



INVITATION TO TENDER (“ITT”) No. PS10043

VANCOUVER LANDFILL PUMP STATION CONTROLS UPGRADE

Tenders will be received in the City of Vancouver’s (“City’s”) Purchasing Services Office, 3rd Floor, Suite #320, East Tower, 555 West 12th Avenue, Vancouver, British Columbia, Canada, V5Z 3X7 prior to the Closing Time: 3:00:00 p.m. Vancouver Time (as defined in Note 2 below), on Tuesday May 18, 2010 and registered at 11:00:00 a.m. Wednesday, May 19, 2010.

NOTES:

1. Tenders are to be in sealed envelopes or packages marked with the Tenderer’s Name, the ITT Title and Number.
2. Closing Time and Vancouver Time will be conclusively deemed to be the time shown on the clock used by the City’s Purchasing Services Office for this purpose.
3. The City’s Purchasing Services Office is open on Working Days 8:30 a.m. to 4:30 p.m. Vancouver Time and closed Saturdays, Sundays, and holidays.
4. DO NOT SUBMIT BY FAX.

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

Eamonn Savage, CPP
Contracting Specialist

Fax: 604.873.7057

E-mail: purchasing@vancouver.ca

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PART A - INVITATION TO TENDER**

1.0 INVITATION TO TENDER

1.1 The City of Vancouver (the “City”) invites Tenders for the general contract portion of the Vancouver Landfill Pump Station Controls Upgrade Project at the Vancouver Landfill. The Project is divided into an equipment supply contract for a diesel generator and automatic transfer switch, which has already been awarded, and a general contract for construction to include the supply and installation of a new pre-fabricated building, motor control center, and instrumentation & control panel, and modifications and additions to underground piping and valving at the station.

2.0 ADMINISTRATIVE REQUIREMENTS

2.1 It is the sole responsibility of the Tenderer to monitor the City’s website at <http://www.vancouver.ca/bid/bidopp/openbid.htm> regularly for amendments, addenda, and questions and answers related to this Invitation to Tender (the “ITT”).

2.2 All Tenders are to be completed and submitted in accordance with the instructions on the front page to this ITT and as provided within this ITT.

3.0 CONDUCT OF ITT - INQUIRIES AND CLARIFICATIONS

3.1 The City’s Manager, Supply Management will have conduct of this ITT, and all communications should be directed only to the contact person(s) named on the cover page.

3.2 It is the responsibility of the Tenderer to thoroughly examine the ITT documents and satisfy itself as to the full requirements of this ITT. All inquiries should be in written form only, faxed to (604) 873-7057 or e-mailed to purchasing@vancouver.ca to the attention of the appropriate contact person shown on the cover page before the deadline date. If required, an addendum will be issued to all registered Tenderers and posted on the City’s website as noted in item 2.1 above.

3.3 The lowest or any Tender may not be accepted and the City will not be responsible for any cost incurred by the Tenderer in preparing the Tender.

3.4 Tenders are scheduled to close at the Closing Time listed on the cover page of this ITT.

3.5 Key dates to be noted are:

Event	Dates
Information Meeting Response Form and Preliminary Enquiries should be submitted by	April 28, 2010
Information Meeting and site Visit	April 30, 2010
All Inquiries should be submitted on or before:	May 11, 2010
ITT Closing Time	May 18, 2010

4.0 PROJECT BACKGROUND

4.1 The Vancouver Landfill (“Landfill”) is owned and operated by the City of Vancouver and is located in the southwest corner of Burns Bog in Delta, BC. The Landfill serves over one million people and is authorized to accept 750,000 tonnes of municipal solid waste each year. The Ministry of Environment administers an Operational Certificate for the Landfill, which dictates that leachate cannot be discharged directly to the environment.

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- 4.2 Landfill leachate is the product of water percolating through refuse and is collected in the inner ditch of a twin ditch containment system that surrounds the 225 hectare Landfill footprint. Clean surface water runoff in the outer drainage ditch is maintained at a higher water level than the leachate ditch level to create a positive inward hydraulic gradient. The inner ditch is graded towards the southwest corner of the site, where leachate enters the pump station. The leachate is pumped into the Corporation of Delta's sanitary sewer system and conveyed to the Annacis Island Wastewater Treatment Plant.
- 4.3 The scope of work for the Vancouver Landfill Pump Station Controls Upgrade Project includes the supply and installation of specialized equipment and construction work to upgrade the underground piping and valving, and control system for the leachate pump station. The purpose of the upgrade is to minimize the potential for failure of the systems during emergency operations. Stantec Consulting Ltd (the "**Engineer**") was retained in March 2008 to provide professional services including detailed design and construction supervision for this project.
- 4.4 The specialized equipment to be supplied includes a motor control centre, two variable frequency drives, and an instrumentation and control panel. The Contractor will also supply and install a new prefabricated building to permanently house all electrical and control equipment, and miscellaneous piping, valves and instrumentation to improve operational control and flexibility.
- 4.5 The Contractor will make arrangements to temporarily relocate the pump station controls (including the existing and new equipment) to allow for the demolition of the existing control building, preparation of a new foundation and placement of the prefabricated building. The purpose of temporarily relocating the controls is to minimize pump station downtime.
- 4.6 The Contractor will act as the Prime Contractor, provide all necessary electrical and communication connections, complete all construction work, and take responsibility for start up, commissioning, testing, and training to deliver a fully operational Pump Station.
- 4.7 Construction must be completed by November 1, 2010 at the latest, based on the need for dry weather to complete equipment installation, testing, startup, commissioning and training. Note that a liquidated damages for late completion clause is included in section 6.0 of the Form of Agreement.

5.0 OVERVIEW OF SCOPE OF WORK

- 5.1 An overview of the scope of the Work as required by this ITT is provided below.
- 5.2 The Vancouver Landfill Pump Station Controls Upgrade project, as described in the Tender Documents, will include, but is not limited to:
- (a) acting as Prime Contractor in the designated Work Area;
 - (b) coordinating all trades, and obtaining and providing all permits, inspections approvals and insurance;
 - (c) making all provisions for the continuous, including temporary, operation of the Pump Station during construction;
 - (d) ensuring any planned power disconnections and outages are less than four hours in length, and are approved by the Engineer in advance of the outage;
 - (e) relocation, temporary installation, connection and testing of equipment and SCADA from the existing Pump Station into a temporary shed which is already in place at the

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PART A - INVITATION TO TENDER**

site, to provide for temporary operation and monitoring of the pumps during demolition of the existing Pump Station and construction / installation of the new one;

- (f) relocating some equipment, including but not limited to, the instrument compressor and the SCADA panel and antenna from the temporary shed to the new pre-engineered building;
- (g) removing the existing Pump Station Controls Building including the underlying concrete and rebar;
- (h) relocating and extending services as necessary including power and water;
- (i) supplying and installing electrical conduits, cabling and grounding;
- (j) supplying and installing piping, valves and specified equipment, as well as modifying existing piping and valve layouts;
- (k) supplying and installing a complete pre-engineered building fitted with a panelboard and circuit breakers, lights, a fire detection system, a heating system, and an intrusion detection system;
- (l) supplying and installing the specified MCC, variable frequency drive units, and instrumentation and control panel in the pre-engineered building;
- (m) incorporating the owner supplied automatic transfer switch into the MCC;
- (n) providing electrical, communications and control connections to the supplied equipment, including providing circuits, cabling and feeders outside of the pre-engineered building;
- (o) providing programming for the new PLC and Control Panel HMI;
- (p) coordinating testing, startup, commissioning and training on the complete system with the respective equipment suppliers;
- (q) testing and commissioning the complete system;
- (r) providing any additional demolition and cleanup as required;
- (s) delivering final documentation, including as-built drawings and operations and maintenance manuals; and
- (t) delivering a complete, finished and operational Pump Station for the City of Vancouver Landfill site.

5.3 Detailed specifications and design drawings are in Appendices 5 and 6 and bound separately. Tenders should clearly indicate any deviations from the equipment specifications set out therein.

6.0 TENDER DOCUMENTS

6.1 One set of Tender Documents will be available for pick-up free of charge during Working Days from 8:30 a.m. to 4:30 p.m. at:

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City of Vancouver
Purchasing Services
City Square
555 West 12th Avenue
Office 320, East Tower
Vancouver, BC V5Z 3X7

Couriers collecting documents from Purchasing Services will be required to provide the ITT number PS10043.

- 6.2 The Tender Documents will be available for viewing at:

Vancouver Regional Construction Association
3636 East 4th Avenue
Vancouver, BC V5M 1M3

7.0 INFORMATION MEETING AND SITE VISIT

- 7.1 Tenderers are invited to attend an Information Meeting and site visit on Friday April 30 2010, commencing at 11:00 AM and lasting until approximately 12:00 PM. This meeting will be held in the meeting room of the Engineering Design Building at the Vancouver Landfill.

Location of meeting: Vancouver Landfill
5400 72nd Street
Delta, BC

Visit vancouver.ca/landfill for directions to the site.

- 7.2 All prospective Tenderers are to pre-register for the Information Meeting by submitting an Information Meeting Attendance Form (Appendix 1) by fax to (604) 873-7057 or e-mail to purchasing@vancouver.ca by Wednesday April 28, 2010.

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PART B - INSTRUCTIONS TO TENDERERS**

1.0 DEFINITIONS & INTERPRETATION

1.1 Definitions

Capitalized terms used in these Tender Documents have the meanings ascribed to them in the General Conditions (GC.1. - *Definitions*), unless such terms are specifically defined in this Part B or the context of their use otherwise requires.

The defined terms in these Instructions to Tenderers include:

- (a) **"City"** or **"Owner"** means the City of Vancouver, a municipal corporation continued pursuant to the Vancouver Charter, SBC 1953, c.55;
- (b) **"Closing Time"** means the closing date, time and place as set out in the title page of this ITT;
- (c) **"Contract"** means the contract in the Form of Agreement the City will enter into with the successful Tenderer;
- (d) **"Contractor"** means a Tenderer whose Tender the City has accepted and to whom the Contract has been awarded;
- (e) **"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;
- (f) **"Landfill"** means the Vancouver Landfill located at 5400-72nd Street in Delta, BC;
- (g) **"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);
- (h) **"Tax Legislation"** includes the *Income Tax Act* (Canada), *Excise Tax Act* (Canada), and all other similar legislation in effect from time to time;
- (i) **"Tender Contract"** means any contract whether simple or by deed formed upon receipt by the City of a tender from a Tenderer in response to the Invitation to Tender;
- (j) **"Tender Documents"** mean all the documents listed in section 12.0 of this Part B, including any addendum issued by the City;
- (k) **"Tenderer"** means the person(s) described in the beginning of the Form of Tender; and
- (l) **"Work Site"** or **"Site"** means the area or areas on and about the City property where the Work is to be carried out.

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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 the Specifications and Drawings and the Invitation to Tender, Instructions to Tenderers, Form of Tender (including the Schedules), Form of Agreement, General Conditions and the Supplementary General Conditions (the "**Balance of Tender Documents**"), the Balance of Tender Documents shall prevail over the Specifications and Drawings.
- (c) To the extent applicable, any references in this document and in the Contract to the federal Goods and Services Tax ("**GST**") will automatically be deemed to mean the Harmonized Sales Tax ("**HST**") following the implementation of the HST in British Columbia on July 1, 2010.

2.0 INTRODUCTION

- 2.1 The City of Vancouver is inviting Tenders for the general contract portion of the Vancouver Landfill Pump Station Controls Upgrade Project. The Site is the active City of Vancouver Landfill site, located at 5400 72nd Street, Delta, British Columbia.

3.0 TENDERS

- 3.1 The City will make available for pick-up by each Tenderer one set of Tender Documents in accordance with Section 6.0 of Part A of this ITT. The Tenderer shall complete and submit the Form of Tender in Part C of this ITT (and all required schedules and other documents) in accordance with this Part B (Instructions to Tenderers).
- 3.2 The Tenderer shall deliver a complete Tender (including all required schedules and other documents) prior to the Closing Time as outlined on the cover page of the ITT.
- 3.3 Tenders received after the Tender Closing Time may or may not be returned unopened to the Tenderer.
- 3.4 Tenders should be enclosed in a sealed plain envelope, clearly marked: "**Vancouver Landfill Pump Station Controls Upgrade, ITT. PS10043**", with the Tenderer's name in the upper left hand corner.
- 3.5 Each Tender should be signed in longhand by or on behalf of the Tenderer, with its usual signature. Tenders by partnerships should be signed by at least two of the partners, followed by the designations of the partners signing. Tenders by a company should specify the full legal name of the company followed by the signatures of the duly authorized signing officer(s) and should have the company's seal affixed. Each page of the Form of Tender, including the schedules should bear the initials of those persons who have executed the Form of Tender.
- 3.6 All blank spaces in the Form of Tender should be filled in. All prices and notations should be typewritten or written in ink. Erasures, interlineations or other corrections should be initialled by the person or persons signing the Tender.
- 3.7 Tenderers should submit on the Form of Tender provided, a Total Tender Price (hereinafter defined), including all taxes and fees.

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- 3.8 Tenderers should submit on Schedule A (Schedule of Quantities and Prices) a breakdown of the Total Tender Price referred to in 3.7 above. These unit prices and/or lump sums will be used to compute interim progress payments and will be reviewed prior to Contract award so Tenderers should ensure that the sums accurately reflect the costs for each item. The Tenderer may be required to justify the submitted breakdown.
- 3.9 Tenderers should submit a price for each item listed. For items which are not specifically listed, Tenderers shall place the costs for these in the nearest applicable item. Failure by the Tenderer to submit a complete breakdown may result in an incomplete Tender and may be cause for rejection.
- 3.10 Unless otherwise stipulated, Tenders should be made on the Form of Tender supplied and signed as specified in 3.5 above.
- 3.11 Tenders should be all inclusive and should be without qualification or condition.

4.0 TOTAL TENDER PRICE

- 4.1 The price for the Work (the “**Total Tender Price**”) shall be the sum in Canadian dollars of the following:
- (a) the product of the actual quantities of the items of Work listed in Schedule A (Schedule of Quantities and Prices) which are incorporated into or made necessary by the Work and their unit prices listed in Schedule A (Schedule of Quantities and Prices); plus
 - (b) all lump sums, if any, as listed in Schedule A (Schedule of Quantities and Prices) for items relating to or incorporated into the Work; plus
 - (c) all applicable taxes.
- 4.2 Subject to any adjustment for changes to the Work, which are approved by the Engineer in accordance with the Contract Documents, the Total 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.
- 4.3 The City may delete any items in Schedule A in order to meet budget limitations, or otherwise, and award a contract for only the remaining items.

5.0 OPENING OF TENDERS

- 5.1 Tenders will be opened publicly in the Purchasing Services Office at the time and address shown on the cover page of this ITT.
- 5.2 Award of a Contract will be subject to the City’s required approval process, the insurability of the Contractor pursuant to the insurance provisions of the General Conditions and, if applicable, approval by City Council.

6.0 CONTRACT

- 6.1 The successful Tenderer will become a Contractor and will be required to sign the Contract (on the terms and conditions noted in the Form of Agreement) with the City.

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PART B - INSTRUCTIONS TO TENDERERS**

7.0 CONSENT OF SURETY AND BID BOND

- 7.1 Each Tender should be accompanied by a Consent of Surety (Schedule G of the Form of Tender or equivalent) duly completed by a surety company authorized and licensed to carry on business in British Columbia and having an office in British Columbia.
- 7.2 Each Tender should be accompanied by a Bid Bond duly completed by a surety company authorized and licensed to carry on business in British Columbia and having an office in British Columbia, payable to the Owner, the City of Vancouver, in the amount of ten percent of the Total Tender Price, and not a dollar amount, as a guarantee of the due execution of an Agreement with the City and the delivery of the Bonds specified in section 2.0, Part C of the Form of Tender by the successful Tenderer.
- 7.3 The forms of the Bonds should be those issued by the Canadian Construction Documents Committee as follows:
- | | |
|---------------------------------------|-------------------|
| (a) Bid Bond: | CCDC 220 (latest) |
| (b) Performance Bond: | CCDC 221 (latest) |
| (c) Labour and Material Payment Bond: | CCDC 222 (latest) |
- 7.4 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 Agreement, delivery of a Performance Bond for 50% of the Total Tender Price and a Labour and Material Payment Bond for 50% of the Total Tender Price, and commencement of the Work. The cost of all Bond premiums shall be included in the Total Tender Price.
- 7.5 All bonds should be issued by a surety company authorized and licensed to carry on business in British Columbia and should have an office in British Columbia.

8.0 INSURANCE

- 8.1 Tenderers should submit Schedule L Certificate of Existing Insurance. The Contractor shall maintain the insurance provisions described in section GC.53 of the General Conditions at the Contractor's expense.

9.0 WORKSAFEBC

- 9.1 Tenderers should familiarize themselves with the latest WCB requirements as laid out in sections GC.7 and GC.54 of the General Conditions.

10.0 ACCEPTANCE OF TENDERS

- 10.1 Notwithstanding anything to the contrary contained in the Invitation to Tender, the Instructions to Tenderers or any other contractual document:
- (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 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 City Council if applicable and the insurability of the Contractor pursuant to the insurance provisions of the General Conditions. Tenders which contain qualifying conditions or otherwise fail to conform to these Tender Documents may be

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disqualified or rejected. The City may waive any non-compliance with the Tender Documents, specifications 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 herein.

- (b) Where the City's Manager - Supply Management 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 exist 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 shall then form part of the Tender. The soliciting or accepting of such clarification (whether or not solicited) by the City shall be without any duty or obligation on the City to advise any other Tenderers or to allow them to vary their Total Tender Prices as a result of the acceptance of clarification from any one or more Tenderers and the City shall have no liability to any other Tenderer(s) as a result of such acceptance of clarification.
- (c) Tenders shall remain open for acceptance by the City for a period of 90 calendar days after the Closing Time.
- (d) The award of any contract shall 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 reputation and experience of the Tenderer and of the Tenderer's senior staff to be allocated to the Work;
 - (iii) the technical credibility, financial resources and environmental responsibility of the Tenderer;
 - (iv) the Tenderer's understanding of the Work based on its proposed methodology;
 - (v) 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;
 - (vi) the best value to the City based on quality, service, price and any of the criteria set out herein based solely on the City's subjective assessment of the Tender; and
 - (vii) 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.
- (e) Where the City determines that all Total Tender Prices are too high, all Tenders may be rejected.
- (f) 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

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allow them to vary their Total Tender Prices as a result of changes to the scope of the Work or any conditions and the City shall have no liability to any other Tenderer as a result of such negotiations or modifications.

- (g) The Tenderer acknowledges and agrees that the City will not be responsible for costs, expenses, Losses, damages (including damages for loss of anticipated profit) or liabilities 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.
- (h) 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.
- (i) Guidelines or policies that may be applicable shall not give rise to legal rights on the part of any Contractor, Subcontractor or others as against the City and shall in no case create any liability on the part of the City.

11.0 SITE EXAMINATION

- 11.1 The Site on which the Work is to be executed is located on City owned property in Delta, British Columbia.
- 11.2 Tenderers shall make a careful examination of the 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 the Work to be performed and any and all matters which are referred to in the Drawings, Tables, Specifications 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 shall be made subsequently in this connection on behalf of a Contractor for any error, negligence, interpretation, or misinterpretation on the Contractor's part.
- 11.3 The City and the Engineer do not guarantee Site and geotechnical information (if any) provided in or with the Tender Documents and the Tenderer must evaluate such information relative to actual conditions.
- 11.4 Site visits by potential Tenderer's must be prescheduled with the Purchasing Department. Before entering the Site for any independent examination or work, each of the Tenderer's personnel are required to complete a safety orientation, to adhere to procedures established for access to the Site, and to have and use personal protective equipment as required by the City of Vancouver and WorkSafeBC.

12.0 TENDER DOCUMENTS

- 12.1 The Tender Documents are:
 - (a) Part A - Invitation to Tender;
 - (b) Part B - Instructions to Tenderers;
 - (c) Part C - Form of Tender (including Schedules A to K);
 - (d) Part D - Form of Agreement;

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- (e) Part E - General Conditions (including Appendix A, Prime Contractor Agreement form);
- (f) Part F - Supplementary General Conditions;
- (g) Appendix 1 - Information Meeting Attendance Form;
- (h) Appendix 2 - Vancouver Landfill Site Safety Orientation;
- (i) Appendix 3 - Safety Awareness Sheet / Landfill Gas;
- (j) Appendix 4 - Vancouver Landfill Site Hazard Identification List;
- (k) Appendix 5 - Specifications (provided separately in hard copy and electronically on CD);
- (l) Appendix 6 - Design Drawings, issued for tender (provided separately in hard copy and electronically on CD); and
- (m) any and all Amendments, Addenda, and Questions & Answers issued by the City prior to the Closing Time, as well as any and all Amendments, Addenda, and Questions & 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.

13.0 EXAMINATION OF TENDER DOCUMENTS

- 13.1 Each Tenderer must examine the Tender Documents and must also satisfy him/herself of the extent of the Work. The Tenderer shall make his/her own estimate therefrom of the facilities and difficulties attending the performance and the completion of the Work.
- 13.2 No allowance shall 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.

14.0 INTERPRETATION

- 14.1 If any Tenderer is in doubt as to the true meaning and intent of any part of the Drawings, Specifications, or other Tender Documents, the Tenderer shall request the Engineer for an interpretation thereof at least five Working Days prior to the Closing Time. If such an interpretation is not requested or confirmed by an addendum, the Tender will be presumed to be based upon the interpretation that may be subsequently given by the Engineer after award of the Contract.
- 14.2 Prior to the Closing Time of Tenders, all requests made according to subsection 14.1 for necessary clarification of the Specifications, Drawings, or other Tender Documents will be answered in writing by the Engineer by posting the answers on the City's website. 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, addenda, and questions and answers related to this ITT. The City shall not be responsible for verbal or any other explanations or interpretations of the Specifications, Drawings or other Tender Documents. As set out in section 12.0 of this Part B, all written notices so issued shall become part of the Tender Documents and shall be binding upon all Tenderers.

**INVITATION TO TENDER No. PS10043
VANCOUVER LANDFILL PUMP STATION CONTROLS UPGRADE
PART B - INSTRUCTIONS TO TENDERERS**

15.0 TAXES AND FEES

15.1 The Contractor in the Contractor's Tender must allow for the payment of all Permit Fees and Licence Fees and all Municipal, Provincial and Federal taxes, custom duties and other assessments and charges, and the Contractor agrees that the City shall not be liable in any manner therefore and agrees to indemnify and save harmless at all times the City against all claims which shall be made with respect thereto.

16.0 PRODUCT APPROVAL

16.1 Wherever any Product (as defined in the General Conditions) is specified or shown by describing proprietary items, model numbers, catalogue numbers, manufacturer, trade names or similar reference, the Contractor obligates himself to submit his 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 that the Engineer 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.

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

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

17.0 METRIC MEASUREMENTS AND CO-ORDINATION

17.1 The Work has been designed using metric dimensions. All linear dimensions have been expressed in millimetres in whole numbers (without decimal parts) and in metres with fractions thereof. The unit "mm" for millimetres has been deleted from the dimensioning of the drawings.

17.2 Within the Specifications, the unit symbols for all metric units are included. Also, the decimal parts have been included in the Specifications where Products have been "soft converted" (i.e., when the dimensions of the Product remain the same as they are at present but are expressed in metric equivalent units). Dimensions for spacing of Products have been expressed in millimetres in whole numbers in both the Specifications and Drawings.

17.3 As a general rule, all dimensioning of Products and equipment has been "soft converted". Exceptions to this rule are certain Products which are presently available in metric sizes and have been "hard converted"; i.e., where the Product itself is manufactured to rational metric dimensions.

17.4 Where "hard conversion" Products have been specified and are available they shall be supplied.

17.5 Care is required to be executed to ensure co-ordination of imperial and metric Products and in dimensioning and in this regard, the Contractor shall be entirely responsible for metric co-ordination of its Work.

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17.6 The Contractor will ensure that all persons employed on its Work know the metric system of measurement, and that they use metric references and measuring devices.

18.0 SCHEDULING, COORDINATION AND COMPLETION

18.1 The Work is taking place at an active landfill Site and will require some interruption of power supply to all facilities on the site, including existing private contractors. The Contractor will be responsible for completing the Work in a way that minimizes impact on the facility operations and the operations of the private contractors.

18.2 Each Tenderer should complete and submit Schedule B with the Tender, showing the proposed critical path construction schedule for all Work under the Contract, to clearly demonstrate how the Tenderer **will start the Work by June 28, 2010 and substantially complete the Work by October 1, 2010, with total completion of the Work by November 1, 2010.**

18.3 Time shall be of the essence for all purposes of this Contract and the performance of the Work.

19.0 EXCAVATION, SOIL SUPPORT AND WORK AREAS

19.1 The Work takes place at a number of locations and over a substantial area on the Site, and the Site is open to the public. The Vancouver Landfill Site contains a wide range of waste materials and the Contractor shall take appropriate care and shall implement measures to assess conditions at the Work Site locations and to take all necessary measures to assure the safety of workers, City staff and the public.

19.2 At locations where excavation is required, the removed material may not be suitable for use in backfilling and compaction. In such instances, the Contractor shall provide suitable clean and compactable fill material, and shall dispose of the originally removed material as directed by the Engineer.

19.3 The Contractor shall employ all work procedures necessary to minimize disturbance and inconvenience to operations at the Vancouver Landfill and shall strictly adhere to all construction procedures specified or referenced in the Tender Documents.

19.4 When interruption of power and/or communications to any part of the facilities at the Vancouver Landfill is necessary, the Contractor shall prepare and present a proposed schedule to the Engineer for approval and shall not proceed without approval. Where the Engineer determines that the requested timing of an interruption cannot be accommodated, the Contractor shall revise the proposed schedule to select times acceptable to the Engineer.

20.0 LABOUR RATES

20.1 Tenders should include Schedule F- Force Account Labour Rates. The Tenderer should insert the hourly rates for labour including allowances for taxes, assessments, benefits, small tools, overhead and profit as set out in section 8.0 [*Force Account*] of the Supplementary General Conditions.

21.0 EXPERIENCE

21.1 Tenderers are to confirm that they have suitable experience in the performance of this type of work. Each Tenderer should submit Schedule E on related projects completed including the following information:

- (a) a brief description of the project;

**INVITATION TO TENDER No. PS10043
VANCOUVER LANDFILL PUMP STATION CONTROLS UPGRADE
PART B - INSTRUCTIONS TO TENDERERS**

- (b) location;
- (c) contract value;
- (d) start and completion dates;
- (e) completed on schedule or not;
- (f) name of project owner and representative to be contacted as reference with the reference's current phone number and email address; and
- (g) names and positions of Contractor's key personnel involved in the project.

22.0 LIST OF SUBCONTRACTORS AND SUPPLIERS

- 22.1 The Tenderer should insert in Schedule C to the Tender a list of Subcontractors, providing name, address of place of business, and the portion of the Work to be done by the Subcontractor or the equipment or materials to be supplied by the Subcontractor.

23.0 NON-RESIDENT WITHHOLDING TAX

- 23.1 Tenderers are advised that, if they are not residents of Canada, the *Income Tax Act* (Canada) requires that a certain percentage of the monies 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 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 shall receive a credit under the Contract for monies withheld and remitted. The rights of the City in this matter are enlarged in the General Conditions.

24.0 RELEASE, INDEMNITY AND LIMITATION

- 24.1 The Tenderer:

- (a) agrees not to bring any claim against the City and any of its employees, advisors or representatives (including the Engineer) for damages in excess of an amount equivalent to the reasonable costs incurred by the Tenderer in preparing its Tender for any matter in respect of the Tender including without limitation in the event the City accepts a non-compliant Tender or otherwise breaches, or fundamentally breaches, the terms of this Tender; and
- (b) waives any and all claims against the City and any of its employees, advisors or representatives (including the Engineer) for loss of anticipated profits or loss of opportunity if no agreement is made between the City and the Tender for any reason including without limitation in the event the City accepts a non-compliant Tender or otherwise breaches or fundamentally breaches the terms of this Tender.

- 24.2 The Tenderer now indemnifies and will protect and save the City and any of its employees, advisors or representatives (including the Engineer) harmless from and against all Losses, in respect of any claim or threatened claim by the Tenderer or any of its Subcontractors, subconsultants 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 Engineer);

**INVITATION TO TENDER No. PS10043
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PART B - INSTRUCTIONS TO TENDERERS**

- (b) an unintentional tort, of the City or any of its employees, advisors or representatives (including the Engineer), occurring in the course of conducting this Invitation to Tender; or
- (c) liability on any other basis related to the tendering process, bidding process or the Tender Contract.

25.0 DISPUTE RESOLUTION

25.1 Any dispute relating in any manner to this Invitation to Tender, 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 Manager - Supply Management; and
- (b) section 24.0 above will:
 - (i) bind the arbitrator, the Tenderer and the City; and
 - (ii) survive any and all awards made by the arbitrator.

26.0 CONFIDENTIALITY AND PRIVACY

26.1 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 or the award and evaluation process adopted by the City for this Invitation to Tender.

27.0 RELEASE OF INFORMATION RESTRICTED

27.1 No information concerning one Tenderer's Tender will be given out to the other Tenderers between the Closing Time and the time the Contract award (or decision not to award the Contract) is recommended to Council and then made by Council. 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 Total Tender Price shown on each Form of Tender. However, no other information is anticipated to be disclosed by the City unless and until a report to Council recommending an award of Tender is submitted to the City Clerk.

28.0 ENQUIRIES

28.1 All enquiries prior to the Closing Time shall be directed to the contact person listed on the cover page of this ITT.

**INVITATION TO TENDER No. PS10043
VANCOUVER LANDFILL PUMP STATION CONTROLS UPGRADE
PART C - FORM OF TENDER**

Tender of:			
	(Name of Person, Firm, or Company)		
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:			
G.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>			

For the following work:

The Work for the Vancouver Landfill Pump Station Controls Upgrade Project, as described in the Tender Documents, will include, but is not limited to:

- (a) acting as Prime Contractor in the designated Work Area;
- (b) coordinating all trades, and obtaining and providing all permits, inspections approvals and insurance;
- (c) making all provisions for the continuous, including temporary, operation of the Pump Station during construction;
- (d) ensuring any planned power disconnections and outages are less than four hours in length, and are approved by the Engineer in advance of the outage;
- (e) relocation, temporary installation, connection and testing of equipment and SCADA from the existing Pump Station into a temporary shed which is already in place at the site, to provide for temporary operation and monitoring of the pumps during demolition of the existing Pump Station and construction / installation of the new one;

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- (f) relocating some equipment, including but not limited to, the instrument compressor and the SCADA panel and antenna from the temporary shed to the new pre-engineered building;
- (g) removing the existing Pump Station Controls Building including the underlying concrete and rebar;
- (h) relocating and extending services as necessary including power and water;
- (i) supplying and installing electrical conduits, cabling and grounding;
- (j) supplying and installing piping, valves and specified equipment, as well as modifying existing piping and valve layouts;
- (k) supplying and installing a complete pre-engineered building fitted with a panelboard and circuit breakers, lights, a fire detection system, a heating system, and an intrusion detection system;
- (l) supplying and installing the specified MCC, variable frequency drive units, and instrumentation and control panel in the pre-engineered building;
- (m) incorporating the owner supplied automatic transfer switch into the MCC;
- (n) providing electrical, communications and control connections to the supplied equipment, including providing circuits, cabling and feeders outside of the pre-engineered building;
- (o) providing programming for the new PLC and Control Panel HMI;
- (p) coordinating testing, startup, commissioning and training on the complete system with the respective equipment suppliers;
- (q) testing and commissioning the complete system;
- (r) providing any additional demolition and cleanup as required;
- (s) delivering final documentation, including as-built drawings and operations and maintenance manuals; and
- (t) delivering a complete, finished and operational Pump Station for the City of Vancouver Landfill site.

The work to be done by the Contractor for this Contract shall include overhead, labour, equipment, tools, supplies and all other things necessary for and incidental to the satisfactory performance and completion of all work as specified in the Tender Documents.

(All of the above collectively hereinafter referred to as the “Work”.)

To be Initialled at Tender Opening:

Manager, Supply Management or designate

Witness

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April 9, 2010

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Name of Tenderer

Initials of Signing Officer

**INVITATION TO TENDER No. PS10043
VANCOUVER LANDFILL PUMP STATION CONTROLS UPGRADE
PART C - FORM OF TENDER**

1.0 TOTAL TENDER PRICE AND SCHEDULE

Having carefully read and examined the Tender Documents, including without limitation the Invitation to Tender, the Instructions to Tenderers, the Form of Tender, the Form of Agreement, the General Conditions, the Supplementary General Conditions, the Appendices, the Specifications and Drawings, and the Addenda issued as supplements to the aforementioned documents (if any), 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 Total Tender Price of:

Contract No. PS10043 - Vancouver Landfill Pump Station Controls Upgrade Project
Total Tender Price \$ _____ in lawful money of Canada, including all taxes and fees.

Accordingly, the undersigned offers to complete the Work according to the following schedule:

- (a) Work will begin by June 28, 2010.
- (b) Substantial Performance of the Work by October 1, 2010.
- (c) Total Performance of the Work will be achieved by November 1, 2010.

The undersigned confirms that the above stated price includes all Federal, Provincial, and Municipal taxes, all permits and inspection costs, and all customs and excise import duties and WorkSafeBC assessments relating to the Work in force at this date.

If a Schedule of Quantities and Prices forms part of this Tender, and if there is any conflict between the Total Tender Price entered above and the correct summation of the lump sum prices, provisional sums and/or correct extensions of the unit prices and approximate quantities entered in the aforesaid Schedule, the said correct summation shall take precedence.

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 90 calendar days from the day following the Tender 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 subject Tender (the "**Notice of Award**"), the undersigned will, within ten 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 Total 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;

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- (b) a detailed Construction schedule, as required by section GC.22 of the General Conditions;
- (c) a "clearance letter" indicating that the Tenderer is in WorkSafeBC compliance; and
- (d) a Certificate of insurance or certified copy of the insurance policies as specified in section GC.53 of the General Conditions indicating that all such insurance coverage is in place;

3.0 NOTICE TO PROCEED

The undersigned agrees that upon City acceptance of the submissions of section 2.0 above, the City will deliver a Notice to Proceed by which the undersigned will:

- (a) commence the Work within two Working Days of the receipt of the written Notice to Proceed or such longer time as may be otherwise specified in the Notice to Proceed;
- (b) sign the Contract Documents (including the Prime Contractor Agreement referred to in section GC.7 of the General Conditions) and return them to the City within five Working Days after receiving the Contract Documents from the City; and
- (c) issue, post, and copy the Owner on the Notice of Project as and when required under subsection (e) of section GC.7 of the General Conditions.

4.0 CONDITIONS

The undersigned understands and agrees that:

- (a) If the undersigned receives written Notice of Award of this Contract and, contrary to sections 2.0 and 3.0 above of this Form of Tender, the undersigned:
 - (i) fails or refuses to deliver the documents as specified by sections 2.0 and 3.0 of this Form of Tender; or
 - (ii) fails or refuses to 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:
 - (iii) the face value of the Bid security; and
 - (iv) the amount by which the Total Tender Price is less than the amount for which the City contracts with another party to perform the Work.
- (b) The lowest submitted tender will not necessarily be accepted. The City reserves the right to reject this Tender at any time without further explanation or to accept any tender considered advantageous to the City.
- (c) The Schedules attached to this Form of Tender form a part hereof.

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VANCOUVER LANDFILL PUMP STATION CONTROLS UPGRADE
PART C - FORM OF TENDER**

5.0 AMENDMENTS/QUESTIONS & ANSWERS

Acknowledgment of receipt of the following addenda to the Tender Documents is hereby made:

Amendment No.
Questions & Answers No.

The undersigned agree that they thoroughly understand the terms and conditions contained therein.

6.0 CERTIFICATION

The undersigned hereby certify that our Tender complies in all respects with the Tender Documents.

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).

**INVITATION TO TENDER No. PS10043
VANCOUVER LANDFILL PUMP STATION CONTROLS UPGRADE
PART C - FORM OF TENDER**

SIGNED and SEALED this _____ day of _____, 2010 by the duly authorized officers of the Tenderer:

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

(Seal)

Per: _____

Per: _____

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

(Signature)

(Name)

(Address)

**INVITATION TO TENDER No. PS10043
VANCOUVER LANDFILL PUMP STATION CONTROLS UPGRADE
PART C - FORM OF TENDER**

SCHEDULE A

Schedule of Quantities and Prices

The Tenderer submits the following lump sums and/or unit prices for the items listed below. The lump sums and unit prices shall include the supply and installation of all labour, materials and services, together with the Tenderer's overhead and profit and all fees and taxes, but shall not include the GST. The GST shall be shown separately. The Tenderer is required to verify the extent of the Work in relation to this Contract. Tenderers should review GC.3 (Personal Examination) of the General Conditions.

Explanatory Note on HST Transition after Contract Award

To the extent that the Contractor is entitled to recover any amount of tax that the Contractor would not be entitled to recover as of the effective date of the Contract, including without limitation if the Contractor is no longer required to pay PST that was included in the Total Tender Price and is instead paying a recoverable value-added tax, the value of such recoveries will be for the benefit of the City and any amounts invoiced pursuant to the contract will be reduced accordingly. The parties will make such adjustments as appropriate to permit the City to recover those amounts.

Item No.	Description	Estimated Quantity	Unit	Unit Price	Total Price per Item
1.0	General Requirements				
1.1	Mobilization and Demobilization.	N/A	Lump Sum	N/A	\$
1.2	Insurance, permits, licenses and bonding.	N/A	Lump Sum	N/A	\$
Sub-Total Section 1 - General Requirements					\$
2.0	Project Management				
2.1	Preparation of Weekly Reports, Schedules and Attendance at Weekly Construction Site Meetings, All Permits and Approvals and Coordination.	N/A	Lump Sum	N/A	
Sub-Total Section 2 - Project Management					\$
3.0	Specific Work				
3.1	Installation and Commissioning of Temporary Controls, Power Connections, and Supply of incidental materials.	N/A	Lump Sum	N/A	\$
3.2	Installation and Commissioning of the New Electrical and Control Building, Including all Interior and Exterior Connections, and Identified Items.	N/A	Lump Sum	N/A	\$

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Item No.	Description	Estimated Quantity	Unit	Unit Price	Total Price per Item
3.3	Supply, Installation and Termination of all New Wiring, Cable Trays, Conduits and Cables. Relocation, Connection, Testing and Termination of Main Feeder Cable.	N/A	Lump Sum	N/A	\$
3.4	Startup and Commissioning of All New Controls and Equipment.	N/A	Lump Sum	N/A	\$
3.5	Installation of Owner-supplied Automatic Transfer Switch into new MCC.	N/A	Lump Sum	N/A	\$
3.6	Removal of Temporary Controls and Power Connections.	N/A	Lump Sum	N/A	\$
3.7	Installation on site of Complete Motor Control Centre, VFDs and Control Panel.	N/A	Lump Sum	N/A	\$
3.8	Labour & material supply and installation for all other incidentals as per specifications.	N/A	Lump Sum	N/A	\$
3.9	All training and final documentation.	N/A	Lump Sum	N/A	\$
Sub-Total Section 3 - Specific Work					\$
4.0	Site Works				
4.1	Old Building demolition.	N/A	Lump Sum	N/A	\$
4.2	Excavation and backfill for New Building.	N/A	Lump Sum	N/A	\$
4.3	Excavation for conduits, piping, valves and backfill.	N/A	Lump Sum	N/A	\$
4.4	Foundation Construction for New Building.	N/A	Lump Sum	N/A	\$
4.5	Final Site Grading, Seeding and Cleanup.	N/A	Lump Sum	N/A	\$
Sub-Total Section 4 - Site Work					\$
5.0	Piping, Valves & Instrumentation				
5.1	Supply of Misc. Piping and Reconfiguration of Below Grade Piping and Valves.	N/A	Lump Sum	N/A	\$

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Item No.	Description	Estimated Quantity	Unit	Unit Price	Total Price per Item
5.2	Supply and Installation of one lot of instrumentation.	N/A	Lump Sum	N/A	\$
Sub-Total Section 5 - Piping, Valves & Instrumentation					\$
6.0	Building Supply				
6.1	Supply and delivery to site of the complete Electrical and Controls Building, including all interior and exterior fittings, wiring, panels, receptacles, lighting, heating equipment, ventilation equipment, fire alarm and security equipment as identified.	1	Lump Sum	\$	\$
Sub-Total Section 6 - Building Supply					\$
7.0	MCC, VFDs and Control Panel				
7.1	Supply of Complete Motor Control Centre.	1	each	\$	\$
7.2	Supply of 2 Complete VFD Units.	N/A	Lump Sum	N/A	\$
7.3	Supply of Complete Control Panel.	1	each	\$	\$
Sub-Total Section 7 - MCC, VFDs and Control Panel					\$
Sub-Total Section 1 - General Requirements					\$
Sub-Total Section 2 - Project Management					\$
Sub-Total Section 3 - Specific Work					\$
Sub-Total Section 4 - Site Works					\$
Sub-Total Section 5 - Piping, Valves & Instrumentation					\$
Sub-Total Section 6 - Building Supply					\$
Sub-Total Section 7 - MCC, VFDs and Control Panel					\$
Sub-Total Sections 1 Through 7					\$
GST					\$
Total Tender Price					\$

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		MAY				JU				JU				AU				SE				OC				NO
8	Remove Temporary Control System																									
9	Permanent Energization																									
10	Controls Completion and Testing																									
11	Provide Documentation & Training																									
12	Final Cleanup & Demobilization																									

Name of Tenderer

Initials of Signing Officer

**INVITATION TO TENDER No. PS10043
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SCHEDULE C (Cont'd)

Subcontractors and Suppliers

2.0 SUPPLIERS

The Tenderer should list all major suppliers and manufacturers that it intends to use on this project, including documentation on all materials to be used in any portion of the Work.

Supplier	Manufacturer	Address	Item

Additional pages may be attached to this page. Each such additional page should be clearly marked "CONTRACT No. PS10043, FORM OF TENDER - SCHEDULE C", and should be signed by the Tenderer.

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SCHEDULE E

Tenderer's Experience with Related Work

The Tenderer should list any comparable projects which it has undertaken by providing the following information:

Description of Project: _____

Location of Project: _____

Contract Value (Canadian Funds): \$ _____

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:

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SCHEDULE E (Cont'd)

Tenderer's Experience with Related Work

Description of Project: _____

Location of Project: _____

Contract Value (Canadian Funds): \$ _____

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:

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SCHEDULE E (Cont'd)

Tenderer's Experience with Related Work

Description of Project: _____

Location of Project: _____

Contract Value (Canadian Funds): \$ _____

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:

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SCHEDULE F

Force Account Labour Rates

(Refer to Part F, section 8.0 [*Force Account*] of the Supplementary General Conditions)

Job Classification	Regular Rate	Overtime Rate

Additional pages may be attached to this page and/or separate numbered documents such as specifications, descriptive literature and drawings may be submitted with this Schedule. Each such additional page and/or separate document should be clearly marked "**CONTRACT No. PS10043, FORM OF TENDER - SCHEDULE F**", and should be signed by the Tenderer.

**INVITATION TO TENDER No. PS10043
VANCOUVER LANDFILL PUMP STATION CONTROLS UPGRADE
PART C - FORM OF TENDER**

SCHEDULE G

Consent of Surety

PROJECT

Should it be required, we the undersigned Surety Company do hereby consent and agree 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 Total 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 price set forth in the attached Tender, which Performance Bond and Labour and Material Payment Bond we understand are to be filed with the City of Vancouver within ten Working Days of receipt of Notice of Award of the CONTRACT.

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. PS10043
VANCOUVER LANDFILL PUMP STATION CONTROLS UPGRADE
PART C - FORM OF TENDER**

SCHEDULE H

Tenderer's Proposed Variations

The Tenderer should make a full and complete statement and description of any proposed variations to the Tender Documents.

Additional pages may be attached to this page and/or separate numbered documents such as specifications, descriptive literature and drawings may be submitted with this Schedule. Each such additional page and/or separate document should be clearly marked "**CONTRACT No. PS10043, FORM OF TENDER - SCHEDULE H**", and should be signed by the Tenderer.

**INVITATION TO TENDER No. PS10043
VANCOUVER LANDFILL PUMP STATION CONTROLS UPGRADE
PART C - FORM OF TENDER**

SCHEDULE I

Preliminary Traffic Management Plan

Tenderers are to describe in this Schedule their proposed Traffic Management Plan, articulating how the requirements and constraints described in Part E of the General Conditions, section GC.36 [*Traffic Control*] will be met or exceeded.

**INVITATION TO TENDER No. PS10043
VANCOUVER LANDFILL PUMP STATION CONTROLS UPGRADE
PART C - FORM OF TENDER**

SCHEDULE J

Preliminary Site Specific Safety and Health Plan

Tenderers are to describe in this Schedule their Preliminary Site Specific Safety and Health Plan, articulating how the requirements and constraints described in Part F of the Supplementary General Conditions, section 18.0 *[Health and Safety]* will be met or exceeded.

**INVITATION TO TENDER No. PS10043
VANCOUVER LANDFILL PUMP STATION CONTROLS UPGRADE
PART C - FORM OF TENDER**

**SCHEDULE K
Certificate of Insurance**

[Not required for Tender Form - to be supplied only upon receipt of Notice of Award]



CERTIFICATE OF INSURANCE

Section 8 b) – to be completed by City staff. Select # of days Written Notice is required.
Section 2 through 7 – to be completed by the Insurer or its Authorized Representative

1. THIS CERTIFICATE IS ISSUED TO: City of Vancouver, 453 W 12th Avenue, Vancouver, BC, V5Y 1V4
And certifies that the insurance policies as listed herein have been issued to the Named Insured(s) and are in full force and effect as of the effective date of the agreement described below.

2. NAMED INSURED: *(must be the same name as the Permittee/Licensee or Party(ies) to Contract and is either an individual or a legally incorporated company)*

 MAILING ADDRESS: _____
 LOCATION ADDRESS: _____
 DESCRIPTION OF OPERATION, CONTRACT, AGREEMENT, LEASE, PERMIT OR LICENSE: _____

3. PROPERTY INSURANCE naming the City of Vancouver as a Named Insured and/or Loss Payee with respect to its interests (All Risks Coverage including Earthquake and Flood) INSURED VALUES: (Replacement Cost)
 INSURER: _____ Building and Tenants Improvement: \$ _____
 TYPE OF COVERAGE: _____ Contents and Equipment: \$ _____
 POLICY NUMBER: _____ Deductible Per Loss: \$ _____
 POLICY PERIOD: From _____ to _____

4. COMMERCIAL GENERAL LIABILITY INSURANCE (Occurrence Form) Including the following extensions: LIMITS OF LIABILITY: (Bodily Injury and Property Damage Inclusive)
 Personal Injury
 Products and Completed Operations
 Cross Liability or Severability of Interest
 Employees as Additional Insureds
 Blanket Contractual Liability
 Non-Owned Auto Liability
 INSURER: _____ All Risk Tenant's Legal Liability: \$ _____
 POLICY NUMBER: _____ Deductible Per Occurrence: \$ _____
 POLICY PERIOD: From _____ to _____

5. AUTOMOBILE LIABILITY INSURANCE for operation of owned and/or leased vehicles
 INSURER: _____ LIMITS OF LIABILITY: (Bodily Injury and Property Damage Inclusive)
 POLICY NUMBER: _____ Combined Single Limit: \$ _____
 POLICY PERIOD: From _____ to _____ *If vehicles are insured by ICBC, complete and provide Form APV-47.*

6. UMBRELLA OR EXCESS LIABILITY INSURANCE LIMITS OF LIABILITY: (Bodily Injury and Property Damage Inclusive)
 INSURER: _____ Per Occurrence: \$ _____
 POLICY NUMBER: _____ Aggregate: \$ _____
 POLICY PERIOD: From _____ to _____ Self-Insured Retention: \$ _____

7. OTHER INSURANCE (e.g. Boiler & Machinery, Business Interruption, Crime, etc.) – Please specify Name of Insurer(s), Policy Number, Policy Period, and Limit

8. POLICY PROVISIONS:
Where required by the governing contract, agreement, lease, permit or license, it is understood and agreed that:
 - a) *The City of Vancouver, its officials, officers, employees, servants and agents have been added as Additional Insureds with respect to liability arising out of the operation of the Named Insured pursuant to the governing contract, agreement, lease, permit or license;*
 - b) *SIXTY (60) days written notice of cancellation or material change resulting in reduction of coverage with respect to any of the policies listed herein, either in part or in whole, will be given by the Insurer(s) to the Holder of this Certificate; the exception is cancellation for non-payment of premiums in which case the applicable statutory conditions will apply;*
 - c) *The insurance policy (policies) listed herein shall be primary with respect to all claims arising out of the operation of the Named Insured. Any insurance or self-insurance maintained by the City of Vancouver shall be in excess of this insurance and shall not contribute to it.*

SIGNED BY THE INSURER OR ITS AUTHORIZED REPRESENTATIVE _____ Dated: _____
 PRINT NAME OF INSURER OR ITS AUTHORIZED REPRESENTATIVE, ADDRESS AND PHONE NUMBER _____

InsCertCoVGeneral.dot_July07

**INVITATION TO TENDER No. PS10043
VANCOUVER LANDFILL PUMP STATION CONTROLS UPGRADE
PART C - FORM OF TENDER**

Schedule L



**CERTIFICATE OF EXISTING INSURANCE
TO BE COMPLETED AND APPENDED TO THE TENDER**

Section 2 through 8 – to be completed and executed by the Insurer or its Authorized Representative

- THIS CERTIFICATE IS ISSUED TO:** City of Vancouver, 453 W 12th Avenue, Vancouver, BC, V5Y 1V4
and certifies that the insurance policy (policies) as listed herein has/have been issued to the Named Insured and is/are in full force and effect.
- NAMED INSURED** (must be the same name as the proponent/bidder and is either an individual or a legally incorporated company)

BUSINESS TRADE NAME or DOING BUSINESS AS

BUSINESS ADDRESS

DESCRIPTION OF OPERATION

- PROPERTY INSURANCE (All Risks Coverage including Earthquake and Flood)**

INSURER _____	Insured Values (Replacement Cost) -
TYPE OF COVERAGE _____	Building and Tenants' Improvements \$ _____
POLICY NUMBER _____	Contents and Equipment \$ _____
POLICY PERIOD From _____ to _____	Deductible Per Loss \$ _____

- COMMERCIAL GENERAL LIABILITY INSURANCE (Occurrence Form)**

Including the following extensions:	INSURER _____	
<input checked="" type="checkbox"/> Personal Injury	POLICY NUMBER _____	
<input checked="" type="checkbox"/> Property Damage including Loss of Use	POLICY PERIOD From _____ to _____	
<input checked="" type="checkbox"/> Products and Completed Operations	Limits of Liability (Bodily Injury and Property Damage Inclusive) -	
<input checked="" type="checkbox"/> Cross Liability or Severability of Interest	Per Occurrence \$ _____	
<input checked="" type="checkbox"/> Employees as Additional Insureds	Aggregate \$ _____	
<input checked="" type="checkbox"/> Blanket Contractual Liability	All Risk Tenants' Legal Liability \$ _____	
<input checked="" type="checkbox"/> Non-Owned Auto Liability	Deductible Per Occurrence \$ _____	

- AUTOMOBILE LIABILITY INSURANCE** for operation of owned and/or leased vehicles

INSURER _____	Limits of Liability -
POLICY NUMBER _____	Combined Single Limit \$ _____
POLICY PERIOD From _____ to _____	<i>If vehicles are insured by ICBC, complete and provide Form APV-47.</i>

- UMBRELLA OR EXCESS LIABILITY INSURANCE** Limits of Liability (Bodily Injury and Property Damage Inclusive) -

INSURER _____	Per Occurrence \$ _____
POLICY NUMBER _____	Aggregate \$ _____
POLICY PERIOD From _____ to _____	Self-Insured Retention \$ _____

- PROFESSIONAL LIABILITY INSURANCE**

INSURER _____	Limits of Liability
POLICY NUMBER _____	Per Occurrence/Claim \$ _____
POLICY PERIOD From _____ to _____	Aggregate \$ _____
	Deductible Per Occurrence/Claim \$ _____

If the policy is in a "CLAIMS MADE" form, please specify the applicable Retroactive Date: _____

- OTHER INSURANCE**

TYPE OF INSURANCE _____	Limits of Liability
INSURER _____	Per Occurrence \$ _____
POLICY NUMBER _____	Aggregate \$ _____
POLICY PERIOD From _____ to _____	Deductible Per Loss \$ _____

TYPE OF INSURANCE _____	Limits of Liability
INSURER _____	Per Occurrence \$ _____
POLICY NUMBER _____	Aggregate \$ _____
POLICY PERIOD From _____ to _____	Deductible Per Loss \$ _____

SIGNED BY THE INSURER OR ITS AUTHORIZED REPRESENTATIVE

Dated _____

PRINT NAME OF INSURER OR ITS AUTHORIZED REPRESENTATIVE, ADDRESS AND PHONE NUMBER

**INVITATION TO TENDER No. PS10043
VANCOUVER LANDFILL PUMP STATION CONTROLS UPGRADE
PART D - FORM OF AGREEMENT**

THIS AGREEMENT is made as of the ____ day of _____, 2010.

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:

[NTD: Insert Successful Tenderer Name, Address]

(hereinafter referred to as the "Contractor")

OF THE SECOND PART

WHEREAS:

- A. The Owner has appointed Stantec Consulting Limited (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.
- 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:

1.0 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 its sole and exclusive agent.

2.0 WORK TO BE DONE

The Contractor and the Owner hereby agree that the Products to be furnished and the Work to be done by the Contractor are to:

- (a) Furnish all materials, equipment, Products, labour and services, and supervision necessary for the Work. Any materials, equipment, products, labour and services, and supervision performed

**INVITATION TO TENDER No. PS10043
VANCOUVER LANDFILL PUMP STATION CONTROLS UPGRADE
PART D - FORM OF AGREEMENT**

by the Engineer or the Engineer's representative with regard to the work required in these Contract Documents shall be in accordance with the requirements of the Contract Documents.

- (b) 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.

3.0 CONTRACT DOCUMENTS

The following is a list of the constituents of the Contract Documents referred to in this Agreement. This list is subject to subsequent amendments in accordance with the provisions of the Contract Documents. Terms used in the Contract Documents which are defined in GC.1. - DEFINITIONS shall have the meaning designated in those definitions.

- (a) **Form of Agreement**
- (b) **Invitation to Tender**
- (c) **Instructions to Tenderers**
- (d) **Form of Tender**, including:
- (i) Schedules A, B, C, D (but only to the extent expressly stated therein), E, F, G, H, I, J, and K
 - (ii) General Conditions
 - (iii) Supplementary General Conditions
- (e) **Appendices**, including:
- (i) Prime Contractor Agreement Form
 - (ii) Performance Bond
 - (iii) Labour and Material Payment Bond

[NTD: List all Amendments, etc. issued by the City]

- (f) **List of Specifications**

Section No.	Description
00220	Soil Investigation Data
	Division 1 - General Requirements
01300	Submittal
01340	Shop Drawings
01400	Quality Control
01700	Contract Closeout
	Division 2 - Specifications
02050	Demolition
02220	Building Excavation and Backfill
02224	Excavation and Site Work
02650	Underground Piping

**INVITATION TO TENDER No. PS10043
VANCOUVER LANDFILL PUMP STATION CONTROLS UPGRADE
PART D - FORM OF AGREEMENT**

Section No.	Description
	Division 3 - Specification
03300	Cast-In-Place Concrete
	Division 5 - Specification
05500	Miscellaneous Metal
	Division 11 - Specification
11102	Testing
11210	Submersible Solids Handling Pumps
	Division 13 - Specification
13120	Pre-Engineered Buildings
	Division 16 - Specifications
16010	General Electrical Requirement
16030	Testing of Equipment
16045	Seismic Restraints
16050	Basic Materials and Methods
16110	Conduits, Fastenings and Fittings
16122	Wires and Cables
16128	Panel Wiring Devices and Methods
16130	Splitters, Junctions and Pull Boxes
16140	Wiring Devices
16160	Grounding
16440	Motor Control Center
16450	Instrumentation and Control Panel
16470	Secondary Grounding
16825	Variable Frequency Drive and Control Equipment
16970	Electrical Starting and Testing General Requirements
	Appendices
Appendix A	Suggested Sequence of Construction
Appendix B	Soils Investigation & Report

(g) **List of Design Drawings**

Drawing No.	Description
E-001	Electrical - Location Plan, Drawing Index, Symbols & Legend
E-002	Electrical - Single Line Diagram - Temp. Arrangement
E-003	Electrical - Single Line Diagram - Final Installation
E-004	Electrical - Single Line Diagram - Existing
E-100	Electrical - Site Plant & Conduit Layout - Temp. Arrangement
E-101	Electrical - Pump Station Building Plan and Schedules
E-102	Electrical - Site Plan & Conduit Layout - Final Installation
E-103	Electrical - Site Plan & Conduit Layout - Existing
E-501	Electrical - VFD Wiring Schematics
E-502	Electrical - Soft Starter Wiring Schematics
E-601	Electrical - Control Wiring Block Diagram
E-602	Electrical - Control Panel Layout & Details
E-603	Electrical - Control System Architecture & PLC Layout
E-604	Electrical - Redundant PLC & Power Supply Control Schematic

**INVITATION TO TENDER No. PS10043
VANCOUVER LANDFILL PUMP STATION CONTROLS UPGRADE
PART D - FORM OF AGREEMENT**

Drawing No.	Description
E-605	Electrical - PLC 1 Interconnection Diagram Rack 1, Slots 0,1,2,3
E-606	Electrical - PLC 1 Interconnection Diagram Rack 1, Slot 4; Rack 2, Slots 01,2
E-607	Electrical - PLC 1 Interconnection Diagram Rack 2, Slots 4 & 5
E-608	Electrical - PLC 1 Interconnection Diagram Rack 2, Slot 7
E-609	Electrical - PLC 2 Interconnection Diagram Rack 1 & Rack 2
E-610	Electrical - PCL Power Connections And Typical I/O Wiring
G-001	General - Details
S-100	Structural - Electrical Equipment Enclosure, Plan & Details
M-001	Process Mechanical - Leachate Pump Station Piping Modification
M-002	Process Mechanical - Process Piping & Instrumentation Diagram

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.

4.0 SCHEDULE OF WORK

- 4.1 The Contractor will commence the Work in accordance with the Notice to Proceed. The Contractor will proceed with the Work diligently, will perform the Work in accordance with the construction schedules as required by the Contract Documents and will complete the Work by November 1, 2010 (the "**Contract Time**") subject to the provisions of the Contract Documents for adjustments to the Contract Time.
- 4.2 Time shall be of the essence in this Contract.

5.0 PAYMENT

5.1 Amount to be Paid

The Owner agrees, subject to additions and deductions for variation in the Work and to quantities utilized as may be agreed upon in writing, and to the provisions of this Agreement, to pay to the Contractor, the sum of \$ _____ **[state Total Tender Price]** (the "**Contract Amount**"), including all Taxes and Fees, in Canadian funds for the performance of the Work under this Contract.

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 subsection (b) 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.

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PART D - FORM OF AGREEMENT**

- (c) On correction and completion of all deficient work listed on the Certificate of Substantial Performance, the Contractor shall submit his application to the Engineer for final payment, accompanied by the documentation required by GC.60.

5.3 Payment

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 subsection 5.2(c) above.

Payments to the Contractor will be made by the Owner as follows:

- (a) 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.
- (b) Within 30 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*.
- (c) 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 Amount to cover the cost of corrections to the Work that may be required under General Condition 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.

- (d) 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.
- (e) 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.

**INVITATION TO TENDER No. PS10043
VANCOUVER LANDFILL PUMP STATION CONTROLS UPGRADE
PART D - FORM OF AGREEMENT**

- (f) 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, except any Maintenance Security holdback in accordance with subsection (c) above.

5.4 Interest on Overdue Payments

Where payment is not made in accordance with the payment provisions contained in subsection 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 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.

6.0 DELAYS

6.1 Liquidated Damages for Late Completion

If the Contractor fails to complete the Work by the Contract Time as set out in section 4.0 above, as may be adjusted pursuant to the provisions of the Contract Documents, then the Owner may deduct from any monies owing to the Contractor for the Work:

- (a) as a genuine pre-estimate of the Owner's increased costs for delay of sequential construction tasks, an amount of \$1,000 per day or pro rata portion for each calendar day that completion of the Work is achieved after the Contract Time; plus
- (b) all direct out-of-pocket costs such as costs for safety, security, or equipment rental, reasonably incurred by the Owner as a direct result of such delay.

- 6.2 If monies owing to the Contractor are less than the total amount of liquidated damages owed by the Contractor to the Owner under (a) above then any shortfall shall be immediately, upon written notice from the Owner, be due and payable by the Contractor to the Owner.

7.0 NOTICES

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:

[INSERT NAME OF CONTRACTOR]
[insert address]

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:

**INVITATION TO TENDER No. PS10043
VANCOUVER LANDFILL PUMP STATION CONTROLS UPGRADE
PART D - FORM OF AGREEMENT**

Owner:

CITY OF VANCOUVER
453 West 12th Avenue
Vancouver, British Columbia
V5Y 1V4

Attention: Nicole Steglich, EIT

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

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, unless there is a postal service strike.

8.0 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 set their hands and seals as of the day and year first above written.

CITY OF VANCOUVER

By: _____

Print Name & Title

[INSERT CONTRACTOR'S NAME]

By: _____

Print Name & Title

**INVITATION TO TENDER No. PS10043
VANCOUVER LANDFILL PUMP STATION CONTROLS UPGRADE
PART E - GENERAL CONDITIONS**

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**INVITATION TO TENDER No. PS10043
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PART E - GENERAL CONDITIONS**

GC.1 DEFINITIONS

Where used in the Form of Agreement, Invitation to Tender, Instructions to Tenderers, Form of Tender (including the Schedules), Bonds, General Conditions, Supplementary General Conditions, Specifications and Drawings, or Addenda (if any), or any other documents forming part of the Contract Documents:

"Abnormal Weather" means temperature, precipitation, wind, or other weather condition which, in any two week period, differs from the statistical average for that condition in that period by more than one standard deviation, calculated based on relevant data from Environment Canada, but for further certainty, excludes any isolated weather-related act of God such as by way of example only and without limitation, a hurricane or flood;

"Approved Equipment Rental Rate Guide" means the publication (as revised from time to time) which is listed on <http://www.roadbuilders.bc.ca/bluebook.php>.

"Certificate of Substantial Performance" means, subject always to subsection 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 subsection 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 (unless the context requires a different meaning);

"Contract Documents" has the meaning set out in of the Form of Agreement;

"Contractor" or a pronoun in place thereof, means the person or persons who have undertaken to carry out the Contract;

"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;

"Event of Force Majeure" shall have the meaning ascribed to it in subsection (a)(iii) of section GC.10 of the General Conditions;

"Notice of Award" has the meaning set out in section 2.0 of the Form of Tender;

"Notice to Proceed" has the meaning set out in section 3.0 of the Form of Tender;

"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;

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"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 backfill), machinery, equipment 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" means those portions of the Contract Documents listed under the headings entitled "List of Specifications" and "List of Design Drawings" in section 3 [*Contract Documents*] of the Form of Agreement;

"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 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;

"WCB" means the *Workers Compensation Act* (British Columbia), including without limitation, the Occupational Health & Safety Regulation (BC Regulation 296/97, as amended by BC Regulation 185/99) enacted pursuant to such Act, all as such Act or Regulations are amended or re-enacted from time to time;

"WorkSafeBC/OH&S Regulation" means the *Workers Compensation Act* (British Columbia), including without limitation, the Occupational Health & Safety Regulation (BC Regulation 296/97, as amended by BC Regulation 185/99) enacted pursuant to such Act, and as such Act or Regulations are amended or re-enacted from time to time;

"Work" or **"Works"** means (unless the context requires a different meaning) the whole of the Work as defined in the Form of Tender, 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;

"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.

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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 Amount 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

As set out in the Instructions to Tenderers, the Contractor is required to

- (a) examine carefully the Site of the proposed Work, and the Drawings, Tables, and Specifications and other Contract Documents, and
- (b) satisfy itself 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,

and now confirms by the submission of a Tender that it has done so.

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 itself by the Contractor's own investigation and research regarding all conditions, that the Contractor's conclusion to enter into the proposed 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 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

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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 CONTRACT AMOUNT

Bids shall include all Federal, Provincial and Municipal fees and other taxes, rates and assessments, and the Contractor agrees that the Owner shall not be liable in any manner therefor and the Contractor agrees to indemnify and save harmless at all times the Owner against all claims which shall be made with respect thereto. All such taxes, rates, assessments and fees shall be paid by the Contractor, but if refundable, shall be refunded to the City and shall be the exclusive property of the City.

The Contractor shall include in the Contract Amount all cash allowances mentioned in the Specifications, if any, which allowances shall be expended in the whole or in part as the Engineer shall direct, the Contract Amount being adjusted in conformity therewith. The Contract Amount includes such sums for expenses and profit on account of such cash allowances as the Contractor requires.

The Contractor must obtain any City of Vancouver, Corporation of Delta, BC Hydro, telecommunications and other permits for the Work. Extra compensation will not be allowed for costs incurred by the Contractor as a result of the failure of the City or the Contractor to secure construction or other permits such that the Contractor can proceed on the Contractor's predetermined schedule.

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 Amount as surety for the due and proper performance of the Contract including 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 Amount 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

- (a) **Payment of WorkSafeBC 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 Worker's Compensation Board 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 Worker's Compensation Board premiums, assessments or penalties in respect of work done or service performed in fulfilling this Contract have been paid in full.

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- (b) **Designation of Contractor as Prime Contractor** - The City now designates the Contractor as the Prime Contractor, and the Contractor now acknowledges and agrees to its designation as the Prime Contractor, for the purposes of the WorkSafeBC OH&S Regulation.
- (c) **Prime Contractor's Obligations** - Without in any way limiting the Contractor's obligations under the WorkSafeBC OH&S Regulation, and by way of example only, the Contractor will:
 - (i) appoint and provide a qualified coordinator for the purpose of ensuring the coordination of health and safety activities for the Site;
 - (ii) provide and receive and respond to all information required to be given, received or relayed by the Contractor (both as an employer and as the Prime Contractor) pursuant to the WorkSafeBC OH&S Regulation; and
 - (iii) within five Working Days of the City delivering the Contract Documents to the Contractor, sign and deliver to the City, the "Prime Contractor Agreement" in the form attached.
- (d) **General WCB Obligations** - In addition to, and not in lieu of, the Contractor's obligations as the Prime Contractor, the Contractor will have a safety program acceptable to the WorkSafeBC and will ensure that all City and WorkSafeBC safety policies, rules and regulations are observed during performance of this Contract, not only by the Contractor but by all Subcontractors, workers, material suppliers and others engaged in the performance of this Contract.
- (e) **Notice of Project** - Prior to commencement of construction, the Contractor will:
 - (i) complete and file a "Notice of Project" with the WorkSafeBC in compliance with section 20.2 of the WorkSafeBC OH&S Regulation;
 - (ii) post the Notice of Project at the Site; and
 - (iii) will provide a copy of the Notice of Project to the City and confirm in writing that the Notice of Project has been posted at the Site.
- (f) **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.
- (g) **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 the WorkSafeBC and that all assessments have been paid to date of the Notice of Award or date of application for payment, as applicable.
- (h) **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 OH&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

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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.

- (i) **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:
- (i) unpaid WorkSafeBC assessments of the Contractor or any other employer for whom the Contractor is responsible under this Contract;
 - (ii) 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 the WorkSafeBC to constitute a breach of the WorkSafeBC OH&S Regulation or other failure to observe safety rules, regulations and practices of WorkSafeBC, including any and all fines and penalties levied by the WorkSafeBC; or
 - (iii) any breach of the Contractor's obligations under this General Condition.
- (j) **Prime Contractor Agreement Form** - The Contractor must complete and sign and deliver the Prime Contractor Agreement in the form set out in Appendix A prior to commencing work on the Site.

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

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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.

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 section 5.0 of the Form of Agreement and to the Contractor's warranty obligations.

GC.10 DELAY IN PROGRESS OF THE WORK

(a) Delays

- (i) 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.
- (ii) 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.
- (iii) If the Contractor is delayed in the performance of the Work by labour strikes, acts of God, Abnormal Weather, or by unforeseeable causes beyond the Contractor's control (an "Event of Force Majeure"), 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. Despite the foregoing, an Event of Force Majeure shall not include a strike, lockout, labour disturbance or industrial action involving the Contractor's or its

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Subcontractors' own employees, inclement weather (except for Abnormal Weather), any fire or explosion or other escape or combustion of LFG caused or contributed to in any way by the Contractor or those for whom it is responsible, or a circumstance or cause resulting from the fault or negligence or omission of the Contractor or those for whom it is responsible, or the Contractor's failure to perform its obligations under this Contract including a failure to properly plan or carry out the Work in accordance with the terms hereof including the Construction Schedule pursuant to GC.22, or an event or circumstance which by the exercise of reasonable diligence could have been avoided or the effect of which could have been mitigated or which arises from a lack of funds.

- (iv) 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.
- (v) 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.
- (vi) In the event that the Work is delayed or suspended in accordance with:
 - (1) subsections (a)(i) or (a)(iv) 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 subsection (a)(i) above or a suspension pursuant to subsection (a)(iv) above, a sum equal to five percent of such approved, unavoidable direct costs (in lieu of 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 \$500.00 for each Working Day of delay or two percent of the Contract Amount. 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
 - (2) subsections (a)(ii) or (a)(iii) above, 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.

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(b) 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.

(c) 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.

(d) 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 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 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.

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.

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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

- (a) The Contractor shall submit, with such promptness so as to cause no delay in his work, or that of any other contractor, one sepia and one 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 sepia and one copy.
- (b) 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 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 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 Amount 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.

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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 NOTICES TO CONTRACTOR

During the continuance of the Work, the Contractor shall maintain an office within the Vancouver Landfill Site equipped with a telephone and shall have in this office on all Working Days between 7:30 a.m. and 6:00 p.m., an official of the Contractor.

Before commencement of construction, the Contractor shall provide the Engineer with a list of at least three persons who have authority to act on behalf of the Contractor in times of emergency. At least one on the list shall be available at all times beyond the normal working hours of the City (7:30 a.m. to 5:00 p.m., on all Working Days).

The Contractor shall within five Working Days after receipt of the Notice of Award, advise the Engineer in writing of one civic address (within the Greater Vancouver area, with postal code, fax number, and e-mail address) at which the Contractor can receive notices and correspondence from the Engineer or the Owner (and which can be inserted into section 7.0 of the Form of Agreement).

Any notice or communication to the Contractor shall be deemed to be well and sufficiently given and served if handed to the Contractor or to any of the Contractor's clerks or agents, or if mailed or sent to the Contractor at the address given in the Tender for the Work, or to the Contractor's place of business, or to the place where the Work is to be or is being carried on, or if mailed to or left at the Contractor's last known address; and any papers so mailed, left, sent or addressed shall be considered to be and to have been legally served upon the Contractor. In any written or printed notice to the Contractor in respect of general, special or other repairs, or of any Work of any nature required to be done under any of the provisions of the Contract, or of any other matter, it shall not be obligatory upon the Engineer 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 may be defective or faulty, or where any of the requirements 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, shall be deemed to be and shall 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 his 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 his 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

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shall not be again employed by the Contractor on the Site without the consent, in writing, of the Engineer.

GC.19 INSPECTION OF WORK / QUALITY CONTROL

All quality control and testing of materials and workmanship shall be at the sole cost and responsibility of the Contractor.

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 WEEKLY REPORT

During active construction, the Engineer will prepare a weekly progress and issues report. A copy of the report will be provided to the Contractor and the Engineer will review the report and any issues with the Contractor. The Contractor will 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 weekly report, the Contractor shall, within seven 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

Before beginning work, the Contractor shall furnish the Engineer with a complete construction schedule showing the Contractor's proposed program of operations. This schedule shall indicate 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 schedule must be approved by the Engineer. On the last day of each calendar month, a copy of the 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 proposed changes in the submitted construction program. If, in the opinion of the Engineer, the construction program 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.

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GC.23 MAINTENANCE OF SCHEDULE

(a) Work Delayed by the Contractor

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.

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.

(b) Work Accelerated by the Engineer

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.

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.

(c) 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.

(d) Execution of Other Works or Contracts

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.

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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 General Conditions, Supplementary General Conditions, Drawings, Specifications, and other 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).

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 his 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.

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 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

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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.

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 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.

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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 Site. Any land or property outside 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 his/her 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 OFFICE FACILITIES FOR THE ENGINEER [Intentionally Deleted]

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 Delta'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 7:00 a.m. and 3:30 p.m. on all Working Days. 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

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) as amended or replaced from time to time.

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 Traffic Control Person (as defined by WorkSafeBC), 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 ten 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 traffic management plan provided as Schedule I [Preliminary Traffic Management Plan] to the

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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.

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 roadway, 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.

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.

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GC.40 FIRE, SECURITY AND SAFETY REGULATIONS

(a) **Fire and Security**

The Contractor shall comply and the Contractor shall enforce compliance by all his 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.

(b) **Loss Control**

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

(c) **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.

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.

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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 plans and uncovering the utilities on Site at no extra cost to the Owner.

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

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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 Amount 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, in the opinion of the Engineer none of the unit or lump sum prices aforesaid apply, then using the hourly rates set out in Schedule F [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.

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 or work that is not in accordance with the terms of this Contract 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

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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.

Whether the Contractor should replace defective Products or Work that is not in accordance with the terms of this Contract, or repair the same, shall be determined by the Engineer. Should the Contractor fail to make good defects, deficiencies or work that is not in accordance with the terms of this Contract 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.

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.

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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.

(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 cover shall apply to property to enter 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 \$5,000.00.

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2. COMMERCIAL GENERAL LIABILITY INSURANCE

Commercial General Liability Insurance in sufficient amounts and description to protect the Contractor, its Subcontractors, the City and its respective officers, officials, employees, servants and agents against claims for damages, personal injury including death, bodily injury and property damage which may arise under this Contract.

The limit of commercial general liability insurance shall be not less than \$5,000,000.00 per occurrence inclusive for personal injury, death, bodily injury or property damage and in the aggregate with respect to products and complete operations.

The policy of insurance shall:

- (i) be on an occurrence form;
- (ii) add the City and its officials, officers, employees and agents as additional insureds;
- (iii) contain a cross-liability or severability of interest clause;
- (iv) extend to cover non-owned automobile, contingent employer's liability, blanket contractual liability, contractor's protective liability, broad form property damage, broad form completed operations and operations of attached machinery.

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 *The Automobile Insurance Act*, RSBC 1979, Ch. 204, the minimum limits as follows:

Bodily injury and property damage (third party limit) inclusive limit \$5,000,000.00.

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 his/her 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. ENVIRONMENTAL IMPAIRMENT LIABILITY CLAUSE

The Contractor will obtain or cause its Subcontractor to obtain Environmental Impairment Liability insurance for a limit not less than \$5,000,000.00 per occurrence with a deductible not greater than \$50,000.00 covering third party bodily injury, property damage and clean up costs arising out of a pollution event including but not limited to unexpected and unintentional spill, discharge, emission, dispersal, leakage, migration, release or escape of pollutants. Coverage will include the transportation, loading and unloading of materials.

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6. 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 ten 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 days prior written notice by registered mail to the City of Vancouver."
- (f) Subject to the provisions of section 1, each Contractor and each of the Contractor's subcontractors shall provide at his/her own cost any additional insurance which he/she 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.

GC.54 WORKSAFE BC ASSESSMENTS

Within ten Working Days of receipt of the Notice of Award, the Contractor shall provide a letter from WorkSafeBC confirming the Contractor's registration and that all assessments have been paid to the date thereof. The Contractor shall and the Contractor shall require that the

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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 process or otherwise, and the Contractor and his 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 and portion of the Contract or of the Work but must carry out the Work with its own men or subcontract under the Contractor's

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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

(a) 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.

(b) Certificate for Substantial Performance

- (i) 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.
- (ii) 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:
 - (1) the "as constructed record plans" of the Work required by GC.13 - Record Plans;
 - (2) documentation showing compliance with WorkSafeBC requirements; and
 - (3) 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 subsection 5.3 of the Form of Agreement to third parties including all Subcontractors and suppliers, have been paid.
- (iii) 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.
- (iv) 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.

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(c) **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 GC 60(d) ii and to the reasonable satisfaction of the Engineer, the Engineer will issue the Certificate of Total Performance.

(d) **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.

- (i) *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 there is no encumbrance, lawful claim or lien accruing for labour or services in connection with the Work.
- (ii) 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.
- (iii) 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.
- (iv) *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 subsection (d)(i) 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.

(e) **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.

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(f) **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.

GC.62 TERMINATION OF CONTRACT FOR CONTRACTOR'S DEFAULT

- (a) 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:
- (i) the Contractor shall neglect or refuse to sign the Drawings and execute the Contract within seven days after notification from the Engineer so to do;
 - (ii) the Contractor neglects or fails to commence work within seven days after the date of execution of the Contract by the Contractor;
 - (iii) the Contractor commits an act of bankruptcy or becomes a bankrupt or makes a general assignment for the benefit of the Contractor's creditors;
 - (iv) a receiver is appointed for the Contractor's business;
 - (v) the Contractor fails, on reasonable notice from the Engineer, to supply enough proper workmen or Products;
 - (vi) the Contractor does not pay promptly the Contractor's employees, Subcontractors or suppliers;
 - (vii) the Contractor does not comply with the requirements of the Occupational Health and Safety Regulation and *Workers Compensation Board Amendment Act*, and any failure to meet the safety requirements of the Contract; or
 - (viii) the Contractor persistently or substantially breaches any provision of this Contract.
- (b) 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.
- (c) 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

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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.

- (d) 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 penalties, if any, from the date fixed for the completion of the Work, and the same may be deducted or collected by the Owner as provided by GC.58.
- (e) 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.
- (f) 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 officers or employees 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.
- (g) 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 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 not greater than the greater of:

- (a) 25% of all money payable under the Contract; and
- (b) sums required to be withheld and remitted by the *Income Tax Act* (Canada) as amended.

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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.

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1.0 DEFINITIONS

- (a) **"OH&S Regulation"** means the Occupational Health & Safety Regulation (British Columbia Regulation 296/97) enacted pursuant to the WCA, and any successor legislation, all as such Regulation is amended or re-enacted from time to time;
- (b) **"Owner"** means City of Vancouver;
- (c) **"Place of the Work"** means the work site at 5400 72nd Street, Delta, BC;
- (d) **"Prime Contractor"** means the Contractor, who is designated pursuant to section 3.0 below by the Owner to be the Prime Contractor for the Project with respect to occupational health and safety for the purposes of WCB Legislation;
- (e) **"Project"** means the Vancouver Landfill Pump Station Controls Upgrade at 5400 72nd Street, Delta, BC, as contemplated by the Contract Documents, and includes all the Work;
- (f) **"WCA"** means the *Workers Compensation Act*, R.S.B.C. 1996, Chapter 492, and any successor legislation, as such Act is amended or re-enacted from time to time;
- (g) **"WCB"** means the Worker's Compensation Board of British Columbia; and
- (h) **"WCB Legislation"** means the WCA and all regulations thereto including the OH&S Regulation, and all rules, regulations and requirements of WorkSafeBC, and any successor legislation, rules, regulations and requirements, all as amended or re-enacted from time to time; and
- (i) **"WorkSafeBC"** means the British Columbia Provincial governmental organization by that name which is responsible, inter alia, for promoting workplace health and safety for the workers and employers of British Columbia, and for working with the affected parties to provide return-to-work rehabilitation, compensation, health care benefits and a range of other services, in the event of work-related injuries or diseases suffered by workers in British Columbia.
- (j) All other capitalized terms used in this Prime Contractor Agreement have the meanings given to them in the Contract Documents of which this Prime Contractor Agreement is a part, as applicable.

2.0 PRIME CONTRACTOR'S RESPONSIBILITIES

Proof of Qualification to act as Prime Contractor

- The Prime Contractor is to provide a current copy of its WorkSafeBC "Clearance Letter", a signed copy of this Prime Contractor Agreement and all other documents requested by the Owner prior to commencement of the Work.
- The Prime Contractor is to notify the Owner of any changes of status with WorkSafeBC or the WCB during the course of the Project.

After the Prime Contractor has been designated and before Work has commenced, the Prime Contractor shall:

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- Conduct all necessary and appropriate inquiries of all relevant Owner staff and records in order to verify in writing to the Owner that the Owner has given to the Contractor all information known to the Owner that is necessary to identify and eliminate or control hazards to the health and safety of persons at the Place of the Work.
- Conduct a pre-contract hazard assessment and carefully review, and plan to address, all hazards identified in that assessment.
- Inform all other employers whose employees are providing services for the Project at the Place of the Work, that it is the Prime Contractor.
- Establish and maintain a system or process to ensure all employers, employees and visitors at/to the Place of the Work comply with the WCA, the OH&S Regulation and the requirements of WorkSafeBC. The Prime Contractor will thus be responsible for site orientation and hazard communication.
- Review and complete a "Pre-Job Meeting Form" if the Owner requests.
- For construction projects, post the Notice of Project on the Place of the Work and deliver a copy to WorkSafeBC at least 24 hours before construction commences.
- Comply with section 20.2 of the OH&S Regulation in respect of the Notice of Project.
- Identify and set expectations for each subcontractor's safety contact.
- Coordinate all safety-related activities, from site orientations to safety committee meetings and toolbox talks, to inspections and incident reviews.
- Inform employers and workers of the workplace hazards associated with the Place of the Work.
- At the Place of the Work, provide the information listed in section 20.3(4) of the OH&S Regulation.
- In all other respects strictly comply with, and strictly enforce compliance by others, as applicable, with, the WCA, the OH&S Regulation, the requirements of WorkSafeBC, the safety policies and procedures of the Owner and the terms and conditions of the Contract Documents applicable.

Throughout the term of the Project, the Prime Contractor shall:

- Ensure that all hazards are promptly and appropriately identified and addressed.
- Ensure the health and safety of the workers on the Project.
- Maintain a current list of persons that each sub-trade (employer) has designated to be responsible for that employer's health and safety activities.
- Ensure provision of first aid equipment and services as required by the OH&S Regulation.
- Coordinate all occupational health and safety activities for the Project.

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- Prepare, and communicate to all workers on the Place of the Work, an emergency response plan, taking into account the number of people onsite, the people who work outside regular hours and the types of emergencies that may arise. This plan should also describe subcontractor and individual worker responsibilities (e.g. responding to a fire) and provide for any necessary training and equipment, including first aid supplies as work processes change over the course of the Project, this emergency response plan must be updated as appropriate.
- Make and maintain detailed notes and reports in respect of the initial site safety meeting, safety committee meetings, reviews of contractors' safety systems, inspection and incident investigations, first aid records and orientation and training.
- On any site where workers of two or more employers are working at the same time and the combined workforce is greater than five, identify and designate a "Qualified Coordinator" to coordinate health and safety activities.
- In all other respects strictly comply with, and strictly enforce compliance by others, as applicable, with, the WCA, the OH&S Regulation, the requirements of WorkSafeBC, the safety policies and procedures of the Owner and the terms and conditions of the Contract Documents applicable.

Prime Contractor's Qualified Coordinator, if applicable, (Construction Only) responsibilities:

- Comply with all requirements listed in section 20.3(3) of the OH&S Regulation and on page 13 of the Owner's Multiple Employer Workplace/Contractor Coordination Program (2003).
- Coordinate all health and safety activities for the Project.
- Post workplace drawings showing where first aid is located, the emergency transportation system for injured workers and evacuation marshalling points.
- Ensure that regular workplace safety meetings are held and documented.
- Know who all other contractors' "Qualified Persons" are.
- Ensure that all workers at the Place of the Work are informed of workplace hazards, from both the pre-contract hazard assessment and from ongoing work activities of all employers at the Place of the Work, and ensure that hazards are properly and punctually addressed throughout the duration of the Project.

3.0 DESIGNATION AS PRIME CONTRACTOR

By signing this Prime Contractor Agreement, the undersigned Contractor accepts all responsibilities of a Prime Contractor as outlined above and in the Owner's Contractor Coordination Program (2003), Part III of the WCA and the OH&S Regulation, as well as any other responsibilities required by WorkSafeBC.

As a Contractor signing this Prime Contractor Agreement with the Owner, the undersigned company agrees that the company and its management staff, supervisory staff and workers will comply with the all WorkSafeBC requirements, the OH&S Regulation and Part III of the WCA.

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Any violation of a requirement of WCB Legislation by the Prime Contractor may be considered a breach of the Contractor's Contract with the Owner resulting in possible termination or suspension of the Contract and/or any other actions deemed appropriate at the discretion of the Owner.

Any penalties, sanctions or additional costs levied against the Owner, as a result of an action or inaction of the Prime Contractor in its capacity as such, are the sole responsibility of the Prime Contractor, as set out in the Contract.

I, the undersigned, acknowledge that I have read and understand the information above. By signing this Prime Contract Agreement, I agree as an authorized representative of the Contractor to accept all responsibilities of the Prime Contractor for this Project.

Date _____

Contract # _____

Name of Contractor _____

Qualified Coordinator's Name _____ (Construction Only)

Signature of Authorized Representative _____

Print Name and Title _____

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1.0 HOURS OF WORK

- (a) The Contractor must comply at all times with the Corporation of Delta's Noise Control By-Law and verify the hours within which construction work may be performed. No work noise shall be created except as permitted by all applicable Corporation of Delta By-laws.
- (b) Notwithstanding GC.35, the City's forces work between the hours of 7:00 a.m. and 3:30 p.m. Working Days. Work will not be performed by City forces or City inspectors outside these hours except by special arrangement agreed to by the Engineer or in case of an emergency. Work performed in the absence of a required inspection is not permitted.
- (c) The Contractor will confine its performance of the Work to the limits of the areas noted in the Design Drawings, except that the Contractor will, subject to GC.36 [Traffic Control], be entitled to utilize the roads within the Landfill for transporting its labour and equipment to and from such Work areas.

2.0 WORK WITH ENGINEER

The Work shall be done in accordance with the Contract Documents and to the satisfaction of the Engineer. The Contractor shall coordinate the Work with the Engineer. The Contractor shall have no cause for claim against the City whatsoever with respect to delays or other interruption of the Work by City forces or due to the above requirement to coordinate the Work with the Engineer.

3.0 COORDINATION WITH OTHER WORK ON SITE

The Contractor will be responsible for completing the Work in a way that does not hinder other work on the Site (as described in section 18.0 of the Instructions to Tenderers). The Contractor shall have no cause for claim against the City whatsoever with respect to delays or other interruption of the Work due to the above requirement to complete the Work in a way that does not hinder other work on the Site.

4.0 DESIGN AND INSPECTION

Stantec Consulting Ltd. has been hired to complete the Specifications and Drawings and conduct inspections during the Work. The Contractor must allow inspectors from Stantec to perform their reviews and inspections during the Work so that all quantities and prices may be independently verified.

5.0 COMPLY WITH APPLICABLE LAW

The Contractor will be required to conduct the Work in accordance with the requirements of all applicable Federal, Provincial and Municipal laws and regulations.

6.0 TRUCK SAFETY

- (a) All truck operators must operate the vehicle in a safe and courteous manner and in full compliance with the Motor Vehicle Regulations.
- (b) All truck operators Process Mechanical - Process Piping & Instrumentation Diagram must comply with the Corporation of Delta By-laws regulating truck use, including truck route, engine brake noise, and weight and load securement provisions.

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7.0 EXTRA WORK

Adjustments to the Contract Amount on account of changes or extra Work shall be valued on the basis of the unit prices specified in the Schedule of Quantities and Prices. Where no price is identified, adjustments shall be valued as follows:

- (a) by any amount or method agreed to by the Engineer and the Contractor including new unit prices or a lump sum; or
- (b) by Force Account, as discussed below.

8.0 FORCE ACCOUNT

(a) Payment for Force Account Work shall be calculated as follows:

- (i) **Labour** - at the lower of the hourly rates set out in the Form of Tender or the actual cost to the Contractor including all amounts paid for labour and all related taxes, assessments payable as required by any statutory scheme such as Workers' Compensation, Employment Insurance, holiday pay, insurance and all employee benefits. A markup of three percent on the foregoing shall be allowed for all small tools. A markup of ten percent on the total of the foregoing shall be allowed for overhead. A further markup of ten percent on the total of the foregoing, including the markup for overhead, shall be allowed for profit.
- (ii) **Equipment**
 - (A) Contractor owned or bare rented-at the non-operated hourly rates as set out in the Approved Equipment Rental Rate Guide based on actual hours, in minimum increments of 0.5 hours, plus a ten percent markup to cover all overhead costs and profit. If equipment is not listed in the Approved Equipment Rental Guide then at a rate determined by the Engineer based on local equipment rates; or
 - (B) Non-Contractor owned and operated-at the lower of the all found rate in the Approved Equipment Rental Rate Guide for operated equipment, or the actual rental costs incurred by the Contractor, as evidenced by invoice, plus, in either case, a ten percent markup to cover all overhead costs and profit.
 - (C) Separate rental for small tools will not be allowed.
- (b) Materials incorporated into the work or consumed in performing the Work by the contractor shall be at the Contractor's actual cost, as evidenced by invoice, including all transportation, freight and haulage costs plus a markup of ten percent on such actual cost to cover all overhead, handling and profit.
- (c) Force Account Work performed by a Subcontractor shall be paid for in the lesser of:
 - (i) the amount as provided by subsections (a), and (b) above, plus a mark-up of five percent to cover all overhead and profit; or

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- (ii) the actual amount the Contractor pays the Subcontractor including a mark-up of ten percent on such actual cost to cover all overhead and profit.

9.0 RELEASE AND INDEMNIFICATION

- (a) 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.
- (b) 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.
- (c) 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.
- (d) The release and indemnity set out above will survive the expiry or sooner termination of the Contract.

10.0 NO PROMOTION OF RELATIONSHIP WITH THE CITY OR THE OLYMPICS

- (a) 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 Contract).
- (b) Furthermore, the Contractor undertakes not to disclose or promote its relationship with the City in any Communications in a manner which could suggest or create an association, express or implied, between the Contractor and the International Olympic Committee, the 2010 Olympic and Paralympic Winter Games, the Olympic Movement or the Vancouver Organizing Committee for the 2010 Olympic and Paralympic Winter Games (also known as "VANOC"). Without limiting the generality of the foregoing, the Contractor shall not refer to "VANOC", "Vancouver 2010", the "2010 Games", the "Games", "Host City" or "Olympics", and shall not use any official emblem, logo, website, domain name, or mascot of the 2010 Games, in any Communications, without the express prior written consent of the City.

11.0 PERMITS FOR WORK

The Contractor must comply with all municipal and governmental regulations and bylaws governing construction and pay for and obtain all necessary permit fees. The Contractor must obtain any Corporation of Delta or other required permits for the Work. Extra compensation will not be allowed for costs incurred by the Contractor as a

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result of the failure of the City or the Contractor to secure construction permits such that the Contractor can proceed on the Contractor's predetermined schedule.

12.0 MATERIAL REQUIREMENTS

As detailed in Specifications and Drawings.

13.0 SURVEYS, DATUM AND LAYOUT

- (a) The Engineer and Owner will work with the Contractor to establish the required survey benchmarks for the project. The Engineer will be responsible for establishing these prior to commencement of the Work.
- (b) The Contractor shall supply all wooden survey stakes and hubs which shall be of good quality.
- (c) The Contractor shall maintain thereafter, all benchmarks, baselines, property boundaries and other references and construction points, as originally established by the Owner. The Contractor shall be responsible for keeping their accuracy, and pay to the Owner all costs of re-establishing them if they are disturbed.
- (d) The Contractor shall be responsible for all lay-out and survey control for this Contract. The location and coordinates of established survey monuments will be provided by the Owner.
- (e) The Engineer may, at any time, check Contractor's survey and layout work but this shall not relieve Contractor of any of his responsibilities to carry out Works to the lines and grades as set out in accordance with Drawings and Specifications.
- (f) The Contractor shall provide reasonable and necessary opportunities and facilities for setting points and making measurements during the Work.
- (g) The Contractor shall employ a competent surveyor to assist the Engineer, when required, in checking lines and elevation in the Contractor's layout.
- (h) All elevations and co-ordinates on the Drawings refer to NAD 83. Elevations/dimensions are generally shown in metres/millimetres.
- (i) The Contractor shall maintain a complete and accurate log of control and survey work as it progresses.

14.0 LINES AND GRADES

- (a) The Contractor shall be responsible for layout of all works.
- (b) Dimensions for the determination of quantities for payment will be taken from the Drawings where the location of the lines and points determining quantities for payment is not varied during the construction from the locations shown on the Drawings. Where, however, the location of such lines and points is altered during the construction, field measurements will be made by the Engineer to determine the changed dimensions shown on the Drawings. The Contractor shall notify the Owner before the work is covered up, so that the true dimensions can be established by the Owner. In all cases where the procedure

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for determination of quantities is not expressly defined in this Contract, the Engineer shall be the sole judge as to which measurements properly define the quantities.

- (c) The Contractor shall cooperate with the Engineer and provide a rod man or similar assistance in checking layout measuring quantities for payment.
- (d) No payment will be made for the cost to the Contractor of any work or delays occasioned by establishing or checking lines and grades or making other measurements and no extension of time will be allowed for any delay occasioned thereby.
- (e) The Drawings indicate the intent of the Work and construction details as accurately as is possible. Because of the nature of the work however, minor adjustments may be required in the field to meet specific conditions. Such adjustments shall be made by the Contractor without additional cost to the Owner.
- (f) The Contractor shall upon commencement of the work, survey all existing facilities, expose any work required and make any measurements required, to confirm the accuracy of the existing facilities prior to ordering, fabricating or constructing any piece of work.
- (g) The Owner will not entertain extras to the Work due to the Contractor's failure to survey or measure the work properly in advance.

15.0 MATERIAL TESTING

- (a) Despite General Condition GC.19, the Owner will retain and pay for the services of testing agencies that will determine conformance with the Specifications except for testing which is specifically designated to be the Contractor's responsibility in the Contract Documents.
- (b) The Owner's testing does not release the Contractor of any responsibility to conduct his own quality control program or to ensure that the work complies with the Specifications.
- (c) Should any test performed by the Owner indicate non-compliance with the Specifications, it will be the responsibility of the Contractor to make good the work and have the tests performed again at the Contractor's expense to prove conformance with the Specifications.

16.0 CONSTRUCTION DURING INCLEMENT WEATHER

- (a) Any planned power outages shall not be conducted while it is raining or snowing, or when ground conditions are wet, unless approved by the Engineer.
- (b) The Engineer may order the Contractor to cease certain operations due to inclement weather.
- (c) There will be no extra compensation payable on account of delays caused by inclement weather unless such weather is Abnormal Weather.

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17.0 ENVIRONMENTAL PROTECTION

- (a) The Contractor shall give prime consideration to protecting the environment during all stages of construction and shall cooperate fully with Owner, Engineer, Site operating personnel, and local authorities to protect the natural environment.
- (b) Inspectors from the Ministry of Environment and other authorities having jurisdiction may make periodic visits to the Site during construction. They have authority to order the Contractor to stop work if in their opinion work is not being completed in accordance with existing regulations and approvals applicable to Work.

18.0 HEALTH & SAFETY

- (a) A Preliminary site specific safety and health plan ("**Site Specific Safety and Health Plan**") is required to be submitted by the Tenderer as part of its Form of Tender as Schedule J - Preliminary Site Specific Safety and Health Plan.
- (b) The Contractor shall develop and maintain for the duration of this Contract, a Site Specific Safety and Health Plan prepared under the supervision of and signed by a qualified Health and Safety Specialist that will effectively incorporate and implement all required Municipal, Provincial (WorkSafeBC Occupational Health and Safety Regulation), and Federal safety provisions. The Site Specific Safety and Health Plan is also required to meet the requirements contained in GC.7. The Contractor shall provide the Site Specific Safety and Health Plan for the Work prior to commencing Work at the Site or within ten Working Days after receiving a Notice to Proceed, whichever comes first. The Contractor shall maintain at least one copy of the Site Specific Safety and Health Plan at the Site. The Contractor shall assign an individual serving as a Site safety and health officer ("**Site Safety and Health Officer**") at the Site at all times during the Work who is responsible and authorized to supervise and enforce compliance with the Site Specific Safety and Health Plan. The Site Safety and Health Officer will act as the Qualified Coordinator as defined by WorkSafeBC.
- (c) Preparation of the Site Specific Safety and Health Plan shall be the Contractor's responsibility and no statement made in these provisions shall relieve the Contractor of responsibility for information included in and implementation of the Site Specific Safety and Health Plan.
- (d) The Engineer's review of the Contractor's performance is not intended to include a review or approval of the adequacy of the Contractor's safety supervisor, the safety program or any safety measures taken in, on, or near the Site.
- (e) The Contractor's Site Specific Safety and Health Plan should include, but not be limited to:
 - (i) A pre-contract hazard assessment, including mitigation measures, that may be encountered on the Landfill site or while carrying out the Work. Appendix 4 contains a list of site specific hazards which may be unique to the Landfill. Procedures or other practices which are followed by Landfill staff as mitigation measures are also listed for the Contractor's information. The Contractor is required to develop and implement their

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own mitigation measures which eliminate or control all identified hazards.

- (ii) A system or process to ensure effective site orientation and hazard communication with all persons entering the Site. The City's Site Safety Orientation/Agreement, contained in Appendix 2, shall form part of the Contractor's site orientation.
 - (iii) A plan to carry out inspections, and pre-job, toolbox safety committee, incident review, and other meetings.
 - (iv) Identification of each Subcontractor's safety officer.
 - (v) Provision of first aid equipment and services.
 - (vi) An emergency response plan, including provision of training and equipment.
 - (vii) Documentation of the initial Site safety meeting, safety committee meetings, reviews of Subcontractors' safety systems, inspection and incident investigations, first aid records, orientation and training.
 - (viii) Communication protocols for reporting to the Engineer and WorkSafeBC Site safety issues or concerns, first aid incidents, emergencies, damage claims, and the like.
 - (ix) Any other relevant information or documentation to meet the provisions listed in Appendix A.
- (f) The Contractor shall submit three copies of the Site Specific Safety and Health Plan in accordance with this section to the Owner. Failure on the part of the Contractor to follow the Site Specific Safety and Health Plan or to continue any work in an unsafe manner may result in suspension of the Work by the Owner. The Contractor shall not be entitled to extra compensation for health and safety related suspensions, nor shall the date for completion of the Work be extended.
- (g) The Contractor shall perform whatever work is necessary for safety and be solely and completely responsible for conditions of the Site, including safety of all persons (including employees of the City, Engineer, any Site visitors, and Contractor) and property during the Contract period. This requirement applies continuously and is not limited to normal working hours.
- (h) No Work can commence on Site until the Contractor's Site Specific Safety and Health Plan has been submitted to and received written confirmation of receipt by the City.

19.0 MANUFACTURER'S INSTRUCTIONS

- (a) The Contractor shall install or erect Products in accordance with manufacturer's instructions unless otherwise indicated in the Specifications. The Contractor shall not rely on labels or enclosures provided with Products and shall obtain written instructions directly from manufacturers.

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- (b) The Contractor shall notify the Engineer in writing, of conflicts between Specifications and the manufacturer's instructions, so that the Engineer may establish a course of action.
- (c) Improper installation or erection of Products, complying with these requirements, authorizes the Engineer to require removal and reinstallation at no increase in contract price.

20.0 UNION CONTRACTORS

(a) **Terminology**

In this section 20.0 the following terms have the following meanings:

- (i) **"Site Labour Disturbance"** means any strike, lock-out or labour disturbance, including those resulting from any jurisdictional or non-affiliation issues, involving employees, whether or not members of a trade union, of the Contractor, any Subcontractor, or any of their respective subcontractors of any tier, which delays or in any way adversely affects the performance and completion of Work at the Site.
- (ii) **"Trade Union Council"** means a council or association of trade unions of which employees of the Contractor or a Subcontractor are members.

(b) **Open Site**

The Site and adjacent work areas associated with the Project are, or are part of, an "open site" and the Work will be performed on a "no strike/no lockout" basis. Accordingly, the Contractor and its Subcontractors, as well as the Owner and Other Contractors, may employ labour at the Site who are members of a trade union, including a trade union affiliated with a Trade Union Council or who are members of another trade union, or who are not members of a trade union.

(c) **Labour Disruptions**

The Contractor will use its best commercial efforts to ensure that no Site Labour Disturbance shall occur and the Contractor:

- (i) will only retain Subcontractors for the Work whose employees are either:
 - (1) certified in British Columbia to be represented by a trade union and subject to a collective agreement which does not expire until after the date of Total Performance of the Work; or
 - (2) not so certified; and require such Subcontractors to only retain subcontractors and suppliers whose employees are either certified in British Columbia to be represented by a trade union and subject to a collective agreement which does not expire until after the date of Total Performance of the Work or are not so certified; and
- (ii) represents and warrants that, with respect to any employees of the Contractor who may work at or near the Site and who are certified in

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British Columbia to be represented by a trade union and subject to a collective agreement, such collective agreement to which such employees are subject does not expire until after the date of Total Performance of the Work but if any Site Labour Disturbance occurs and does or may adversely impact on the Owner, the Work or the Contract Time, the Contractor will use its best commercial efforts to ensure that the length and extent of such impact is minimized (including without limitation by cooperating with the Owner in any measures they may take to ameliorate such impact) and the Contractor will be liable to the Owner for any such impact.

(d) Required for Union Contractors

Without limiting the generality of subsection (c) above, if the Contractor, or any Subcontractor, proposes to employ labour at the Site who are members of a trade union, including a trade union that is affiliated with a Trade Union Council authorized to bind its member trade unions, then the Contractor must first submit to the Engineer:

- (i) a waiver of all non-affiliation or reservations rights under applicable collective agreements, including renewals or replacements thereof, effective for the duration of the Contract and executed by the Trade Union Council on behalf of all trades, or executed by the particular trade unions whose members will be so employed; and
- (ii) an agreement that there will be no Site Labour Disturbance at or affecting the Site and/or the progress of the Work, effective for the duration of the Contract, and executed by the Trade Union Council on behalf of all trades, or executed by the particular trade unions whose members will be so employed.

21.0 SUBSURFACE CONDITIONS

The Contractor now acknowledges that it is experienced and familiar with assessing and working with the variable and unpredictable nature of compacted landfill waste and unknown material and sub-surface conditions and acknowledges that the Owner has made available to the Contractor all available information concerning the relatively unknown state of decomposition, compaction, and composition of the residential, commercial and industrial waste, demolition material, and other matter comprising the subject matter of the Work. Unless (and then only to the extent that) the Contractor adds qualifications or conditions into its Tender proposing a different allocation of the risks of performing the Work on and in landfill waste (by expressly stating such qualifications and deviations in Schedule H -Tenderer's Proposed Variations) the Contractor now assumes all risks of any kind or nature associated with performing the Work on and in landfill waste, whether or not such risks arise due to the reasonably foreseeable consequences of working in and around landfill waste, and whether or not such risks are the result of sub-surface conditions which were not known to the Contractor at the time of submitting its Tender and the Contractor now agrees not to make any claim for an extension of Contract Time or additional compensation for anything arising during the Contract which would not have occurred but for the existence of landfill waste.

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22.0 APPLICABLE CODES AND STANDARDS

- (a) Where a material or item is required to conform to standards set out in a standard specification such as C.S.A. or A.S.T.M. or C.G.S.B. or B.C.B.C., the Contractor shall obtain assurance from supplier, in writing, (including trade literature), that its product does so conform.
- (b) All codes/standards shall be the latest issue of specified codes/standards as amended and revised to the tender closing date, except when a year date is mentioned.
- (c) The Contractor shall supply to the Engineer, on request, satisfactory evidence that all equipment and material complies with Standard Specification or test requirements.
- (d) When references to the following capitalized abbreviations are made, they refer to specifications, standards or methods of the respective association. Abbreviations listed herein, but not mentioned in the specifications, shall be disregarded.
- (e) All references to specifications, standards or methods of technical associations refer to the latest adopted revision, including all amendments.

AASHTO	American Association of State Highway & Transportation Officials
BCBC	British Columbia Building Code
ACI	American Concrete Institute
AISC	American Institute of Steel Construction
ANSI	American National Standards Institute
ASCE	American Society of Civil Engineers
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
AWS	American Welding Society
CAN	National Standard of Canada
CGA	Canadian Gas Association
CGSB	Canadian General Standards Board
CISC	Canadian Institute of Steel Construction
CPCA	Canadian Painting Contractor's Association
CPCI	Canadian Prestressed Concrete Institute
CRSI	Concrete Reinforcing Steel Institute
CSA	Canadian Standards Association
CUA	Canadian Underwriters Association
CWB	Canadian Welding Bureau
ISO	International Organization of Standardization

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MMCDA	Master Municipal Construction Documents Association
MMA	Millwork Manufacturers Association
PCA	Portland Cement Association
PCI	Prestressed Concrete Institute
RTAC	Road and Transportation Association of Canada
SJI	Steel Joist Institute
SSPC	Steel Structures Painting Council
UL	Underwriters Laboratories
ULC	Underwriters Laboratories of Canada
WCB	Worker's Compensation Board

23.0 MANUFACTURER'S INSTRUCTIONS

- (a) The Contractor shall install or erect Products in accordance with manufacturer's instructions unless otherwise indicated in the Specifications. The Contractor shall not rely on labels or enclosures provided with Products and shall obtain written instructions directly from manufacturers.
- (b) The Contractor shall notify the Engineer in writing, of conflicts between Specifications and manufacturer's instructions, so that the Engineer may establish a course of action.
- (c) Improper installation or erection of Products, complying with these requirements, authorizes the Engineer to require removal and reinstallation at no increase in contract price.



FINANCIAL SERVICES GROUP

Supply Management

INVITATION TO TENDER NO PS10043 VANCOUVER LANDFILL PUMP STATIONS CONTROLS UPGRADE

To acknowledge your intent to attend the Information Meeting being held as per Part A [Introduction], section 7.1, and to ensure that you receive the required information, please submit this form to the person identified below before close of business day, April 28, 2010.

Donna Lee
City of Vancouver Supply Management Department

Fax: 604.873.7057
Email: purchasing@vancouver.ca

YOUR DETAILS:

Tenderer's Name: "Tenderer"

Address:

Key Contact Person:

Telephone: Fax:

E-mail:

Our company WILL / WILL NOT attend the information Meeting for "Invitation to Tender No PS10043 "Vancouver Landfill Pump Stations Controls Upgrade"

Name of Company (Please print)

Authorized Signatory

E-mail Address (Please print)

Date



VANCOUVER LANDFILL SAFE WORK PROCEDURE

Developed or Revised (most recent date):
Next Scheduled Review / Revision:

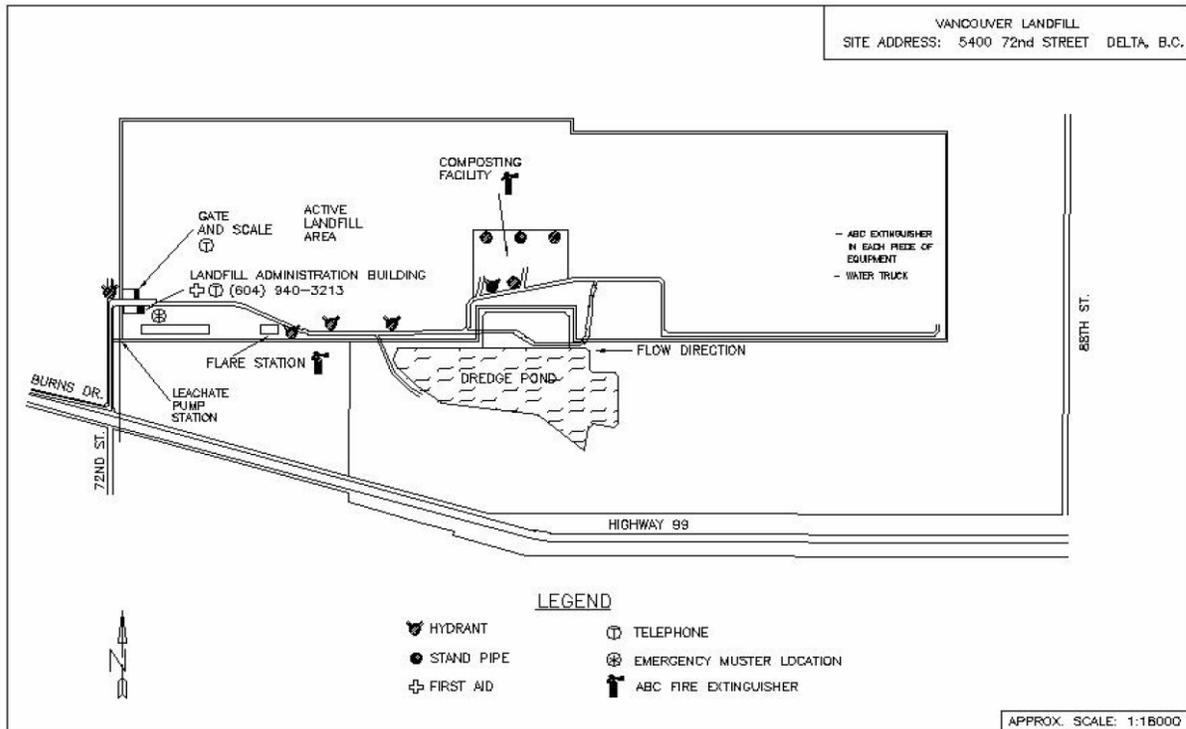
Sept 2008
Sept 2009

SITE SAFETY ORIENTATION / AGREEMENT

The City of Vancouver, Transfer & Landfill Operations Branch requires that all persons working on the Vancouver Landfill (VLF) site receive the following orientation before any work is to begin. The orientation includes an outline of general safety issues, working alone, emergency and first aid procedures, protocols for working near heavy equipment and personal protective equipment requirements. All individuals, understand, agree to comply with, and sign this document in order to have access to or do work on this site.

Sections

1. General Safety Issues
2. Working Alone
3. In The Event of an Emergency
4. First Aid
5. Heavy Duty Equipment
6. Personal Protective Equipment
Legal Terms and Conditions
Statement of Responsibility



**VANCOUVER LANDFILL
SAFE WORK PROCEDURE**

1. GENERAL SAFETY ISSUES
 - The speed limit on the Landfill premises is 30 km/h (20 mph).
 - Smoking anywhere on the site is prohibited.
 - Scavenging is prohibited.
 - The use of cellular phones is not permitted while operating vehicles/equipment. Always move to a safe place out of the way of any equipment or vehicles prior to using a cellular phone or engaging in any other non-mobile activity.
 - All drivers/operators must observe traffic control measures (i.e. stop signs and cones).
 - Be aware of and stay clear of coned off areas. These are to protect you from any hazards.
 - Seatbelts must be worn at all times while vehicles are in motion.
 - Be aware that asbestos is routinely managed at the Landfill. Stay upwind of any yellow bags at the Landfill face.
 - All support workers must sign in and out by completing the "Visitor Sign-in Sheet" located at the Landfill Administration office during regular hours or at the Scalehouse after hours.
2. WORKING ALONE
 - Must sign in and out at the Landfill Administration office and advise reception staff they will be working alone.
 - Have reception staff assign a personal ID number (0010, 0020 or 0030).
 - Follow attached procedures for accessing the Safetyline Mobile Worker Monitoring System.
3. IN THE EVENT OF AN EMERGENCY
 - Report any fires, spills, accidents or other emergencies to the Landfill office immediately (604.940.3213). In the event of an emergency that requires outside assistance, call 911 immediately. The Landfill Manager is responsible for contacting additional authorities as required.
 - Report any health & safety accidents and/or near-miss incidents to the Landfill Office.
 - Your first priority is to warn others and evacuate the immediate area. Do not put yourself in danger.
 - If not directly and helpfully involved, report to the Emergency Assembly Location at the east side of the Landfill Administration building.
 - Do not return to the site until instructed that it is safe.
 - Material Safety Data Sheets are located in Superintendents office.
4. FIRST AID
 - The first aid room is located at the southeast corner of the Landfill Administration building.
 - For emergencies, call 911 (dial "9" first from landlines).
 - Notify the designated First Aid Attendant at 604.603.1655 (VLF First Aid Cell Phone). If no answer, contact the Landfill office at 604.940.3213 to alert the First Aid Attendant.
5. HEAVY EQUIPMENT
 - Do not walk in the active tipping area of the Landfill.
 - Do not move into the vicinity of any vehicle until you have made eye contact with the operator/driver and ensured that he/she is aware of your presence.
 - Do not, at any time, walk behind any piece of heavy equipment. Unless absolutely necessary, remain outside of the swing radius of excavators, approximately 15 metres (50 feet).



VANCOUVER LANDFILL SAFE WORK PROCEDURE

- Always maintain a safe distance between trucks (one truck and trailer length) in the demolition dumping area. End dump style demolition trucks pose an extreme hazard of tipping over on its side when the box is lifted in the air.
 - Remember that people are more mobile than equipment - it is your responsibility to stay out of the way.
 - All equipment must be turned off before fueling.
6. PERSONAL PROTECTIVE EQUIPMENT (PPE)
- The following are necessary while on the site:
 - WCB approved Hi- visibility reflective vest or coveralls.
 - WCB approved safety protective footwear ((heavy-duty, above the ankle, construction-type safety boots with an external triangular green CSA patch). Boots should also be approved as shock-resistant when working on electrical systems (display an external white Ω CSA patch).
 - Also necessary where appropriate:
 - Respirators as per WCB requirements.
 - Hard hats as per WCB requirements.
 - Hearing protection as per WCB requirements.
 - Safety glasses and/or masks as per WCB requirements.
 - Fall protection in situations where a fall of 3 metres (10 feet) or more could occur, or from a lesser height but which represents a higher risk of injury.
 - Other specific equipment where determined necessary or by regulation for the particular situation.
 - Always observe and follow Lockout and Confined Space Entry procedures (when applicable).



VANCOUVER LANDFILL SAFE WORK PROCEDURE

PROCEDURES FOR USING THE SAFETYLINE MOBILE WORKER MONITORING SYSTEM

Users log in to the SafetyLine IVR system at the start of working alone, at assigned intervals during the work, and at the end of working alone. Users, in consultation with their supervisor, should determine the interval period for checking in. The default interval is 60 minutes and may need to be shorter depending upon the risks of the particular task. Users without a personal ID/password will have one assigned by Landfill Reception staff.

To log-in to the SafetyLine IVR system, the user will:

1. phone SafetyLine at **604.299.6266**
2. enter the company ID **51#**
3. enter **personal ID** (as assigned) and #
4. enter **password** (same as ID) and #

The system will respond with a voice message “*not system monitored*”.

Support Workers will need to enter their cell phone number by:

1. press **0** (Advanced Menu)
2. press **6**, enter your cell phone number then press #
3. press **1** (to confirm the phone number)
4. press ***** to exit to the main menu

To start system monitoring, all users will need to press **2**, record a voice message stating your work location, then # to report ok and * to exit.

To check-in during the work, log in to the system as above and at the voice prompt, enter **2** and #. If your work location has changed, record a new voice message.

To log-out at the end of work, log in to the system as above and at the voice prompt, enter **5** and #; you will hear “*Thank you for using SafetyLine*”.

Note: these sequences can be programmed using the speed-dial or one touch button function on most cell phones.

To change the check in period from 1 hour, the user will:

1. press **0** (Advanced Menu)
2. press **4#** (Change your IVR dial out number)
3. enter the **number of minutes** for the desired interval, then #
4. press * to exit to the main menu
5. press * to exit the system

For more detailed instructions, please refer to the *SafetyLine Mobile Worker Monitoring System User Manual*.

Safety Line Interactive Voice Response System Menu

Main Menu Key 1 Emergency 2 Report OK 3 Status 4 Set Next Report Time 5 End System Monitoring 6 Monitor Menu 0 Advanced Menu # Repeat * Exit SafetyLine		Advanced Menu Key 1 GPS 2 Data 3 Password Change 4 Set Report Interval 5 Record Name 6 Change Your IVR Dial Out No. # Repeat * Return to Main Menu
---	--	---



VANCOUVER LANDFILL SAFE WORK PROCEDURE

LEGAL TERMS AND CONDITIONS

- You agree that entry to and use of the site is at your own risk and that neither the City of Vancouver, nor its employees or agents will be liable for any loss or injury to person or property whether or not caused by negligence.
- You agree to comply at all times with the above requirements and to follow the instructions of the Landfill Manager, or their designate, and/or the First Aid Attendant at all times.
- You agree to reimburse the City of Vancouver for any and all costs, losses and damage which may be caused by your failure to carry out safe working practices while on the site or to otherwise comply with this Site Safety Orientation/Agreement.
- The terms of this Site Safety Orientation/Agreement are additional to, and not in replacement of any other Landfill agreement between you and the City of Vancouver. However, in the event of any inconsistency between the two, this agreement prevails.

STATEMENT OF RESPONSIBILITY

Name _____

Company _____

Address _____

Telephone _____

I certify that I have read, understood and agree to comply with and be bound by this Site Safety Orientation/Agreement.

Signature

Date



VANCOUVER LANDFILL GAS CONTROL SYSTEM SAFE WORK PROCEDURE

SAFE WORK ON THE VANCOUVER LANDFILL GAS CONTROL SYSTEM BACKGROUND INFORMATION

This background document describes the basic hazards associated with the Landfill gas control system at the Vancouver Landfill; specifically the facilities that collect, move, and flare Landfill gas. This document provides information fundamental to use and understanding of the Landfill Gas Control System Safe Work Procedures which provide specific guidance for working safely around the system.

FIGURE REFERENCE

- Figure 1 Gas Collection System
- Figure 5 Flare Abstraction Plant Layout

CONTACTS

- Landfill Gas Technician
- Transfer and Landfill Operations Superintendents
- Transfer & Landfill Operations Manager

See the current City of Vancouver Transfer & Landfill Operations phone list for current names and numbers.

REFERENCES

- City of Vancouver, Vancouver Landfill, Landfill and Transfer Operations, Emergency Response Plan, as revised.
- City of Vancouver Excavation, Shoring, and Trenching Safe Work Procedure
- Operation and Maintenance Manual for Vancouver Landfill Gas Control System, May 2001, prepared by CH2M Gore & Storrie Ltd. ("O&M Manual")
- Workers Compensation Act, Occupational Health & Safety Regulation, BC Reg 296/97
www.worksafebc.com
- *SafetyLine Mobile Worker Monitoring System User Manual - Mobile User with Interactive Voice Response (IVR) Telephone Interface*, Tsunami Solutions Ltd., Release 3.0, 2001.
- *SafetyLine Mobile Worker Monitoring System User Manual -System Administrator*, Tsunami Solutions Ltd., Release 3.0, 2001.
- SafetyLine IVR Menu Guide (wallet card).



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DESCRIPTION OF LANDFILL GAS (LFG) CONTROL SYSTEM

The main purpose of the Landfill gas (LFG) system is to control odours. Landfill gas is primarily composed of methane (CH₄) and carbon dioxide (CO₂), with relatively small concentrations of volatile organic compounds (VOCs) and hydrogen sulphide (H₂S). The CH₄ content generally ranges from 45% to 65% by volume, with the remainder of the LFG being mostly CO₂. Although concentrations of H₂S up to 1000 ppm have been recorded, concentrations in the main header are typically less than 90 ppm. Nitrogen and oxygen are typically present in LFG when the suction is sufficient to cause air to flow towards the LFG extraction wells by short circuiting from the surface or due to leaks in the collection system.

Landfill gas in the Landfill is generally about 35° to 55°C. As LFG flows in the lateral, sub-header and header pipes, it cools and condenses. Condensate traps capture this liquid (condensate) from the pipes to prevent blockage within the pipes and direct this condensate to the Landfill's leachate ditch.

Landfill gas is delivered by the LFG collection system to the Flare Station and Maxim Power Corporation's (Maxim's) on-site gas conditioning facility (Maxim's Facility), which pressurizes the LFG for pipeline transport to generate electricity and hot water at an off-site facility. The LFG control system at the Landfill comprises approximately 230 LFG extraction wells: lateral and header pipes that range up to 450 mm diameter: 34 condensate traps, and a blower/flare abstraction plant (Flare Station). During operation, Maxim's blowers and/or the City's blowers create suction to extract LFG from the Landfill's waste mass. Downstream of the blowers, LFG is under gauge pressures ranging from about 0.04 psi (1 inch water column) to 13 psi.

The LFG system collects LFG from all areas of the Landfill except for the Western 40 Hectares as shown on Figure 1. As a result of the suction at each well, LFG is drawn through the waste into the LFG extraction well, past the wellhead through flexible hose into a lateral (100 mm to 150 mm diameter) pipe. LFG is then drawn through sub-header and header pipes to the Flare Station.

At the Flare Station, LFG flows past a control valve and monitoring station to a tee. From this point, the LFG is directed to one of the following, based on valve positions (see Figure 5):

- A tall condensate knock-out, through Maxim's blowers to the conditioning facility, and then through the LFG transmission pipeline to Maxim's co-generation plant located across Highway 99 at the Village Farms greenhouses. Any LFG that is not required by the co-generation plant is returned to the flares via a 100 mm pipe; or
- A shorter condensate knock-out, through the City's blowers, and then to the flares.



In addition to those in the field, various instrumentation, monitoring ports and valves are located at various points with the Flare Station and Maxim's Facility. Electric power is used for the blowers and other functions. In the event of power failure, the City's back-up electrical generator system automatically activates to power the City's blower and flares, but not Maxim's Facility.

The current operations and maintenance manual for the LFG control system is CH2M Gore & Storrie Ltd.'s *Operation and Maintenance Manual for Vancouver Landfill Gas Control System*, May 2001 (O&M Manual). The utilization component, including Maxim's Facility, has been added to the system since the O&M Manual was prepared.



EMERGENCY AND FIRST AID RESPONSE

Refer to the current City of Vancouver, Vancouver Landfill, Transfer and Landfill Operations, Emergency Response Plan (ERP) for detailed emergency information. This section provides some key information on emergency procedures from the ERP.

An incident may be an emergency or crisis if it:

- Is escalating out of control;
- Threatens to harm or alarm staff, customers, or the community;
- Endangers or threatens the security of facilities; or
- Puts the environment at risk.

PERSONAL EMERGENCY PROCEDURES

Each employee must be aware of safety procedures in his/her normal work place and any other required work place. This includes the following:

- Personal safety procedures to protect from injury and harm.
- Evacuation and muster procedures.
- Facility re-entry procedures.

If an emergency occurs while Landfill staff are at work, staff should:

1. Protect Themselves

Follow safety procedures for personal safety to protect from injury and harm. Request or obtain emergency assistance, if needed.

2. Assist Co-workers

Follow safety procedures to assist co-workers with protection for personal safety and protection from injury. Request, provide, or obtain emergency assistance, if needed.

3. Contact a Supervisor

Immediately check in with the Supervisor. Do not leave without notifying the Supervisor.

4. Check on Families

If the emergency extends beyond the facility, (e.g., earthquake) the Landfill will provide an opportunity for families to be contacted to determine their safety and status. In some



circumstances, communication and travel may be severely restricted and contact will be delayed. During this time, staff should continue with emergency assignments.

5. Assume Emergency Response Assignments

Report to your work place or to your assignment in the Landfill's Emergency Response Plan or as directed by the person in charge when you arrive. Staff with no assignments are to leave emergency contact numbers to make arrangements for reporting back to work when needed.

MUTUAL AID

The City of Vancouver has established a written agreement with Delta Fire Department for the provision of confined space entry and hazardous environment exposure rescue at the Vancouver Landfill. The Landfill does not maintain suitable equipment to allow Landfill personnel to effect such a rescue.

EMERGENCY SHUT DOWN

If it is necessary in an emergency to close down the LFG system, the following actions should be undertaken:

- Switch off the power to the blowers; and
- Isolate the section of the Landfill by closing the appropriate LFG manifold valve and/or LFG extraction well valve (see Figure 1).

FIRST AID

If First Aid is required, contact the Landfill First Aid attendant. If a medical emergency involves a person down in an area where Landfill gas may be present, the Emergency Response Procedures for approaching a downed person must be followed.

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TABLE 1: Important LFG Characteristics

Compound	Important Gas Concentrations	Comments
Explosive Gas	Less than 10% LEL ⁽¹⁾	To control the risk of explosion, explosive gas concentrations are to be maintained at less than 10% of the lower explosive limit (LEL) at all times in the work area.
Methane	Less than 1,000 ppm or 0.1% by volume ⁽¹⁾	Methane concentrations in the breathing zone are to be maintained at less than 5,000 ppm or 0.5% by volume at all times (Excursion Limit) and for an 8 hour day (TWA), must be below 1,000 ppm. If all of the explosive gas is methane, 1,000 ppm of methane is equivalent to 2% LEL.
Oxygen	19.5% to 23.5% ⁽¹⁾	<p>Oxygen concentrations below 19.5% represent an oxygen-deficient atmosphere.</p> <p>The ambient atmosphere has an oxygen concentration of 20.9%.</p>
Hydrogen Sulphide	Less than 5 ppm ⁽¹⁾	<p>Hydrogen sulphide is immediately dangerous to life and health (IDLH) at a concentration of 100 ppm.</p> <p>WorkSafe BC's Ceiling Exposure Limit for hydrogen sulphide is 10 ppm.</p> <p>Hydrogen sulphide concentrations should be maintained at less than 5 ppm to reduce the risk of reaching the ceiling limit of 10 ppm and thereby having an exposure. If hydrogen sulphide concentrations exceed this level, work procedures should be reviewed to ensure that site personnel are adequately protected.</p> <p>At elevated concentrations, hydrogen sulphide gas will deaden your sense of smell within minutes.</p> <p>You can smell hydrogen sulphide at concentrations less than 1 ppm. The smell is often described as being like rotten eggs. Most people can smell hydrogen sulphide at concentrations below the detection limit of monitoring instruments.</p>

Note: ⁽¹⁾ Personal Gas Detectors shall be set to alarm when gas concentrations exceed the gas concentrations identified in Table 1. If the monitor's alarm sounds, evacuate the work area immediately and notify the Landfill Gas Technician, Manager, or designate.



SAFETY PRECAUTIONS

The following safety precautions shall be followed with respect to Landfill gas:

1. Do not smoke anywhere on the Landfill. Open flames are only permitted on the Landfill with prior written permission from the Landfill Gas Technician, Manager or designate.
2. Comply with WorkSafe BC regulations when entering any confined space, depression, or potentially poorly ventilated areas. Adhere to the precautions and procedures identified in Table 1: Important LFG Characteristics.
3. Ensure that all Personal Gas Detectors are in good working order and are bump tested daily prior to use. If bump testing identifies that the Personal Gas Detector is not working within its tolerance limits or if the equipment is outside of its calibration period, it shall be removed from service immediately. Personnel shall be trained in the use and limitations of the Personal Gas Detectors used.
4. Do not access the fenced enclosure at the Flare Station beyond Maxim's trailer or conduct any work around the Landfill gas system without a Personal Gas Detector (which is able to detect LEL, oxygen, and hydrogen sulphide concentrations). If the Personal Gas Detector alarm sounds, evacuate the area immediately and notify the Landfill Gas Technician, Manager or designate.
5. If possible, stand upwind of wells or any other Landfill gas works when conducting work in or around the Landfill gas collection system. If an accidental or uncontrolled release of Landfill gas is believed to have occurred near your work area, attempt to remove yourself from the area by taking a path that is crosswind from the source and attempt to get upwind if it is determined to be safe to do so.
6. Use caution when conducting work within well or manifold boxes. Personal Gas Detectors should be used to determine gas concentrations within the boxes prior to work being conducted. If the monitor's alarm sounds, allow the box to ventilate prior to rechecking gas concentrations. Work should not proceed until gas concentrations are below alarm levels.
7. If a hydrogen sulphide odour is detected and you do not have a hydrogen sulphide detector in good working condition, you should remove yourself from the area of concern and notify the Landfill Gas Technician, Manager or designate.
8. Be aware of other people present in your work area and consider the potential hazards of your respective activities.



HAZARDS

This section identifies some key hazards that may be associated with the LFG system and general safety precautions for these hazards.

EXPLOSION

Landfill gas is primarily composed of methane and carbon dioxide, of which methane is a potential explosion hazard. Methane is potentially explosive at concentrations between 5% and 15% by volume in air. The lower limit (5% by volume) is the lower explosive limit (LEL), whereas the upper limit (15% by volume) is the upper explosive limit (UEL). Thus, 5% by volume of methane is 100% LEL. City of Vancouver Engineering Services requires that the concentration of flammable gas shall not exceed 10% LEL¹ in the working airspace to account for the possibility of explosive gases other than methane being present. Based on the LEL, the maximum allowable methane concentration would be 0.5%, however, methane also has effects on the nervous system and the maximum 8 hour average concentration is 1,000 ppm (0.1%), with a 30 minute Excursion Limit of 3,000 ppm (0.3%) and maximum Excursion Limit of 5,000 ppm (0.5%).

This hazard is mitigated by prohibiting smoking, not allowing open flames or hot work to proceed near the LFG collection system without an approved Safe Work Procedure, identifying and clearing all buried services prior to any digging or other subsurface penetrations, and by following safe work procedures. Sparks due to static electricity (e.g., cutting high-density polyethylene pipes) shall be mitigated by grounding.

OXYGEN-DEFICIENT AND OXYGEN-RICH ENVIRONMENTS

The two major constituents of LFG, methane and carbon dioxide, can displace oxygen and create an oxygen-deficient atmosphere. In addition, oxygen-deficient environments may exist in confined spaces, ditches and depressions. The release of some compressed gasses from a cylinder can also displace oxygen. An oxygen-deficient atmosphere can result in loss of consciousness and possibly death.

Oxygen-rich environments will not typically be present on the Landfill site. However, certain work process, such as welding, may require the use of oxygen, potentially creating an oxygen-rich environment.

¹ The WorkSafe BC limit is 20% LEL (Clause 5.31 of Occupational Health and Safety Regulation).



Vancouver Landfill policies require that working space oxygen concentrations be maintained between 19.5% and 23.5% by volume².

This hazard shall be mitigated by monitoring oxygen levels of confined spaces, ditches and depressions when working in these spaces and by moving away and upwind of potential uncontrolled LFG discharge sites. If working near a controlled LFG discharge site, workers shall monitor oxygen levels and try to work upwind of the discharge or install intrinsically safe ventilation fans to introduce fresh air into the space.

HYDROGEN SULPHIDE

Hydrogen sulphide (H₂S) is a toxic gas and has often been described as having an odour like rotten eggs. Hydrogen sulphide can be detected by the sense of smell at extremely low concentrations. However, olfactory fatigue can occur very quickly and no odours may be detected. The sense of smell shall not be relied on as an indicator of the presence of H₂S.

Vancouver Landfill requires that the concentration of H₂S be maintained below 5 ppm in the working airspace. WorkSafe BC requires that the H₂S concentration be below 10 ppm at all times and 100 ppm is the IDLH. Excessive H₂S concentrations can result in irritation of the mucus membranes, breathing problems, nausea, and possibly death.

This hazard shall be mitigated by moving away and upwind of potential uncontrolled LFG discharge sites. If working near a controlled LFG discharge site, personnel shall monitor hydrogen sulphide levels and try to work upwind of the discharge or install intrinsically safe ventilation fans to introduce fresh air into the space.

LEACHATE AND CONDENSATE

Leachate and condensate are typically skin irritants, but when occurring in high strength can be corrosive, odorous, and poisonous. Personnel may come in contact with leachate and condensate when completing inspection, repairs or sampling.

City-supplied coveralls, safety glasses, and gloves are sufficient to prevent contact for most activities when work is conducted in a manner that minimizes splashing or contact. If contact does occur, the leachate or condensate should be washed off immediately.

If work is conducted on equipment containing leachate or condensate that is known or suspected to be high strength or concentrated, the hazard should be mitigated by workers using disposable

² The WorkSafe BC definition of "oxygen deficient" is less than 19.5% oxygen by volume in air (Part 1 of Occupational Health & Safety Regulation).



chemical resistant coveralls, nitrile or vinyl gloves, and safety goggles or face shield. A nearby eyewash station should be available if there is a risk of splashing.

TRIPS AND FALLS

Most of the LFG-related tasks at the Vancouver Landfill are carried out in the field where there can be uneven terrain, exposed piping, or other trip and fall hazards.

This hazard shall be mitigated by instructing personnel to be aware of such hazards, marking or removing such trip and fall hazards where practical, and by using footwear as described in the VLF/VSTS Safe Work Procedure: Personal Protective Equipment.

WORKING AT HEIGHTS

Working at heights represents a fall hazard to the individual working at the elevated height. In addition, personnel working below may be injured by falling objects.

This hazard will be mitigated by complying with Part 11: Fall Protection and Part 8: Personal Protective Clothing and Equipment of the WorkSafe BC Occupational Health and Safety Regulation.

WORKING ALONE

In many instances, personnel working on the LFG management system work alone. There is a risk of personnel working alone being injured and unable to summon help.

Personnel working alone shall follow the Vancouver Landfill Working Alone and Response Procedure. This procedure establishes a call-in system that personnel are to follow whenever they are working alone or in isolation. This procedure is not to be used for work in confined spaces.

HOT SURFACES

Some equipment, such as the flare stacks, generates high temperatures that can cause bodily harm if contacted by a worker. In some circumstances, the blowers and motors may become hot.

Surfaces that are frequently hot shall be identified by warning signs and shall be isolated by guards to prevent contact, whenever practical. Infrared thermometers can be used to confirm surface temperatures.



MOVING PARTS

Machinery and equipment having moving parts can cause bodily harm if a person, their clothing, hair, jewellery, or other objects come in contact with it.

Before entering the Flare Station, long hair should be tied back and kept away from moving parts. Moving parts shall be identified and sufficiently guarded with fixed or movable guards. If a movable guard is used, an interlock switch shall be installed so that the moving parts of the machinery are stopped immediately when the guard is lifted.

ELECTRICAL EQUIPMENT

Electrical equipment and power lines can result in electrical shock, electrocution and fire hazards. These hazards become significantly greater when personnel are working near this equipment without appropriate care and attention.

All electrical equipment shall be properly maintained in good condition. Only qualified personnel with appropriate training and certification shall be allowed to work on or near energized electrical equipment. Lock-out procedures shall be used when electrical equipment is being serviced, repaired or maintained, and for the following tasks:

- Lock-out of flare; and
- Cleaning of demister pad in condensate knock-out.

Check for buried or covered power lines prior to excavation or drilling.

WELDING

Welding can introduce many hazards, including fire, ultraviolet radiation, infrared radiation, intense light, noise, compressed air cylinders, explosive and asphyxiant gases, chemical exposures, and electrical hazards.

All hot work shall be done by qualified personnel with appropriate training and certification. In addition to the general safety precautions applicable to hot work, extra care shall be exercised when performing hot work near the LFG system components because of the methane content of the LFG. All components of the LFG system that could potentially be affected by hot work shall be isolated, locked out and purged with an inert gas (e.g., nitrogen) before hot work is commenced.



HEAVY LIFTING

Lifting objects improperly can result in breaks and strains. The frequency of injuries can be reduced by using administrative and engineering controls, and by modifying work procedures. Engineering controls include improved design, limiting loads and using mechanical devices to lift and transport objects when possible. To minimize the impact of heavy lifting, personnel should warm up before lifting heavy objects, bring loads close to their body, keep their backs straight, and use legs to lift when possible.

At the Vancouver Landfill, compressed gas tanks stored at the Flare Station are considered to be heavy objects and should be transported using mechanical devices, such as a trolley, whenever possible.

NOISE

Elevated noise levels have been identified near the City's and Maxim's blowers. Personnel entering the fenced area of the Flare Station/Maxim's Facility shall use hearing protection that is at least Grade 2 or Class B hearing protection device or better, as identified by CSA Standard Z94.2-02, Hearing Protection Devices - Performance, Selection, Care and Use. In addition, warning signs (Caution - Noise Hazard - Hearing Protection shall be worn in this area) shall be posted at all entrances to the Flare Station.

Elevated noise levels may also be present when working around heavy equipment.

HEAVY EQUIPMENT AND VEHICLES

Heavy equipment and vehicles can be encountered throughout the Landfill and collisions with such vehicles are a potential hazard. Excavators, backhoes, and cranes may have booms or projecting parts that can cause impacts.

These hazards can be mitigated by personnel wearing high-visibility clothing as described in the VLF/VSTS Safe Work Procedure: Personal Protective Equipment, avoiding working near such equipment where possible, ensuring eye contact with the machine operator, never crossing the path of a piece of machinery until it has come to a complete stop (even with eye contact), and using warning cones when working near roadways or machinery.

Personnel operating vehicles and equipment on site shall do so in a controlled manner, adhering to all posted speed limits and directions.



FIRE

Fire can be a significant hazard on site due to the methane content of the LFG. The LFG can be ignited by an open flame or spark. In addition, the high density polyethylene (HDPE) pipe, wood posts and refuse in the Landfill are all potentially flammable if ignited. Refuse in the Landfill can undergo spontaneous combustion if excessive air is drawn into the Landfill by applying excessive suction in individual LFG extraction wells.

This hazard is mitigated by prohibiting smoking, not allowing open flames or hot work to proceed near the LFG collection system without an approved Safe Work Procedure, and by following safe work procedures. Sparks due to static electricity (e.g., cutting high-density polyethylene pipes) shall be mitigated by grounding.

COMPRESSED GAS

Compressed gas can cause bodily injury due to the low temperature of the discharging gas and the gas can displace oxygen resulting in an oxygen-deficient atmosphere. The low temperature can be transferred to valves or pipes that may be exposed. If damaged, a cylinder can act as a projectile and if involved in a fire can explode.

Gas cylinders shall only be stored in identified and secured locations, such as an identified area in the Flare Station compound. Cylinders shall be secured by a chain in an upright position wherever practical or secured in a horizontal position. Gas cylinders temporarily stored in the field shall be flagged and cordoned with traffic cones.

OVERHEAD HAZARDS

Overhead lines, wires, and objects can be a hazard by presenting an electrical hazard and as falling objects. At the Vancouver Landfill, overhead hazards occur primarily at the Flare Station and along the alignment of overhead power lines. One of the valve stems at the Flare Station extends down vertically and can present an overhead hazard. Any overhead hazards should be marked to prevent accidental impact.

BURIED, OVERHEAD AND AT-GRADE PIPELINES OR POWER LINES

Buried, overhead or at-grade LFG pipes, condensate pipes, leachate pipes, and power lines exist on the site. These buried, overhead or at-grade utilities can be a hazard if they are damaged.

No excavation or subsurface drilling or penetration work shall take place without first locating the buried pipes, and power and/or communication lines that may exist and without the supervision of the Landfill Gas Technician, Manager or designate.



CONFINED SPACE

Confined spaces are defined as an enclosed or partially enclosed area that has limited or restricted means for entry or exit and that is not designed or intended for continuous human occupancy. The atmosphere in a confined space may be hazardous due to lack of oxygen and the presence of toxic or flammable gases. The three condensate knock-outs at the Flare Station and the manholes to access the two 200 mm diameter Phase 1 branch saddle valves are confined spaces. In addition, the City has designated the flares as confined spaces.

Whenever accessing confined spaces on the site, the VLF/VSTS Safe Work Procedure: Guideline for Confined Space Safe Entry shall be used and a copy of the completed City of Vancouver Confined Space Entry Permit shall be posted, as required.

UNSTABLE STRUCTURES

Most permanent structures in the LFG management system are designed to be stable. However, the use of step ladders and other extension ladders at the Flare Station may be a safety concern.

All ladders and temporary platforms shall be properly maintained and inspected. Extension ladders shall be set on firm ground and shall be stabilized against the structure before each use.

EXCAVATION AND SPOIL PILES

The slopes of excavations and waste spoils can fail, presenting engulfment and entrapment hazards. In addition, asbestos buried in the Landfill could be disturbed by drilling or excavation.

Personnel shall not enter excavation pits or approach spoil piles that are greater than four feet in height unless they are sloped and/or shored in accordance with WorkSafe BC requirements, or approved in writing by an engineer as being safe.

SHARPS

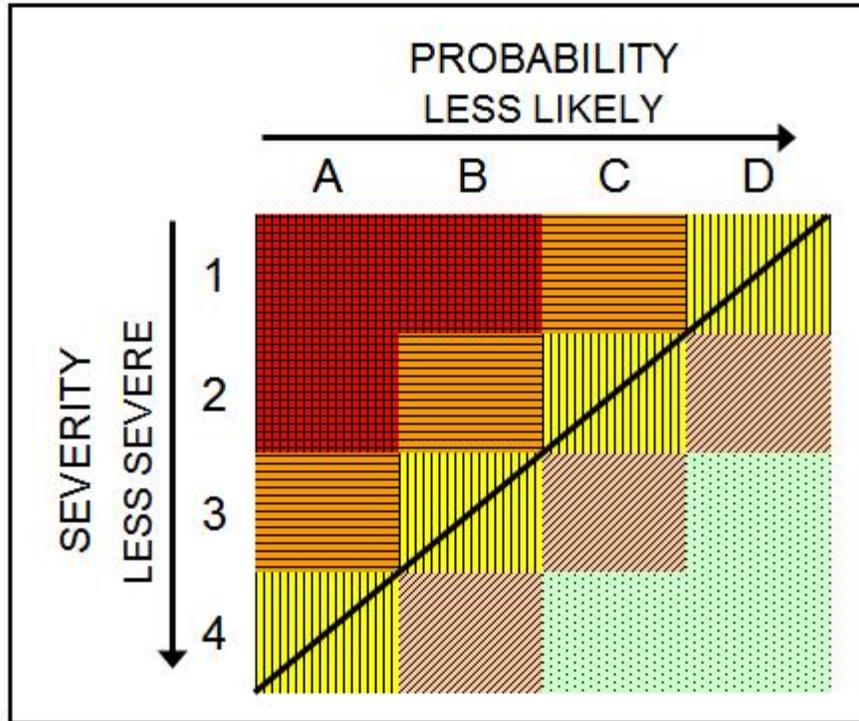
Sharp objects may be found in the waste and on the edges of equipment.

To help minimize these hazards, personnel shall use CSA approved safety footwear at all times when on site and shall use work gloves as appropriate.



HAZARD ASSESSMENTS

Hazard Assessments in the Safe Work Procedures have been developed using the following method. More information is included in the Hazard Assessment SWP.



Health and Safety Program Risk Matrix			
Probability Scale	Key Words	Typical Frequency Expectation	
A	Likely to occur	Once per month	
B	Probable over time	Once per year	
C	Possible over time	Once per 10 years	
D	Remotely possible	Greater than once per 40 years	
Severity Rank	Injury	Odour	Cost Range
1	Fatality	Shut Down > 1 week; off-site odour	\$300,000+
2	Lost time injury	Shut Down 2 days to 1 week; potential off-site odour	\$100K to \$300K
3	Reportable injury	Shut Down 1 to 2 days; local odours only	\$30K to \$100K
4	Minor injury	Shut Down < 1 day; no odour	<\$30,000
Severity considers a range of conditions for employees, the public, other affected parties and costs. There is no assumed equivalence between aspects with the same severity; they reflect relative severity within the set of conditions.			



PERSONAL PROTECTIVE EQUIPMENT

Personal protective equipment (PPE) is essential to ensure the safety of personnel working on or near the LFG management system. Equipment should be properly selected, used, inspected before use and maintained in accordance with manufacturers' requirements. Any equipment that is damaged or no longer provides adequate protection shall be repaired or replaced immediately. Unusable equipment shall be marked as unusable and disposed of to prevent reuse. Personnel using PPE should be trained in its proper selection, use, and limitations. PPE shall be CSA or ULC approved, as applicable. The PPE shall be stored at the Landfill and be readily available when required.

Personnel shall use personal protective equipment in accordance with the VLF/VSTS Safe Work Procedure Personal Protective Equipment. Personnel shall use high visibility apparel and above-the-ankle footwear with an external green CSA patch whenever on the site. The PPE required in the LFG SWPs is further described below.

HIGH-VISIBILITY CLOTHING



Personnel who conduct outdoor tasks shall wear high-visibility clothing that meet the type 1 (i.e., vest, shirt or other similar garment worn on the torso with a fluorescent background and attached visibility enhancing trim) or type 2 (i.e., jacket, coat, coverall or other garment with a bright coloured background and attached visibility enhancing trim) requirements as identified by the WorkSafe BC Standard: PPE 2 High Visibility Garment - Personal Protective Equipment Standard 2.

STEEL-TOE BOOTS



Above-the-ankle steel-toe (or equivalent) boots that have puncture resistant soles and adequate ankle support shall be worn by personnel conducting outdoor tasks for physical protection against falling objects, punctures and strains. Steel-toe (or equivalent) boots shall be approved under CSA-Z195-M92 and shall be Grade 1, with an external green CSA triangle prominent on the boot for identification purposes.

In some instances, it may be necessary to immerse feet in leachate or condensate. If this is the case, boots shall meet the standards above as a minimum, and shall also be resistant to influxes of moisture (e.g., rubber).

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EYE PROTECTION



Eye protection approved under CSA Standard CAN/CSA-Z94.3-92 shall be worn by personnel working in any locations where the potential of eye injury exists by splashing leachate or condensate, projectiles, gases, or vapours. Common types of eye protection are safety glasses and safety goggles. Safety glasses are suitable for protection from particulates. Safety goggles are suitable when there is a risk of splashing or vapours of a corrosive substance. Personnel who wear corrective lenses can select prescription safety glasses, goggles or approved tempered glasses with side shield, as appropriate. Face shields that provide some protection from projectiles are also available.

HEARING PROTECTION



Hearing protection is required when personnel may be exposed to high ambient noise levels (over 85 dBA). Appropriate ear plugs and/or ear muffs shall be worn by personnel working in the vicinity of heavy equipment and at the Flare Station. Hearing protection shall be approved under CSA Standard Z94.2-02.

Personnel entering the fenced area of the Flare Station/Maxim’s Facility shall use hearing protection that is at least Grade 2 or Class B as identified by CSA Standard Z94.2-02, or better.

No personal listening devices shall be used at the landfill.

GLOVES



Latex, vinyl, nitrile or neoprene gloves shall be worn by personnel who may have direct contact with leachate or condensate when carrying out their tasks. For personnel whose tasks may encounter hot or cold surfaces or objects that have sharp or irregular edges, cotton, wool or leather gloves shall be worn, as appropriate.

PERSONAL GAS DETECTOR



A Personal Gas Detector is a portable instrument that can measure explosive gas concentrations up to 100% LEL, oxygen concentrations from 1% to greater than 23.5% by volume, and H₂S concentrations from 1 ppm to greater than 500 ppm. The detector shall be calibrated such that it can verify that the airspace in the work area meets the minimum Vancouver Landfill criteria in Table 1 (i.e., LEL less than 10%, oxygen 19.5% to 23.5%, and H₂S less than 5 ppm). Personal Gas Detectors shall be used at all times when



working on the Flare Station or LFG piping.

The Personal Gas Detector shall be maintained in good working order and be bump tested daily prior to use. If bump testing identifies gas monitoring equipment that is not working within its tolerance limits or if the equipment is outside of its calibration period, it shall be removed from service immediately. Personnel shall be trained in the use and limitations of the gas detection equipment used. The monitor shall not be used if the calibration date has passed.

The Personal Gas Detector shall be deployed between the breathing zone of the user and the source of the contaminant and shall be located so the user can hear and/or see the detector alarm.

LFG ANALYZER



A LFG analyzer is a portable instrument that can measure methane concentrations from 0% to 100% by volume and LEL, and oxygen concentrations from 1% to greater than 21%. This instrument is not to be used as a personal gas detector but is used to measure concentrations of LFG in pipes and equipment.

The LFG analyzer shall be calibrated in accordance with the manufacturer's instructions.

COMMUNICATION DEVICES



Cellular telephones and two way radios are primary communication methods for Landfill workers and supervisors and are the main method of announcing emergency conditions for personnel working outside the office areas. Personnel who work alone shall carry a working cellular telephone with a charged battery on the site. In an emergency situation, personnel should be aware that common cellular telephones are not intrinsically safe and shall not be used in an explosive environment.

HARD HAT



Hard hats shall be worn by personnel working in an environment where there is a danger of head injury from falling, flying or thrown objects, or other harmful contacts³. Hard hats shall be approved under CSA Standard CAN/CSA-Z94.1-92 and shall not contain metal or electrically conducting materials. Hard hats shall be worn properly to provide maximum protection and be maintained properly to ensure their protection qualities.

³ OHS Regulation 8.11



FACE PROTECTION



Face protection shall be worn by personnel working in any locations where a risk of face injury exists. Possible causes of face injury are high speed projectiles (e.g., from cutting or grinding) or radiation from welding operations. Face protection shall be approved under CSA Standard CAN/CSA-Z94.3-92.

Face protection may not replace the need for eye protection. For example, safety goggles and a face shield may both be required.

CHEMICAL RESISTANT CLOTHING



In some instances, because of the risk of splashing of a corrosive or otherwise dangerous chemical, chemical resistant clothing may be required. This clothing may be in the form of coveralls, such as Tyvek or Tychem[®], or may be as simple as a splash apron with integral arm covers.

Chemical resistant clothing should be used when there is a risk of direct contact with a corrosive substance. If the chemical resistant clothing becomes contaminated, the contaminant should immediately be wiped off.

AIR PURIFYING RESPIRATORS



Air purifying respirators may be used from time to time on the site. These respirators shall not be used in an oxygen-deficient atmosphere or if an atmosphere is immediately dangerous to life and health (IDLH). Because air purifying respirators can prevent the wearer from detecting low, warning concentrations of hydrogen sulphide, use when working with LFG must be weighed against risks of not detecting hydrogen sulphide.

They may be used for contaminants that are present in concentrations less than 50% of the maximum use concentration of the respirator. Personnel shall only use respirators for which they have been assigned, fit-tested and trained in their use.

SELF-CONTAINED BREATHING APPARATUS

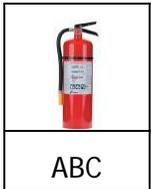


Self-contained breathing apparatus (SCBA) is required when it is necessary for personnel to work in an atmosphere that is oxygen-deficient or that contains harmful airborne contaminants. The apparatus shall be properly cleaned, stored in clearly marked and properly designated areas, and inspected periodically. Personnel shall only use SCBAs for which they have been assigned, fit-tested and trained in their use. There is no SCBA equipment available at the Landfill.



Escape SCBAs are maintained at the Landfill in circumstances when there is a potential for a loss of control of Landfill gas. They are not intended for work activities, only for escape from a hazardous environment where circumstances prevent other controls from being effective. If escape SCBAs are used, personnel shall be trained in the use and limitations of the escape SCBAs, but do not need to be fit-tested.

FIRE EXTINGUISHER



Fire extinguishers shall be stored and readily available for use in areas around the Flare Station. Fire extinguishers are present in all City Landfill vehicles and one shall be immediately available for work on the collection system that may create sparks. The fire extinguishers should be Class ABC as they are able to extinguish most types of fires that would occur at the Landfill.

INFRA-RED THERMOMETER



Infra-red thermometers shall be used from time to time to verify that surfaces have cooled sufficiently to allow for human contact. In particular, infra-red thermometers may be used to verify the temperature of flare stacks prior to working on or around the stack.

INERT GAS



Industrial grade nitrogen is an inert gas. Nitrogen is economical, has a density almost the same as air, and should be used whenever possible for purging LFG piping or equipment. Carbon dioxide, which is not an inert gas and has a WorkSafe BC exposure limit, is heavier than air and should be used as a purge gas only for special applications when nitrogen is not suitable.

VENTILATION FANS



When there is a potential for the creation of a hazardous atmosphere, ventilation fans shall be used for ventilation purposes. Ventilation fans shall be positioned upwind of the work area and intrinsically safe ventilation fans shall be used. Caution should be taken to ensure that ventilation fans only draw in uncontaminated air and that they are directed so that hazardous air is forced away from workers. Ventilation fans for confined space entry shall be capable of blowing clean, respirable air into the work area at a rate of 85 m³/h (50 cfm) per confined space entrant for the duration of the time an entrant is in the space.



HAIR BANDS

Personnel with hair longer than shoulder length, who will be within 0.6 m of moving parts, such as the purge fan motor of the flares, the shaft between the blowers and the motors at the Flare Station, shall tie their hair with hair bands or confine their hair in a hard hat.

TRAINING REQUIREMENTS

Personnel who are to work on or close to the LFG management system shall, as a minimum, have compulsory training on the following prior to the commencement of work:

- Vancouver Landfill New Employee Orientation
- Site safety orientation, including sign-in
- Vancouver Landfill Gas Control System Safe Work Procedures
- Safety aspects at municipal solid waste landfills, in general, and in the LFG system operation in particular
- Atmospheric hazards (i.e., explosive gases, oxygen-deficient atmospheres, H₂S) associated with landfill gas and Vancouver Landfill procedures to deal with these hazards
- Operation of air monitoring instruments required for sampling atmospheres in the working zone
- Use and limitations of required PPE
- Operation and Maintenance Manual for Vancouver Landfill Gas Control System, City of Vancouver, British Columbia, Volume 1

Supervisors shall ensure that all personnel working around the LFG management system have acquired the above training before the work is started and that there are adequate records of this training.

Optional training that may be considered for personnel include the following courses:

- H₂S Alive
- Confined space entry
- Golder Associates' Operating Principles of LFG Management
- SWANA Landfill Gas Basics
- SWANA Landfill Gas Systems, Operations and Maintenance

For any activity that WorkSafe BC has prescribed that Certification is required, no person shall conduct the activity unless they hold the required certification.



ABBREVIATIONS

CH ₄	Methane	H ₂ S	Hydrogen Sulphide
CO	Carbon Monoxide	LFG	Landfill Gas
CO ₂	Carbon Dioxide	N ₂	Nitrogen
CT	Condensate Trap	O ₂	Oxygen
SCBA	Self Contained Breathing Apparatus	LEL	Lower Explosive Limit
PPE	Personal Protective Equipment	ppm	Parts Per Million
SWANA	Solid Waste Association of North America		

END OF PROCEDURE

Hazard	Typical Location	Yes	N/A	Landfill Mitigation Measure
Asbestos	<ul style="list-style-type: none"> Residential Drop Off Area asbestos bin Asbestos trench Buried throughout Landfill site - most locations not identified 			Landfill Respirator Use SWP; Landfill Emergency Response Plan; Landfill Asbestos Management SWP
Compressed Gas Cylinder Release	<ul style="list-style-type: none"> Residential Drop Off Area 			SWP for Compressed Gas Cylinders; Landfill Emergency Response Plan
Confined Spaces	<ul style="list-style-type: none"> As marked 			City of Vancouver Confined Space Entry Program; Landfill Confined Space Entry SWP
Electrical	<ul style="list-style-type: none"> Lockout procedures required Overhead power lines Buried utilities 			Landfill Lockout SWP; Lockout SWPs for Specific Equipment; Qualified electrician may be required; Identification of overhead power lines in work area during pre-job meeting
Excavation, Trenching and Shoring	<ul style="list-style-type: none"> Anywhere within the Landfill site 			WorkSafe BC requirements and other City requirements
Eye Hazards	<ul style="list-style-type: none"> Air borne particles - all locations 			Landfill Personal Protective Equipment SWP - Eye protection
Fall Protection	<ul style="list-style-type: none"> Working at heights 			Landfill Fall Protection SWP
Fires/Explosion	<ul style="list-style-type: none"> Landfill active face Composting facility Flare station Equipment Anywhere on Landfill 			Landfill Emergency Response Plan
Lifting Hazards	<ul style="list-style-type: none"> All locations 			Task specific safe lifting techniques
Landfill gas - explosive gases,	<ul style="list-style-type: none"> Flare station (positive pressure) 			Vancouver Landfill Gas Control System Safe Work Procedures;

Hazard	Typical Location	Yes	N/A	Landfill Mitigation Measure
methane, oxygen deficiency, hydrogen sulphide	<ul style="list-style-type: none"> Landfill gas piping system above/below grade (negative pressure) Confined spaces, surface depressions, ditches, excavations 			Landfill Emergency Response Plan
Mobile Equipment/Traffic	<ul style="list-style-type: none"> All locations 			Landfill Traffic Management and Operating Mobile Equipment SWP; Landfill Personal Protective Equipment SWP - High visibility vest
Moulds and Spores (bioaerosols)	<ul style="list-style-type: none"> Composting facility Landfill active face 			Landfill Control Measures Against Exposure to Microbiological Agents SWP
Needle Sticks/Blood Borne Pathogens	<ul style="list-style-type: none"> In garbage Potentially on wheels and tracks of equipment 			Landfill Cleaning Industrial Equipment, General Cleaning and Hygiene, Blood and Body Fluid Exposure, and Control Measures Against Exposure to Microbiological Agents SWPs; Landfill Personal Protective Equipment SWP - Gloves
Noise	<ul style="list-style-type: none"> All locations 			Landfill Personal Protective Equipment SWP - Hearing protection
Power Outage	<ul style="list-style-type: none"> Buildings 			Emergency lighting
Spills (known and unknown products)	<ul style="list-style-type: none"> Landfill active face Residential Drop Off Area 			Landfill Management of Household Hazardous Waste SWP; Landfill Emergency Response Plan
Trip/Slip Hazards	<ul style="list-style-type: none"> All locations 			Landfill Personal Protective Equipment SWP - over the ankle steel toe boots - CSA triangle
Violence	<ul style="list-style-type: none"> Scalehouse Residential Drop Off Area Administration buildings 			Landfill Scalehouse Emergency Response and Violence in the Workplace SWPs
Working Alone	<ul style="list-style-type: none"> Remote areas of site 			Landfill Working Alone SWP; Landfill Emergency Response Plan

Specifications are bound separately and available on CD. Refer to Part A section 6.0.

List of Specifications

Section No.	Description
00220	Soil Investigation Data
	Division 1 - General Requirements
01300	Submittal
01340	Shop Drawings
01400	Quality Control
01700	Contract Closeout
	Division 2 - Specifications
02050	Demolition
02220	Building Excavation and Backfill
02224	Excavation and Site Work
02650	Underground Piping
	Division 3 - Specification
03300	Cast-In-Place Concrete
	Division 5 - Specification
05500	Miscellaneous Metal
	Division 11 - Specification
11102	Testing
11210	Submersible Solids Handling Pumps
	Division 13 - Specification
13120	Pre-Engineered Buildings
	Division 16 - Specifications
16010	General Electrical Requirement
16030	Testing of Equipment
16045	Seismic Restraints
16050	Basic Materials and Methods
16110	Conduits, Fastenings and Fittings
16122	Wires and Cables
16128	Panel Wiring Devices and Methods
16130	Splitters, Junctions and Pull Boxes
16140	Wiring Devices
16160	Grounding
16440	Motor Control Center
16450	Instrumentation and Control Panel
16470	Secondary Grounding
16825	Variable Frequency Drive and Control Equipment
16970	Electrical Starting and Testing General Requirements

Appendices

Appendix A - Suggested Sequence of Construction

Appendix B - Soils Investigation & Report

Design Drawings (issued for tender) are bound separately and available electronically on CD. Refer to Part A Section 6.0.

List of Design Drawings

Drawing No.	Description
E-001	Electrical - Location Plan, Drawing Index, Symbols & Legend
E-002	Electrical - Single Line Diagram - Temp. Arrangement
E-003	Electrical - Single Line Diagram - Final Installation
E-004	Electrical - Single Line Diagram - Existing
E-100	Electrical - Site Plant & Conduit Layout - Temp. Arrangement
E-101	Electrical - Pump Station Building Plan and Schedules
E-102	Electrical - Site Plan & Conduit Layout - Final Installation
E-103	Electrical - Site Plan & Conduit Layout - Existing
E-501	Electrical - VFD Wiring Schematics
E-502	Electrical - Soft Starter Wiring Schematics
E-601	Electrical - Control Wiring Block Diagram
E-602	Electrical - Control Panel Layout & Details
E-603	Electrical - Control System Architecture & PLC Layout
E-604	Electrical - Redundant PLC & Power Supply Control Schematic
E-605	Electrical - PLC 1 Interconnection Diagram Rack 1, Slots 0,1,2,3
E-606	Electrical - PLC 1 Interconnection Diagram Rack 1, Slot 4; Rack 2, Slots 01,2
E-607	Electrical - PLC 1 Interconnection Diagram Rack 2, Slots 4 & 5
E-608	Electrical - PLC 1 Interconnection Diagram Rack 2, Slot 7
E-609	Electrical - PLC 2 Interconnection Diagram Rack 1 & Rack 2
E-610	Electrical - PCL Power Connections And Typical I/O Wiring
G-001	General - Details
S-100	Structural - Electrical Equipment Enclosure, Plan & Details
M-001	Process Mechanical - Leachate Pump Station Piping Modification
M-002	Process Mechanical - Process Piping & Instrumentation Diagram