



THE CITY OF WINNIPEG

REQUEST FOR PROPOSAL

RFP NO. 151-2012

**REQUEST FOR PROPOSAL FOR PROFESSIONAL CONSULTING SERVICES FOR THE
2012 REGIONAL AND LOCAL STREET RENEWAL - GRANULAR ROADWAY
IMPROVEMENTS - GRANULAR LANE REPAIRS**

Proposals shall be submitted to:

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

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PART B - BIDDING PROCEDURES

B1. CONTRACT TITLE

- B1.1 REQUEST FOR PROPOSAL FOR PROFESSIONAL CONSULTING SERVICES FOR THE 2012 REGIONAL AND LOCAL STREET RENEWAL - GRANULAR ROADWAY IMPROVEMENTS - GRANULAR LANE REPAIRS

B2. SUBMISSION DEADLINE

- B2.1 The Submission Deadline is 4:00 p.m. Winnipeg time, April 3, 2012.
- 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 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 Bidder 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 Bidder 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) Management Proposal (Section C) in accordance with B9;
 - (b) Technical Proposal (Section D), in accordance with B10; and
 - (c) Project Schedule (Section E) in accordance with B11.
- 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") and six (6) copies for sections identified in B6.1 and B6.2.
- 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 be presented 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 Further to B6.5 and B6.6 the unbound original should be submitted on standard letter size paper (8 ½ x 11 inches) and limited to a maximum of 15 pages, excluding the forms required in B6.1. The additional copies may be submitted on standard letter size paper (8 ½ x 11 inches) and the Project Schedule referred to in Clause B6.2(c) may be submitted on ledger size paper (11 x 17 inches). **Any information submitted in an appendix will not be evaluated.**
- B6.8 Proponents are advised that inclusion of terms and conditions inconsistent with the Request for Proposal, will be evaluated in accordance with B19.1(a).

- B6.9 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.
- B6.10 Proposals submitted by facsimile transmission (fax) or internet electronic mail (e-mail) will not be accepted.
- B6.11 Proposals shall be submitted to:
The City of Winnipeg
Corporate Finance Department
Materials Management Division
185 King Street, Main Floor
Winnipeg MB R3B 1J1
- B6.12 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 Proponent shall complete form B: Fees, summarizing all applicable Fees.
- B8.2 The Proposal shall include a Fixed Fee for all disciplines necessary, for each Scope of Service phase of the Project as identified in D4 Scope of Services, including:
- (a) Project Planning and Preliminary Design;
 - (b) Detailed Design and Contract (Bid Opportunity) Preparation;
 - (c) Contract Administration Services; and
 - (d) Post Construction 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 Fees entered in each column on form B: Fees, shall include an allowance of up to a maximum 8% for Allowable Disbursements as defined in C1.1(b), but shall exclude the costs of any materials testing, sewer televising, geotechnical investigation, Underground Structures drawing acquisitions, and hazardous materials investigation, or those included in B8.4. No other disbursements will be permitted.
- B8.5.1 Further to D12.2(c)(iii) and D12.2(c)(iv), the allowable Disbursements shall be identified separately on each invoice or in each bid proposal.
- B8.6 Proposal(s) shall include the Fees to be assessed for Engineering and Other Services as defined in the Scope of Services. The Fees must be included in the Proposal with descriptions, but summarized in Form B: Fees.
- B8.7 The Fees associated with Project Planning and Preliminary Design shall:
- (a) be a Fixed Fee;
 - (b) Include Allowable Disbursements;
 - (c) be entered in column (a) of Form B: Fees;
- B8.8 The Fees associated with Detailed Design and Contract Preparation shall:
- (a) be a Fixed Fee;
 - (b) Include Allowable Disbursements;
 - (c) be entered in column (b) of Form B: Fees;
- B8.9 The Fees associated with Contract Administration shall:
- (a) be a Total Maximum based on hourly rates;
 - (b) include Allowable Disbursements;
 - (c) include Fees for supervision of any services anticipated in D4.2.2;
 - (d) be entered in column (c) of Form B: Fees;
- B8.10 The Fees associated with Post Construction Services shall:
- (a) be a Total Maximum based on hourly rates;
 - (b) include Allowable Disbursements;
 - (c) be entered in column (d) of Form B: Fees.

- B8.11 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.
- B8.12 Payments to Non-Resident Consultants are subject to Non-Resident Withholding Tax pursuant to the Income Tax Act (Canada).

B9. MANAGEMENT PROPOSAL (SECTION C)

B9.1 Experience of Proponent and Subconsultant firms:

- (a) Proposals should describe the Proponent's experience including:
- (i) 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;
 - (ii) details demonstrating the history and experience of the Proponent and Subconsultants in providing programming, design, management of construction and contract administration services on a minimum of two projects of similar size and complexity;
 - (iii) details demonstrating the Proponent's and Subconsultant(s)' experience relating to the services as identified in D4 Scope of Services, for this Project.

B9.2 Experience and qualifications of key personnel assigned to the Project:

- (a) Proposals should include, in tabular form:
- (i) names of key personnel assigned to the Project, who shall not be substituted without written permission from the Project Manager;
 - (ii) the experience and qualifications of the key personnel assigned to the Project including educational background and degrees; professional affiliations; extent of experience on City of Winnipeg projects; years of experience in current position; and years of experience in design and construction contract administration.
 - (iii) for each person identified, list the percentage of their time to be dedicated to the Project. This information should be provided for each of the phases identified in D4 Scope of Services. The percentage of each of the key individual's time should be expressed as :
$$\frac{\text{Estimated Hours dedicated to this Project}}{\text{Total Hours allocated to all projects}} \text{ during each phase of the Scope of Services}$$
- (b) Proposals should include an organizational chart for the project including each person identified in B9.2(a)(i) and their role in the Project.
- (c) Proposals should include, for each person identified in B9.2(a)(i), a list of at least two comparable projects in which the person identified has played a comparable role, including the following:
- (i) Description of the project, including project details;
 - (ii) Role of the person related to each project listed;
 - (iii) Project owner

B9.2.1 Further to B9.2(c) and upon request of the Project Manager, the Proponent must be able to provide, for each person identified in B9.2(a)(i), two current references, including telephone numbers, for each project listed.

B9.2.2 Where applicable, information should be separated into Proponent and Subconsultant project listings.

B9.3 Proponent's project management approach:

- (a) Proposals should include a methodology describing the Proponent'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. The methodology should identify:

- (i) Job function for each person and group of people so identified;
 - (ii) Time estimates by work activity and in total for each person identified in B9.2(a)(i).
- (b) Proposals should also address any other information that conveys the Proponent's understanding of the Project requirements.

B9.4 Sample spreadsheets are included in Appendix C and may be utilized to assist in providing the information requested in the Section C – Management Proposal. The Proponent is not required to use the sheets and may modify the sheets to suit their proposal submission.

B10. TECHNICAL PROPOSAL (SECTION D)

B10.1 Proposals should address the technical deliverables and associated task requirements required as described in D4 Scope of Services. It should clearly identify and explain work activities and identify all assumptions and interpretations.

B10.2 Specifically, the Proposals should address:

- (a) The Proponent's practical understanding of the Project, specifically:
 - (i) the team's understanding of the broad functional and technical requirements;
 - (ii) the team's understanding of the urban design issues;
 - (iii) the team's understanding of the Project Budget and Capital Construction Estimate
- (b) the Proponent's technical approach and methodology to complete the Services
- (c) the collaborative process/method to be used by the key design professionals of the team in the various design phases of the Project;
- (d) any innovation to be used to perform the Services identified in D4 Scope of Services;
- (e) all activities and services to be provided by the City of Winnipeg;
- (f) the deliverables of the Project;
- (g) any assumptions made with respect to the deliverables and services identified in D4 Scope of Services;
- (h) any other issue that conveys your team's understanding of the Project requirements.

B10.3 Methodology should be presented in accordance with the phases identified in D4 Scope of Services, as well as in Part E – SPECIFICATIONS and Appendix A – Definition of Professional Consulting Services - Engineering.

B10.4 Details of the Scope of Services are provided in D4.

B11. PROJECT SCHEDULE (SECTION E)

B11.1 Proponents should present a carefully considered Critical Path Method schedule using Microsoft Project or similar project management software, complete with durations on a weekly timescale and milestone dates or events. The schedule should address each requirement as identified in D4 Scope of Services.

B11.2 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.

B12. QUALIFICATION

B12.1 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) hold and maintain, for the duration of the Project, a Certificate of Authorization from the Association of Professional Engineers and Geoscientists of Manitoba in the "Practicing Entity" category;
- (e) have or establish and staff an office in Winnipeg for the duration of the Project.

B12.2 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>

B12.3 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) meet all licensing and regulatory requirements of the appropriate governing authorities and associations in the Province of Manitoba.

B12.4 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.

B12.5 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.

B13. ELIGIBILITY

B13.1 Various organizations provided investigative services with respect to this Project. In the City's opinion, this relationship or association does not create a conflict of interest or will not likely create a perception of conflict of interest because of this full disclosure and related information. The organizations are:

- (a) Dillon Consulting Limited

B14. OPENING OF PROPOSALS AND RELEASE OF INFORMATION

B14.1 Proposals will not be opened publicly.

B14.2 After award of Contract, the name(s) of the successful Proponent 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 Division website at <http://www.winnipeg.ca/matmgt>

B14.3 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.

B14.4 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.

B15. IRREVOCABLE OFFER

B15.1 The Proposal(s) submitted by the Proponent shall be irrevocable for the time period specified in Paragraph 10 of Form A: Proposal.

B15.2 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.

B16. WITHDRAWAL OF OFFERS

B16.1 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.

B16.1.1 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.

B16.1.2 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.

B16.1.3 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 B16.1.3(b), declare the Proposal withdrawn.

B16.2 A Proponent who withdraws its Proposal after the Submission Deadline but before its offer has been released or has lapsed as provided for in B15.2 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.

B17. INTERVIEWS

B17.1 The Project Manager may, in his/her sole discretion, interview Proponents during the evaluation process.

B18. NEGOTIATIONS

B18.1 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.

- B18.2 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.
- B18.3 If, in the course of negotiations pursuant to B18.2 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.

B19. EVALUATION OF PROPOSALS

- B19.1 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 B12: | (pass/fail) |
| (c) Fees; (Section B)..... | 40% |
| (d) Management Proposal; (Section C) | |
| (i) Firm's Experience..... | 5% |
| (ii) Individual's Experience & Qualifications | 25% |
| (iii) Organizational Approach..... | 10% |
| (e) Technical Proposal (Section D) | 15% |
| (f) Project Schedule. (Section E)..... | 5% |
- B19.2 Further to B19.1(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.
- B19.3 Further to B19.1(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.
- B19.4 Further to B19.1(c), Fees will be evaluated based on Fees submitted in accordance with B8.
- B19.4.1 If there is any discrepancy between the total Fees on form B: Fees and the sum of the Fees submitted on For B: Fees, the sum of the Fees shall take precedence.
- B19.5 Further to B19.1(d), the Management Proposal will be evaluated considering the experience of the Proponent's organization (firm) on projects of similar size and complexity, the experience and qualifications of the key personnel and Subconsultant personnel on projects of comparable size and complexity as well as the proponent's project management approach and team organization.
- B19.6 Further to B19.1(e), the Technical Proposal will be evaluated considering the Proponent's demonstrated understanding of the Project's technical and functional requirements.
- B19.7 Further to B19.1(f), Project Schedule will be evaluated considering the Proponent's ability to comply with the requirements of the Project.
- B19.8 Notwithstanding B19.1(d) to B19.1(f), where Proponents fail to provide complete responses to B6.2(a) to B6.2(c), the score of zero will be assigned to the incomplete part of the response.

B20. AWARD OF CONTRACT

- B20.1 The City will give notice of the award of the Contract, or will give notice that no award will be made.
- B20.2 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.
- B20.2.1 Without limiting the generality of B20.2, 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.
- B20.3 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.
- B20.4 **The form of Contract with the City of Winnipeg will be based on the Contract as defined in C1.1(n).**
- B20.5 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.
- B20.6 The City may, at its discretion, award the Contract in phases.
- B20.7 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*, and the Definition of Professional Consultant Services – Engineering (Appendix A), these Supplemental Conditions are applicable to the Services of the Contract.

D2. PROJECT MANAGER

- D2.1 The Project Manager is:
Bonnie Konzelman, P.Eng.
Email: bkonzelman@winnipeg.ca
Telephone No. (204) 451-3795
Facsimile No. (204) 986-5302
- D2.2 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.
- D2.3 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.

D3. BACKGROUND

- D3.1 The 2012 Granular Roadway Improvements Program is included in the proposed 2012 Regional and Local Streets Program in the City of Winnipeg's 2012 Capital Budget, as adopted by Council on December 13, 2011. The Granular Roadway Improvements Program includes annual funding for the Granular Lane Improvement Program. Additional funds are available from the 2011 Granular Roadway Improvement Program.
- D3.2 A Bid Opportunity 661-2011 was advertised on the City of Winnipeg Materials Management Website and closed on September 13, 2011 for the 2011 Granular Roadway Improvement construction package. The package included granular lane improvement repairs for fourteen lanes in various locations. Construction was completed on three of the fourteen lanes during the 2011 construction season.
- D3.3 Construction was not completed on the remaining eleven lanes, which will be included in this Project under the 2012 Granular Lane Improvement Program. A preliminary listing of lanes to be included in this Project is summarized in Appendix D Preliminary Lane Location Summary.
- D3.4 Project planning, Preliminary Design, Detail Design and Contract Documents were completed in 2011 for remaining lanes. Documents will be made available to the successful Proponent, including photographs, LBIS and Underground TIF files (obtained in 2011), and AutoCAD drawings for design purposes.

D4. SCOPE OF SERVICES

- D4.1 The Services required under this Contract shall consist of Professional Consulting Services related to the Granular Lane Improvements in various locations, based on the "Estimated Scope" of services and phases including:
- (a) Project Planning & Preliminary Design;

- (b) Detailed Design and Contract (Bid Opportunity) Preparation;
 - (i) Design and Specification Development
 - (ii) Drawing and Specification Preparation
 - (iii) Procurement Process
- (c) Contract Administration Services; and
- (d) Post Construction Services.

D4.1.1 The expectations for each of the Project phases identified in D4.1 are indicated in Part E – SPECIFICATIONS of this RFP.

D4.2 Within the Project phases identified in D4.1, the Consultant may be required – depending on location and technical scope of services – to conduct site investigation (geotechnical) services, materials testing services, Underground Structures acquisitions, pipeline loading assessments, and/or closed circuit television (CCTV) sewer inspections.

D4.2.1 Notwithstanding C8, Fees for Subconsultants engaged to perform services in D4.2 shall be payable as invoiced, plus an allowed handling fee of 5%.

D4.2.2 Consultant Fees for supervision of Subconsultants required to perform any services in D4.2 shall be considered as a Contract Administration Service, and included in Fees proposed in B8.9.

D4.3 The total available Project Budget is \$1.1 million and the Capital Construction Estimate is \$800,000.00.

D5. DEFINITIONS

D5.1 When used in this Request for Proposal:

- (a) “Capital Construction Estimate” means the estimated value of the construction contract to be administered by the Consultant. The Capital Construction Estimate is only provided as an estimate of scale and scope for the Project.
- (b) “Estimated Scope” means the scope of Services upon which the Project Estimate was based.
- (c) “Project Budget” means the total available funding available for the Project, including construction contract costs based on the Estimated Scope, utility costs, consulting fees, and any and all other associated project costs.

SUBMISSIONS PRIOR TO START OF SERVICES

D6. AUTHORITY TO CARRY ON BUSINESS

D6.1 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.

D7. INSURANCE

D7.1 The Consultant shall procure and maintain, at its own expense and cost, insurance policies with limits no less than those shown below.

- D7.2 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, Contractor'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;
 - (v) 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 Services. 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.
 - (b) Professional Errors and Omissions Liability Insurance including:
 - (i) an amount not less than \$2,000,000 per claim and \$2,000,000 in the aggregate.
- D7.2.1 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.
- D7.3 The policies required in D7.2(a)(i) to D7.2(a)(iv):
- (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.
- D7.4 The Consultant shall require each of its Subconsultants to provide comparable insurance to that set forth under D7.2(a) and D7.2(b).
- D7.5 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 D7.10.
- D7.6 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.
- D7.7 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.
- D7.8 If the Consultant fails to do all or anything which is required of it with regard to insurance, the City may do all that is necessary to affect and maintain such insurance, and any monies expended by the City shall be repayable by and recovered from the Consultant.
- D7.9 The failure or refusal to pay losses by any insurance company providing insurance on behalf of the Consultant or any Subconsultants shall not be held to waive or release the Consultant or Subconsultants from any of the provisions of the insurance requirements or this Contract.

Any insurance deductible maintained by the Consultant or any Subconsultants under any of the insurance policies is solely for their account and any such amount incurred by the City will be recovered from the Consultant as stated in D7.8.

- D7.10 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.

D8. SECURITY CLEARANCE

- D8.1 Each individual proposed to perform the following portions of the Work:

- (a) any Work on private property; and/or
- (b) communicating with residents and homeowners in person or by telephone;

shall be required to obtain a Criminal Record Search Certificate from the police service having jurisdiction at their place of residence.

- D8.2 Prior to the commencement of any Work specified in D8.1, and during the term of the Contract if additional or replacement individuals are proposed to perform Work, the Consultant shall supply the Project Manager 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 such Work.

- D8.3 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 specified in D8.1.

- D8.4 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.

- D8.5 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 any Work specified in D8.1.

D9. SAFE WORK PLAN

- D9.1 The consultant can no commence any Services until a Project-specific Safe-Work Plan is verified as in place for the high risk activities they may engage in prior to the commencement of a construction contract. The format is available at <http://www.winnipeg.ca/matmgt/Safety/default.stm>

SCHEDULE OF SERVICES

D10. COMMENCEMENT

- D10.1 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.

- D10.2 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 D6;
 - (ii) evidence of the insurance specified in D7;
 - (iii) the security clearances specified in D8;
 - (iv) the Safe work Plan specified in D9.

- (b) the Consultant has attended a meeting with the Project Manager, or the Project Manager has waived the requirement for a meeting.

D10.2.1 Further to D10.2(a)(iii), subject to all other requirements being met, the Consultant may, upon approval of the Project Manager, commence Services prior to submitting the security clearances.

D11. CRITICAL STAGES

D11.1 The Consultant shall achieve critical stages of the Services for this Contract in accordance with the following requirements:

- (a) substantial and total performance of all construction contracts by the end of the 2012 construction season.

D11.2 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 one (1) year from substantial performance of the construction contract for this type of work.

MEASUREMENT AND PAYMENT

D12. INVOICES

D12.1 Further to C10, the Consultant shall submit monthly invoices to the Project Manager.

D12.2 Invoices must clearly indicate:

- (a) The City's purchase order number;
- (b) The City's project file number;
- (c) A breakdown of:
 - (i) Preliminary Design Fees;
 - (ii) Detailed Design Fees;
 - (iii) Contract Administration Fees including hours and hourly rates for Services provided in the invoice period;

Note: Allowable Disbursements shall be identified separately on each invoice

- (iv) Post construction Service Fees including hours and hourly rates for the Service provided in the invoice period;

Note: Allowable Disbursements shall be identified separately on each invoice.

- (v) Other Project costs and Subconsultant Fees in accordance with D4.2, including the invoiced amount plus an allowed 5% handling fee. Copies of invoices must be attached;
- (d) the amount payable with GST and MRST shown as separate amounts; and
- (e) the Consultant's GST registration number.

D12.3 The city will bear no responsibility for delays in approval of invoices which are improperly submitted.

PART E - SPECIFICATIONS

E1. DESIGN SERVICES

- E1.1 Unless otherwise specified below, Appendix A – Definition of Professional Consultant Services – Engineering – Public Works shall be applicable to the provision of Professional Engineering Services for the Project.

E2. PROJECT PLANNING & PRELIMINARY DESIGN

- E2.1 Preliminary Design Services associated with the Contract are described in Appendix A Clause 5 Professional Engineering Services – Preliminary Design.
- E2.2 The Consultant is responsible for:
- (a) In consultation with the Project Manager, determining the extent to which Site investigation is required;
 - (b) Field surveys;
 - (c) Acquiring the historical and as-built drawings within Project limits from Underground Structures;
 - (d) Referring to (E7) the *Sewer Televising Guidelines for Public Works Projects*, determining the extent to which the sewer infrastructure (a) requires inspection, and (b) in consultation with the Water & Waste Department, and the approval of the Project Manager, requires repairs or renewal.
 - (e) Engaging the services of appropriate qualified Subconsultant personnel where additional Site investigation services are required, including, but not limited to: sewer televising (E7), geotechnical investigation (E8), feeder main assessment(s) and materials testing;
 - (f) Providing Project details and regular Project updates to the Envista right-of-way coordination system.

E3. DETAILED DESIGN & CONTRACT PREPARATION

- E3.1 Detailed Design Services associated with the Contract are described in Appendix A Clause 6 Consulting Engineering Services – Detailed Design.
- E3.2 Where applicable, the designs must address:
- (a) Appropriate geometric standards set by the Transportation Association of Canada (TAC);
 - (b) City of Winnipeg's *Transportation Standards Manual* (February 1991);
 - (c) *2010 City of Winnipeg Accessibility Design Standards* (May 2010), which is available at the following link:
<http://www.winnipeg.ca/ppd/UD/PDF/May%202011%20revised%20WADS%20Final.pdf>
 - (d) City of Winnipeg's *Tree Planting Details and Specifications Downtown Area and Regional Streets* (May 2009);
 - (e) City of Winnipeg's *Tree Removal Guidelines*;
 - (f) The current edition of *The City of Winnipeg Standard Construction Specifications*.
 - (g) *OurWinnipeg* and the *Complete Communities Direction Strategy* adopted by City Council on July 20, 2011
- E3.3 Design drawings are required for all Public Works construction projects, unless specifically declined, in writing, by the Project Manager.
- E3.4 Designs to be submitted for review must:
- (a) Be sealed by a Professional Engineer, registered in the Province of Manitoba
 - (b) Include a pavement design brief for new Regional Street Pavements

- (c) Include the pavement cross section (where applicable)
- (d) Include the dimensioned jointing design (where applicable)
- (e) Conform to the *Manual for the Production of Construction Drawings for the City of Winnipeg*, Works and Operations Division (November 1984).
- (f) Allow six weeks for circulation to Underground Structures
 - (i) Ensure that separate copies are sent to affected utilities, with specific requests made for estimates, where required.

E3.5 The Bid Opportunity documents must be prepared:

- (a) Using the current applicable template from the Materials Management Division;
- (b) Referencing the current edition of *The City of Winnipeg Standard Construction Specifications*.

E4. CONTRACT ADMINISTRATION

E4.1 Contract Administration Services associated with the Contract are described in Appendix A- Clause 7.

E4.2 The Consultant is required to provide NON-RESIDENT Contract Administration Services including but not limited to:

- (a) Ensuring persons with demonstrated experience are assigned to administer the Project for the duration of the Project, with personnel changes only upon approval of the Project Manager;
- (b) Timely processing of accurate progress payments and invoices;
- (c) Conducting pre-award and pre-construction meetings with formal notes as described in the City of Winnipeg's *Manual of Project Administration Practice* (DRAFT March 1992);

E4.3 The Consultant is required to provide RESIDENT Contract Administration Services including but not limited to:

- (a) Coordination of the day-to-day Site activities;
- (b) Ensuring construction contractor conformance to the City of Winnipeg's *Manual of Temporary Traffic Control*;
- (c) Field and/or laboratory testing and verification of construction material quality;
- (d) Field measurement and verification of construction material quantities in a manner so as to minimize contract disputes;
- (e) Provision of periodic and timely updates to the Project Manager on progress and/or expenditures, through:
 - (i) Regular Site meetings with formal minutes as described in the City of Winnipeg's *Manual of Project Administration Practice* (DRAFT March 1992), including the date, location & attendees. Issues, updates and amendments must be itemized and dated;
 - (ii) Other formal and/or informal documented means;
- (f) Representation of the City to the local property owners, residents, and businesses in a professional manner, with responsible and prompt reaction to reasonable requests (minimizing impact and/or disruption of the Project to the extent possible);
- (g) On-going updates to the lane-closure information line as required;
- (h) Supervision of Subconsultants required to perform any services under E2.2(e);
- (i) Provision of Project details and regular Project updates to the Envista right-of-way coordination system.

E5. POST-CONSTRUCTION

- E5.1 Post-Construction Services associated with the Contract are described in Appendix A-Clause 8.
- E5.2 The Consultant is required to provide Post-Construction Services including but not limited to:
- (a) Preparation of one of each of the following for every construction contract administered under the Project:
 - (i) Certificate of Substantial Performance;
 - (ii) Certificate of Total Performance; and
 - (iii) Certificate of Acceptance.
 - (b) Additional Contract Administration for maintenance (pay) items within the warranty period of the construction contract;
 - (c) Resolution of deficiencies and/or outstanding warranty issues;
 - (d) Submission of a final construction report within three months of Substantial Performance of the construction contract, including:
 - (i) Summary report – a brief (three to five page) description of:
 - ◆ Services accomplished, including initial and final scope of Project;
 - ◆ For new street pavements – Final pavement design
 - ◆ For pavement rehabilitations – Amount of concrete repairs by percentage of surface
 - ◆ For pavement rehabilitations – Average thickness of asphalt placement
 - ◆ Issues encountered and resolutions achieved;
 - ◆ Any outstanding services or issue-resolutions required; and
 - ◆ Final or projected final contract cost;
 - ◆ Daily field reports (as an appendix);
 - ◆ Field test reports (as an appendix).
 - (ii) Photographs – total minimum of 12 per location; good quality digital photos using descriptive file names (including year), provided on CD or DVD (notwithstanding pre-construction Site and property condition assessment photos, as per Appendix A – Definition of Professional Consultant Services – Engineering – Public Works)
 - ◆ approximately twelve (12) typical pre-construction photos
 - ◆ approximately twelve (12) typical Post-construction photos
 - ◆ approximately six (6) typical construction operation photos (e.g. concrete pour, paving operation).
 - (iii) Provision of record drawings, where required, in accordance with the Public Works Department's As-Built Drawing Requirements for Public Works Projects (E6), within three months of Substantial Performance of the construction contract, unless waived or amended in writing by the Project Manager.

ADDITIONAL REQUIREMENTS

E6. AS-BUILT DRAWING REQUIREMENTS FOR PUBLIC WORKS PROJECTS (DECEMBER 2010)

- E6.1 AS-BUILT drawings are required for all Public Works construction projects, unless specifically declined, in writing, by the Project Manager.
- E6.2 Initial submission of AS-BUILT drawings must be received within three months of Substantial Performance of the construction contract, unless waived in writing by the Project Manager.
- E6.3 Drawings shall:

- (a) Conform to the *Manual for the Production of Construction Drawings for the City of Winnipeg*, Works and Operations Division (November 1984).
- (b) Be in the AutoCAD format and indicate the version used
- (c) Be AS-BUILT with dimensions corrected in both TEXT and GRAPHICS
- (d) Show pavement dimensions to the “back of curb” (edge of pavement)
- (e) Be installed as to the method the data was collected by i.e. Total Station
- (f) Be produced in the NAD 83, UTM, ZONE 14, (Global co-ordinate system) Note: Public Works Engineering will provide the Legal Streets Base Layer for the required drawings
- (g) Indicate if a scale factor was or was not used, and if used the scale factor used is to be indicated
- (h) Show all bore holes and their UTM coordinates
- (i) Include, where applicable:
 - (i) Pavement cross-section(s)
 - (ii) Asphalt Supplier
 - (iii) Concrete Supplier
 - (iv) Geotextile used – type, manufacturer & supplier
 - (v) Sub-drains used – type, manufacturer & supplier

E6.4 A PDF copy of all AS-BUILT drawings shall be included.

E6.5 Two (2) copies of the AutoCAD Digital Drawings and PDF copies shall be written to a compact disk (CD) or DVD. Both copies shall be clearly labelled identifying the Project number.

E6.6 As-built hard copy must be on Mylar paper and must be sealed by an Engineer registered to practice in the Province of Manitoba.

E6.7 Original signed Mylar copy and the two (2) CD's shall be sent by mail or courier to:

Attention:

City of Winnipeg
Public Works Department
106-1155 Pacific Avenue
Winnipeg, MB R3E 3P1

Gary Tront, CET,
GIS Specialist
204.471.7630
gtront@winnipeg.ca

E6.8 In addition:

- (a) Included on the CD's will be a separate drawing in AutoCAD format with the following (8) basic layers (none of which shall include text) and a list describing additional layers used:

Layer Names:

- | | |
|-------------------|--|
| 1) Street Surface | 5) Ramp Curb |
| 2) Walk | 6) Dimensions (to include all dimensions in the drawing) |
| 3) Alley | 7) Drainage Inlets |
| 4) Approach | 8) Elevations (min. all hi & low points) |

E7. SEWER TELEVISION GUIDELINES FOR PUBLIC WORKS PROJECTS (JANUARY 2009)

E7.1 The Consultant is required to assess the extent of Closed Circuit Television (CCTV) inspection for all combined, wastewater, land drainage and storm relief sewers to confirm any sewer repairs required in the right-of-way within the limits of the street renewal.

E7.2 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.

E7.3 The available sewer televising information is contained within the City of Winnipeg's Sewer Management System (SMS) application.

- E7.4 Confirm televising requirements with Project Manager.
- E7.5 CCTV inspection general guidelines:
- (a) Confirm CCTV requirements with Water & Waste Department for sewers 1050 mm and larger in diameter;
 - (b) Televising if no previous CCTV inspections have been completed;
 - (c) Re-televising 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;
 - (d) 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;
 - (e) On all street reconstructions, regardless of location of the sewer (within the right-of-way);
 - (f) If the street exhibits obvious distress at/along the underground plant;
 - (g) Of all CB leads to be reused, as part of a street reconstruction or major rehabilitation.
- E7.6 For any uncertain situations and/or locations, contact the Project Manager.
- E7.7 The Consultant is required to coordinate the sewer-televising contract and communicate the results to the Water & Waste Department. Any repairs or other activities deemed necessary from these inspections must be coordinated with the Water & Waste Department.

E8. GEOTECHNICAL INVESTIGATION REQUIREMENTS FOR PUBLIC WORKS PROJECTS (OCTOBER 2008)

- E8.1 Fieldwork
- (a) Clear all underground services at each test-hole location.
 - (b) On most projects, test-holes are required every 50 metres 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 Project Manager.
 - (c) Record location of test-hole (offset from curb, distance from cross street and house number).
 - (d) Drill 150 mm-diameter cores in pavement.
 - (e) Drill 125 mm-diameter test-holes 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 shall be drilled to depth of 2 m \pm 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.

E8.2 Lab Work

- (a) Test all soil samples for moisture content.
- (b) Photograph core samples recovered from the pavement surface.
- (c) Conduct tests for plasticity index 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:
 - < 30% silt - classify as clay
 - 30% - 50% silt - classify as silty clay
 - 50% - 70% silt - classify as clayey silt
 - > 70% silt - classify as silt
- (e) For any uncertain situations and/or locations, or clarification of these requirements, contact the Project Manager.