



THE CITY OF WINNIPEG

BID OPPORTUNITY

BID OPPORTUNITY NO. 299-2006

**PROVINCE OF MANITOBA/CITY OF WINNIPEG/LOCAL IMPROVEMENTS, 2006
RESIDENTIAL STREET RENEWAL PROGRAM – PART 1: PACIFIC AVENUE, PART
2: BURROWS AVENUE WESTBOUND, PART 3: HELMSDALE/KIMBERLY ALLEY,
PART 4: UNDERGROUND WORKS**

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PART B - BIDDING PROCEDURES

B1. PROJECT TITLE

- B1.1 PROVINCE OF MANITOBA/CITY OF WINNIPEG/LOCAL IMPROVEMENTS, 2006 RESIDENTIAL STREET RENEWAL PROGRAM – PART 1: PACIFIC AVENUE, PART 2: BURROWS AVENUE WESTBOUND, PART 3: HELMSDALE/KIMBERLY ALLEY, PART 4: UNDERGROUND WORKS

B2. SUBMISSION DEADLINE

- B2.1 The Submission Deadline is 12:00 noon Winnipeg time, June 21, 2006.
- B2.2 Bid Submissions determined by the Manager of Materials to have been received later than the Submission Deadline will not be accepted and will be returned upon request.
- B2.3 The Contract Administrator or the Manager of Materials may extend the Submission Deadline by issuing an addendum at any time prior to the time and date specified in B2.1.

B3. ENQUIRIES

- B3.1 All enquiries shall be directed to the Contract Administrator identified in D4.1.
- 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 Branch internet site at <http://www.winnipeg.ca/matmgt>.
- B4.2.2 The Bidder is responsible for ensuring that he has received all addenda and is advised to check the Materials Management Branch internet website for addenda shortly before submitting his Bid.

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 shall base his Total Bid Price upon the specified item but may also indicate an alternative price based upon the approved alternative. Such alternatives will be evaluated in accordance with 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.

B6. BID SUBMISSION

- B6.1 The Bid Submission consists of the following components:
- (a) Form A: Bid;
 - (b) Form B: Prices, hard copy;
 - (c) Form G1: Bid Bond and Agreement to Bond, or
Form G2: Irrevocable Standby Letter of Credit and Undertaking, or
a certified cheque or draft;
- B6.2 All components of the Bid Submission shall be fully completed or provided, and submitted by the Bidder no later than the Submission Deadline, with all required entries made clearly and completely in ink, to constitute a responsive Bid.
- B6.3 The Bid Submission shall be submitted enclosed and sealed in an envelope. The envelope shall be clearly marked with the Bid Opportunity number and the Bidder's name and address.
- B6.3.1 Samples or other components of the Bid Submission which cannot reasonably be enclosed in the envelope may be packaged separately, but shall be clearly marked with the Bid Opportunity number, the Bidder's name and address, and an indication that the contents are part of the Bidder's Bid Submission.
- B6.3.2 A hard copy of Form B: Prices must be submitted with the Bid Submission. 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.
- B6.4 Bid Submissions submitted by facsimile transmission (fax) or internet electronic mail (e-mail) will not be accepted.
- B6.5 Bid Submissions shall be submitted to:
- The City of Winnipeg
Corporate Finance Department
Materials Management Branch
185 King Street, Main Floor
Winnipeg MB R3B 1J1

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 shall be printed below such signatures.
- B7.4.2 All signatures shall be original and shall be witnessed except where a corporate seal has been affixed.
- 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 Submission 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 B6.3.2 and B14.4.2, an electronic spreadsheet Form B: Prices in Microsoft Excel (.xls) format is available along with the Adobe PDF documents for this Bid Opportunity on the Bid Opportunities page at the Materials Management Branch internet 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 Form B: Prices is organized into Parts: Part 1 through to Part 4 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 to Part 4.

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;
 - (b) be responsible and not be suspended, debarred or in default of any obligation to the City;
 - (c) be financially capable of carrying out the terms of the Contract;
 - (d) have all the necessary experience, capital, organization, and equipment to perform the Work in strict accordance with the terms and provisions of the Contract;
 - (e) have successfully carried out work, similar in nature, scope and value to the Work; and

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

B9.2 Further to B9.1(g), the Bidder shall, within three (3) Business Days of a request by the Contract Administrator, provide proof satisfactory to the Contract Administrator that the Bidder 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 - Option 1 administered by the Manitoba Heavy Construction Association's Safety, Health and Environment Program; or
- (b) a valid COR certification number under the Certificate of Recognition (COR) Program administered by the Manitoba Construction Safety Association; or
- (c) 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 Branch internet site at <http://www.winnipeg.ca/matmgt>.)

B9.3 The Bidder shall be prepared to submit, within three (3) Business Days of a request by the Contract Administrator, proof satisfactory to the Contract Administrator of the qualifications of the Bidder and of any proposed Subcontractor.

B9.4 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.

B10.2 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 Bid Submissions will be opened publicly, after the Submission Deadline has elapsed, in the office of the Corporate Finance Department, Materials Management Branch, or in such other office as may be designated by the Manager of Materials.

B11.1.1 Bidders or their representatives may attend.

B11.1.2 Bid Submissions 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 After the public opening, the names of the Bidders and their Total Bid Prices as read out (unevaluated, and pending review and verification of conformance with requirements) will be available on the Closed Bid Opportunities (or Public/Posted Opening & Award Results) page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at <http://www.winnipeg.ca/matmgt>.

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 Branch internet site at <http://www.winnipeg.ca/matmgt>.

B11.4 The Bidder is advised that any information contained in any Bid Submission may be released if required by City policy or procedures, by The Freedom of Information and Protection of Privacy Act (Manitoba), by other authorities having jurisdiction, or by law.

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 GC:23.3, the time and date of receipt of any notice withdrawing a Bid shall be the time and date of receipt as determined by the Manager of Materials.
- 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 shall:
- (a) retain the Bid Submission until after the Submission Deadline has elapsed;
 - (b) open the Bid Submission to identify the contact person named in Paragraph 3 of Form A: Bid and the Bidder's authorized representatives named in Paragraph 12 of Form A: Bid; and
 - (c) if the notice has been given by any one of the persons specified in 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 (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 Submission is incomplete, obscure or conditional, or contains additions, deletions, alterations or other irregularities. The Award Authority may reject all or any part of any Bid, or waive technical requirements if the interests of the City so require.
- B14.2.1 Any bid with an apparent imbalance between the unit prices in Part 1, Part 2, Part 3 and Part 4 may be determined to be non-responsive and rejected by the Award Authority in its sole discretion, acting reasonably.
- 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 Submission 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 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 by way of a letter of intent, 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.
- B15.4 As noted in D2 and identified in Form B: Prices, the Work of Part 3 (including associated LDS installation of Part 4, Section D) will be contingent upon the City receiving sufficient funding for the Work. If sufficient funding for Part 3 Work (including associated LDS installation of Part 4, Section D) is not approved, the City shall have the right to eliminate all or any portion of Part 3 Work in accordance with D2.

PART C - GENERAL CONDITIONS

C1. GENERAL CONDITIONS

- C1.1 The General Conditions for Construction Contracts (Revision 2000 11 09) are applicable to the Work of the Contract.
- C1.2 The *General Conditions for Construction Contracts* are available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at <http://www.winnipeg.ca/matmgt>.

PART D - SUPPLEMENTAL CONDITIONS

GENERAL

D1. GENERAL CONDITIONS

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

D2. SCOPE OF WORK

- D2.1 The Work to be done under the Contract shall consist of two parts:
- (a) Part 1 – City Funded Work
 - (b) Part 2 – Provincially Funded Work
 - (c) Part 3 – Local Improvements Funded Work
 - (d) Part 4 – Underground Works

Part 1 – City Funded Work

- D2.2 Part 1 – City Funded Work shall consist of:
- (a) Pavement Reconstruction
 - (i) Pacific Avenue from Isabel Street to Ellen Street

Part 2 – Provincially Funded Work

- D2.3 Part 2 – Provincially Funded Work shall consist of:
- (a) Pavement Reconstruction
 - (i) Burrows Avenue Westbound from Battery Street to Sgt. Tommy Prince Street

Part 3 – Local Improvements

- D2.4 Part 3 – Local Improvement Work shall consist of:
- (a) Pavement Reconstruction
 - (i) Helmsdale Avenue/Kimberly Avenue Alley

Part 4 – Underground Works

- D2.5 Part 4 – Underground Works shall consist of:
- (a) Helmsdale Avenue/Kimberly Avenue Alley Land Drainage Sewer
 - (b) Pacific Avenue Storm Relief Sewer/Combined Sewer Relief
 - (c) Pacific Avenue Sewer Repair
 - (d) Pacific Avenue Branch I Aqueduct Underdrain Manholes
- D2.6 Part 3 of the Work (including associated LDS installation of Part 4, Section D) is contingent upon the City receiving sufficient funding.
- D2.6.1 Further to GC:7.1, if notice of sufficient funding is not received, the City shall have the right to eliminate all or any portion of Part 3 and associated LDS work in Part 4, and the Contract Price will be reduced accordingly.
- D2.6.2 Further to GC:7.5, GC:7.5.1, and GC:7.6, a reduction in the Contract Price pursuant to D2.6.1 shall not be considered in calculating the aggregate reduction in the Contract Price for purposes of GC:7.5.
- D2.6.3 If all or any portion of Part 3 and associated LDS work in Part 4, is eliminated pursuant to D2.6.1, the time periods stipulated in D19 for Substantial Performance of the Work and in D20 for Total Performance of the Work will be reduced proportionally by the Contract Administrator acting reasonably.
- D2.7 The major components of the Work are as follows:
- (a) Pavement Reconstruction
 - (i) Remove existing pavement
 - (ii) Excavation
 - (iii) Installation of subdrains
 - (iv) Compaction of existing subgrade
 - (v) Installation of catchpits, catchbasins and connection pipe
 - (vi) Placement of separation/reinforcement fabric
 - (vii) Placement of subbase and base course materials
 - (viii) Construct concrete pavement with integral curbs
 - (ix) Adjust existing manholes
 - (x) Renewal of existing approaches
 - (xi) Renewal of existing sidewalk
 - (xii) Boulevard restoration
 - (b) Land Drainage Sewer
 - (i) Installation of sewer service pipe, catchbasins and manholes
 - (ii) Connections to existing sewers/manholes
 - (iii) Sewer/manhole inspection
 - (c) Storm Relief Sewer/Combined Sewer Relief
 - (i) Installation of storm relief sewers and sewer service pipe
 - (ii) Installation of manholes (with or without weir overflow)
 - (iii) Sewer inspection
 - (d) Sewer Repair
 - (i) External point repair
 - (ii) Sewer inspection

- (e) Branch I Aqueduct Underdrain Manholes
 - (i) Installation of underdrain access manholes
 - (ii) Cleaning 150 mm dia. underdrain
 - (iii) Video inspection of 150 mm dia. underdrain
 - (iv) Underdrain point repairs (if necessary)
 - (v) Site restoration

D3. DEFINITIONS

D3.1 When used in this Bid Opportunity:

- (a) “**WRc**” means Water Research Centre (WRc Pic), a UK-based water, wastewater and environmental research group that developed The Manual of Sewer Condition Classification to provide a standard defect coding system for use in conducting sewer inspection surveys.
- (b) “**Underdrain**” means the original clay pipe foundation drain that runs along the Branch 1 Aqueduct, and functions to channel groundwater and potable water leakage away from the vicinity of the aqueduct. In consideration of referenced City of Winnipeg Standard Construction Specifications, the term “underdrain” may be considered equivalent to the term “sewer”.

D4. CONTRACT ADMINISTRATOR

D4.1 The Contract Administrator is UMA Engineering Ltd., represented by:

Ron Bruce, P.Eng.
Senior Project Engineer
1479 Buffalo Place, Winnipeg, Manitoba, R3T 1L7
Telephone No. (204) 928-7432
Facsimile No. (204) 475-3646

D4.2 At the pre-construction meeting, Mr. Bruce will identify additional personnel representing the Contract Administrator and their respective roles and responsibilities for the Work.

D5. CONTRACTOR'S SUPERVISOR

D5.1 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.

D5.2 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 D5.1 or an alternate can be contacted 24 hours a day to respond to an emergency.

D6. NOTICES

D6.1 Except as provided for in GC:23.2.2, all notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications to the Contractor shall be sent to the address or facsimile number identified by the Contractor in Paragraph 2 of Form A: Bid.

D6.2 All notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications to the City, except as expressly otherwise required in D6.3, D6.4 or elsewhere in the Contract, shall be sent to the attention of the Contract Administrator at the address or facsimile number identified in D4.1.

- D6.3 All notices of appeal to the Chief Administrative Officer shall be sent to the attention of the Chief Financial Officer at the following address or facsimile number:

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

- D6.4 All notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications required to be submitted or returned to the City Solicitor shall be sent to the following address or facsimile number:

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

D7. FURNISHING OF DOCUMENTS

- D7.1 Upon award of the Contract, the Contractor will be provided with five (5) complete sets of the Bid Opportunity. If the Contractor requires additional sets of the Bid Opportunity, they will be supplied to him at cost.

SUBMISSIONS

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 GC:4.1 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 Branch internet site at <http://www.winnipeg.ca/matmgt>.

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) all inclusive, with The City of Winnipeg being named as an additional insured, with a cross-liability clause, such liability policy to also contain a contractual liability, an unlicensed motor vehicle liability and a completed operations endorsement to remain in place at all times during the performance of the Work and throughout the warranty period;
 - (b) automobile liability insurance for owned and non-owned automobiles used for or in connection with the Work in the amount of at least two million dollars (\$2,000,000.00) at all times during the performance of the Work and until the date of Total Performance;
- D9.2 Deductibles shall be borne by the Contractor.

D9.3 The Contractor shall provide the City Solicitor with a certificate of insurance of each policy, in a form satisfactory to the City Solicitor, at least two (2) Business Days prior to the commencement of any Work on the Site but in no event later than the date specified in the GC:4.1 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 fifteen (15) 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 Submission 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 GC:4.1 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 GC:4.1 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 that the Contractor is in good standing under The Corporations Act (Manitoba), or properly registered under The Business Names Registration Act (Manitoba), or otherwise properly registered, licensed or permitted by law to carry on business in Manitoba;
 - (ii) evidence of the workers compensation coverage specified in GC:6.14;
 - (iii) the twenty-four (24) hour emergency response phone number specified in D5.2.
 - (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 not commence the Work on the Site before July 10, 2006, and shall commence the Work on Site no later than July 17, 2006, as directed by the Contract Administrator and weather permitting.
- D13.4 The City intends to award this Contract by July 5, 2006.

D14. WORKING DAYS

- D14.1 Further to GC:1.1(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.
- D14.1.3 When the Work includes two or more major types of Work that can be performed under different atmospheric conditions, the Contract Administrator shall consider all major types of Work in determining whether the Contractor was able to work in assessing Working Days.

D15. RESTRICTED WORK HOURS

- D15.1 Further to clause 3.10 of CW 1130, the Contractor shall require written permission 48 hours in advance from the Contract Administrator for any work to be performed between 2000 hours and 0700 hours, or on Saturdays, Sundays, Statutory Holidays and or Civic Holidays.
- D15.2 In accordance with the Manual of Temporary Traffic Control, Sections 2.03, 2.04, 2.05 and 2.06, should the Traffic Management Branch of the Public Works Department require that work on Regional Streets be carried out at night or on Sundays or on public holidays, where permitted by the City of Winnipeg Police Department, or that work be restricted or suspended during peak traffic hours, no additional compensation will be considered to meet these requirements.

D16. WORK BY OTHERS

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

- (a) Manitoba Hydro Gas Division – lowering and/or rock wrapping of underground mains and services, if required, realignment of 50 mm gas pipeline at underdrain manhole locations on Pacific Avenue;
- (b) Manitoba Hydro – installation of new street lighting cable;
- (c) MTS Allstream Inc. – manhole adjustments on Burrows Avenue;
- (d) Various work on survey monuments by City of Winnipeg Geomatics Branch.

D17. SEQUENCE OF WORK

D17.1 Further to GC 6.1, the sequence of work shall comply with the following:

- D17.1.1 Providing that the Work on each street is completed in a similar order to the order that the Work was commenced in, the Contractor will be permitted to have a maximum of three (3) streets under construction at any one time. Completion of a street means that all of the necessary concrete, asphalt including approaches and landscaping Work is completed to the satisfaction of the Contract Administrator.
- D17.1.2 Where the Contractor utilizes two (2) or more crews that work independently on the same major component of the Work as identified in D2, the Contract Administrator may approve an increase to the maximum number of streets under construction at any time.
- D17.1.3 Placing the topsoil and finished grading of all boulevard and median areas shall be completed prior to commencing construction of asphaltic concrete overlays, including scratch courses.
- D17.1.4 The Contractor shall complete the combined sewer relief, external point repairs, and aqueduct underdrain manhole Works on Pacific Avenue before commencing construction of pavement, sidewalk and concrete curbs.
- D17.1.5 The Contractor shall complete the land drainage system on the Helmsdale/Kimberly Alley before commencing construction of any pavements.
- D17.1.6 Branch 1 Aqueduct – Potable Water Supply
 - (a) Branch 1 Aqueduct typically conveys approximately 45% of the City of Winnipeg's daily potable water supply, with demand generally being greatest from May 20 through to September 5. Permitting Works in direct vicinity of the Aqueduct is based on a number of factors including routine maintenance and repair work along the Aqueduct, water demand, weather, reservoir operation and other factors. The City shall endeavour to make the specified time periods available to the Contractor to schedule his work around the Aqueduct, without limiting the City's control over the operation of the Aqueduct to complete other work, maintain adequate water supply and storage of water and maintain the integrity of the infrastructure. The City shall reserve the right to cancel and/or delay these work around the Aqueduct at any time, due to any circumstances that could adversely affect the Aqueducts or water supply, including but not limited to high water demand, abnormal weather, failures of related water system components and/or security concerns.
 - (b) Generally, flow in the Branch 1 Aqueduct will not be interrupted to facilitate Work on the underdrain system, between May 20 and September 5.

D17.1.7 Natural Gas Pipeline on Pacific Avenue

- (a) Two natural gas pipelines conflict with the proposed underdrain works. One, a 300 mm diameter high pressure transmission main, will be shut down for the duration of the project while the other, a 50 mm diameter medium pressure main will be realigned at each underdrain manhole location by Manitoba Hydro.
- (b) Manitoba Hydro requires that the mean daily temperature be a minimum of 5°C before service to consumers can be interrupted. Although subject to actual weather conditions, Manitoba Hydro has estimated that natural gas service must be restored to consumers by September 1, 2006.

D18. CRITICAL STAGES

D18.1 The Contractor shall achieve critical stages of the Work in accordance with the following requirements:

- (a) Part 3 of the Work shall be completed (including landscaping) by September 1, 2006 (subject to available funds).

D18.2 When the Contractor considers the Work associated with Part 3 of the Work to be completed, the Contractor shall arrange, attend and assist in the inspection of the Work with the Contract Administrator for purposes of verifying Completion. Any defects or deficiencies in the Work noted during that inspection shall be remedied by the Contractor at the earliest possible instance and the Contract Administrator notified so that the Work can be re-inspected.

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

D19. SUBSTANTIAL PERFORMANCE

D19.1 The Contractor shall achieve Substantial Performance within forty-five (45) consecutive Working Days of the commencement of the Work as specified in D13.

D19.2 When the Contractor considers the Work to be substantially performed, the Contractor shall arrange, attend and assist in the inspection of the Work with the Contract Administrator for purposes of verifying Substantial Performance. Any defects or deficiencies in the Work noted during that inspection shall be remedied by the Contractor at the earliest possible instance and the Contract Administrator notified so that the Work can be re-inspected.

D19.3 The date on which the Work has been certified by the Contract Administrator as being substantially performed to the requirements of the Contract through the issue of a certificate of Substantial Performance is the date on which Substantial Performance has been achieved.

D20. TOTAL PERFORMANCE

D20.1 The Contractor shall achieve Total Performance within fifty (50) consecutive Working Days of the commencement of the Work as specified in D13.

D20.2 When the Contractor or the Contract Administrator considers the Work to be totally performed, the Contractor shall arrange, attend and assist in the inspection of the Work with the Contract Administrator for purposes of verifying Total Performance. Any defects or deficiencies in the Work noted during that inspection shall be remedied by the Contractor at the earliest possible instance and the Contract Administrator notified so that the Work can be re-inspected.

D20.3 The date on which the Work has been certified by the Contract Administrator as being totally performed to the requirements of the Contract through the issue of a certificate of Total Performance is the date on which Total Performance has been achieved.

D21. LIQUIDATED DAMAGES

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

- (a) Part 3 of the Work – two thousand dollars (\$2,000)
- (b) Substantial Performance – two thousand dollars (\$2,000)
- (c) Total Performance - five hundred dollars (\$500)

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

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

D22. SCHEDULED MAINTENANCE

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

- (a) Sod maintenance as specified in CW3510-R8
- (b) Reflective crack maintenance during two year maintenance warranty period as specified in CW3250-R6

D22.2 Determination of Substantial Performance and Total Performance shall be exclusive of scheduled maintenance identified herein. All scheduled maintenance shall be completed prior to the expiration of the warranty period. Where the scheduled maintenance cannot be completed during the warranty period, the warranty period shall be extended for such period of time as it takes the Contractor to complete the scheduled maintenance.

CONTROL OF WORK

D23. JOB MEETINGS

D23.1 Regular weekly job meetings will be held at the Site. These meetings shall be attended by a minimum of one representative of the Contract Administrator, one representative of the City and one representative of the Contractor. Each representative shall be a responsible person capable of expressing the position of the Contract Administrator, the City and the Contractor respectively on any matter discussed at the meeting including the Work schedule and the need to make any revisions to the Work schedule. The progress of the Work will be reviewed at each of these meetings.

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

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

D24.1 Further to GC:6.26, the Contractor shall be the Prime Contractor and shall serve as, and have the duties of the Prime Contractor in accordance with The Workplace Safety and Health Act (Manitoba).

WARRANTY

D25. WARRANTY

D25.1 Notwithstanding GC:13.2, the warranty period shall begin on the date of Total Performance and shall expire one (1) year thereafter for Part 4 of the Work, and two (2) years thereafter for pavement reconstruction works, unless extended pursuant to GC:13.2.1 or GC:13.2.2, in which case it shall expire when provided for thereunder.

D25.2 Notwithstanding GC:13.2 or D25.1, the Contract Administrator may permit the warranty period for a portion or portions of the Work to begin prior to the date of Total Performance if:

- (a) a portion of the Work cannot be completed because of unseasonable weather or other conditions reasonably beyond the control of the Contractor but that portion does not prevent the balance of the Work from being put to its intended use; or
- (b) Substantial Performance has been achieved.

D25.2.1 In such case the date specified by the Contract Administrator for the warranty period to begin shall be substituted for the date specified in GC:13.2 for the warranty period to begin.

FORM H1: PERFORMANCE BOND
(See D10)

KNOW ALL MEN BY THESE PRESENTS THAT

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

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

_____ dollars (\$_____)

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

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

_____ day of _____, 20____, for:

BID OPPORTUNITY NO. 299-2006

PROVINCE OF MANITOBA/CITY OF WINNIPEG/LOCAL IMPROVEMENTS, 2006 RESIDENTIAL STREET RENEWAL PROGRAM – PART 1: PACIFIC AVENUE, PART 2: BURROWS AVENUE WESTBOUND, PART 3: HELMSDALE/KIMBERLY ALLEY, PART 4: UNDERGROUND WORKS which is by reference made part hereof and is hereinafter referred to as the "Contract".

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

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

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

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

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

_____ day of _____, 20____ .

SIGNED AND SEALED
in the presence of:

(Witness)

(Name of Principal)

Per: _____ (Seal)

Per: _____

(Name of Surety)

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

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

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

(Date)

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

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

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

(Name of bank or financial institution)

Per: _____
(Authorized Signing Officer)

Per: _____
(Authorized Signing Officer)

FORM J: SUBCONTRACTOR LIST
(See D11)

PROVINCE OF MANITOBA/CITY OF WINNIPEG/LOCAL IMPROVEMENTS, 2006 RESIDENTIAL STREET RENEWAL PROGRAM – PART 1: PACIFIC AVENUE, PART 2: BURROWS AVENUE WESTBOUND, PART 3: HELMSDALE/KIMBERLY ALLEY, PART 4: UNDERGROUND WORKS

<u>Portion of the Work</u>	<u>Name</u>	<u>Address</u>
Surface Works		
<u>Supply of Materials</u>		
Concrete		
Asphalt		
Base Course and Subbase		
Sod		
<u>Installation/Placement</u>		
Concrete		
Asphalt		
Base Course and Subbase		
Sod		
Underground Works		
<u>Supply of Materials</u>		
Catchbasins/Catchpits		
Frames and Covers		
Sewer Service Pipe/Drainage Connection Pipe		
Manholes		
<u>Installation</u>		
Catchbasins/Catchpits/Manholes		
Land Drainage Sewers		
Sewer Repairs		
Sewer Televising		
Aqueduct Underdrain Manholes/Repairs		
Other		

FORM L: DETAILED WORK SCHEDULE
 (See D12)

PROVINCE OF MANITOBA/CITY OF WINNIPEG/LOCAL IMPROVEMENTS, 2006 RESIDENTIAL STREET RENEWAL PROGRAM – PART 1: PACIFIC AVENUE, PART 2: BURROWS AVENUE WESTBOUND, PART 3: HELMSDALE/KIMBERLY ALLEY, PART 4: UNDERGROUND WORKS

For each item of Work, indicate the cumulative percentage proposed to be completed by the end of each time period until 100% completion is achieved.						
Items of Work	Time Period in Working Days					
	0	10	20	30	40	50
PART 1 CITY FUNDED WORK						
A. Pacific Avenue						
Excavation						
Subdrain Installation						
Subbase & Base Course Construction						
Concrete Pavement Construction						
Concrete Sidewalk						
Landscaping						
PART 2 PROVINCIALY FUNDED WORK						
B. Burrows Avenue						
Excavation						
Subdrain Installation						
Subbase & Base Course Construction						
Concrete Pavement Construction						
Concrete Sidewalk						
Landscaping						
PART 3 LOCAL IMPROVEMENTS						
C. Helmsdale/Kimberly Alley						
Excavation						
Subdrain Installation						
Subbase & Base Course Construction						
Concrete Pavement Construction						

FORM L: DETAILED WORK SCHEDULE
 (See D12)

PROVINCE OF MANITOBA/CITY OF WINNIPEG/LOCAL IMPROVEMENTS, 2006 RESIDENTIAL
 STREET RENEWAL PROGRAM – PART 1: PACIFIC AVENUE, PART 2: BURROWS AVENUE
 WESTBOUND, PART 3: HELMSDALE/KIMBERLY ALLEY, PART 4: UNDERGROUND WORKS

For each item of Work, indicate the cumulative percentage proposed to be completed by the end of each time period until 100% completion is achieved.						
Items of Work	Time Period in Working Days					
	0	10	20	30	40	50
Concrete Sidewalk						
Landscaping						
PART 4 SEWER WORK						
D. Helmsdale/Kimberly Alley LDS						
LDS/Manhole/CB Installation						
E. Pacific Avenue SRS/Combined Sewer						
SRS/Manhole Installation						
F. Pacific Avenue Sewer Repair						
External Point Repairs						
G. Pacific Avenue Branch 1 Aqueduct Underdrain Manholes						
Install Manhole UMH106-0064						
Install Manhole UMH105-0284						
Install Manhole UMH106-0346						
Underdrain Cleaning/Inspection between UMH105-0284 and UMH106-0346						
Install Manhole UMH105-0104						
Install Manhole UMH107-0046						
Underdrain Cleaning/Inspection between UMH104-0287 and UMH105-0284						
Underdrain Cleaning/Inspection from UMH106-0346 and E Limit of Underdrain						
Site Restoration						

PART E - SPECIFICATIONS

GENERAL

E1. APPLICABLE SPECIFICATIONS, STANDARD DETAILS AND DRAWINGS

E1.1 *The City of Winnipeg Standard Construction Specifications* in its entirety, whether or not specifically listed on Form B: Prices, shall apply to the Work.

E1.1.1 *The City of Winnipeg Standard Construction Specifications* is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at <http://www.winnipeg.ca/matmgt>.

E1.1.2 The version in effect three (3) Business Days before the Submission Deadline shall apply.

E1.1.3 Further to GC:2.4(d), Specifications included in the Bid Opportunity shall govern over *The City of Winnipeg Standard Construction Specifications*.

E1.2 The following Drawings are applicable to the Work:

<u>Drawing No.</u>	<u>Drawing Name/Title</u>	<u>Drawing (Original) Sheet Size</u>
00	Cover Sheet, Drawing List	A1
01	Burrows Avenue-Horizontal and Vertical Alignment-Sgt. Tommy Prince St. to Sta. 0+190	A1
02	Burrows Avenue-Horizontal and Vertical Alignment-Sta. 0+190 to Sta. 0+310	A1
03	Burrows Avenue-Horizontal and Vertical Alignment-Sta. 0+310 to Battery St.	A1
04	Pacific Avenue-Horizontal and Vertical Alignment-Isabel St. to Sta. 0+170	A1
05	Pacific Avenue-Horizontal and Vertical Alignment-Sta. 0+170 to Sta. 0+290	A1
06	Pacific Avenue-Horizontal and Vertical Alignment-Sta. 0+290 to Ellen St.	A1
07	Kimberly/Helmsdale W/E Alley-Horizontal and Vertical Alignment-Kildonan Dr. to Sta. 0+190	A1
08	Helmsdale/Kimberly W/E Alley-Horizontal and Vertical Alignment-Sta. 0+190 to Sta. 0+310	A1
09	Helmsdale/Kimberly W/E Alley-Horizontal and Vertical Alignment-Sta. 0+310 to S/N Alley	A1
10	Helmsdale/Kimberly S/N Alley-Horizontal and Vertical Alignment-Sta. 0+100 to Sta. 0+200	A1
04407	Pacific Avenue-Sewer Repair – 1 st MH east of Isabel Street to 2 nd MH east of Isabel Street	11"x17"
LD-2661	Pacific Avenue-Combined Sewer Relief-Isabel Street to 170 m west of Ellen Street	D
D-9022	Pacific Avenue-Branch 1 Aqueduct U/D-Sherbrook Street to Paulin Street	A1
D-9023	Pacific Avenue-Branch 1 Aqueduct U/D-King Street and Details	A1

E2. GEOTECHNICAL REPORT

- E2.1 Further to GC:3.1, the Geotechnical Report and Soils Test Hole Logs attached are provided to supplement the Bidder's evaluation of the Site conditions within the Work areas. The information is considered accurate at the locations indicated and at the time of the investigation. However, variations in soil conditions may exist between test holes and fluctuations in groundwater levels can be expected seasonally and may occur as a result of construction activities or variations in flow level of the adjacent water course.
- E2.2 Any test holes or test pits made by the bidder in proximity to the Branch 1 Aqueduct shall be done in accordance with the requirements of the Water and Waste Department. Bidders shall notify the Contract Administrator prior to proceeding with any subsurface investigations.

E3. OFFICE FACILITIES

- E3.1 The Contractor shall supply office facilities meeting the following requirements:
- (a) The field office shall be for the exclusive use of the Contract Administrator.
 - (b) The building shall be conveniently located near the site of the Work.
 - (c) The building shall have a minimum floor area of 25 square metres, with 2 windows for cross ventilation and a door entrance with a suitable lock.
 - (d) The building shall be suitable for all weather use. It shall be equipped with a heater and air conditioner so that the room temperature can be maintained between either 16-18°C or 24-25°C.
 - (e) The building shall be adequately lighted with fluorescent fixtures and have a minimum of three (3) wall outlets.
 - (f) The building shall be furnished with one desk, one drafting table, 3 m x 1.2 m table, one stool, one four-drawer legal filing cabinet, and a minimum of six (6) chairs.
 - (g) A portable toilet shall be located near the field office building. The toilet shall have a locking door and be for the exclusive use of the Contract Administrator and other personnel from the City.
 - (h) The field office building and the portable toilet shall be cleaned on a weekly basis immediately prior to each site meeting. The Contract Administrator may request additional cleaning when he deems it necessary.
- E3.2 The Contractor shall be responsible for all installation and removal costs, all operating costs, and the general maintenance of the office facilities.
- E3.3 The office facilities will be provided from the date of the commencement of the Work to the date the Contract is completed.
- E3.4 On a one time basis, where directed by the Contract Administrator, the Contractor shall relocate the office facilities to a location more convenient for the remaining Work.

E4. PROTECTION OF EXISTING TREES

- E4.1 The Contractor shall take the following precautionary steps to prevent damage from construction activities to existing boulevard trees within the limits of the construction area:
- (a) The Contractor shall not stockpile materials and soil or park vehicles and equipment on boulevards within 2 metres of trees.
 - (b) Trees identified to be at risk by the Contract Administrator are to be strapped with 25 x 100 x 2400mm wood planks, or suitably protected as approved by the Contract Administrator.

- (c) Excavation shall be performed in a manner that minimizes damage to the existing root systems. Where possible, excavation shall be carried out such that the edge of the excavation shall be a minimum of 1.5 times the diameter (measured in inches), with the outcome read in feet, from the closest edge of the trunk. Where roots must be cut to facilitate excavation, they shall be pruned neatly at the face of excavation.
- (d) Operation of equipment within the dripline of the trees shall be kept to the minimum required to perform the work required. Equipment shall not be parked, repaired, refuelled; construction materials shall not be stored, and earth materials shall not be stockpiled within the driplines of trees. The dripline of a tree shall be considered to be the ground surface directly beneath the tips of its outermost branches. The Contractor shall ensure that the operations do not cause flooding or sediment deposition on areas where trees are located.
- (e) Work on-site shall be carried out in such a manner so as to minimize damage to existing tree branches. Where damage to branches does occur, they shall be neatly pruned.

E4.2 All damage to existing trees caused by the Contractor's activities shall be repaired to the requirements and satisfaction of the Contract Administrator and the City Forester or his designate.

E4.3 No separate measurement or payment will be made for the protection of trees.

E4.4 Elm trees cannot be trimmed between April 1 and July 31, inclusive.

E5. TRAFFIC CONTROL

E5.1 Further to clauses 3.6 and 3.7 of CW 1130-R1:

- (a) 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. No measurement for payment will be made for this work.
- (b) In accordance with the Manual of Temporary Traffic Control, the Contractor ("Agency" in the manual) shall make arrangements with the Traffic Services Section of the City of Winnipeg to place all temporary regulatory signs. The Contractor shall bear all costs associated with the placement of temporary traffic control devices by the Traffic Services Section of the City of Winnipeg in connection with the works undertaken by the Contractor.

E6. TRAFFIC MANAGEMENT

E6.1 Further to clause 3.7 of CW 1130-R1:

E6.1.1 The Contractor shall schedule construction activities to meet the following:

- (a) Burrows Avenue (westbound), Pacific Avenue (Isabel to Ellen only) and the Helmsdale Avenue/Kimberly Avenue Alley will be closed to all traffic. The Contractor shall sign the street "Road Closed" in accordance with the Manual of Temporary Traffic Control.

E6.1.2 Should the Contractor be unable to maintain an existing 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.

E6.1.3 Pedestrian and ambulance/emergency vehicle access must be maintained at all times.

E7. REFUSE AND RECYCLING COLLECTION

E7.1 While access to refuse and/or recycling collection vehicles is restricted, on collection day(s) the Contractor shall move all of the affected property owners refuse and/or recycling materials to a nearby common area, prior to an established time, in accordance with E7.2 to permit the normal collection vehicles to collect the materials. Immediately following recycling collection the Contractor shall return recycling receptacles to the addresses marked on the receptacles.

E7.2 Collection Schedule:

Pacific Avenue – North side residences

Collection Day(s): **Day 5**
Collection Time: **7:00 a.m.**
Common Collection Area: **Pacific & Ellen Intersection**

Helmsdale/Kimberly Alley-Henderson Highway residences

Collection Day(s): **Day 2**
Collection Time: **7:00 a.m.**
Common Collection Area: **Helmsdale & Alley Intersection**

E7.3 No measurement or payment will be made for the work associated with this specification.

E8. WATER USED BY CONTRACTOR

E8.1 Further to clause 3.7 of CW 1120-R1, the Contractor shall pay for all costs associated with obtaining water in accordance with the Waterworks By-law. Sewer charges will not be assessed for water obtained from a hydrant.

E9. SURFACE RESTORATIONS

E9.1 Further to clause 3.3 of CW 1130-R1, when Total Performance is not achieved in the year the Contract is commenced, the Contractor shall temporarily repair any Work commenced and not completed to the satisfaction of the Contract Administrator. The Contractor shall maintain the temporary repairs in a safe condition as determined by the Contract Administrator until permanent repairs are completed. The Contractor shall bear all costs associated with temporary repairs and their maintenance.

E10. INFRASTRUCTURE SIGNS

E10.1 The Contractor shall obtain infrastructure signs from the Traffic Services Sign Shop at 421 Osborne Street. The Contractor shall mount each sign securely to a rigid backing material approved by the Contract Administrator. The Contractor shall fasten each sign to a suitable support and erect and maintain one sign at each street as directed by the Contract Administrator. When the Contract Administrator considers the Work on the street complete, the Contractor shall remove and dispose of the signs and supports. No measurement for payment will be made for performing all operations herein described and all other items incidental to the work described

E11. RECYCLED CONCRETE BASE COURSE MATERIAL

DESCRIPTION

E11.1 General

E11.1.1 Further to CW 3110, this specification covers supply and placement of recycled concrete base course material for Full-Depth Partial Slab Patches (Class A, B, C, & D), miscellaneous concrete slabs and sidewalks.

E11.2 Definitions

E11.2.1 Deleterious material – are materials such as vegetation, organic material, wood, glass, plastic, metal, reinforcing steel, building rubble, brick, salvaged asphalt materials, clay, shale, and friable particles.

E11.3 Referenced Standard Construction Specifications

- (a) CW 3110 – Sub-Grade. Sub-Base and Base Course Construction.
- (b) CW 3230 – Full-Depth Patching of Existing Pavement Slabs and Joints.
- (c) CW 3235 – Renewal of Existing Miscellaneous Concrete Slabs.
- (d) CW 3325 – Portland Cement Concrete Sidewalk.

MATERIALS

E11.4 Recycled Concrete Base Course Material

E11.4.1 Recycled concrete base course material when used for Full-Depth Partial Slab Patches (Class A, B, C, & D), miscellaneous concrete slabs and sidewalks will be considered equal to granular or limestone base course material specified in Section 2.2 of CW 3110.

E11.4.2 Recycled concrete base course material will be approved by the Contract Administrator.

E11.4.3 Recycled concrete base course material will consist of sound durable particles produced by crushing, screening, and grading of recovered concrete materials, free from soft material that would disintegrate through decay or weathering.

E11.4.4 The recycled concrete base course material will be well graded and conform to the following grading requirements:

Recycled Concrete Base Course Material Grading Requirements

CANADIAN METRIC SIEVE SIZE	PERCENT OF TOTAL DRY WEIGHT PASSING EACH SIEVE
20 000	100%
5 000	40% - 70%
2 500	25% - 60%
315	8% - 25%
80	6% - 17%

E11.4.5 Recycled concrete base course material when subjected to the abrasion test will have a loss of not more than 35% when tested in accordance with grading B of ASTM C131, Test for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine.

E11.4.6 The amount of deleterious material will be limited to a maximum of two percent of the total dry weight.

CONSTRUCTION METHODS

E11.5 Placement of Recycled Concrete Base Course Material

- E11.5.1 Place and compact recycled concrete base course material as a levelling course to a maximum thickness of 50 millimetres.
- E11.5.2 Spread materials uniformly to avoid segregation free of pockets of fine and coarse material.
- E11.5.3 Level and compact to the finished elevation. Compact to 100% Standard Proctor Density for Full-Depth Partial Slab Patches (Class A, B, C, & D) and 90% Standard Proctor Density for miscellaneous concrete slabs and sidewalks.
- E11.5.4 Maintain the finished material until the pavement or sidewalk is placed.

MEASUREMENT AND PAYMENT

E11.6 Recycled Concrete Base Course Material

- E11.6.1 The supplying, placing and compaction of recycled concrete base course material will be measured on a volume basis and paid for at the Contract Unit Price per cubic metre for the "Supplying and Placing Base Course Material" as specified in accordance with CW 3110.
- E11.6.2 No measurement or payment will be made for material placed as a levelling course under miscellaneous concrete slabs and sidewalks where the costs are included in accordance with CW 3235 and CW 3325.
- E11.6.3 No measurement or payment will be made for materials rejected by the Contract Administrator.

E12. EXCAVATION AND COMPACTION ON PACIFIC AVENUE

E12.1 Existing Shoring along Aqueduct

- E12.1.1 The Contractor shall note that original timber excavation shoring exists along the Aqueduct (on Pacific Avenue). Within the limits of proposed excavation, the Contractor shall excavate and cut the shoring at the depth of the proposed road subgrade and remove that material. The Contractor shall not remove the shoring by any means that may damage the adjacent Aqueduct, such as pulling, bending or breaking.
- E12.1.2 The Contractor shall dispose of the shoring material that is removed in accordance with Section 3.4 of CW 1130.
- E12.1.3 No measurement or payment will be made for the work described in Section E12.1, it shall be considered included in the price paid for Excavation.

E12.2 Subbase Construction

- E12.2.1 Within 5 metres of the centre of the Branch 1 aqueduct on Pacific Avenue, the subgrade and subbase shall be compacted with non-vibratory construction equipment.
- E12.2.2 No measurement or payment will be made for the Work described in Section E12.2, it shall be considered included in the price paid for subgrade compaction or crushed subbase material.

E13. COORDINATION OF CONSTRUCTION WITH THE RAILWAY COMPANIES

E13.1 General Requirements

- (a) The Contractor shall be responsible to meet all Canadian Pacific Railway (CPR) constraints, requirements, and safety measures when working on railway right-of-way (Burrows Avenue).

E13.2 Railway Flagging Costs

- (a) If necessary, the railway company 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.
- (b) No measurement for payment will be made for performing all operations herein described and all other items incidental to the Work described.
- (c) The Contractor may contact Morgan Banal at CPR (204-771-0085) directly to arrange any protection.

E13.3 CPR Requirements

- (a) CPR Requirements are included in Appendix A. The Contractor is advised that the requirements are applicable to all of the Contractor's personnel and equipment crossing CPR tracks and property.

E14. GRAVITY SEWERS

DESCRIPTION

E14.1 This Specification shall amend and supplement Specification CW 2130-R10.

CONSTRUCTION METHODS

E14.2 Removal of Existing Pipes

E14.2.1 Removal of existing pipes shall consist of existing catchbasin or curb inlet leads which are to be removed in order to facilitate the installation of new catchbasins or catchpits.

MEASUREMENT AND PAYMENT

E14.3 Removal of Existing Pipes

E14.3.1 The removal of existing pipes by excavating, removing and disposing of existing pipe will be measured on a length basis and paid for at the Contract Unit Price for "Removal of Existing Pipes". The length to be paid for shall be the total number of linear metres of pipe removed in accordance with this Specification and measured horizontally at grade.

E14.4 Weir Overflow Manholes

E14.4.1 MH.2 (weir overflow manhole) on Pacific Avenue will be measured on a lump sum basis. Payment will be for performing all operations necessary to complete the Works as specified including any items incidental to the Works. The lump sum to be paid shall consist of the frames, covers, rungs, risers, reducers, adjusting rings, base, overflow pipe, weir walls/benching and connection to existing sewers.

E15. SITE SECURITY AND SAFETY AROUND AQUEDUCT

E15.1 Security

E15.1.1 The Contractor shall be responsible for site security and safety, as stated below:

- (a) Provide 24 hour site security personnel during all periods when the Aqueduct is exposed and the Contractor's staff members are not present on Site.
- (b) Report all Site trespassing or suspicious activity immediately to McPhillips Control Centre at 986-4781.
- (c) Refrain from providing statements with respect to water supply, site security or emergency situations to the media. All media inquiries in this regard shall be directed to the City of Winnipeg Customer Services.

E15.2 Safety

E15.2.1 The Contractor shall be responsible for all aspects of Site and public safety, in compliance with D24.

E15.2.2 The Contractor shall arrange for all required safety watches in the vicinity of buried and overhead utilities, and pay all required safety watch fees.

E15.3 Payment for security as described in this Specification shall be included in the price paid for underdrain manholes.

E16. CONDITION, PROTECTION OF AND ACCESS TO THE AQUEDUCT

E16.1 Condition of the Aqueduct

E16.1.1 The Branch I Aqueduct is constructed of circa 1919 pre-cast reinforced concrete pipe, and is jointed with copper waterstops. All work procedures conducted by the Contractor on and/or near the Aqueduct shall be well planned and executed to ensure that the Aqueduct is not subjected to construction related loads, including excessive vibrations and concentrated or asymmetrical lateral loads during backfill placement.

E16.2 Protection of the Aqueduct

E16.2.1 Contractors carrying out repair work on the Aqueduct or working in the vicinity of it shall ensure that:

- (a) Equipment shall only be permitted to cross the Aqueduct at designated locations.
- (b) Granular material, construction material, soil or other material shall not be stockpiled on the Aqueduct or within 5 metres of the Aqueduct centerline.
- (c) Construction practices shall not subject the Aqueduct to asymmetrical loading at any time.
- (d) Construction practices or procedures at or near the Aqueduct shall not impart excessive vibration loads on the Aqueduct and/or cause settlement of the subgrade below the Aqueduct.
- (e) Further to Specification CW 2030, only smooth edged excavation buckets, soft excavation or hand excavation shall be used for excavation adjacent to and over the Aqueduct.

E16.2.2 It is the Contractors' responsibility to ensure that all work crew members understand and observe the requirements of E16.1 and E16.2. Prior to commencement of on-site work, the Contractor's superintendent, foreman and heavy equipment operators shall attend an orientation meeting that will outline restrictions for working on and around the Aqueduct.

Failure to comply with these restrictions will be grounds for removing the offending personnel from the Site.

E16.3 Access to the Aqueduct

E16.3.1 The Contractor shall contact the Water and Waste Department Construction Services Coordinator, Andy Vincent, at 986-3823, a minimum of 7 days prior to working adjacent to the Aqueduct to arrange for inspection.

E17. ENVIRONMENTAL PROTECTION

E17.1 The Contractor shall be aware that the Branch 1 Aqueduct is for potable water supply and no contamination by fuel, chemicals, etc. shall be permitted at any time. Fuels or chemicals shall not be stored within 30 metres of the Aqueduct.

E17.2 The Contractor shall plan and implement the Work of this Contract strictly in accordance with the requirements of the environmental protection measures as herein specified.

E17.3 The Contractor is advised that at least the following Acts, Regulations, and By-laws apply to the Work:

E17.3.1 Federal

- (a) Canadian Environmental Protection Act (CEPA) c.16
- (b) Transportation of Dangerous Goods Act and Regulations c.34

E17.3.2 Provincial

- (a) The Dangerous Goods Handling and Transportation Act D12
- (b) The Environment Act c.E125
- (c) The Fire Prevention Act F80
- (d) The Manitoba Nuisance Act N120
- (e) The Public Health Act c.P210
- (f) The Workplace Safety and Health Act W120
- (g) And current applicable associated regulations.

E17.4 The Contractor is advised that the following environmental protection measures apply to the Work.

E17.4.1 Materials Handling and Storage

- (a) Construction materials shall not be stored within five (5) metres of the Aqueduct centerline.

E17.4.2 Fuel Handling and Storage

- (a) The Contractor shall abide by the requirements of Manitoba Environment for handling and storage of fuel products.
- (b) All fuel handling and storage facilities shall comply with The Dangerous Goods and Transportation Act Storage and Handling of Petroleum Products Regulation and any local land use permits.
- (c) Fuels, lubricants, and other potentially hazardous materials as defined in The Dangerous Goods and Transportation Act shall be stored and handled within the approved storage areas.

- (d) The Contractor shall ensure that all fuel storage containers are inspected daily for leaks and spillage.
- (e) Products transferred from the fuel storage area(s) to specific work sites shall not exceed the daily usage requirement.
- (f) When servicing requires the drainage or pumping of fuels, lubricating oils or other fluids from equipment, a groundsheet of suitable material (such as HDPE) and size shall be spread on the ground to catch the fluid in the event of a leak or spill.
- (g) Refuelling of mobile equipment and vehicles shall take place at least 100 metres from a watercourse.
- (h) The area around storage sites and fuel lines shall be distinctly marked and kept clear debris to allow for routine inspection and leak detection.
- (i) A sufficient supply of materials, such as absorbent material and plastic oil booms, to clean up minor spills shall be stored nearby on-site. The Contractor shall ensure that additional material can be made available on short notice.

E17.4.3 Waste Handling and Disposal

- (a) The construction area shall be kept clean and orderly at all times during and at completion of construction.
- (b) At no time during construction shall personal or construction waste be permitted to accumulate for more than one day at any location on the construction site, other than at a dedicated storage area as may be approved by the Contract Administrator.
- (c) Indiscriminate dumping, littering, or abandonment shall not take place.
- (d) No on-site burning of waste is permitted.
- (e) Equipment shall not be cleaned near watercourses; contaminated water from onshore cleaning operations shall not be permitted to enter watercourses.

E17.4.4 Dangerous Goods/Hazardous Waste Handling and Disposal

- (a) Dangerous goods/hazardous waste are identified by, and shall be handled according to, The Dangerous Goods Handling and Transportation Act and Regulations.
- (b) The Contractor shall be familiar with The Dangerous Goods Handling and Transportation Act and Regulations.

E17.4.5 Emergency Spill Response

- (a) The Contractor shall ensure that due care and caution is taken to prevent spills.
- (b) The Contractor shall report all major spills of petroleum products or other hazardous substances with the potential for impacting the environment and threat to human health and safety to the Contract Administrator and Manitoba Environment, immediately after occurrence of the environmental accident, by calling the 24-hour emergency telephone phone number (204) 945-4888.
- (c) The Contractor shall designate a qualified supervisor as the on-site emergency response coordinator for the project. The emergency response coordinator shall have the authority to redirect manpower in order to respond in the event of a spill.
- (d) The following actions shall be taken by the person in charge of the spilled material or the first person(s) arriving at the scene of a hazardous material accident or the on-site emergency response coordinator:
 - (i) Notify emergency-response coordinator of the accident:
 - i. identify exact location and time of accident
 - ii. indicate injuries, if any

- iii. request assistance as required by magnitude of accident (Manitoba Environment 24-hour Spill Response Line (204) 945-4888, Police, Fire Department, Ambulance, company backup)
- (ii) Assess situation and gather information on the status of the situation, noting:
 - iv. personnel on Site
 - v. cause and effect of spill
 - vi. estimated extent of damage
 - vii. amount and type of material involved
 - viii. proximity to waterways and the Aqueduct
- (iii) If safe to do so, try to stop the dispersion or flow of spill material:
 - ix. approach from upwind
 - x. stop or reduce leak if safe to do so
 - xi. dyke spill material with dry, inert sorbent material or dry clay soil or sand
 - xii. prevent spill material from entering waterways and utilities by dyking
 - xiii. prevent spill material from entering Aqueduct manholes and other openings by covering with rubber spill mats or dyking
- (iv) Resume any effective action to contain, clean up, or stop the flow of the spilled product.
- (e) The emergency response coordinator shall ensure that all environmental accidents involving contaminants shall be documented and reported to the Manitoba Environment according to The Dangerous Goods Handling and Transportation Act Environmental Accident Report Regulation 439/87.

E17.4.6 Controlled Products

- (a) Materials classified as "Controlled Products" under Regulation 52/88, "Workplace Hazardous Materials Information System", including amendments, are prohibited inside the Aqueduct, unless the material will be directly employed in the Work.

E18. EXCAVATION, BEDDING AND BACKFILL (UNDERDRAIN WORK)

E18.1 Description

- (a) This specification is applicable to all excavation, bedding and backfill and shall amend and supplement Specification CW 2030.

E18.2 Materials

E18.2.1 Drain Rock

- (a) Drain rock shall be uniformly graded, washed rounded aggregate with a maximum particle size of 40mm and a minimum particle size of 12mm.

E18.3 Design

E18.3.1 Shoring

- (a) Excavation shoring shall be designed by a Professional Engineer, registered in the Province of Manitoba. Shoring components, bracing and walers shall conform to the latest revision of the "Construction Safety Act" of the Department of Labour of the Government of Manitoba. Shoring shall not impose point loading on the Aqueduct pipe, and shall prevent lateral movement of the Aqueduct pipe. Shoring shall also be designed to prevent sloughing and caving, and to accommodate installation of all pipe and fittings.

- (b) Shop drawings for shoring systems are to be submitted for review in accordance to Clause 1.5 of Specification CW 1110.
- (c) Drilled caissons will not be permitted.

E18.4 Construction Methods

E18.4.1 Excavation

- (a) The Contractor shall note that natural gas pipelines conflict with the proposed works at all locations. Requirements for working in proximity to these pipelines are listed in Clause E18.4.4 of this Specification.
- (b) Excavation for the installation of underdrain manholes and underdrain point repairs adjacent to the aqueduct shall be conducted with smooth-edged buckets.
- (c) Excavation within 0.3 metres of the Aqueduct in any direction shall be completed by hand and/or soft excavation methods to preclude the possibility of causing damage to the aqueduct. Damage to the aqueduct and its accessory components caused by the Contractor's operation shall be rectified at the Contractor's expense.
- (d) Excavation within 0.3 metres of all other pipes and utilities shall be completed by hand and/or soft excavation methods. Damage to utilities caused by the Contractor's operation shall be rectified at the Contractor's expense.
- (e) All pipes to be removed from within the excavations shall be demolished and removed from the excavation. Where necessary to prevent damage to surrounding utilities, structures, or where neat pipe cuts are required, pipes to be removed shall be saw cut for the entire circumference prior to demolition and removal. Where pipe plugs are to be installed, the ends of the pipe adjacent to the pipe being removed shall be left exposed in an adequate condition for the installation of the plugs and/or fill.
- (f) The Contractor shall confirm with the appropriate utility operator that all pipes to be removed are abandoned prior to commencing removal procedures.
- (g) Excavations shall be kept dewatered at all times.

E18.4.2 Bedding and Backfill

- (a) Except as noted below and in Clause E18.4.4 of this Specification, bedding and initial backfill for underdrain manhole installations shall be Class B Type 2, with the remainder of the excavation backfilled to Class 3 standard, in accordance with Specification CW 2030.
- (b) Bedding and initial backfill for all exposed gas pipelines shall be sand to 150mm above the pipe.
- (c) No compaction equipment will be permitted to operate directly above any gas pipeline until a minimum of 600mm backfill material has been placed above the pipe.

E18.4.3 Disposal of Unsuitable or Surplus Excavated Material

- (a) If the Contractor has not arranged for an approved disposal site, the City shall provide an optional disposal site for all surplus clean clay from the construction site. The material is not to include any refuse, concrete, metals, wood, organics, construction waste or any other deleterious materials. Any surplus soil material not meeting these requirements shall not be considered clean clay and shall not be permitted.
- (b) The disposal location provided by the City will be at the Summit Road Landfill Site. The Contract Administrator will make arrangements with Colin Potter (986-4463) at the landfill site for the disposal of the surplus soil material.
- (c) There will be no tipping fees charged at the landfill sites to the Contractor for the disposal of surplus soil material meeting the requirements of clean clay as specified.

- (d) Surplus material not meeting the requirements of clean clay may be disposed of at the Brady Road Landfill Site although tipping fees will be charged.

E18.4.4 Work Around Natural Gas Pipelines

- (a) Two natural gas pipelines conflict with the proposed underdrain works. One, a 300mm-diameter high-pressure transmission main, will be shut-down during the underdrain project while the other, a 50mm-diameter medium-pressure distribution main, will be relocated by Manitoba Hydro.
- (b) Manitoba Hydro will excavate, relocate and backfill the 50mm-diameter medium-pressure distribution main as required at all proposed underdrain manhole locations. The Contract Administrator will provide sufficient notice to Manitoba Hydro so that gas main relocations can commence a minimum of two weeks prior to commencement of underdrain manhole installation.
- (c) The Contractor will be required to excavate, support, protect and backfill the 300mm high pressure gas main at all proposed manhole locations.
- (d) The Contractor will be required to excavate, support, protect and backfill any gas pipelines at excavations for underdrain point repairs, the existence, number and location of which will be determined by internal underdrain video inspection.
- (e) All excavation and backfilling work in proximity to live natural gas pipelines must be attended by Manitoba Hydro Emergency Standby Personnel. Standby Personnel are not required to be in attendance when working in proximity to the 300mm gas pipeline when it is not in service. The Contractor shall contact Jim Rhea of Manitoba Hydro (telephone 204-480-5509) a minimum of two weeks in advance of construction to arrange for Standby Personnel to be in attendance.
- (f) All in-service natural gas pipelines that are exposed for these underdrain works shall be covered and barricaded, for safety purposes, when the Contractor's staff members are not present on site.
- (g) Upon completion of each manhole installation or underdrain point repair, the Contractor will backfill the excavation to such level as directed by Manitoba Hydro to facilitate installation of rockwrap on the gas pipelines by Emergency Standby Personnel. Following installation of rockwrap, backfilling procedures will be permitted to continue.

E18.5 Measurement and Payment

E18.5.1 Excavation Bedding and Backfill

- (a) There shall be no measurement or payment made for Excavation, Bedding and Backfill or removal and abandonment of pipes. These will be considered incidental to the installation of underdrain manholes and underdrain point repairs.

E18.5.2 Disposal of Unsuitable or Surplus Excavated Material

- (a) No measurement or payment shall be made for disposal of surplus or unsuitable soil material at any disposal site. It will be considered incidental to the installation of underdrain manholes and underdrain point repairs.

E18.5.3 Work Around Natural Gas Pipelines

- (a) Relocations of the 50mm-diameter natural gas distribution pipeline will be constructed by Manitoba Hydro. All time and costs incurred by the Contractor as part of gas line relocations will be considered incidental to the installation of underdrain manholes.
- (b) Manitoba Hydro invoices for provision of Emergency Standby Personnel shall be forwarded to the Contract Administrator, for payment directly to Manitoba Hydro.

- (c) All work associated with excavation, support, protection and backfilling of gas pipelines will not be measured. It will be considered incidental to the installation of underdrain manholes and underdrain point repairs.

E19. UNDERDRAIN MANHOLES

E19.1 Description

- (a) This Specification shall cover the installation of access manholes on the Branch 1 Aqueduct Underdrain and shall amend and supplement Specification CW 2130.

E19.2 Materials

E19.2.1 Manhole Frames and Covers

- (a) All manhole covers shall be solid cast iron covers as per Standard Detail SD-005.

E19.2.2 Manhole Lid Plugs and Gaskets

- (a) Manhole lid plugs to be Style 1 as manufactured by Cretex Specialty Products, or approved equal. Manhole lid gaskets to be flat gaskets as manufactured by Cretex Specialty Products or approved equal.

E19.2.3 Long Radius PVC Bends

- (a) 200mm-diameter long radius bends for connecting manholes to the existing underdrain shall be PVC SDR-35 pipe, and have a minimum centerline radius of 900mm.

E19.2.4 Replacement Underdrain Pipe

- (a) 150mm-diameter underdrain replacement pipe shall be PVC SDR-35 pipe.

E19.2.5 Eccentric Reducers

- (a) 200mm-diameter by 150mm-diameter eccentric reducers for connecting long sweep bends to the existing underdrain shall be PVC SDR-35 pipe.

E19.3 Construction Methods

E19.3.1 Manholes

- (a) Excavate and shore excavation;
- (b) Install conventional manhole base by breaking-out lower wall to suit connection to underdrain using long radius bends, and setting manhole at the location shown on plans. Lateral adjustment to manhole base may be required depending on offset of underdrain pipe from aqueduct, and location of underdrain pipe joints;
- (c) Pour manhole floor and/or benching, and grout connection collars into manhole wall. Pre-benched manhole bases cast with pipe connection boots may also be used;
- (d) Remove sufficient clay underdrain pipe and connect new manhole to underdrain using long radius bends, eccentric reducers, and transition couplings, adapters or bushings.

E19.4 Measurement and Payment

E19.4.1 Manholes

- (a) Manholes, including frames, covers, rungs, risers, base, benching and other accessories and appurtenances, will be measured for payment on a unit basis for each type installed, and paid for at the Contract Unit Price for "Supply and Installation of Manholes". The units to be paid for will be the total number of manholes supplied

and installed in accordance with this specification, accepted and measured by the Contract Administrator.

- (b) Payment for Manholes shall include excavation, shoring, connection of the manhole to the existing underdrain pipe, backfill, and all other material and labour required to complete the installation in accordance with this specification.

E20. UNDERDRAIN CLEANING

E20.1 Description

- (a) This Specification shall cover the internal cleaning of the Branch 1 Aqueduct underdrain and shall amend and supplement Specification CW 2140.

E20.2 Scope of Work

- (a) Underdrain Cleaning shall be completed on the Branch 1 Aqueduct underdrain within the limits identified in Clause D2.1 of this Specification.

E20.3 Definitions

E20.3.1 Manhole Naming Convention

- (a) Existing and proposed underdrain manholes are identified by the Aqueduct section in which they are located, as well as their distance upstream (based on the flow of the aqueduct, not the flow of the underdrain) from the first downstream aqueduct pressure manhole. For example, underdrain manhole UMH101-0072 is located 72 metres upstream from Aqueduct pressure manhole PMH-101.

E20.4 Construction Methods

E20.4.1 Underdrain Access

- (a) Access to the underdrain will be through the manholes proposed in this contract, as well as existing underdrain manhole UMH104-0287, located 17.9 metres west of the west property line of Sherbrook Street. This manhole was installed in 2000.
- (b) Due to proximity of the 300mm-diameter high pressure gas pipeline within these construction limits, the spacing of proposed underdrain manholes has been increased beyond that typically encountered along the underdrain:
 - (i) Existing UMH104-0287 to proposed UMH105-0104 = 275 metres;
 - (ii) Proposed UMH105-0104 to proposed UMH105-0284 = 180 metres;
 - (iii) Proposed UMH105-0284 to proposed UMH106-0064 = 256 metres;
 - (iv) Proposed UMH106-0064 to proposed UMH106-0346 = 281 metres;
 - (v) Proposed UMH106-0346 to proposed UMH107-0046 = 258 metres;
 - (vi) Proposed UMH107-0046 to approximate eastern limit of underdrain along the north side of the aqueduct = 30 metres, with access from one side only.

E20.4.2 Debris Removal

- (a) Decanted or dewatered liquid shall be disposed of in the nearest wastewater sewer or combined sewer, as designated by the Contract Administrator

E20.4.3 Removal of Equipment That Becomes Stuck in the Underdrain

- (a) Further to Clause 3.8 of Specification CW 2140, the Contract Administrator will arrange for the Contractor to perform this work.

E20.5 Measurement and Payment

E20.5.1 Underdrain Cleaning

- (a) Underdrain cleaning will be measured on a length basis, and paid for at the Contract Unit Price for "Underdrain Cleaning". Length to be paid for will be the length as measured on the surface parallel to the aqueduct, from center of manhole to center of manhole (see E21.3.2).

E20.5.2 Debris Removal

- (a) Debris Removal shall not be measured. It will be considered incidental to underdrain cleaning.

E20.5.3 Removal of Equipment That Becomes Stuck in the Underdrain

- (a) Removal of Equipment That Becomes Stuck in the Underdrain will be measured on a unit basis, and will be paid for at the Contract Unit Price for "Underdrain Point Repairs".
- (b) No payment or extra time will be given for equipment downtime and attempted equipment retrieval.

E21. UNDERDRAIN INSPECTION

E21.1 Description

- (a) This Specification shall cover the internal video inspection of the Branch 1 Aqueduct underdrain and shall amend and supplement Specification CW 2145.

E21.2 Scope of Work

- (a) Underdrain Inspection shall be completed on the Branch 1 Aqueduct underdrain within the limits identified in Clause D2.1 of this Specification.
- (b) Manhole inspections are not required.
- (c) WRc condition coding is not required.

E21.3 Construction Methods

E21.3.1 Video Camera Transport Equipment

- (a) Camera transport and cable shall be capable of inspecting a minimum of 300 metres of sewer from a single access point and the complete inspection of the underdrain from the center of the start manhole to the center of the finish manhole.

E21.3.2 Underdrain and Manhole Measurements

- (a) Underdrain and Manhole measurements shall be as specified in Clause 3.16 of Specification CW 2145, except as modified below:
 - (i) The measurement for center of the manhole shall be taken as the location on the original underdrain alignment that lies on a line projecting perpendicular to the aqueduct, through the manhole cover.
 - (ii) The in-line camera distance recorded for the connection to existing underdrain pipe shall be corrected to match the distance measured at the ground surface, parallel to the aqueduct, from the center of manhole, as detailed on the drawings.

E21.4 Measurement and Payment

E21.4.1 Underdrain Inspection

- (a) Underdrain Inspection will be measured on a length basis, and paid for at the Contract Unit Price for "Underdrain Inspection". Length to be paid for will be the length as measured on the surface along the aqueduct, from center of manhole to center of manhole, as defined in Clause E21.3.2 of this Specification.

E22. UNDERDRAIN POINT REPAIRS

E22.1 Description

- (a) This Specification shall cover the repair of the Branch 1 Aqueduct underdrain and shall amend and supplement Specifications CW 2130, CW 2140 and CW 2145.

E22.2 Scope of Work

- (a) During underdrain cleaning procedures, if the pipe condition precludes cleaning of the entire underdrain section, or poses an immediate operational or safety concern (e.g. complete collapse), the Contract Administrator will review authorization of an Underdrain Point Repair by the Contractor.
- (b) The Contract Administrator will prioritize the repair sequence should two or more repairs be identified at the same time.
- (c) The Contractor will be required to perform the following tasks to repair the underdrain:
 - (i) Secure the repair site and provide temporary traffic control;
 - (ii) Obtain all utility clearances, and arrange for any required utility support or relocation and safety watches;
 - (iii) Arrange with the City of Winnipeg, Parks and Recreation Department, Forestry Branch for any required tree pruning and removals;
 - (iv) Cut, break and remove existing pavement as required;
 - (v) Excavate and repair the designated length of sewer;
 - (vi) Backfill as specified and complete surface restorations.
- (d) Between the time of notification and until said repairs are complete, the Contractor shall perform cleaning and inspection works in areas not affected by the repairs. Once the blockage or repairs are complete, the Contractor shall complete the cleaning program.

E22.3 Materials

E22.3.1 Underdrain Pipe

- (a) Pipe shall be 150mm-diameter SDR-35 PVC Drainage Pipe, perforated and complete with filter sock, as approved for use in the City of Winnipeg.

E22.3.2 Pipe Couplings

- (a) Sizes to suit connection of new 150mm-diameter SDR-35 PVC Drainage Pipe to existing clay underdrain pipe.

E22.4 Construction Methods

E22.4.1 Excavation, Bedding and Backfill

- (a) Excavation, Bedding and Backfill shall be as noted on drawings and in Section E18 of this Specification.

E22.5 Measurement and Payment

E22.5.1 Underdrain Point Repairs

- (a) Underdrain Point Repairs will be measured for payment on a unit basis and paid for at the Contract Unit Price for "Underdrain Point Repairs". The units to be paid for will be the total number of repairs completed in accordance with this specification, accepted and measured by the Contract Administrator.
- (b) Payment for Underdrain Point Repairs shall include excavation, shoring, connection of new piping to the existing underdrain pipe, backfill, and all other material and labour required to complete the installation in accordance with this specification.

E23. ASPHALTIC CONCRETE PAVEMENT RESTORATION (UNDERDRAIN WORKS)

E23.1 Description

- (a) This Specification shall cover removal and restoration of asphaltic concrete pavement works, and shall amend and supplement Specification CW 3410.

E23.2 Materials

- (a) Type 1A surface course asphalt shall be used.

E23.3 Methods

- (a) Pavement restoration shall follow immediately behind completion of underdrain manhole installations and underdrain point repairs.

E23.4 Measurement and Payment

E23.4.1 Asphaltic Concrete Pavement Removal

- (a) Removal of asphaltic concrete pavement will be measured on an area basis. The area to be paid shall be the total number of square metres of existing pavement that was removed and disposed of as computed from measurements made by the Contract Administrator. Payment shall be made at the Contract Unit Price for "Asphaltic Concrete Pavement Removal". No payment will be made for removal of asphaltic concrete pavement overlay, which shall be considered incidental to the price paid for removal of reinforced concrete pavement.

E23.4.2 Asphaltic Concrete Pavement Replacement

- (a) Replacement of asphaltic concrete pavement will be measured on a weight basis. The weight to be paid shall be the total number of tonnes supplied, acceptably placed and compacted, as measured on a certified weigh scale with provision that the total tonnes paid for shall not exceed by more than five percent (5%) the number of tonnes computed by the Contract Administrator based on horizontal dimensions of the repair limits and in-place density of the pavement. Payment shall be made at the Contract Unit Price for "Asphaltic Concrete Pavement Replacement" and shall be compensation in full for all pavement restoration operations including base preparation and granular base course where applicable.

E24. PORTLAND CEMENT CONCRETE PAVEMENT RESTORATION (UNDERDRAIN WORKS)

E24.1 Description

- (a) This Specification shall cover removal and restoration of portland cement concrete pavement works, and shall amend and supplement Specifications CW 3230, CW 3235, CW 3240 and CW3310.

E24.2 Methods

- (a) Concrete pavement restoration shall follow immediately behind completion of underdrain manhole installations and underdrain point repairs

E24.3 Measurement and Payment

E24.3.1 Pavement and Sidewalk Slab Removal

- (a) Removal of pavement and sidewalk slabs will be measured for payment on an area basis, and paid for at the Contract Unit Price for each pavement and sidewalk slab thickness specified. The area to be paid shall be the total number of square metres of each type of pavement and sidewalk slab thickness that was removed and disposed of, as computed from measurements made by the Contract Administrator.
- (b) Removal of concrete curbs will be measured for payment on a length basis, and paid for at the Contract Unit Price for Concrete Curb Removal. The length to be paid shall be the total number of linear metres of concrete curb removed and disposed of, as computed from measurements made by the Contract Administrator.
- (c) No measurement or payment will be made for removal of asphaltic concrete pavement overlay, which shall be considered incidental to the price paid for "Reinforced Concrete Pavement Removal".

E24.3.2 Pavement and Sidewalk Slab Replacement

- (a) Replacement of pavement and sidewalk slabs will be measured for payment on an area basis, and paid for at the Contract Unit Price for each pavement and sidewalk slab thickness specified. The area to be paid shall be the total number of square metres of each type of pavement and sidewalk slab thickness that was replaced, as computed from measurements made by the Contract Administrator.
- (b) Replacement of concrete curbs will be measured for payment on a length basis and paid for at the Contract Unit Price for each type of curb specified. The length to be paid shall be the total number of linear metres of each type of curb that was replaced, as computed from measurements made by the Contract Administrator.
- (c) Payment for Pavement, Curb and Sidewalk Slab Replacement shall include dowels, tie bars, reinforcing bars, bond agents, bond breakers, joint cutting and sealing, and all other material and labour required to complete the installation in accordance with the Specifications.

E25. DAMAGE TO EXISTING STRUCTURES AND PROPERTY

E25.1 Further to Clause 3.13 "Damage to Existing structures and Property" of CW 1130-R1, take care to avoid damage to existing adjacent structures and properties during the course of the work.

E25.2 No measurement or payment will be made for the work associated with this Specification.