop off, as well as other operations during hours where the buildings are in use. The Contractor shall not be permitted to interfere with normal operations of the school and church and shall follow the instructions relayed from the school to the Contract Administrator.

#### **E15. BUILDING GROUND UP AROUND HYDRANT FLANGES**

- E15.1 The watermain renewal on Dugald Road requires that the ground be built up around the hydrant flanges as shown on the drawings, because of their proximity to the existing road and ditches.
- E15.2 The Contractor shall use excess suitable material from shaft excavations to build up the finished ground elevation around the flange to a height of 150mm below final flange elevation. Fill material shall be compacted to 95% Standard Proctor Density.
- E15.3 No additional payment shall be made for the construction of the ground around the hydrant flanges. The unit price for the installation of the hydrants shall include all work required to build the ground up around the flanges.

#### **E16. TEMPORARY ROAD RESTORATIONS ON PULBERRY STREET**

- E16.1 Temporary Concrete Surface Restorations on Pulberry Street shall be allowed because of road rehabilitation project (Bid Opp. 250-2010) being completed after watermain renewal. Temporary restorations shall conform to CW2130 with the following exception:
- (a) No tie bars, dowels, or reinforcing steel shall be required.
- E16.2 All shafts and excavations shall be flooded and jetted prior to installing temporary surface restorations.
- E16.3 Construction of temporary concrete pavement shall be measured on a square metre basis. The amount paid for shall be the total number of square metres of specified thickness acceptably placed. Payment shall be compensation in full for preparation of the base, supplying forms, as well as supply and placement of Portland Cement Concrete pavement complete.
- E16.4 Temporary concrete shall be maintained and/or replaced in such a manner that it does not present a hazard to pedestrians and vehicles to the satisfaction of the Contract Administrator. The cost of maintenance and/or replacement of temporary concrete shall be incidental to the installation of the temporary concrete until final concrete restorations by others are completed.

# **APPENDIX A**

## **Soils Investigation Report**

Your Project #: 111212170.700  
NSD # 16300R

**Attention: DARREN KEAM**  
STANTEC CONSULTING LTD  
905 WAVERLY STREET  
WINNIPEG, MB  
CANADA R3T 5P4

Report Date: 2010/05/03

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B027625**  
**Received: 2010/04/29, 13:20**

Sample Matrix: Soil  
# Samples Received: 3

Analyses	Quantity	Date		Laboratory Method	Analytical Method
		Extracted	Analyzed		
BTEX/F1 by HS GC/MS (MeOH extract)	1	2010/04/30	2010/05/03	CAL SOP-00190	EPA 8260C/CCME
CCME Hydrocarbons (F2-F4 in soil)	1	2010/04/30	2010/04/30	CAL SOP-00086 AB WI-00016	CCME PHC-CWS
CCME Hydrocarbons (F2-F4 in soil)	2	2010/04/30	2010/05/01	CAL SOP-00086 AB WI-00016	CCME PHC-CWS
CCME Hydrocarbons (F4G in soil)	3	2010/04/30	2010/05/03	CAL SOP-00086	CCME PHC-CWS
Moisture	3	N/A	2010/05/01	CAL SOP-00023	McKeague MSSMA 2.411

\* Results relate only to the items tested.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

JENNIFER RISPLER,  
Email: Jennifer.Rispler@MaxxamAnalytics.com  
Phone# (403) 735-2201 Ext:2201

=====  
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Total cover pages: 1

**RESULTS OF CHEMICAL ANALYSES OF SOIL**

Maxxam ID		T86543	T86547	T86548	T86548		
Sampling Date		2010/04/28	2010/04/28	2010/04/28	2010/04/28		
	Units	1T	2T	1M	1M Lab-Dup	RDL	QC Batch
<b>Physical Properties</b>							
Moisture	%	4.0	2.2	0.9	0.8	0.3	3925992

**PETROLEUM HYDROCARBONS (CCME)**

Maxxam ID		T86543	T86547	T86548	T86548		
Sampling Date		2010/04/28	2010/04/28	2010/04/28	2010/04/28		
	Units	1T	2T	1M	1M Lab-Dup	RDL	QC Batch
<b>Ext. Pet. Hydrocarbon</b>							
F2 (C10-C16 Hydrocarbons)	mg/kg	2300	1400	22	26	10	3924959
F3 (C16-C34 Hydrocarbons)	mg/kg	21000	13000	4100	4000	10	3924959
F4 (C34-C50 Hydrocarbons)	mg/kg	28000	17000	6500	7000	10	3924959
Reached Baseline at C50	mg/kg	NO	NO	NO	NO	N/A	3924959
<b>OIL &amp; GREASE</b>							
F4SG (Heavy Hydrocarbons-Grav.)	mg/kg	120000	70000	23000	26000	500	3924963
<b>Surrogate Recovery (%)</b>							
O-TERPHENYL (sur.)	%	31(1)	48(1)	91	92	N/A	3924959

N/A = Not Applicable

RDL = Reportable Detection Limit

(1) - Surrogate recovery below acceptance criteria due to matrix interference.



Maxxam Job #: B027625  
Report Date: 2010/05/03

STANTEC CONSULTING LTD  
Client Project #: 111212170.700

**VOLATILE ORGANICS BY GC-MS (SOIL)**

Maxxam ID		T86548		
Sampling Date		2010/04/28		
	<b>Units</b>	<b>1M</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Volatiles</b>				
Benzene	mg/kg	<0.0050	0.0050	3923246
Toluene	mg/kg	<0.020	0.020	3923246
Ethylbenzene	mg/kg	0.011	0.010	3923246
Xylenes (Total)	mg/kg	<0.040	0.040	3923246
m & p-Xylene	mg/kg	<0.040	0.040	3923246
o-Xylene	mg/kg	<0.020	0.020	3923246
F1 (C6-C10) - BTEX	mg/kg	<12	12	3923246
(C6-C10)	mg/kg	<12	12	3923246
<b>Surrogate Recovery (%)</b>				
4-BROMOFLUOROBENZENE (sur.)	%	91	N/A	3923246
D10-ETHYLBENZENE (sur.)	%	84	N/A	3923246
D4-1,2-DICHLOROETHANE (sur.)	%	89	N/A	3923246
D8-TOLUENE (sur.)	%	102	N/A	3923246

N/A = Not Applicable  
RDL = Reportable Detection Limit

Maxxam Job #: B027625  
Report Date: 2010/05/03

STANTEC CONSULTING LTD  
Client Project #: 111212170.700

Package 1	9.7°C
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Each temperature is the average of up to three cooler temperatures taken at receipt

**General Comments**

QUALITY ASSURANCE REPORT

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
3923246	4-BROMOFLUOROBENZENE (sur.)	2010/04/30	108	60 - 140	102	60 - 140	104	%		
3923246	D10-ETHYLBENZENE (sur.)	2010/04/30	106	30 - 130	88	30 - 130	122	%		
3923246	D4-1,2-DICHLOROETHANE (sur.)	2010/04/30	99	60 - 140	90	60 - 140	112	%		
3923246	D8-TOLUENE (sur.)	2010/04/30	87	60 - 140	104	60 - 140	80	%		
3923246	Benzene	2010/05/01	104	60 - 140	88	60 - 140	<0.0050	mg/kg	NC	50
3923246	Toluene	2010/05/01	103	60 - 140	87	60 - 140	<0.020	mg/kg	NC	50
3923246	Ethylbenzene	2010/05/01	107	60 - 140	87	60 - 140	<0.010	mg/kg	NC	50
3923246	m & p-Xylene	2010/05/01	108	60 - 140	89	60 - 140	<0.040	mg/kg	NC	50
3923246	o-Xylene	2010/05/01	108	60 - 140	87	60 - 140	<0.020	mg/kg	NC	50
3923246	(C6-C10)	2010/05/01	98	60 - 140	96	60 - 140	<12	mg/kg	NC	50
3923246	Xylenes (Total)	2010/05/01					<0.040	mg/kg	NC	50
3923246	F1 (C6-C10) - BTEX	2010/05/01					<12	mg/kg	NC	50
3924959	O-TERPHENYL (sur.)	2010/04/30	75	50 - 130	98	50 - 130	96	%		
3924959	F2 (C10-C16 Hydrocarbons)	2010/05/01	75	50 - 130	100	80 - 120	<10	mg/kg	NC	50
3924959	F3 (C16-C34 Hydrocarbons)	2010/05/01	NC	50 - 130	95	80 - 120	<10	mg/kg	3.1	50
3924959	F4 (C34-C50 Hydrocarbons)	2010/05/01	NC	50 - 130	100	80 - 120	<10	mg/kg	7.6	50
3924963	F4SG (Heavy Hydrocarbons-Grav.)	2010/05/03			105	80 - 120	<500	mg/kg	9.8	50
3925992	Moisture	2010/05/01							NC	20

N/A = Not Applicable

RPD = Relative Percent Difference

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was not sufficiently significant to permit a reliable recovery calculation.


NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

Validation Signature Page

Maxxam Job #: B027625

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The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



LUBA SHYMUSHOVSKA, Senior Analyst, Organic Department



ORLA JORGENSEN, Organics Supervisor

=====  
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Your Project #: 111212170.700  
NSD # 16300R

**Attention: DARREN KEAM**  
STANTEC CONSULTING LTD  
905 WAVERLY STREET  
WINNIPEG, MB  
CANADA R3T 5P4

**Report Date: 2010/05/03**

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B027625**  
**Received: 2010/04/29, 13:20**

Sample Matrix: Soil  
# Samples Received: 3

Analyses	Quantity	Date		Laboratory Method	Analytical Method
		Extracted	Analyzed		
BTEX/F1 by HS GC/MS (MeOH extract)	1	2010/04/30	2010/05/03	CAL SOP-00190	EPA 8260C/CCME
CCME Hydrocarbons (F2-F4 in soil)	1	2010/04/30	2010/04/30	CAL SOP-00086 AB WI-00016	CCME PHC-CWS
CCME Hydrocarbons (F2-F4 in soil)	2	2010/04/30	2010/05/01	CAL SOP-00086 AB WI-00016	CCME PHC-CWS
CCME Hydrocarbons (F4G in soil)	3	2010/04/30	2010/05/03	CAL SOP-00086	CCME PHC-CWS
Moisture	3	N/A	2010/05/01	CAL SOP-00023	McKeague MSSMA 2.411

\* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

**Encryption Key**

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

JENNIFER RISPLER,  
Email: Jennifer.Rispler@MaxxamAnalytics.com  
Phone# (403) 735-2201 Ext:2201

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Total cover pages: 1

Maxxam Job #: B027625  
Report Date: 2010/05/03

STANTEC CONSULTING LTD  
Client Project #: 111212170.700

**AT1 BTEX AND F1-F4 IN SOIL (SOIL)**

Maxxam ID		T86548	T86548		
Sampling Date		2010/04/28	2010/04/28		
	<b>Units</b>	<b>1M</b>	<b>1M Lab-Dup</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Physical Properties</b>					
Moisture	%	0.9	0.8	0.3	3925992
<b>Ext. Pet. Hydrocarbon</b>					
F2 (C10-C16 Hydrocarbons)	mg/kg	22	26	10	3924959
F3 (C16-C34 Hydrocarbons)	mg/kg	4100	4000	10	3924959
F4 (C34-C50 Hydrocarbons)	mg/kg	6500	7000	10	3924959
Reached Baseline at C50	mg/kg	No	No	N/A	3924959
<b>OIL &amp; GREASE</b>					
F4SG (Heavy Hydrocarbons-Grav.)	mg/kg	23000	26000	500	3924963
<b>Volatiles</b>					
Benzene	mg/kg	<0.0050	N/A	0.0050	3923246
Toluene	mg/kg	<0.020	N/A	0.020	3923246
Ethylbenzene	mg/kg	0.011	N/A	0.010	3923246
Xylenes (Total)	mg/kg	<0.040	N/A	0.040	3923246
m & p-Xylene	mg/kg	<0.040	N/A	0.040	3923246
o-Xylene	mg/kg	<0.020	N/A	0.020	3923246
F1 (C6-C10) - BTEX	mg/kg	<12	N/A	12	3923246
(C6-C10)	mg/kg	<12	N/A	12	3923246
<b>Surrogate Recovery (%)</b>					
4-BROMOFLUOROBENZENE (sur.)	%	91	N/A	N/A	3923246
D10-ETHYLBENZENE (sur.)	%	84	N/A	N/A	3923246
D4-1,2-DICHLOROETHANE (sur.)	%	89	N/A	N/A	3923246
D8-TOLUENE (sur.)	%	102	N/A	N/A	3923246
O-TERPHENYL (sur.)	%	91	92	N/A	3924959

N/A = Not Applicable  
RDL = Reportable Detection Limit  
Lab-Dup = Laboratory Initiated Duplicate

Maxxam Job #: B027625  
Report Date: 2010/05/03

STANTEC CONSULTING LTD  
Client Project #: 111212170.700

**AT1 F2-F4 (SOIL)**

Maxxam ID		T86543	T86547		
Sampling Date		2010/04/28	2010/04/28		
	<b>Units</b>	<b>1T</b>	<b>2T</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Physical Properties</b>					
Moisture	%	4.0	2.2	0.3	3925992
<b>Ext. Pet. Hydrocarbon</b>					
F2 (C10-C16 Hydrocarbons)	mg/kg	2300	1400	10	3924959
F3 (C16-C34 Hydrocarbons)	mg/kg	21000	13000	10	3924959
F4 (C34-C50 Hydrocarbons)	mg/kg	28000	17000	10	3924959
Reached Baseline at C50	mg/kg	No	No	N/A	3924959
<b>OIL &amp; GREASE</b>					
F4SG (Heavy Hydrocarbons-Grav.)	mg/kg	120000	70000	500	3924963
<b>Surrogate Recovery (%)</b>					
O-TERPHENYL (sur.)	%	31 (1)	48 (1)	N/A	3924959

N/A = Not Applicable  
RDL = Reportable Detection Limit  
( 1 ) Surrogate recovery below acceptance criteria due to matrix interference.

Maxxam Job #: B027625  
Report Date: 2010/05/03

STANTEC CONSULTING LTD  
Client Project #: 111212170.700

Package 1	9.7°C
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Each temperature is the average of up to three cooler temperatures taken at receipt

**General Comments**

**Results relate only to the items tested.**



STANTEC CONSULTING LTD  
Attention: DARREN KEAM  
Client Project #: 111212170.700  
P.O. #:  
Site Reference:

Quality Assurance Report  
Maxxam Job Number: CB027625

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
3923246 PX	Matrix Spike	4-BROMOFLUOROBENZENE (sur.)	2010/05/01		108	%	60 - 140
		D10-ETHYLBENZENE (sur.)	2010/05/01		106	%	30 - 130
		D4-1,2-DICHLOROETHANE (sur.)	2010/05/01		99	%	60 - 140
		D8-TOLUENE (sur.)	2010/05/01		87	%	60 - 140
		Benzene	2010/05/01		104	%	60 - 140
		Toluene	2010/05/01		103	%	60 - 140
		Ethylbenzene	2010/05/01		107	%	60 - 140
		m & p-Xylene	2010/05/01		108	%	60 - 140
		o-Xylene	2010/05/01		108	%	60 - 140
		(C6-C10)	2010/05/01		98	%	60 - 140
	Spiked Blank	4-BROMOFLUOROBENZENE (sur.)	2010/05/03		102	%	60 - 140
		D10-ETHYLBENZENE (sur.)	2010/05/03		88	%	30 - 130
		D4-1,2-DICHLOROETHANE (sur.)	2010/05/03		90	%	60 - 140
		D8-TOLUENE (sur.)	2010/05/03		104	%	60 - 140
		Benzene	2010/05/03		88	%	60 - 140
		Toluene	2010/05/03		87	%	60 - 140
		Ethylbenzene	2010/05/03		87	%	60 - 140
		m & p-Xylene	2010/05/03		89	%	60 - 140
		o-Xylene	2010/05/03		87	%	60 - 140
		(C6-C10)	2010/05/03		96	%	60 - 140
	Method Blank	4-BROMOFLUOROBENZENE (sur.)	2010/04/30		104	%	60 - 140
		D10-ETHYLBENZENE (sur.)	2010/04/30		122	%	30 - 130
		D4-1,2-DICHLOROETHANE (sur.)	2010/04/30		112	%	60 - 140
		D8-TOLUENE (sur.)	2010/04/30		80	%	60 - 140
		Benzene	2010/04/30	<0.0050		mg/kg	
		Toluene	2010/04/30	<0.020		mg/kg	
		Ethylbenzene	2010/04/30	<0.010		mg/kg	
		Xylenes (Total)	2010/04/30	<0.040		mg/kg	
		m & p-Xylene	2010/04/30	<0.040		mg/kg	
		o-Xylene	2010/04/30	<0.020		mg/kg	
RPD	F1 (C6-C10) - BTEX (C6-C10)	2010/04/30	<12		mg/kg		
	Benzene	2010/05/01	NC		%	50	
	Toluene	2010/05/01	NC		%	50	
	Ethylbenzene	2010/05/01	NC		%	50	
	Xylenes (Total)	2010/05/01	NC		%	50	
	m & p-Xylene	2010/05/01	NC		%	50	
	o-Xylene	2010/05/01	NC		%	50	
	F1 (C6-C10) - BTEX (C6-C10)	2010/05/01	NC		%	50	
	Benzene	2010/05/01	NC		%	50	
	Toluene	2010/05/01	NC		%	50	
3924959 AM7	Matrix Spike [T86548-01]	O-TERPHENYL (sur.)	2010/05/01		75	%	50 - 130
		F2 (C10-C16 Hydrocarbons)	2010/05/01		75	%	50 - 130
		F3 (C16-C34 Hydrocarbons)	2010/05/01		NC	%	50 - 130
		F4 (C34-C50 Hydrocarbons)	2010/05/01		NC	%	50 - 130
	Spiked Blank	O-TERPHENYL (sur.)	2010/04/30		98	%	50 - 130
		F2 (C10-C16 Hydrocarbons)	2010/04/30		100	%	80 - 120
		F3 (C16-C34 Hydrocarbons)	2010/04/30		95	%	80 - 120
		F4 (C34-C50 Hydrocarbons)	2010/04/30		100	%	80 - 120
	Method Blank	O-TERPHENYL (sur.)	2010/04/30		96	%	50 - 130
		F2 (C10-C16 Hydrocarbons)	2010/04/30	<10		mg/kg	
F3 (C16-C34 Hydrocarbons)		2010/04/30	<10		mg/kg		
F4 (C34-C50 Hydrocarbons)		2010/04/30	<10		mg/kg		
RPD [T86548-01]	F2 (C10-C16 Hydrocarbons)	2010/05/01	NC		%	50	
	F3 (C16-C34 Hydrocarbons)	2010/05/01	3.1		%	50	

STANTEC CONSULTING LTD  
Attention: DARREN KEAM  
Client Project #: 111212170.700  
P.O. #:  
Site Reference:

Quality Assurance Report (Continued)  
Maxxam Job Number: CB027625

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
3924959 AM7	RPD [T86548-01]	F4 (C34-C50 Hydrocarbons)	2010/05/01	7.6		%	50
3924963 HL	Spiked Blank	F4SG (Heavy Hydrocarbons-Grav.)	2010/05/03		105	%	80 - 120
	Method Blank	F4SG (Heavy Hydrocarbons-Grav.)	2010/05/03	<500		mg/kg	
	RPD [T86548-01]	F4SG (Heavy Hydrocarbons-Grav.)	2010/05/03	9.8		%	50
3925992 SJ0	RPD [T86548-01]	Moisture	2010/05/01	NC		%	20

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.  
 Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.  
 Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.  
 Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.  
 Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.  
 NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was not sufficiently significant to permit a reliable recovery calculation.  
 NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

**Validation Signature Page**

**Maxxam Job #: B027625**

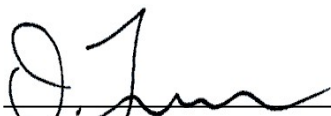
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The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



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LUBA SHYMUSHOVSKA, Senior Analyst, Organic Department



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ORLA JORGENSEN, Organics Supervisor

=====  
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