



THE CITY OF WINNIPEG

BID OPPORTUNITY

BID OPPORTUNITY NO. 731-2006

DRAINAGE IMPROVEMENTS AND YARD UPGRADES AT 1539 WAVERLEY

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PART B - BIDDING PROCEDURES

B1. PROJECT TITLE

B1.1 DRAINAGE IMPROVEMENTS AND YARD UPGRADES AT 1539 WAVERLEY

B2. SUBMISSION DEADLINE

B2.1 The Submission Deadline is 12:00 noon Winnipeg time, December 13, 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. SITE INVESTIGATION

B3.1 Further to GC:3.1, the Bidder may view the Site without making an appointment.

B3.2 The Bidder is advised that final design grades will be provided prior to construction.

B4. ENQUIRIES

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

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

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

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

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

B5. ADDENDA

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

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

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

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

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

B6. SUBSTITUTES

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

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

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

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

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

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

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

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

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

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

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

B7. BID SUBMISSION

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

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

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

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

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

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

B7.5 Bid Submissions shall be submitted to:

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

B8. BID

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

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

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

B8.2.1 If a Bid is submitted jointly by two or more persons, each and all such persons shall identify themselves in accordance with B8.2.

B8.3 In Paragraph 3 of Form A: Bid, the Bidder shall identify a contact person who is authorized to represent the Bidder for purposes of the Bid.

- B8.4 Paragraph 12 of Form A: Bid shall be signed in accordance with the following requirements:
- (a) if the Bidder is a sole proprietor carrying on business in his own name, it shall be signed by the Bidder;
 - (b) if the Bidder is a partnership, it shall be signed by the partner or partners who have authority to sign for the partnership;
 - (c) if the Bidder is a corporation, it shall be signed by its duly authorized officer or officers and the corporate seal, if the corporation has one, should be affixed;
 - (d) if the Bidder is carrying on business under a name other than his own, it shall be signed by the registered owner of the business name, or by the registered owner's authorized officials if the owner is a partnership or a corporation.
- B8.4.1 The name and official capacity of all individuals signing Form A: Bid shall be printed below such signatures.
- B8.4.2 All signatures shall be original and shall be witnessed except where a corporate seal has been affixed.
- B8.5 If a Bid is submitted jointly by two or more persons, the word "Bidder" shall mean each and all such persons, and the undertakings, covenants and obligations of such joint Bidders in the Bid Submission and the Contract, when awarded, shall be both joint and several.

B9. PRICES

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

B10. QUALIFICATION

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

performing the Work required to be done in accordance with the terms of the Contract;

- (g) have a written workplace safety and health program in accordance with The Workplace Safety and Health Act (Manitoba);

B10.2 Further to B10.1(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>.)

B10.3 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.

B10.4 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.

B11. BID SECURITY

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

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

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

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

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

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

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

B12. OPENING OF BIDS AND RELEASE OF INFORMATION

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

B12.1.1 Bidders or their representatives may attend.

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

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

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

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

B13. IRREVOCABLE BID

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

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

B14. WITHDRAWAL OF BIDS

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

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

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

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

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

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

B15. EVALUATION OF BIDS

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

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

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

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

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

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

B16. AWARD OF CONTRACT

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

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

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

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

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

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

B16.4 The City reserves the right to increase or reduce any quantities in the Unit Price Contract by 30% if necessary once detailed design grades have been determined.

PART C - GENERAL CONDITIONS

C1. GENERAL CONDITIONS

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

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

PART D - SUPPLEMENTAL CONDITIONS

GENERAL

D1. GENERAL CONDITIONS

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

D2. SCOPE OF WORK

- D2.1 The Work to be done under the Contract shall consist of drainage improvements in the southwest area of the existing 1539 Waverley Street Public Works Yard and yard upgrading, including new granular and asphalt surfacing and chain link fencing.
- D2.2 The major components of the Work are as follows:
- (a) Removal of existing chain link fencing in areas where it is redundant
 - (b) Excavation and grading
 - (c) Supply and installation of catchbasins and lead
 - (d) Supply and installation of 150mm granular sub-base
 - (e) Supply and installation of 50mm down granular base course
 - (f) Supply and installation of 20mm down granular surfacing
 - (g) Supply and installation of 100mm depth asphalt surfacing
 - (h) Supply and installation of chain link fencing and vehicle gates

D3. CONTRACT ADMINISTRATOR

- D3.1 The Contract Administrator is UMA Engineering Ltd., represented by:
- Don Hester, FCSLA, MCIP
Senior Planner & Landscape Architect
1479 Buffalo Place, Winnipeg, MB R3T 1L7
Telephone No. (204) 284-0580
Facsimile No. (204) 475-3646
- D3.2 At the pre-construction meeting, Don Hester will identify additional personnel representing the Contract Administrator and their respective roles and responsibilities for the Work.

D4. CONTRACTOR'S SUPERVISOR

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

D5. NOTICES

D5.1 Except as provided for in GC:23.2.2, all notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications to the Contractor shall be sent to the address or facsimile number identified by the Contractor in Paragraph 2 of Form A: Bid.

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

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

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

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

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

D6. FURNISHING OF DOCUMENTS

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

SUBMISSIONS

D7. SAFE WORK PLAN

D7.1 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.

D7.2 The Safe Work Plan should be prepared and submitted in the format shown in the City's template which is available on the Information Connection page at The City of Winnipeg,

Corporate Finance, Materials Management Branch internet site at
<http://www.winnipeg.ca/matmgt>.

D8. INSURANCE

- D8.1 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 and UMA Engineering Ltd. being added as an additional insured, with a cross-liability clause, such liability policy to also contain a contractual liability, an unlicensed motor vehicle liability and a products and completed operations endorsement to remain in place at all times during the performance of the Work and throughout the warranty period;
 - (b) automobile liability insurance for owned and non-owned automobiles used for or in connection with the Work in the amount of at least two million dollars (\$2,000,000.00) at all times during the performance of the Work and until the date of Total Performance;
- D8.2 Deductibles shall be borne by the Contractor.
- D8.3 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 GC:4.1 for the return of the executed Contract.
- D8.4 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.

D9. PERFORMANCE SECURITY

- D9.1 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.
- D9.1.1 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.
- D9.2 If the bid security provided in his Bid Submission was not a certified cheque or draft pursuant to B11.1(c), the Contractor shall provide the City Solicitor with the required performance security within seven (7) Calendar Days of notification of the award of the Contract by way of letter of intent and prior to the commencement of any Work on the Site but in no event later than the date specified in GC:4.1 for the return of the executed Contract.

SCHEDULE OF WORK

D10. COMMENCEMENT

- D10.1 The Contractor shall not commence any Work until he is in receipt of a letter of intent from the Award Authority authorizing the commencement of the Work.
- D10.2 The Contractor shall not commence any Work on the Site until:
- (a) the Contract Administrator has confirmed receipt and approval of:
 - (i) evidence that the Contractor is in good standing under The Corporations Act (Manitoba), or properly registered under The Business Names Registration Act (Manitoba), or otherwise properly registered, licensed or permitted by law to carry on business in Manitoba;
 - (ii) evidence of the workers compensation coverage specified in GC:6.14;
 - (iii) the Safe Work Plan specified in D7;
 - (iv) evidence of the insurance specified in D8;
 - (v) the performance security specified in D9;
 - (b) the Contractor has attended a pre-construction meeting with the Contract Administrator, or the Contract Administrator has waived the requirement for a pre-construction meeting.
- D10.3 The Contractor shall commence the Work on the Site on or before May 15, 2007.

D11. SUBSTANTIAL PERFORMANCE

- D11.1 The Contractor shall achieve Substantial Performance by July 18, 2007.
- D11.2 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.
- D11.3 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.

D12. TOTAL PERFORMANCE

- D12.1 The Contractor shall achieve Total Performance by August 3, 2007.
- D12.2 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.
- D12.3 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.

D13. LIQUIDATED DAMAGES

- D13.1 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) Substantial Performance – three hundred dollars (\$300.00);
- (b) Total Performance – three hundred dollars (\$300.00);

D13.2 The amounts specified for liquidated damages in D13.1 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.

D13.3 The City may reduce any payment to the Contractor by the amount of any liquidated damages assessed.

CONTROL OF WORK

D14. JOB MEETINGS

D14.1 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.

D14.2 The Contract Administrator reserves the right to cancel any job meeting or call additional job meetings whenever he deems it necessary.

D15. PRIME CONTRACTOR – THE WORKPLACE SAFETY AND HEALTH ACT (MANITOBA)

D15.1 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

D16. WARRANTY

D16.1 Notwithstanding GC:13.2, 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.

D16.1.1 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 D9)

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. 731-2006

DRAINAGE IMPROVEMENTS AND YARD UPGRADES AT 1539 WAVERLEY

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

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

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

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

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

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

_____ day of _____, 20____ .

SIGNED AND SEALED
in the presence of:

(Witness)

(Name of Principal)

Per: _____ (Seal)

Per: _____

(Name of Surety)

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

**FORM H2: IRREVOCABLE STANDBY LETTER OF CREDIT
(PERFORMANCE SECURITY)
(See D9)**

(Date)

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

RE: PERFORMANCE SECURITY - BID OPPORTUNITY NO. 731-2006

DRAINAGE IMPROVEMENTS AND YARD UPGRADES AT 1539 WAVERLEY

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

(Name of Contractor)

(Address of Contractor)

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

_____ Canadian dollars.

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

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

Partial drawings are permitted.

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

(Address)

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

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

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

(Date)

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

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

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

(Name of bank or financial institution)

Per: _____
(Authorized Signing Officer)

Per: _____
(Authorized Signing Officer)

PART E - SPECIFICATIONS

GENERAL

E1. APPLICABLE SPECIFICATIONS, 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 Drawing is applicable to the Work:

<u>Drawing No.</u>	<u>Drawing Name/Title</u>
001	Schematic Site Plan

GENERAL REQUIREMENTS

E2. WATER USED BY CONTRACTOR

- E2.1 Further to Clause 3.7 of CW 1120, 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.

E3. SURFACE RESTORATIONS

- E3.1 Further to clause 3.3 of CW 1130, when Total Performance is not achieved in the year the Contract is commenced, the Contractor shall temporarily repair any Work commenced and not completed to the satisfaction of the Contract Administrator. The Contractor shall maintain the temporary repairs in a safe condition as determined by the Contract Administrator until permanent repairs are completed. The Contractor shall bear all costs associated with temporary repairs and their maintenance.

E4. AFTER HOURS WORK

- E4.1 Further to Section 3.10 of CW 1130 of the General Requirements, the Contractor shall obtain written permission from the Contract Administrator for any Work to be performed after regular hours of work. Regardless of the Contract Administrator's approval, any such Work done by the Contractor between these hours shall conform to all applicable Laws, By-Laws and Ordinances.

E5. EXISTING SERVICES AND UTILITIES

- E5.1 Further to Section 3.3 of CW 1120 of the General Requirements, information supplied by the City will be to the best of their knowledge from record information. It is hereby expressly understood that the information provided with respect to the type of, or location of services shall be accepted by the Contractor at his own risk, and the City shall assume no responsibility for the accuracy or completeness of the information contained therein.

- E5.2 Existing municipal infrastructure piping depths, are unknown at some locations, and have been estimated for design purposes. When requested by the Contract Administrator, the Contractor shall expose existing piping at the proposed tie-in locations and any other locations as directed, at the commencement of construction to allow for design grade elevations to be modified.
- E5.3 When working in close proximity to shallow-bury utilities, Contractor shall contact the utility and obtain confirmation if site supervision from the utility is required. Requirements for utility supervision, utility coordination and locates, exposing of utility by means of hand or hydro-vac excavation, and similar requirements shall be the responsibility of the Contractor.
- E5.4 All costs associated with this work item shall be incidental and shall be included in the unit price bid for installation of gravity sewer piping.

E6. RELOCATION OF EXISTING SERVICES

- E6.1 Further to Section 3.4 of CW 1120 of the General Requirements, the City will be responsible for the costs of relocating existing services.

E7. SAFETY PRECAUTIONS

- E7.1 Further to Section 3.1 of CW 1130 of the General Requirements, the Contractor shall ensure that any excavation left open or exposed overnight, over a weekend or for any length of time unattended shall have full and adequate safety precautions provided. These precautions shall include but not be limited to covering the excavation with timber planks or steel plates and erecting a barricade completely around the excavation complete with signing in accordance with the City of Winnipeg Manual of Temporary Traffic Control.

E8. ENCROACHMENT ON PRIVATE PROPERTY

- E8.1 Further to Section 3.11 of CW 1130 of the General Requirements, the Contractor shall confine his work to the 1539 Waverley Street Public Works Yard at all times, except if he has received written permission from an adjacent property owner. The Contractor shall provide the Contract Administrator with a copy of any written permission he has received to enter onto private property.
- E8.2 The Contractor's construction activities shall be confined to the minimum area necessary for undertaking the Work and he shall be responsible for all damage to adjacent private property resulting from his work. Particular care shall be taken to assure no damage is done to adjacent buildings, landscaping and fencing and provision shall be made to maintain full drainage on adjacent properties during construction.
- E8.3 All repairs to damaged private property shall be to the satisfaction of the property owner and the Contract Administrator with all costs borne by the Contractor.

E9. DAMAGE TO EXISTING STRUCTURES AND PROPERTY

- E9.1 Further to Section 3.13 of CW 1130 of the General Requirements, special care shall be taken to avoid damage to adjacent structures during the course of the Work.
- E9.2 Any damage caused by the Contractor or his Subcontractors to the adjacent structures including buildings and fencing shall be promptly repaired by the Contractor at his own expense to the satisfaction of the Contract Administrator.

E10. GENERAL CONDITIONS

E10.1 Description

- (a) This Specification shall provide for all Contractor General Conditions, including obtaining and paying for bonding, insurance, permits, site personnel, site telephone and communications, and other Contractor facilities such as rental of a portable toilet.

E10.2 Requirements

- (a) Obtain all required permits other than the City of Winnipeg Development Permit (as required).
- (b) Provide a portable toilet on-site throughout the construction period.
- (c) Site office will be as required by the Contractor.

E10.3 Method of Measurement

- (a) Contractor general conditions will be measured on a lump sum basis.

E10.4 Basis of Payment

- (a) Contractor general conditions will be paid for at the Lump Sum Contract Price for "Contractor General Conditions", including all fees, rentals, salaries and costs that are general requirements of the Work and are not included in the Unit Prices.

E11. GRADING, SUB-GRADE, SUB-BASE AND BASE COURSE CONSTRUCTION

E11.1 Description

- (a) This Specification shall amend and supplement City of Winnipeg Standard Construction Specifications CW 3110 "Sub-grade, Sub-base and Base Course Construction", and CW 3170 "Earthwork and Grading" and shall cover all aspects of excavation and removal of existing unsuitable site materials; supply and installation of suitable fill material, and supply and installation of granular materials in the improved Public Works Yard areas, including preparation of sub-grade and compaction, and re-grading.

E11.2 Materials

- (a) Use clean clay or granular material (Suitable Sub-base Material) in areas requiring non-aggregate backfill, including areas designated "Tree Storage", as approved by the Contract Administrator.
- (b) Crushed granular sub-base material conforming to CW 3110 shall be used to construct the sub-base in upgraded Yard areas shown as "Granular Surfacing" and "Asphalt Surfacing" on the Schematic Site Plan.
 - (i) Use well-graded 150 limestone, 300 mm depth
- (c) Crushed granular sub-base course material conforming to CW 3110 shall be used to construct the base in upgraded Yard areas shown as "Granular Surfacing" and "Asphalt Surfacing" on the Schematic Site Plan.
 - (i) Use 50mm down crushed limestone, 150 mm depth
- (d) Crushed granular base course material conforming to CW 3110 shall be used to construct the surfacing and asphalt base course in upgraded Yard areas shown as "Granular Surfacing" and "Asphalt Surfacing" on the Schematic Plan.
 - (i) Use 20mm down crushed limestone, 100mm depth

E11.3 Construction Methods

E11.3.1 Removal of Existing Chain Link Fencing

- (a) Remove existing chain link fencing in areas indicated on the Schematic Site Plan, including posts, rails, chain link material and concrete bases and recycle or legally dispose off-site.

E11.3.2 Excavations

- (a) As per CW 3110 "Sub-grade, Sub-base and Base Course Construction".
- (b) Existing sand within the Limits of Construction shall be removed and stockpiled in a location designated by the Contract Administrator.
- (c) Remove all rubble, stones, silts, rubbish and any surplus excavated material off-site and legally dispose off-site.
- (d) Support excavations over 1 metre in depth as required in order to prevent slumping in surrounding areas.

E11.3.3 Preparation of Sub-grade

- (a) As per CW 3110 "Sub-grade, Sub-base and Base Course Construction".
- (b) Use clean clay or granular fill (Suitable Sub-base Material) compacted to 98% SPD where necessary to obtain required sub-grade elevations, particularly in areas shown as "Tree Storage".

E11.3.4 Sand-Clay Surfacing in Tree Storage Area

- (a) Spread 50mm of stockpiled sand over suitable sub-base material in tree storage areas.
- (b) Mix sand thoroughly into the top 50mm of clay and compact to 98% SPD.

E11.3.5 Supply and installation of Geotextile Fabric for Asphalt Surfacing area

- (a) As per CW 3130 "Separation/Reinforcement Geotextile Fabric".

E11.3.6 Supply and Installation of Granular Materials for the Sub-base, Base Course and Surfacing in "Granular Surfacing" and "Asphalt Surfacing" areas

- (a) As per CW 3110 "Sub-grade, Sub-base and Base Course Construction".
- (b) Install sub-base, base course and surfacing materials to depths as indicated in 10.2, above.

E11.3.7 Grading

- (a) As per CW 3170 "Earthwork and Grading".
- (b) Grade to provide finish elevations as indicated on the Construction Drawings (to be issued post-tender), taking account of asphalt depth in the Asphalt Paving area.
- (c) Where grading requirements exceed 150mm in depth, work will be considered over-excavation.

E11.4 Method of Measurement

E11.4.1 Removal of Existing Chain Link Fencing

- (a) On a linear metre basis, including posts, rails, chain link fabric and concrete bases, and gates. The length to be paid for shall be the total number of linear metres of fencing removed in accordance with this Specification, acceptable to the Contract Administrator.

- E11.4.2 Sand Removal and Stockpiling
- (a) On a volume basis as per CW 3110. The volume to be paid for shall be the total number of cubic metres of sand removed and stockpiled in accordance with this Specification, acceptable to the Contract Administrator.
- E11.4.3 Excavation for Granular Surfacing and Asphalt Surfacing
- (a) On a volume basis. The volume to be paid for shall be the total number of cubic metres excavated in accordance with this Specification, acceptable to the Contract Administrator.
- E11.4.4 Over-excavation (Approved)
- (a) Over-excavation to remove unsuitable material will be measured on a volume basis. The volume to be paid for shall be the total number of cubic metres of unsuitable material removed in accordance with this Specification and approved by the Contract Administrator.
- E11.4.5 Clean Fill (Suitable Sub-base Material)
- (a) Additional clean fill (suitable clay or granular sub-base material) will be measured on a volume basis. The volume to be paid for shall be the total number of cubic metres of clean fill supplied and placed in accordance with this Specification, acceptable to the Contract Administrator.
- (b) Clean fill will be used in the Tree Storage area.
- E11.4.6 Sand-Clay Surfacing in Tree Storage Area
- (a) Sand clay surfacing will be measured on an area basis. The area to be paid for shall be the total number of square metres prepared and compacted in accordance with this Specification, acceptable to the Contract Administrator
- E11.4.7 Sub-grade Preparation for Granular Surfacing and Asphalt Surfacing
- (a) Sub-grade preparation will be measured on an area basis. The area to be paid for shall be the total number of square metres compacted and prepared in accordance with this Specification, acceptable to the Contract Administrator.
- E11.4.8 Supply and Installation of Geotextile Fabric for Asphalt Surfacing
- (a) Geotextile fabric will be measured on an area basis. The area to be paid for shall be the total number of square metres placed in accordance with this Specification, acceptable to the Contract Administrator. No payment will be made for geotextile fabric placed outside the limits of the asphalt surfacing unless approved by the Contract Administrator.
- E11.4.9 Supply and Installation of 150mm Granular Sub-base and 50mm Down Granular Base Course
- (a) Granular sub-base (150mm) and base course material (50mm down) will be measured on a weight basis in accordance with CW 3110. The weight to be paid for shall be the total number of tonnes placed in accordance with this Specification, acceptable to the Contract Administrator. No payment will be made for material placed outside the limits of the Granular Surfacing and Asphalt Surfacing areas.
- E11.4.10 Supply and Installation of 20mm Granular Surfacing and Asphalt Base Course
- (a) Granular surfacing material and asphalt base course (20mm down) will be measured on a weight basis in accordance with CW 3110. The weight to be paid for shall be the total number of tonnes placed in accordance with this Specification, acceptable to the Contract Administrator. No payment will be made for material placed outside the limits of the Granular Surfacing and Asphalt Surfacing areas.

E11.4.11 Grading

- (a) Grading will be measured on a square metre basis in accordance with CW 3170. The area to be paid for shall be the total number of square metres graded in accordance with this Specification, acceptable to the Contract Administrator. No payment shall be made for grading outside the limits of the Contract Area unless approved in writing by the Contract Administrator.

E11.5 Basis of Payment

E11.5.1 Removal of Existing Chain Link Fencing

- (a) Removal of existing chain link fencing will be paid for at the Contract Unit Price per lineal metre for "Removal of Existing Chain Link Fencing", measured as specified herein and including all other items of related work.

E11.5.2 Sand Removal and Stockpiling

- (a) Removal and stockpiling of sand will be paid for at the Contract Unit Price per cubic metre for "Sand Removal and Stockpiling", measured as herein specified and including all other items of related work.

E11.5.3 Over-excavation (Approved)

- (a) Over excavation required to remove unsuitable sub-base material, approved by the Contract Administrator, will be paid for at the Contract Unit Price per cubic metre for "Over-excavation (Approved)", measured as herein specified and including all other items of related work.

E11.5.4 Clean Fill (Suitable Sub-base Material)

- (a) Clean fill required to achieve design grades and fill areas of over-excavation, where approved by the Contract Administrator, will be paid for at the Contract Unit Price per cubic metre for "Clean Fill (Suitable Sub-base Material)", measured as herein specified and including all other items of related work.

E11.5.5 Sand-Clay Surfacing in Tree Storage Area

- (a) Sand clay surfacing, including sand hauling and spreading, and mixing of sand and clay will be paid for at the Contract Unit Price per square metre for "Sand-Clay Surfacing in Tree Storage Area" measured as herein specified and including all other items of related work.

E11.5.6 Sub-grade Preparation

- (a) Sub-grade preparation for Granular Surfacing and Asphalt Surfacing will be paid for at the Contract Unit Price per square metre for "Sub-grade Preparation", measured as herein specified and including all other items of related work.

E11.5.7 Supply and Installation of Geo-textile Fabric for Asphalt Surfacing

- (a) The supplying and placing of geo-textile fabric will be paid for at the Contract Unit Price per square metre for "Geo-textile Fabric", measured as herein specified and including all other items of related work.

E11.5.8 Supply and Installation of 150mm Granular Sub-base and 50mm Down Granular Base Course for Granular Surfacing and Asphalt Surfacing

- (a) Supplying, placing and compacting of granular sub-base and base course material will be paid for at the Contract Unit Prices per tonne for "150 mm Granular Sub-base", "50mm Down Granular Base Course" measured as specified herein and including all other items of related work.

- E11.5.9 Supply and Installation of 20mm Down Granular Surfacing and Asphalt Base Course for Granular Surfacing and Asphalt Surfacing
- (a) Supplying, placing and compacting of granular surfacing and base course material will be paid for at the Contract Unit Price per tonne for "20 mm Down Granular Surfacing and Asphalt Base Course", measured as specified herein and including all other items of related work.
- E11.5.10 Grading
- (a) Grading will be paid for at the Contract Unit Price per square metre for "Grading" measured as specified herein and including all other items of related work.

E12. CONCRETE CATCHBASIN AND DRAINAGE PIPE

E12.1 Description

- (a) This Specification shall amend and supplement City of Winnipeg Standard Construction Specification CW "Gravity Sewers", and shall cover all aspects of supply and installation of catchbasins and drainage pipe in the Work area.

E12.2 Materials

- (a) 1800mm deep Catchbasins as per CW 2130, pre-cast concrete sections as indicated on SD-025 to CSA A257.4 and ASTM Standard C 76 Class II and C 478 (circular sections).
- (b) Standard frame (AP-004) with grated cover (AP-006).
- (c) 200mm and 250mm Drainage Pipe as per CW 2130.

E12.3 Construction Methods

- (a) 1800mm deep Catchbasins including standard frames and covers as per CW 2130 and SD-025.
- (b) 200mm and 250mm Drainage Pipe as per CW 2130.
- (c) Connection to existing catchbasins as per CW 2130.

E12.4 Method of Measurement

- (a) 1800mm deep Catchbasin, including Standard Frame and Cover as per CW2130.
- (b) 200 and 250 Drainage Pipe as per CW2130.
- (c) 600mm depth of 900mm circular Risers as per CW2130.
- (d) Connection to existing catchbasins will be paid for at the Contract Unit Price for each connection.

E12.5 Basis of Payment

E12.5.1 Catchbasins, including standard frames and covers

- (a) Supply and installation of the 1800mm deep catchbasins will be paid for at the Contract Unit Price for "1800mm Deep Catchbasins", measured as specified herein and including all other items of related work.

E12.5.2 Drainage Pipe

- (a) Supply and installation of drainage pipe will be paid for at the Contract Unit Prices for "200mm Drainage Pipe" and 250mm Drainage Pipe measured as specified herein and including all other items of related work.

E12.5.3 Risers

- (a) Supply and installation of 600mm depth of 900mm circular catchbasin risers for existing catchbasins will be paid for at the Contract Unit Price for "600mm Depth Risers".

E12.5.4 Connection to Existing Catchbasins

- (a) Connection of the drainage pipe to the existing land drainage system will be paid for at the Contract Unit Prices for "200mm Connection to Existing Catchbasin" and 250mm Connection to Existing Catchbasin", measured as specified herein and including all other items of related work.

E13. ASPHALT CONCRETE PAVEMENTS

E13.1 Description

- (a) This Specification shall amend and supplement City of Winnipeg Standard Construction Specification CW 3410 "Asphaltic Concrete Pavement Works", and shall cover all aspects of supply and installation of the Asphalt Surfacing.

E13.2 Materials

- (a) Asphalt Surfacing as per CW3410. Asphalt to be 100mm depth.

E13.3 Construction Methods

- (a) Asphalt surfacing shall be as per CW 3410.
- (b) Asphalt surfacing shall have a rolled edge on three sides. The north side shall be feathered for 200mm to meet surrounding "Granular Surfacing" grades.
- (c) Construct top of asphalt surfacing 75mm higher than adjacent granular surfacing

E13.4 Method of Measurement

- (a) Measure asphalt surfacing on an area basis for each square metre of 100mm minimum depth asphalt surfacing supplied and installed in accordance with the Construction Drawings and Specifications, and approved by the Contract Administrator.

E13.5 Basis of Payment

- (a) Asphalt Surfacing will be paid for at the Contract Unit Price per square metre of surface area for "Asphalt Surfacing (100mm)", as per CW 3410

E14. CHAIN LINK FENCING

E14.1 Description

- (a) This Specification shall amend and supplement City of Winnipeg Standard Construction Specification CW 3550 "Chain Link Fencing" and shall cover the supply and installation of 3.05 metre high chain link fencing for tennis courts.

E14.2 Materials

- (a) Chain link fencing, 3.05 metres high, as per CW 3550.
- (b) Double vehicle gates, each section to be 3.05m wide, lockable, with wheel supports on the outside ends. Each double gate should be 6.1m wide and should swing open to an angle of 175 degrees.

E14.3 Shop Drawings

- (a) Provide Shop Drawings for 3.05 m wide double vehicle gates.

E14.4 Construction Methods

- (a) Supply and install chain link fencing in accordance with CW 3550 and the Construction Drawings.
- (b) Supply and install vehicle gates in accordance with the Construction Drawings and this Specification.

E14.5 Method of Measurement

- (a) Measure chain link fencing on a lineal metre basis, for the number of lineal metres supplied and installed in accordance with the Construction Drawings and this Specification and approved by the Contract Administrator.
- (b) Measure vehicle gates on a unit basis for each double gate installed in accordance with the Construction Drawings and this Specification and approved by the Contract Administrator.

E14.6 Basis of Payment

- (a) Chain link fencing will be paid for at the Contract Unit Price for "Chain Link Fencing (3.05 metre height)", measured as herein specified, which price will be payment in full for supplying all materials and performing all operations herein required and all other items required to suitably construct the Yard fencing.
- (b) Vehicle gates will be paid for at the Contract Unit Price for "Double Vehicle Gates", measured as herein specified, which price will be payment in full for supplying all materials and performing all operations herein required and all other items required to suitably construct double chain link vehicle gates.

E15. GROUTED RIPRAP AND BUMPER CURBS

E15.1 Description

E15.1.1 This Specification shall amend and supplement Standard Specification CW 3615.

E15.2 Materials

E15.2.1 Riprap

- (a) Rock for riprap shall consist of hard, dense, durable rock. The rock shall be river run granitic rock, resistant to the action of air and water and suitable in all other respects for the purpose intended.
- (b) The stones shall range in size from 100mm to 300mm in diameter with 75% by count between 200mm and 300mm and 25% by count between 100mm and 200mm.
- (c) Rock when subjected to the Los Angeles abrasion test shall have a loss of not more than thirty-two percent (20%).
- (d) The sample material shall be crushed to 37.5 mm maximum aggregate size and tested in accordance with ASTM C131 – Resistance to Degradation of Small size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
- (e) The rock for riprap shall be approved by the Contract Administrator prior to riprap installation.

E15.2.2 Geotextile

- (a) Geotextile shall be a non-woven geotextile fabric, meeting or exceeding the following properties:

PROPERTY	TEST METHOD	MINIMUM AVERAGE ROLL VALUE
Grab Tensile	ASTM-D-4632	0.900 kN
Grab Elongation	ASTM-D-4632	50%
Mullen Burst	ASTM-D-3786	2619 kPa
Puncture	ASTM-D-4833	0.575 kN
Trapezoidal	ASTM-D-4533	0.355 kN
UV Resistance	ASTM-D-4355	70% at 500 hrs
Apparent Opening Size ⁽¹⁾	ASTM-D-4751	0.15 mm
Permeability	ASTM-D-4491	1.5 sec ⁻¹
Flow Rate	ASTM-D-4491	4470 L/min/m ²

Note (1) – Maximum Average Roll Value

E15.3 Construction Methods

E15.3.1 Geotextile

- (a) Geotextile shall be placed under all riprap, on a smooth graded surface. The geotextile shall be placed in such a manner that it will not excessively stretch or tear upon placement of the overlying materials. Care shall be taken to ensure that the geotextile is in intimate contact with the subgrade and that there are no void spaces between the subgrade and the geotextile.
- (b) Joints in the geotextile shall be minimized. Geotextile sheets shall be joined by overlapping a minimum of 600mm. Overlaps shall be constructed with the upstream sheet placed over the downstream sheet or the upslope sheet placed over the downslope sheet. All overlaps shall be pinned on 1000mm centres to hold the overlap in place during stone placement. Pins shall be 5mm diameter, 450mm long steel pins pointed at one end and fitted with a 38mm diameter washer at the other.

E15.3.2 Riprap

- (a) Installation of 300mm grouted riprap shall be as per Clause 9.3 of CW 3615. Total depth of concrete and riprap to be 450mm.
- (b) Riprap shall not be dropped onto the geotextile from a height greater than 300mm. Any geotextile damaged during placement of the riprap shall be replaced as directed by the Contract Administrator at the Contractors expense.

E15.4 Method of Measurement

E15.4.1 Geotextile

- (a) No measurement shall be made for the supply and installation of geotextile. It shall be considered incidental to the price of grouted riprap.

E15.4.2 Grouted Riprap

- (a) As per Clauses 12.2 and 13.21, CW 3615.

E15.5 Basis of Payment

E15.5.1 Grouted Riprap

- (a) Grouted riprap will be paid for at Contract Unit Price for “Grouted Riprap” measured as herein specified, which price will be payment in full for supplying all materials and performing all operations herein required and all other items required to suitably construct the grouted riprap.