

THE CITY OF WINNIPEG

BID OPPORTUNITY

BID OPPORTUNITY NO. 379-2006

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PART B - BIDDING PROCEDURES

B1. PROJECT TITLE

B1.1 CONSTRUCTION OF WEST TRANSCONA FIRE PARAMEDIC STATION 21 1446 REGENT AVE. W.

B2. SUBMISSION DEADLINE

- B2.1 The Submission Deadline is 12:00 noon Winnipeg time, August 18, 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.

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 shortly before submitting his Bid.
- 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 the lump sum price in Canadian funds for the Work on Form B: Prices.
- B9.2 Payment of the lump sum price will be made to the Contractor in accordance with the payment schedule set out in D23.1.

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 (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 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 lump sum price shown on Form B: Prices.
- B15.4.1 If there is any discrepancy between the lump sum price written in figures and the lump sum price written in words, the price written in words 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.

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 the Construction of a New Fire Paramedic Station at 1446 Regent Ave. W.
- D2.2 The major components of the Work are as follows:
 - (a) New building construction.
 - (b) Landscape and civil site work.

D3. CONTRACT ADMINISTRATOR

D3.1 The Contract Administrator is:

Ruby Li, M.Arch Architect/Interior Designer 3rd Floor, 65 Garry St. Telephone No. (204) 986 - 3984 Facsimile No. (204) 947- 2284

D3.2 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 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 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;
- (c) all risks course of construction insurance in the amount of one hundred percent (100%) of the total Contract Price, written in the name of the Contractor and The City of Winnipeg, 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.

D10. DETAILED PRICES

D10.1 The Contractor shall provide the Contract Administrator with a detailed price breakdown (Form I: Detailed Prices) 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.

D10.2 The Contractor shall state a price for each item or sub-item of the Work identified on Form I: Detailed Prices. The detailed prices must be consistent with the price(s) provided in the Contractor's Bid.

D11. SUBCONTRACTOR LIST

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

D12. EQUIPMENT LIST

D12.1 The Contractor shall provide the Contract Administrator with a complete list of the equipment which the Contractor proposes to utilize (Form K: Equipment List) 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.

D13. DETAILED WORK SCHEDULE

- D13.1 The Contractor shall provide the Contract Administrator with a detailed work schedule 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.
- D13.2 The detailed work schedule shall consist of the following:
 - (a) a critical path method (C.P.M.) schedule for the Work; and
 - (b) a Gantt chart for the Work based on the C.P.M. schedule all acceptable to the Contract Administrator.
- D13.3 Further to D13.2(a), the C.P.M. schedule shall clearly identify the start and completion dates of all of the following activities/tasks making up the Work as well as showing those activities/tasks on the critical path:
- D13.4 Further to D13.2(b), the Gantt chart shall show the time on a weekly basis, required to carry out the Work of each trade, or specification division. The time shall be on the horizontal axis, and the type of trade shall be on the vertical axis.

D14. SECURITY CLEARANCE

- D14.1 Each individual proposed to perform Work under the Contract shall be required to obtain a Criminal Record Search Certificate from the police service having jurisdiction at his place of residence.
- D14.2 Prior to the commencement of any Work, and during the term of the Contract if additional or replacement individuals are proposed to perform Work, the Contractor shall supply the Contract Administrator with a Criminal Record Search Certificate obtained not earlier than one (1) year prior to the Submission Deadline, or a certified true copy thereof, for each individual proposed to perform Work within City facilities or on private property.
- D14.3 Any individual for whom a Criminal Record Search Certificate is not provided, or for whom a Criminal Record Search Certificate indicates any convictions or pending charges related to property offences or crimes against another person, will not be permitted to perform any Work within City facilities or on private property.

- D14.4 Any Criminal Record Search Certificate obtained thereby will be deemed valid for the duration of the Contract subject to a repeated records search as hereinafter specified.
- D14.5 Notwithstanding the foregoing, at any time during the term of the Contract, the City may, at its sole discretion and acting reasonably, require an updated criminal records search. Any individual who fails to provide a satisfactory Criminal Record Search Certificate as a result of a repeated criminal records search will not be permitted to continue to perform Work under the Contract within City facilities or on private property.

SCHEDULE OF WORK

D15. COMMENCEMENT

- D15.1 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.
- D15.2 The Contractor shall not commence any Work on the Site until:
 - (a) the Contract Administrator has confirmed receipt and approval of:
 - 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:
 - (vi) the detailed prices specified in D10;
 - (vii) the Subcontractor list specified in D11;
 - (viii) the equipment list specified in D12;
 - (ix) the detailed work schedule specified in D13; and
 - (x) the security clearances specified in D14.
 - (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.
- D15.3 The Contractor shall commence the Work on the Site within seven (7) Working Days of receipt of the letter of intent.

D16. WORKING DAYS

- D16.1 Further to GC:1.1(gg), the Contract Administrator's determination of whether or not atmospheric and Site conditions are such that a Working Day is deemed to have elapsed may be based at one time on one type of work while at another time a Working Day may be based on another type of work. When more than one type of major work is involved, the quantity of equipment that must be able to work in order to meet the requirements of a Working Day may vary considerably from that specified in the General Conditions.
- D16.2 In the event that incidental work is behind schedule which, in the opinion of the Contract Administrator, should have been or could have been carried out by the Contractor in conjunction with or immediately following work of a major type, the City hereby reserves the right to charge Working Days on the incidental work until such time as it is up to schedule.

D16.3 When the major type of work involves restoration of the site to the condition it was prior to rainfall, Working Days shall not be charged.

D17. SUBSTANTIAL PERFORMANCE

- D17.1 The Contractor shall achieve Substantial Performance within two-hundred (200) consecutive Working Days of the commencement of the Work as specified in D15.
- D17.2 When the Contractor considers the Work to be substantially performed, the Contractor shall arrange, attend and assist in the inspection of the Work with the Contract Administrator for purposes of verifying Substantial Performance. Any defects or deficiencies in the Work noted during that inspection shall be remedied by the Contractor at the earliest possible instance and the Contract Administrator notified so that the Work can be reinspected.
- D17.3 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.

D18. TOTAL PERFORMANCE

- D18.1 The Contractor shall achieve Total Performance within two-hundred & twenty-five (225) consecutive Working Days of the commencement of the Work as specified in D15.
- D18.2 When the Contractor or the Contract Administrator considers the Work to be totally performed, the Contractor shall arrange, attend and assist in the inspection of the Work with the Contract Administrator for purposes of verifying Total Performance. Any defects or deficiencies in the Work noted during that inspection shall be remedied by the Contractor at the earliest possible instance and the Contract Administrator notified so that the Work can be reinspected.
- D18.3 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.

D19. LIQUIDATED DAMAGES

- D19.1 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 one-hundred dollars (\$100.00) per Working Day for each and every Working Day following the day fixed herein for Total Performance during which such failure continues.
- D19.2 The amount specified for liquidated damages in D19.1 is based on a genuine pre-estimate of the City's losses in the event that the Contractor does not achieve Total Performance by the day fixed herein for same.
- D19.3 The City may reduce any payment to the Contractor by the amount of any liquidated damages assessed.

D20. SCHEDULED MAINTENANCE

- D20.1 The Contractor shall perform the following scheduled maintenance in the manner and within the time periods required by the Specifications:
 - (a) Landscaping, cutting and watering of sod as specified in Section 31 22 19;
 - (b) Watering of trees, plants and shrubs as specified in Section 32 93 10;
 - (c) One time application of weed control.

D20.2 Determination of Substantial Performance and Total Performance shall be exclusive of scheduled maintenance identified herein. All scheduled maintenance shall be completed prior to the expiration of the warranty period. Where the scheduled maintenance cannot be completed during the warranty period, the warranty period shall be extended for such period of time as it takes the Contractor to complete the scheduled maintenance.

CONTROL OF WORK

D21. JOB MEETINGS

- D21.1 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.
- D21.2 The Contract Administrator reserves the right to cancel any job meeting or call additional job meetings whenever he deems it necessary.

D22. PRIME CONTRACTOR – THE WORKPLACE SAFETY AND HEALTH ACT (MANITOBA)

D22.1 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).

MEASUREMENT AND PAYMENT

D23. PAYMENT SCHEDULE

D23.1 Further to GC:12, payment shall be in accordance with monthly progress claims. The City shall only be required to pay the Contractor for material and equipment required for the Work upon the installation and total incorporation of same permanently into the Work.

WARRANTY

D24. WARRANTY

- D24.1 Notwithstanding GC:13.2, the warranty period shall begin on the date of Total Performance and shall expire one (1) year thereafter, except where longer warranty periods are specified in the respective Specification sections, unless extended pursuant to GC:13.2.1 or GC:13.2.2, in which case it shall expire when provided for thereunder.
- D24.2 Notwithstanding GC:13.2 or D24.1, the Contract Administrator may permit the warranty period for a portion or portions of the Work to begin prior to the date of Substantial Performance if:
 - (a) a portion of the Work cannot be completed because of unseasonable weather or other conditions reasonably beyond the control of the Contractor but that portion does not prevent the balance of the Work from being put to its intended use; or
- D24.2.1 In such case, the date specified by the Contract Administrator for the warranty period to begin shall be substituted for the date specified in GC:13.2 for the warranty period to begin.

FORM H1: PERFORMANCE BOND (See D9)

CONSTRUCTION OF WEST TRANSCONA FIRE PARAMEDIC STATION 21 1446 REGENT AVE. W.

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 Prince	sipal and Surety have signed and sealed this bond the	
day of	, 20	
SIGNED AND SEALED in the presence of: (Witness)	(Name of Principal) Per: Per:	(Seal)
	(Name of Surety) By:	(Seal)

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. 379-2006
CONSTRUCTION OF WEST TRANSCONA FIRE PARAMEDIC STATION 21 1446 REGENT AVE. W.
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 writted demand for payment made upon us by you. It is understood that we are obligated under this Standb 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 upo it by you or by formal notice in writing given to us by you if you desire such reduction or are willing that it b made.
Partial drawings are permitted.
We engage with you that all demands for payment made within the terms and currency of this Standb 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)

FORM I: DETAILED PRICES

(See D10)

ITEM NO.	DESCRIPTION	SPEC. REF.	UNIT	APPROX. QUANTITY	UNIT PRICE	AMOUNT
1.	General Requirements	01 00 00				
2.	Selective Demolition	02 41 19				
3.	Concrete Forming and Accessories	03 10 00				
4.	Testing of Concrete	03 11 00				
5.	Concrete Reinforcing	03 20 00				
6.	Cast-In-Place Concrete	03 30 00				
7.	Masonry Procedures	04 05 10				
8.	Masonry Mortar	04 05 12				
9.	Masonry Anchorage and	04 05 19				
10.	Reinforcing Masonry Accessories	04 05 23				
11.	Concrete Unit Masonry	04 22 00				
12.	Veneer Masonry	04 26 16				
13.	Structural Steel	05 12 23				
14.	Metal Fabrications	05 50 00				
15.	Metal Stairs	05 51 00				
16.	Wood Framing	06 11 00				
17.	Shop-Fabricated Wood Trusses	06 17 53				
18.	Finish Carpentry	06 20 00				
19.	Architectural Woodwork	06 41 11				
20.	Plastic Laminates	06 41 12				
21.	Bituminous Damproofing	07 11 13				
22.	Board Insulation	07 21 13				
23.	Blanket Insulation	07 21 16				
24.	Vapour and Air Barriers	07 27 00				
25.	Asphalt Shingles	07 31 13				
26.	Modified Bituminous Roofing	07 52 11				
27.	Sheet Metal Roofing	07 61 00				
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FORM I: DETAILED PRICES

(See D10)

ITEM NO.	DESCRIPTION	SPEC. REF.	UNIT	APPROX. QUANTITY	UNIT PRICE	AMOUNT
28.	Sheet Metal Flashing and Trim	07 62 00				
29.	Fire Stopping	07 84 00				
30.	Joint Sealers	07 92 00				
31.	Steel Doors and Frames	08 12 13				
32.	Wood Doors	08 14 16				
33.	Insulated Sectional Metal Overhead Doors and Electrical Openers	08 36 13				
34.	Aluminum Doors and Frames	08 41 13				
35.	Fibreglass Windows	08 53 11				
36.	Door Hardware	08 71 00				
37.	Glazing Section	08 80 50				
38.	Gypsum Wall Board	09 21 16				
39.	Portland Cement Stucco	09 24 23				
40.	Ceramic Wall Tiling	09 30 11				
41.	Resinous Flooring	09 67 23				
42.	Painting	09 91 10				
43.	Toilet and Bath Accessories	10 28 14				
44.	Metal Lockers	10 51 13				
45.	Miscellaneous Specialties	10 99 90				
46.	Residential Appliances	11 31 00				
47.	Rough Grading	21 22 13				
48.	Topsoil and Finish Grading	31 22 19				
49.	Excavating, Trenching and Backfilling	31 23 16				
50.	Pile Foundations	31 61 13				
51.	Bored Concrete Piles	31 63 23				
52.	Granular Base	32 11 23				
53.	Granular Sub-Base	32 11 24				

FORM I: DETAILED PRICES

(See D10)

ITEM NO.	DESCRIPTION	SPEC. REF.	UNIT	APPROX. QUANTITY	UNIT PRICE	AMOUNT
54.	Painted Traffic Lines and Markings	32 13 14				
55.	Concrete Walks, Curbs and Gutters	32 13 27				
56.	Chain Link Fences and Gates	32 31 00				
57.	Trees, Shrubs and Planting Beds	32 93 10				
58.	Site Water Utility Distribution Piping	33 11 16				
59.	Foundation Drainage	33 46 13				

FORM J: SUBCONTRACTOR LIST

(See D11)

<u>Name</u>	<u>Address</u>

FORM K: EQUIPMENT (See D12)

Category/type:					
Make/Model/Year:	Serial No.:				
Registered owner:	Registered owner:				
Make/Model/Year:	Serial No.:				
Registered owner:					
Make/Model/Year:	Serial No.:				
Registered owner:					
2. Category/type:					
Make/Model/Year:	Serial No.:				
Registered owner:					
Make/Model/Year:	Serial No.:				
Registered owner:					
Make/Model/Year:	Serial No.:				
Registered owner:					
3. Category/type:					
Make/Model/Year:	Serial No.:				
Registered owner:					
Make/Model/Year:	Serial No.:				
Registered owner:					
Make/Model/Year:	Serial No.:				
Registered owner:					

FORM K: EQUIPMENT (See D12)

4. Category/type:				
Make/Model/Year:	Serial No.:			
Registered owner:				
Make/Model/Year:	Serial No.:			
Registered owner:				
Make/Model/Year:	Serial No.:			
Registered owner:				
5. Category/type:				
Make/Model/Year:	Serial No.:			
Registered owner:				
Make/Model/Year:	Serial No.:			
Registered owner:				
Make/Model/Year:	Serial No.:			
Registered owner:				
6. Category/type:				
Make/Model/Year:	Serial No.:			
Registered owner:				
Make/Model/Year:	Serial No.:			
Registered owner:				
Make/Model/Year:	Serial No.:			
Registered owner:				

PART E - SPECIFICATIONS

GENERAL

E1.	APPLICABLE SPECIFICATIONS.	STANDARD DETAILS AND DRAWINGS
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- E1.1 *The City of Winnipeg Standard Construction Specifications* in its entirety, whether or not specifically listed on Form B: Prices, shall apply to the Work.
- E1.1.1 The City of Winnipeg Standard Construction Specifications is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at http://www.winnipeg.ca/matmgt.
- E1.1.2 The version in effect three (3) Business Days before the Submission Deadline shall apply.
- E1.1.3 Further to GC:2.4(d), Specifications included in the Bid Opportunity shall govern over *The City of Winnipeg Standard Construction Specifications*.
- E1.2 The following Drawings are applicable to the Work:

Drawing No.	Drawing Name/Title
CS	Cover Sheet- Drawing List, Building Code Design Summary & Legal Description
C1 C2 L1 L2 A1 A2 A3 A4 A5 A6 A7 A8 A9 A10 A11 A12 A13 A14 A15 A16 A17 A18	Geodetic Site Plan and Details Site Plan Mechanical Services and Details Site Plan – Landscaping Landscaping Sections Crawl Space Floor Plan Basement Floor Plan Main & Mezzanine Floor Plans – Wall Types Basement Floor Plan – Reflected Ceiling Main & Mezzanine Floor Plans – Reflected Ceiling Door Schedule – Details Room Finish Schedule – Window Details Building Elevations – Sections & Details Building Sections Building Sections Building Sections & Canopy Sections Wall Sections – Details Wall Sections – Details Stair Plans – Sections Stair Sections – Elevations Stair Sections – Elevations & Details Enlarged Washroom Plans – Elevations & Sections Main Floor Plan – Furniture & Millwork Millwork Elevations
A19 A20	Millwork Sections Millwork Sections
\$1.0 \$2.0 \$3.0 \$4.0 \$5.0 \$5.1 \$6.0	General Notes Foundation Plan / Basement Slab Plan Main Floor / Mezzanine Floor Framing Plan Roof Framing Plan Foundation / Main Floor Sections Main Floor Sections Mezzanine / Roof Sections
M1	Site Plan – Mechanical

M2

M3	Basement Floor Plan – Plumbing
M4	Main & Mezzanine Floor Plan – Plumbing
M5	Crawl Space Floor Plan – Mechanical Schedule
M6	Basement Floor Plan – Mechanical – Section & Detail
M7	Main & Mezzanine Floor Plan – Mechanical – Elevation, Section and Detail
E1	Site Plan – Electrical
E2	Crawl Space Floor Plan – Electrical & Lighting
E3	Basement Floor Plan – Electrical Power & Lighting
E4	Main & Mezzanine Floor Plans – Electrical Power
E5	Main & Mezzanine Floor Plans Electrical Lighting and Schedule
E6	Plan, Elevation Electrical Details Panel Lists
T1	Basement & Main Floor Plans – Voice, Data and Communication, Schematic and Schedules
T2	Elevation, Section and Detail – Voice, Data and Communications

Crawl Space Floor Plan - Plumbing & Schedule

E2. SOIL REPORT

N .

DYREGROV CONSULTANTS

CONSULTING GEOTECHNICAL ENGINEERS

1666 DUBLIN AVE. WINNIPEG, MANITOBA R3H 0H1 (204) 632-7252 FAX (204) 632-1442

August 17 , 2005

File 252747

City of Winnipeg Planning Property and Development Department Third Floor 65 Gary Street Winnipeg, Manitoba R3C 4K4

Attention: Ms. Bonnie Konzelman, P.Eng.

Madam:

Re: Geotechnical Investigation
Proposed Fire Station No. 21
Regent Avenue and Starlight Drive

As authorized, we have undertaken a geotechnical investigation for a proposed Fire Station at the south west corner of Regent Avenue and Starlight Drive.

The scope of work was to include the drilling of two deep test holes to auger refusal at the proposed building site and seven, three metre deep test holes in proposed pavement areas. Due to site access conditions, it was only possible to drill one deep test hole to auger refusal with the drill rig and four shallow hand augered test holes. The locations of the test holes which were drilled are illustrated on Figure 1.

The site access problems included the very soft ground and standing water which were prevalent on the site except for the area around the existing house. Trees and bush did not permit the drill rig to boom up in area of the north east corner of the house. During getting clearances for the underground services the Manitoba Hydro representative was emphatic in his advice not to drill on westerly lot portion of the site as there were several feeder main bundles present which fed the surrounding commercial area.

The deep test hole was drilled with equipment supplied by Subterranean Ltd. and which advanced a 400 mm diameter test hole to auger refusal at a depth of 14.79 metres. Disturbed soil samples were recovered at frequent depth intervals and undisturbed samples at depths of about 3.0 metre intervals. The undisturbed samples were tested for their undrained shear strength and all samples for

their soil moisture content including the samples recovered from the shallow test holes.

The soil profile, in general, consists of surficial fill that is successively underlain by lacustrine clay and glacial till. The fill material is a highly plastic silty clay which is of soft to firm consistency. The fill appears to be limited to the east half of the site and ranges from 0.33 to 1.67 metres in thickness. Some organics are present within the fill.

The highly plastic silty clays extend to a depth of 14.14 metres where a glacial silt till is present. The upper portion of the clay deposit is soft but becomes firm below depths of about a metre. The clays vary from firm to stiff in consistency as evidenced by undrained shear strengths that are in excess of 35 kPa. The moisture contents are generally in the 40 percent range, however, an apparent clayey concentration is suggested by the moisture content of 63 percent at 6.0 metres and a sandy layer at 9.5 metres with a moisture content of 16 percent.

A thin tan silt layer was noted in the upper part of the clay deposit in Test Holes 1 and 3.

The clays are underlain (at 14.14 metres) by a glacial till deposit which is known to consist of a heterogeneous mixture of clay, sand and gravel to boulder size materials within a predominately silt matrix. The deposit is described as soft. on the basis of visual examination, which is confirmed by moisture contents in excess of 10 percent.

Water seepage was noted in Test Holes 2,3 and 5 at depths above a metre. In Test Hole 5, 0.30 metres of water had accumulated in the test hole in about 5 minutes.

The preferred foundation for the support of the structure is cast in place concrete friction piles which may be sized on the basis of an allowable shaft adhesion of 16 kPa of circumferential pile area. The upper 3.0 metres of shaft support should be neglected due to potential soil shrinkage away from the pile and the presence of the soft silt. The tips of the piles should not extend into the glacial till. For piles which may be subjected to freezing and associated frost heave effects, the piles should be a minimum of at least 8.0 metres and should contain full length reinforcement.

In the event that the foundation loads are high, driven end bearing precast piles may be used which would be capable of supporting conventional loads of 450, 625 and 800 kN for nominal 300, 350 and 400 mm sizes. The piles would have to be driven to practical refusal with diesel hammers with a rated energy of some 40,000 Joules per blow. Good construction practice requires that preboring be done at driven pile locations, usually to diameters that are 50 mm larger than the pile size and to depths of at least

centre to centre.

We would recommend that structurally supported floor slabs be used throughout, including the vehicular area. The use of these slabs will prevent soil movements from being reflected in the slab. These movement could be both heave due to soil swelling and settling due to settlements which may be induced by the placement of fill needed for site grading if slabs on grade are used. Depending on the site grading which may be designed, up to 1.3 metres of fill might be required. A minimum void of 150 mm should be provided between the underside of the slab and the subgrade soil or a void crawl space could be considered.

If a slab on grade is to be considered the subgrade preparation should include the removal of all the organic surface covering, the very soft subgrade materials and all the fill which presently exists. Some of the fill might be able to be reused in the replacement materials that will be needed for the subgrade preparation. Also, if there is a basement beneath the existing dwelling which presently exists in the south east corner, the basement floor should be broken up and the basement walls removed to at least 1 metre below the final grade. The removal of the organics and soft soil on the westerly portion of the property will have to recognize the presence of the Manitoba Hydro electrical buried bundles if they are to remain.

The excavated subgrade should then be compacted to a uniform density of at least 95 percent of Standard Proctor density at optimum moisture content. The fill should then be placed and compacted to similar standards. The selection of the type of fill is optional but would relate to its thickness and whether structural floors are selected for the building. As noted earlier, the fill thickness might be up to 1.3 metres. This matter should be reviewed as the project concepts are developed.

The design of the pavements should meet heavy duty standards such as 75 mm of asphaltic concrete placed on 380 mm of crushed granular base course or 200 mm of reinforced concrete placed on a leveling course of 75 mm of crushed granular base course. If light duty pavements can be used 50 mm of asphaltic concrete placed on 210 mm of crushed granular base could be used for the design. These sections would have to be placed on a suitably prepared subgrade. The selection of materials and construction procedures should be to the City of Winnipeg Standard Specifications.

Site drainage should be away from the structure at gradients of at least 1 percent in pavement areas and 2 percent in landscaped areas.

All concrete in contact with the soil should be manufactured with sulphate resistant cement and should be of high quality.

It is suggested that this report be considered as preliminary and should be reviewed as the project concept is developed.

Further comments can be provided and the necessity of additional site investigations determined.

I would be pleased to discuss the foregoing with you at your convenience.

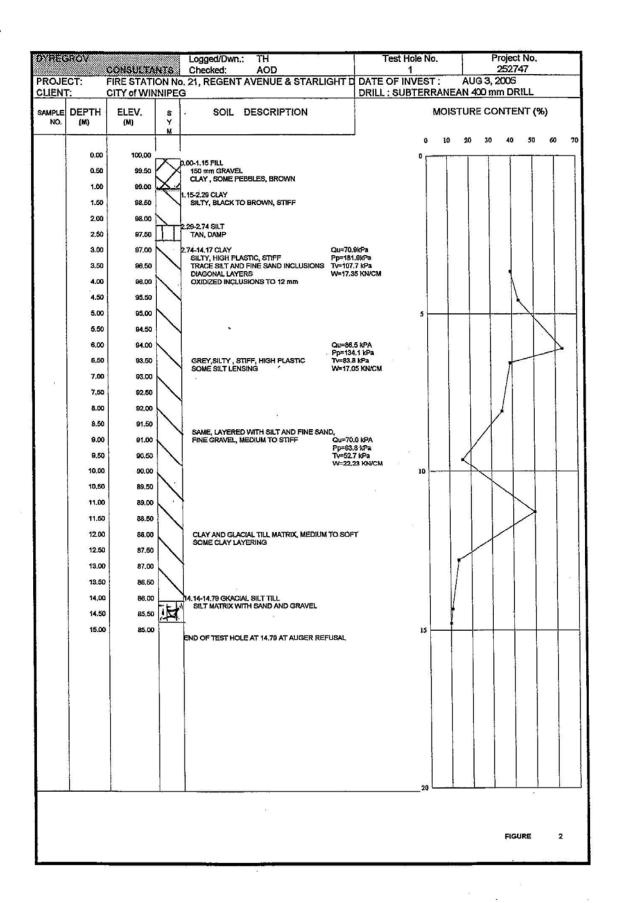
Yours truly,

DYREGROV CONSULTANTS

Per: NO

A.O. Dyregrov, P.Eng.

A. O.
DYREGROV



Geotechnical Investigation Proposed Fire Station No. 21 Regent Avenue and Starlight Drive

TEST HOLE LOGS

Test	Hole	2

Depth (m)	Description	Depth (m)	Moisture Content (%)
0.00-1.17	Clay fill, silty Highly plastic, brown Trace of water at 0.91 m	0.9 1.5 1.8	41.9 37.4 40.1
1.17-1.82	Clay, silty Highly plastic Soft to 1.52, then firm		
1.82	End of test hole		
Test Hole 3			
Depth (m)	Description	Depth (m)	Moisture Content (%)
0.00-0.33	Clay fill, silty Organic	0.5 0.8 0.9	35.3 36.6 35.6
0.33-1.67	Clay, silty High plastic, brown Seepage at 0.76 Soft, firm at 1.07 m	1.4	34.4
1.67-1.75	Silt, tan, soft		
1.75-1.83	Clay, silty, brown High plastic, firm		* *
1.83	End of test hole		
Test Hole 4			
Depth (m)	Description	Depth (m)) Moisture Content (%)
0.00-0.33	Clay fill, silty Some organics, soft	0.8 1.7	32.6 34.7
0.33-1.52	Clay, Silty High plastic, firm		
1.52	End of test hole		

Test hole dry

Test Hole 5		
Depth (m)	Description	Depth (m) Moisture Content (%)
0.00-0.76	Clay fill, silty Some pebbles, brown High plastic, firm	0.6 35.4 0.8 43.7 1.2 45.9 2.3 46.2
0.76-0.91	Clay, silty Organic, brown Very soft Seepage at 0.91 m	
0.91-2.29	Clay, silty High plastic, brown Firm	
2.29	End of test hole 0.33 m of water in 5 min	ns.