



THE CITY OF WINNIPEG

BID OPPORTUNITY

BID OPPORTUNITY NO. 564-2007

**CITY OF WINNIPEG TREE NURSERY – CONSTRUCTION OF GRANULAR
ROADWAYS**

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PART B - BIDDING PROCEDURES

B1. CONTRACT TITLE

B1.1 CITY OF WINNIPEG TREE NURSERY – CONSTRUCTION OF GRANULAR ROADWAYS

B2. SUBMISSION DEADLINE

B2.1 The Submission Deadline is 12:00 noon Winnipeg time, August 14, 2007.

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

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

B3. SITE INVESTIGATION

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

B3.2 The Bidder is advised that the topsoil depth test pits were left open for the Contractor to view and their location is shown on detail 1-L1.

B3.3 The Contractor shall view the Site to investigate the nature of surface materials to be protected, Site access, and existing road approach and embankment condition.

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 may base his Total Bid Price upon the specified item but may also indicate an alternative price based upon the approved alternative. Such alternatives will be evaluated in accordance with B15.

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

B7. BID COMPONENTS

B7.1 The Bid shall consist 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 Further to B7.1, the Bidder should include the written correspondence from the Contract Administrator approving a substitute in accordance with B6.

B7.3 All components of the Bid shall be fully completed or provided, and submitted by the Bidder no later than the Submission Deadline, with all required entries made clearly and completely, to constitute a responsive Bid.

B7.4 The Bid shall be submitted enclosed and sealed in an envelope clearly marked with the Bid Opportunity number and the Bidder's name and address.

B7.4.1 Samples or other components of the Bid which cannot reasonably be enclosed in the envelope may be packaged separately, but shall be clearly marked with the Bid Opportunity number, the Bidder's name and address, and an indication that the contents are part of the Bidder's Bid.

B7.5 Bidders are advised not to include any information/literature except as requested in accordance with B7.1.

B7.6 Bidders are advised that inclusion of terms and conditions inconsistent with the Bid Opportunity document, including the General Conditions, may result in the Bid being determined to be non-responsive.

B7.7 Bids submitted by facsimile transmission (fax) or internet electronic mail (e-mail) will not be accepted.

B7.8 Bids shall be submitted to:

The City of Winnipeg
Corporate Finance Department
Materials Management 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 should 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 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; and
 - (b) be financially capable of carrying out the terms of the Contract; and
 - (c) have all the necessary experience, capital, organization, and equipment to perform the Work in strict accordance with the terms and provisions of the Contract.
- B10.2 The Bidder and any proposed Subcontractor (for the portion of the Work proposed to be subcontracted to them) shall:
- (a) be responsible and not be suspended, debarred or in default of any obligations to the City (a list of suspended or debarred individuals and companies is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at <http://www.winnipeg.ca/matmgt>).
- B10.3 The Bidder and/or any proposed Subcontractor (for the portion of the Work proposed to be subcontracted to them) shall:

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

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

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

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

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

B11. BID SECURITY

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

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

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

B11.1.2 All signatures on bid securities shall be original, and shall be witnessed or sealed as required.

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

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

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

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

B12. OPENING OF BIDS AND RELEASE OF INFORMATION

B12.1 Bids will be opened publicly, after the Submission Deadline has elapsed, in the office of the Corporate Finance Department, Materials Management 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 Bids determined by the Manager of Materials, or his designate, to not include the bid security specified in B11 will not be read out.

B12.2 Following the submission deadline, the names of the Bidders and their Total Bid Prices (unevaluated, and pending review and verification of conformance with requirements) will be available on the Closed Bid Opportunities (or Public/Posted Opening & Award Results) page at The City of Winnipeg, Corporate Finance, Materials Management 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 may be released if required by City policy or procedures, by The Freedom of Information and Protection of Privacy Act (Manitoba), by other authorities having jurisdiction, or by law.

B13. IRREVOCABLE BID

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

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

B14. WITHDRAWAL OF BIDS

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

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

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

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

(a) retain the Bid until after the Submission Deadline has elapsed;

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

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

B15. EVALUATION OF BIDS

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

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

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

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

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

- (a) If the lowest evaluated responsive Bid submitted by a responsible and qualified Bidder is within the budgetary provision for the Work, no adjustment will be made to the Total Bid Price; or
- (b) If the lowest evaluated responsive Bid submitted by a responsible and qualified Bidder exceeds the budgetary provision for the Work, the Total Bid Price of all responsive Bids submitted by responsible and qualified Bidders will be adjusted by progressively deducting the following items in the order listed, until a Total Bid Price within the budgetary provision is achieved:
 - (i) Light duty granular roadway geotextile, item 5
 - (ii) Heavy duty granular roadway geotextile, item 6
 - (iii) Regrade existing drainage swale, item 1
 - (iv) Light duty granular roadway construction including excavation, compaction, supply and installation of granular material, and adjacent shoulder/land restoration, item 7

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 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 Subject to B16.2, 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.
- B16.3.1 Following the award of contract, a Bidder will be provided with information related to the evaluation of his Bid upon written request to the Contract Administrator.

PART C - GENERAL CONDITIONS

C0. GENERAL CONDITIONS

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

PART D - SUPPLEMENTAL CONDITIONS

GENERAL

D1. GENERAL CONDITIONS

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

D2. SCOPE OF WORK

D2.1 The Work to be done under the Contract shall consist of the supply and installation of granular roadways and associated adjacent grading.

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

- (a) Supply and installation of gravel roadways
- (b) Rough grading of roadways and embankments
- (c) Supply and installation of CSP culverts
- (d) Grading modifications to one existing drainage swale
- (e) Finished rough grading around buildings
- (f) Spreading of salvaged topsoil

D3. CONTRACT ADMINISTRATOR

D3.1 The Contract Administrator is Ken Rech Landscape Architects Inc., represented by:

Ken Rech
Landscape Architect
1480 Wellington Crescent Winnipeg R3N 0B3

Telephone No. (204) 489-6616

Facsimile No. (204) 489-6852

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

D3.3 At the pre-construction meeting, the Contract Administrator will identify additional personnel representing the Contract Administrator and their respective roles and responsibilities for the Work.

D4. CONTRACTOR'S SUPERVISOR

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

D5. NOTICES

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

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

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

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

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

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

D6. FURNISHING OF DOCUMENTS

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

SUBMISSIONS

D7. AUTHORITY TO CARRY ON BUSINESS

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

D8. SAFE WORK PLAN

- D8.1 The Contractor shall provide the Contract Administrator with a Safe Work Plan at least five (5) Business Days prior to the commencement of any Work on the Site but in no event later than the date specified in C4.1 for the return of the executed Contract.
- D8.2 The Safe Work Plan should be prepared and submitted in the format shown in the City's template which is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management 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) inclusive, with The City of Winnipeg and Ken Rech Landscape Architects Inc. added as an additional insured, with a cross-liability clause, such liability policy to also contain contractual liability, unlicensed motor vehicle liability, non-owned automobile

liability, broad form property damage cover and products and completed operations, to remain in place at all times during the performance of the Work and throughout the warranty period;

- (b) automobile liability insurance for owned automobiles used for or in connection with the Work in the amount of at least two million dollars (\$2,000,000.00) at all times during the performance of the Work and until the date of Total Performance;
- (c) an all risks Installation Floater carrying adequate limits to cover all machinery, equipment, supplies and/or materials intended to enter into and form part of any installation.

D9.2 Deductibles shall be borne by the Contractor.

D9.3 The Contractor shall provide the City Solicitor with a certificate(s) of insurance, in a form satisfactory to the City Solicitor, at least two (2) Business Days prior to the commencement of any Work but in no event later than the date specified in C4.1 for the return of the executed Contract.

D9.4 The Contractor shall not cancel, materially alter, or cause each policy to lapse without providing at least 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 was not a certified cheque or draft pursuant to B11.1(c), the Contractor shall provide the City Solicitor with the required performance security within seven (7) Calendar Days of notification of the award of the Contract by way of letter of intent and prior to the commencement of any Work on the Site but in no event later than the date specified in C4.1 for the return of the executed Contract.

SCHEDULE OF WORK

D11. COMMENCEMENT

D11.1 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.

D11.2 The Contractor shall not commence any Work on the Site until:

- (a) the Contract Administrator has confirmed receipt and approval of:
 - (i) evidence of authority to carry on business specified in D7;
 - (ii) evidence of the workers compensation coverage specified in C6.15;
 - (iii) the Safe Work Plan specified in D8;

- (iv) evidence of the insurance specified in D9;
- (v) the performance security specified in D10;
- (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.

D11.3 The Contractor shall commence the Work on the Site within seven (7) Working Days of receipt of the letter of intent.

D11.3 The City intends to award this Contract by September 4, 2007

D11.3.1 If the actual date of award is later than the intended date, the dates specified for Substantial Performance, and Total Performance will be adjusted by the difference between the aforementioned intended and actual dates.

D12. SUBSTANTIAL PERFORMANCE

D12.1 The Contractor shall achieve Substantial Performance by October 16, 2007.

D12.2 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.

D12.3 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.

D13. TOTAL PERFORMANCE

D13.1 The Contractor shall achieve Total Performance by October 23, 2007.

D13.2 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.

D13.3 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.

D14. LIQUIDATED DAMAGES

D14.1 If the Contractor fails to achieve Total Performance in accordance with the Contract by the day fixed herein for Total Performance, the Contractor shall pay the City six hundred dollars (\$600.00) per Calendar Day for each and every Calendar Day following the day fixed herein for Total Performance during which such failure continues.

D14.2 The amount specified for liquidated damages in D14.1 is based on a genuine pre-estimate of the City's damages in the event that the Contractor does not achieve Total Performance by the day fixed herein for same.

D14.3 The City may reduce any payment to the Contractor by the amount of any liquidated damages assessed.

CONTROL OF WORK

D15. JOB MEETINGS

- D15.1 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.
- D15.2 The Contract Administrator reserves the right to cancel any job meeting or call additional job meetings whenever he deems it necessary.

D16. PRIME CONTRACTOR – THE WORKPLACE SAFETY AND HEALTH ACT (MANITOBA)

- D16.1 Further to C6.24, the Contractor shall be the Prime Contractor and shall serve as, and have the duties of the Prime Contractor in accordance with The Workplace Safety and Health Act (Manitoba).

MEASUREMENT AND PAYMENT

D17. PAYMENT

- D17.1 Further to C12, effective January 1, 2007 the City may at its option pay the Contractor by direct deposit to the Contractor's banking institution.

FORM H1: PERFORMANCE BOND
(See D10)

KNOW ALL MEN BY THESE PRESENTS THAT

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

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

_____ dollars (\$_____)

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

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

_____ day of _____, 20____, for:

BID OPPORTUNITY NO. 564-2007

CITY OF WINNIPEG TREE NURSERY – CONSTRUCTION OF GRANULAR ROADWAYS

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 D10)

(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. 564-2007

CITY OF WINNIPEG TREE NURSERY – CONSTRUCTION OF GRANULAR ROADWAYS

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

(Name of Contractor)

(Address of Contractor)

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

_____ Canadian dollars.

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

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

Partial drawings are permitted.

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

(Address)

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

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

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

(Date)

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

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

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

(Name of bank or financial institution)

Per: _____
(Authorized Signing Officer)

Per: _____
(Authorized Signing Officer)

PART E - SPECIFICATIONS

GENERAL

E1. APPLICABLE SPECIFICATIONS AND DRAWINGS

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

<u>Specification No.</u>	<u>Specification Title</u>
CW 3110-R10	Sub-grade. Sub –base and Base Course Construction
CW 3130-R1	Supply and Installation of Geotextile Fabrics
CW 3150-R4	Gravel Surfacing
CW 3170-R3	Earthwork and Grading
CW 3450-R5	Topsoil and Finish Grading for Establishment of Turf Areas
CW 3610-R3	Installation of Culverts

<u>Drawing No.</u>	<u>Drawing Name/Title</u>
L1	Roadway Site Plan
L2	Road Details

E2. SOILS INVESTIGATION REPORT

- E2.1 Further to C3.1, there is no soil investigate report, however twenty one (21) shallow test pits were excavated with a backhoe approx. 400 -500 mm deep, throughout the Site. The locations and depth of topsoil test pits is shown on drawing 1-L1.
- E2.2 The test pits were not backfilled and are available for the Contractor to view on Site.
- E2.3 In many of the test pit locations only topsoil was found as the holes were not excavated deep enough to uncover the sub soil layer. The drawing shows an “M” in front of those depths to indicate this is a minimum depth of topsoil.

E3. PERMITS

- E3.1 The Contractor is responsible to apply and pay for all permits.

E4. SITE ACCESS AND CNR RAIL LINE PROTECTION

- E4.1 The Site is located at 4027 Pembina Highway (PTH 75 South) approximately .35 kilometres south of Perreault Avenue, on the west side of Pembina Highway, immediately north of the west floodway dyke. The Contractor shall access the Site by the existing road approach located approximately in the middle of the Site connecting to Highway 75 South. The Contractor will be responsible for making any improvements to this access road required to keep it passable during the Work period.

- E4.2 The Contractor is made aware they must keep all equipment and materials clear of the CNR right of way, and must not stockpile materials that will block the visibility of trains. The CNR crossing is not to be compromised in any way, and any damage to this crossing must be reported to the CNR and the Contract Administrator immediately.
- E4.3 No Work is to be undertaken within 5 metres of each side of the rail line without a CNR flagman being present on Site at all times. To arrange for a flagman, the CNR must provide at least 48 hours notice of needing a flagman on Site. The contact at the CNR is: Mr. Tim Hickie, Assistant Track Supervisor Tel: 204-988-8077 Fax: 204-988-8337, Pager 204-935-8947, Cell: 771-5634.
- E4.4 The CNR will charge ninety dollars (\$90.00) per hour for the flagman. The City will pay for the first sixteen (16) hours of flagman time, and the Contractor shall pay for any time over the allotted time.
- E4.5 The Contractor is made aware the wood plank crossing is to be replaced by the CNR and this Work is expected to occur before this Contract commences.
- E4.6 The Contractor is encouraged to stockpile granular materials required for the Work (within the 5 metre distance of each side of the rail line) in a convenient location, so the Work can be completed in an expeditious manner to minimize the flagman costs.

E5. CO-ORDINATION WITH OTHERS

- E5.1 The Contractor is made aware the City has already awarded one Contract and will be issuing a minimum of two (2) other separate Contracts for Work on this Site, and some of this Work will be located immediately around the Contractor's Work area and some of the Work will overlap into the Contractor's Work area, i.e. Building construction and associated rough grading. The three Contracts are as indicated below:
- (i) Building Construction Contract (presently being awarded): SBS Projects Inc. has been awarded the construction of the buildings as well as the preparation of the rough grades around the buildings to the limits shown on the drawing. This Work will be in progress during the full time of the road construction Contract.
 - (ii) Site Fencing Contract: this Work should not affect the Contractor significantly except the fencing Contractor will have to install a chain link vehicle gate across the entrance roadway, immediately west of the railway tracks.
 - (iii) Irrigation Contract: this Work should only require a few crossings under the light duty and the westerly heavy duty road surfaces. It is not know if this Contract will be issued this year, and if it is construction will be in October. The irrigation Contractor will be responsible for protecting the roadway.
- E5.2 The Road Contractor is to install the finish grading over top of the Building Contractor's rough grade around the buildings, as well as installing the new 100 mm depth of salvaged topsoil. The Road Contractor will also have to provide the rough grade west of the Office Building early in the Contract so the Building Contractor can install the wood parking fence.
- E5.3 The Road Contractor must minimize the time period the access road is not usable in order for the Building Contractor's operations not to be disrupted. The Road Contractor must co-ordinate with the Building Contractor to ensure both parties are in agreement as to when the road approach can be taken out of commission. The Building Contractor will have to use the north road approach for a short period of time.

E6. LIMIT OF WORK AND PROTECTION OF THE SITE

- E6.1 The Contractor is to limit their Work to the immediate roadways, and not cross over the future tree growing areas. Prior to construction commencing, the Contractor shall obtain the Contract Administrator's approval of all access routes required over non roadway areas i.e. such as hauling excavated materials to the stockpile areas.
- E6.2 The Contractor shall protect all survey monuments.

E7. DEMOLITION & SALVAGE

- E7.1 In general terms demolition involves the removal of existing grass vegetation over the roadways. The existing grass is to be killed with Round-up or Wipe Out or approved equal and after vegetation is dead, mowed to a max. 50 mm height and stockpile in an area shown on drawing 2-L1.
- E7.2 The existing grass thatch and 25 mm of soil shall be stripped and stockpiled in a separate location from the salvaged topsoil.
- E7.3 The existing topsoil below all roadways containing topsoil shall be stripped in layers to remove the existing topsoil to the following depths: 225 mm for the light duty granular roadways and 400 mm for the heavy duty granular roadways, below existing grade elevations. The depths specified are after compaction of the sub grade.
- E7.4 The existing access road contains mixed gravel and soil and is only suitable for reusing as fill along the new access roadways embankments.
- E7.5 Any clay or unsuitable topsoil which is not required for rough grading may be stockpiled in the location on drawing detail 2-L1.
- E7.6 No separate payment will be made for demolition or salvaging of the materials. Include all costs for this Work in the related granular roadway cost.

E8. BORROW PIT

- E8.1 The Contract Administrator will locate an area at the northeast corner of the Site, northeast of the proposed building Site, where the Contractor can excavate a borrow pit to gain access to clay fill if required for rough grading.
- E8.2 The Contractor must strip and stockpile all the existing topsoil in an area to be determined on Site by the Contract Administrator, prior to excavating the borrow pit. The width, length and depth of the borrow pit, as well as the side slopes is to be approved by the Contract Administrator prior to stripping any topsoil.
- E8.3 Upon completion the borrow pit access route, surrounding sides, and topsoil stockpile must be graded smooth to remove any sharp grade changes. The Contractor may be required to topsoil and seed the access route at the Contract Administrator's discretion.

E9. LAYOUT OF WORK

- E9.1 The Contractor shall set all control lines and bench marks by means of stakes, buoys or marks and the Contractor shall make the completed Works conform to the lines and marks thus indicated. The Contractor shall furnish all other lines and levels required. The Contractor shall be responsible for the careful preservation of all stakes and marks. Care must be taken that the Contract Administrator be notified immediately of the disturbance of any such stakes or marks; the cost of correcting any errors arising out of neglect of the Contractor or his agent or his employees, to so notify the Contract Administrator shall be borne entirely by the Contractor, as well as the cost of replacing any disturbed stakes or marks.
- E9.2 All layout Work shall be inspected and approved by the Contract Administrator prior to construction.
- E9.3 Before commencing Work the Contractor shall satisfy himself as to the meaning and correctness of all stakes and marks and no claims shall be entertained by the City of Winnipeg on account of any alleged inaccuracies. If any error is suspected in the plans, specifications or the directions of the Contract Administrator, Work shall be discontinued until the errors are rectified, but no claims shall be made on account of any delay occasioned thereby.

E9.4 All elevations are to be based on a local bench mark, top of steel pin, on top of the concrete block, located immediately southwest of the new office building, Elevation 232.526 geodetic.

E10. SITE RESTORATION

E10.1 Total Performance of the Work shall not be attained until the Contractor has cleaned up the Site and has removed all plant, tools, equipment, waste, debris and surplus foundation earth to the satisfaction of the Contract Administrator. Unless otherwise specified, the Contractor shall restore all areas of the Site beyond the established limit of Work, which have been disturbed by the Contractor's operations to as good as or better than the original condition to the satisfaction of the Contract Administrator. The Contractor shall pay all costs associated with this Work.

E10.2 The Contractor must restore any ruts or damage to the future tree growing areas to prior construction condition at no further cost to the City.

E10.3 The Contractor must not damage the existing survey monuments, Building Contractor's Work, or CNR Railway lines and property.

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

E11.1 This specification shall amend and supplement City Specification CW 3110-R10 and cover the operations relating to the excavation of the roadways, compaction, and granular materials.

E11.2 A large portion of the roadways will be constructed on top of the existing topsoil, as it is the intent to only remove as much existing topsoil or clay sub soil as required to accommodate the new specified depths of granular material.

E11.3 The Contractor is made aware the light duty granular roadway may be deleted based on budgetary constraints.

E11.4 Prior to excavating for the roadways, the Contractor shall dig a number of test pits where the road will be located to determine how much topsoil is present, and whether or not the road sub grade will be clay or topsoil based. When excavating for the roadways the Contractor shall allow for the compaction of the existing material, in determining how much material is removed. Unless shown otherwise, it is the intent of the new granular paving to be flush with the adjacent existing field areas, so the roads do not impede existing drainage patterns.

E11.5 Where the topsoil is removed to expose the clay sub-grade, the clay shall be compacted in accordance with the requirements of CW 3110-R10. Where the excavation results in topsoil being the sub-grade the Contractor shall thoroughly compact the topsoil sub grade using sheep foots type rollers or other equipment approved by the Contract Administrator. Prior to compaction, confirm with the Contract Administrator the various sub grade materials and compaction methods to be used.

E11.6 The base course material shall be 75-100 mm diameter crushed limestone, or the Contractor may also use 75-100 mm Crushed pavement. Only one type of material shall be utilized in any area over the full 150 or 300 mm depth of material.

E11.7 Fill shall be excavated clay fill, fill from the borrow pit. The Contractor may reuse excavated existing road approach materials on the shoulder of the new entrance road embankments (not under the granular roadways).

E11.8 Measurement and Payment for Sub-grade, Sub-base and base course construction is to be included Unit Price Item No. 7 or 8 "Light or Heavy duty granular roadway construction including excavation, compaction, supply and installation of granular material, and adjacent shoulder/land restoration". The payment will be based on a square metre cost and shall include: excavation, stockpiling excavated material, supply and installation of granular paving, and any adjacent construction repairs along the roadway as one unit price, per square metre of granular roadway (not the shoulder or Site restoration areas). Cost for areas requiring more rough grading than

the actual depth of new granular materials, is to be included in Unit Price Item No. 4 "Rough grading and earthwork around Storage/Office Buildings

E12. SUPPLY AND INSTALLATION OF GEOTEXTILE FABRICS

- E12.1 This specification shall amend and supplement City Specification CW 3130-R1 and cover the operations relating to the supply and installation of a geotextile fabric under the granular roadways.
- E12.2 The Contractor is made aware the Geotextile fabric may be deleted from the Contract based on budget considerations.
- E12.3 The Contractor shall not rely on the geotextile fabric being included in the Contract when considering the compaction of the subgrade and placement of granular material.

E13. GRAVEL SURFACING

- E13.1 This specification shall amend and supplement City Specification CW 3150-R4 and cover the operations relating to the supply and installation of gravel surfacing on the roadways, and sidewalks.
- E13.2 Work under this section is the supply and installation of gravel surfacing to all new roadways, supply and installation of Pembina Hwy. road surface gravel, and the supply and installation of gravel walks to the new office building.
- E13.3 The Contractor is made aware the light duty granular roadway may be deleted based on budgetary constraints.
- E13.4 Gravel shall be 19 mm diameter crushed limestone down as per CW3110-R10 2.2 Table CW 3110.2.
- E13.5 The Contractor shall install the minimum depths specified to all roadways and sidewalk areas. The finished surface of all new gravel shall meet flush with surrounding existing grades unless noted otherwise on the drawings, so as not to impede the existing drainage patterns.
- E13.6 Compact gravel paving to 95% Modified Proctor Density.
- E13.7 Installation of the gravel walkways to the new office building must be co-ordinated with the building Contractor to ensure it is installed to minimize disruption to the building Contractor, and at a point of time it would not be subject to damage by the various trades and Contractors working on this Site.
- E13.8 Measurement and Payment for Gravel Surfacing is to be included Unit Price Item No. 7 or 8 "Light or Heavy duty granular roadway construction including excavation, compaction, supply and installation of granular material, and adjacent shoulder/land restoration" or Item No. 9 "150 mm depth of granular paving for office walkway and Pembina Hwy. road approach shoulder. The payment will be based on a square metre cost and shall include: excavation, stockpiling excavated material, supply and installation of granular paving, and any adjacent construction repairs along the roadway, as one unit price per square metre of granular roadway (not the shoulder or Site restoration areas). Cost for areas requiring more rough grading than the actual depth of new granular materials, is to be included in Unit Price Item No. 4 "Rough grading and earthwork around Storage/Office Buildings

E14. EARTHWORK AND GRADING

- E14.1 This specification shall amend and supplement City Specification CW 3170-R3 and cover the removal or replacement of all materials necessary for the construction and preparation of embankments, slopes, drainage works approaches, and backfilling around the building Contractor's rough grade.

- E14.2 If existing excavated fill is not sufficient for the grading operation, the Contractor may access fill from the borrow pit as section E8 Borrow Pit.
- E14.3 In general terms earthwork and grading will be required to build up the grade around the new storage and office buildings which are to be constructed by another private Contractor, and under some areas of the new road approach and shoulders off Pembina Hwy. This section will also cover the regrading of the existing drainage swale as shown in detail 1-L1. The Contractor is made aware the regrading of the existing drainage swale, Item NO. 1 of the Unit Price Form may be deleted based on budgetary restraints.
- E14.4 All material placed in embankments shall be spread and bladed smooth in successive layers not exceeding 150 mm in compacted thickness to the full width of the cross section.
- E14.5 Each layer, including the sub-grade, shall be compacted to a minimum ninety-five (95%) percent of Standard Proctor Density.
- E14.6 The existing drainage swale is to be regraded to increase the depth and slope of the bottom of the swale. The excavation of the swale shall be limited to the minimum width required to achieve the new finish grade elevations based on a maximum 3:1 embankment slope, which grade elevations are to the top of the 100mm depth of salvaged topsoil.
- E14.7 The Contractor shall excavate the existing swale to a sub grade level 100 mm below finished grade elevations shown to allow for the replacement of a 100 mm of topsoil depth. The topsoil shall be excavated and salvaged separately from the sub soil, and all surplus topsoil stockpiled in the location shown on the drawing.
- E14.8 Upon completion of the rough grading, 100 mm of salvaged topsoil shall be installed over the rough grade and rolled smooth to be suitable for seeding or sodding. Sodding and seeding is not included in this Contract.
- E14.9 Measurement and Payment for Earthwork and Grading is to be included in the related Unit Price Item No. 1 "Regrade existing drainage swale" and Unit Price 4 "Rough grading and earthwork around Storage/Office Buildings and Front Entrance Roadway, including installation of 100 mm depth of topsoil surfacing". The payment will be based on a lump sum cost and shall include: excavation/salvaging/ and stockpiling excavated material, installation and compaction of fill materials and placement of 100 mm depth of salvaged topsoil where required.
- E15. TOPSOIL AND FINISH GRADING FOR ESTABLISHMENT OF TURF AREAS**
- E15.1 This specification shall amend and supplement City Specification CW 3540-R5 and cover the placing of 100 mm depth of salvaged topsoil to areas to be seeded or sodded.
- E15.2 Seeding and or sodding, is not included in this Contract, only the placing of the topsoil base.
- E15.3 The existing topsoil is to be salvaged during the excavation of all roadways and drainage ditches. The Contractor shall stockpile surplus topsoil not required for a base for areas to be restored in the location shown on the drawing detail 2 -L1. Topsoil required for reinstallation may be stockpiled closer to the final Work areas, subject to the Contractor restoring the grade to prior construction elevation.
- E15.4 Salvaged topsoil shall be installed to a minimum 100 mm depth, after reasonable compaction, to all road embankments, drainage swale modifications, interior roadway edge repairs and around the non gravel areas of all buildings.
- E15.5 Upon completion of the rough grading, 100 mm of salvaged topsoil shall be installed over the rough grade and rolled smooth to be suitable for seeding or sodding. Sodding and seeding is not included in this Contract.
- E15.6 Measurement and Payment for Topsoil and Finish Grading for Establishment for Turf Areas is to be included in the related Unit Price Item No. 1 "Regrade existing drainage swale" and Unit Price 4 "Rough grading and earthwork around Storage/Office Buildings and Front Entrance

Roadway, including installation of 100 mm depth of topsoil surfacing". The payment will be based on a lump sum cost and shall include: excavation/salvaging/ and stockpiling the topsoil, and re-placement of 100 mm depth of salvaged topsoil.

E16. INSTALLATION OF CULVERTS

- E16.1 This specification shall amend and supplement City Specification CW 3610-R3 and cover the supply and installation of culverts.
- E16.2 Metal culverts shall be the size, length and type shown in detail 1-L1.
- E16.3 The Contractor is made aware the regrading of the drainage swale may be deleted from the Contract and if this Work is deleted, the south culvert invert grades elevations are to be adjusted with the new culvert being installed 100 mm below the existing grade elevation of the existing drainage swale. If the culvert is installed at the existing grade elevation of the drainage swale, the Contractor will have to build up the new road so a minimum of 200 mm of gravel paving is ovetop of the culvert, similar to the north culvert requirements, shown on drawing detail 1-L1.
- E16.4 The north culvert is to have a minimum 200 mm of gravel cover over top of it and the gravel road approaches leading up to the culvert installed with a maximum 20:1 slope. This road approach design will also apply to the south culvert if is installed at the grade of the existing drainage swale.
- E16.5 The Contractor shall backfill the protruding sides of the culvert with compacted clay backfill with a 100 mm depth of topsoil cover.
- E16.6 Measurement and Payment for Installations of Culverts is to be included in the related Unit Price Item No. 2 or 3 "CSP Culvert, 400 dia. x 14 Metre or CSP Culvert, 600 dia. x 12 metre". The payment will be based on a per unit cost and shall include: excavation, supply and installation of the culverts, backfilling and compaction, and topsoil replacement for the protruding ends.