



THE CITY OF WINNIPEG

REQUEST FOR PROPOSAL

RFP NO. 3-2016

**REQUEST FOR PROPOSAL FOR PROFESSIONAL CONSULTING SERVICES FOR THE
SASKATCHEWAN AVENUE AT STURGEON CREEK CULVERT REPLACEMENT**

Proposals shall be submitted to:

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

TABLE OF CONTENTS

PART A - PROPOSAL SUBMISSION

Form A: Proposal	1
------------------	---

PART B - BIDDING PROCEDURES

B1. Contract Title	1
B2. Submission Deadline	1
B3. Enquiries	1
B4. Confidentiality	1
B5. Addenda	2
B6. Proposal Submission	2
B7. Proposal (Section A)	3
B8. Fees (Section B)	3
B9. Experience of Proponent and Subconsultants (Section C)	4
B10. Experience of Key Personnel Assigned to the Project (Section D)	4
B11. Project Understanding and Methodology (Section E)	5
B12. Project Schedule (Section F)	5
B13. Disclosure	5
B14. Qualification	6
B15. Opening of Proposals and Release of Information	6
B16. Irrevocable Offer	7
B17. Withdrawal of Offers	7
B18. Interviews	7
B19. Negotiations	7
B20. Evaluation of Proposals	8
B21. Award of Contract	8

PART C - GENERAL CONDITIONS

C0. General Conditions	1
------------------------	---

PART D - SUPPLEMENTAL CONDITIONS

General

D1. General Conditions	1
D2. Project Manager	1
D3. Background	1
D4. Scope of Services	2
D5. Preliminary Design	2
D6. Detailed Design	5
D7. Contract Administration	5
D8. Post-Construction Services	6
D9. Ownership of Information, Confidentiality and Non Disclosure	6

Submissions Prior to Start of Services

D10. Authority to Carry on Business	7
D11. Insurance	7

Schedule of Services

D12. Commencement	8
D13. Critical Stages	8

PART E - SPECIFICATIONS

E1. Sewer Televising Guidelines for Public Works Projects (January 2015)	1
E2. Geotechnical Investigation Requirements for Public Works Street Reconstruction Projects (September 2015)	1

Appendix A – Definition of Professional Consultant Services – Engineering

Appendix B – Estimated Fees, Expenses and Level of Effort

PART B - BIDDING PROCEDURES

B1. CONTRACT TITLE

- B1.1 REQUEST FOR PROPOSAL FOR PROFESSIONAL CONSULTING SERVICES FOR THE SASKATCHEWAN AVENUE AT STURGEON CREEK CULVERT REPLACEMENT

B2. SUBMISSION DEADLINE

- B2.1 The Submission Deadline is 12:00 noon, Winnipeg time, March 04, 2016.
- B2.2 Proposals 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 Project Manager or the Manager of Materials may extend the Submission Deadline by issuing an addendum at any time prior to the time and date specified in B2.1.

B3. ENQUIRIES

- B3.1 All enquiries shall be directed to the Project Manager identified in D2.
- B3.2 If the Proponent finds errors, discrepancies or omissions in the Request for Proposal (RFP), or is unsure of the meaning or intent of any provision therein, the Proponent shall promptly notify the Project Manager of the error, discrepancy or omission at least five (5) Business Days prior to the Submission Deadline.
- B3.3 If the Proponent is unsure of the meaning or intent of any provision therein, the Proponent should request clarification as to the meaning or intent prior to the Submission Deadline.
- B3.4 Responses to enquiries which, in the sole judgment of the Project Manager, require a correction to or a clarification of the RFP will be provided by the Project Manager to all Proponents by issuing an addendum.
- B3.5 Responses to enquiries which, in the sole judgment of the Project Manager, do not require a correction to or a clarification of the RFP will be provided by the Project Manager only to the Proponent who made the enquiry.
- B3.6 All correspondence or contact by Proponents with the City in respect of this RFP must be directly and only with the City's Project Manager. Failure to restrict correspondence and contact to the Project Manager may result in the rejection of the Proponents Proposal Submission.
- B3.7 The Proponent shall not be entitled to rely on any response or interpretation received pursuant to B3 unless that response or interpretation is provided by the Project Manager in writing.

B4. CONFIDENTIALITY

- B4.1 Information provided to a Proponent by the City or acquired by a Proponent by way of further enquiries or through investigation is confidential. Such information shall not be used or disclosed in any way without the prior written authorization of the Project Manager. The use and disclosure of the confidential information shall not apply to information which:
- (a) was known to the Proponent before receipt hereof; or
 - (b) becomes publicly known other than through the Proponent; or
 - (c) is disclosed pursuant to the requirements of a governmental authority or judicial order.
- B4.2 The Proponent shall not make any statement of fact or opinion regarding any aspect of the Request for Proposals to the media or any member of the public without the prior written authorization of the Project Manager.

B5. ADDENDA

- B5.1 The Project Manager may, at any time prior to the Submission Deadline, issue Addenda correcting errors, discrepancies or omissions in the Request for Proposal, or clarifying the meaning or intent of any provision therein.
- B5.2 The Project Manager will issue each addendum at least two (2) Business Days prior to the Submission Deadline, or provide at least two (2) Business Days by extending the Submission Deadline.
- B5.2.1 Addenda will be available on the Bid Opportunities page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/bidopp.asp>
- B5.2.2 The Proponent is responsible for ensuring that it has received all Addenda and is advised to check the Materials Management Division website for Addenda regularly and shortly before the Submission Deadline, as may be amended by addendum.
- B5.3 The Proponent shall acknowledge receipt of each addendum in Paragraph 9 of Form A: Proposal. Failure to acknowledge receipt of an addendum may render a Proposal non-responsive.

B6. PROPOSAL SUBMISSION

- B6.1 The Proposal shall consist of the following components:
- (a) Form A: Proposal (Section A) in accordance with B7;
 - (b) Fees (Section B) in accordance with B8;
- B6.2 The Proposal should also consist of the following components:
- (a) Experience of Proponent and Subconsultants (Section C) in accordance with B9;
 - (b) Experience of Key Personnel Assigned to the Project (Section D), in accordance with B10;
 - (c) Project Understanding and Methodology (Section E) in accordance with B11; and
 - (d) Project Schedule (Section F) in accordance with B12.
- B6.3 Further to B6.1, all components of the Proposal shall be fully completed or provided in the order indicated, and submitted by the Proponent no later than the Submission Deadline, with all required entries made clearly and completely, to constitute a responsive Proposal.
- B6.4 Further to B6.2, all components of the Proposal should be fully completed or provided in the order indicated, and submitted by the Proponent no later than the Submission Deadline, with all required entries made clearly and completely, to constitute a responsive Proposal.
- B6.5 Proponents should submit one (1) unbound original (marked "original") including drawings and four (4) copies. Submission to be 8.5" x 11" except for drawings which may be folded 11" x 17".
- B6.6 Proposal format, including type of binding, number of pages, size of pages and, font, etc., will not be regulated, except that the Proposal should contain a table of contents, page numbering and should be in the Sections identified above. Proponents are encouraged to use their creativity to submit a Proposal which provides the requested information for evaluation and other information which illustrates the strength of their team.
- B6.7 Proponents are advised that inclusion of terms and conditions inconsistent with the Request for Proposal, will be evaluated in accordance with B20.1(a).
- B6.8 The Proposal shall be submitted enclosed and sealed in an envelope/package clearly marked with the RFP number and the Proponent's name and address.
- B6.9 Proposals submitted by facsimile transmission (fax) or internet electronic mail (e-mail) will not be accepted.

B6.10 Proposals shall be submitted to:

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

B6.11 Any cost or expense incurred by the Proponent that is associated with the preparation of the Proposal shall be borne solely by the Proponent.

B7. PROPOSAL (SECTION A)

B7.1 The Proponent shall complete Form A: Proposal, making all required entries.

B7.2 Paragraph 2 of Form A: Proposal shall be completed in accordance with the following requirements:

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

B7.2.1 If a Proposal is submitted jointly by two or more persons, each and all such persons shall identify themselves in accordance with B7.2.

B7.3 In Paragraph 3 of Form A: Proposal, the Proponent shall identify a contact person who is authorized to represent the Proponent for purposes of the Proposal.

B7.4 Paragraph 11 of Form A: Proposal shall be signed in accordance with the following requirements:

- (a) if the Proponent is a sole proprietor carrying on business in his/her own name, it shall be signed by the Proponent;
- (b) if the Proponent is a partnership, it shall be signed by the partner or partners who have authority to sign for the partnership;
- (c) if the Proponent 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 Proponent is carrying on business under a name other than its own, it shall be signed by the registered owner of the business name, or by the registered owner's authorized officials if the owner is a partnership or a corporation.

B7.4.1 The name and official capacity of all individuals signing Form A: Proposal should be printed below such signatures.

B7.5 If a Proposal is submitted jointly by two or more persons, the word "Proponent" shall mean each and all such persons, and the undertakings, covenants and obligations of such joint Proponents in the Proposal and the Contract, when awarded, shall be both joint and several.

B8. FEES (SECTION B)

B8.1 The Proposal shall include a Fixed Fee for Preliminary and Detailed Design phases identified in D4.1 Scope of Services.

B8.2 The Proposal shall include a Time Based Fee schedule calculated on a time basis for Contract Administration and Post Construction Services phases identified in D4.1 Scope of Services.

- B8.3 Adjustments to Fees will only be considered based on increases to the Scope of Services.
- B8.3.1 The City will not consider an adjustment to the Fees based on changes in the Project budget or the Final Total Construction Cost.
- B8.4 Notwithstanding C1.1(b), Fees shall include costs for out of town travel, related meals and accommodations for the duration of the Project and shall not be considered an Allowable Disbursement.
- B8.5 The Fee Proposal shall also include an allowance for Allowable Disbursements as defined in C1.1(b). An allowance of up to 8% may be made for overhead expenses. Subconsultants and other direct expenses shall be broken out separately and an allowance of up to 5% may be made for handling. The amount for each disbursement shall be shown on the "Estimated Fees, Expenses and Level of Effort" table as indicated in B11.4.
- B8.6 Further to B8.5, the Fee Proposal shall not include disbursement costs for geotechnical drilling, sewer televising, hydroexcavation, public information session venue cost, mass mailing of notices cost, permit fees, and material testing during construction, nor shall they include costs for direct on site supervision of these activities. The Fee Proposal shall include the associated engineering activities associated with these investigations including but not limited to overall project investigation management and planning, analysis and interpretation of results, and preparation of reports. For Contract Award, an allowance will be added to the evaluated Fee Proposal to cover these costs. An allowance of up to 5% may be made for handling charges.
- B8.7 Notwithstanding C10.1, Fees submitted shall not include the Goods and Services Tax (GST) or Manitoba Retail Sales Tax (MRST, also known as PST), which shall be extra where applicable.
- B8.8 Payments to Non-Resident Consultants are subject to Non-Resident Withholding Tax pursuant to the Income Tax Act (Canada).

B9. EXPERIENCE OF PROPONENT AND SUBCONSULTANTS (SECTION C)

- B9.1 Proposals should include:
- (a) Details demonstrating the history and experience of the Proponent and Subconsultants in applicable professional consultant services as required in D4.1 defined in Appendix A for up to three projects of similar scope and complexity and/or similar size and complexity. For each project listed the Proponent should submit: a description of the project; role of the consultant; the project's final construction cost; the year the project was completed; the project owner; and reference information (one current name with telephone number per project).
- B9.1.1 Where applicable, information should be separated into Proponent and Subconsultant project listings.
- B9.2 The Proposal should include general firm profile information, including years in business, average volume of work, number of employees and other pertinent information for the Proponent and all Subconsultants.

B10. EXPERIENCE OF KEY PERSONNEL ASSIGNED TO THE PROJECT (SECTION D)

- B10.1 Describe your approach to overall team formation and coordination of team members. Include an organizational chart for the Project.
- B10.2 Submit the experience and qualifications of the Key Personnel assigned to the Project for projects of similar complexity, scope and value, including the principals-in-charge, the Consultants Representative, managers of the key disciplines and lead designers. Include educational background and degrees, professional recognition, job title, years of experience in current position, years of experience in design and construction, and years of experience with existing employer. Roles of each of the Key Personnel in the Project should be identified in the organizational chart referred to in B10.1. For each person identified, list at least two comparable

projects in which they have played a primary role. If a project selected for a key person is included in B9, provide only the project name and the role of the key person. For other projects provide the description of project; the role of the person; the project owner; and reference information (one current name with telephone number per project).

B10.3 Further to B10.2 the level of effort of the Key Personnel presented in the Table required in B11.4 will be considered in evaluating the experience and qualifications.

B11. PROJECT UNDERSTANDING AND METHODOLOGY (SECTION E)

B11.1 Describe your firm's project management approach and team organization during the performance of Services, so that the evaluation committee has a clear understanding of the methods the Proponent will use in the delivery of this Project. Methodology should be presented in accordance with the Scope of Services identified in D4. Describe the collaborative process/method to be used by the Key Personnel of the team in the various phases of the Project.

B11.2 Proposals should address the team's understanding of the broad functional and technical requirements; the team's understanding of the urban design issues; the team's understanding of how the public engagement process integrates into the planning and decision-making process; the proposed Project construction budget; the City's Project methodology with respect to the information provided within this RFP; and any other issue that conveys your team's understanding of the Project requirements.

B11.3 For each person identified in B10.2, list the percent of time to be dedicated to the Project in accordance with the Scope of Services identified in D4.

B11.4 Methodology should be presented in accordance with the Scope of Services identified in D4.1. A table, similar to the "Estimated Fees, Expenses and Level of Effort" table attached hereto as Appendix B, shall be included that details an outline of the work program for all Phases of the assignment including the hourly rate and estimated time for each individual and each task. The table shall also include the cost of all applicable disbursements and any associated mark-ups. Subtotals shall be provided summarizing the costs for each individual each task, and each Phase of the assignment.

B12. PROJECT SCHEDULE (SECTION F)

B12.1 Proponents should present a carefully considered Critical Path Method schedule using Microsoft Project or similar project management software, complete with resource assignments (key designers), durations (weekly timescale) and milestone dates or events. The schedule should address each requirement of the Scope of Services.

B12.2 The Proponent's schedule should include critical dates for review and approval processes by the City and other organizations anticipated during the design and tendering phases of the Project. Reasonable times should be allowed for completion of these processes. The critical path should be identified

B13. DISCLOSURE

B13.1 Various Persons provided information or services with respect to this Work. In the City's opinion, this relationship or association does not create a conflict of interest because of this full disclosure. Where applicable, additional material available as a result of contact with these Persons is listed below.

B13.2 The Persons are:

(a) N/A

B14. QUALIFICATION

B14.1 The Proponent 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, or if the Proponent does not carry on business in Manitoba, in the jurisdiction where the Proponent does carry on business; and
- (b) be financially capable of carrying out the terms of the Contract;
- (c) have all the necessary experience, capital, organization, and equipment to perform the Services in strict accordance with the terms and provisions of the Contract;
- (d) have or establish and staff an office in Winnipeg for the duration of the Project.

B14.2 The Proponent and any proposed Subconsultant (for the portion of the Services proposed to be subcontracted to them) shall:

- (a) be responsible and not be suspended, debarred or in default of any obligations to the City. A list of suspended or debarred individuals and companies is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/debar.stm>

B14.3 The Proponent and/or any proposed Subconsultant (for the portion of the Services proposed to be subcontracted to them) shall:

- (a) have successfully carried out services for the programming; design, management of construction and contract administration for architectural and/or engineering projects of similar complexity, scope and value; and to those required for this Project; and
- (b) be fully capable of performing the Services 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);
- (d) have the knowledge and resources to administer the requirements of The Workplace Safety and Health Act (Manitoba) during the construction works associated with this Contract; and
- (e) undertake to meet all licensing and regulatory requirements of the appropriate governing authorities and associations in the Province of Manitoba.

B14.4 The Proponent shall submit, within three (3) Business Days of a request by the Project Manager, further proof satisfactory to the Project Manager of the qualifications of the Proponent and of any proposed Subconsultant.

B14.5 The Proponent shall provide, on the request of the Project Manager, full access to any of the Proponent's equipment and facilities to confirm, to the Project Manager's satisfaction, that the Proponent's equipment and facilities are adequate to perform the Services.

B15. OPENING OF PROPOSALS AND RELEASE OF INFORMATION

B15.1 Proposals will not be opened publicly.

B15.2 After award of Contract, the names of the Proponents and the Contract amount of the successful Proponent will be available on the Closed Bid Opportunities (or Public/Posted Opening & Award Results) page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/>.

B15.3 To the extent permitted, the City shall treat all Proposal Submissions as confidential. However, the Proponent is advised that any information contained in any Proposal 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.

B15.4 Following the award of Contract, a Proponent will be provided with information related to the evaluation of its submission upon written request to the Project Manager.

B16. IRREVOCABLE OFFER

B16.1 The Proposal(s) submitted by the Proponent shall be irrevocable for the time period specified in Paragraph 10 of Form A: Proposal.

B16.2 The acceptance by the City of any Proposal shall not release the Proposals of the other responsive Proponents and these Proponents shall be bound by their offers on such Services until a Contract for the Services has been duly executed as herein provided, but any offer shall be deemed to have lapsed unless accepted within the time period specified in Paragraph 10 of Form A: Proposal.

B17. WITHDRAWAL OF OFFERS

B17.1 A Proponent may withdraw its Proposal without penalty by giving written notice to the Manager of Materials at any time prior to the Submission Deadline.

B17.1.1 The time and date of receipt of any notice withdrawing a Proposal shall be the time and date of receipt as determined by the Manager of Materials.

B17.1.2 The City will assume that any one of the contact persons named in Paragraph 3 of Form A: Proposal or the Proponent's authorized representatives named in Paragraph 11 of Form A: Proposal, and only such person, has authority to give notice of withdrawal.

B17.1.3 If a Proponent gives notice of withdrawal prior to the Submission Deadline, the Manager of Materials will:

- (a) retain the Proposal until after the Submission Deadline has elapsed;
- (b) open the Proposal to identify the contact person named in Paragraph 3 of Form A: Proposal and the Proponent's authorized representatives named in Paragraph 11 of Form A: Proposal; and
- (c) if the notice has been given by any one of the persons specified in B17.1.3(b), declare the Proposal withdrawn.

B17.2 A Proponent who withdraws its Proposal after the Submission Deadline but before its offer has been released or has lapsed as provided for in B16.2 shall be liable for such damages as are imposed upon the Proponent 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.

B18. INTERVIEWS

B18.1 The Project Manager may, in his/her sole discretion, interview Proponents during the evaluation process.

B19. NEGOTIATIONS

B19.1 The City reserves the right to negotiate details of the Contract with any Proponent. Proponents are advised to present their best offer, not a starting point for negotiations in their Proposal Submission.

B19.2 The City may negotiate with the Proponents submitting, in the City's opinion, the most advantageous Proposals. The City may enter into negotiations with one or more Proponents without being obligated to offer the same opportunity to any other Proponents. Negotiations may be concurrent and will involve each Proponent individually. The City shall incur no liability to any Proponent as a result of such negotiations.

B19.3 If, in the course of negotiations pursuant to B19.2 or otherwise, the Proponent amends or modifies a Proposal after the Submission Deadline, the City may consider the amended Proposal as an alternative to the Proposal already submitted without releasing the Proponent from the Proposal as originally submitted.

B20. EVALUATION OF PROPOSALS

B20.1 Award of the Contract shall be based on the following evaluation criteria:

- (a) compliance by the Proponent with the requirements of the Request for Proposal or acceptable deviation therefrom: (pass/fail)
- (b) qualifications of the Proponent and the Subconsultants, if any, pursuant to B14: (pass/fail)
- (c) Fees; (Section B) 40%
- (d) Experience of Proponent and Subconsultants; (Section C) 15%
- (e) Experience of Key Personnel Assigned to the Project; (Section D) 20%
- (f) Project Understanding and Methodology (Section E) 20%
- (g) Project Schedule. (Section F) 5%

B20.2 Further to B20.1(a), the Award Authority may reject a Proposal as being non-responsive if the Proposal 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 Proposal, or waive technical requirements or minor informalities or irregularities if the interests of the City so require.

B20.3 Further to B20.1(b), the Award Authority shall reject any Proposal submitted by a Proponent who does not demonstrate, in its Proposal or in other information required to be submitted, that it is responsible and qualified.

B20.4 Further to B20.1(c), Fees will be evaluated based on Fees submitted in accordance with B8.

B20.5 Further to B20.1(d), Experience of Proponent and Subconsultants will be evaluated considering the experience of the organization on projects of similar size and complexity as well as other information requested.

B20.6 Further to B20.1(e), Experience of Key Personnel Assigned to the Project will be evaluated considering the experience and qualifications of the Key Personnel and Subconsultant personnel on Projects of comparable size and complexity.

B20.7 Further to B20.1(f), Project Understanding and Methodology will be evaluated considering your firm's understanding of the City's Project, project management approach and team organization.

B20.8 Further to B20.1(g), Project Schedule will be evaluated considering the Proponent's ability to comply with the requirements of the Project.

B20.9 Notwithstanding B20.1(d) to B20.1(g), where Proponents fail to provide a response to B6.2(a) to B6.2(d), the score of zero may be assigned to the incomplete part of the response.

B20.10 Proposals will be evaluated considering the information in the Proposal Submission and any interviews held in accordance with B18.

B21. AWARD OF CONTRACT

B21.1 The City will give notice of the award of the Contract, or will give notice that no award will be made.

- B21.2 The City will have no obligation to award a Contract to a Proponent, even though one or all of the Proponents are determined to be responsible and qualified, and the Proposals are determined to be responsive.
- B21.2.1 Without limiting the generality of B21.2, the City will have no obligation to award a Contract where:
- (a) the prices exceed the available City funds for the Services;
 - (b) the prices are materially in excess of the prices received for similar services in the past;
 - (c) the prices are materially in excess of the City's cost to perform the Services, or a significant portion thereof, with its own forces;
 - (d) only one Proposal 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.
- B21.3 Where an award of Contract is made by the City, the award shall be made to the responsible and qualified Proponent submitting the most advantageous offer.
- B21.4 The City may, at its discretion, award the Contract in phases.
- B21.5 Notwithstanding Paragraph 6 of Form A: Proposal and C4, the City will issue a Letter of Intent to the successful Proponent in lieu of execution of a Contract.
- B21.5.1 The Contract documents as defined in C1.1(n)(ii) in their entirety shall be deemed to be incorporated in and to form a part of the Letter of Intent notwithstanding that they are not necessarily attached to or accompany said Letter of Intent.
- B21.6 The form of Contract with the City of Winnipeg will be based on the Contract as defined in C1.1(n).
- B21.7 Following the award of Contract, a Proponent will be provided with information related to the evaluation of its Proposal upon written request to the Project Manager.
- B21.8 If, after the award of Contract, the Project is cancelled, the City reserves the right to terminate the Contract. The Consultant will be paid for all Services rendered up to time of termination.

PART C - GENERAL CONDITIONS

C0. GENERAL CONDITIONS

- C0.1 The *General Conditions for Consultant Services* (Revision 2010-10-01) are applicable to the Services of the Contract.
- C0.1.1 The *General Conditions for Consultant Services* are available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at http://www.winnipeg.ca/matmgt/gen_cond.stm.
- C0.2 A reference in the Request for Proposal to a section, clause or subclause with the prefix “**C**” designates a section, clause or subclause in the *General Conditions for Consultant Services*.

PART D - SUPPLEMENTAL CONDITIONS

GENERAL

D1. GENERAL CONDITIONS

- D1.1 In addition to the *General Conditions for Consultant Services*, these Supplemental Conditions are applicable to the Services of the Contract.

D2. PROJECT MANAGER

The Project Manager is:

Damir Muhurdarevic, P. Eng., Bridge Projects Engineer, City of Winnipeg

Email: DMuhurdarevic@Winnipeg.ca

Telephone No. 204 986-3712

- D2.1 At the pre-commencement meeting, the Project Manager will identify additional personnel representing the Project Manager and their respective roles and responsibilities for the Services.

- D2.2 Proposal Submissions must be submitted to the address in B6.10

D3. BACKGROUND

- D3.1 This assignment generally encompasses undertaking engineering services related to the replacement of the Saskatchewan Avenue at Sturgeon Creek culvert with a bridge.
- D3.2 The Saskatchewan Avenue crossing of Sturgeon Creek is a two-cell concrete box culvert with concrete sloped wing walls, constructed in 1962.
- D3.3 The existing culvert is considered to be fair to poor condition with concrete deterioration and severe scour damage on the downstream wingwalls and creek
- D3.4 At this location, Saskatchewan Avenue has two traffic lanes and no sidewalk, but there is evidence of a well-used informal pathway on the South side of the road. Between Cavalier Street and Hamilton Avenue the road is in fair to poor condition and is slated for reconstruction.
- D3.5 Canadian Pacific Railway (CPR) tracks are running along Saskatchewan Avenue, and over a Concrete Arch Bridge approximately 20 m North of the existing culvert.
- D3.6 The existing box culvert is hydraulically deficient to handle the Sturgeon Creek flows in spring run-off and heavy rain event conditions. Overtopping of the road has occurred on several occasions in the past. A dangerous situation results as creek flow are trapped between the adjacent railway bridge and the culvert raising water levels over 5 m high with a whirlpool effect. Extremely high velocity run-off exits the culverts creating severe riverbank scour and damage to retaining walls.
- D3.7 As further development occurs further upstream, flows on Sturgeon Creek may further increase which may result in further unstable conditions for this structure and the adjacent CP Rail Bridge.
- D3.8 There is possible instability of creek banks. An investigation approximately 300 m upstream and downstream of the culvert is needed to determine what measures if any are required to maintain stability.
- D3.9 There is a multi-use pathway south of the culvert on the east bank of the creek. The pathway leads to Saskatchewan Ave, but does not connect to the roadway. There is a desire to extend the pathway westward across Surgeon Creek to Cavalier Ave as part of the new bridge.

- D3.10 A number of utilities are present at the site.
- D3.11 Property requirements at the site are to be considered.
- D3.12 Due to the inadequate hydraulic capacity, age related deterioration, and lack of pedestrian facilities, the box culvert requires replacement with a high level bridge. A bridge constructed at a higher elevation will improve Sturgeon Creek flow conditions and eliminate the risk of damage to the road crossing and the adjacent railway bridge, which will improve safety by eliminating the dangerous upstream back-up.
- D3.13 The project will be carried out in a staged approach with preliminary design, detailed design, and contract administration phases. It is anticipated that preliminary design would assess existing conditions and confirm the best way to proceed.
- D3.14 It is anticipated that a full closure of Saskatchewan Avenue between the Manitoba Hydro Crestview Station access road (approximately 250m West of Sturgeon Creek) and the back lane off Acheson Drive (approximately 200m East of Sturgeon Creek) during the construction period will be permitted.
- D3.15 The City's proposed project schedule for the work is:
- (a) Draft preliminary design report submitted for City review by September 30, 2016
 - (b) Holding a public open house by October 31, 2016.
 - (c) Preliminary design report finalized by November 30, 2016.
 - (d) Detailed design starting in January 2017.
 - (e) Tendering in September 2017.
 - (f) Construction starting in November 2017 and completed in September 2018.

D4. SCOPE OF SERVICES

- D4.1 The Services required under this Contract shall consist of the preliminary design, detailed design, and contract administration of the Saskatchewan Ave at Sturgeon Creek culvert replacement in accordance with the following:
- (a) Preliminary Design as outlined in D5.
 - (b) Public Engagement as outlined in D5.10.
 - (c) Detailed Design as outlined in D6.
 - (d) Contract Administration as outlined in D7.
 - (e) Post Construction Services as outlined in D8
- D4.2 The City documents identified as "Definition of Professional Consultant Services – Engineering" dated January 19, 2012 and the "Manual of Project Administration Practice", dated March 1992" shall be applicable to the provision of consulting services for this project.
- D4.3 For all Phases, include any and all associated ancillary services required to successfully complete the Work to the satisfaction of The City of Winnipeg.

D5. PRELIMINARY DESIGN

- D5.1 Preliminary Design Services as defined in Appendix A shall include but not be limited to:
- D5.2 Review of Existing Information
- (a) Review existing record drawings, utility information, reports, and other information that will be provided by the City to establish relevant information. This information will be provided during the RFP period upon request to the Project Manager. Confirm and supplement this information as necessary.

D5.3 Site Investigation

- (a) Carry out detailed on-site topographic surveys, inspections and site information gathering.

D5.4 Hydraulic Investigation

- (a) Perform a hydraulic investigation to determine the appropriate size and type of hydraulic opening. Consult with the Water & Waste Department to confirm acceptability.
- (b) Provide updated HEC-RAS model with the final design scheme for the proposed bridge crossing.

D5.5 Geotechnical Investigation

- (a) Perform a geotechnical investigation sufficient to design the recommended alternative. Carry out slope stability analysis of the existing adjacent creek banks. Fees for geotechnical drilling including sampling, and material testing shall not be included in the Fee Proposal, nor shall they include costs for direct on site supervision of these activities. However a geotechnical investigation program shall be proposed and an estimated budget provided separately from the Fee Proposal.

D5.6 Utilities

- (a) Review existing utilities at and near the bridge and hold meetings with representatives from the utilities as necessary. Perform televising as required. Perform hydroexcavation if necessary to confirm elevations. Determine whether there will be any utility relocation requirements in consultation with the proper authority and the City of Winnipeg. Fees for sewer televising and hydroexcavation shall not be included in the Fee Proposal, nor shall they include costs for direct on site supervision of these activities. However a sewer televising and hydroexcavation program shall be proposed and an estimated budget provided separately from the Fee Proposal.

D5.7 Property

- (a) Assess property requirements to confirm additional property requirement and/or construction easements.

D5.8 Regulatory Requirements

- (a) Determine regulatory approval requirements including those with City of Winnipeg Waterways, Manitoba Conservation, Navigable Waters, and Department of Fisheries and Oceans (DFO), and requirements for any other regulatory approvals that may be necessary.

D5.9 Develop Alternatives

- (a) Confirm road and sidewalk requirements with the City of Winnipeg. It is anticipated that the two vehicular lanes that exist are to be maintained and a multi-use path is to be added. Perform a road condition assessment between Cavalier Street and Hamilton Avenue as part of the Preliminary Design.
- (b) A new multi-use path on the South Side of Saskatchewan Avenue is to be provided to connect the existing multi-use pathway South East of the crossing to Cavalier Ave. Consideration is to be paid to the elevations of the pathway and the road.
- (c) The bridge shall be designed in accordance with the Canadian Highway Bridge Design Code, CAN/CSA-S6-06. The design live load vehicle shall be the CL-625. All structures shall be designed for a minimum 75 year design life.
- (d) Hold meetings with the Project Manager and the City of Winnipeg Project Technical Steering Committee to present the findings of the investigations and to gain concurrence of recommendations for the 2 alternatives to be developed.
- (e) Develop 2 structure crossing alternatives consistent with the above information, including detailed Class 3 (expected accuracy of +30% to -20%) cost estimates, traffic management plans during construction, risk assessments, and proposed construction schedules.

- (f) Develop evaluation criteria and weighting for selection of the recommended option. This is to be done in conjunction with the Project Manager and the City of Winnipeg Project Technical Steering Committee.

D5.10 Public Engagement

Public engagement (PE) is an integral part of the project, which will allow better decisions to be made, incorporating the interests and concerns of affected stakeholders, while meeting the needs of the City. This will provide greater transparency in the decision-making process and provide for a more sustainable solution.

- (a) The public engagement process shall be based on IAP2 principles and best practices (see <http://iap2canada.ca/>).
- (b) The experience of the Public Engagement lead should also include: confirmation of IAP2 membership, and completion of IAP2 or related public engagement courses, specifying the year of completion of the IAP2 Foundations/Certificate courses.
- (c) Identify and prepare a profile of key stakeholders in the immediate area that may be impacted by the project. This will also include groups with a high interest in the outcomes of the project.
- (d) Perform a stakeholder analysis to determine both the needs and the impact on each stakeholder.
- (e) Build relationships with key stakeholders as necessary to ensure that wants and outstanding issues are addressed.
- (f) Develop content, including a map of the project area, a project timeline, and project updates, for a project webpage that will be hosted on the City's Major Projects website. Develop content for communications with stakeholders. This may include, but may not be limited to, direct letters and updates to residents, press releases, social media, and advertisements.
 - (i) All relevant public engagement materials will need to be posted online 2 weeks prior to an in-person event.
 - (ii) The anticipated review period for public engagement materials will be 4 weeks.
- (g) Develop and implement one (1) Public Open House, as determined by the stakeholder analysis, before the preliminary design is completed.
 - (i) The feedback process should be mirrored online with a survey.
- (h) Provide a PE report that will be posted on the project's website so that stakeholders can see how their input has been considered and used. Reports should include: cataloguing public input and project response to it; a detailed record of all promotions and communications, attendance numbers and dates of events; and a summary of findings and results.
- (i) Costs for advertising, mailings, and the public open house venue shall not be included in the Fee Proposal. For Contract Award, an allowance will be added to the evaluated FeeProposal to cover these costs.
- (j) Advise on any additional public engagement strategy as necessary.

D5.11 Preliminary Design Report

- (a) Prepare and submit a preliminary design report outlining the results of the investigations and assessments carried out, options investigated, and the recommended scope of work, complete with drawings Class 3 (expected accuracy of +30% to -20%) cost estimates, traffic management plans during construction, risk assessments, proposed construction schedules, and public engagement feedback. Four (4) hard copies along with an electronic PDF version properly bookmarked of the final report shall be submitted.
- (b) A draft report is to be submitted.
- (c) The report is to be finalized after incorporating feedback from the public open house and from the City Project Manager.

D5.12 Monthly Status Reports

- (a) The consultant shall submit a written Monthly Status Report to the City's project manager during Preliminary Design. The status reports shall include:
 - (i) Progress on tasks since previous report;
 - (ii) Planned accomplishments for the next period;
 - (iii) Project schedule update;
 - (iv) Project budget update;
 - (v) List concerns, potential problems, risks, etc, for the project

D6. DETAILED DESIGN

D6.1 Detailed Design Services as defined in Appendix A shall include but not be limited to:

- (a) Undertake detailed design and Bid Opportunity preparation based on the agreed scope of work.
- (b) Obtain any regulatory approvals that may be necessary. Fees for permit fees for the regulatory approvals shall not be included in the Fee Proposal. For Contract Award, an allowance will be added to the evaluated Fee Proposal to cover these costs.
- (c) Include all services required to award a Contract to the successful bidder.

D6.2 The anticipated scope of construction work includes but may not be limited to:

- (a) Removal of the existing culvert.
- (b) Construction of a new bridge.
- (c) Raising of the approach grades and road reconstruction.
- (d) Possible relocation of utilities and renewal of sewer outfalls.
- (e) Stabilization of creek banks.
- (f) Installation of a multi-use path.
- (g) Detailed design drawings, specifications, and construction cost estimates shall be submitted for review to the Project Manager at 50% and 95% completion stages. The Consultant shall allow 2 weeks for review. Drawings shall be submitted for Underground Structures allowing 6 weeks for comments.

D6.3 The consultant shall submit a written Monthly Status Report to the City's project manager during Detailed Design. The status reports shall include:

- (a) Progress on tasks since previous report;
- (b) Planned accomplishments for the next period;
- (c) Project schedule update;
- (d) Project budget update;
- (e) List concerns, potential problems, risks, etc, for the project.

D7. CONTRACT ADMINISTRATION

D7.1 Contract Administration Services are defined in Appendix A.

D7.2 NON-RESIDENT Contract Administration Services as defined in Appendix A necessary to complete works of the project shall be provided.

D7.3 RESIDENT Contract Administration Services as defined in Appendix A necessary to complete works of the project shall be provided. In accordance with Clause 7.5 of Appendix A, full-time inspection is required for the inspection of the bridge infrastructure. Fee estimates shall be based on a 12 month, November 2017 to October 2018, construction period.

D7.4 Fees for material testing during construction shall not be included in the Fee Proposal. For Contract Award, an allowance will be added to the evaluated Fee Proposal to cover these costs.

D8. POST-CONSTRUCTION SERVICES

D8.1 Post-Construction Services are defined in Appendix A.

D8.2 The Consultant shall submit record drawings within three months of Substantial Performance of the each construction contract, including 2 bound sets of 11x17 paper prints, PDF's of the entire set and of individual drawings, and AutoCAD files of individual drawings.

D8.3 The Consultant shall submit a CD or DVD of electronic copies of photographs.

D8.4 The Consultant shall submit 2 hard copies and 1 PDF copy of a final construction report within three months of Substantial Performance of the latest construction contract, including:

(a) Summary report – a brief (three to five page) description of:

- Introduction – description/summary of scope, time, and cost of project
- Tender/Award – bids received and award
- Construction - description of the scope of works, key issues that arose and resolutions, changes, final or projected final construction cost

(b) Appendices:

- Photographs - typical pre-construction, during construction, and post-construction photographs
- Cost summary
- Tabulation of tenders
- Change orders
- Summary of progress payments
- Final progress payment
- Contract schedule
- Subcontractor list
- Daily or weekly reports
- Meeting minutes
- Shop drawings/submittals
- Instructions
- Contractor request for information & responses
- Material test reports
- Guarantees
- Certificates of substantial and total performance
- Record drawings

D9. OWNERSHIP OF INFORMATION, CONFIDENTIALITY AND NON DISCLOSURE

D9.1 The Contract, all deliverables produced or developed, and information provided to or acquired by the Consultant are the property of the City and shall not be appropriated for the Consultants own use, or for the use of any third party.

D9.2 The Consultant shall not make any public announcements or press releases regarding the Contract, without the prior written authorization of the Project Manager.

D9.3 The following shall be confidential and shall not be disclosed by the Consultant to the media or any member of the public without the prior written authorization of the Project Manager;

- (a) information provided to the Consultant by the City or acquired by the Consultant during the course of the Work;
- (b) the Contract, all deliverables produced or developed; and
- (c) any statement of fact or opinion regarding any aspect of the Contract.

D9.4 A Consultant who violates any provision of D9 may be determined to be in breach of Contract.

SUBMISSIONS PRIOR TO START OF SERVICES

D10. AUTHORITY TO CARRY ON BUSINESS

D10.1 The Consultant 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 Consultant does not carry on business in Manitoba, in the jurisdiction where the Consultant does carry on business, throughout the term of the Contract, and shall provide the Project Manager with evidence thereof upon request.

D11. INSURANCE

D11.1 The Consultant shall procure and maintain, at its own expense and cost, insurance policies with limits no less than those shown below.

D11.2 As a minimum, the Consultant shall, without limiting its obligations or liabilities under any other contract with the City, procure and maintain, at its own expense and cost, the following insurance policies:

- (a) Comprehensive or Commercial General Liability Insurance including:
 - (i) an inclusive limit of not less than \$2,000,000 for each occurrence or accident with a minimum \$2,000,000 Products and Completed Operations aggregate and \$5,000,000 general aggregate;
 - (ii) all sums which the Consultant shall become legally obligated to pay for damages because of bodily injury (including death at any time resulting therefrom) sustained by any person or persons or because of damage to or destruction of property caused by an occurrence or accident arising out of or related to the Services or any operations carried on in connection with this Contract;
 - (iii) coverage for Products/Completed Operations, Blanket Contractual, Consultant's Protective, Personal Injury, Contingent Employer's Liability, Broad Form Property Damage, Employees as Additional Insureds, and Non-Owned Automobile Liability;
 - (iv) a Cross Liability clause and/or Severability of Interest Clause providing that the inclusion of more than one Insured shall not in any way affect the rights of any other Insured hereunder in respect to any claim, demand, suit or judgment made against any other Insured;
- (b) if applicable, Automobile Liability Insurance covering all motor vehicles, owned and operated and used or to be used by the Consultant directly or indirectly in the performance of the Service. The Limit of Liability shall not be less than \$2,000,000 inclusive for loss or damage including personal injuries and death resulting from any one accident or occurrence.
- (c) Professional Errors and Omissions Liability Insurance including:
 - (i) an amount not less than \$ 5,000,000 . per claim and \$ 5,000,000 in the aggregate.

D11.2.1 The Consultant's Professional Errors and Omissions Liability Insurance shall remain in force for the duration of the Project and for twelve (12) months after total performance.

- D11.3 The policies required in D11.2(a) shall provide that the City is named as an Additional Insured thereunder and that said policies are primary without any right of contribution from any insurance otherwise maintained by the City.
- D11.4 The Consultant shall require each of its Subconsultants to provide comparable insurance to that set forth under D11.2(a) and D11.2(c).
- D11.5 The Consultant shall require any Contractor that is to perform subsurface work to provide comparable insurance to that set forth under D11.2 (b) and contractor's pollution liability (CPL) insurance in the amount of at least five million dollars (\$5,000,000) per occurrence and five million dollars (\$5,000,000) aggregate insuring against claims for injuries to persons or damages to property which may arise from or in connection with the performance of Work performed by the contractor, its agents, representatives, employees or subcontractors. Coverage shall apply to both sudden and gradual pollution conditions including disruption of pre-existing conditions. Such insurance shall also include clean-up costs, defence, diminution in value, natural resource damages and transported cargo and remain in place during the performance of the Work.
- D11.6 The Consultant shall provide the Project Manager with a certificate(s) of insurance for itself and for all of its Subconsultants, in a form satisfactory to the City Solicitor, at least two (2) Business Days prior to the commencement of any Services, but in no event later than the date specified in C4.1 for the return of the executed Contract. Such Certificates shall state the exact description of the Services and provide for written notice in accordance with D11.9.
- D11.7 The Consultant may take out such additional insurance as it may consider necessary and desirable. All such additional insurance shall be at no expense to the City.
- D11.8 All insurance, which the Consultant is required to obtain with respect to this Contract, shall be with insurance companies registered in and licensed to underwrite such insurance in the Province of Manitoba.
- D11.9 The Consultant shall not cancel, materially alter, or cause any policy to lapse without providing at least thirty (30) Calendar Days prior written notice to the City.

SCHEDULE OF SERVICES

D12. COMMENCEMENT

- D12.1 The Consultant shall not commence any Services until it is in receipt of a notice of award from the City authorizing the commencement of the Services.
- D12.2 The Consultant shall not commence any Services until:
- (a) the Project Manager has confirmed receipt and approval of:
 - (i) evidence of authority to carry on business specified in D10;
 - (ii) evidence of the insurance specified in D11;
 - (b) the Consultant has attended a meeting with the Project Manager, or the Project Manager has waived the requirement for a meeting.
- D12.3 The City intends to award this Contract by April 15, 2016.

D13. CRITICAL STAGES

- D13.1 The Consultant shall achieve critical stages of the Services for this Contract in accordance with the following requirements:
- (a) Submission of a draft preliminary design report for City review by September 30, 2016.
 - (b) Holding of a public open house by October 31, 2016.
 - (c) Submission of the final preliminary design report by November 30, 2016.

- (d) Construction and Material Supply Bid Opportunity documents ready for posting to the City of Winnipeg Bid Opportunity web site no later than September 30, 2017.

D13.2 Further to C1.1(tt), Total Performance for this Contract will be after the issuance of the Certificate of Acceptance for the construction contract which is typically:

- (a) two (2) years from the Total Performance date of reconstruction and new construction projects; and
- (b) one (1) year from the Total Performance date for all other construction projects

PART E - SPECIFICATIONS

E1. SEWER TELEVISIONING GUIDELINES FOR PUBLIC WORKS PROJECTS (JANUARY 2015)

- E1.1 Closed Circuit Television (CCTV) inspection and assessment is required of all combined, wastewater, land drainage, storm relief sewers and manholes to confirm any sewer repairs required in the right-of-way within the limits of the street renewal.
- E1.2 The criteria provided are general guidelines and are not intended to replace sound municipal engineering judgement specific to the individual Project scope and/or location.
- E1.3 The available sewer televising information is contained within the City of Winnipeg's Sewer Management System (SMS) application.
- E1.4 Confirm televising requirements with City Project Manager.
- E1.5 CCTV inspection general guidelines:
- (a) CW 2140 Sewer and Manhole Cleaning and CW 2145 Sewer and Manhole Inspection shall apply;
 - (b) Confirm CCTV requirements with Water & Waste Department for sewers 1050 mm and larger in diameter;
 - (c) Televiser sewers and manholes if no previous CCTV inspections have been completed;
 - (d) Re-televiser sewers in Categories A/B/C/X with a Structural Performance Grade (SPG) of 3 or higher that have not been televised in the previous 5 years;
 - (e) Sewers located more than two metres from the curb line (i.e. not located under pavement) do not need to be re-televised if previous CCTV inspection data exist. If a sewer repair or renewal requiring excavation is noted, contact the WWD;
 - (f) Televiser sewers on all street reconstructions, regardless of location of the sewer (within the right-of-way) with a Structural Performance Grade (SPG) of 3 or higher that have not been televised in the previous 5 years;
 - (g) Televiser sewers if the street exhibits obvious distress at/along the underground plant;
 - (h) Televiser all CB leads to be reused, as part of a street reconstruction, pavement rehabilitation and mill and fill rehabilitation;
 - (i) CCTV inspection not required on Mill and Fill Pavement Rehabilitation Method and Thin Bituminous Overlay(TBO) projects unless the street exhibits obvious distress at/along the underground plant
- E1.6 For any uncertain situations and/or locations, contact the Project Manager.
- E1.7 The Consultant is required to coordinate the sewer-televising contract and communicate the results to the Water & Waste Department. Provide Water and Waste Department with the sewer inspections and corresponding defects data. Any repairs or other activities deemed necessary from these inspections must be coordinated with the Water & Waste Department.
- E1.8 Provide post repair manhole to manhole inspection (CW 2145) to the Water and Waste Department.

E2. GEOTECHNICAL INVESTIGATION REQUIREMENTS FOR PUBLIC WORKS STREET RECONSTRUCTION PROJECTS (SEPTEMBER 2015)

- E2.1 Field Work
- (a) Clear all underground services at each test-hole location.
 - (b) On most projects, test-holes are required every 50 m with a minimum of three (3) test holes per project location. For street projects greater than 500 metres, test holes may be taken

every 100 m. More or fewer test-holes may be required depending upon known site conditions – confirm with the Streets Project Engineer.

- (c) Record location of test-hole (offset from curb, distance from cross street and house number).
- (d) Drill 150 mm-diameter core in pavement.
- (e) Drill 125 mm-diameter test-hole into fill materials and subgrade.
- (f) If a service trench backfilled with granular materials is encountered, another hole shall be drilled to define the existing sub-surface conditions.
- (g) Test-holes are to be drilled to depth of 2 m □ 150 mm below surface of the pavement.
- (h) Recover pavement core sample and representative samples of soil (fill materials, pavement structure materials and subgrade).
- (i) Measure and record pavement section exposed in the test-hole (thickness of concrete or asphalt and different types of pavement structure materials).
- (j) Pavement structure materials to be identified as crushed limestone or granular fill and the maximum aggregate size of the material (20 mm, 50 mm or 150 mm).
- (k) Log soil profile for the subgrade.
- (l) Representative samples of soil must be obtained at the following depths below the bottom of the pavement structure materials – 0.1 m, 0.4 m, 0.7 m, 1.0 m, 1.3 m, 1.6 m, etc. Ensure a sample is obtained from each soil type encountered in the test-hole.
- (m) Make note of any water seepage into the test-hole.
- (n) Backfill test-hole with native materials and additional granular fill, if required. Patch pavement surface with hot mix asphalt or high strength durable concrete mix.
- (o) Return core sample from the pavement and soil samples to the laboratory.

E2.2 Lab Work

- (a) Test all soil samples for moisture content.
- (b) Photograph core samples recovered from the pavement surface.
- (c) Conduct tests for Atterberg Limits and hydrometer analysis on selected soil samples which are between 0.5 m and 1 m below top of pavement (this is the sub-grade on which the pavement and sub-base will be built). The selection will be based upon visual classification and moisture content test results, with a minimum of one sample of each soil type per street to be tested.
- (d) Prepare test-hole logs and classify subgrade (based on hydrometer) as follows:
 - (i) < 30% silt - classify as clay
 - (ii) 30% - 50% silt - classify as silty clay
 - (iii) 50% - 70% silt - classify as clayey silt
 - (iv) > 70% silt - classify as silt

E2.3 Notes

- (a) For Pavement Rehabilitations and Mill and Fill Pavement Rehabilitation Method pavement cores may be required. Contact the City's Project Manager to confirm requirements.
- (b) For any uncertain situations and/or locations, or clarification of these requirements, contact the City's Project Manager.