



INVITATION TO TENDER ("ITT") NO. PS11164

STILL CREEK ENHANCEMENT PROJECT 2900 NOOTKA STREET - PHASE 1

Tenders must be received at the Purchasing Services Office, 3rd Floor, Suite #320, East Tower, 555 West 12th Avenue, Vancouver, British Columbia, Canada, V5Z 3X7 prior to 3:00:00 PM Vancouver Time (as defined in Note 2 below), on Tuesday, June 28, 2011 ("Closing Time"). Tenders will be publicly registered at 11:00:00 AM, Wednesday, June 29, 2011.

NOTES:

1. Tenders must be in sealed envelopes or packages marked with the Tenderer's name, the ITT title and number. Tenderers should submit one (1) copy of the Tender and the same number of copies of any other documents required by the Tender Documents, including the bid bond described in Part B of this ITT.
2. Closing Time and Vancouver Time will be conclusively deemed to be the time shown on the clock used by the City of Vancouver's Purchasing Services Office for this purpose.
3. The City of Vancouver's Purchasing Services Office is open on business days from 8:30 a.m. to 4:30 p.m. Vancouver Time and closed Saturdays, Sundays, and holidays.
4. DO NOT SUBMIT BY FAX OR E-MAIL.

All queries related to this ITT should be submitted in writing to the attention of:

**Jim Lowood, SCMP
Contracting Specialist**

Fax: 604-873-7057 Email: purchasing@vancouver.ca

(the "Contact Person")

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PART A - INTRODUCTION

1.0 OVERVIEW OF PROJECT

- 1.1 The City of Vancouver (the "City") invites Tenders for the Still Creek Enhancement Project, 2900 Nootka Street - Phase 1 in the area between the 2900 and 3000 block of Nootka Street adjacent to the Grandview Highway in Vancouver.
- 1.2 The work generally includes, but is not limited to, furnishing all labour, materials and equipment necessary for excavation and re-grading, landscaping, construction of new in-stream features in the area, construction of a concrete and permeable asphalt walk and construction of a pedestrian bridge as further specified in Appendix 2 "Specifications and Drawings" ("Work")
- 1.3 The Contractor will be responsible for completing the Work in a way that minimizes impact on the surrounding area to the Work Site. The Work generally includes, but is not limited to:
- i) Clearing and disposal of designated vegetation and top soil in the area;
 - ii) removal of existing concrete from stream bed, banks and upland areas;
 - iii) removal of invasive plant species from stream banks and upland areas;
 - iv) excavation and re-grading of stream banks and stream bed;
 - v) construction of instream structures;
 - vi) construction of a pedestrian bridge over Still Creek;
 - vii) landscaping and construction of a concrete and permeable asphalt walk;
 - viii) planting of native shrubs and trees; and
 - ix) maintenance of all planted material for eighteen (18) months following completion of the planting portion of the Work.
- 1.4 The Work Site is located in the area between the 2900 and 3000 block of Nootka Street adjacent to the Grandview Highway in Vancouver. The Work Site is further described in the Tender Documents in Appendix 2.
- 1.5 A consulting team headed by Northwest Hydraulic Consultants (the "Consultant"), was retained in 2009 to provide professional services including detailed design and construction details for this project.
- 1.6 The purpose of this ITT is to select a Tenderer with the capability and experience to efficiently and cost-effectively perform and complete the Work.

2.0 CITY OF VANCOUVER

- 2.1 The City of Vancouver, with a population of approximately 560,000 lies in a region of more than two (2) million people. Vancouver is the largest city in the province of British Columbia and the third largest metropolitan area in Canada. As the main western terminus of Canada's

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transcontinental highway and rail routes, as well as home to the Port of Vancouver, Vancouver is the primary city of western Canada and one of the nation's largest industrial centres.

2.2 Vancouver is consistently rated as one of the most liveable cities in the world and was host city of the 2010 Olympic and Paralympic Winter Games.

3.0 TENDER DOCUMENTS

3.1 The Tender Documents are:

- (a) Part A - Introduction and its Appendices;
 - (i) Appendix 1 - Information Meeting and Site Visit Attendance Form;
- (b) Part B - Terms and Conditions of ITT Process;
- (c) Part C - Form of Tender (including all Schedules),
- (d) Part D - Form of Agreement (including all Schedules);
- (e) the Specifications and Drawings(provided separately and to be incorporated as a Schedule to the Contract when finalized); and
- (f) any and all amendments and questions and answers issued by the City prior to the Closing Time, as well as any and all amendments and questions and answers issued by the City after the Closing Time and accepted in writing by the Tenderer, as well as any and all clarifications accepted by the City prior to award of the Contract.

3.2 All references to "Drawings", "Specifications", "Master Specifications", "Master Municipal Specifications", "Technical Specifications" include the Master Municipal Construction Document ("MMCD") and Standard Detail Drawings (printing 2009), For certainty, all of Volume I and the following parts of Volume II of the MMCD are expressly excluded from the Tender Documents: Instruction to Tenderers - Part II. General Conditions (including Schedule 17.5.3 Letter Agreement with Referee, Changes Flow Chart, and Dispute Resolution Flow Chart).

4.0 INFORMATION MEETING AND SITE VISIT

4.1 Tenderers are invited to attend an Information Meeting and Site Visit on Monday, June 13, 2011 commencing at 11:00 AM.

4.2 Location: Pump Station Building, corner of Granview and Nootka, Vancouver, British Columbia.

4.3 All prospective Tenderers are asked to pre-register for the Information Meeting and Site Visit by submitting an Information Meeting and Site Visit Attendance Form (Appendix 1) by fax to Tamara Jackson, at 604-873-7057 or e-mail to purchasing@vancouver.ca by Friday, June 10, 2011, at 4:30 PM.

5.0 ADMINISTRATIVE REQUIREMENTS

5.1 It is the sole responsibility of the Tenderer to check the City's website at <http://www.vancouver.ca/bid/bidopp/openbid.htm> regularly for amendments and questions and answers related to this ITT.

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6.0 CONDUCT OF ITT - INQUIRES AND CLARIFICATIONS

- 6.1 The City will have conduct of this ITT, and all communications are to be directed only to the Contact Person named on the cover page.

- 6.2 It is the responsibility of the Tenderer to thoroughly examine the Tender Documents and satisfy itself as to the full requirements of this ITT. All inquires should be in written form only, faxed to 604-873-7057 or e-mailed to purchasing@vancouver.ca to the attention of the Contact Person no later than five (5) Business Days prior to the Closing Time. If required, amendments and questions and answers will be posted on the City's website as noted above.

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APPENDIX 1 (PART A) - INFORMATION MEETING AND SITE VISIT ATTENDANCE FORM



CITY OF VANCOUVER
Purchasing Services

Invitation to Tender No. PS11164 Still Creek Enhancement Project - 2900 Nootka Street - Phase 1

To acknowledge your intent to attend the Information Meeting and Site Visit being held as per Part A, Introduction and to ensure that you receive the required information please submit this form to the person identified below before 4:30 PM, Friday, June 10, 2011.

Tamara Jackson, Supply Management, City of Vancouver

Fax: 604-873-7057

Email: purchasing@vancouver.ca

Your details:

Tenderer's Name:

"Tenderer"

Address:

Telephone:

_____ Fax: _____

Key Contact Person:

E-mail:

_____ Incorporation Date: _____

We will attend the informational meeting for: "PS11164 Still Creek Enhancement Project - 2900 Nootka Street - Phase 1".

Authorized Signatory

Name of Tenderer (Please print)

E-mail Address (Please print)

Date

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PART B - TERMS AND CONDITIONS OF ITT PROCESS

1.0 DEFINITIONS AND INTERPRETATION

1.1 Definitions

Capitalized terms used in the Tender Documents have the meanings set out below. Capitalized terms not otherwise defined have the meanings set out in the Contract, unless the context otherwise requires.

- (a) "Closing Time" has the meaning set out on the cover page of this ITT;
- (b) "Contract" (or "Agreement") means a contract substantially in the form of Part D - Form Agreement that the City will enter into with the successful Tenderer;
- (c) "Contractor" means a Tenderer whose Tender the City has accepted and to whom the Contract has been awarded;
- (d) "Consultant" means the architect, engineer or other professional consultant who will act as the City's agent for the purpose of managing and administering the Contract, who may be an employee of the City or an independent consultant engaged by the City on its behalf;
- (e) "Drawings" means the graphic and pictorial portions of the Tender Documents;
- (f) "Form of Tender" means the form of tender in Part C - Form of Tender to this ITT on which Tenderers are to complete their Tenders;
- (a) "HST" means the tax payable and imposed pursuant to Part IX of the *Excise Tax Act* (Canada) as amended, including any provincial component collected by Canada on behalf of British Columbia, and any successor legislation thereto;
- (g) "Information and Privacy Legislation" includes the *Freedom of Information and Protection of Privacy Act* (British Columbia) and all other similar legislation in effect from time to time;
- (h) "Losses" means, in respect of any matter, all:
 - (i) direct and indirect; and
 - (ii) consequential,

claims, demands, proceedings, losses, damages, liabilities, deficiencies, costs and expenses (including without limitation, all legal and other professional fees and disbursements, interest, penalties and amounts paid in settlement, whether from a third person or otherwise);
- (i) "Notice of Award" has the meaning set out in Part C - Form of Tender;
- (j) "Notice to Proceed" has the meaning set out in Part C - Form of Tender;

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- (k) "Specifications" means the portion of the Tender Documents consisting of the written requirements and standards for products, systems, workmanship, quality, and the services necessary for the performance of the Work;
- (l) "Tender" means a tender submitted to the City in response to this ITT;
- (m) "Tender Contract" means the contract between the City and Tenderers governing the ITT process;
- (n) "Tender Documents" means the documents identified as such in Part A - Introduction;
- (o) "Tenderer" means those entities eligible to participate in this ITT process;
- (p) "Tender Price" means the amount stipulated by the Tenderer in the space provided in the Form of Tender which, for greater certainty, is the Tenderer's proposed Contract price;
- (q) "Work" means the total construction and related services required by the Tender Documents; and
- (r) "Work Site" or "Site" means the area or areas on or about the City's property where the Work is to be carried out.

1.2 Interpretation

- (a) In these Tender Documents, any reference to the masculine includes the feminine and bodies corporate, and each includes the others where appropriate. Also, any reference to the singular includes the plural where appropriate.
- (b) If there is a conflict between or among (i) the Specifications and Drawings and (ii) Part A - Introduction, Part B - Terms and Conditions of ITT Process, Part C - Form of Tender (including the Schedules), Part D - Form of Agreement, the appendices and any amendments and questions and answers issued by the City (collectively, the "Balance of Tender Documents"), the Balance of Tender Documents shall prevail over the Specifications and Drawings.
- (c) In these Tender Documents, when the terms "should" or "are asked to" precede a requirement for the Tenderer, such requirement is not mandatory but it is strongly recommended. When the terms "will", "shall", "is to", "must" or "are to", "are required to" precede a requirement, such requirement is deemed to be mandatory. If a Tenderer is uncertain whether or not a requirement is mandatory, the Tenderer should submit an enquiry to the Contact Person.

2.0 SUBMISSION INSTRUCTIONS

- 2.1 The Tenderer must complete its Tender on the Form of Tender and submit its Tender in accordance with the instructions provided on the cover page of the ITT.
- 2.2 Tenders received after the Closing Time may be returned unopened to the Tenderer.
- 2.3 Faxed or emailed Tenders and/or other documents will not be accepted, and will be returned to the Tenderer.

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- 2.4 Each Tender must be signed by an authorized signatory of the Tenderer, with the signatory's usual signature. Tenders by a company or partnership should specify the full legal name of the legal entity submitting the Tender.
- 2.5 All blank spaces in the Form of Tender should be filled in and all Schedules completed. All prices and notations should be legibly written in a non-erasable medium. Erasures, interlineations or other corrections should be initialled by the authorized signatory of the Tenderer.
- 2.6 Subject to any proposed variations requested in a Schedule to the Form of Tender, Tenders are to be all inclusive and without qualification or condition.
- 2.7 The City may, at any time and for any reason, extend the Closing Time by means of written amendment as set out in Part A - Introduction.
- 2.8 The City will not be responsible for any cost incurred by the Tenderer in preparing the Tender.

3.0 BONDS

- 3.1 Tenders will be irrevocable and remain open for acceptance by the City for a period of ninety (90) calendar days after the Closing Time. Each Tender must be accompanied by a bid bond valid for a period of sixty (60) calendar days commencing on the Closing Time, payable to the "City of Vancouver", in the amount of ten percent of the Tender Price, and not a dollar amount, as a guarantee of the due execution of the Contract and the delivery of the performance bond and labour and material payment bond specified in the Form of Tender. The forms of these bonds are to be those issued by the Canadian Construction Documents Committee as follows:

Bid Bond:	CCDC 220 (latest)
Performance Bond:	CCDC 221 (latest)
Labour and Material Payment Bond:	CCDC 222 (latest)

- 3.2 Each Tender must be accompanied by a "Consent of Surety", substantially in the form provided as a Schedule to the Form of Tender duly completed by a surety company authorized and licensed to carry on business in British Columbia.
- 3.3 The bid bond of unsuccessful Tenderers will be returned to them as soon as possible after the Contract is awarded and the bid bond of the Tenderer to whom the award is made will be returned upon execution of the Contract, delivery of a performance bond for 50% of the Tender Price and a labour and material payment bond for 50% of the Tender Price, commencement of the Work, and compliance with any other conditions set out in the Form of Tender. The cost of all bond premiums must be included in the Tender Price.
- 3.4 All bonds must be issued by a surety company authorized and licensed to carry on business in British Columbia.

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4.0 TENDER PRICE

- 4.1 Subject to any adjustment for changes to the Work, which are approved by the City in accordance with the Tender Documents or Contract Documents, the Tender Price shall be the maximum compensation owing to the Contractor for the Work and the Contractor's compensation shall cover and include all profit and all costs of supervision, labour, material, equipment, overhead, financing and all other costs and expenses whatsoever incurred in performing the Work.
- 4.2 If unit prices and/or lump sums are requested in a Schedule to the Form of Tender such amounts will be used to compute interim progress payments and will be reviewed prior to Contract award so Tenderers are to ensure that the unit prices and/or lump sums accurately reflect the costs for each item. The Tenderer may be required to justify any submitted unit prices and/or lump sums. Failure by the Tenderer to submit a complete breakdown of Tender Price requested in a Schedule to the Form of Tender may result in an incomplete Tender and may be cause for rejection.
- 4.3 If an itemized breakdown of the Tender Price (or any portion of the Tender Price) is requested in a Schedule to the Form of Tender, the City may delete any items in order to meet budget limitation and award a Contract for only the remaining items.

5.0 ACCEPTANCE OF TENDERS

- 5.1 Notwithstanding anything to the contrary contained in the Tender Documents:
- (a) Tenderers are notified that the lowest or any Tender need not necessarily be accepted and the City reserves the right to reject any and all Tenders at any time, or cancel the tender process, without further explanation or to accept any Tender considered advantageous to the City. Acceptance of any Tender is contingent on funds being approved and a contract award being made by Vancouver City Council or its delegate and the compliance of the Tenderer with the conditions required to be satisfied upon receipt of a Notice of Award. Tenders which contain qualifying conditions or otherwise fail to conform to these Tender Documents may or may not be disqualified or rejected. The City may or may not waive any non-compliance, including a material non-compliance, irregularity or anomaly, with the Tender Documents or any conditions, including the timing of delivery of anything required by these Tender Documents and may at its sole discretion elect to retain for consideration Tenders which are non-conforming because they do not contain the content or form required by the Tender Documents or because they have not complied with the process for submission set out in this ITT.
- (b) Where the City's representative is of the view, in his/her sole discretion, that there is an ambiguity or other discrepancy which cannot be discerned or resolved from examining the contents of the Tender, then whether or not such an ambiguity or discrepancy actually exists on the face of the Tender the City may, prior to Contract award, solicit clarification from the Tenderer or accept clarification from the Tenderer on any aspect of the Tender. Such clarification may include the acceptance of any further documents or information which will then form part of the Tender. The soliciting or accepting of such clarification (whether or not solicited) by the City will be without any duty or obligation on the City to advise any other Tenderers or to allow them to vary their Tender Prices as a result of the acceptance of clarification from any

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one or more Tenderers and the City will have no liability to any other Tenderer(s) as a result of such acceptance of clarification.

- (c) The award of the Contract will be based on the evaluation of the Tenders by the City on any basis the City deems will best serve its interests, including but not limited to the following criteria, as applicable in the City's sole opinion:
- (i) the overall cost impact of the Tender on the operations of the City, including the addition of all applicable taxes to the prices quoted;
 - (ii) the ability and experience of the Tenderer, the Tenderer's proposed Suppliers and Subcontractors, and all of their respective senior staff and key personnel assigned to carry out the Work;
 - (iii) the Tenderer's technical credibility, financial resources, environmental responsibility and WorkSafeBC safety record;
 - (iv) the Tenderer's understanding of proposed Work;
 - (v) the Tenderer's current capacity given workload and obligations;
 - (vi) the Tenderer's scheduling of the Work in relation to the City's schedule and the ability to complete the Work within the time frame required by the City;
 - (vii) the Tenderer's history of work with the City;
 - (viii) the Tenderer's ability to meet bonding and insurance requirements;
 - (ix) the best value to the City based on quality, service, price and any of the criteria set out in this ITT based solely on the City's subjective assessment of the Tender;
 - (x) the quality of the references, resumes, curriculum vitae, and reputation of the Tenderer, its Suppliers and Subcontractors, and all of their respective senior staff and key personnel, particularly as it relates to the Work.
- (d) Where the City determines that all Tender Prices are too high, all Tenders may be rejected.
- (e) The City may, prior to Contract award, negotiate changes to the scope of the Work or any conditions with the Tenderer considered to provide best value or any one or more Tenderers without having any duty or obligation to advise any other Tenderers or to allow them to vary their Tender Prices as a result of changes to the scope of the Work or any conditions and the City will have no liability to any other Tenderer as a result of such negotiations or modifications.
- (f) The Tenderer acknowledges and agrees that the City will not be responsible for Losses incurred by a Tenderer as a result of or arising out of submitting a Tender for the proposed Contract, or due to the City's acceptance or non-acceptance of their Tender or any breach by the City of the Tender Contract between the City and each of the Tenderers or arising out of any Contract award not made in accordance with the express or implied terms of the Tender Documents.

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- (g) The City may award the Contract on the basis of policies and preferences not stated in the Tender Documents or otherwise than as stated in the Tender Documents.
- (h) Prior to contract award, the Tenderer must demonstrate financial stability. Should the City so request, the Tenderer may be required to provide annual financial reports or a set of financial statements prepared by an accountant.
- (i) Guidelines or policies that may be applicable will not give rise to legal rights on the part of any Tenderer, Contractor, Subcontractor, Supplier, or others as against the City and will in no case create any liability on the part of the City. For certainty, the City's Procurement Policy, as may be amended or replaced from time to time, is now agreed to be an internal guideline document and creates no legal rights or obligations with respect to this ITT.

6.0 AWARD OF CONTRACT

- 6.1 Award of a Contract will be subject to approval by Vancouver City Council or its delegate and the Tenderer's compliance with the conditions required to be met upon receipt of the Notice of Award.
- 6.2 The successful Tenderer will become the Contractor and will be required to sign the Contract with the City subject to any amendments approved by the City in writing.

7.0 EXAMINATION OF TENDER DOCUMENTS

- 7.1 Each Tenderer should examine the Tender Documents and must also satisfy itself of the extent of the Work. The Tenderer must make its own estimate of the facilities and difficulties attending the performance and the completion of the Work.
- 7.2 No allowance will be made subsequently on behalf of a Contractor for any error, omission or negligence on the Contractor's part or for non-compliance with the requirements of this clause.

8.0 SITE EXAMINATION/PRE-SUBMISSION DUE DILIGENCE BY TENDERER

- 8.1 Tenderers should make a careful examination of the Work Site and investigate and satisfy themselves at their own risk and expense as to all matters relating to the nature of the Work to be undertaken, the means of access, the extent of coordination with public use of adjacent areas, the extent of the Work to be performed and any and all matters which are referred to in the Specifications and Drawings and other Tender Documents, or which are necessary for the full and proper completion of the Work and the conditions under which it will be performed. No allowance will be made subsequently for any error, negligence, interpretation, or misinterpretation on the Contractor's part.
- 8.2 The City and the Consultant do not guarantee Work Site and geotechnical information (if any) provided in or with the Tender Documents and the Tenderer must evaluate such information relative to actual conditions.
- 8.3 Where any Tenderer wishes to evaluate any aspect of actual conditions (beyond the evaluation which it is already afforded by the access and information already provided for in this ITT), the City encourages the Tenderers to do so by submitting a written request to do so as far in advance of the Closing Time as is possible. The City will then consider whether or not to

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facilitate the request and if it decides to do so may at its option elect to undertake the evaluation and distribute the results to all Tenderers.

9.0 INTERPRETATION AND CLARIFICATIONS

9.1 If any Tenderer is in doubt as to the true meaning and intent of any part of the Specifications, Drawings, or other Tender Documents, the Tenderer should request an interpretation of same from the City at least five (5) Working Days prior to the Closing Time. If such an interpretation is not requested or confirmed by an amendment, the Tender will be presumed to be based upon the interpretation that may be subsequently given in accordance with the Contract Documents after award of the Contract.

9.2 Prior to the Closing Time, all requests for clarification of the Specifications, Drawings, or other Tender Documents will be answered in writing by the City. Requests for clarifications will not be accepted if submitted later than five (5) Working days prior to the Closing Date. The City is not responsible for verbal or any other explanations or interpretations of the Specifications, Drawings or other Tender Documents.

10.0 PRODUCT APPROVAL

10.1 Wherever any material, machinery, equipment and fixtures described in the Contract ("Product") is specified or shown by describing proprietary items, model numbers, catalogue numbers, manufacturer or trade names or similar reference, the Tenderer obligates itself to submit its Tender and accept award of the Contract based upon the use of such Products. Use of such reference is intended to establish the measure of quality which the Consultant has determined as a requisite and necessary for the Work. Where two or more Products are shown or specified, the Contractor has the option of which to use.

10.2 For approval of Products other than those specified, Tenderers should submit a request in writing to the City at least five Working Days prior to the Closing Time. Requests must clearly define and describe the Product for which approval is requested. Requests should be accompanied by manufacturer's literature, specifications, drawings, cuts, performance data or other information necessary to completely describe the item. Approval by the City will only be in the form of an addendum to the Specifications issued by the City.

10.3 Approval of manufacturers and/or Products as noted are approved only insofar as they conform to the Specifications.

11.0 INSURANCE

11.1 The Tenderer should ensure that it can maintain insurance described in the Contract.

11.2 The Tenderer should complete and submit the "Certificate of Existing Insurance" attached as a Schedule to the Form of Tender, together with the "Undertaking of Insurance" attached as a Schedule to the Form of Tender.

11.3 Following Contract award, the successful Tenderer will be required to complete a Certificate of Insurance for the Work, a copy of which is attached as a Schedule to the Form of Tender.

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12.0 WORKSAFEBC

12.1 The Tenderer should ensure that it can comply with all WorkSafeBC requirements as described in the Contract.

13.0 LABOUR RATES AND EQUIPMENT

13.1 Tenderers should provide if requested in a Schedule to the Form of Tender the force account labour and equipment rates setting out the all-inclusive hourly rates for all applicable types of equipment as well as the all-inclusive hourly rates for all applicable categories of labour which rates will then apply pursuant to the Contract.

14.0 LIST OF SUBCONTRACTORS AND SUPPLIERS

14.1 Tenderers should provide if requested in a Schedule to the Form of Tender a list of Subcontractors and Suppliers, providing name, address of place of business and the portion of the Work to be done by the Subcontractor and/or Supplier or the equipment or materials to be supplied by the Subcontractor and/or Supplier.

14.2 The City reserves the right to object to any of the Subcontractors and/or Suppliers listed in a Tender. If the City objects to a listed Subcontractor and/or Supplier, then the City will permit a Tenderer to propose a substitute Subcontractor and/or Supplier acceptable to the City. A Tenderer will not be required to make such a substitution and, if the City objects to a listed Subcontractor and/or Supplier, the Tenderer may, rather than propose a substitute Subcontractor and/or Supplier, consider its Tender rejected by the City and, by written notice, withdraw its tender. The City shall, in that event, return the Tenderer's bid security.

15.0 PERMITS, LICENSES AND FEES

15.1 The successful Tenderer will be required to obtain and pay for any applicable municipal, provincial and federal permits and licences necessary for the proper completion of the Work. The City will not be liable in any manner for same and the successful Tenderer agrees to indemnify and save the City harmless from and against all claims and Losses in relation to obtaining and paying for any applicable municipal, provincial and federal permits and licences necessary for the proper completion of the Work.

16.0 NON-RESIDENT WITHHOLDING TAX

16.1 Tenderers are advised that, if they are not residents of Canada, federal tax legislation requires that a certain percentage of the Contract Price otherwise payable to the Contractor be withheld by the City and remitted to the Receiver-General for Canada. The percentage required to be withheld and remitted varies depending among other things, on the country of residence, the provisions of any applicable tax treaties and the nature of the payment. Non-resident Tenderers may contact the Vancouver office of the Canada Revenue Agency, Taxation for further details. The City will receive a credit under the Contract for and any and all money withheld and remitted.

17.0 NO CLAIM AGAINST THE CITY

17.1 The Tenderer acknowledges and agrees that the City will not be responsible for any costs, expenses, losses, damages (including damages for loss of anticipated profit) or liabilities (the "Damages") incurred by the Tenderer, including, without limiting the generality of the

INVITATION TO TENDER NO. PS11164
STILL CREEK ENHANCEMENT PROJECT - 2900 NOOTKA STREET - PHASE 1
PART B - TERMS AND CONDITIONS OF ITT PROCESS

foregoing, any Damages incurred by the Tenderer directly or indirectly caused by any act or omission of the City or breach of any agreement or duty by the City, express or implied, and by submitting a Tender each Tenderer shall be deemed to have agreed that it has no claim whatsoever.

- 17.2 The Tenderer now indemnifies and will protect and save the City and any of its employees, advisors or representatives (including the Consultant) harmless from and against all Losses, in respect of any claim or threatened claim by any of its Subcontractors, or materials or equipment suppliers alleging or pleading:
- (a) a breach of the Tender Contract by the City or any of its employees, advisors or representatives (including the Consultant);
 - (b) an unintentional tort, of the City or any of its employees, advisors or representatives (including the Consultant), occurring in the course of conducting this ITT; or
 - (c) liability on any other basis related to the Tendering process, bidding process or the Tender Contract.

18.0 DISPUTE RESOLUTION

- 18.1 Any dispute relating in any manner to this ITT, except only disputes arising between the City and any Tenderer to whom the City has made an award of the Contract, will be resolved by arbitration in accordance with the *Commercial Arbitration Act* (British Columbia) amended as follows:
- (a) The arbitrator will be selected by the City's Director - Supply Management; and
 - (b) The release, indemnity and limitation of liability set out above will:
 - (i) bind the arbitrator, the Tenderer and the City; and
 - (ii) survive any and all awards made by the arbitrator.

19.0 CONFIDENTIALITY AND PRIVACY

- 19.1 The Tender, once submitted to the City, becomes the property of the City, which is a public body required under Information and Privacy Legislation to protect or disclose certain types of records according to certain statutory rules. The Tender, upon submission to the City, will be received and held in confidence by the City, unless and to the extent that it is or must be disclosed pursuant to Information and Privacy Legislation. If unsuccessful, the Tenderer, at the City's request, shall destroy or return all copies and originals (in any format or medium) of the Tender Documents.

20.0 RELEASE OF INFORMATION RESTRICTED

- 20.1 No information concerning one Tenderer's Tender will be given out to the other Tenderers. Tenderers may attend the opening and registering of Tenders (referred to on the cover page of this ITT) in order to obtain information concerning the names of the other Tenderers who submitted a Tender and the Tender Price shown on each Form of Tender. However, no other information is anticipated to be disclosed by the City.

INVITATION TO TENDER NO. PS11164
STILL CREEK ENHANCEMENT PROJECT - 2900 NOOTKA STREET - PHASE 1
PART B - TERMS AND CONDITIONS OF ITT PROCESS

21.0 REFERENCE DOCUMENTS

- 21.1 The reference documents listed in this ITT as Appendix 2, form part of the Tender Documents and are provided to the Tenderers for informational purposes. Tenderers who wish to use any information included in the reference documents do so at their own risk and the City recommends that all such information be independently verified by the Tenderers. Under no circumstances will the City be liable for the content of the reference documents including any errors, omissions or inaccuracies therein.

INVITATION TO TENDER NO. PS11164
 STILL CREEK ENHANCEMENT PROJECT - 2900 NOOTKA STREET - PHASE 1
 PART C - FORM OF TENDER

Tender of:			
	Name of Person, Firm, or Company (the "Tenderer")		
Business Address:			
Postal or Zip Code:			
Cheques Payable to/Remit to Address:			
Postal or Zip Code:			
Key Contact Person:			
Telephone No.:		Fax No.:	
E-mail:			
H.S.T Registration Number			
Dun & Bradstreet Number (if available)		WorkSafeBC Account Number	
City of Vancouver Business License Number		Incorporation Date	
<i>(If your office is located in Vancouver)</i>			

To be initialled at Tender opening:

Director, Supply Management or designate

Witness

INVITATION TO TENDER NO. PS11164
STILL CREEK ENHANCEMENT PROJECT - 2900 NOOTKA STREET - PHASE 1
PART C - FORM OF TENDER

1.0 TENDER PRICE AND SCHEDULE

Having carefully read and examined the Tender Documents the undersigned hereby offers to complete the Work covered by the Tender Documents and to furnish all plant, tools, equipment, labour, products, material and supervision necessary to execute the Work for the Tender Price of:

ITT NO. PS11164 Still Creek Enhancement Project - 2900 Nootka Street - Phase 1
The Tender Price, which excludes HST, is _____ dollars and _____ cents (\$ _____)

The undersigned confirms that the above stated Tender Price includes:

- (a) all overhead and profit;
- (b) all taxes (except HST), including all federal, provincial, and municipal taxes; and
- (c) all other fees, charges, costs and expenses whatsoever related to performing the Work.

The undersigned offers to complete the Work according to the following schedule:

- (a) Work will begin by August 2, 2011, subject to approval by Vancouver City Council or its delegate and the City issuing the Notice to Proceed.
- (b) Substantial performance of the Work is targeted for October 31, 2011.
- (c) Total performance of the Work is targeted for November 15, 2011.

2.0 NOTICE OF AWARD

The undersigned agrees that this Tender will be irrevocable and open for acceptance by the City for a period of sixty (60) calendar days commencing on the Closing Time, even if the Tender of another Tenderer is accepted by the City. If within this period the City delivers a written notice by which the City accepts the Tender (the "Notice of Award"), the undersigned will, within ten (10) Working Days of the receipt of the Notice of Award, deliver to the City:

- (a) a performance bond and a labour and material payment bond, each in the amount of 50% of the Tender Price, issued by a surety licensed to carry on the business of suretyship in the province of British Columbia, and in a form acceptable to the City;
- (b) a detailed Construction Schedule;

INVITATION TO TENDER NO. PS11164
STILL CREEK ENHANCEMENT PROJECT - 2900 NOOTKA STREET - PHASE 1
PART C - FORM OF TENDER

- (c) a detailed Traffic Management Plan addressing vehicular and pedestrian movement, safety and access with specific detailing on methods, signage and materials used to maintain Site operations and access to staff and public users of the Work Site;
- (d) a detailed Site Specific Safety and Health Plan addressing as a high-level overview the health and safety issues including, but not limited to hazards, mitigation measures, site orientations, safety meetings, first aid attendant requirements, and training requirements and record keeping;
- (e) a WorkSafeBC number and a "clearance letter" confirming that the Tenderer is in WorkSafeBC compliance;
- (f) a valid City of Vancouver business licence; and
- (g) a completed and signed Certificate of Insurance (in the form attached as Schedule to this Form of Tender) or certified copies of the insurance policies specified in the Contract, indicating that all such insurance coverage is in place.

3.0 NOTICE TO PROCEED

The undersigned agrees that upon the City's receipt and acceptance of the submissions above and the undersigned's execution and return of the Contract Documents, the City will deliver a written "Notice to Proceed" by which the undersigned will:

- (a) commence the Work within two (2) Working Days of the receipt of the Notice to Proceed or such longer time as may be otherwise specified in the Notice to Proceed; and
- (b) issue, post, and copy the City on the Notice of Project as and when required under Section 20.2 of the *Occupational Health & Safety Regulation* (BC Regulation 296/97).

4.0 CONDITIONS

- (a) The undersigned agrees that if the undersigned receives a Notice of Award and fails or refuses to:

- (i) deliver the documents by the times specified in the Notice of Award; or
- (ii) commence the Work as required by the Notice to Proceed,

then such failure or refusal will be deemed to be a refusal to enter into the Contract and the City may, on written notice to the undersigned, award the Contract to another party. It is further agreed that, as full compensation on account of damages suffered by the City because of such failure or refusal, the bid security shall be forfeited to the City in the amount equal to the lesser of:

- (i) the face value of the bid security; and
- (ii) the amount by which the Tender Price is less than the amount for which the City contracts with another party to perform the Work.

INVITATION TO TENDER NO. PS11164
STILL CREEK ENHANCEMENT PROJECT - 2900 NOOTKA STREET - PHASE 1
PART C - FORM OF TENDER

7.0 LABOUR

The above stated price is based on the Work under the Contract being performed by union/non-union labour. (Delete "union" or "non-union" as applicable).

SIGNED and SEALED this _____ day of _____ by the duly authorized officers of the Tenderer:

Tenderer's Legal Name or Registered Corporate Name and Address:

(Seal)

By: _____

By: _____

Witness' Name, Signature, and Address where Tenderer is a Proprietorship or Partnership:

Signature

Print Name

Address

INVITATION TO TENDER NO. PS11164
 STILL CREEK ENHANCEMENT PROJECT - 2900 NOOTKA STREET - PHASE 1
 SCHEDULE "A" (PART C - FORM OF TENDER)

SCHEDULE "A"

SCHEDULE OF QUANTITIES AND PRICES

The following amounts are the Tenderer's lump sum and/or unit prices for the corresponding items listed below. The lump sum and/or unit in this Schedule A will include all labour, materials, services and other inputs, overhead and profit and all fees and taxes payable in respect of the Work except HST. The HST will be shown separately.

SUMMARY

Item No.	General Description	Total Price
1	Still Creek Enhancement Project, 2900 Nootka Street - Phase 1 Subtotal of Sections 1 through 4.	\$
	HST	\$
	TENDER PRICE (Subtotal +HST)*	\$

**(Transfer amount to page FT2 paragraph 1.0)*

INVITATION TO TENDER NO. PS11164
 STILL CREEK ENHANCEMENT PROJECT - 2900 NOOTKA STREET - PHASE 1
 SCHEDULE "A" (PART C - FORM OF TENDER)

LEGEND

ea - each

m - metre

L.S. - lump sum

n/a - not applicable

m² - square metre

m³ - cubic metre

SECTION 1 QUANTITIES FOR SITE CONSTRUCTION

ITEM	DESCRIPTION	MMCD SECTION	UNITS	ESTIMATE QUANTITY	UNIT PRICE BID	BID AMOUNT
1.1	Mobilization / Demobilization (For all works)	01 53 01	L.S.	1	\$	\$
1.2	Clearing and grubbing of vegetation <u>not</u> marked for preservation within the project work site limits as shown in the design drawings.	31 11 01	m ²	1980	\$	\$
1.3	Off-site disposal of cleared and grubbed vegetation.	31 11 01	m ²	40	\$	\$
1.4	Stripping and off-site disposal of existing surface material. Lateral extent of stripping estimated to 4 m from top of bank 0.4 m deep, and no more than necessary to achieve design bank slopes as shown he by cross sections in design drawings.	31 22 01	m ³	350	\$	\$

INVITATION TO TENDER NO. PS11164
 STILL CREEK ENHANCEMENT PROJECT - 2900 NOOTKA STREET - PHASE 1
 SCHEDULE "A" (PART C - FORM OF TENDER)

SECTION 2 QUANTITIES FOR CHANNEL WORKS

ITEM	DESCRIPTION	MMCD SECTION	UNITS	ESTIMATE QUANTITY	UNIT PRICE BID	BID AMOUNT
2.1	<p>Rental of submersible pump and accessories (generator, hoses and plates) for isolation of work area from water flow. The Project requires a pump system designed to accommodate daily summer base flows of at least 0.09 m³/s.</p> <p>An 8" submersible pump along with a redundant 8" pump is specified for instream work areas during stream bed and bank excavation, stream bed and bank re-grading and construction of instream features.</p> <p>The pump system will include a fish screen on the intake and a 3 m long diffuser pipe for the outlet.</p>	01 53 01	week.	4	\$	\$
2.2	Installation and operation of submersible pump and accessories (generator, hoses and plates) for isolation of work area from water flow.	01 53 01	week	4	\$	\$
2.3	Excavation and removal of existing 300 mm thick concrete flume along stream bed and north and south banks as shown in the design drawings.	31 23 01	m ³	163	\$	\$
2.4	Offsite disposal of existing 300 mm thick concrete flume.	31 23 01	m ³	1091	\$	\$
2.5	Excavation and grading of stream bed and bank slopes as shown in design drawings	31 23 01	m ³	1091	\$	\$

INVITATION TO TENDER NO. PS11164
 STILL CREEK ENHANCEMENT PROJECT - 2900 NOOTKA STREET - PHASE 1
 SCHEDULE "A" (PART C - FORM OF TENDER)

	to accommodate new channel substrate materials.					
2.6	Removal and offsite disposal of existing stream bed and bank material from north and south banks.	31 23 01	m ³	1091	\$	\$
2.7	Supply and placement of non-woven synthetic geotextile CC6G as supplied by Canadian Culvert or approved equivalent.	31 38 00	m ²	2100	\$	\$
2.8	Supply and placement of 19 mm clear crush along stream banks as shown in design drawings.	31 38 00	m ³	130	\$	\$
2.9	Supply and placement of 900 mm x 900 mm x 900 mm stacked bank rock above excavated base as specified by design drawings.	31 38 00	m ³	250	\$	\$
2.10	Supply and placement of Type 1 fill material behind stream bank rock as shown in design drawings.	31 38 00	m ³	63	\$	\$
2.11	Supply and Placement of wetland growing medium	32 93 01	m ³	50	\$	\$
2.12	Supply and Placement of wetland growing medium	32 93 01	m ³	50	\$	\$
2.13	Supply and placement of Koir Wrap 1000 as supplied by Nedra Enterprises or approved equivalent on north and south banks above stacked bank rock as shown in design drawings.	31 38 00	m ²	1840	\$	\$
2.14	Supply and placement of soilwrap fill material for soil wrap on north and south banks as shown in design drawings	31 38 00	m ³	500	\$	\$

INVITATION TO TENDER NO. PS11164
 STILL CREEK ENHANCEMENT PROJECT - 2900 NOOTKA STREET - PHASE 1
 SCHEDULE "A" (PART C - FORM OF TENDER)

SECTION 3 QUANTITIES FOR CONSTRUCTION OF PEDESTRIAN BRIDGE

ITEM	DESCRIPTION	MMCD SECTION	UNITS	ESTIMATE QUANTITY	UNIT PRICE BID	BID AMOUNT
3.1	Bridge Construction Ground Preparation	31 24 13	L.S.	1	\$	\$
3.2	Bridge Construction	As specified in structural notes	L.S.	1	\$	\$

SECTION 4 QUANTITIES FOR LANDSCAPING

ITEM	DESCRIPTION	MMCD SECTION	UNITS	ESTIMATE QUANTITY	UNIT PRICE BID	BID AMOUNT
4.1	Excavation, Removal and offsite disposal of surface material (including existing asphalt and concrete curb along Nootka St.) for permeable asphalt pathway & concrete walk construction	31 24 13	m ³	66	\$	\$
4.2	Supply and Placement of concrete walk and seating pad base & subbase material (100 mm thk. layers ea.)	32 11 23	m ³	53	\$	\$
4.3	Supply and Placement of Geotextile Fabric on subgrade for permeable asphalt path	32 12 17	m ²	134	\$	\$
4.4	Supply and Placement of permeable asphalt path base material (250 mm thk. course)	32 11 23	m ³	40	\$	\$
4.5	Supply and Placement of permeable asphalt pathway (50 mm thk. course)	32 12 16	m ³	10	\$	\$
4.6	Supply and placement of concrete walk & seating pad	03 30 20 Detail C2	m ³	15	\$	\$

**INVITATION TO TENDER NO. PS11164
STILL CREEK ENHANCEMENT PROJECT - 2900 NOOTKA STREET - PHASE 1
SCHEDULE "A" (PART C - FORM OF TENDER)**

4.7	Supply and installation of Post & Rail cedar fence as shown in design drawings	See dwg	m	160	\$	\$
4.8	Supply and placement of 1200 mm landscaping rocks	See dwg	L.S.	13	\$	\$
4.9	Supply and placement of imported top soil distributed to disturbed areas on site by construction activities or as described in specifications and shown in design drawings	32 91 21	m ³	650	\$	\$
4.10	Supply and placement of Erosion Control Matting (ECM) S42 as supplied by North American Green or approved equivalent	32 91 21	m ²	190	\$	\$
4.11	Supply and placement of mulch on topsoil treated surfaces	32 93 01	m ²	2000	\$	\$
4.12	Supply and placement of trees, plants and shrubs	32 93 01	L.S.	1	\$	\$
4.13	Supply and installation of 2.4 m long freestanding, surface mount, horizontal strap scarborough park bench as supplied by Landscapeforms® or approved equivalent.	-	L.S.	2	\$	\$

NOTE: Where applicable, City provided materials should be taken into account when providing unit pricing.

INVITATION TO TENDER NO. PS11164
 STILL CREEK ENHANCEMENT PROJECT - 2900 NOOTKA STREET - PHASE 1
 SCHEDULE "B" (PART C - FORM OF TENDER)

SCHEDULE "B"

PRELIMINARY CONSTRUCTION SCHEDULE

The Work is expected to begin by August 2, 2011 and substantial performance is targeted for October 31, 2011. Please clearly define time requirements for project milestones identified in the table below. If necessary, please add an attachment to this Schedule.

Additional pages may be attached to this page. Each such additional page is to be clearly marked "ITT PS11164, FORM OF TENDER - SCHEDULE B", and is to be signed by the Tenderer.

Please provide the preliminary construction schedule for the Work:

Work Description	July 2011				August 2011				September 2011				October 2011			
Work Start Date, August 2, 2011																

INVITATION TO TENDER NO. PS11164
 STILL CREEK ENHANCEMENT PROJECT - 2900 NOOTKA STREET - PHASE 1
 SCHEDULE "D" (PART C - FORM OF TENDER)

SCHEDULE "D"

TENDERER'S EXPERIENCE WITH RELATED WORK

Tenderers should confirm that they have more than the required experience to perform the Work. Each Tenderer should submit a minimum of three (3) completed projects (related in scope and size), including the following information Tenderer and for each and every Supplier and Subcontractor proposed in the Tender:

Description of Project:	
Location of Project:	
Contract Value:	\$ (Cdn. Dollars)
Start and Completion Dates:	
Completed on Schedule?	Yes No (Circle Correct Response)
Name of Contract Owner:	
Name of Project Reference:	
Current Telephone Number and E-mail of Project Reference:	
Names of Key Personnel and Subcontractors:	

INVITATION TO TENDER NO. PS11164
 STILL CREEK ENHANCEMENT PROJECT - 2900 NOOTKA STREET - PHASE 1
 SCHEDULE "D" (PART C - FORM OF TENDER)

Description of Project:	
Location of Project:	
Contract Value:	\$ (Cdn. Dollars)
Start and Completion Dates:	
Completed on Schedule?	Yes No (Circle Correct Response)
Name of Contract Owner:	
Name of Project Reference:	
Current Telephone Number and E-mail of Project Reference:	
Names of Key Personnel and Subcontractors:	

INVITATION TO TENDER NO. PS11164
 STILL CREEK ENHANCEMENT PROJECT - 2900 NOOTKA STREET - PHASE 1
 SCHEDULE "D" (PART C - FORM OF TENDER)

Description of Project:	
Location of Project:	
Contract Value:	\$ (Cdn. Dollars)
Start and Completion Dates:	
Completed on Schedule?	Yes No (Circle Correct Response)
Name of Contract Owner:	
Name of Project Reference:	
Current Telephone Number and E-mail of Project Reference:	
Names of Key Personnel and Subcontractors:	

Additional pages may be attached to this page. Each such additional page is to be clearly marked "ITT No. PS11164, FORM OF TENDER - SCHEDULE D", and is to be signed by the Tenderer.

INVITATION TO TENDER NO. PS11164
 STILL CREEK ENHANCEMENT PROJECT - 2900 NOOTKA STREET - PHASE 1
 SCHEDULE "E" (PART C - FORM OF TENDER)

SCHEDULE "E"

FORCE ACCOUNT LABOUR & EQUIPMENT RATES

Tenderers should complete the following tables setting out the all-inclusive hourly rates for all applicable types of equipment as well as the all-inclusive hourly rates for all applicable categories of labour which rates will then apply pursuant to the Contract.

TABLE 1 - SCHEDULE OF LABOUR RATES

Job Classification	Regular Rate	Overtime Rate
	\$	\$
	\$	\$
	\$	\$
	\$	\$
	\$	\$
	\$	\$

TABLE 2 - SCHEDULE OF EQUIPMENT RATES

No.	Equipment Description	Hourly Rate	No. of Hours	Overhead And Profit	Total Price
		\$		\$	\$
		\$		\$	\$
		\$		\$	\$
		\$		\$	\$
		\$		\$	\$

Additional pages may be attached to this page. Each such additional page is to be clearly marked "ITT No. PS11164, FORM OF TENDER - SCHEDULE E", and is to be signed by the Tenderer.

INVITATION TO TENDER NO. PS11164
STILL CREEK ENHANCEMENT PROJECT - 2900 NOOTKA STREET - PHASE 1
SCHEDULE "F" (PART C - FORM OF TENDER)

SCHEDULE "F"
CONSENT OF SURETY

PROJECT: _____

Should it be required, we the undersigned Surety Company do hereby undertake to become bound as sureties in an approved Contract Performance Bond and Labour and Material Payment Bond each in the amount of 50% of the awarded Tender Price for the fulfillment of the Contract and for the performance of the Work as described herein, which may be awarded to _____ at the Tender Price set forth in the attached Tender, which Performance Bond and Labour and Material Payment Bond we understand are to conform to the applicable MMCD forms and be filed with the City within ten Working Days of receipt of Notice of Award of the Contract, unless otherwise directed by the City.

We hereby further declare that the undersigned Surety Company is legally entitled to do business in the Province of British Columbia and that it has a net worth over and above its present liabilities and the amounts herein set forth.

The Common Seal of _____
was hereto affixed in the presence of:

INVITATION TO TENDER NO. PS11164
STILL CREEK ENHANCEMENT PROJECT - 2900 NOOTKA STREET - PHASE 1
SCHEDULE "G" (PART C - FORM OF TENDER)

SCHEDULE "G"

CERTIFICATE OF INSURANCE

(To be completed if awarded the Contract)

INVITATION TO TENDER NO. PS11164
STILL CREEK ENHANCEMENT PROJECT - 2900 NOOTKA STREET - PHASE 1
SCHEDULE "H" (PART C - FORM OF TENDER)

SCHEDULE "H"

CERTIFICATE OF EXISTING INSURANCE

(TO BE COMPLETED AND SUBMITTED WITH TENDER)

INVITATION TO TENDER NO. PS11164
STILL CREEK ENHANCEMENT PROJECT - 2900 NOOTKA STREET - PHASE 1
SCHEDULE "I" (PART C - FORM OF TENDER)

SCHEDULE "I"

UNDERTAKING OF INSURANCE

To: City of Vancouver

Re: ITT No. PS11164 Still Creek Enhancement Project - 2900 Nootka Street - Phase 1

Dear Sirs:

We, the undersigned have completed, signed and attached the "Certificate of Existing Insurance" enclosed with this undertaking and now also do hereby undertake and agree that if _____ (the "Tenderer") is awarded the Contract, we will insure the Contractor in accordance with the requirements of the Contract, a copy of which is included in the Tender Documents and will form part of the Contract Documents.

Dated at _____, British Columbia, this _____ day of _____ 2011

By: _____

Title: _____

Full Corporate Name of Insurer:

The "Certificate of Existing Insurance" provided with the ITT should be completed and signed and enclosed with this Schedule both of which are to be signed by the Insurance Company or an authorized Broker on behalf of the Insurance Company. A SEPARATE FORM (AND CERTIFICATE OF EXISTING INSURANCE) SHOULD BE SIGNED FOR EACH POLICY IF TENDERER HAS MORE THAN ONE INSURER OR BROKER FOR ITS POLICIES.



**INVITATION TO TENDER ("ITT") NO. PS11164
STILL CREEK ENHANCEMENT PROJECT - 2900 NOOTKA STREET
- PHASE 1**

FORM OF AGREEMENT

between

and

CITY OF VANCOUVER

_____, 2011

INVITATION TO TENDER NO. PS11164
STILL CREEK ENHANCEMENT PROJECT - 2900 NOOTKA STREET - PHASE 1
PART D - FORM OF AGREEMENT

This AGREEMENT is made as of the _____ the day of _____.

BETWEEN:

CITY OF VANCOUVER, having an office at
453 West 12th Avenue
Vancouver, British Columbia, V5Y 1V4

(hereinafter referred to as the "Owner")

OF THE FIRST PART

AND:

[INSERT CONTRACTOR NAME/ADDRESS]

(hereinafter referred to as the "Contractor")

OF THE SECOND PART

WHEREAS:

- A. The Owner has appointed **Northwest Hydraulic Consultants**, Project Manager (hereinafter referred to as the "Engineer" for the purposes of this Contract) to act as its sole and exclusive agent for purposes of managing and administering the performance of the Work by the Contractor in accordance with the Specifications, Drawings and other Contract Documents; and
- B. The Contractor has agreed with the Owner to perform the Work and to furnish all plant, tools, equipment, labour, Products, material and supervision necessary therefor as hereinafter set forth.

NOW THEREFORE THIS AGREEMENT WITNESSES as follows:

ARTICLE 1 ROLE OF THE ENGINEER

The Owner hereby designates and appoints the Engineer as its sole and exclusive agent for the purpose of managing and administering for the Owner under the Contract as set out in the Contract Documents. Unless otherwise notified in writing by the Owner to the Contractor, the agency of the Engineer shall continue for the entire duration of this Contract including the period of any guarantees or warranties given by or through the Contractor. In the event of the revocation in writing of the agency of the Engineer by the Owner, the Engineer shall have no further authority under this Contract, except as may be specifically designated in writing by the Owner and agreed to in writing by the Engineer, and all references to the Engineer in this Contract shall thereafter be deemed to be a reference to the Owner or to such other person designated in writing to the Contractor. The Engineer may from time to time delegate to a representative the performance of or the authority to perform the duties, responsibilities, rights and obligations of the Owner in respect of which the Engineer has been designated and appointed as its sole and exclusive agent.

ARTICLE 2 WORK

The Contractor will carry out the Work, and will furnish all materials, equipment, products, labour, services and supervision necessary to carry out the Work as specified in and in accordance with the Contract Documents.

INVITATION TO TENDER NO. PS11164
STILL CREEK ENHANCEMENT PROJECT - 2900 NOOTKA STREET - PHASE 1
PART D - FORM OF AGREEMENT

All of the Work shall be done, performed or furnished by the Contractor in a proper and workmanlike manner and in accordance with the requirements of the Contract Documents (as hereinafter defined).

ARTICLE 3 CONTRACT DOCUMENTS

3.1 The following are the Contract Documents of this Agreement, whether or not attached to this Agreement:

- (a) this Agreement and the following Schedules:
 - (i) Schedule 1 - General Conditions;
 - (ii) Schedule 2 - Supplemental Specifications;
 - (iii) Schedule 3 - List of Specifications and Drawings (the listed Specifications and Drawings are incorporated by reference);
 - (iv) Schedule 4 - Schedule of Quantities and Prices;
 - (v) Schedule 5 - Subcontractors and Suppliers;
 - (vi) Schedule 6 - Project Schedule;
 - (vii) Schedule 7 - Performance and Labour and Material Payments Bonds;
 - (viii) Schedule 8 - Insurance Certificate;
 - (ix) Schedule 9 - Force Account Labour and Equipment Rates;
 - (x) the Form of Tender submitted by the Contractor, dated (to be determined), titled "ITT PS11164 - Still Creek Enhancement Project - 2900 Nootka Street -Phase 1 (incorporated by reference);
 - (xi) the Specifications and Drawings;
 - (xii) the Traffic Management Plan provided by the Contractor to the City (incorporated by reference); and
 - (xiii) the Site Specific Safety and Health Plan provided by the Contractor to the City (incorporated by reference)

3.2 The Contract Documents are complementary and what is called for by any one shall be as binding as if called for by all. The intent and spirit of the Contract Documents is that the Contractor is required to complete the Work in every detail within the times and for the purposes designated, and that the Contractor shall furnish and do any and everything necessary for such purposes notwithstanding any omission from the Contract Documents.

ARTICLE 4 SCHEDULE OF WORK

4.1 The Contractor will commence the Work as directed in writing by the Owner.

4.2 The Contractor will perform the Work diligently and in accordance with the Construction Schedule attached as a Schedule to this Agreement. The Contractor will:

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- (a) achieve Substantial Performance on or before October 31, 2011; and
- (b) achieve Total Performance of the Work by November 15, 2011,

(collectively, the "Contract Time"), subject to the provisions of the Contract Documents for adjustments to the Contract Time.

4.3 Time shall be of the essence in this Contract.

ARTICLE 5 PAYMENT

5.1 Contract Price

- (a) The Contract Price (which excludes HST but otherwise includes all applicable fees, all municipal taxes, all permits and inspection costs, and all customs and excise import duties and WorkSafeBC assessments relating to the Work) to do, perform and supply all the Work in accordance with, and perform all the obligations specified by the Contract Documents is [insert Contract Price which excludes HST].
- (b) All HST payable by the Owner to the Contractor is [insert applicable amount of HST]. This amount is not included in the Contract Price.
- (c) All amounts are in Canadian Funds.
- (d) The Contract Price shall be subject to adjustments as provided for in the Contract Documents.

5.2 Application for Payment

- (a) During progress of the Work, the Contractor may make application to the Engineer for payment, in the form approved by the Engineer, on or before the last day of every month for Work done to the date of the application, provided that the Engineer may at any time require as a condition of payment the submission of documentation set out in GC.60.
- (b) On Substantial Performance being certified in accordance with the procedures set out in Section 1 of GC.60 and the value of the certified deficiencies being agreed upon, the Contractor may make application to the Engineer for the balance of all monies then owing under this Contract to the Contractor, submitting also such documentation as is required by GC 60.
- (c) On correction and completion of all deficient work listed on the Certificate of Substantial Performance, the Contractor shall submit her application to the Engineer for final payment, accompanied by the documentation required by GC 60.

5.3 Payment

- (a) The payment for any Work under this Contract which shall be made to the Contractor by the Owner shall not be construed as an acceptance of any Work as being in accordance with the Contract Documents. The issuance of the Certificate of Total Performance shall constitute a waiver by the Contractor of all claims except those previously made in writing and still unsettled, if any, and specified by the Contractor in its application for final payment pursuant to Section 5.2(c) above.

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- (b) Payments to the Contractor will be made by the Owner as follows:
- (i) On or before the fifth day of the month following the Contractor's application for payment, the Engineer will adjust, if necessary, and certify the Contractor's progress estimate. Where the Engineer makes any changes to the amount submitted by the Contractor for payment, the Contractor shall be notified in writing within five Working Days and shall be given the opportunity to defend the Contractor's application without delay.
 - (ii) Within thirty calendar days of the date the Owner receives any Engineer certified application for payment the Owner will make payment to the Contractor up to the value of the completed Work as certified by the Engineer less a *Builders Lien Act* holdback amount equal to ten percent of such certified value and less the aggregate of any previous payments all in accordance with the Contract and with the *Builders Lien Act*.
 - (iii) The Owner will, in addition to other holdbacks as provided by the Contract Documents, be entitled to deduct and retain from payments otherwise due to the Contractor, a Maintenance Security holdback in the amount of five percent of the Contract Price to cover the cost of corrections to the work that may be required under GC 51. The balance of the Maintenance Security not required under GC 51, and the remaining at the end of the warranty period, shall be paid without interest to the Contractor.

The Contractor may substitute a letter of credit, in the amount of the Maintenance Security, in a form and from a financial institution acceptable to the Owner, for the Maintenance Security holdback.
 - (iv) Where the Engineer has issued a certificate of completion in respect of a subcontract to which the Contractor was a party, and where 55 calendar days have elapsed since the issuance of the certificate without any claims of builders lien being filed which arose under the subcontract, the Owner will release to the Contractor the *Builders Lien Act* holdback amount retained for such subcontract work.
 - (v) After 55 calendar days have elapsed from the date of the Certificate of Substantial Performance issued in accordance with GC.60 and upon the Engineer's satisfaction that no encumbrance, lawful claim or lien exists, the Owner will, within a further ten calendar days, make payment to the Contractor of all monies due under this Contract at the date of Substantial Performance, including the release of all remaining *Builders Lien Act* holdback amounts, but retaining at least twice the estimated value of the certified deficiencies.
 - (vi) Upon the issuance of the Certificate of Total Performance, the Owner will make a final payment of all monies owing to the Contractor under the Contract.

5.4 Interest on Overdue Payments

Where payment is not made in accordance with the payment provisions contained in Section 5.3 above, the overdue amount shall bear interest at the lending rate of the Bank of Montreal for its prime commercial customers and such interest shall be calculated from and after the date upon

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which such payment was due and shall accrue until the date that payment of the overdue amount together with interest is made. This interest obligation on the Owner shall constitute the sole remedy of the Contractor for late payment.

ARTICLE 6 NOTICES

- 6.1 Unless otherwise specifically provided in the Contract Documents, all notices, instructions, orders or other communications in writing shall be conclusively deemed to have been given to the Contractor if delivered to the Contractor personally (or in the case of a company, to any of its officers or directors personally), or to the Contractor's superintendent or foreman, or delivered by mail to the Contractor at the business address of the Contractor set forth below:

Contractor:

(To be determined)

- 6.2 Unless otherwise specifically provided in the Contract Documents all notices, requests, claims or other communications by the Contractor shall be in writing and shall be given by personal delivery or by registered mail addressed to the:

Owner:

City of Vancouver
453 West 12th Avenue
Vancouver, British Columbia
V5Y 1V4

Attention:

Either of the said addresses may be changed from time to time by written notice to the other party.

- 6.3 Any such notices, instructions, orders, requests or other communications sent by mail as aforesaid shall be deemed to have been given on the second Working Day following the mailing thereof.

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ARTICLE 7 SUCCESSORS AND ASSIGNS

This Contract shall be binding upon and shall enure to the benefit of the successors and permitted assigns of the respective parties hereto.

IN WITNESS WHEREOF the parties hereto have executed this Agreement on the date first herein above written.

CITY OF VANCOUVER

by its authorized signatories:

Signature: _____

Name: _____

Title: _____

Signature: _____

Name: _____

Title: _____

[INSERT NAME OF CONTRACTOR]

by its authorized signatories:

Signature: _____

Name: _____

Title: _____

Signature: _____

Name: _____

Title: _____

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GC.1 DEFINITIONS

Where used in this Agreement, unless otherwise defined:

“**Certificate of Insurance**” means, subject always to GC.53, a certificate of insurance duly completed by the Contractor’s insurers or insurance brokers, in a form acceptable to the Owner;

“**Certificate of Substantial Performance**” means, subject always to Section 5.3 of the Form of Agreement and to the warranty under GC.51, the certificate issued by the Engineer indicating that Substantial Performance of the Work has been achieved. Under no circumstances will issuance of the Certificate of Substantial Performance be deemed to mean that the Owner has accepted the Work as being in compliance with the Contract Documents;

“**Certificate of Total Performance**” means subject always to section 5.3 of the Form of Agreement and to the warranty under GC.51, a certificate issued by the Engineer accepting the Contractor’s certification that the entire Work of the Contract has been performed by the Contractor to the requirements of the Contract Documents;

“**City**” or “**Owner**” means the City of Vancouver, a municipal corporation continued pursuant to the Vancouver Charter, acting in its capacity as the owner of Granville Street, but expressly excludes the City of Vancouver, acting in its regulatory capacity;

“**Construction Schedule**” has the meaning set out in GC.22;

“**Contract**” means the undertaking by the parties to perform their respective duties, responsibilities and obligations as prescribed in the Contract Documents;

“**Contract Documents**” means the documents set out in Article 3 of the Agreement;

“**Contract Price**” means the amount stipulated in Article 4 - Payment of the Agreement;

“**Drawings**” means all plans, profiles, drawings, sketches, or copies thereof exhibited, used or prepared for or in connection with the Work embraced under this Contract;

“**Engineer**” means the Engineer as defined in the Agreement or his delegate, who may be an employee of the City or an independent engineer engaged by the City on its behalf;

“**Environmental Legislation**” means any laws, statutes, regulations, orders, bylaws, permits or lawful requirements of any governmental authority with respect to environmental protection;

“**Force Account Work**” means work directed by the Owner pursuant to General Condition 47.

“**HST**” means the tax payable and imposed pursuant to Part IX of the *Excise Tax Act* (Canada) as amended, including any provincial component collected by Canada on behalf of British Columbia, and any successor legislation thereto;

“**Notice of Award**” has the meaning set out in the Form of Tender;

“**Notice to Proceed**” has the meaning set out in the Form of Tender;

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“**Other contractors**” means any person, firm or corporation employed by or having a contract with the Owner and/or associated parties otherwise than through the Contractor;

“**Plant**” means every temporary or accessory means necessary or required to carry on or complete the Work and extra work, in the time and manner herein provided including, without limiting the generality of the foregoing, all tools, fixed and moveable machinery, engines, motor vehicles, trucks, compressors, all temporary structures such as workshops, sheds, storehouses, shoring forms, trestles and hoardings and all other appliances, apparatus or equipment of every sort, kind and description whatsoever;

“**Products**” means material (including, but not limited to 115RE rail, concrete ties, Pandrol e-clips, insulators, pads, ballast, sub ballast, soils, site furnishings, machinery, equipment, goods and fixtures) incorporated or to be incorporated in the Work as required by the Contract Documents;

“**Site**” means the place or places where the Work under the Contract is to be carried out, erected, built or constructed;

“**Specifications**” mean the portion of the Contract Documents, wherever located and whenever issued, consisting of the written requirements and standards for Products, systems, workmanship, quality, and the services necessary for the performance of the Work;

“**Subcontractor**” means the person or persons with whom the Contractor has made an agreement to perform a portion or portions of the Work or to supply Products therefor;

“**Substantial Performance**” means that the Contract is “substantially performed” in accordance with the criteria set out in Section 1(2) of the *Builders Lien Act*;

“**Surety**” means the company which executes a bond required by the Contract to be furnished to the Owner;

“**Total Performance**” means when all the Work, including all deficiencies but excluding any correction of completed Work that appears during the warranty period set out in GC.51 or other on-going warranty or guarantee as provided by the Contract Documents, has been performed as required by the Contract Documents, as certified by the Engineer;

“**Traffic Management Plan**” has the meaning set out in GC.36;

“**WCB**” means the Workers Compensation Board established and functioning pursuant to the *Workers Compensation Act* (British Columbia) (the “**WCA**”), as amended, and/or related or successor legislation, and any successors in function thereto now referred to as “**WorkSafeBC**”;

“**WorkSafeBC/OHS Regulation**” means the WCA, and all regulations thereto, including, without limitation, the Occupational Health & Safety Regulation (BC Regulation 296/97, as amended by BC Regulation 185/99), as amended or re-enacted from time to time;

“**Work**” or “**Works**” means (unless the context requires a different meaning) the total construction and related services required by the Contract Documents, including all materials, matters, Products and things required to be done or supplied therefor, and all work(s) mentioned or referred to in the Contract Documents, including all extra or additional work or materials, matters or things which may be ordered by the Owner or the Engineer as herein provided;

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“Working Day” means any day other than a Saturday, Sunday or “holiday” as defined in the *Interpretation Act* (British Columbia).

GC.2 INTERPRETATION

In this Contract, the masculine includes the feminine and bodies corporate, and each includes the others. Also, any reference to the singular includes the plural where appropriate.

Drawings and Specifications are intended to be complementary. Should any difference exist between the Drawings and Specifications, or should any errors or inconsistency occur in any or between any of the Drawings and Specifications, the Contractor, before proceeding, shall bring them to the attention of the Engineer.

The Engineer will furnish from time to time such detail drawings and information as the Engineer may consider necessary for the Contractor’s guidance. These detail drawings shall take precedence over Contract Drawings and shall be considered as explanatory of them and not as indicating changes in the Work.

On all Drawings, figures take precedence over scaled dimensions. Scaling of dimensions, if done, is done at the Contractor’s own risk. Despite the above, in the event of any inconsistency between the Drawings and Specifications or between any other Contract Documents or within any Contract Documents which could be construed as creating an ambiguity in the amount of Work involved, the cost or amount of Product being supplied, the Contract Price being lower or higher, or any other similar discrepancy or inconsistency, the discrepancy or conflict will be resolved as follows:

- (a) the portion of the Contract Documents most favourable to the Owner will be deemed to be correct;
- (b) the more specific provision will take precedence over the less specific;
- (c) the more stringent will take precedence over the less stringent; and
- (d) the more expensive item will take precedence over the less expensive.

GC.3 PERSONAL EXAMINATION

The Contractor is required to examine carefully the site of the proposed Work, and the Drawings, Tables, Specifications and other Contract Documents. The Contractor shall satisfy himself as to the character, quality and quantity of work to be performed, materials to be furnished, and as to the requirements of the Drawings, Specifications and other Contract Documents. The Drawings and Tables show or describe conditions as they are believed by the Engineer to exist, but it is not to be inferred that all of the conditions as shown thereon are actually existent, nor shall the Owner or any of its respective officers be liable for any loss sustained by the Contractor as a result of any variance between the conditions as stated in the Drawings, Tables, or other Contract Documents and the actual conditions revealed during the progress of the Work, or otherwise.

The Contractor agrees that the Contractor has satisfied him/herself by the Contractor’s own investigation and research regarding all conditions, that the Contractor’s conclusion to enter into the Contract is based upon such investigation and that the Contractor will make no claim against the Owner or the Engineer because any of the estimates, tests or representations of

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any kind affecting the Work made by any officer or agent of the Owner or the Engineer may prove to be in any respect erroneous. The Contractor assumes the risk of unforeseen conditions and agrees to complete the Work under whatever circumstances that may develop. Any information shown or described in the Drawings, Tables, Specifications or any other Contract Documents as to the soil or material borings or tests of existing material is not guaranteed, and no claim for extra work or damages will be considered if it is found during construction that the actual soil or material conditions vary from those indicated.

GC.4 MASTER MUNICIPAL SPECIFICATIONS AND STANDARD DETAIL DRAWINGS

All references to "Drawings", "Specifications", "Master Specifications", "Master Municipal Specifications", "Technical Specifications" include the Master Municipal Construction Document ("MMCD") and Standard Detail Drawings (printing 2000), [as supplemented by the City of Vancouver Street Restoration Manual (Rev. August 2008)]. For certainty, all of Volume I and the following parts of Volume II of the MMCD are expressly excluded from the Contract Documents: Instruction to Tenderers - Part II. General Conditions (including Schedule 17.5.3 Letter Agreement with Referee, Changes Flow Chart, and Dispute Resolution Flow Chart).

GC.5 PERFORMANCE BOND

The Contractor, together with a surety company authorized to carry on business in the Province of British Columbia, shall be required to enter into a bond in a form satisfactory to the Engineer for a sum equal to 50% of the Contract Price as surety for the due and proper performance of the Contract including the warranty. The expense of the bond shall be borne by the Contractor.

GC.6 LABOUR AND MATERIALS PAYMENT BOND

The Contractor, together with a surety company authorized to carry on business in the Province of British Columbia, shall be required to enter into a bond in a form satisfactory to the Engineer for a sum equal to 50% of the Contract Price as surety for the due and proper payment for material and labour used in carrying out the Contract. The expense of the bond shall be borne by the Contractor.

GC.7 WORKSAFE BC COVERAGE AND CONTRACTOR TO BE PRIME CONTRACTOR

1. **Payment of WorkSafeBC (WCB) Assessments** - The Contractor agrees that it shall at its own expense procure and carry or cause to be procured and carried and paid for, full WorkSafeBC coverage for itself and all workers, employees, servants and others engaged in or upon any work or service which is the subject of this Contract. The Contractor agrees that the City has the unfettered right to set off the amount of the unpaid premiums and assessments for such WorkSafeBC coverage against any monies owing by the City to the Contractor. The City shall have the right to withhold payment under this Contract until the WorkSafeBC premiums, assessments or penalties in respect of work done or service performed in fulfilling this Contract have been paid in full.
2. **Prime Contractor** - Unless otherwise specified in the Contract Documents or notified to the contrary by the Engineer, the Contractor is the "Prime Contractor" for the purpose of all Applicable Laws relative to occupational health and safety, including the discharge of all duties of the "Prime Contractor" under the Workers Compensation Act (British Columbia), notwithstanding that the Owner, the Engineer or an Other Contractor may provide from time to

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time some of the services normally provided by such "Prime Contractor". In this GC.7 "Prime Contractor" means the contractor so defined under the Workers Compensation Act (British Columbia).

If the Contractor is the "Prime Contractor", the Contractor shall:

- a. *Compliance with Law:* comply with all Applicable Laws, and all reasonable rules established by the Owner of which the Contractor is given timely notice through the Engineer, relative to occupational health and safety;
- b. *Safety Programs:* initiate, maintain and supervise all safety programs and measures in connection with the performance of the Work, which program shall respond fully to the requirements of all Applicable Laws relative to occupational health and safety, all to the satisfaction of the Engineer;
- c. *Site Meetings:* conduct regular safety meetings at the Site, no less frequently than weekly, record minutes of such meetings and give copies of such minutes to the Engineer on a weekly basis;
- d. *Safety Equipment:* supply and maintain at the Site all safety equipment necessary to protect workers and others from accident or injury; and
- e. *First Aid:* supply and maintain at the Site all personnel, equipment and supplies necessary for the provision of appropriate first-aid to any worker or person suffering an accident or injury at or about the Site, and establish an emergency procedure for prompt removal of any such person from the Site to a hospital, clinic or medical office for further treatment.
- f. *Notice to Project:* prior to commencement of construction, the Contractor will:
 - (1) complete and file a "Notice of Project" with the WorkSafeBC in compliance with Section 20.2 of the WorkSafeBC Rules, and
 - (2) post the Notice of Project at the Site, and
 - (3) will provide a copy of the Notice of Project to the Owner and confirm in writing that the Notice of Project has been posted at the Site.

If, or for so long as the Contractor is not the "Prime Contractor", the Contractor shall:

- a. *Compliance with Law:* comply with all Applicable Laws, and all reasonable rules established by the Owner of which the Contractor is given timely notice through the Engineer, relative to occupational health and safety;
- b. *Compliance with Directions:* comply with all reasonable directions issued by the "Prime Contractor" regarding compliance with Applicable Laws, and rules established by the Owner, relative to occupational health and safety; and
- c. *Site Safety Meetings:* attend all Site safety meetings convened by the "Prime Contractor".

Whether or not the Contractor is the "Prime Contractor", it shall:

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- a. *Reporting:* report immediately to the "Prime Contractor" (if not the Contractor) and the Engineer all accidents and injuries of any kind or severity occurring on or about the Site and involving employees of the Contractor or any Subcontractor, or any other person of which the Contractor is aware, and arising out of or in connection with the Work;
- b. *Written Confirmation:* confirm in writing each report made under subparagraph (a); and
- c. *City Policy:* respect and adhere to Owner's safety and training policies relative to the Site and the Work.

If the Engineer determines that the Contractor is not in compliance with its obligations as "Prime Contractor", if applicable, the Owner may, but is not obliged to, provide some or all of the services required to discharge those obligations. All costs incurred by the Owner in providing such services shall be paid by the Contractor to the Owner, and may be deducted from any amount then or thereafter becoming due to the Contractor under the Contract.

2. **Initial Proof of WorkSafeBC Registration/Good Standing** - Within five Working Days of the City delivering the Notice of Award to the Contractor, the Contractor will provide the City with the Contractor's and all Subcontractor's WorkSafeBC registration numbers.
3. **Subsequent Proof of WorkSafeBC Registration/Good Standing** - Within five Working Days of the City delivering the Notice of Award to the Contractor, and concurrently with making any application for payment under this Contract, the Contractor will provide the City with written confirmation that the Contractor and all Subcontractors are registered in good standing with WorkSafeBC and that all assessments have been paid to date of the Notice of Award or date of application for payment, as applicable.
4. **Pre-Contract Hazard Assessment** - The Contractor may or may not have received, as part of the Contract Documents, a "Pre-Contract Hazard Assessment" prepared by or for the City pursuant to the City's statutory obligations under the WorkSafeBC/H&S Regulation (Section 119 of the WCA) as an "owner of a workplace". Despite the City's statutory obligations, the Prime Contractor now acknowledges and agrees that the Contractor may not rely on the "Pre-Contract Hazard Assessment" and now agrees to assume by the terms of this Contract full responsibility for carrying out the City's obligations under Section 119 of the WCA, including without limitation and by way of example only, conducting all due diligence inquiries of all applicable City staff and departments in order to ascertain what, if any, information is known or has been recorded by City staff about the Site that is necessary to identify and eliminate or control hazards to the health or safety of persons at the Site. The City now agrees to make all reasonable efforts to assist the Contractor in obtaining timely access to City staff and City records for this purpose. Within five Working Days of the City delivering the Notice of Award to the Contractor, the Contractor will start conducting such due diligence inquiries and must complete and deliver written confirmation of the completion of such inquiries to the Engineer prior to the City being obligated to issue the Notice to Proceed.
5. **Special Indemnity Against WorkSafeBC Non-Compliance** - The Contractor will indemnify the City and hold harmless the City from all manner of claims, demands, costs, losses, penalties and proceedings arising out of or in any way related to:
 - (a) unpaid WorkSafeBC assessments of the Contractor or any other employer for whom the Contractor is responsible under this Contract;

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- (b) the acts or omissions of any person engaged directly or indirectly by the Contractor in the performance of this Contract, or for whom the Contractor is liable pursuant to the Contractor's obligations as the Prime Contractor, and which acts or omissions are or are alleged by WorkSafeBC to constitute a breach of the WorkSafeBC/H&S Regulation or other failure to observe safety rules, regulations and practices of WorkSafeBC, including any and all fines and penalties levied by WorkSafeBC; or
- (c) any breach of the Contractor's obligations under this General Condition.

GC.8 LABOUR

The Contractor agrees to employ appropriate tradesmen on the Work. Where the tradesmen are covered by collective agreements, the Contractor shall abide by the wages and conditions of such collective agreements covering such tradesmen. Notwithstanding the foregoing, the Contractor shall pay or cause to be paid to every person employed on the Work not less than the wages or remuneration generally accepted as current at the time.

The Contractor shall endeavour to avoid labour problems and minimize work stoppages, jurisdictional or other labour disputes on the Site.

GC.9 COMMENCEMENT AND COMPLETION OF THE WORK

The Contractor shall not commence the Work or procure any material therefor until it has received the Notice to Proceed from the Owner. Forthwith after the receipt of the Notice to Proceed, the Contractor shall at once begin and continuously carry on to completion (subject as herein provided) and shall complete and give full possession thereof on or before the date specified by the Contractor in her tender, unless a longer period shall be allowed in writing by the Engineer in which case it shall be carried on to completion and possession given to the Owner within the additional time so allowed. No progress or interim estimate or certificate shall release the Contractor or its surety from any responsibility or shall be taken as evidence of any such release, or as an acceptance of any Work or material, or as a waiver of any condition herein. The whole Work and every portion and detail thereof shall, at the time of completion, be put and left by the Contractor in good and satisfactory condition, finished in all respects and at the time must be fully up to the requirements of the Drawings and Specifications in every particular aspect; all surplus and refuse material and rubbish removed from the vicinity of the Work; the premises left in a neat and tidy condition; all damages to adjacent property, including pavements, foot walks, boulevards, sodding, trees, shrubs and plants, or other things injured or interfered with by the Contractor, or in any way due to her work, made good; all wages paid, and every other requirement of the Contract complied with. In case of the Contractor's failure to finish the Work properly and fully, and as required, or in case of the Work or any part thereof being taken out of her hands, as provided in these General Conditions, the Owner may proceed to finish the Work for the Contractor as her agent in this respect and at the Contractor's expense or proceed as provided in GC.62.

Before the completed Work is accepted and paid for, the Contractor shall notify the Engineer in writing that it is ready for final inspection. Upon receipt of the notifications, the Engineer will arrange to give the entire Work a minute and thorough inspection, either in person or through a competent representative.

Any defects or omissions noted during this inspection must be made good by the Contractor without extra charge before the Work will be accepted.

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When the defects or omissions, if any, have been made good to the satisfaction of the Engineer, the Engineer will communicate the Engineer's acceptance of the Work, to the Owner, subject always to Article 5 of the Agreement and to the Contractor's warranty obligations.

GC.10 DELAY IN PROGRESS OF THE WORK

1. Delays

- (a) If the Contractor is delayed in the performance of the Work by an act, omission or wilful default of the Owner, or the Engineer, or anyone employed or engaged by them, contrary to the provisions of the Contract Documents, then the time fixed herein for completion shall be extended for such reasonable time as the Engineer may decide.
- (b) If the Contractor is delayed in the performance of the Work by a Stop Work Order issued by a court or other public authority and provided that such Stop Work Order was not issued as the result of an act or fault of the Contractor or anyone employed or engaged by him directly or indirectly, then the time fixed for completion herein shall be extended for such reasonable time as the Engineer may decide.
- (c) If the Contractor is delayed in the performance of the Work by labour strikes, fire, or by 'unforeseeable causes beyond the Contractor's control, then the time fixed for completion herein shall be extended for such reasonable time as the Engineer may decide, but in no case shall the extension of time be less than the time lost as the result of the event causing the delay, unless such shorter extension be agreed to by the Contractor. The Contractor shall not be entitled to payment for any costs, loss, or damages incurred as the result of such delay.
- (d) The Engineer may, from time to time and for such period as the Engineer may deem expedient, suspend in whole or in part, the performance of the Work under the Contract, and the Engineer will order the time herein fixed for the completion of the Work to be extended for a period which is deemed by the Engineer equivalent to the time lost by reason of such suspension.
- (e) No extension shall be made for delay unless written notice of claim is given to the Engineer not later than seven calendar days after the commencement of delay, providing however, that in the case of a continuing cause of delay only one notice of claim shall be necessary.
- (f) In the event that the Work is delayed or suspended in accordance with:
 - (i) Sections 1(a) or (d) of this GC.10, the Contractor shall not be entitled to make any claim by reason of such delay or suspension for any losses, costs of damages except and unless, within seven calendar days of the occurrence of such delay or suspension the Contractor shall give notice in writing to the Engineer of the basis of her claim. Such claim shall be limited to such unavoidable direct costs (excluding all charges for storage of Products, tools and equipment and indirect, overhead or other like costs) incurred as a result of such delay or suspension, and approved by the Engineer. In the case of a delay as described in Section 1(a) or a suspension pursuant to Section 1(d), a sum equal to five percent of such approved, unavoidable direct costs (in lieu of

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all profit) shall also be allowed. Despite any other term of this Contract, in no event will the City's liability for any delay claim (whether under this GC.10 or otherwise, at law or in equity, in contract or in tort) exceed the lesser of \$500 for each Working Day of delay or two percent of the Contract Price. All unavoidable direct costs claimed by the Contractor must be submitted and substantiated to the Engineer for verification on a weekly basis as incurred, failing which, they shall not be considered nor payable by the City. Authorization for any payment of the claim shall only be given by written Work Order, duly signed and issued by the Engineer; and

- (ii) Sections 1(b) or 1(c), the Contractor shall not be entitled to payment for any costs, loss, or damages incurred as the result of such delay and despite any other term of this Contract, the City will incur no liability for any such delay claim whether or not such claim is brought at law or in equity, contract or tort, or any other basis.

2. Non-Avoidance

No delay or suspension described in this GC.10 shall vitiate or avoid the Contract, or any part thereof, or any security or obligation for the performance thereof, unless the City elects to the contrary.

3. Resumption of Work

At the end of such delay or suspension, or upon the removal of the cause thereof, or upon the Contractor receiving notice from the Engineer requiring the resumption of work, the Contractor shall at once resume the performance of the Work and diligently carry on the same under the direction of the Engineer.

4. Continuance of Work After Time Fixed for Completion

The Contractor shall not construe any direct or inferred permission to continue work after expiry of time for completion of the Work, as stipulated in the Contract or as amended by the order of the Engineer, as a waiver of damages for non-compliance with the requirement for the completion of the Work by or within such time. The Engineer may withhold such amounts from amounts otherwise due to the Contractor as the Engineer deems necessary to satisfy claims by the Engineer, the City, or by Other contractors caused by such non-compliance with the requirement for the completion of the Work by or within such time.

GC.11 SPECIFICATIONS AND DRAWINGS

The Contractor shall keep in its field office and available to the Engineer a complete set of the Specifications and Drawings, and of any further drawings which may from time to time be supplied or approved by the Engineer. The Contractor shall be supplied with five (5) sets of Specifications.

Wherever standard Specifications are referred to, they shall be the latest edition of those Specifications and they shall be considered to be a part of the Contract.

The Contractor will be supplied with five (5) prints of each of the Drawings and the Contractor must satisfy itself as to the accuracy of the said copies in every detail. Any additional copies desired will be furnished by the Engineer at cost to the Contractor.

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The Drawings forming part of the Contract are intended to show the position and extent of the works, the general features of the design and construction, and the dimensions and proportions of all principal parts, but neither they nor the Specifications are guaranteed to show or describe every part or detail of the Work; anything omitted from the Drawings and Specifications, which may fairly be considered to be necessary for the proper execution and completion of the Work, shall be deemed to be included in the Contract.

Anything whatever which may be imperfectly specified or imperfectly shown on the Drawings, must be taken, considered and done as if it were perfectly shown and perfectly specified.

All dimensions on the Drawings, except as noted thereon, are shown in metric units.

The Engineer may from time to time issue further drawings or revised drawings as the Engineer deems necessary and such drawings shall be deemed to form part of the Contract. All sets of Drawings and Specifications shall be kept up to date at all times utilizing the Engineer's revised drawings and other documents issued to the Contractor.

All Drawings, Specifications, model and copies thereof furnished by the Engineer are and shall remain the Engineer's property. Such documents and models are to be used only with respect to the Work, are not to be copied or revised in any manner without the written authorization of the Engineer and are to be returned to the Engineer on request at the completion of the Work.

GC.12 SHOP DRAWINGS

The Contractor shall submit, with such promptness so as to cause no delay in his work, or that of any Other contractor, one (1) sepia and one (1) copy of all shop or setting drawings and schedules required for the Work of the Contractor, and the Engineer shall pass upon them with reasonable promptness. The Contractor shall make any corrections required by the Engineer, and file with him one (1) sepia and one (1) copy.

The Engineer's review of shop drawings or schedules shall not relieve the Contractor from responsibility for deviations from Drawings and Specifications unless the Contractor has in writing called the Engineer's attention to such deviation at the time of submission, nor shall it relieve the Contractor from the responsibility for errors of any sort in shop drawings or schedules.

GC.13 RECORD PLANS

The Contractor shall supply the Engineer with three (3) complete sets of "as constructed record plans" of the Work, on or before the date the Contractor makes application to the Engineer for a Certificate of Substantial Performance.

GC.14 ENGINEER SOLE JUDGE

Should any discrepancies appear or difference of opinion or misunderstanding arise as to the meaning of the Contract Documents, or as to any omissions therefrom, or misstatements therein, in any respect, or as to quality or dimensions or sufficiency of materials, Products, Plant or Work, or any part thereof, or as to the due and proper execution of the Work, or as to the measurement of quantity or valuation of any Work executed or to be executed under the Contract or as to extras thereupon, or deductions therefrom, or as to any other questions or matters arising out of the Contract, the same shall be determined by the Engineer and the

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Engineer's decisions shall be final and binding upon all parties concerned, and from it there shall be no appeal; and the Contractor shall immediately, when ordered by the Engineer, proceed with and execute the Work, or any part thereof, forthwith, according to such decision, and with such additions to or deductions from the Contract Price as are provided under the terms of the Contract, without making any claim for any extension of time in completing the Contract or the Work, unless arranged for in writing with the Engineer as provided herein.

In all cases of misunderstanding and disputes, oral arrangements will not be considered, and the Contractor must produce written authority in support of her contentions, and shall advance no claim in the absence of such written authority, or use, or attempt to use, any conversation with any person whomsoever against the Engineer or the Owner or in prosecuting any claim against any of them.

GC.15 ENGINEER'S ABSENCE

In the absence of the Engineer, any of the Engineer's assistants whom the Engineer may designate to supervise the Work, shall have (subject to the instructions of the Engineer) full power to decide as to the manner of conducting and executing the Work in every particular aspect, and the Contractor shall follow the instructions or orders of the person so designated.

GC.16 ACCESS AND ASSISTANCE

The Contractor shall furnish the Engineer and any of the Engineer's assistants at all times with convenient means of access to all parts of the Work, and also with all required assistance, to facilitate thorough examination of the same, and inspection, culling or removal of doubtful or defective material or Products and for any other purpose required in connection with the Work, or in the discharge of their respective duties, for which service no additional allowance will be made.

GC.17 COMMUNICATIONS WITH CONTRACTOR

At all times during the performance of the Work, the Contractor will maintain within the Greater Vancouver area an office equipped with a telephone and staffed at all times on all Working Days between 8:30 a.m. and 4:30 p.m. with a representative of the Contractor authorized to act on its behalf in connection with the Work and the Contract.

Before commencement of construction, the Contractor will provide the Engineer with a list of at least three persons with authority to act on the Contractor's behalf in times of emergency in connection with the Work, at least one of whom will be available at all times 24 hours per day after commencement of the Work until completion thereof.

Any notice or communication to the Contractor pursuant to the Contract will be deemed to be well and sufficiently given, delivered and received by the Contractor if handed to the Contractor or any of the Contractor's apparent representatives, if the Contractor is an individual, or to any of its apparent representatives, if it is not an individual, or if mailed or sent to the Contractor at the address set out in the Agreement, or to its place of business, if that is different from the address given there, or left for the Contractor at any Work site or by fax or e-mail to the Contractor's fax number or email address as set out in the Agreement.

In any written or printed notice the City gives communicating to the Contractor regarding requirements for the Work or otherwise in connection with the Work or the Contract, the City

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will not be obligated to specify minutely or in detail everything required, or to specify by measurement the exact extent thereof, or the precise spot or spots where the Work, material or Products that may be defective, or where any of the Specifications have not been observed, but a reference in such notice to the clause or clauses bearing upon the matter, and a description of the locality in general terms and sufficiently clear, in the Engineer's opinion, to indicate where the defects or trouble exists, will be deemed to be and will be ample notice.

GC.18 CONTRACTOR'S SUPERINTENDENT AND EMPLOYEES

The Contractor shall keep on the Site, during the progress of the Work, a competent superintendent and any necessary assistants, all satisfactory to the Engineer. The superintendent shall not be changed except with the consent of the Engineer, unless the superintendent proves to be unsatisfactory to the Contractor and ceases to be in her employ. The superintendent shall represent the Contractor in the Contractor's absence and directions on minor matters given to the superintendent shall be held to be given to the Contractor. Important decisions shall be given in writing to the Contractor. The Contractor shall give efficient supervision to the Work, using her best skill and attention.

Should any person employed on the Site, or in connection therewith, give any just cause for complaint, the Engineer may require that such person be replaced forthwith, and such person shall not be again employed by the Contractor on the Site without the consent, in writing, of the Engineer.

GC.19 INSPECTION OF WORK

The Engineer may appoint inspectors or surveyors to inspect all materials used, Products made and all Work done. Such inspections may extend to any or all parts of the Work and to the preparation or manufacture of the Products to be used whether on Site or elsewhere. Inspectors and surveyors are not authorized to revoke, alter, enlarge or accept any portion of the Work or to issue instructions contrary to the Drawings and Specifications.

GC.20 DAILY REPORT

The Engineer will maintain, in detail, a daily report to record progress of the Work, the number of personnel at the Site, the materials delivered to the Site, and all such other items which the Engineer deems necessary to record. The daily reports will be kept in the Engineer's Site Office and the Contractor or the Contractor's representative shall be required to read and sign each report. In case of differences of opinion between the Engineer and the Contractor regarding the particulars stated in the daily report, the Contractor shall, within seven calendar days, give notice in writing to the Engineer expounding such difference.

GC.21 WEEKLY MEETINGS

The Contractor shall meet weekly with the Engineer on the Site to discuss work done in the previous week, and work proposed to be done in the week just starting, and as requested by the Engineer during the course of the Work.

GC.22 CONSTRUCTION SCHEDULE

Within five Working Days of receipt of the Notice of Award, the Contractor shall furnish the Engineer with a complete construction schedule ("**Construction Schedule**") consistent with the Total Performance date set out in the Form of Tender, as well as the preliminary construction

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schedule provided in the Form of Tender, and showing all material dates on which each material component of the Contractor's proposed program of operations will be performed so as to attain Total Performance on the required date. The Construction Schedule must include the various subdivisions of the Work and the dates of commencing and finishing of each. The Construction Schedule shall be completed using Microsoft Project or other scheduling software as approved by the Engineer.

The form of the Construction Schedule must be approved by the Engineer. On the last day of each calendar month, an updated copy of the Construction Schedule shall be submitted to the Engineer with particulars indicating the percentage completed of each division of the Work to that date.

The Contractor shall immediately advise the Engineer of any deviations or proposed changes in the submitted Construction Schedule. If, in the opinion of the Engineer, the Construction Schedule as submitted is inadequate to ensure the completion of the Work within the time limited therefor, or is otherwise not in accordance with the Tender, or if the Work is not being adequately or properly prosecuted in any respect, the Engineer, without derogating from the Owner's rights under the Contract, shall have the right to require the Contractor to submit a new Construction Schedule providing for proper and timely completion of the Work, and the Contractor shall be entitled to no claim for extension of time on account of such requirement.

GC.23 MAINTENANCE OF SCHEDULE

1. Work Delayed by the Contractor

- (a) The Contractor shall at all times provide a sufficient number of skilled personnel to maintain the progress of the Work and compliance with the master schedule, and if in the opinion of the Engineer the Contractor delays the progress of the works of Other contractors then the Contractor shall be responsible for all loss and damage, including, without limitation, that of Other contractors for stand-by and/or delay occasioned thereby.
- (b) If, in the opinion of the Engineer, the Contractor delays or is about to delay the Work or the progress of any portion of the Work as shown by the master schedule, then upon the written notification by the Engineer, the Contractor shall use such additional overtime work or shifts as may be necessary to catch up and/or maintain the general progress of the master schedule and the cost and expenses incurred by use of said overtime work or shift shall be borne entirely by the Contractor.

2. Work Accelerated by the Engineer

- (a) Should the Engineer be required to expedite the final completion of the Work or the works of Other contractors, then, provided the Contractor is not in default in any of the provisions of the Contract affecting the master schedule, the Engineer may order the Contractor to work additional shifts for which the Owner will pay:
 - (i) the substantiated extra premium wage incurred by such shift work;
 - (ii) the approved additional wages of supervision; and
 - (iii) an agreed percentage addition for profit for accelerated work.

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- (b) Such instructions to the Contractor will only be valid when given in writing by the Engineer. The Contractor shall be responsible for having time sheets covering all such shift work checked and approved daily by the Engineer and claims for reimbursement of the extra wages will only be accepted when properly supported by such signed time sheets.

3. **Work Out-of-Sequence**

The Contractor shall at no additional cost perform his Work as to operation or location out-of-sequence as and when directed by the Engineer.

4. **Execution of Other Works or Contracts**

- (a) The Contractor shall afford all facilities for the execution of any other works which may be undertaken by the Owner or by such parties as may be employed by them, so that such works may be properly and conveniently completed, and the Engineer shall have full authority to make and enforce such regulations as the Engineer may deem necessary for the conduct of the works; and the Contractor shall proceed in such manner and with and complete in such order such portions of the Work as the Engineer may require, and the Engineer shall be the sole judge as to what facilities are due and proper, and can be afforded without any undue interference with the execution of the Contract.
- (b) The Contractor shall at all times give free access and every reasonable facility to the employees of the Owner and to Other contractors, to such portion of the works and adjoining land as may be necessary to enable them to execute and maintain works of any description; such accommodation and access being regulated and directed by the Engineer and no inconvenience or alleged inconvenience arising therefrom shall form any ground for claims, losses or damages, compensation or otherwise, by the Contractor against the Owner.

GC.24 EMERGENCIES

The Engineer has the authority in an emergency to stop the progress of the Work whenever in his/her opinion such stoppage may be necessary to ensure the safety of life, or the Work or neighbouring property. This includes authority to make changes in the Work, and to order, assess and award the cost of work extra to the Agreement or otherwise, as may in his/her opinion be necessary. The Engineer shall within two Working Days confirm in writing any such instructions.

GC.25 SUBCONTRACTORS AND SUPPLIERS

The Contractor shall supply complete information to Subcontractors and equipment and material suppliers. The Contractor agrees to bind every Subcontractor by the terms of the Contract Documents as far as applicable to their component of the Work. Where both Specifications and Drawings are required to provide complete information on any aspect of the Work, the Contractor shall supply both to the Subcontractor or supplier concerned.

In every subcontract the Contractor shall specify that the Contractor or agent of the Contractor shall be the person responsible for payment certification under that subcontract for the purposes of the *Builders Lien Act* (and not the Owner or Engineer).

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GC.26 CONTRACTOR'S PLANT AND UTILITIES

The Contractor shall at its own expense supply, maintain and remove its field office and whatever electric or telephone facilities the Contractor requires for her Plant for either domestic or construction purposes.

The Contractor must provide and properly maintain, in clean and sanitary condition, suitable and convenient privy or toilet accommodation for the Contractor's employees so that they shall not be a source of inconvenience, complaint or nuisance to the public or to others in the vicinity of the Site.

The Contractor shall make all necessary arrangements with the Engineering Department of the City for obtaining water from the City.

GC.27 PLANT, LABOUR AND MATERIALS

The Contractor at its own expense shall provide all necessary temporary buildings and storage grounds and shall furnish all necessary labour, materials and plant together with all proper and required facilities for moving and transporting the same, so that the Contract and all Work required to be done under it can and will be carried on in a workmanlike manner, properly, satisfactorily, continuously and expeditiously, to completion, to the Engineer's satisfaction in all respects. Unless otherwise specified, all materials shall be new and both workmanship and materials shall be of good quality.

Should any Plant, equipment, appliance, materials or workmanship which the Engineer may deem to be inferior or unfit for use in or on the works be brought on the ground or used, the same shall be wholly removed therefrom within twenty four (24) hours after notification to that effect from the Engineer, and in the case of failure or neglect on the part of the Contractor to remove the same the Engineer may cause the same to be taken away at the Contractor's expense, and deposited, wasted or otherwise disposed of in any locality, place or way the Engineer considers convenient or proper, and the Contractor shall forthwith pay to the Owner on demand, all expenses incurred including storage, if any, or the same may be deducted or collected by the Owner as provided in GC.58.

GC.28 MATERIAL AND EQUIPMENT SUPPLIED BY THE CONTRACTOR

Material and equipment supplied by the Contractor shall be as specified. If the Contractor wishes to supply and install items other than specified, the Contractor shall apply for and must receive written permission from the Engineer before incorporating such items into the Work. Descriptive literature and price schedules covering such alternative items shall be supplied to the Engineer if requested.

The Contractor shall furnish for the approval of the Engineer as the Engineer may reasonably require samples of any material of any kind to be used in the Work and no material shall be used which is in any way inferior to the approved samples; but it is understood that the approval of any material shall not subject the Owner or the Engineer to pay for the same nor prevent the rejection afterwards of any portion thereof which is found in the Engineer's judgement to be unsound or unfit to be used, nor shall such approval be considered as any waiver of objection to the Work at any subsequent period on account of the unsoundness or imperfection of the materials used.

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GC.29 MATERIAL IN IMPERIAL UNITS

Where manufactured materials that are specified in metric units are not available, materials manufactured to Imperial units may be substituted, provided the Contractor can satisfy the Engineer that the substitute materials are at least equivalent to those specified.

GC.30 SUPPLY OF MATERIALS BY THE CITY

The Contractor's responsibility for materials supplied by the City shall begin upon the Contractor's acceptance at the points of supply to the Site. All such materials shall be examined and the Contractor shall advise the Engineer in writing of any defective or damaged material. Any material supplied by the City which is damaged after acceptance by the Contractor shall be replaced by the Contractor at his own expense.

Any material supplied by the City that is not required for the Work shall remain the property of the City. Such material shall be neatly stored at the point of original supply.

GC.31 TEMPORARY STRUCTURES

Temporary structures erected by the Contractor shall remain the Contractor's property and be removed from the Work Site on completion of the Work.

The Contractor shall be responsible for the design, adequacy, safety and efficiency of all falsework, temporary structures and construction processes required in connection with the completion of the Contract. All such designs and plans shall be prepared and sealed by a Professional Engineer licensed to practice in British Columbia and submitted to the Engineer for review and comment, but such review shall not relieve the Contractor of any responsibility. The Contractor shall make good at the Contractor's expense immediately all defects arising from the Contractor's faulty design, equipment or application thereof.

GC.32 WORK AREAS AND CONTRACT LIMITS

The Contractor shall, as far as is practicable, confine operations to the Engineer's specified area within the Work Site. Any land or property outside Work Site boundaries which the Contractor requires during construction shall be acquired by the Contractor at the Contractor's own expense, and the Contractor shall make its own arrangements for the use of such land or property and for the compensation of its owners.

Work to be performed by the Contractor outside the Contract Work limits includes:

- (a) installation of barricades and barriers and other traffic control measures; and
- (b) repairing and making good property and improvements which are damaged or destroyed by the Contractor's operations.

GC.33 TRUCK SAFETY

All truck operators must operate the vehicle in a safe and courteous manner and in full compliance with the Motor Vehicle Regulations.

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All truck operators must comply with the City of Vancouver By-laws regulating truck use, including truck route, engine brake noise, and weight and load securement provisions. There will be zero tolerance on overloading trucks and untarped loads.

[Note: The City of Vancouver Street and Traffic By-Law 2849 - Spilling of Vehicle Loads on Streets - Securing of Loads.

99.(2)(a) No person shall drive, ride, or propel any vehicle containing any sawdust, solid waste, liquid waste, dirt, gravel, rocks, or other loose material on any street in the City unless such vehicles are kept tightly and securely covered in such a manner as to prevent any of the load from being blown, dropped or spilled from such vehicle.]

All vehicles must be inspected prior to leaving a site to ensure that loads are properly secured and tarped and that there is no debris on the vehicle and no debris or rocks between the tires.

GC.34 STORAGE AREAS

Working and storage areas will be allocated by the Engineer for use by the Contractor. The Contractor shall be responsible for the maintenance and clean-up of the allotted areas.

GC.35 HOURS OF WORK

The Contractor must comply at all times with all applicable requirements of the City's Noise By-law.

The Contractor shall keep the Engineer advised on the proposed hours of work so that inspection can be co-ordinated. Work without inspection shall not be permitted.

The Owner's forces work between the hours of 7:30 a.m. and 3:30 p.m. on all Working Days, except those where City Hall is closed. The Contractor shall not expect any work to be performed by the Owner's crews outside these hours except by special arrangement agreed to by the Engineer or in case of emergency.

GC.36 TRAFFIC CONTROL

For all works on City streets, lanes or sidewalks, all traffic control shall be provided by the Contractor, at the Contractor's expense, except where otherwise specifically provided for in this Contract. The Contractor shall adhere to the standard procedures and practices prescribed in the Ministry of Transportation and Highways "Traffic Control Manual for Work on Roadways" (Second Field Edition).

The Contractor shall also provide, at the Contractor's expense, erect and maintain all requisite barriers, fences or other proper protection and must provide and maintain such flagpersons, watchpersons and lights as may be necessary or as may be ordered by the Engineer, in order to ensure safety to the public as well as to those engaged about the premises or Works, and must (where it is practicable in the Engineer's opinion) keep any roadway open for the use of the public, or for some restricted use specified by the Engineer, for such width as the Engineer may direct.

Within five Working Days of receipt of the Notice of Award, or at any other time within two Working Days of such request by the Engineer, the Contractor shall submit a detailed Traffic Management Plan for the Engineer's approval incorporating all aspects of the preliminary

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traffic management plan provided with the Form of Tender as well as all further details then available to the Contractor or reasonably requested by the Engineer in preparation for commencement of the Work following receipt of a Notice to Proceed.

The Contractor shall, from the date of commencement to the date of completion of the Work, assume responsibility for the barricading and signing of hazards resulting from such works as utility trenches, out-of-grade utility-access covers, or any other obstruction or impediment to pedestrian or vehicular traffic, be these works in progress prior to or subsequent to the above mentioned date of commencement.

Unless ordered otherwise by the Engineer, the Contractor shall inspect the barricades and warning signs of unattended construction Sites at least once per day.

When any work is carried out at night, the Contractor must supply, at the Contractor's expense, a sufficient number of electric or other approved lights to enable the work to be done in an efficient and satisfactory manner, and the Engineer shall have the right to order additional lights at the Contractor's expense if, in the Engineer's opinion, they are or may be required.

Licence numbers of vehicles legally parked at the time of placement of signs shall be recorded by the Contractor and made available for the Engineer. If these vehicles are still parked when work commences, the Engineer shall be contacted by the Contractor for further instructions.

For the information of the Contractor, the Parking Enforcement Branch or the Vancouver City Police are the only designated authorities approved to call tow trucks. Providing the signing is adequate and the Contractor has contacted the Engineer, the City of Vancouver will pay the costs of towing. Owners of vehicles unlawfully parked will be charged with costs of towing and other costs.

GC.37 PUBLIC CONVENIENCE

In carrying out the Work, or any portion thereof, the convenience of the public must always be specially considered and provided for by the Contractor, who must not obstruct any street, thoroughfare or sidewalk longer or to any greater extent than is absolutely necessary in the Engineer's opinion. The Contractor shall not deposit any material upon any street, sidewalk, boulevard, grass plot, or other City or public property, without the Engineer's permission nor shall the Contractor allow the same to remain thereon longer than necessary but must remove all rubbish and other material, clean and thoroughly restore all such places to as good and as tidy a condition as the Contractor found them, as speedily as possible, from time to time as the Work progresses, or as directed. Unless material and rubbish are removed within four days after the completion of the Work and without previous notice to the Contractor the Engineer will proceed to do whatever is necessary to restore such places to as good and as tidy a condition as before the commencement of the Work and charge the cost thereof against the Contractor. Where the Contractor obstructs more of the street, roadway or place than is ordered or sanctioned by the Engineer in writing, then the Engineer may cause such obstructions to be removed at the expense of the Contractor.

GC.38 ACCESS TO EXISTING STRUCTURES

The Contractor shall at all times maintain satisfactory pedestrian access to buildings and private property.

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The Contractor shall provide suitable notice to affected property owners prior to changes in access. Interruption of access to any entrance shall be kept to a minimum.

The Contractor shall maintain fire exits from existing buildings as required by the Fire Department.

GC.39 PROTECTION OF WORK AND PROPERTY

The Contractor shall maintain continuously adequate protection of all the Contractor's Work from damage and shall protect the Owner's property from all injury arising in connection with the Contract. The Contractor shall make good any such damage or injury. The Contractor shall protect adequately adjacent property as required by law and the Contract.

GC.40 FIRE, SECURITY AND SAFETY REGULATIONS

1. Fire and Security

The Contractor shall comply and the Contractor shall enforce compliance by all her agents, employees, Subcontractors and suppliers with any and all fire regulations which have been or may be established from time to time by the Engineer and anybody having jurisdiction over such matters.

All security regulations which have or may be promulgated by the Engineer or other authorized representatives of the Owner shall be complied with. Watchmen for the buildings and grounds may be provided by the Owner at the Owner's discretion. However, neither the Owner nor the Engineer will be responsible for any loss or damage to the property of the Contractor whether or not watchmen are provided by the Engineer. The Contractor will furnish such security as the Contractor feels necessary for the protection of the Contractor's equipment and Products stored or used on Site.

2. Loss Control

The Contractor will provide a Loss Control Program, satisfactory to the Owner to meet WorkSafeBC and other requirements.

3. Safety

When required by WorkSafeBC Regulations, first aid facilities, including an attendant, shall be provided on the Site at all times during working hours by the Contractor. Such facilities will be completely equipped in accordance with the requirements of the WorkSafeBC.

The Contractor shall be fully responsible for taking all necessary precautions for the safety of the Contractor's workers on the Site or of complying with all applicable safety laws and regulations, particularly those regulations pursuant to the *Workers' Compensation Act* to prevent accidents or injury to persons on, about or adjacent to the Site.

The Contractor shall provide all safeguards required directly for or as a result of the Work as referred to in GC.39 - Protection of Work and Property and in the scope of work described in the Contract Documents.

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GC.41 OVERLOADING

No part of the Site shall be loaded with a load greater than it is calculated to bear safely. Should any damage or accident occur through the violation of this requirement, the Owner will hold the Contractor solely answerable and liable.

GC.42 DRAINAGE

The Contractor shall keep all portions of the Work well, properly and efficiently drained until completion, and the Contractor will be held responsible for all damage which may be caused or result from water backing up or flowing over, through, from or along any part of the Work, or which any of the Contractor's operations may cause to flow elsewhere.

GC.43 CLEANING UP

The Contractor shall at all times keep the premises free from accumulations of waste material or rubbish caused by its employees or work, and at the completion of the Work, it shall remove all its rubbish from and about the site and all its tools, scaffolding and surplus materials, and shall leave the Site "broom clean" or the equivalent, unless more exactly specified. In case of dispute, the Engineer may remove the rubbish and charge the cost to the Contractor as the Engineer shall determine to be just.

GC.44 SAFEGUARDING EXISTING PROPERTY

Existing property, buildings, fences or other improvements of any kind shall be protected by the Contractor during the life of the Contract. The Contractor shall make good to the satisfaction of the Engineer any damage done to the existing property, buildings, fences or other improvements. This applies to areas of private property incorporated in the Work area.

Where removal of existing improvements such as pavement, fences, structures, sewers and ducts is necessary during the course of the Work, the same shall be re-established by the Contractor to the satisfaction of the Engineer. The cost of protection and rehabilitation shall be borne by the Contractor.

GC.45 EXISTING UTILITIES

The Contractor will be responsible for the care of all public utilities and in the event of any of these requiring to be removed, raised or lowered permanently, this will be done either by the City or by the utility company interested and at the expense of the City. If temporary alteration of location is required for purposes of the construction, such work shall be done by the City or by the utility company interested at the expense of the Contractor. The Contractor, however, will be held responsible for, and will have to bear the cost due to any damage done to utility services through its operations.

Reasonable notice must be given to the Engineer of any change required in utility services.

Existing utilities are shown on the Drawings. These, however, are shown for convenience only and the Owner assumes no responsibility for improper locations, or failure to show utility locations on the construction plans. The Contractor shall prove its locations by obtaining relevant City of Vancouver plans and uncovering the utilities on site at no extra cost to the Owner.

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The Contractor shall provide adequate barricades and lighting around and adjacent to any open excavation or potentially dangerous location or other locations designated by the Engineer.

The Contractor shall at all times ensure that the fire hydrants are not obstructed.

GC.46 DUST CONTROL

The Contractor shall at all times control the generation of dust by its operations by water sprinkling or by other methods approved by the Engineer.

GC.47 ALTERATIONS, EXTRAS, DEDUCTIONS & CLAIMS

The Owner without invalidating the Contract shall have the right to make or order any alterations and changes, such as it may deem advisable, at any time before or during the prosecution of the Work, in any line, grade, Drawings, Specifications or detail thereof, or to increase or decrease the dimensions, quantity of material or work, or to alter the situation or level, or to vary the form or dimensions of any part of the Work, or to vary in any other way the Work; or to order any additional or extra work to be done or additional or extra materials to be furnished; and the Contractor shall, in pursuance of the Engineer's written orders to that effect, proceed with, carry out and execute the Work as directed, and shall supply such additional materials and do such additional or extra work in pursuance of such orders without being entitled to any extension of time for completion, or any additional payment on account thereof, except only as herein provided.

In each and every case where additional or extra work or material of any kind is ordered to be done or supplied, or where the Contractor does or supplies, or contemplates doing or supplying, any work or material the Contractor shall notify the Engineer in writing and shall state in its notification clearly and fully what the circumstances are, and the additional sum or compensation it intends to demand therefor, otherwise it shall have no claim in respect thereof. If any work, labour or material is not required to be performed or supplied, then the Owner may deduct from the Contract Price the value of such work, labour or material not required to be performed or supplied which shall be determined by:

- (a) using the unit or lump sum prices contained in the Schedule of Quantities and Prices applicable to such work, labour or material; or
- (b) if, and to the extent that, in the opinion of the Engineer some or none of the unit or lump sum prices aforesaid apply, then using the hourly rates set out in the Schedule of Force Account Labour and Equipment Rates; or
- (c) such fixed sum as agreed upon between the Contractor and the Owner.

All claims of every nature which the Contractor may have in respect of the Contract or Work done thereunder, are to be summarized and submitted by it (in duplicate) to the Engineer within one month of the completion of same, and the Contractor shall make no claim of any nature afterwards; and no claim not then made or not then allowed by the Owner shall be sustainable, and the Owner shall be in no way disentitled to determine any and all questions concerning said claims, and no action or suit shall be commenced by either party to the Contract until after the Final Certificate of Total Performance shall have been signed by the Engineer and then only for the amount appearing thereby to be due to the Contractor.

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GC.48 ERRORS BY CONTRACTOR

Changes, errors or mistakes made by the Contractor or the Contractor's Subcontractors, workmen or employees, and all settlements, washouts and defects, shall be rectified by the Contractor at its expense.

GC.49 TESTING OF MATERIALS

Except where otherwise specified, testing of materials will be carried out by the Contractor and paid for by the Contractor.

GC.50 DEFECTIVE WORK

All defective work must be forthwith made good by the Contractor at its own expense to the Engineer's or Owner's satisfaction, as the case may be.

GC.51 WARRANTY

The Contractor shall perform the Work in a proper and workmanlike manner and in accordance with the requirements of the Contract Documents and maintain the Work against any defects arising from faulty installation, material or workmanship during the period of 12 months from the date of issuance of the Certificate of Substantial Performance and make good in a permanent manner satisfactory to the Owner any defects arising from any of these causes. Where the Contract Documents provide for a warranty of greater scope or duration than set out in this General Condition, the broader and longer warranty provisions will apply.

Whether the Contractor should replace defective Products or Work, or repair the same, shall be determined by the Engineer. Should the Contractor fail to make good defects within three Working Days after being notified by the Owner to do so, the Owner at its option may do so and all costs, charges and expenses so incurred may be deducted or collected by the Owner as provided in GC.58 - Money Due to Owner. If the Owner warrants the defects to be dangerous and an emergency situation exists, the Owner, at the Owner's discretion will effect repairs immediately and all costs, charges and expenses so incurred may be deducted or collected by the Owner as provided in GC.58 - Money Due to Owner. The decision of the Owner shall be final as to the necessity of repairs or of any work done or required to be done under the provisions of the Contract and for the amounts expended thereunder. If in the opinion of the Engineer, it is in the Owner's best interests (taking into account effects on the Owner's overall schedule, the difference in value between the Work as performed and that called for by the Contract Documents, and other relevant factors) not to correct defective Work or Work not provided in the Contract Documents, the Engineer will assess the amount which should be deducted from the amount otherwise due to the Contractor and will assess the length of time by which the obligations should be extended in order to put the Owner in as close a position financially and in terms of the useful life of the Work as would have been the case had the Contractor performed the Work as called for by the Contract Documents. For further certainty, the Engineer may extend the warranty period in appropriate circumstances to a minimum of twice the warranty period originally provided for under the Contract Documents, subject always to the above parameters.

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GC.52 CONTRACTOR'S LIABILITY

The Contractor shall be liable for any and all damages, or claims for damages, for injuries or accident to person or property done or caused by the Contractor, the Contractor's Subcontractors or employees, or resulting from the prosecution of the Work or any of its operations, or caused by reason of the existence or location or condition of the Work, or of any materials, Products or Plant used therein or thereon, or which may happen by reason thereof, or arising from any failure, neglect or omission on the Contractor's part, or on the part of the Contractor's Subcontractors or employees, to do or perform any or all of the several acts or things required to be done by the Contractor or them under and by the Contract, and the Contractor covenants and agrees to indemnify and save harmless at all times the Owner against all such damages and claims for damages whatsoever arising out of or in connection therewith, and in the event of any such action being brought by any person against the Owner, either directly or indirectly, or by reason of the execution of the Contract, the Owner may enforce payment by the Contractor of all such loss, costs, damages and expenses as a debt due to them.

In the case of the Contractor's failure, neglect or omission to observe and perform faithfully and strictly all the provisions of the Contract, the Owner may either with or without notice (except where in this Contract notice is specially provided for, and then upon giving the notice therein provided for), take such steps, procure such material, equipment, trucks, and men, and do such work or things as it may deem advisable towards carrying out and enforcing the same, and any and all expenses so incurred may be deducted or collected by the Owner under the provisions of GC.58.

Any such action taken by the Owner under this General Condition as it is herein empowered to take shall not in any way relieve the Contractor or its sureties from any liability under the Contract.

GC.53 INSURANCE BY THE CONTRACTOR

1. All Risk Course of Construction Insurance

(a) *Coverage*

"All Risks" of physical loss or damage.

(b) *Property Insured*

(i) *At Site*

All materials, equipment and machinery, labour and supplies of any nature whatsoever, Work in progress, including property of the Insured or of others for which the Insured may have assumed responsibility, to be used in or incidental to the Site preparations, demolition or existing structures, erection and/or fabrication and/or reconstruction and/or repair of the project insured, commencing when the property becomes at the Insured's risk, at the Site, and while there awaiting, during and subsequent to erection and/or fabrication and/or repair and/or testing.

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(ii) *Transit*

Property to enter into and form a part of the project insured, from the commencement of loading at the original point of shipment anywhere in Canada or the Continental United States of America, but excluding such property in the course of manufacturing or processing within buildings at the manufacturer's or supplier's site.

(iii) *Off Site*

Off Site coverage shall apply to property that is to be incorporated into and form a part of the project insured, anywhere in Canada or the Continental United States of America, but excluding such property while in transit or in the course of manufacturing or processing within buildings at the manufacturer's or supplier's site.

(c) *Insureds*

The Owner, the Contractor, and their respective officials, officers, employees and agents.

(d) *Term*

During the period of the construction operations and also during any period in which the property insured is being prepared for occupancy and while partially occupied provided all coverage shall cease when the Work has been formally accepted as complete by the Owner, whichever shall first occur.

(e) *Limit and Deductibles at Site*

(i) Limit of *Liability*: Full Value of the Work

(ii) Deductible not to exceed \$5,000.

2. "Wrap Up Liability Insurance"

(a) *Insureds*

The Owner, the Engineer, the Contractor, and all Subcontractors, and their respective officials, officers, employees and agents.

(b) *Limits*

Bodily Injury Liability and Property Damage Liability including aggregate products and completed operations: \$5,000,000 each occurrence.

(c) *Extensions of Coverage*

(i) Broad form products and completed operations liability, including coverage for activities of the Contractor and Subcontractors during the completed operations period;

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- (ii) Owner's and contractor's protective liability;
- (iii) Blanket contractual liability;
- (iv) Contingent employer's liability;
- (v) Personal injury liability;
- (vi) non-owned automobile liability;
- (vii) Cross liability or severability of interest clause;
- (viii) Employees as additional insureds;
- (ix) Blasting, collapse, underpinning, shoring, pile driving, dredging or grading activities;
- (x) Loading and unloading of automobiles;
- (xi) Hoist liability;
- (xii) Unlicensed and specially licensed vehicles;
- (xiii) Operation of attached machinery;
- (xiv) Limited pollution liability arising out of hostile fire and sudden and accidental release of contaminants.

(d) ***Deductibles***

Deductible not to exceed \$5,000.

(e) ***Cross Liability***

The insurance shall apply to any action brought against any one of the Insureds by any other Insured in the same manner as though separate policies were issued to each.

(f) ***Term***

Period of construction or completion of the project, whichever shall first occur, plus 24 months for completed operations liability thereafter.

(g) ***Waiver of Subrogation***

It is understood and agreed that in the event of a loss and upon payment of claim hereunder, the Insurer will waive his/her right of subrogation against the Owner, the Engineer and all architects, engineers or consultants engaged in or connected with the construction and Site preparation and related operations of the Work and any of their servants, agents, employees, and parent, subsidiary, affiliated or associated firms.

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3. **Automobile Insurance**

A standard owner's form automobile policy for licensed vehicles providing third party liability and accident benefits insurance as provided by the Insurance Corporation of British Columbia (Autoplan) in accordance with applicable British Columbia law, the minimum limits as follows:

Bodily injury and property damage (third party limit) inclusive limit \$5,000,000.

4. **Contractor's Equipment Insurance**

"All Risk" insurance with Insurers acceptable to the Owner, covering all construction equipment, owned or rented, or for which the Contractor or any of its Subcontractors may be responsible. In the event of loss or damage to the said construction equipment, or any part thereof, the Contractor or the Subcontractor, as the case may be, shall, if so requested by the Owner in writing, forthwith replace such damaged or destroyed construction equipment.

5. **General**

- (a) All insurance coverage described in this General Condition shall be issued by an insurance carrier or agent acceptable to the Owner and licensed to conduct business in the Province of British Columbia.
- (b) Contractors and Subcontractors shall be required to file with the Owner within five Working Days of issuance of the Notice of Award, a Certificate of Insurance, and where required by the Owner's Director of Risk Management, certified copies of all policies and endorsements evidencing the placement and endorsement of insurance in accordance with this General Condition.
- (c) Contractors and their Subcontractors shall be required to furnish evidence of the renewal of policies described in this General Condition by renewal certificate, endorsement or certified copy to be received by the owner at least 15 calendar days prior to the expiry date of the policy.
- (d) If the Contractor fails to obtain and maintain insurance as required hereunder, or if the Owner does not approve any insurance policy or policies submitted to the Owner and the Contractor thereafter does not meet the requirements of the Owner as to terms and conditions of the insurance policy, the Owner shall have the right to place and maintain such insurance in the name of the Contractor. The cost thereof shall be payable by the Contractor to the Owner on demand, and the Owner may deduct the cost thereof from any monies which are due or may become due to the Contractor. If coverage should lapse, all work by the Contractor shall be stopped until satisfactory evidence of renewal is produced.
- (e) Each policy described in this General Condition shall be required to be endorsed to provide the following Notice for Policy Changes and Cancellations to the City of Vancouver:

"It is understood and agreed that this policy will not be cancelled, reduced, materially altered or changed without the Insurer giving at least 30 calendar days prior written notice by registered mail to the City of Vancouver."

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- (f) Subject to the provisions of Section 1, each Contractor and each of its Subcontractors shall provide at its own cost any additional insurance which it is required by law to provide or which he/she considers necessary.
- (g) *Deductibles.* All deductibles shall be for the account of and be paid by the Contractor upon demand by the City. The Owner shall have the right to deduct amounts for which the Contractor is responsible under this Section from any monies which are due or may become due to the Contractor.
6. The Contractor will obtain or cause its Subcontractors to obtain Hull and Machinery Insurance with a minimum limit of not less than the full value of such vessel, barge or equipment and a deductible of not more than \$5,000 protecting the Contractor and its Subcontractors from all claims for loss or damage to any vessel, barge or equipment arising out of ownership or operation of the Contractor or its Subcontractors. This policy shall contain a Waiver of Subrogation that in the event of a loss or damage and upon payment of claim hereunder, the Insurer will waive his/her subrogation against the Owner (City), its officers, officials and employees.
7. The Contractor will obtain or cause its Subcontractors to obtain Protection and Indemnity Insurance to cover all claims for bodily injury including death, property damage or loss arising out of the activities conducted by the Contractor, the Subcontractors, or their employees, agents or subcontractors, with a minimum limit of not less than \$5,000,000 per occurrence and a deductible of not more than \$5,000. This policy shall name the City, its officials, officers, employees and agents as an additional insured or co-insured.

GC.54 WORKSAFEBC ASSESSMENTS

Prior to execution of the Agreement and prior to commencing the Work under the Contract, the Contractor shall provide a letter from the WorkSafeBC confirming the Contractor's registration and that all assessments have been paid to the date thereof. The Contractor shall require that the Contractor's Subcontractors maintain such coverage and pay such assessments as will protect them, the Owner and the Engineer from claims under the *Workers' Compensation Act* (British Columbia), as amended from time to time and regulations pursuant thereto.

GC.55 CLAIMS FOR WAGES

The Owner may settle any claim for damages, and pay all wages overdue or the price of any materials or the amount due and payable by the Contractor to any Subcontractor, for which payment is in arrears, and the amount thereof shall be debt due by the Contractor to the Owner, as and for money paid by them for the contractor and shall be deducted or collected by them as provided in GC.58 - Money Due to Owner, but they do not assume any liability in this respect; nor shall the persons to whom such wages or payments are paid become, by such payments, the employees or servants of the Owner.

GC.56 LIENS

The Contractor hereby agrees to make payment and take all other steps which may be necessary to insure that all Contract monies, and the Work, and every part thereof, shall be and remain at all times free from and not liable to any lien or charge at law or in equity, or to any claim of liability under the *Builders Lien Act*, or to any attachment for debt, garnishee

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process or otherwise, and the Contractor and her sureties, as well as its respective executors, administrators, successors and assigns, shall fully indemnify and save harmless the Owner and all its officers, servants and employees from any and all such liability, and shall, on demand, immediately cause any such lien, charge, claim or attachment to be removed or released from the records of any Land Title Office or Court in which the same may appear.

Notwithstanding anything to the contrary contained in the Contract Document, the Owners shall not be obliged to pay any monies to the Contractor if and for so long as any liens exist against the Works or the Site.

GC.57 PATENT INFRINGEMENT

The Contractor shall fully indemnify the Owner against and from all suits or actions arising from the claim of any person or persons who are or claim to be patentees of any process used in connection with the Work or of any material, Products, Plant, machinery, tool or appliance used therein or thereon, or in any way therewith.

GC.58 MONEY DUE TO OWNER

All money payable to the Owner by the Contractor may be retained out of any money then due, or which may become due from them to the Contractor under this or any other contract with the Owner, or otherwise howsoever, or may be recovered from the Contractor and its sureties, or any of either of them, in any Court of competent jurisdiction, as a debt due to them; and the Engineer shall have full power to withhold any estimate or certificate, if circumstances arise which may indicate to him the advisability of so doing, until the Engineer is satisfied that the Work and material so far done or furnished are in accordance with the Contract and that the Contractor is otherwise entitled thereto, though the sum to be retained may be unascertained.

GC.59 ASSIGNMENT

The Contractor shall not, without the consent in writing of the Owner first had and obtained, assign or transfer any sum or sums, or any part thereof, due or to become due to the Contractor under the Contract, or assign, transfer or sublet any portion of the Contract or of the Work but must carry out the Work with its own men or subcontract under the Contractor's supervision. This Section however does not apply to the furnishing of material for the different parts of the Work, for which material, however, the Contractor will be held strictly responsible, and no excuse for the quality of the material or for the non-delivery in good time by any Subcontractor, as affecting the progress of the Work, will be entertained, nor will the Owner's consent to the assigning, transferring or subletting of any portion of the Work relieve the Contractor from any of its obligations or liabilities under the Contract. No assignment, transfer or subletting hereinbefore mentioned, except if the same is made in accordance herewith, shall be in any manner valid or binding on the Owner.

GC.60 CERTIFICATES AND PAYMENTS

1. Payment Certifier

The Engineer shall be the "payment certifier" and the person responsible for payment certification under the Contract for the purposes of the *Builders Lien Act*. The Engineer will not be the "payment certifier" under any subcontract.

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2. **Certificate for Substantial Performance**

- (a) The Contractor shall give written notice to the Engineer that the Work is substantially performed, and, upon subsequent inspection by the Engineer, a list of deficient work shall be issued to the Contractor by the Engineer. When these deficiencies have been rectified to the satisfaction of the Engineer, the Engineer shall recommend that the Work is substantially performed and ready for official inspection. At the time of the application for a Certificate of Substantial Performance, the Contractor shall deliver up to, and to the complete satisfaction of the Engineer:
- (i) the "as constructed record plans" of the Work required by GC.13 - Record Plans;
 - (ii) documentation showing compliance with WCB requirements; and
 - (iii) a sworn declaration in a form acceptable to the Engineer that all amounts relating to the Work, due and owing as of the end of the month covered by Section 5.3 of the Form of Agreement to third parties including all Subcontractors and suppliers, have been paid.
- (b) The Owner, the Engineer and the Contractor shall inspect the Work and any remaining deficiencies shall be detailed and included on the Certificate of Substantial Performance. The date of Substantial Performance shall be as stated in this Certificate. Upon issuance of the Certificate of Substantial Performance to the Contractor, the Engineer shall set a reasonable date for the Total Performance of the Work.
- (c) For the purposes of the *Builders Lien Act*, the Certificate of Substantial Performance as described herein shall serve as the Contract's certificate for completion, and the date of Substantial Performance stated in the Certificate shall be deemed to be the date of the Certificate's issuance.

3. **Certificate of Total Performance**

Upon the provision of satisfactory evidence that the deficiencies have been rectified, the Owner and the Engineer will then be permitted to verify such rectification. Upon rectification of all claims and statutory declarations as specified in Section 4(b) of GC.60 and to the reasonable satisfaction of the Engineer, the Engineer will issue the Certificate of Total Performance.

4. **Statutory Declarations**

The Contractor shall submit with the Contractor's application for payment such statutory declarations as may be required herein, which shall be sworn in duplicate by the Contractor, or by such person on behalf of the Contractor as the Engineer may approve.

- (a) Prior to payment and as condition to any payment, the Engineer may at any time require the Contractor to file with him a Statutory Declaration showing that all wages for the various classes of labour, the hire of trucks, equipment, etc., employed in or about the Site, all Products or other things supplied for use in or upon the Work and amounts due to Subcontractors and suppliers have been paid and satisfied and that

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there is no encumbrance, lawful claim or lien accruing for labour or services in connection with the Work.

Should any amounts be due and unpaid for wages, equipment, hire, Products and Subcontractors or suppliers as above listed or any encumbrance, lawful claim or lien accrue, the amounts shall be listed on a duly attested statement, in duplicate, and attached to the Statutory Declaration referred to above.

The Engineer may at any time, if the Engineer deems it advisable, require from the Contractor a statement showing the rates of wages paid by him for the various classes of labour, the rates of hire of trucks and equipment employed and the prices and quantities of any Products supplied for use in or upon the Work and may also require the statement to show in detail the names of unpaid employees, the rates of wages and amounts due to each, and the names of creditors, quantities, prices and amounts due to each. Such statement shall be duly attested in duplicate as above and be a condition precedent to the right of the Contractor to receive payment.

- (b) Prior to final payment and as a condition to issuance by the Engineer of a Certificate of Total Performance, the Contractor shall file with the Engineer a Statutory Declaration showing that all Work in respect of the Contract has been completed; all accounts, detailed in the first sentence of Section 4(a) of this General Condition have been paid and satisfied and there is no encumbrance, lawful claim or lien accruing for labour, products or services in connection with the Work; and payments already received and now due under the final payment application are accepted by the Contractor as full compensation for everything furnished and done by the Contractor under the Contract.

5. Other Documentation

The Engineer may as a further condition to any payment, at any time, require the Contractor to furnish such or other detailed information as may be necessary to establish to their satisfaction the compliance by the Contractor with the conditions of the Contract.

6. Books Open for Inspection

The Contractor's payrolls, time-books, books of account, invoices, receipt and statements relating to her Work under the Contract shall be at all times open for inspection and extract by the Engineer and the Owner and any authorized representative of them.

GC.61 TERMINATION OF CONTRACT WITHOUT DEFAULT OF CONTRACTOR

The Engineer may, as agent for and on behalf of the Owner, at the Engineer's discretion terminate the Contract at any time upon written notice to the Contractor notwithstanding the fact that the Contractor may not then be in default, in which event the Owner shall be liable to the Contractor only for a reasonable amount for Work done and materials delivered at or to the Site up to the date of the termination.

Upon payment of the aggregate of the aforesaid sums, the Owner, the Engineer and the Contractor shall be released from their liabilities or obligations under the Contract save and except that the liabilities and obligations of the Contractor shall continue with respect to deficiencies and warranties in the portion of the Work completed prior to termination.

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GC.62 TERMINATION OF CONTRACT FOR CONTRACTOR'S DEFAULT

The Engineer as agent for and on behalf of the Owner, without prejudice to any other right, may elect to terminate the Contract forthwith upon notice to the Contractor if:

- (a) the Contractor fails to comply with the Notice of Award;
- (b) the Contractor fails to comply with the Notice to Proceed;
- (c) the Contractor commits an act of bankruptcy or becomes a bankrupt or makes a general assignment for the benefit of the Contractor's creditors;
- (d) a receiver is appointed for the Contractor's business;
- (e) the Contractor fails, on reasonable notice from the Engineer, to supply enough proper workmen or Products;
- (f) the Contractor does not pay promptly the Contractor's employees, Subcontractors or suppliers;
- (g) the Contractor does not comply with the requirements of the WorkSafeBC/Occupational Health and Safety Regulations, and any failure to meet the safety requirements of the Contract; or
- (h) the Contractor persistently or substantially breaches any provision of this Contract.

On such termination the Engineer may arrange for the performance of the Work by whatever method the Engineer deems expedient but without undue delay or expense.

The Engineer may take possession of all Products, equipment, tools, structures and appliances belonging to or provided by the Contractor located on the Site which the Engineer deems necessary to prosecute the Work which possession the Contractor hereby pledges to the Engineer as agent for and on behalf of the Owner, as security for the performance of the Contract and the Work, provided that upon completion of the Work the Engineer shall return to the Contractor or her legal representative any such chattels so taken in possession in their original condition (ordinary wear and tear excepted) if not incorporated in the Work, without any compensation for use thereof.

In case the Work or any part thereof is taken out of the hands of the Contractor, as herein provided, it shall in no way affect the relative obligations of the Owner and the Contractor or its sureties in respect of the Contractor's or their obligation, or in respect of the remainder of the Work (if any), as the Engineer may consider reasonable. The Contractor and its sureties in every case shall be liable for such damages, expenditures and extra expenditures, and for all additional cost of the Work which may be incurred by reason of termination of the Contract pursuant to this GC.62, together with the compensation for liquidated damages, if any, from the date fixed for the Total Performance of the Work, and the same may be deducted or collected by the Owner as provided by GC.58.

All the powers of the Engineer with respect to the determination of any doubts, disputes and differences, and the determination of the sum or sums, or balance of money to be paid to or received from the Contractor, and otherwise in respect of the Contract shall nevertheless continue in force.

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The fulfilment by the Contractor of any stipulation in the Contract may be enforced by legal proceedings and judgement, or order of Court, without prejudice to any other remedy herein contained. Neither the Owner nor any of its officials, officers, employees or other agents shall be liable or accountable to the Contractor in any way for the manner in which, or the price at which the Work, or any portion thereof, may have been or may be done or completed by the Owner.

No proceeding taken pursuant to this GC.62 or pursuant to any other provision of the Contract, shall at any time be deemed to be an assignment of the Contract or of any portion thereof, unless otherwise agreed to in writing.

GC.63 SUBMITTALS

The Contractor shall submit Product data and samples to the Engineer for review on request. The Contractor's responsibility for deviation in submissions is not relieved by the Engineer's review unless the Engineer gives written acceptance of specific deviations from the requirements of the Contract Documents. The Contractor shall make any changes in submissions which the Engineer may request consistent with the Contract Documents and shall resubmit as directed by the Engineer. The Contractor shall not proceed with work until relevant submittals have been reviewed by the Engineer. The Contractor shall co-ordinate submittals with the requirements of the Contract Documents and shall allow 14 calendar days for the Engineer's review.

GC.64 NON-RESIDENT WITHHOLDING TAX

If the Contractor is, at any time, a non-resident of Canada, within the meaning of the *Income Tax Act* (Canada) as amended, then, and the Contractor hereby so agrees, the City may deduct from all money payable under the Contract and remit to the Receiver-General of Canada, the Government of Canada or the Canada Revenue Agency sums required to be withheld and remitted by the *Income Tax Act* (Canada), as amended.

The City will receive a further credit under the Contract for money withheld as of and from the date of the withholding (regardless of when or whether remitted) and no interest will be payable by the City on sums withheld, not remitted as aforesaid and later paid directly to the Contractor.

GC.65 RELEASE AND INDEMNIFICATION

The Contractor now releases the City, its officers, officials, employees and agents from all costs, Losses, damages and expenses, including those caused by personal injury, death, property damage, loss and economic loss arising out of, suffered or experienced by the Contractor, its Subcontractors, and their respective officers, employees and agents in connection with the performance of the Work.

Despite the provision of insurance coverage by the City, the Contractor hereby agrees to indemnify and save harmless the City, its successors, assigns and authorized representatives and each of them from and against Losses, claims, damages, actions, and causes of actions that the City may sustain, incur, suffer or be put to at any time either before or after the expiration or termination of the Contract, that arise out of the acts of the Contractor, its Subcontractors, or their respective officers, employees or agents under the Contract.

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This indemnity will not affect or prejudice the City from exercising any other rights that may be available to it at law or in equity.

The release and indemnity set out above will survive the expiry or sooner termination of the Contract.

GC.66 NO PROMOTION OF RELATIONSHIP WITH THE CITY

The Contractor shall not disclose or promote its relationship with the City, including by means of any verbal declarations, announcements, sales, marketing or other literature, letters, client lists, press releases, brochures or other written materials (the "Communications") without the express prior written consent of the City (except as may be necessary for the Contractor to perform the Contractor's obligations under the terms of the Agreement).

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SCHEDULE 2 - SUPPLEMENTAL SPECIFICATIONS

Supplemental Specifications

All references to "Specifications", "Master Specifications", "Master Municipal Specifications", "Technical Specifications", etc. will be taken to mean the "Master Municipal Construction Document" ("MMCD") and Standard Detail Drawings (printing 2009) as amended by the City of Vancouver in the Supplemental Specifications and Detail Drawings.

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Section 01 34 00 - Shop Drawings, Product Data and Samples
Section 01 40 00 - Quality Control
Section 01 53 01 - Temporary Facilities (MMCD Section, as amended)
Section 01 57 01 - Environmental Protection (MMCD Section, as amended)
Section 01 55 00 - Traffic Regulation (MMCD Section, as amended)
Section 01 33 01 - Project Record Documents (MMCD Section, as amended)
Section 01 42 00 - References (MMCD Section, as amended)
Section 31 05 17 - Aggregates & Granular Materials (MMCD Section, as amended)
Section 31 15 60 - Dust Control (MMCD Section, as amended)
Section 31 11 01 - Clearing & Grubbing (MMCD Section, as amended)
Section 31 11 42 - Tree Protection (as amended)
Section 31 22 01 - Site Grading (MMCD Section, as amended)
Section 31 23 17 - Rock Removal (MMCD Section, as amended)
Section 31 23 01 - Excavating, Trenching & Backfilling (MMCD Section, as amended)
Section 31 24 13 - Roadway Excavation, Embankment and Compaction (MMCD Section, as amended)
Section 31 38 00 - Instream Structures
Section 32 11 23 - Granular Base (MMCD Section, as amended)
Section 32 12 17 - Porous Asphalt Paving(as amended)
Section 32 30 20 - Concrete Walks, Curbs and Gutters (MMCD Section, as amended)
Section 32 91 21 - Topsoil & Finish Grading (as amended)
Section 32 93 01 - Planting of Trees, Shrubs & Ground Covers (as amended)
Section 32 93 02 - Landscape Stone

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01 31 00 CONSTRUCTION SCHEDULE

1.0 GENERAL

1.1 Scope

1.1.1 Section 01 31 00 describes the Contractor's responsibilities in the preparation and submission of construction schedules. This section must be referenced to and interpreted simultaneously with all other sections pertinent to the works described herein.

1.2 Section Includes

- 1.2.1 Schedule, form, content.
- 1.2.2 Staged construction.
- 1.2.3 Scheduled revisions.

1.3 Schedules Required

1.3.1 Submit following schedules as required by the Engineer:

- 1.3.1.1 Construction Progress Schedule
- 1.3.1.2 Submittal Schedule for Shop Drawings and Product Data
- 1.3.1.3 Submittal Schedule for Samples
- 1.3.1.4 Submittal Schedule for Owner supplied Products
- 1.3.1.5 Product Delivery Schedule

1.4 Format

- 1.4.1 Prepare schedules in form of horizontal bar chart.
- 1.4.2 Provide separate bar for each activity.
- 1.4.3 Provide horizontal time scale identifying first work day of each week.
- 1.4.4 List activities in chronological order based on start of each item of work.

1.5 Submissions With Tender

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1.5.1 Refer to Tender Documents for details regarding schedules to be submitted with tender.

1.6 Submissions Following

1.6.1 Submit required schedules within 15 days after Award Of Contract.

1.6.2 Engineer will review schedules and return reviewed copy within 10 days after receipt.

1.6.3 Resubmit finalized schedules within 7 days after return of reviewed copy.

1.6.4 Submit revised progress schedule with each application for payment or as directed otherwise by Engineer.

1.6.5 Distribute copies of revised progress schedule to:

1.6.5.1 Job site office.

1.6.5.2 Subcontractors.

1.6.5.3 Other concerned parties as directed by Project Engineer.

1.6.6 Instruct recipients to report any problems anticipated with the schedule to Contractor within 10 days.

1.7 Construction Progress Schedule

1.7.1 Include complete sequence of construction activities.

1.7.2 Include dates for commencement and completion of each major element of construction including the following:

1.7.2.1 Clearing and Grubbing.

1.7.2.2 Excavation.

1.7.2.3 Instream Structures.

1.7.2.4 Bridge Installation.

1.7.2.5 Roadworks (Pedestrian Walk).

1.7.2.6 Planting.

1.7.2.7 Completion.

1.7.3 Show projected percentage of completion of each item as of first day of month.

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1.7.4 Indicate progress of each activity to date of submission schedule.

1.7.5 Show changes occurring since previous submission of schedule:

1.7.5.1 Major changes in scope.

1.7.5.2 Activities modified since previous submission.

1.7.5.3 Revised projections of progress and completion.

1.7.5.4 Other identifiable changes.

1.7.6 Provide a narrative report to define:

1.7.6.1 Problem areas, anticipated delays, and impact on schedule.

1.7.6.2 Corrective action recommended and its effect.

1.8 Submittals Schedule

1.8.1 Include schedule for submitting samples if required.

1.8.2 Indicate dates for submitting, review time, resubmission time, float time, and last date for meeting fabrication schedule.

1.8.3 Include dates when Owner supplied products will be required.

1.8.4 Include dates when reviewed submittals will be required from Engineer.

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01 40 00 QUALITY CONTROL

1.0 GENERAL

1.1 Related Requirements Specified Elsewhere

1.1.1 Particular requirements for inspection and testing to be carried out by testing laboratory designated by Engineer.

1.2 Appointment and Payment

1.2.1 Engineer will appoint and pay for services of testing laboratory except for the following:

1.2.1.1 Inspection and testing required by laws, ordinances, rules regulations or orders of public authorities.

1.2.1.2 Inspection and testing performed exclusively for Contractor's convenience.

1.2.1.3 Mill tests and certificates of compliance.

1.2.1.4 Tests specified to be carried out by Contractor under the supervision of Engineer.

1.2.1.5 Additional tests specified in paragraph 1.2.2.

1.2.2 Where tests or inspections by designated testing laboratory reveal work not in accordance with contract requirements, Contractor will pay costs for additional tests or inspections as Engineer may require to verify acceptability of corrected work.

1.3 Contractor's Responsibilities

1.3.1 Furnish labour and facilities to:

1.3.1.1 Provide access to work to be inspected and tested.

1.3.1.2 Facilitate inspections and tests.

1.3.1.3 Make good work disturbed by inspection and test.

1.3.2 Notify Engineer sufficiently in advance of operations to allow for assignment of laboratory personnel and scheduling of test.

1.3.3 Where materials are specified to be tested, deliver representative samples in required quantity to testing laboratory.

1.3.4 Pay costs for uncovering and making good work that is covered before required inspection or testing is completed and approved by Engineer.

1.4 Measurement for Payment

1.4.1 No separate payment will be made for any costs associated with this section.

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01 53 01 **TEMPORARY FACILITIES**

1.6 Hoarding and Barricades

1.6.1 **Delete 1.6.1 and replace with:** Provide hoarding and/or barricades and flashers as required to protect the public from injury and private and City property from damage and as requested by the Engineer.

1.7 Security

1.7.1 **Delete 1.7.1 and replace with:** Provide and pay for responsible security personnel to guard site and contents of site after working hours and during holidays to the satisfaction of the Engineer.

1.9 Construction Parking

1.9.1 **Delete 1.9.1 and replace with:** Parking will be permitted on or near the Work Site provided it does not disrupt the performance of work and does not contravene any Traffic By-laws.

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01 57 01 **ENVIRONMENTAL PROTECTION**

1.0 GENERAL

Add: 1.0.3 The Contractor will have due regard for the protection of the environment in the performance of the Work and will not place any materials, or dispose of any materials, or perform any Work in a manner contrary to applicable Federal or Provincial or municipal environmental laws and regulations, either at the place of the Work, or at any other place or property.

Add: 1.0.4 Cleanup will progress as rapidly as the work itself and upon completion of the job, the Contractor will remove all debris and waste material caused by construction operations and leave the job site in a clean and neat condition. Where vehicular, bicycle, or pedestrian conditions are heavy and where weather conditions result in unsightliness, discomfort, or hazards, the Contractor will always take special precautions, to ensure that the Work Site is kept both clean and safe. Fire hydrants will be left clear for hose connections at all times.

Add: 1.0.5 All instream works must be conducted between June 1 and September 30. Contractor must follow all measures required by the DFO letter of advice. All works must be conducted in accordance with the 'Standards and Best Practices for Instream Works' (March 2004) provided by the BC Ministry of the Environment ("MOE"). A copy of this document may be found at the following website: <http://www.env.gov.bc.ca/wld/documents/bmp/iswstdsbpsmarch2004.pdf>.

Contractor to provide submersible pump and accessories to isolate all instream work areas from water flow as stipulated by the DFO letter of advice and the Engineer. The pump system will include adequate redundancy to ensure that primary system failure does not result in flooding of the work area. The pump system will include a fish screen on all intakes and will not dewater the area until a fish salvage has been conducted by the Engineer. The Contractor is not responsible for the fish salvage.

Add: 1.0.6 Japanese Knotweed (*Polygonum cuspidatum*) and other invasive species are to be collected, removed and disposed of from the site as soon as cut/grubbed. Bag all cut/grubbed plant material in heavy duty, 3 mil or thicker, black contractor quality plastic clean-up bags. Securely tie the bags and transport from the site in a truck with a topper or cap to securely fasten the load, in order to prevent spread of the plant material from the project work site. Transport the material to an appropriate disposal location.

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01 55 00 **TRAFFIC REGULATION**

1.0 GENERAL

Add: 1.0.6 During progress of the Works, make adequate provisions to accommodate normal pedestrian and vehicle traffic along streets and lanes immediately adjacent to or crossing the Works so as to cause minimum inconvenience to the general public.

Add: 1.0.7 Inform all owners or occupants of properties where access is affected in advance of proposed road and/or sidewalk closures.

Add: 1.0.8 The Contractor will, at his own expense and without further or other order, provide, erect and maintain all requisite barriers, fences, or other proper protection in accordance with the "B.C. M. O. T. Traffic and Control Manual for Work on Roadways". The Contractor will also abide by any instructions issued by the Engineer regarding traffic control.

1.2 Protection of Public Traffic

Add: 1.2.7 Observe all traffic regulations in accordance with the City of Vancouver Traffic Bylaw.

1.3 Informational and Warning Devices

Add: 1.2.6 Provide 48 hours' notice to the Engineer for erection or relocation of temporary no parking or no stopping signs. Parking regulation signage placed by the Contractor is unenforceable.

1.5 Payment

Add: 1.5.2 Temporary "no parking" signs (for all locations within the Contract), and advance warning and detour signs (when necessary for arterial streets only) will be supplied and installed at the City's cost.

1.2 Referenced Specifications

Add: 1.2.17 Municipal & Provincial By-Laws

 1.2.17.1 BC Ministry of Transportation & Highways Traffic Manual for Work on Roadways

 1.2.17.2 Building By-Law No. (8057)

 1.2.17.3 Encroachment By-Law No. (4243)

 1.2.17.4 Street and Traffic By-Law No. (2849), Motor Vehicle Noise Abatement Bylaw (4338) and Impounding Bylaw (3519)

 1.2.17.5 Crossings By-Law No. (4644)

 1.2.17.6 Noise Control Bylaw (6555)

 1.2.17.7 Private Property Tree Bylaw (7347)

 1.2.17.8 Street Tree Bylaw (5985)

 1.2.17.9 Sewer and Watercourse Bylaw (8093)

 1.2.17.10 Zoning and Development Bylaw (3575)

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31 11 01 **CLEARING & GRUBBING**

1.4 Measurement and Payment

1.4.2 **Add after the last sentence:** "Payment of clearing and grubbing items will be based on cleared area measured by square metres. Payment for removal and disposal of cleared and grubbed will be based on volume measured by cubic metres."

3.5 Removal and Disposal

Add: 3.5.6 All materials are to be removed from site and disposed of off-site in accordance with all federal, provincial and municipal regulations.

31 11 42 **TREE PROTECTION**

1.0 GENERAL

1.1 Scope

1.1.1 This Section specifies the requirements for tree protection.

1.1.2 All trees to be preserved within the established project site limits will be marked by the Project Arborist prior to construction.

1.2 Description

1.2.1 The Work includes furnishing all labour, materials, equipment and services necessary to protect existing trees in parks, street boulevards and other areas with the Work Site that are designated to remain, including but not limited to:

1.2.1.1 Layout and installation protective barriers around trees.

1.2.1.2 Maintenance, adjustment during construction, and final removal of protective barriers and signs.

1.2.1.3 Pruning as approved by the City including hand excavation and root pruning.

1.2.1.4 Watering, fertilizing and all other measures directed by a City Arborist as required to maximize the health and prospects for survival of the trees.

1.3 Quality Assurance

1.3.1 The Contractor must provide minimum forty-eight (48) hours advance notice to the City Representative of the timing for excavation near any trees or suspect root systems. No work will be conducted in a treed area unless the City has been notified of the intent to do so.

1.3.2 The Contractor must provide forty-eight (48) hours minimum advance notice to the City Representative of the timing for root pruning, branch pruning, installation of tree protective barriers, and all other protection measures. The

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protective barriers must be installed prior to starting construction. The City Arborist will supervise or carryout all root and branch pruning within the Tree Protected Area (T.P.A.).

- 1.3.3 All root and branch pruning must be done to recognized arboricultural industry standards by Certified Arborists or Tree Surgeons under direct supervision of the Engineer and/or City Representative or Arborist.
- 1.3.4 Additional site specific requirements are included on the Construction Drawings.

2.0 PRODUCTS

2.1 Tree Protective Barrier

- 2.1.1 Tree protective barriers are to be 1.2m high Tenax orange plastic web snow fencing, as supplied by Ronco Sales Ltd., or approved equal. Posts are to be 1.8 m long steel "Tee-Bar" posts minimum.

2.2 Watering and Fertilizers

- 2.2.1 Water, fertilizers and miscellaneous materials will be as directed by the City Arborist.

3.0 EXECUTION

3.1 General

- 3.1.1 The trees that are to be protected will be identified and the Tree Protection Area (T.P.A.) will be established on site as directed by the Engineer and the City Arborist. The Contractor will demarcate the areas on site and erect a protective barrier around the T.P.A. prior to the start of construction in the area.
- 3.1.2 The T.P.A. is defined as the area within a distance of six (6) times the tree trunk diameter, as measured from the surface of tree trunk at a height of 1.4 m above the ground. Utilize the following chart as a guide:

Diameter (at 1.4 m Height) (mm)	Minimum distance of protection barrier fencing from trunk(m)
100	0.6
200	1.2
300	1.8
400	2.4
500	3.0

- 3.1.3 The Contractor will plan and execute excavation, soil stabilizing measures, shoring (if necessary) and related work such that no excavation or other construction activities occur within the T.P.A.
- 3.1.4 No tree roots greater than 25 mm will be cut without approval from the City Arborist. This applies to roots within and without of the T.P.A.

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- 3.1.5 All severed or fractured roots over 25 mm in diameter outside the T.P.A. are to be neatly cut back a minimum of 100 mm above damage with a clean sharp saw.

3.2 Protective Barrier Fence Erection

- 3.2.1 Before starting construction, the Contractor will install the 1.2 m high protective barrier fence at the approved location around the Tree Protection Area. The fence will be supported on posts driven vertically into the ground at a maximum spacing of 2.4 m on centre, or as otherwise approved by the Engineer.
- 3.2.2 The Contractor will maintain barrier until the work in the area is substantially complete and upon approval by the Engineer before removal from the site.

3.3 Tree Protection Area

- 3.3.1 The Contractor will take all measures necessary to prevent the following activities within tree protection areas:
 - 3.3.1.1 Storage of pipe, gravel, other construction materials or equipment.
 - 3.3.1.2 Stockpiling of soil or excavated materials.
 - 3.3.1.3 Burning of any kind.
 - 3.3.1.4 Excavation or trenching.
 - 3.3.1.5 Cutting of roots or branches.
 - 3.3.1.6 Travel of equipment or vehicles.
 - 3.3.1.7 Disposal or spillage of toxic matter.

3.4 Root Pruning

- 3.4.1 Before the start of any machine excavation, in those areas identified in the Contract Drawings or as directed by the Engineer, the Contractor is to vacuum excavate or hand dig along the established limit of excavation and expose all roots.
- 3.4.2 No root pruning may be conducted unless approved by the Engineer/Arborist. Any cuts that are approved must be clean, to approved arboricultural practice.

3.5 Branch Pruning

- 3.5.1 The Contractor must not branch prune any "top growth" of any trees unless express approval is received from the City Arborist.
- 3.5.2 Do not branch prune any "top growth" of any retained tree to compensate for reduction of roots unless specifically instructed to do so by the City Arborist.

3.6 Watering and Fertilizing

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- 3.6.1 Trees that are disturbed by construction must be watered thoroughly and deeply, as necessary to supplement rainfall to maintain plant turgidity without prolonged saturation of the root zone. The method, amount and frequency of watering is to be as recommended by the City Arborist.
- 3.6.2 Water the T.P.A. via sprinkler, soaker hose, or by tank with a watering wand at least three (3) times per week during June, July, August, and September or as directed by the City Arborist.
- 3.6.3 Fertilize trees that are disturbed by construction as recommended by the City Arborist to stimulate regeneration of lost roots and foliage.

31 22 01

SITE GRADING

1.3 Site Conditions

Add: 1.3.3 Protection of existing buildings and surface features

1.3.3.1 Conduct with the Engineer, condition survey of existing building walls, fencing, service poles, wires, paving, survey bench marks and monuments which may be affected by work.

1.3.3.2 Photograph and record any existing damage, adjacent to the Work Site prior to the start of work. Provide documentation of all existing damages to the Engineer prior to the start of work.

1.3.3.3 Protect existing fencing, walls, curbs, sidewalks, pavement, bench marks, surface or underground utility lines which are to remain. If damaged, restore to original condition unless specified otherwise. Notify Engineer immediately if any damage occurs.

1.5 Inspection and Testing

Add: 1.5.2 The Engineer or the Engineer's representative is to inspect and approve all stages of the work. Provide twenty-four (24) hours notice to the Engineer when inspection is required.

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3.1 Stripping of Topsoil

- 3.1.1 Add after last sentence: "Topsoil to be stripped to a minimum depth of 400 mm to ensure that all seed bank and root structures from existing vegetation are removed."

31 24 13 ROADWAY EXCAVATION, EMBANKMENT AND COMPACTION

1.3 Definitions

- 1.3.1 Delete 1.3.1 and replace with: Excavation Classes:

1.3.1.1 Rock excavation as defined under Section 31 23 17 - Rock Removal (MMCD), Clause 1.3 and as determined by the Engineer.

1.3.1.2 Common excavation includes removal and disposal of rip rap bank reinforcement, roots, stumps, logs, culverts, stones, boulders (under 1 cubic metre), miscellaneous debris, curb and gutter, sidewalks, asphalt cement concrete pavement, and all sod and unstable surface material from the total excavation area to the designed subgrade level. Common excavation is divided into several items:

1.3.1.2.1 Excavate and dispose existing Portland cement concrete curb and gutter.

1.3.1.2.2 Excavate and dispose Portland cement concrete pavement on top of bank.

1.3.1.2.3 Excavate and dispose existing concrete flume located on stream bed.

1.8 Measurement and Payment

Replace: 1.8.5 Common excavation:

1.8.5.1 Sawcut existing asphalt is measured in linear metres

1.8.5.2 Excavate and dispose of asphalt and curb & gutter is measured in cubic metres.

1.8.5.3 Excavation, grading and preparation of pedestrian path and adjacent swale is measured in cubic metres.

1.8.5.4 Excavate and dispose of existing rip rap bank reinforcement is measured in cubic metres.

1.8.5.5 Excavate and dispose existing p.c. concrete pavement is measured in square metres.

Add: 1.8.14 Payment of the removal of abandoned rail bridges includes removal of structures that is deemed suitable by Engineer after inspection.

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1.9 Inspection and Testing

Add: 1.9.2 Engineer may require testing of materials and densities by a testing laboratory. Initial tests will be paid for by Corporation. If work fails initial tests, subsequent tests will be paid for by Contractor.

31 15 60 **DUST CONTROL**

1.0 GENERAL

Add: 1.0.3 Haul routes along and across any public travelled way will be kept free and clean of all rubbish and debris including spillage, resulting from construction operations. Water or dust palliative, or both, will be supplied as necessary to prevent dust nuisance, to the satisfaction of the Engineer.

If sites are not adequately controlled for dust, or kept clean to the satisfaction of the Engineer, the City will do the work at the Contractor's expense. Flushing of debris into City catch basins is not permitted without the expressed written consent of the Engineer.

3.1 Application

3.1.1 **Delete 3.1.1 and replace with:** The intention of this specification is to apply water when necessary to control dust. It is the Contractor's option to use the other methods described in this section.

31 38 00 **INSTREAM STRUCTURES**

1.0 GENERAL

1.1 Scope

1.1.1 Section 31 38 00 refers to those portions of the work that are unique to the removal of existing instream structures and construction of new instream structures as described by the Still Creek Enhancement and in the Detailed Design Drawings. This section must be referenced to and interpreted simultaneously with all other sections pertinent to the works described herein.

1.2 Removals

1.2.1 Removal and disposal at approved location off-site of existing concrete flume.

1.3 Quality Assurance

1.3.1.1 Obtain stacked bank rock from a single quarry with resources to provide materials of consistent quality in appearance and physical properties, including the capacity to place the material without delaying the progress of the work.

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1.3.1.2 Information on the Contract Documents establishes the requirements for both aesthetic effects and performance of the stone. Aesthetic effects relative to the formal characteristics are indicated by dimensions, arrangement, alignment, and profiles of components and assemblies as they relate to sight lines and relationships to one another and to adjoining construction; performance is indicated by criteria subject to verification either by preconstruction or field test, if applicable, or by inservice experience.

1.3.1.3 Do not modify intended aesthetic effects, except with the Engineer's approval, and only to the extent exclusively needed to comply with the performance requirements.

1.3.1.4 Where modifications are proposed, submit comprehensive explanatory data for review.

1.3.2 Installer Qualifications

1.3.2.1 Installer shall be an experienced equipment operator and large rock placement technician, with at least 3 years' experience placing landscape boulders.

1.4 Measurement and Payment

1.4.1 Payment for instream structures includes construction and placement of rock riffles, bank boulders and are to be according to Project Design Drawings and specifications herein. Completion of works will be determined by the Engineer on site. Payment for each structure will be measured by cubic metre volume.

2.0 PRODUCTS

2.1 Stacked Channel Bank Rock

2.1.1 Sizes are to be as specified in the design drawings

2.1.2 Stones shall per-selected at the supplier's yard and shall be free from cracks, flaking and deterioration.

2.1.3 Broken, chipped, stained, or otherwise damaged stone shall be replaced until the methods and results are acceptable to the Engineer.

2.2 Channel Cobbles

2.2.1 Gradation is to be as specified in the design drawings

2.3 Channel Gravels

2.3.1 Gradation is to be as specified in the design drawings

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- 2.4 Filter Rock
 - 2.4.1 Gradation and placement is to be as specified in the design drawings.
- 2.5 19 mm crush
 - 2.5.1 To Section 31 05 17 Aggregates and Granular Materials
- 2.6 Soilwrap Fabric
 - 2.6.1 Where indicated, soil wrap is to be Kior 1000 wrap material or approved equivalent installed to the manufacturer's recommendations.
- 2.7 Soilwrap Fill Material
 - 2.7.1 Gradation is to be as specified in the design drawings.
- 2.8 Geotextile
 - 2.8.1 Fabric shall be 100% Polypropylene, non-woven, needle-punched Engineering Fabric.
 - 2.8.2 Physical Properties:
 - 2.8.2.1 Tensile Strength, (lbs), (ASTM D4632): 100
 - 2.8.2.2 Elongation (%), (ASTM D4632): 50
 - 2.8.2.3 Puncture Strength, (lbs), (ASTM D4833): 65
 - 2.8.2.4 Mullen Burst Strength, (PSI), (ASTM D3786): 225
 - 2.8.2.5 Trapezoidal Tear, (lbs), (ASTM D4533): 45
 - 2.8.2.6 Abrasion Res. (% Str. Ret.), (ASTM D4886): 80
 - 2.8.2.7 Coefficient of Perm., (cm/sec), (ASTM D 4491): 0.22
 - 2.8.2.8 Flow Rate (Gal/Min./Sq. Ft.), (ASTM D4491): 140
 - 2.8.2.9 Fabric Material shall be CC6G, as supplied by Canada Culvert.
 - 2.8.2.10 Or, approved equal.
- 2.9 Growing Medium
 - 2.9.1 Wetland Growing Medium as identified in the design drawings is to be as specified in Section 32 91 21 Topsoil & Finish Grading.
- 3.0 EXECUTION
- 3.1 Surface Preparation
 - 3.1.1 Grade area where structures are to be constructed to uniform, even surface. Fill depressions with approved material and compact to provide firm bed.
- 3.2 Geotextile Fabric Placement

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- 3.2.1 Place Geotextile along stream bed and banks securing to ground with 150 mm galvanized pins spaced every 600 mm or as recommended by the manufacturer.
- 3.2.2 Place geotextile in 500mm x 500mm trench at top of slope, backfill and compact with 19mm clean crush.
- 3.2.3 Lap geotextile 300mm (min.) so upstream length is placed on top downstream length.

3.3 Channel Bank Construction

- 3.3.1 Examine the areas to receive the boulder placement, and the conditions under which the boulders will be installed, with the Installer present, for compliance with the requirements for installation and other conditions affecting the performance of the placement. Do not proceed with installation until unsatisfactory conditions have been corrected.
- 3.3.2 Place 19mm clean crush along stream bed and banks in 200 mm thick layer.
- 3.3.3 Channel banks are to be constructed of stacked channel bank rocks made of blocky 900mm x 900mm x 900mm rock along banks in patterns shown in the design drawings or by the direction of the Engineer. Stacked rock is to be hard, durable, flattened and able to be stacked and free of silt, debris and topsoil.
- 3.3.4 Set the stones to comply with the requirements indicated on the design drawings.
- 3.3.5 Fill void behind boulder with type 1 fill before establishing next row of channel bank rocks.
- 3.3.6 Install soil wraps above row of rock that achieves a 2.0m height above the excavated stream bed as shown in the design drawings.
- 3.3.7 Match top of soil wrap to finished grade.

3.4 Riffle Construction

- 3.4.1 Rocks that make up upstream face of the riffle are to slope down 2H:1V from the riffle crest and downstream at 10H:1V.
- 3.4.2 The upstream face must contain the largest rocks to resist the directed flows. Larger rocks (450 mm minus) are to be placed on the upstream face whereas smaller rocks (300 mm minus) are to be placed on the downstream face. Each rock is to be placed in the shadow of the previous rock from the point to the bank with deflector rocks placed together by machinery to provide the tightest possible fit.

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3.5 Stream Bed Construction

- 3.5.1 Channel cobbles to be placed and seeded with channel gravel material in a 600 mm thick layer between riffles.

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POROUS ASPHALT PAVEMENT

1.0 GENERAL

1.1 Scope

- 1.1.1 This Section includes all labor, material, transportation and services to complete the installation of the permeable aggregate base and the porous asphalt paving as shown on the drawings for the pedestrian pathway, and includes:

1.2 Submittals

- 1.2.1 Submit the following to the Engineer for approval:

- 1.2.1.1 Base course permeable aggregate sieve analysis.
- 1.2.1.2 Base course permeable aggregate infiltration rate.
- 1.2.1.3 Equipment and procedures to be utilized for the permeable aggregate installation.
- 1.2.1.4 Porous asphalt aggregate sieve analysis.
- 1.2.1.5 Porous asphalt composition.
- 1.2.1.6 Previous experience of the proposed porous asphalt installer with porous asphalt placement.

1.3 Measurement and Payment

1.3.1

2.0 PRODUCTS

2.1 Structural Soil-Bearing Fabric

- 2.1.1 Fabric shall be 100% Polypropylene, non-woven, needle-punched Engineering Fabric.

2.1.2 Physical Properties:

- 2.1.2.1 Tensile Strength, (lbs), (ASTM D4632): 100
- 2.1.2.2 Elongation (%), (ASTM D4632): 50
- 2.1.2.3 Puncture Strength, (lbs), (ASTM D4833): 65
- 2.1.2.4 Mullen Burst Strength, (PSI), (ASTM D3786): 225
- 2.1.2.5 Trapezoidal Tear, (lbs), (ASTM D4533): 45
- 2.1.2.6 Abrasion Res. (% Str. Ret.), (ASTM D4886): 80
- 2.1.2.7 Coefficient of Perm., (cm/sec), (ASTM D 4491): 0.22

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- 2.1.2.8 Flow Rate (Gal/Min./Sq. Ft.), (ASTM D4491): 140
- 2.1.2.9 Fabric Material shall be CC6G, as supplied by Canada Culvert.
- 2.1.2.10 Or, approved equal.

2.2 Base Course Permeable Aggregate

- 2.2.1 The base course permeable aggregate shall be installed below the porous asphalt paving or the top course permeable aggregate as applicable.
- 2.2.2 Aggregates to be open-graded, fractured, friction course. To ensure free drainage, material is clean, with minimal fines the compacted top course permeable aggregate minimum infiltration rate of 1000mm per hour.
- 2.2.3 Base course material to be a minimum of 75% fractured with at least one fractured face by mechanical means on each individual particle larger than 19 mm
- 2.2.4 A sand and gravel source is acceptable for this material.
- 2.2.5 Gradation: Aggregate to meet the following particle size limitations.

<u>Sieve Size Percent</u>	<u>Passing By Weight</u>
31.75 mm	100
25.4 mm	90-100
19 mm	80-100
12.5 mm	0-80
9 mm	40-60
No. 4	20-40
No. 8	15-30
No. 30	10-20
No. 100	2-10
No. 200 (Wet Sieve)	0-3.0
No. 270 (Wet Sieve)	0-1.5

2.3 Porous Asphalt Paving

- 2.3.1 This mix is intended to have an acceptable balance between adequate and uniform permeability and strength.
- 2.3.2 The amount of liquid asphalt used in the formulation must be precisely controlled to obtain the desired strength while not adversely affecting the permeability.

2.4 Aggregate

- 2.4.1 Material to be clean, open graded, fractured.
- 2.4.2 Aggregate to be a minimum of 75% fractured with at least one fractured face by mechanical means of each individual particle larger than 6mm.

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Gradation: Aggregate to meet the following particle size limitations:

<u>Sieve Size Percent</u>	<u>Passing By Weight</u>
16 mm	100
12.5 mm	90-100
9 mm	70-90
No. 4	20-40
No. 8	10-20
No. 40	0-8
No. 200	0-3

2.5 Asphalt Cement

- 2.5.1 Cement shall be Pg 5822 as per DOT AASHOTO MP1.
- 2.5.2 Mix shall be between 4.0% and 4.5% asphalt by weight based on weight of total mix.
- 2.5.3 Liquid asphalt shall have a liquid anti-stripping agent additive at a concentration of 0.3% (Chevron Pave Bond Special), or equal.

2.6 Testing

- 2.6.1 The Engineer will perform testing of materials delivered to the job site for the purpose of verifying compliance with the contract documents. The Engineer's testing is for this purpose only and not for construction quality control by the Contractor.
- 2.6.2 The Contractor shall coordinate directly with the Engineer's testing firm relative to the delivery schedules of the imported materials. Sampling will be scheduled each day deliveries occur.
- 2.6.3 The Contractor shall provide testing and surveillance as required to assure materials and work fully comply with contractor requirements.
- 2.6.4 The Contractor at a price equal to the Owner's contract testing agreement shall pay for Owner's tests that do not meet specifications. The Contractor shall pay directly to the testing organization upon invoice, which has been approved by the Engineer.

3.0 EXECUTION

3.1 Sub-grade establishment

- 3.1.1 No work shall be performed in this section until sub-grade is 100% completed and accepted by the Engineer.
- 3.1.2 Finish sub-grade shall be compacted to a minimum 95% maximum dry density.
- 3.1.3 Sub-grade shall be established to within the tolerance of +0 or -30 mm of the design sub-grade elevation.

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3.2 Geotextile Fabric Installation

- 3.2.1 No loose material is allowed on sub-grade prior to placement of structural-bearing fabric. Loose material is to be removed prior to placement.
- 3.2.2 Fabric to be laid on smooth, compacted sub-grade surface between drainage trenches.
- 3.2.3 The Engineer requires approval of sub-grade conditions prior to placement of structural-bearing fabric.
- 3.2.4 Structural-bearing fabric must be flat on stabilized sub-grade for full width.
- 3.2.5 Dimensions to be a minimum width of 3.8 m and minimum continuous length of 10 m.
- 3.2.6 When the length of the fabric is not continuous, the lateral seam shall have a minimum overlap of 600mm.
- 3.2.7 Fabric shall not be folded or turned up along the edges.
- 3.2.8 The fabric shall be field cut as necessary to meet specified tolerances of distance from drainage trenches.
- 3.2.9 The Fabric shall be placed between trenches. In no instance shall fabric cover trench, lie against aggregate or pea gravel, or extend vertically above sub-grade.
- 3.2.10 Stabilization: Immediately upon laying, the fabric shall be covered with the base aggregate. No loaded trucks shall be permitted to move over fabric-covered surfaces until a minimum of 100 mm of aggregate has been placed, except if specifically approved by the Engineer, who will require strict, direct - 100% - control of all vehicle movement on site.

3.3 Equipment Movement

- 3.3.1 No trucks or equipment will be allowed to drive over the top of the trenches except track-equipped machinery utilized in spreading base aggregate materials, or where a 300mm depth base aggregate temporary roadway has been established. Backfill trenches are to be staked and "flagged" 1m above grade for identity.
- 3.3.2 In the event truck traffic is observed or evidenced to cross trenches, the Contractor shall, at their own expense, expose the drainpipe in the area directed for observation by the engineer and repair any damage promptly.

3.4 Aggregate Placement

- 3.4.1 Moisture Content

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- 3.4.1.1 Aggregate shall contain 3.5% to 4.0% moisture content to ensure that fines do not migrate and to facilitate proper compaction. The Contractor must ensure that aggregate leaving the source plant meets this requirement and is required to apply water to aggregate on site to attain and maintain this minimum moisture content in stockpile and during all placement operations.
- 3.4.1.2 Prior to aggregate placement, remove any excess or contaminated backfill from the subsurface drainage trenches.
- 3.4.1.3 Surface must be free of standing water and sub-grade stabilized with structural fabric in place prior to placement.
- 3.4.1.4 Materials shall be placed in layers not exceeding 300mm bulk and 100 mm compacted in depth. Each layer must be spread uniformly with equipment that will not cause perceptible separation in gradation (segregation), preferably a self-propelled paving machine.
- 3.4.1.5 Should there occur, during any stage of the spreading or stockpiling, a separation of the material particles, the Contractor must immediately remove and dispose of segregated material and correct or change handling procedures to prevent further separation.
- 3.4.2 Aggregate Compaction
 - 3.4.2.1 Each layer shall be compacted to a minimum density of not less than 95% of maximum dry density as determined by ASTM D698 and measured using a nuclear method.
 - 3.4.2.2 Use Static Tandem Drum-type roller of not less than five tons weight.
- 3.4.3 Aggregate Tolerance
 - 3.4.3.1 The Contractor shall utilize a laser plane system for grade control.
 - 3.4.3.2 The surface of the base course permeable aggregate in areas to be paved with porous asphalt shall not deviate from designated compacted grade within the range of -13 mm and 0 mm.
 - 3.4.3.3 Upon completion of fine grading, compaction, and Contractor confirmation of conformance with the tolerances, the Contractor shall notify the Engineer and schedule an inspection for approval. The Contractor shall not be authorized to pave over the permeable aggregate until it has been inspected and approved by the Architect.

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- 3.4.4 Porous Asphalt Concrete Paving Installation
 - 3.4.4.1 Pavement, where possible, shall be laid utilizing self-propelled paving machine of 3 m minimum width and laser plane controlled.
 - 3.4.4.2 Plant mix temperature of asphalt shall be a minimum of 127 degrees C.
 - 3.4.4.3 The mix shall be transported to the job site in clean vehicles with smooth dump beds that have been sprayed with a non-petroleum release agent. Limit the time of haul to avoid segregation of the asphalt to the bottom of the truck bed. The mix should be covered during transport to prevent cooling and the formation of lumps.
 - 3.4.4.4 Asphalt shall be placed at a temperature between 110 degrees C. and 120 degrees C.
 - 3.4.4.5 Vertical joints between successive days' work shall be given a light tack coat of emulsified asphalt SS-1, diluted with one part water to one part emulsified asphalt.
 - 3.4.4.6 Surface of the first lift shall be clean and dry before applying the second layer. No tack coat need be applied on the horizontal surface of the first lift.
 - 3.4.4.7 The surface elevation, in the compacted condition, shall not deviate more than 6mm from specified elevations. Trueness measurements to be taken from 3m long straight edge placed in all directions.
 - 3.4.4.8 Upon completion of the paving and Contractor confirmation of conformance with the approval tolerances, the Contractor shall notify the Engineer and schedule an inspection for approval. The Contractor shall have a laser plane system available to the Architect for the inspections. The Contractor shall not be authorized to place any surfacing over the pavement until the grade has been inspected and approved by the Engineer.
- 3.4.5 The Contractor shall keep the porous asphalt free of contamination from site soil. The Contractor shall take precautions as necessary such as washing truck tires, etc. Compaction of Porous Asphalt
- 3.4.6 Roller to be Tandem Drum-type, Static-type of five ton minimum size. Maximum loading shall be 265 pounds weight per lineal inch of drum.
- 3.4.7 Compaction shall be commenced when the asphalt mix temperature is at a range of 100 degrees C. to 110 degrees C.
- 3.4.8 The first lift shall be rolled to a minimum of one rolling over entire area.

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- 3.4.9 The second lift (top leveling course) shall be rolled a minimum of two rollings. The patterns of each successive rolling shall be at right angles or crossing diagonal alignment.
- 3.4.10 Upper surface shall receive a final rolling utilizing a one-ton roller to remove all roller marks and imperfections in the surface.

32 91 21 **TOPSOIL & FINISH GRADING**

Replace Section 32 91 21 to the following:

1.0 GENERAL

1.1 Scope

- 1.1.1 Work specified in this section includes supply and placement of topsoil and subsequent finish grading.

1.2 References

- 1.2.1 BCSLA/BCNLA Landscape Standard
- 1.2.2 The Canadian System of Soil Classification - Topsoil

1.3 Source Quality Control

- 1.3.1 The Contractor shall advise the City of sources of soil to be utilized seven (7) days in advance of starting work.
- 1.3.2 Topsoil shall meet the latest edition of the BCSLA/BCNLA Landscape Standard, unless otherwise specified.
- 1.3.3 The Contractor shall be responsible for soil analysis and requirements for amendments. The Contractor shall submit the soil analysis report to the City prior to commencement of work. The recommendations of the laboratory will be the basis of requirements for soil acceptance and soil amendments.

1.4 Measurement and Payment

- 1.4.1 Payment for items includes construction and placement of topsoil, mulch, erosion control matting (ECM) and finish grading work and are to be according to Project Design Drawings and specifications herein. Completion of works will be determined by the Engineer on site. Payment for each structure will be measured by cubic metre volume.

2.0 PRODUCTS

2.1 Growing Medium

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- 2.1.1 Planting soil shall be "Garden Blend" growing medium supplied by Fraser Richmond Biocycle or approved equivalent. Grass soil shall be "Turf Blend" growing medium supplied by Fraser Richmond Biocycle or approved equivalent.
- 2.1.2 Soil for planted areas shall be a mixture of mineral particulates, micro organisms and organic matter which provides suitable medium for supporting intended plant growth
- 2.1.3 Soil shall contain no toxic levels of elements or growth inhibiting materials. If unexplained plant loss occurs before the warranty period expires, soil will be tested for toxicity and if toxicity is determined the Contractor will be responsible for replacement, at his expense, of plant material and soil.
- 2.1.4 Soil shall be free from debris and stones over 25mm diameter, coarse vegetative material (subsoil roots, noxious grass, weeds, etc.) 10mm diameter and 25mm length, occupying more than 2% of soil volume. Soil shall be free from crabgrass, couchgrass, equisetum or noxious weeds or seeds or parts thereof.
- 2.1.5 Soil texture shall be based on The Canadian System of Soil Classification and conform to the following:

<u>Sieve Size Percent</u>	<u>Passing By Weight (Dry)</u>
Gravel (2 to 75 mm)	0
Sand (0.05 to 2 mm)	50 - 75
Silt (0.002 to 0.05 mm)	10 - 20
Clay (Less than 0.002 mm)	0 - 20
Clay & Silt combined	max. 30%

- 2.1.6 The soil drainage shall have a minimum saturated hydraulic conductivity of 2.0 cm/hr in place.
- 2.1.7 Fertility:

<u>Soil Nutrients Ratios</u>	
Total Nitrogen (N)	0.2% to 0.6% by weight
Available Phosphorus (P):	50 to 100 PPM
Available Potassium (K)	50 to 250 PPM

- 2.1.8 Calcium, magnesium, sulfur and micro-nutrients present in balanced ratios to support germination and/or establishment of intended vegetation.
- 2.1.9 The soil shall have a pH value between 5.0 and 6.5 and an organic content in percent of dry weight (%) of 15 - 25.
- 2.1.10 The soil consistency shall be friable when moist.

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2.1.11 Salinity: the saturation extract conductivity shall not exceed 3.0 millimhos/cm at 25°C. In the event that this value is exceeded, leaching with fresh water may be required prior to planting.

2.1.12 The Boron concentration in the saturation extract shall not exceed 1.0 PPM.

2.2 Peat Moss

2.2.1 Peat moss shall be horticultural grade, derived from partially decomposed fibrous or cellular stems and leaves of Sphagnum Mosses. The texture varying from porous to spongy fibrous, fairly elastic and substantially homogeneous with pH value not less than 3.5 and not greater than 4.5, free of decomposed colloidal residue, wood, sulphur and iron, brown in colour and medium to coarse shredded, suitable for horticultural purposes.

2.2.2 Salinity: the saturation extract conductivity shall not exceed 2.0 millimhos/cm at 25°C.

2.2.3 Organic content: shall not be less than 90% based on dry weight as determined by ash analysis.

2.2.4 Nitrogen shall not be less than 0.8% based on dry weight.

2.2.5 Particle size:

<u>Sieve Size</u>	<u>Percent Passing By Weight</u>
9.5 mm sieve	95 - 100%
0.500 mm sieve	0 - 15%

2.3 Sand

2.3.1 Sand shall be hard and granular sharp in accordance with CSA A82.50, well washed and free of impurities, chemical or organic matter with the following gradation:

<u>Sieve Size</u>	<u>Percent Passing By Weight</u>
4.75 mm sieve	95 - 100%
0.500 mm sieve	0 - 40%
0.050 mm sieve	0 - 5%

2.4 Manure

2.4.1 Manure shall be well-rotted farm animal manure, rotted to the extent that liquids have been eliminated, and material is crumbly, free from weeds, rocks, sticks, rubble and containing not more than 40% sawdust, straw or shavings.

2.4.2 Manure shall be free from harmful chemicals such as any used to artificially hasten decomposition, and to have salt content that gives an electrical conductivity reading of less than 0.5 mmho/cm.

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- 2.4.3 Manure shall not contain less than 1.0% nitrogen based on dry weight.
- 2.4.4 All particles in manure to pass a 6.35 mm sieve.
- 2.4.5 Manure shall be free of viable seed, maximum two (2) plants per litre of manure.
- 2.5 Wood Residuals
 - 2.5.1 Where wood residuals such as fir or hemlock sawdust are present in the growing medium, their quantities and properties shall be such that the total Carbon to total Nitrogen ratio is a maximum of 40:1. No cedar or redwood residuals shall be present.
- 2.6 Fertilizer
 - 2.6.1 Complete, commercial brands meeting the requirements of the Canada Fertilizer Act, with a guaranteed N-P-K analysis and meeting the recommendations made after analysis by the soil testing laboratory.
 - 2.6.2 All fertilizers shall be granular, pelleted or prill form, and shall be dry, free of lumps and free-flowing.
 - 2.6.3 All fertilizers shall be packaged in waterproof containers clearly marked with the name of the manufacturer.
 - 2.6.4 Limestone shall be ground dolomite limestone containing minimum calcium carbonate and magnesium carbonate of 85% and have a gradation with 90% passing (by weight) 1.0mm sieve, 20% passing 0.125mm sieve.
- 2.7 Erosion Control Matting
 - 2.7.1 Where specified, Erosion Control Matting to be North American Green C125.
 - 2.7.2 Installation is to be to manufacturer's recommendations with all applicable hardware.
- 3.0 Execution
- 3.1 General Restoration of Planting Areas
 - 3.1.1 The Contractor shall grade all affected areas such that surface drainage is not impeded, and shall leave the area in a clean condition, free of boulders, stumps, brush or any other debris resulting from the construction of the Work.
 - 3.1.2 The Contractor shall promptly restore fields, cultivated areas, landscaping, retaining walls, rockwork, rockeries, lawns, gardens, fences, shrubs, trees and other improvements to at least their original condition, excepting that with the approval of the Corporation replanting, or turfing may be deferred to favourable weather.

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3.2 Preparation of Subgrade

- 3.2.1 Soil shall be graded, eliminating uneven areas and low spots and ensuring positive drainage.
- 3.2.2 Debris, roots, branches, stones in excess of 25 mm diameter and other deleterious materials shall be removed. Soil contaminated with calcium chloride, toxic materials and petroleum products shall be removed. Debris which protrudes more than 75 mm above surface shall be removed. Removed materials shall be disposed of off-site.
- 3.2.3 In areas where less than 300 mm of top soil is to be placed on top of the existing subgrade, those entire subgrade areas shall be cultivated to a minimum depth of 150 mm. Those areas where equipment used for hauling and spreading has compacted or caused uneven areas subgrade it shall be cross cultivated and regraded to ensure positive drainage.

3.3 Placing and Spreading of Top Soil

- 3.3.1 Commercial processing and mixing of growing medium components shall be done thoroughly by a mechanized screening process. No hand mixing shall occur unless specifically approved by the Corporation. Ensure the resulting product is a homogeneous mixture having the required properties throughout.
- 3.3.2 Topsoil shall be placed after the Engineer has accepted the subgrade.
- 3.3.3 Ensure that the topsoil is moist (25% to 75% of field capacity) but not wet when placed, and do not handle if frozen or so wet that its structure will be altered. Prior to placing topsoil, ensure that subgrade is not frozen and free of standing water.
- 3.3.4 Place and spread topsoil over prepared subgrade in uniform layers not exceeding 150 mm and allow it to settle or compact by light rolling such that it is firm against deep foot prints and potential sloughing. Do not compact topsoil more than necessary to meet this requirement.
- 3.3.5 Topsoil/planting soil shall be manually spread around existing trees, shrubs and obstacles.
- 3.3.6 Topsoil shall be spread to the minimum depths outlined below after settlement and 80% compaction:

ground cover areas	450mm
shrub areas	450mm
grass areas	150 mm

3.4 Soil Amendments

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- 3.4.1 Add soil amendments as indicated by the soil analysis to bring topsoil fertility within specified and/or recommended ranges. Add lime (if required) and potassium (if required) to topsoil at time of screening. Add all other fertilizers (such as nitrogen, phosphorus and micronutrients) to topsoil by thorough cultivation after topsoil is placed (if required).
- 3.4.2 Spread fertilizers evenly over growing medium with suitable mechanical spreader.
- 3.4.3 Ensure soil amendments are fully mixed and incorporated into the topsoil to a minimum depth of 150 mm.
- 3.5 Finish Grading
 - 3.5.1 The Contractor shall fine grade the topsoil after placing to the specified elevations and contours. Re-grade as required to eliminate rough spots and low areas and ensure positive drainage. A loose friable bed shall be prepared by means of cultivation and subsequent raking.
 - 3.5.2 Topsoil shall be consolidated to required bulk density using equipment approved by the Corporation. Surfaces shall be smooth, uniform and firm against deep foot printing.

32 93 01 **PLANTING OF TREES, SHRUBS & GROUND COVERS**

1.0 GENERAL

1.1 Scope

- 1.1.1 Work specified in this section includes supply and planting of trees, shrubs, and groundcovers, as well as protection of existing trees, shrubs, and groundcovers. The Work shall include, but is not limited to the following:
- 1.1.2 Planting of trees, shrubs and groundcover;
- 1.1.3 All traffic control associated with deliveries and construction activities; and
- 1.1.4 Protection of existing vegetation.

1.2 References

- 1.2.1 BCSLA/BCNTA Landscape Standard
- 1.2.2 Canadian Nursery trades Latest Edition
- 1.2.3 Argiculture Canada 1505-1977
- 1.2.4 The Pruning Manual Guide Specification for Nursery Stock

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1.3 Scheduling

- 1.3.1 No more than one (1) week following the Notice of Award, arrangements shall be made with a nursery to acquire the specified Plants, and to hold and treat them as specified.
- 1.3.2 No more than one (1) week following the Notice of Award, provide the Corporation with the name of the nursery that will supply the Plants.
- 1.3.3 Planting shall be scheduled to ensure optimum environmental protection.
- 1.3.4 Scheduling shall be organized to ensure a minimum duration of on-site storage of plant material and minimum movement of Plant Material.
- 1.3.5 Plantings are to be installed at the earliest opportunity so as to give plants the longest possible time to mature within the growing season and to minimize the time that the underlying soils are left exposed to the elements.

1.4 Definitions

- 1.4.1 For the purpose of this section of the Specifications, the term "Plant" or "Plants" shall mean tree(s), shrub(s), groundcover and plug(s).

1.5 Delivery, Storage and Protection

- 1.5.1 Plants shall be handled and transported with care to prevent damage.
- 1.5.2 Plant Material shall be transported in a ventilated closed van or well-covered truck with a tarp or similar material in order to protect the leaves or needles from windburn.
- 1.5.3 The Contractor shall coordinate installation of live cuttings and delivery of Plants to ensure that Plants are planted as soon as practical after delivery to the Work Site.
- 1.5.4 All Plants shall be protected against overheating and/or drying out at any time, including during transport and while stored on the Work Site.
- 1.5.5 Plants shall not be loaded in vehicles for more than three (3) days.
- 1.5.6 Plants shall be handled by the pots or rootball only, not by the trunks or stems.
- 1.5.7 Plants shall be protected against damage to stems and branches.
- 1.5.8 Tree bark shall be protected against chafing from chains, cables, equipment, or other areas by wrapping with cardboard or sackcloth.
- 1.5.9 All Plants, if not planted within three (3) days, shall be stored in an upright position, and care shall be taken to provide enough space between plants so that light reaches all around to the bottom of the Plant.

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- 1.5.10 Plants stored at the Work Site shall be kept in a protected location, shaded and regularly watered until planting.
- 1.5.11 Balled and burlapped Material shall be protected by heeling in Material suitable to protect them from drying out (e.g., sawdust, peat moss, topsoil).
- 1.5.12 All Plants shall be kept well watered and protected from heat and frost.
- 1.5.13 Protect all Plants from vandalism and theft.

2.0 PRODUCTS

2.1 Plants and Planting Material

- 2.1.1 All Plants shall be of the size and type specified on the Drawings and shall be true to type, name and size and shall be healthy, with well-developed root systems and top growth representative of their species and variety.
- 2.1.2 Plants shall be free from disease and insect infestation and the following defects at all times:
 - 2.1.2.1 Broken tops, torn roots and abrasions of bark on trunk and branches.
 - 2.1.2.2 Dried-out root systems.
 - 2.1.2.3 Prematurely opened or damaged buds.
 - 2.1.2.4 Dry, loose or broken ball of earth (B & B stock).
 - 2.1.2.5 Evidence of heating, mold or freezing damage.
 - 2.1.2.6 Thin, poor root or top systems.
 - 2.1.2.7 Abnormal leaf colour.
- 2.1.3 All Plants shall be nursery grown and shall comply with the most recent edition of the Landscape Canada Guide Specifications for Nursery Stock (CNTA) and the most recent edition of the British Columbia Landscape Standard (BCSLA & BCNTA).
- 2.1.4 All Plant Material shall have been grown and maintained in a nursery for one (1) year prior to the start of planting. The Contractor shall provide nursery certification to City stating that these requirements have been met.
- 2.1.5 All Plants shall be sturdy stock. Tree and shrub heights shall be proportional to caliper size, width, and root ball size/pot size as determined by the Engineer. Thin "whips" that meet minimum height requirements, but are not deemed by the Engineer to be properly proportioned or adequately self-supporting shall not be accepted. Single-stemmed shrubs will not be accepted.
- 2.1.6 The search area for initial acquisition of plants shall include all regions of similar biogeoclimatic zones. Those areas include British Columbia, Washington, Oregon, Northern California, Alberta, Idaho and Montana. Plants from high altitudes will not be accepted.

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SCHEDULE 2 - SUPPLEMENTAL SPECIFICATIONS

- 2.1.7 Plants obtained from sources of supply other than nurseries shall not be permitted unless approved in writing by the Engineer. A complete list of Plant species, quantities, sizes and other requirements are shown on the Drawings.
- 2.1.8 Each tree and shrub shall be tagged at the nursery with tags that clearly identify plants by botanical name and variety.
- 2.1.9 Plant tags shall not be removed until requested by the Engineer.
- 2.1.10 Coniferous trees shall have been grown and spaced in a manner that promotes the natural growth habit of the specified plant. Trees sheared as Christmas trees will not be accepted. All coniferous trees shall have a single central leader. Trees with evidence of a broken or damaged central leader will not be accepted.
- 2.1.11 Where native Plants are specified, only true native species shall be used.
- 2.1.12 Imported Plant Material shall be accompanied with necessary permits and import licenses and conform to federal and provincial regulations.
- 2.1.13 Rootballs and soil in containers shall be free from pernicious and perennial weeds.
- 2.1.14 Tree stakes shall be 50 to 70 mm diameter wood approximately 2 m long. Pressure treated stakes will not be allowed. Tree Ties shall be 35 mm wide rubber/fabric belting as supplied by Cruickshank Belting (or approved equivalent).
- 2.1.15 Imported mulch shall be 25 mm and minus, Douglas Fir or Hemlock bark chips and fines, or combination of both; free of chunks and sticks, dark brown and free of all soil, stones, roots or other extraneous matter. Mulch containing recycled sewage sludge shall not be used.

2.2 Fertilizer

- 2.2.1 Fertilizer shall be "Bio Pak Teabags" or approved equivalent.
- 2.2.2 "Endo Pak" Endo Mycorrhizal Inoculum or approved equivalent.

3.0 EXECUTION

3.1 Inspections

- 3.1.1 All Plants will be subject to inspection at the nursery by the Engineer.
- 3.1.2 The Contractor shall notify the Engineer five (5) days prior to the intended date of Plant inspection.

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- 3.1.3 The Contractor shall have all of the Plants gathered at one (1) location for review by the Engineer prior to installation. The Contractor shall provide the Engineer with photographs of all Plants to be supplied from out of province.
- 3.1.4 Acceptance of Plants at the nursery does not preclude rejection of plants on the site prior to, or after planting.
- 3.1.5 All rejected plants shall be removed from the site within two (2) days of rejection.
- 3.1.6 The Contractor shall be responsible for any costs associated with the removal and subsequent replacement of rejected plants.

3.2 Substitutions

- 3.3.1 The Contractor shall make every effort to obtain the Plants specified.
- 3.3.2 The Contractor shall submit a written request for any substitutions at least thirty (30) days prior to installation.
- 3.3.3 Evidence that the specified Plants are not available shall be submitted in writing before any substitutions are approved. This shall include a list of suppliers that were contacted.
- 3.3.4 Where evidence is submitted that a specified Plant cannot be obtained, substitutions in kind, size, and grade may be made upon written approval by the Engineer.

3.3 Planting Time

- 3.3.1 Planting shall not be performed until pre-planting soil amendments are complete and approved by the Engineer.
- 3.3.2 The Contractor shall provide the Engineer with a planting schedule three (3) days prior to commencing planting.
- 3.3.3 Planting shall be performed only during periods that are conducive to the health and best physical condition of the Plant Material, as determined by the season, local weather conditions, soil conditions and accepted practice. The Contractor shall not plant in frozen ground or with frozen rootballs, during extremely hot, dry weather, or during heavy rain.
- 3.3.4 The Contractor shall plan, schedule and execute planting work to ensure an immediate supply of water for landscape purposes in adequate amounts and at adequate pressures for satisfactory irrigation of all Plants.
- 3.3.5 Do not plant from June 1st to September 15th.

3.4 Layout

- 3.4.1 Plants shall be laid out as indicated on the Drawings.

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- 3.4.2 Plant locations on the Drawings shall be considered approximate and may be adjusted by the Engineer to meet field conditions.
- 3.4.3 Do not plant trees or shrubs in areas that will conflict with swales, drainage systems, aboveground or underground utilities.
- 3.4.4 The Contractor shall request direction by the Engineer regarding the preferred grouping, layout and orientation of Plants.
- 3.4.5 Trees and shrubs within their containers shall be placed unplanted into their proposed locations, or tree locations shall be staked and shrub locations shall be spray painted by the Contractor for review by the Engineer. The Contractor shall receive approval of the layout from the Engineer prior to planting.
- 3.4.6 Any plants installed prior to approval shall be relocated by the Contractor at no additional cost, if requested to do so.
- 3.4.7 The Contractor shall give the Engineer three (3) days advance notice of the intended date of the layout inspection.
- 3.4.8 Locate trees of different sizes in groups and individually, as directed throughout planting areas. The location of different tree sizes will be determined at the Work Site by the Engineer.

3.5 Tree and Shrub Planting

- 3.5.1 Upon removal of Plants from containers and after placement in the planting hole, care shall be taken to avoid disturbance of the root system of the Plants.
- 3.5.2 Container grown Plants shall be inspected by the Contractor for evidence of a tightly bound root mass within the container. Such Plants shall have the root mass carefully loosened to promote root growth.
- 3.5.3 Trees are to be installed in planting pits which shall receive rootball diameter plus 300 mm growing medium on all sides of the rootball.
- 3.5.4 Shrubs and groundcover are to be installed in planting beds with a continuous depth of growing medium.
- 3.5.5 All inorganic debris and subsurface material unearthed during tree and shrub planting shall be removed and disposed of at no additional cost.
- 3.5.6 All plants shall be set at the same depth as grown in the containers or at the nursery.
- 3.5.7 Balled and burlapped plants shall be set at the level of the finished ground line with burlap removed from the top and sides of the ball and with all twine or wire cut away. Remove container from grown stock before planting.

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SCHEDULE 2 - SUPPLEMENTAL SPECIFICATIONS

- 3.5.8 Plants shall be set in an upright position and oriented to display their best appearance.
 - 3.5.9 Fertilizer shall be installed at the rates specified by the manufacturer.
 - 3.5.10 Endo Paks shall be installed at the rates specified by the manufacturer.
 - 3.5.11 Thoroughly tamp planting soil around the root system in 150 mm layers, leaving no air voids. When two-thirds (2/3) of the growing medium has been placed, the hole shall be filled with water and allowed to drain completely prior to completion of backfilling. Form a watering saucer.
 - 3.5.12 Mulch shall be installed 75 mm thick continuous depth throughout the planting areas. Trees shall receive a ring of mulch over the root ball zone that is 500 mm diameter.
 - 3.5.13 Limit pruning to the minimum necessary to remove dead or injured branches and to compensate for loss of roots as a result of transplanting. Prune in such a manner to preserve the natural character of the plants. Use only clean, sharp tools. Clean and cut all cuts to branch collar leaving no stubs. Trace cuts, bruises, or scars on bark back to living tissue and remove. Use standard tree paint containing 1% naphthalene acetic acid on cuts only as directed by the Engineer.
 - 3.5.14 All existing and planted trees on-site shall be protected with wire mesh cylinders around the trunk base for beaver protection. The cylinders shall be made from 1m tall galvanized garden fencing (50mm x 100mm mesh) with cylinder diameter 1.25X times the trunk diameter.
- 3.6 Clean-up of Planting Area
- 3.7.1 Clean-up of planting areas shall be done after planting has been completed.
 - 3.7.2 Surplus and waste Material shall be removed and disposed of at the end of each day and as directed.
- 3.7 Plant Guarantee and Replacement
- 3.9.1 The Contractor shall provide warranty and guarantee all Plants in accordance with the General Conditions of Contract.
 - 3.9.2 All Plants (including trees, shrubs, and live cuttings) shall be alive and in a healthy, growing condition at the end of this guarantee and replacement period.
 - 3.9.3 Plants that are not in such a condition or have problems which, in the opinion of the Engineer, are sufficient to detract from the character and form of the Plant, will not be accepted, and shall be removed from the Work Site and replaced.
 - 3.9.4 All replacements shall be Plants of the same size and name as specified in the plant list and indicated on the Drawings.

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- 3.9.5 Replacements shall be planted as specified herein.
- 3.9.6 Replacements shall be made at the next earliest opportunity, weather and season permitting.
- 3.9.7 The conditions of the guarantee will apply to all replacement plants for one full growing season following their installation.
- 3.9.8 The costs for Plant removal and replacement shall be the responsibility of the Contractor, except for possible replacement resulting from theft or vandalism on the part of others following acceptance of the Plant installation Work.
- 3.9.9 The Engineer shall be the sole judge in case of dispute regarding responsibility for replacement of Plant Material.
- 3.9.10 The Contractor shall restore to their original condition all areas, Materials and structures disturbed, damaged or removed by the Contractor during replacement.
- 3.9.11 Restoration shall be performed at the Contractor's expense.
- 3.9.12 The Engineer reserves the right to extend the Contractor's guarantee responsibilities for an additional year if, at the end of the initial guarantee period, leaf development and/or Plant growth is not sufficient to ensure future survival.

3.8 Tree Supports

- 3.10.1 The Contractor shall use three (3) guy wires and anchors for all trees over 3m height, and double stake tree supports for all other trees. The Contractor shall install guying collars above branches to prevent slipping, at approximately two-thirds (2/3) height for evergreens. Guy wire and guying collars shall be installed and tied to stakes 1500 mm above grade for deciduous trees.
- 3.10.2 The Contractor shall install flagging tape at guys close to pedestrian traffic.

3.9 Preserving and Fertilizing Existing Trees and Shrubs

- 3.11.1 Excavation around trees shall NOT take place without review by the City.
- 3.11.2 Every effort shall be made to preserve trees and shrubs designated to remain. The Contractor shall not store construction materials or equipment, topsoil or any other items within the tree protection barrier/under dripline.
- 3.11.3 Damage to existing tree roots shall be repaired using sharp cutting tools and other methods accepted by the industry.

3.10 Hand Excavation

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SCHEDULE 2 - SUPPLEMENTAL SPECIFICATIONS

3.12.1 When directed by the City, the Contractor shall excavate by manual means around all tree roots within the excavation limits, where existing trees are required to be preserved.

3.11 Construction Equipment

3.13.1 The Contractor shall provide suitably sized machinery where necessary to avoid damaging existing tree crowns and other site features.

3.12 Acceptance

3.14.1 The Corporation will accept the Plant installation Work when the following conditions exist:

3.14.1.1 Planting soil quality, fertility levels, depths and surface conditions are as specified and approved.

3.14.1.2 All Plants are of the species and varieties specified and planted in locations shown on the Drawings and approved.

3.14.1.3 18-month survivorship achieves:

One hundred percent (100%) survivorship of all trees.
Eighty percent (80%) survivorship of all Plants and shrubs.

3.14.1.4 Water content in growing medium is to satisfaction of the Engineer.

3.14.1.5 Trees are staked as specified and accepted.

3.14.1.6 All pruning is complete to the satisfaction of the Engineer.

3.14.1.7 All planted areas are free of weeds.

3.14.1.8 Mulch is in place as required and accepted.

3.14.1.9 Receipts for all Materials including fertilizer and Endo mycorrhizal inoculum have been submitted.

32 93 01

LANDSCAPE BOULDERS

1.0 GENERAL

1.1 Scope

1.1.1 Boulders shall be pre-approved before delivery by the Consultant.

1.2 Performance Requirements

1.2.1 Deliver to the site and place landscape boulders in conformance with the design drawings and under the direction of the Engineer.

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SCHEDULE 2 - SUPPLEMENTAL SPECIFICATIONS

1.3 Submittals

- 1.3.1 Product data and source for each type of stone.
- 1.3.2 Samples of stone (consisting of stones not less than 12 inches square) for verification purposes of form, color, grade, finish, type, and variety of stone required. Include 2 or more stones in each set of samples showing the full range of variations in appearance characteristics to be expected in the completed work. Deliver samples to the site for review by the Engineer and the Engineer.

1.4 Quality Assurance

- 1.4.1 Obtain stone from a single quarry with resources to provide materials of consistent quality in appearance and physical properties, including the capacity to place the material without delaying the progress of the work.
- 1.4.2 Information on the Contract Documents establishes the requirements for both aesthetic effects and performance of the stone. Aesthetic effects relative to the formal characteristics are indicated by dimensions, arrangement, alignment, and profiles of components and assemblies as they relate to sight lines and relationships to one another and to adjoining construction; performance is indicated by criteria subject to verification either by preconstruction or field test, if applicable, or by inservice experience.
- 1.4.3 Do not modify intended aesthetic effects, except with the Engineer's approval, and only to the extent exclusively needed to comply with the performance requirements.
- 1.4.4 Where modifications are proposed, submit comprehensive explanatory data for review.

1.5 Installer Qualifications

- 1.5.1 Installer shall be an experienced equipment operator and landscape boulder placement technician, with at least 3 years' experience placing landscape boulders.

1.6 Delivery, Storage and Handling

- 1.6.1 Deliver materials to the project site in undamaged condition.
- 1.6.2 Store and handle the stone and related materials to prevent their deterioration or damage due to moisture, temperature changes, contaminants, corrosion, breakage, chipping, or other causes
- 1.6.3 Do not use pinch or use wrecking bars.

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SCHEDULE 2 - SUPPLEMENTAL SPECIFICATIONS

1.6.4 Lift with wide-belt-type slings where possible; do not use wire rope or ropes containing tar or other substances that might cause staining.

2.0 PRODUCTS

2.1 Stone

2.1.1 Stones shall be selected at the supplier's yard and shall be free from cracks, flaking and deterioration.

3.0 EXECUTION

3.1 Examination

3.1.1 Examine the areas to receive the boulder placement, and the conditions under which the boulders will be installed, with the Installer present, for compliance with the requirements for installation and other conditions affecting the performance of the placement. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.2 Preparation

3.2.1 Protect the stonework during setting as follows:

3.2.1.1 Prevent staining of the stone from caulking or paving materials. Immediately remove such materials from the stone without damage to the latter.

3.2.1.2 Protect boulders from damage from construction machines and materials.

3.2.1.3 Clean stone surfaces that have become dirty and stained prior to setting. Remove soil, stains, and foreign materials. Clean stones by thoroughly scrubbing stones with fiber brushes followed by a thorough drenching with clear water. Use only mild cleaning compounds that contain no caustic or harsh filler or abrasives.

3.3 Setting Stones

3.3.1 Set the stones to comply with the requirements indicated on the design drawings.

3.4 Broken, or otherwise damaged stones

3.4.1 Broken, chipped, stained, or otherwise damaged stone shall be replaced until the methods and results are acceptable to the Engineer.

INVITATION TO TENDER NO. PS11164
STILL CREEK ENHANCEMENT PROJECT - 2900 NOOTKA STREET - PHASE 1
SCHEDULE 3 - LIST OF SPECIFICATIONS AND DRAWINGS

SCHEDULE 3
LIST OF SPECIFICATIONS AND DRAWINGS

The following is the list of Specifications and Drawings:

SPECIFICATIONS

<u>Section No.</u>	<u>Title</u>
01 31 00	Construction Schedule
01 34 00	Shop Drawings, Product Data and Samples
01 40 00	Quality Control
01 53 01	Temporary Facilities (MMCD Section, as amended)
01 57 01	Environmental Protection (MMCD Section, as amended)
01 55 00	Traffic Regulation (MMCD Section, as amended)
01 33 01	Project Record Documents (MMCD Section, as amended)
01 42 00	References (MMCD Section, as amended)
31 05 17	Aggregates & Granular Materials (MMCD Section, as amended)
31 15 60	Dust Control (MMCD Section, as amended)
31 11 01	Clearing & Grubbing (MMCD Section, as amended)
31 11 42	Tree Protection (as amended)
31 22 01	Site Grading (MMCD Section, as amended)

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 SCHEDULE 3 - LIST OF SPECIFICATIONS AND DRAWINGS

31 23 17		Rock Removal (MMCD Section, as amended)
31 23 01		Excavating, Trenching & Backfilling (MMCD Section, as amended)
31 24 13		Roadway Excavation, Embankment and Compaction (MMCD Section, as amended)
31 38 00		Instream Structures
32 11 23		Granular Base (MMCD Section, as amended)
32 12 17		Porous Asphalt Paving(as amended)
32 30 20		Concrete Walks, Curbs and Gutters (MMCD Section, as amended)
32 91 21		Topsoil & Finish Grading (as amended)
32 93 01		Planting of Trees, Shrubs & Ground Covers (as amended)
32 93 02		Landscape Stone

DRAWING LIST

<u>Drawing No.</u>	<u>Title</u>	<u>Revision</u>
C101	Site Plan	B
C102	Plan and Profile	C
C103	Subgrade Typical Cross Sections	C
C104	Channel Details	C
C105	Notes	C

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SCHEDULE 3 - LIST OF SPECIFICATIONS AND DRAWINGS

L101		Landscape Drawing	B
S1.1		General Structural Notes	3
S2.1		Foundation and Framing Plans and Sections	3
S3.1		Details	3

INVITATION TO TENDER NO. PS11164
STILL CREEK ENHANCEMENT PROJECT - 2900 NOOTKA STREET - PHASE 1
SCHEDULE 4 - SCHEDULE OF QUANTITIES AND PRICES

SCHEDULE 4
SCHEDULE OF QUANTITIES AND PRICES

Item No.	General Description	Total Price
1	Still Creek Enhancement Project, 2900 Nootka Street - Phase 1 Subtotal of Sections 1 through 4.	\$
HST		\$
TENDER PRICE (Subtotal +HST)*		\$

**(Transfer amount to page FT1 paragraph 1.0)*

LEGEND

ea - each

m - metre

L.S. - lump sum

n/a - not applicable

m² - square metre

m³ - cubic metre

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 STILL CREEK ENHANCEMENT PROJECT - 2900 NOOTKA STREET - PHASE 1
 SCHEDULE 4 - SCHEDULE OF QUANTITIES AND PRICES

SECTION 1 QUANTITIES FOR SITE CONSTRUCTION

ITEM	DESCRIPTION	MMCD SECTION	UNITS	ESTIMATE QUANTITY	UNIT PRICE BID	BID AMOUNT
1.1	Mobilization / Demobilization (For all works)	01 53 01	L.S.	1	\$	\$
1.2	Clearing and grubbing of existing stream bank vegetation of north and south banks as shown in the design drawings. Only vegetation marked by Consultant is to be removed.	31 11 01	m ²	945	\$	\$
1.3	Off-site disposal of cleared and grubbed vegetation. All material is to be removed from site and disposed of off-site in accordance with all federal, provincial and municipal regulations.	31 11 01	m ²	945	\$	\$
1.4	Stripping and off-site disposal of top soil. Lateral extent of stripping to be no more than necessary to achieve design bank slopes as shown by cross sections in design drawings.	31 22 01	m ³	1,130	\$	\$

SECTION 2 QUANTITIES FOR CHANNEL WORKS

ITEM	DESCRIPTION	MMCD SECTION	UNITS	ESTIMATE QUANTITY	UNIT PRICE BID	BID AMOUNT
2.1	Rental of submersible pump and accessories (generator, hoses and plates) for isolation of work area from water flow. The Project requires a pump system designed to accommodate daily summer base flows of at least 0.09 m ³ /s. An 8" submersible pump along with a redundant 8" pump is specified for instream work areas during stream bed and bank excavation, stream bed and	01 53 01	L.S.	1	\$	\$

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 SCHEDULE 4 - SCHEDULE OF QUANTITIES AND PRICES

	bank re-grading and construction of instream features. The pump system will include a fish screen on the intake and a 10 foot diffuser pipe for the outlet.					
2.2	Installation and operation of submersible pump and accessories (generator, hoses and plates) for isolation of work area from water flow.	01 53 01	L.S.	1	\$	\$
2.3	Excavation, removal and offsite disposal of existing concrete along stream bed and north and south banks as shown in the design drawings.	31 23 01	m ³	163	\$	\$
2.4	Excavation and grading of existing stream bed and bank slopes as shown in design drawings.	31 23 01	m ³	1091	\$	\$
2.5	Removal and offsite disposal of existing stream bed and bank material from north and south banks.	31 23 01	m ³	1091	\$	\$
2.6	Supply and placement of Drain Rock along stream banks as shown in design drawings.	31 05 17	m ³	210	\$	\$
2.7	Supply and construct stream bed and instream rock riffles as shown in design drawings.	31 38 00	m ³	73	\$	\$
2.8	Supply and placement of stream bank boulders 2.0 m above excavated stream bed as specified by design drawings.	31 38 00	m ³	800	\$	\$
2.9	Supply and placement of Pit Run gravel in voids of channel bank riprap (hand set with water flush) as specified by design drawings.	31 05 17	m ³	240	\$	\$
2.10	Supply and placement of soil wraps on north and south banks above stream bank boulders (Koir Wrap 1000 or approved equivalent) as shown in design drawings.	31 29 19	m ²	432	\$	\$

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 STILL CREEK ENHANCEMENT PROJECT - 2900 NOOTKA STREET - PHASE 1
 SCHEDULE 4 - SCHEDULE OF QUANTITIES AND PRICES

2.11	Supply and placement of Drain Rock ballast for soil wrap on north and south banks above stream bank boulders as shown in design drawings	31 05 17	m ³	240	\$	\$
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SECTION 3 QUANTITIES FOR CONSTRUCTION OF PEDESTRIAN BRIDGE

ITEM	DESCRIPTION	MMCD SECTION	UNITS	ESTIMATE QUANTITY	UNIT PRICE BID	BID AMOUNT
3.1	Bridge Construction Ground Preparation	31 24 13	L.S.	1	\$	\$
3.2	Bridge Construction		L.S.	1	\$	\$

SECTION 4 QUANTITIES FOR LANDSCAPING

ITEM	DESCRIPTION	MMCD SECTION	UNITS	ESTIMATE QUANTITY	UNIT PRICE BID	BID AMOUNT
4.1	Excavation, Removal and offsite disposal of surface material for Concrete walk Construction	31 24 13	L.S.	1	\$	\$
4.2	Concrete walk subgrade preparation	31 24 13	L.S.	1	\$	\$
4.3	Supply and Placement of Subgrade Material	31 05 17	L.S.	1	\$	\$
4.4	Supply and Placement of Concrete walk	03 30 53	L.S.	1	\$	\$
4.5	Supply and placement of imported top soil distributed to areas on site disturbed by construction activities as shown by design drawings	32 91 21	m ³	381	\$	\$
4.6	Supply and placement of mulch on topsoil treated surfaces	32 93 01	m ²	432	\$	\$

INVITATION TO TENDER NO. PS11164
STILL CREEK ENHANCEMENT PROJECT - 2900 NOOTKA STREET - PHASE 1
SCHEDULE 5 - SUBCONTRACTORS AND SUPPLIERS

SCHEDULE 5

LIST OF SUBCONTRACTORS AND SUPPLIERS

The following are the Subcontractors that the Contractor will use for the Work:

Division/Section Of Work	Subcontractor	Address

The following are the Suppliers that the Contractor will use for the Work:

Supplier	Manufacturer	Item	Address

INVITATION TO TENDER NO. PS11164
STILL CREEK ENHANCEMENT PROJECT - 2900 NOOTKA STREET - PHASE 1
SCHEDULE 6 - PROJECT SCHEDULE

SCHEDULE 6

PROJECT SCHEDULE

(to be attached after Notice of Award issued)

INVITATION TO TENDER NO. PS11164
STILL CREEK ENHANCEMENT PROJECT - 2900 NOOTKA STREET - PHASE 1
SCHEDULE 7 - PERFORMANCE AND LABOUR AND MATERIAL PAYMENT BONDS

SCHEDULE 7

PERFORMANCE AND LABOUR AND MATERIAL PAYMENT BONDS

(to be attached after Notice of Award issued)

INVITATION TO TENDER NO. PS11164
STILL CREEK ENHANCEMENT PROJECT - 2900 NOOTKA STREET - PHASE 1
SCHEDULE 8 - INSURANCE CERTIFICATE

SCHEDULE 8
INSURANCE CERTIFICATE

(to be attached after Notice of Award issued)

INVITATION TO TENDER NO. PS11164
 STILL CREEK ENHANCEMENT PROJECT - 2900 NOOTKA STREET - PHASE 1
 SCHEDULE 9 - FORCE ACCOUNT LABOUR AND EQUIPMENT RATES

SCHEDULE 9

FORCE ACCOUNT LABOUR & EQUIPMENT RATES

TABLE 1 - SCHEDULE OF LABOUR RATES

Job Classification	Regular Rate	Overtime Rate
	\$	\$
	\$	\$
	\$	\$
	\$	\$
	\$	\$
	\$	\$

TABLE 2 - SCHEDULE OF EQUIPMENT RATES

No.	Equipment Description	Hourly Rate	No. of Hours	Overhead And Profit	Total Price
		\$		\$	\$
		\$		\$	\$
		\$		\$	\$
		\$		\$	\$
		\$		\$	\$

INVITATION TO TENDER NO. PS11164
STILL CREEK ENHANCEMENT PROJECT - 2900 NOOTKA STREET - PHASE 1
APPENDIX 2 - SPECIFICATIONS AND DRAWINGS

PLEASE VIEW AT:

<http://vancouver.ca/fs/bid//bidopp/ITT/documents/PS11164-Appendix2.pdf>