

### **REQUEST FOR QUOTATIONS**

Title: CLOVERDALE CURLING RINK REPAIRS

1220-040-2016-011

Reference No.:

### **MINOR WORKS SERVICES**

(Construction Services)

#### **REQUEST FOR QUOTATIONS**

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#### **REQUEST FOR QUOTATIONS**

#### 1. INTRODUCTION

The City of Surrey (the "City") invites contractors to provide a quotation on the form attached as Schedule C (the "Quotation") for the supply of the goods (if any) and services described in Schedule A (the "Work"). The description of the Work sets out the minimum requirements of the City. A person that submits a Quotation (the "Contractor") should prepare a Quotation that meets the minimum requirements, and may as it may choose, in addition, to also include goods, services or terms that exceed the minimum requirements.

#### 2. ADDRESS FOR DELIVERY

A Quotation should be labelled with the Contractor's name, RFQ title and number. A Quotation should be submitted in the form attached to this RFQ as Schedule C – Form of Quotation.

The Contractor may submit a Quotation either by email or in a hard copy, as follows:

(a) Email

If the Contractor chooses to submit by email, the Contractor should submit the Quotation electronically in a single pdf file to the City by email at: <u>purchasing@surrey.ca</u>.

PDF emailed Quotations are preferred and the City will confirm receipt of emails. Note that the maximum file size the City can receive is 10Mb. If sending large email attachments, Contractors should phone to confirm receipt. A Contractor bears all risk that the City's equipment functions properly so that the City receives the Quotation.

(b) Hard Copy

If the Contractor chooses NOT to submit by email, the Contractor should submit one original unbound Quotation and one (1) copy (two (2) in total) which should be delivered to the City at the office of:

Name:	Richard D. Oppelt Purchasing Manager at the following location:
Address:	Surrey City Hall Finance & Technology Department – Purchasing Section Reception Counter 5 <sup>th</sup> Floor West 13450 – 104 <sup>th</sup> Avenue, Surrey, B.C., Canada, V3T 1V8

#### 3. DATE

The City would prefer to receive Quotations on or before <u>January 14, 2016</u>. The City's office hours are 8:30 a.m. to 4:00 p.m., Monday to Friday, except statutory holidays.

#### 4. INQUIRIES

All inquiries related to this Request for Quotations ("RFQ") should be directed in writing to:

Name:	Richard D. Oppelt, Purchasing Manager
Email:	purchasing@surrey.ca
Reference:	1220-040-2016-011

#### 5. ADDENDA

If the City determines that an amendment is required to this RFQ, the City's Representative will issue a written addendum by posting it on the BC Bid Website at <u>www.bcbid.gov.bc.ca</u> (the "BC Bid Website) and the City Website at <u>www.surrey.ca</u> (the "City Website") that will form a part of this RFQ. It is the responsibility of Contractor to check the BC Bid Website and the City Website for addenda. The only way this RFQ may be added to, or amended in any way, is by a formal written addendum. No other communication, whether written or oral, from any person will affect or modify the terms of this RFP or may be relied upon by any Contractor. By delivery of a Quotation, the Contractor is deemed to have received, accepted and understood the entire RFQ, including any and all addenda.

#### 6. NO CONTRACT

This RFQ is simply an invitation for quotations (including prices and terms) for the convenience of all parties. It is not a tender and no obligations of any kind will arise from this RFQ or the submission of Quotations. The City may negotiate changes to any terms of a Quotation, including terms in Schedule A, Schedule B and Schedule C and including prices, and may negotiate with one or more Contractors or may at any time invite or permit the submission of quotations (including prices and terms) from other parties who have not submitted Quotations.

#### 7. ACCEPTANCE

A Quotation will be an offer to the City which the City may accept at any time by signing the copy of the Quotation and delivering it to the Contractor. A Quotation is not accepted by the City unless and until both the authorized signatory and the purchasing representative have signed the Contract on behalf of the City. Delivery of the signed Quotation by the City may be by pdf email. In that event, the resulting Contract will be comprised of the documents included in the definition of Contract in Schedule B – Draft Contract – Minor Works.

#### 8. CONTRACTOR'S EXPENSES

Contractors are solely responsible for their own expenses in preparing and submitting Quotations, and for any meetings, negotiations or discussions with the City or its representatives and consultants, relating to or arising from the RFQ. The City will not be liable to any Contractor for any claims, whether for costs, expenses, losses or damages, or loss of anticipated profits, incurred by the Contractor in preparing and submitting a Quotation, or participating in negotiations for a contract, or other activity related to or arising out of this RFQ.

#### 9. CONTRACTOR'S QUALIFICATIONS

By submitting a Quotation, a Contractor represents that it has the expertise, qualifications, resources, and relevant experience with the requirements of the Work. Tradesmen engaged in the performance of the Work shall be qualified in accordance with the requirements of the *Tradesman Qualification Act* and all pertinent licensing requirements required by the Ministry of Municipal Affairs.

#### 10. CONFLICT OF INTEREST

A Contractor must disclose in its Quotation any actual or potential conflicts of interest and existing business relationships it may have with the City, its elected or appointed officials or employees. The City may rely on such disclosure.

#### 11. SOLICITATION OF COUNCIL MEMBERS, CITY STAFF AND CITY CONSULTANTS

Contractors and their agents will not contact any member of the City Council, City staff or City consultants with respect to this RFQ, other than the contact person named in Section 4, at any time prior to the award of a contract or the cancellation of this RFQ.

#### 12. CONFIDENTIALITY

All Quotations become the property of the City and will not be returned to the Contractor. All Quotations will be held in confidence by the City unless otherwise required by law. Contractors should be aware the City is a "public body" defined by and subject to the Freedom of Information and Protection of Privacy Act of British Columbia.

#### 13. SIGNATURE

The legal name of the person or firm submitting the Quotation should be inserted in the Quotation. The Quotation should be signed by a person authorized to sign on behalf of the Contractor and include the following:

- (a) If the Contractor is a corporation then the full name of the corporation should be included, together with the names of authorized signatories. The Quotation should be executed by all of the authorized signatories or by one or more of them provided that a copy of the corporate resolution authorizing those persons to execute the Quotation on behalf of the corporation is submitted;
- (b) If the Contractor is a partnership or joint venture then the name of the partnership or joint venture and the name of each partner or joint venturer should be included, and each partner or joint venturer should sign personally (or, if one or more person(s) have signing authority for the partnership or joint venture, the partnership or joint venture should provide evidence to the satisfaction of the City that the person(s) signing have signing authority for the partnership or joint venture). If a partner or joint venturer is a corporation then such corporation should sign as indicated in subsection (a) above; or
- (c) If the Contractor is an individual, including a sole proprietorship, the name of the individual should be included.

#### 14. INFORMATION MEETING

An information meeting will be hosted by the City Representative to discuss the City's requirements under this RFQ (the "Information Meeting"). While attendance is at the discretion of Contractors, Contractors who do not attend will be deemed to have attended the Information Meeting and to have received all of the information given at the Information Meeting.

At the time of issuance of this RFQ a meeting has been schedule as follows:

Date: January 6, 2016

Time: 10:00 am

Location: 6150 176th Street, Surrey, BC

Contractors are to examine the site prior to submitting a Quotation to fully acquaint themselves with all existing conditions reasonably inferable from examination of the site and its surroundings and the RFQ and to make allowance for such conditions in the Quotation. By submitting a Quotation, a Contractor represents that it has examined the site fully as to all conditions, contingencies, risks and circumstances, local or otherwise, which might influence or affect the performance or the cost of the work, including but not limited to: location of the work, location of buildings on the site, adjacent properties, Contractor experienced in work similar to the work would consider and take into account, and is further deemed to have included in the contract price all costs occasioned thereby.

#### SCHEDULE A – SCOPE OF WORK AND DRAWINGS

#### PROJECT TITLE: CLOVERDALE CURLING RINK REPAIRS

#### PROJECT No.: 1220-040-2016-011

#### 1. DESCRIPTION OF SCOPE OF WORK

To provide all labour, supervision, materials, plant, equipment, layout, survey, permits, and inspections, and related services to Cloverdale Curling Rink Repairs. Furnish certificates confirming work conforms to requirements of Authorities having jurisdiction.

Job site location is 6150 176<sup>th</sup> Street, Surrey, BC.

The general components of the work include the installation of piles where differential settlement occurred and the repair of the block walls affected by this settlement, and related works. The renovations will not adversely affect the existing gravity of lateral load resisting capacity of the existing building.

The detailed scope of work is as described on the Contract Drawings (listed below), Special Provisions (Schedule B – Appendix 1), and Supplementary Specifications (Project) (Schedule B- Appendix 2).

The lack of and/or omission of detailed specifications does not minimize the acceptable levels of service and only the best commercial practices are acceptable.

Contractor to comply with all BC Plumbing Code, BC Fire Marshal, BC Workers' Compensation Board, National Building Code of Canada, BC Boiler Inspector, BC Electrical Inspector, National Fire Protection Association, and any other authorities having local jurisdiction. Failure to abide by these rules and regulations will result in being immediately escorted from the work site.

#### 2. CONTRACT DRAWINGS (e.g. Architectural; Mechanical; Electrical and Structural)

DRAWING NUMBER SPECIFICATION	DRAWING INDEX/TITLE	DATE OF ISSUE
S101	General Notes and Table	Nov. 26, 2015
S201	Part Existing Plans	Nov. 26, 2015
S301	Details	Nov. 26, 2015

The following drawings are included as part of this RFQ.

	SCHEDULE B SAMPLE CONTRACT – MINOR WORKS
Title:	CLOVERDALE CURLING RINK REPAIRS
	AGREEMENT No.: 1220-040-2016-011
THIS A	AGREEMENT dated the day of, 201
BETW	EEN:
	CITY OF SURREY 13450 – 104 Avenue Surrey, B.C., Canada, V3T IV8
AND:	(the "City") OF THE FIRST PART
	(Full legal name and address of Contractor (the "Contractor")

#### OF THE SECOND PART

WHEREAS the Contractor wishes to undertake the following project for the benefit of the City:

#### Cloverdale Curling Rink Repairs

**NOW THEREFORE THIS CONTRACT WITNESSETH** that in consideration of the premises and payment of One (\$1.00) Dollar and other good and valuable consideration paid by each of the parties to each other (the receipt and sufficiency of which each party hereby acknowledges), the parties hereby covenant and agree with each other as follows:

#### 1. **DEFINITIONS**

- 1.1 For the purposes of this Contract, the following terms shall have the meanings set forth below:
- (a) "Certification of Completion" means a certificate issued indicating that Substantial Performance of the Work has been achieved;

- (b) "Certificate of Total Performance" means a certificate issued indicating that the Work has been achieved;
- (c) "Change" means:
  - (i) an addition to the Work that is both of a type and character similar to the Work as defined in the Contract Documents; or
  - (ii) a deletion of the Work indicated in the Contract Documents; or
  - (iii) an alteration of the Work indicated in the Contract Documents, within the general scope of the Work as described in the Contract Documents;
- (d) "Change Order" means a written approval setting out a description of the Work covered by the Change, the price or method of valuation for the Work, the change in the Contract Price and adjustment, if any, to the Contract Time;
- (e) "City" means the City of Surrey;
- (f) "City's Representative" means the Manager of Purchasing;
- (g) "Consultant" is the person or entity engaged by the City and identified as such in the Contract;
- (h) "Contract Administrator" is the person or entity engaged by the City and identified as such in the Contract;
- (i) "Construction Schedule" means a construction schedule indicating the planned start and completion dates of the major activities of the Work as set out in Appendix 4;
- (j) "Contract" means this Contract as set out and described in the Contract Documents;
- (k) "Contract Documents" means this Contract including all schedules and appendices, construction standards, specifications and drawings;
- (I) "Contract Price" means the price of the Work as set out Section 4.1 of this Contract;
- (m) "Contract Time" means the period of time for the completion of the Work as provided by the Contract Documents;
- (n) "Contractor" means the person, firm or corporation identified as such in this Contract and includes the Contractor's authorized representative as designated to the City in writing;
- (o) "Contractor's Representative" means the person appointed by the Contractor to represent the Contractor for the purposes of this Contract and so notified to the City in writing;
- (p) "Drawings" means the graphic and pictorial portions of the Contract Documents, wherever located and whenever issued, showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details and diagrams;
- (q) "Extra Work" means additional Work that the City may wish performed that is Extra Work and not a Change. Extra Work may be declined by the Contractor or may, upon agreement between the parties, be undertaken as Extra Work;

- (r) "Payment Certifier" is the person or entity identified as such in the Contract responsible for the issuance of certificates of payment;
- (s) "Place of Work" means the designated site or location where the Work products are to be finally or permanently constructed or installed;
- (t) "Project Manager" is the person or entity engaged by the City and identified as such in the Contract;
- (u) "Substantial Performance" means the Work, or a substantial part of it, is ready for use or is being used for the purpose intended;
- (v) "Total Performance" means the date of the City's acceptance of the Work in writing as fully performed according to the Contract Documents; and
- (w) "Work" means and includes anything and everything required to be done for the fulfillment and completion of this Contract.

#### 2. THE WORK

- 2.1 The Contractor will perform all Work and provide all labour, equipment and material and do all things strictly as required by the Contract Documents, including without limitation the scope of work and drawings specified in Schedule A Scope of Work and Drawings.
- 2.2 The Contractor will commence the Work on or before (start date). The Contractor will proceed with the Work diligently, will perform the Work generally in accordance with the Construction Schedule as set out in Appendix 4 as required by the Contract Documents and will achieve Substantial Performance of the Work on or before (end date). subject to the provisions of the Contract Documents for adjustments to the Contract Time.
- 2.3 Time shall be of the essence of the Contract.

#### 3. CONTRACT DOCUMENTS

- 3.1 All of the Contract Documents shall constitute the entire Contract between the City and the Contractor.
- 3.2 The Contract supersedes all prior negotiations, representations or agreements, whether written or oral, and the Contract may be amended only in strict accordance with the provisions of the Contract Documents.
- 3.3 If there is any inconsistency or conflict between the provisions of the Contract Documents, then the Contract Documents shall govern and take precedence in the following order with this Contract taking precedence over all other Contract Documents:
  - (a) Contract;
  - (b) Addenda (if any);
  - (c) Construction Standards;
  - (d) Specifications;
  - (e) Drawings; and
  - (f) all other Contract Documents.

#### 4. CONTRACT PRICE

- 4.1 The Contract Price for the Work shall be the sum of \_\_\_\_\_ Dollars and \_\_\_\_\_ Cents (\$\_\_\_\_\_\_), plus goods and services tax in the amount of \_\_\_\_\_\_Dollars and \_\_\_\_\_\_Cents (\$\_\_\_\_\_\_), for a total Contract Price of \_\_\_\_\_\_Dollars and \_\_\_\_\_\_Cents (\$\_\_\_\_\_\_) in Canadian funds (the "Contract Price") plus any adjustments approved by the City, including any payments owing on account of Change Orders and agreed to Extra Work, approved in accordance with the provisions of the Contract Documents.
- 4.2 The Contract Price shall be the entire compensation due to the Contractor for the Work and this 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. The Contract Price is a firm fixed price.

#### 5. HOLDBACKS

- 5.1 The City shall hold back 10%, or other percentage as required by the *Builders Lien Act*, S.BC 1997, c. 45, as amended (the "*Builders Lien Act*"), of any amounts due to the Contractor as a builders lien holdback.
- 5.2 In addition to other holdbacks as provided by the Contract Documents, when considering Substantial Performance, the City may hold back from payments otherwise due to the Contractor 200% of a reasonable estimate, as determined by the City's Representative, on account of deficient or Defective Work already paid for. This holdback may be held, without interest, until such deficiency or defect is remedied. The items of defect or deficiency and the amounts of related holdback shall be listed separately on the invoice.
- 5.3 If after Substantial Performance is achieved the Contractor is unable to complete any of the Work because of climatic or other conditions beyond the Contractor's reasonable control, then the City may hold back from payments otherwise due to the Contractor the amount as estimated by the City's Representative in consultation with the Contractor by which the cost to have others complete the Work exceeds the estimated Contract Price for such Work.
- 5.4 The City may, in addition to other holdbacks as provided by the Contract Documents, hold back an amount equal to any lien which has been filed with respect to the Work, plus 15% as security for costs. The City may, at its option, after five (5) days written notice to the Contractor, pay such amount into court to discharge the lien. If the lien is discharged without payment of the holdback into court, then the City shall pay such holdback to the Contractor, without interest.
- 5.5 **Holdback period of 55 days will follow the date of substantial performance**. The City will perform a court registry search on the 46th day, on a best effort basis.

#### 6. INVOICING AND PAYMENT

6.1 Subject to applicable legislation, including without limitation the holdbacks referred to in above, and the provisions of the Contract Documents, the City shall make payments to the Contractor thirty (30) days after receipt of any invoice from the Contractor on a commercial best effort basis.

- 6.2 The Contractor shall submit invoice(s) for payment to the City, based on the completion of each phase of the Work. Any and all Extra Work as approved by the City, must be clearly identified and quantified on a separate invoice(s).
- 6.3 The invoice(s) submitted for the completion of each project phase shall be clearly itemized to the details of the phase completed or the amount of Work performed, the billing rates, show an invoice number, contractor's name, address, telephone number, reference the City's purchase order number or name and location of employee, and in an itemized manner the amount due for each phase completed, tax (if any) and a grand total. The grand total will be subject to holdbacks.
- 6.4 The payment by the City of any monthly or other payment shall not bind the City with respect to any subsequent payment or the final progress payment, but shall be taken as approximate only, and shall not mean, or be construed to mean, that the City has accepted Work that is not in accordance with the requirements of the Contract Documents, or that the Contractor is in any manner released from its obligation to comply with the Contract Documents.
- 6.5 For earlier payment, the Contractor can offer a cash discount. All payment cheques are mailed.

Invoices will be submitted by the Contractor by mail to:

Name:Lorne Anuik, Facilities Maintenance Project Manager.Address:14645 – 66<sup>th</sup> Avenue, Surrey, BC V3S 5M2

#### 7. PERFORMANCE OF THE WORK

- 7.1 The Contractor will perform and provide all labour, services and other acts, and provide all equipment, machinery, water, heat, power, and facilities required for performance of the Work.
- 7.2 The Contractor will not proceed with any work that is not part of the Work, except in accordance with the Contract.
- 7.3 The Contractor will apply for and pay for all necessary permits and licenses and pay all fees required for the performance of the Work.

#### 8. CHANGES

- 8.1 The City may, without invalidating the Contract, change the Work by adding to or deducting from the Work in which event the Construction Schedule will be adjusted.
- 8.2 The Contractor will not proceed with any Change without a written Change Order signed by the City.
- 8.3 The Contractor's overhead and profit will not be allowed on Change Orders paid for from allowances specified in the contract.
- 8.4 The value of a change in the Work shall be determined by one or more of the following methods as selected by the Consultant in consultation with the City.
  - (a) by estimate and acceptance in a lump sum;

- (b) by unit prices set out in the Contract or subsequently agreed upon;
- (c) by actual cost and an allowance for overhead and profit as follows:
  - (1) Contractor's overhead and profit on expenditures from allowances, including Extra Work paid for from the contingency allowance, shall be included in the Contract Price.
  - (2) For changes in the Work not covered by a contingency allowance, the Contractor's overhead and profit shall be a maximum of ten percent (10%) of the actual cost of Work performed directly by the Contractor for a Change or part thereof.
  - (3) The Contractor will be entitled to charge a mark-up for overhead and profit equal to a maximum of five percent (5%) of the actual cost of work performed directly by a subcontractor a change or part thereof, provided, however, that where the subcontractor is a wholly owned subsidiary of the Contractor no mark-up for overhead and profit whatsoever shall be charged by the Contractor or paid by the City.
  - (4) The subcontractor's allowance for overhead and profit for a change shall be limited to a maximum of five percent (5%) of the actual cost of the Work performed by the subcontractor.
  - (5) Where the change involves the substitution of one type of product for another the actual cost of the Change, whether credit or extra, shall be the net difference in the actual cost.
  - (6) For avoidance of doubt, the Contractor's hourly labour rates stated in Schedule C will be applicable to changes in Work without any mark-up.

#### 9. SITE CONDITIONS

- 9.1 The Contractor acknowledges and agrees that:
  - (a) it has had the opportunity to undertake additional examinations or subsurface investigations, or both, of the Place of Work, including any buildings or structures involved with the Work, in order to satisfy itself as to site conditions, including subsurface conditions and the impact they could have on the Work and the Contract; and
  - (b) it is not entitled to any adjustment in the Contract, or to any other remuneration or damages whatsoever, in any way connected with the site conditions at the Place of Work, including subsurface conditions.

#### 10. DOCUMENTS

- 10.1 The Contractor will keep one copy of the Contract, including the schedules and all drawings, specifications and shop drawings, at the Place of Work in good order and available for review by the City's Representative, and deliver a complete set to the City upon Substantial Performance of the Work.
- 10.2 The Contractor agrees that the City is hereby granted an unconditional and irrevocable perpetual license to reproduce and use, in whole or in part, and for any purpose or other project or work the City desires, all matters contained in or set out in the Contract including all drawings and specifications and all models furnished by the Contractor, and the Contractor agrees that the license granted by this section comprises the copyright, industrial design, trademark and all other intellectual property therein.

#### 11. TIME

- 11.1 The Contractor will proceed diligently and complete the Work in a good and workmanlike manner and strictly in accordance with the Construction Schedule.
- 11.2 If the Contractor is delayed in the performance of the Work by any act or neglect of the City, the Construction Schedule will be extended for such time as may be agreed by the City and the Contractor, acting reasonably.
- 11.3 The Contractor will, as required by the City, provide or up-date the Construction Schedule, showing the anticipated start and completion dates and durations of the major elements of the Work. Failure or refusal to provide a Construction Schedule or up-date will be a default.
- 11.4 Time is of the essence of the Contract.

#### 12. TAXES AND DUTIES

- 12.1 The Contractor will pay all taxes, custom duties and other charges relating to the Work, and the supply and installation of all materials and equipment included in the Work.
- 12.2 Where an exemption of taxes, custom duties or other charges is applicable to the Contract by way of the Contractor filing claims for, or cooperating fully with the City and the proper authorities in seeking to obtain such refunds, the Contractor will make such applications and provide such cooperation. Refunds that are properly due to the City and have been recovered by the Contractor will be promptly refunded to the City.

#### 13. BUILDER'S LIENS

13.1 The Contractor will immediately take steps to keep the Place of Work free of any builder's liens and certificates of pending litigation and the Contractor will defend and indemnify the City from any builder's lien or certificate of pending litigation filed as a result of the Work. The Contractor will pay all costs and expenses including actual legal costs incurred by the City as a result of any builder's lien or certificate of pending litigation related to the Work.

#### 14. CITY DIRECTIONS

- 14.1 The Contractor will in all respects complete the Work in accordance with the City's requirements and standards and to the satisfaction of the City.
- 14.2 The City's Representative may at any time and from time to time inspect the Work.
- 14.3 The Contractor will comply with all directions from the City relating to the coordination of the Work with the activities of the City or with other contractors hired by the City, should there be any.
- 14.4 The Contractor will have total control of the Work and will be solely responsible for ensuring the Work is in accordance with the requirements of the Contract.

#### 15. INSPECTIONS

- 15.1 The Contractor will retain one or more independent contractors with the relevant professional education, skill and experience, to carry out and report upon all testing and other inspection activities necessary to confirm the Work is in accordance with the requirements of the Contract. The Contractor will promptly provide copies of such reports to the City's Representative.
- 15.2 If Work is designated for tests, inspections or approvals by authorized agencies, the Contractor will give the City's Representative reasonable notice of when the Work will be ready for review and inspection.

#### 16. USE OF PLACE OF WORK

- 16.1 The Contractor will confine its tools, machinery, equipment and materials to limits as may be established by the City's Representative, acting reasonably.
- 16.2 The Contractor will maintain the Place of Work in a tidy condition and free from the accumulation of waste products and debris, other than that caused by the City.
- 16.3 Prior to application for the Certificate of Total Performance, the Contractor will remove all surplus products, tools, machinery and equipment, and any waste and debris, and leave the Place of Work clean and suitable for occupancy.
- 16.4 The Contractor will not have exclusive use of the Place of Work, and will undertake the Work in cooperation with the City, and other users of the Place of Work as the City may permit or direct.
- 16.5 The Contractor will protect the property adjacent to the Place of Work from damage and will hold the City harmless from any claims which may arise as a result of the Contractor's operations under the Contract, or from failure to provide such protection, or both.
- 16.6 The Contractor will protect the Work, the Place of Work, the City's property from damage and will be responsible for any damage which may arise as a result of operations under the Contract, except damage which occurs as a result of actions of the City.
- 16.7 Should any damage occur to the Work, the Place of Work, or the City's property, or all of the aforementioned, for which the Contractor is responsible, the Contractor will:
  - (a) make good such damage to the Work, and
  - (b) if the City so directs, make good such damage to the City's property, and the Construction Schedule will be extended for such time as may be agreed by the City and the Contractor, acting reasonably.
- 16.8 The City or the occupier of the Work or Place of Work may take possession of and use any completed portion of the Work regardless of the time for completion of the Work. Such possession or use will not be construed as final acceptance of the Work or portion.

#### 17. SUPERVISION

17.1 The Contractor will provide competent supervision as is necessary to perform the Work.

#### 18. CODES AND REGULATIONS

18.1 The Contractor will perform the Work in full compliance with all applicable federal, provincial and municipal enactments, codes and regulations.

#### 19. CONTRACTOR'S WARRANTY

- 19.1 The Contractor represents, warrants and guarantees to the City that:
  - (a) the Work will, in all respects, be constructed in a good and workmanlike manner;
  - (b) the Work will be constructed in accordance with all applicable laws in effect at the date of the Contract and in accordance with the best current and prevailing industry practices;
  - (c) the Work will be supplied, procured, fabricated, installed, constructed and completed in accordance with all requirements of the Contract;
  - (d) all Work will be free from defects or deficiencies arising from faulty construction, faulty material, faulty equipment, faulty installation or faulty workmanship;
  - (e) the Work as constructed will be fit for the purpose intended;
  - (f) title to all Work and all parts thereof shall be free and clear of all liens, charges, encumbrances and adverse claims whatsoever; and
  - (g) no part of the Work shall constitute an infringement of any patent, trade mark, copyright or other proprietary interest.
- 19.2 The Contractor agrees to correct any deficiency in the Work arising from faulty construction, faulty material, faulty equipment, faulty installation or faulty workmanship, which appear:
  - (a) in the case of any roof, in the period of five (5) years after Substantial Performance of the Work;
  - (b) for other Work, excluding Work covered by a warranty greater than twelve (12) months, in the period of twelve (12) months after the date of Substantial Performance of the Work; and
  - (c) for other Work in the period of any warranties.
- 19.3 The Contractor shall undertake all repairs or replacements at times that will minimize interference with the City's operations.
- 19.4 Nothing contained herein limits the rights of the City in relation to recovery for latent deficiencies in the Work or otherwise limits the rights of the City at law or in equity.
- 19.5 The Contractor shall not be relieved of its warranty obligations by reason of inspection, testing or acceptance of the Work or any portion thereof, or the issuance of a Certification of Completion, or a Certificate of Total Performance, or payment to the Contractor of any money under the Contract.

#### 20. WAIVERS

20.1 The Contractor's application for the Certification of Completion shall constitute a waiver and release by the Contractor of any and all claims arising out of or relating to the Contract to the date of Substantial Performance. This waiver shall include without limitation those that might arise from the negligence or breach of contract by the City, the City's Representative and their respective employees, agents, officers and contractors, but does not include claims made by the Contractor in writing prior to such application in accordance with the

provisions of the Contract Documents and delivered to the City's Representative prior to date of Substantial Performance and still unsettled.

20.2 The Contractor's application for the Certificate of Total Performance shall constitute a waiver and release by the Contractor of any and all claims arising out of or relating to the Contract that have arisen between the date of Substantial Performance and the date of the Certificate of Total Performance. This waiver shall include those that might arise from the negligence or breach of contract by the City, the City's Representative, and their respective employees, agents, officers and contractors, but does not include claims by the Contractor in writing prior to such application in accordance with the provisions of the Contract Documents and delivered to the City's Representative and still unsettled.

#### 21. SUBSTANTIAL PERFORMANCE

- 21.1 The City or its contractor will, after receipt of a written application from the Contractor for a Certification of Completion, make an inspection and assessment of the Work and issue a Certification of Completion or if the City decides that Substantial Performance has not been achieved, consult with the Contractor and advise the Contractor of the Work required to achieve Substantial Performance.
- 21.2 An application for Substantial Performance shall be accompanied by:
  - (a) a sworn declaration in a form acceptable to the City Representative that all amounts relating to the Work, due and owing as of the end of the month covered by the invoice to third parties including all subcontractors and suppliers, have been paid; and
  - (b) documentation satisfactory to the City's Representative showing compliance with Workers' Compensation Board requirements.
- 21.3 The City shall pay any builder's lien holdback as required by the *Builders Lien Act*, or on such other date as required by law, but the City may hold back the amounts for any deficiencies or filed builder's liens.
- 21.4 The City's Representative shall be the payment certifier responsible for payment certification for the Contractor under the *Builders Lien Act*. The Contractor shall be the person responsible for payment certification for all subcontractors, including the subcontractors, as required under the *Builders Lien Act*.

#### 22. TOTAL PERFORMANCE

- 22.1 Before applying for a Certificate of Total Performance, the Contractor will provide to the City the following:
  - (a) complete sets of digital drawings and specifications, in reproducible form, showing the as-built Work;
  - (b) complete sets of maintenance manuals for any and all equipment comprised in the Work; and
  - (c) the results of quality control testing by the Contractor.
- 22.2 The Contractor may apply for a Certificate of Total Performance and the procedure and requirements for the issuance of the Certificate of Total Performance shall include the provision by the Contractor of the sworn declaration and Workers' Compensation Board compliance documentation.

#### 23. WORKERS' COMPENSATION BOARD AND OCCUPATIONAL HEALTH AND SAFETY

- 23.1 The Contractor agrees that it shall, at its own expense, procure and carry, or cause to be procured, carried and paid for, full Workers' Compensation Board 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 the Workers' 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 Workers' Compensation Board premiums, assessments or penalties in respect of the Work done or service performed in fulfilling this Contract have been paid in full.
- 23.2 The Contractor shall provide the City with the Contractor's Workers' Compensation Board registration number and a letter from the Workers' Compensation Board confirming that the Contractor is registered in good standing with the Workers' Compensation Board and that all assessments have been paid to the date thereof prior to the City having any obligations to pay monies under this Contract.
- 23.3 Without limiting the generality of any other indemnities granted by the Contractor in this Contract, the Contractor shall indemnify and hold harmless the City, its elected and appointed officials, employees and agents, from all manner of claims, demands, costs, losses, penalties and proceedings (including all actual legal costs) arising out of or in any way related to unpaid Workers' Compensation Board assessments owing from any person or corporation engaged in the performance of this Contract or arising out of or in any way related to the failure to observe safety rules, regulations and practices of the Workers' Compensation Board, including penalties levied by the Workers' Compensation Board.
- 23.4 The Contractor agrees that it is the prime contractor for the Work as defined in the Workers Compensation Act, R.S.B.C. 1996, c. 492 as amended and will ensure compliance with the Workers Compensation Act and Regulations in respect of the workplace. Without limiting its responsibilities under the legislation, the Contractor will coordinate the activities of employers, workers and other persons at the workplace relating to occupational health and safetv. The Contractor shall have a safety program acceptable to the Workers' Compensation Board, shall provide first aid services, and shall ensure that all Workers' Compensation Board safety rules and regulations are observed during the performance of this Contract, not only by the Contractor, but by all sub-contractors, workers, material personnel and others engaged by the Contractor in the performance of this Contract. The Prime Contractor shall appoint a qualified coordinator for the purpose of ensuring the coordination of health and safety activities for the workplace. Prior to commencement of Construction, the Contractor shall complete and file a "Construction Notice of Project" with the Workers' Compensation Board and shall provide a copy of the same to the City confirming that the Contractor shall be the Oprime contractor responsible for coordination of safety and health under Part 3 of the Workers' Compensation Act and Part 20 of the WCB Occupational Health and Safety Regulations. That person will be the person so identified in this Contract, and the Contractor will advise the City immediately in writing if the name or contact number of the qualified coordinator changes.
- 23.5 The Contractor will ensure compliance with and conform to all health and safety laws, by-laws or regulations of the Province of British Columbia, including without limitation any regulations requiring installation or adoption of safety devices or appliances.

- 23.6 The Contractor shall fulfill all its duties, obligations, and responsibilities in such a manner that it ensures the safety of the public and in accordance with the safety regulations of the Workers' Compensation Board and shall install signs and barriers as required to ensure the safety of the public and of its employees in the use of the City facilities.
- 23.7 The Contractor understands and undertakes to comply with all the Workers' Compensation Board Occupational Health and Safety Regulations for hazardous materials and substances, and in particular with the "Workplace Hazardous Materials Information System (WHMIS)" Regulations. All "Material Safety Data Sheets (MSDS)" shall be shipped along with the goods, materials, products and any future MSDS updates shall be forwarded.

#### 24. INSURANCE

- 24.1 The Contractor will obtain and carry, in forms and with insurers satisfactory to the City:
  - (a) commercial general liability insurance in a wrap up form with a limit of five million (\$5,000,000) dollars inclusive per occurrence for bodily injury, death and damage to property;
  - (b) the insurance shall include the Contractor, the City, the project manager, all contractors, subcontractors, suppliers and tradesmen contributing to the Work;
  - (c) the insurance shall preclude subrogation claims by the insurer against anyone insured hereunder;
  - (d) the insurance shall include coverage for:
    - broad form products and completed operations,
    - City's and contractor's protective liability,
    - contractor's contingent liability,
    - blanket written contractual,
    - contingent employer's liability,
    - personal injury liability,
    - non-owned automobile,
    - cross liability,
    - employees as additional insured's, and
    - broad form property damage;

and where such further risk exists:

- shoring, blasting, excavating, underpinning, demolition, removal, pile-driving and caisson work, work below ground surface, tunnelling and grading, as applicable, and
- operation of attached machinery.
- (e) product and completed operations liability insurance, to remain in full force and effect for a period of not less than twelve (12) months following completion of the Work;
- (f) professional errors and omissions insurance in an amount not less two million (\$2,000,000 dollars insuring all professionals providing the Services from liability resulting from errors or omissions in the performance of the Services, with a 12 month maintenance period, for the Contractor's professional contractors and subcontractors;
- (g) course of construction insurance against "all risks" of physical loss or damage, and shall extend to cover all materials, property, structures and equipment while in transit or storage and during construction, erection, installation and testing, but such insurance shall not include coverage for the Contractor's equipment of any

description. Such insurance shall be maintained until Substantial Performance of the Work;

- (h) Automobile Liability insurance on all vehicles owned, operated or licensed in the name of the Contractor in an amount not less than less three million (\$3,000,000 dollars;
  - (i) the insurance shall include as an insured, each contractor and subcontractor, project manager, architect and engineer who is engaged in the Work; and
  - (ii) the insurance will contain a waiver of the insurer's rights of subrogation against all insured except where a loss is deemed to have been caused by or resulting from any error in design or any other professional error or omission.
- 24.2 The Contractor will provide proof of the required insurance coverage prior to commencing the Work. Such proof will be in the form of a City of Surrey certificate of insurance.
- 24.3 The Contractor acknowledges that any requirement or advice by the City as to the amount of coverage under any policy of insurance will not constitute a representation by the City that the amount required is adequate and the Contractor acknowledges and agrees that it is solely responsible for obtaining and maintaining policies of insurance in adequate amounts.
- 24.4 If requested to do so, the Contractor will provide the City with a copy of insurance policies relating to the Work.

#### 25. INDEMNIFICATION

25.1 The Contractor shall indemnify and hold harmless the City, its elected officials, its officers, agents and employees (collectively the "Indemnitees") from and against claims, demands, losses, costs, damages, actions, suits or proceedings by third parties that arise out of, or are attributable to, any act or omission or alleged act or omission of the Contractor, the Contractor's agents, employees or subcontractors or suppliers in performance of the Contract.

#### 26. REJECTED WORK

26.1 Work that is defective ("Defective Work"), whether the result of poor design, poor workmanship, use of defective materials or damage through carelessness or other acts, and whether incorporated in the Work or not, which has been rejected by the City as failing to conform to the Contract will be removed promptly by the Contractor and replaced and reexecuted promptly and properly at the Contractor's expense.

#### 27. DEFAULT

- 27.1 If the Contractor:
  - (a) is adjudged bankrupt, makes a general assignment for the benefit of creditors, or a receiver is appointed on account of its insolvency;
  - (b) fails to supply competent supervision, properly skilled workers or proper materials;
  - (c) fails to make prompt payment to its contractors, suppliers or workers;
  - (d) fails to observe, or breaches the provisions of the Contract;
  - (e) fails to remove and replace Defective Work;

- (f) abandons the Work; or
- (g) fails to adhere to the Construction Schedule;

the Contractor is in default of the Contract and the City may give the Contractor written notice to remedy such default. If the Contractor does not commence correction of such default within five (5) business days of receiving such notice and diligently pursue correction of such default, the City may suspend the Work or terminate the Contract, without prejudice to any other right or remedy the City may have.

- 27.2 The parties agree that if the City terminates the Contract under the conditions set out above, the City shall pay the Contractor:
  - (a) for all Work performed, plus reimbursement for expenditures made on account of the remaining Work, but shall not pay for profit and overhead on account of the remaining Work or any additional costs incurred because of the termination.
- 27.3 If the City terminates the Contract, the City may:
  - (a) take possession of the Work and materials, and utilize the Contractor's machinery and equipment at the Place of Work to the extent third party rights are not impaired, and bring the Work to completion by whatever method the City may deem expedient; and
  - (b) upon completion of the Work, charge the Contractor the full cost of completing the Work, as certified by the City's Representative, including remedying any deficiencies in the Work.

#### 28. CORRECTION BY CITY

28.1 In addition to the right of termination, if the Contractor fails to comply with a provision of the Contract, including failure to remove and replace Defective Work, the City may, without prejudice to any other remedy it may have, correct such default and charge the Contractor the full cost of correcting the default.

#### 29. DISPUTE RESOLUTION

29.1 The parties will make reasonable efforts to resolve any dispute, claim, or controversy arising out of this agreement or related to this agreement ("Dispute") using the dispute resolution procedures set out in this section.

#### **Negotiation**

The parties will make reasonable efforts to resolve any Dispute by amicable negotiations and will provide frank, candid and timely disclosure of all relevant facts, information and documents to facilitate negotiations.

#### **Mediation**

If all or any portion of a Dispute cannot be resolved by good faith negotiations within 30 days, either party may by notice to the other party refer the matter to mediation. Within 7 days of delivery of the notice, the parties will mutually appoint a mediator. If the parties fail to agree on the appointment of the mediator, then either party may apply to the British Columbia International Commercial Arbitration Centre for appointment of a mediator. The parties will continue to negotiate in good faith to resolve the Dispute with the assistance of

the mediator. The place of mediation will be Surrey, British Columbia. Each party will equally bear the costs of the mediator and other out-of-pocket costs, and each party will bear its own costs of participating in the mediation.

#### **Litigation**

If within 90 days of the request for mediation the Dispute is not settled, or if the mediator advises that there is no reasonable possibility of the parties reaching a negotiated resolution, then either party may without further notice commence litigation.

#### **30. ASSIGNMENT AND SUBCONTRACTS**

- 30.1 The Contractor agrees to preserve and protect the rights of the parties under the Contract with respect to Work to be performed under subcontract and to:
  - (a) enter into contracts or written agreements with subcontractors to require them to perform their work in accordance with and subject to the terms and conditions of the Contract Documents; and
  - (b) be as fully responsible to the City for acts and omissions of subcontractors and of persons directly or indirectly employed by them as for acts and omissions of persons directly employed by them. The Contractor agrees that he will incorporate the terms and conditions of the Contract Documents into all subcontract agreements entered into with subcontractors.
- 30.2 The Contractor agrees to employ those subcontractors proposed by in writing and accepted by the City at the signing of the Contract. The Contractor shall not, without the written consent of the City, change a subcontractor who has been engaged in accordance with the Contract.
- 30.3 The City may, for reasonable cause, object to the use of a proposed subcontractor and require the Contractor to employ one of the other subcontractors.
- 30.4 In the event that the City requires a Change from a proposed subcontractor, the Contract Price shall be adjusted by the difference in cost and mark-up occasioned by such required Change.
- 30.5 The Contractor shall not be required to employ as a subcontractor a person or firm to whom he may reasonably object.
- 30.6 The Contractor may, upon reasonable request and at its discretion, provide to a subcontractor information as to the percentage or quantity of the subcontractor's work which has been certified for payment.
- 30.7 Nothing contained in the Contract Documents shall create a contractual relationship between a subcontractor and the City.

#### 31. NOTICES

31.1 Any notice, report or other document that either party may be required or may wish to give to the other must be in writing, unless otherwise provided for, and will be deemed to be validly given to and received by the addressee, if delivered personally, on the date of such

personal delivery, if delivered by facsimile, on transmission, or it by mail, five calendar days after posting. The addresses for delivery will be as follows:

(a)	The City:	City of Surrey – Planning & Development 14645 – 66 <sup>th</sup> Avenue Surrey, B.C., Canada, V3S 5M2	
	Attention:	Lorne Anuik,	
	E-mail:	Facilities Maintenance Project Manager LAAnuik@surrey.ca	
(b)	The Contractor:	[Insert full legal name and address]	
	Attention		
	Attention:	[Insert Contractor contact name] [Insert title] [Insert]	
	E-mail:		
FOR	CE MAJEURE		

- 32.1 Each party will be excused from performance under this Contract for any period and to the extent that it is prevented from or delayed in performing any obligations pursuant to this Contract, in whole or in part, by any Force Majeure Event. The affected party may invoke this section by promptly notifying the other party in writing of the nature and estimated duration of the suspension of the party's performance. In such event, the affected party will be excused from further performance of obligations so affected for so long as such Force Majeure Event prevails and such party continues to use its best efforts to recommence performance whenever and to whatever extent possible without delay (except that a party is not required by this Section to compromise its position with respect to or settle any labour dispute in order to satisfy its obligations hereunder). For the avoidance of doubt, nothing in this Section will affect the City's right to terminate this Contract for convenience as provided in Section 27.
- 32.2 For the purposes of this Contract, "Force Majeure Event" will mean the occurrence of an event or circumstance beyond the reasonable control of a party, provided that (i) the non-performing party is without fault in causing or preventing such occurrence and (ii) such occurrence cannot be circumvented through the use of commercially reasonable alternative sources, workaround plans or other means. Force Majeure Events will include acts of federal, provincial, local or foreign governmental authorities or courts, war or insurrection, civil commotion, catastrophic events, including without limitation earthquakes, catastrophic weather conditions, pandemics, fires, floods, storms or other elements of nature or acts of God, and labour disturbances that affect the party claiming force majeure.

#### 33. NON ROAD DIESEL ENGINE EMISSION REGULATION

If you **own, operate**, or **hire** diesel powered equipment, Metro Vancouver's Non-Road Diesel Engine Emissions Regulation Bylaw No 1161, 2012 (the Bylaw) may impact your business. The Bylaw came into force on January 1, 2012 and requires owners or operators to register and label Tier 0 and Tier 1 non-road diesel engines that are 25

32.

horsepower (19kW) or greater in order to operate within Metro Vancouver. Tier 0 engines must have **90 days** of registration purchased by **December 31, 2014** or the engine(s) will be **prohibited from ever operating** in Metro Vancouver. To be fully registered an owner/operator must:

· provide required information (machine/engine/company details),

· pay fees, and

· label machines with Metro Vancouver issued registration number.

The City may, at its discretion, give preference to equipment that meets higher emission standards.

Contact Metro Vancouver staff at 604-451-6655, visit <u>www.metrovancouver.org/nonroaddiesel</u> or email nonroaddiesel@metrovancouver.org for more information about the Bylaw, the rebate program, and for assistance with the registration process.

#### \*\*\*END OF PAGE\*\*\*

#### 34. GENERAL

- 34.1 The Contract contains the entire agreement between the City and the Contractor and may not be amended except in writing and signed by both parties.
- 34.2 All schedules and appendices attached to the Contract will be read and construed as forming part of the Contract.
- 34.3 The Contract will be interpreted in accordance with the laws of the Province of British Columbia.
- 34.4 The headings are included in the Contract for convenience only and will not be referred to in interpreting the Contract.
- 34.5 No consent or waiver by either party to or of any breach or default by the other under the Contract will be effective unless in writing, nor will such consent or waiver be relied on as consent to or waiver of any other breach or default of the same or any other obligation.
- 34.6 Each party will, at its own expense, execute and deliver all such further agreements and documents and do such acts and things as may be reasonably required to give effect to the Contract.

**IN WITNESS WHEREOF** the parties hereto have executed the Contract on the day and year first above written.

#### **CITY OF SURREY**

by its authorized signatory(ies):

Insert Name of Person Signing

Insert Name of Person Signing

Insert Title of Person Signing

Insert Title of Person Signing

**CONTRACTOR** by its authorized signatory(ies):

Insert Name of Person Signing

Insert Title of Person Signing

Insert Name of Person Signing

Insert Title of Person Signing

#### SCHEDULE B – APPENDIX 1 SPECIAL PROVISIONS

#### S.P.1 Definitions

In these Special Provisions, unless the context otherwise requires,

"Section" means section of the Specifications or the Conditions of Contract.

"Item" means item of Fees and Payments – Schedule C – Form of Quotation.

#### S.P.2 Scope of Work

The scope of work includes the provision of all labour, supervision, materials, plant, equipment, layout, survey, permits, inspections, and other related services to complete the Cloverdale Curling Rink Repairs as noted in the drawings, complete with specifications in Appendix 1 – Special Provisions, Appendix 2 – Supplementary Specifications (Project) and Appendix 2-A – Contract Drawings. Furnish certificates confirming work conforms to requirements of Authorities having jurisdiction.

Job site location is 6150 176<sup>th</sup> Street, Surrey, BC.

The detailed scope of work is as described on the Contract Drawings (Appendix 2A), Special Provisions (Appendix 1), and Supplementary Specifications (Project) (Appendix 2).

The lack of and/or omission of detailed specifications does not minimize the acceptable levels of service and only the best commercial practices are acceptable.

#### S.P.3 Contract Time

The Work shall be carried out in accordance with the Construction Schedule as agreed to by the City, and as amended from time to time. Sufficient workers, materials, equipment, appliances, and services are to be kept on site at all times to maintain the scheduled completion of the Work. It further understood and agreed upon and made part of the Contract that the Work must be begun, performed, and completed in accordance with this schedule by the Contractor and if the Contractor fails to begin, perform without interruption, and complete the Work as required by this Contract, the Contractor may be declared in default of this Contract. If the Work is not substantially complete within the time required in Appendix 4 of this Contract, the Contractor shall pay to the City the following:

- a) Any expenses or damages which are incurred by the City as a result of the Contractor's failure to complete the work under this Contract within the time specified; and/or
- b) The sum of \$250.00 for each and every day after the date of Substantial Completion until the date of actual Substantial Completion. If the Work is not finally completed within the time required in the preceding Section 2 of the Contract, the Contractor will pay to the City, the sum of \$100.00 for each and every day after the date of Final Completion until the date of actual Final Completion.

#### S.P.4 Contract Administrator

The Contract Administrator is Lorne Anuik, Facilities Maintenance Project Manager, City of Surrey, 14645 – 66th Avenue, Surrey, BC, V3S 5M2. Telephone: 604-590-7205, E-mail: LAAnuik@surrey.ca.

#### S.P.5 Consultant

The Consultant is Wicke Herfst Maver Structural Engineers, 2227 Douglas Road Burnaby, BC, V5C 5A9. Telephone: (604) 484-2859 Fax: (604) 484-2861 E-mail: info@whmengineers.com, represented by: Brian Maver.

#### S.P.6 Project Manager

The Project Manager is Lorne Anuik, Facilities Maintenance Project Manager, City of Surrey, 14645 – 66th Avenue, Surrey, BC, V3S 5M2. Telephone: 604-590-7205, E-mail: LAAnuik@surrey.ca.

#### S.P.7 Coordination

Coordinate your work with all required trade contractors, City forces, suppliers to maximize overall productivity and to facilitate the completion of the project overall. All trades will include for a foreman or senior representative to attend site coordination meetings discussing schedule, safety, crew counts, materials delivery and work conflicts. These meetings are to be schedule at the convenience of the City.

While it is not an all-inclusive list of potential coordination requirements, the following is a list of known activities that the Contractor should be aware when planning for coordination.

#### Other contractors

The Contractor will be required to coordinate their schedule and work program with the following construction activities, which will be tendered to other contractors by the City and will be construction concurrent with the Contract.

None.

#### S.P.8 Availability of Place of Work

The Place of Work, is available for the immediate commencement of the Work. The anticipated start date is January 25, 2016. The Contractor will schedule the Work accordingly.

#### S.P.9 Quality Assurance

Work covered shall be performed by a single firm experienced in the installation of piles where differential settlement occurred and the repair of buildings affected by the settlement of a similar nature and scope. Subject to approval of the City, the Contractor may subcontract any work to be performed under this Contract. However, the election to subcontract work shall not relieve the Contractor from responsibility or liability which it has assumed under this Contract and the Contractor shall remain liable to the same extent that

its liability would attach, as if the Work had been performed by the Contractor's own employees.

All materials and hardware to be supplied by the Contractor, which are not specifically described herein, shall be of suitable construction, composition and quality to achieve their intended function.

#### S.P.10 Job Conditions

The Contractor shall be familiar with the project location and how the existing conditions will affect their work. This is so that no misunderstanding may arise afterwards as to the character or as to the extent of the work to be done; likewise, in order to advise and acquaint themselves with all precautions to be taken in order to avoid injury to person or property of another. No additional compensation will be granted because of any unusual difficulties or City's special requests that may be encountered in the execution of any portion of the work.

#### S.P.11 Environmental Protection

The Contractor warrants that it will not produce or discharge in any manner or form, directly or indirectly, chemicals or toxic substances into the environment and that all equipment used will not pose a hazard to, or harm or adversely affect anyone coming into contact with it and covenants and agrees to provide the City with an environmental plan (where applicable), acceptable to the City, which plan shall outline the procedures to be followed by the Contractor to prevent the production or discharge of chemicals or toxic substances into the environment and the actions to be taken should the discharge occur.

The Contractor will be responsible to take all necessary measures to comply with the requirements of the Federal and Provincial environmental protection agencies, City by-laws, the *Waste Management Act*, R.S.B.C. 1996, c. 482, as amended and any other applicable acts and regulations in respect to air, earth and water pollutants.

The Contractor will report to the City immediately if any hazardous or toxic materials are found or discovered. Such materials are to be left untouched and the area is to be marked and cordoned off to prevent any access to the workers and the public.

#### S.P.12 Safety

The Contractor shall be solely responsible for construction safety at the Place of Work as and to the extent required by applicable construction safety legislation, regulations and codes, including *Workers Compensation Act* and applicable regulations, and by good construction practice.

<u>Safety – Fall Protection -</u> The Contractor and any trade contractor shall include for all fall protection equipment and requirements necessary to complete scope of Work in a safe manner and in compliance with the site safety plan, which includes: Fall protection must be worn when working at a height over 6 ft. or as the hazards present necessity.

<u>Safety – On-Site Hazards and Utilities Present</u> – Before commencing any Work at the Place of Work, the Contractor is to make themselves aware of any and all on-site hazards including but not limited to underground and overhead utilities near to the Work area and to

take every precaution necessary to eliminate any risk that may exist. If an on-site hazard exists that is causing or may cause injury to any person(s), the Contractor is to take immediate action to mitigate risk and damage, and then notify the City and the City's consultant (if any).

#### S.P.13 Traffic Control

At all times during the Work or activities included in this specification, the Contractor shall take full responsibility to ensure that traffic control is carried out in accordance with City Bylaws and the Ministry of Transportation and Highways regulations for work performed on provincial highways and including their right-of ways, as applicable.

The Contractor at his expense, is to provide:

- all necessary signs, materials, barricades, and other warning devices;
- qualified and trained Traffic Control Personnel for traffic flagging services; and,
- in some cases, equipment such as flashing arrow boards, cones, etc.

These are specified in accordance with the Province of British Columbia, Ministry of Transportation & Highways' General Specifications for Highway Jurisdiction, Section 194 (Appendix A), and the Traffic control Manual for Work on Roadways, 1995 and the Traffic Control Manual for Work on Roadways, Field and Office Edition, (1999 Update). Please visit

http://www.th.gov.bc.ca/trafficcontrol/tc\_guidelines1.htm for the latest updates.

Additional services to ensure safety may be required at the discretion of the City. The Contractor is to provide such additional services as directed at no extra cost.

#### S.P.14 Construction Access and Traffic Maintenance

The designated access to and from the construction site must be approved by the City. All construction traffic must use the designated access including heavy equipment, trucks and workers' personal vehicles.

Construction access to the Place of Work areas within existing building for workers and delivery of materials shall be designated by the City. No other existing exits or entrances shall be used by workers for access or for delivery of materials.

The Contractor shall conduct construction operations with minimum interference to adjacent roadways, sidewalks and access facilities in general and shall keep such areas free from materials, debris and equipment at all times. The Contractor shall not close or obstruct existing roadways, sidewalks, parking areas or delivery points and shall not place or store materials or park cars on same.

The Contractor shall cooperate in all ways with the City in all matters concerning necessary interference with normal operation of the Place of Work. Minimizing disruption of normal facility/site operation and vehicular movements at the Place of Work is an essential requirement of the Contract.

The Contractor shall:

- (a) Include project phasing strategies in the Construction Schedule to minimize traffic disruption on the Place of Work
- (b) Provide one (1) week minimum notice to the City, previous to any disruption or alteration of access to the Place of Work. The Contractor shall provide all signs, pylons and flag persons necessary to direct vehicular traffic around work in progress.
- (c) The Contractor shall maintain access to existing fire hydrants and Siamese connections and shall keep entrances and exits to existing and adjacent buildings clear at all times.

#### S.P.15 Proposed Substitutions

Acceptance of material specifications that are an equal or higher level of quality compared to the material specified will not be unreasonably withheld.

Quotations for equipment substitutions to be made as separate line items and as additive or deductive alternates to the base equipment bid.

Evaluation of the substitutions to be made solely by the City whose decision shall be final.

#### S.P.16 Manuals

Installation and Operator's manuals must accompany equipment delivered. Electrical, Mechanical, and Plumbing booklets shall be provided to the City, as per the Specifications.

All manual(s) must be furnished prior to payment and delivered to the City. Failure to deliver all manual(s) that are ordered may result in non-payment until all manual(s) are received.

#### S.P.17 Hours of Work

Refer to the City of Surrey applicable bylaws for acceptable work hours.

No work is to be performed outside of these acceptable work hours without written approval from the City, and with approval by obtaining a noise variance if required.

All work shall conform to local bylaws, including building and parking bylaws and municipal guidelines and regulations. This includes Building Bylaws and Noise Restrictions, which will apply to all work being completed. Where work or the work schedule does not permit compliance with the Bylaws, the Contractor shall request permission from the City for special exemptions from the bylaws. No extra compensation, in any form (e.g. overtime, etc.) will be given without prior written approval from the City.

#### S.P.18 Damage

The Contractor will be responsible for any and all damages to property or persons and for any losses or costs to repair or remedy the Works as a result of any negligent act or omission, or misconduct in the performance of the Works and its subcontractor's Work and shall indemnify and hold harmless the City, its officers, agents and employees from all suits, claims, actions or damages of any nature whatsoever resulting therefrom unless such loss, damage, injury or loss results from or arises out of the error, omission and/or negligent acts of the City, or its officers, for subsequent correction of any such error, omission and/or negligent acts or of its liability for loss or damage resulting therefrom. Except as to professional liability, these indemnities shall not be limited by the listing of any insurance coverage.

#### S.P.19 Worksite Conduct

All labourers and workers, while working in and around the 6150 176<sup>th</sup> Street, Surrey, BC, and the City facilities, shall act in a professional manner. The Contractor is to enforce proper discipline and decorum among all labourers and workers on the worksite and is to control, among other things: 1) noise, including music; 2) the use of offensive language; 3) smoking or drinking of alcoholic beverages on the worksite; 4) physical violence; 5) riding in the passenger elevators; 6) thievery; and 7) the transportation of articles or materials deemed hazardous. If the City determines, in its sole discretion, that any labourer need to be removed due to his or her failure to comply with the terms of this provision, the Contractor will remove such labourers from the worksite immediately.

Alcohol and drugs are not tolerated on this site at any time including anyone deemed to be under the influence shall be escorted off site.

#### S.P.20 Cleanliness and Disposal of Unwanted Materials

Continuous daily clean up of the work areas shall be performed by the Contractor and trade contractor throughout the performance of the Work and will be undertaken in accordance with the Contractor's waste management plan. Clean up of waste products and debris generated by the Contractor and any trade contractor outside of the building and on the site shall be the responsibility of the Contractor. Should the City be required to clean up the work of the Contractor or trade contractor the cost of such clean up will be recovered from the Contractor.

The Contractor is solely responsible for any and all damages done or regulations violated in the disposal of waste materials and for any other actions, which the Contractor performs.

The Contractor warrants that it will produce or discharge in any manner or form, directly or indirectly, chemicals or toxic substances into the environment and that all equipment used will not pose a hazard to, or harm or adversely affect anyone coming into contact with it and covenants and agrees to provide the City with an environmental plan (where applicable), acceptance to the City, which plan shall outline the procedures to be followed by the Contractor to prevent the production or discharge of chemicals or toxic substances into the environment and the actions to be taken should the discharge occur.

The Contractor shall be responsible to take all necessary measures to comply with the requirements of the Federal and Provincial environmental protection agencies, City bylaws, the *Waste Management Act*, R.S.B.C. 1996, c. 482, as amended and any other applicable acts and regulations in respect to air, earth and water pollutants.

#### S.P.21 Accidents; Equipment Safety

Any and all accidents, regardless of how minor, involving another person, private property, or vehicle, shall be reported immediately to the Surrey R.C.M.P. and a report requested. The City shall also be contacted immediately and be provided a copy of any reports.

The Contractor shall assume all responsibility for damages to property or injuries to persons, including accidental death, attorneys fee and costs of defense which may be caused by Contractor's performance of this Contract, whether such performance be by itself, its subcontractor, or anyone directly or indirectly employed by Contractor or its subcontractors and whether such damage shall accrue or be discovered before or after termination of this Contract.

The Contractor's equipment operators shall maintain good safety and driving records, and use extreme caution during the performance of the Work.

#### S.P.22 Permits and Fees

The Contractor is to secure and pay for any additional permits, and governmental fees, licenses and inspection necessary for proper execution and completion of the Work which is customarily secured after execution of an agreement and which is legally required. The Contractor is to comply with and give notices required by Laws applicable to performance of the Work.

#### S.P.23 Final Completion and Payment

When the Work is finally complete and the Contractor is ready for a final inspection, the Contractor is to notify the City, in writing. Thereupon, the City will perform a final inspection of the Work. If the City confirms that the project is complete including all deficiencies, is in full accordance with this Contract and the Contractor has performed all of its obligations, is hereby entitled to submit for final payment, subject to the *Builders Lien Act*.

#### S.P.24 Workmanship

- (a) General: Workmanship shall be of best quality, executed by workers experienced and skilled in respective duties for which they are employed. Do not employ any unfit person or anyone unskilled in their respective duties. The City reserves the right to dismiss for site, workers deemed incompetent, careless, insubordinate or otherwise objectionable. Decisions as to quality of fitness of workmanship in cases of dispute rest solely with the City, whose decision shall be final.
- (b) Coordination: Ensure cooperation of workers in laying out work. Maintain efficient and continuous supervision.
- (c) Protection of Work in progress: The Contractor is to adequately protect Work completed or in progress. Work damaged or defaced due to failure in providing such protection is to be removed and replaced, or repaired, as directed by the City at no cost to the City.

Should any dispute arise regarding the quality of the workmanship, materials or products used in the performance of the Work, the final decision regarding the acceptable quality of the workmanship, and fitness of the materials and products rests strictly with the City.

Additionally, all Works required hereunder will be performed as promptly as possible, and in any event within the time stated by the City, and such Work will be subject to approval and acceptance of the City, but such approval and acceptance will not relieve the Contractor from the obligation to correct any incomplete, inaccurate or defective work, all of which shall be promptly remedied by the Contractor on demand, without cost to the City. The Contract Administrator will visit the Place of Work at intervals appropriate to the progress of the Work to become familiar with the progress of the Work, the quality of the Work being provided and to determine if the Work is proceeding in general conformity with the Contract Documents.

#### S.P.25 VEHICLES/EQUIPMENT

The Contractor should have a sufficient number of service vehicles together with sufficient operating personnel to perform the Services. If, in the opinion of the City, whose opinion shall be final and binding, the numbers of service vehicles that the Contractor has in service are inadequate to meet the Service response times stated herein, the Contractor may be given thirty (30) calendar days notice, after which time the Contractor must provide additional vehicles to perform the Services, as directed by the City.

Contractors Vehicles/Equipment used in the performance of the Services are to be properly equipped for the installation of piles where differential settlement occurred and the repair of buildings affected by the settlement. Off-road (e.g. ATV's) type of equipment may be utilized within the parks provided that they conform to WCB standards. The units should be sealed to prevent loss of waste materials while collecting & transporting garbage.

All vehicles/equipment will be kept clean, in good mechanical condition, painted to present a neat appearance, show evidence of annual safety inspections and display proper registration and license.

All Contractor's vehicles/equipment should be equipped with approved back-up alarms, multiple lite revolving/strobe lights, or other necessary warning systems, which should be maintained and in proper operating condition at all times. In the event of a breakdown, the Contractor should arrange for reserve equipment, with always the intent to maintain the schedule frequency.

Vehicles/Equipment used in the performance of the Services is to be identified on both sides with the company name and telephone number. This should be fully legible and displayed in a professional manner. The Contractor may also be required to display magnetic signs as supplied by the City, identifying the Contractor as a 'City Contractor'. This will not replace the company identification.

#### \*\*\*END OF PAGE\*\*\*

#### SCHEDULE B - APPENDIX 2 SUPPLEMENTARY SPECIFICATIONS – (PROJECT)

The detailed scope of work is as described in the Preliminary Geotechnical Report dated November 20, 2015 Reference #15-6553 and the Contract Drawings: #S101 General Notes and Table, #S201 Part Existing Plans, and #S301 Details.

#### SCHEDULE B - APPENDIX 2-A CONTRACT DRAWINGS

The following drawings are included as part of this RFQ.

DRAWING NUMBER SPECIFICATION	DRAWING INDEX/TITLE	DATE OF ISSUE
S101	General Notes and Table	Nov. 26, 2015
S201	Part Existing Plans	Nov. 26, 2015
S301	Details	Nov. 26, 2015

#### **Drawing List**

S101

PART EXISTING PLANS

GENERAL NOTES

S201 S301

DETAILS

#### DRAWING USAGE NOTES:

DO NOT BUILD FROM THESE DRAWINGS UNLESS THEY ARE MARKED AS "ISSUED FOR CONSTRUCTION" IN THE ISSUES COLUMN IN THE TITLE BLOCK. DO NOT SCALE FROM ANY OF THE ABOVE NOTED DRAWINGS.

- ALL OF THE ABOVE NOTED DRAWINGS ARE TO BE READ IN CONJUNCTION WITH EACH OTHER TO ASCERTAIN THE FULL EXTENT OF THE STRUCTURAL REQUIREMENTS.
- INFORMATION CONTAINED IN THE GENERAL NOTES, LEGENDS, TABLES, AND TYPICAL DETAILS SHOWS MINIMUM STRUCTURAL REQUIREMENTS AND SHALL ALWAYS APPLY UNLESS NOTED OTHERWISE ON THE PLANS, DETAILS, ELEVATIONS OR SCHEDULES.

### Abbreviations

#### **GENERAL / NON MATERIAL SPECIFIC**

Af ARCH BM BOT. CANT Cf CL CLR COL CONT C/W DIA OR Ø DL DP DTS EXP JT ELEC EQ EX EXT GA GALV GEOTECH. HOR. LG LL LV MAX.		FACTORED AXIAL FORCE ARCHITECTURAL DRAWINGS BEAM BOTTOM CANTILEVERED FACTORED COMPRESSION FORCE CENTRELINE CLEAR COLUMN CONTINUOUS COMPLETE WITH DIAMETER DEAD LOAD DEEP DEPTH TO SUIT EXPANSION JOINT ELECTRICAL DRAWINGS EQUAL EXISTING EXTERIOR GAUGE GALVANIZED GEOTECHNICAL ENGINEER HORIZONTAL LONG LIVE LOAD LENGTH VARIES MAXIMUM	MECH Mf MIN. NIC NTS O/C OPNG OPP REQD RTU R/W SDF SDL SIM SYMM TBC T&B Tf TYP UNO U/S VERT. Vf W/ WP WHM		MECHANICAL DRAWINGS FACTORED MOMENT MINIMUM NOT IN CONTRACT NOT TO SCALE ON CENTRE OPENING OPPOSITE REQUIRED ROOF TOP UNIT REINFORCED WITH STEPPED DOWN FOOTING SUPERIMPOSED DEAD LOAD SIMILAR SYMMETRICAL TO BE CONFIRMED TOP AND BOTTOM FACTORED TENSION FORCE TYPICAL UNLESS NOTED OTHERWISE UNDERSIDE VERTICAL FACTORED SHEAR FORCE WITH WORKING POINT WICKE HERFST MAVER CONSULTING INC.
CONCRETE / REINFORCEMENT					
ALT B BEW BLL BUL CONC DWLS EF EW FTG H H1E H2E H2E H2F		ALTERNATING BOTTOM BOTTOM EACH WAY BOTTOM LOWER LAYER BOTTOM UPPER LAYER CONCRETE DOWELS EACH FACE EACH WAY FOOTING HORIZONTAL HOOK ONE END HOOK TWO ENDS HORIZONTAL EACH FACE	REINF S.O.G. STAG STIR SW T TEW TLL TOC TOF TUL V VEF VIF		REINFORCING SLAB ON GRADE STAGGERED STIRRUP SHORT WAY TOP TOP EACH WAY TOP LOWER LAYER TOP OF CONCRETE TOP OF FOOTING TOP UPPER LAYER VERTICAL VERTICAL EACH FACE

#### HORIZONTAL INSIDE FACE VOF - HORIZONTAL OUTSIDE FACE HOF LONG WAY LW P/T - POST TENSIONING

### **1. General Requirements**

#### 1. GENERAL:

- THE GENERAL NOTES APPLY THROUGHOUT THE PROJECT UNLESS MORE STRINGENT REQUIREMENTS ARE NOTED ELSEWHERE ON THE STRUCTURAL DRAWINGS OR OTHER DISCIPLINES' DRAWINGS. THE TERM 'CONTRACTOR' SHALL INCLUDE THE GENERAL CONTRACTOR, CONSTRUCTION
- MANAGER, SUBCONTRACTORS, SITE SUPERINTENDANTS OR ANY OTHER PARTY RESPONSIBLE FOR THE CONSTRUCTION OF THE WORK AS THE CASE MAY BE. ALL STRUCTURAL DOCUMENTS, WHICH INCLUDE NOTES, PLANS, SPECIFICATIONS AND

- VERTICAL OUTSIDE FACE

- DETAILS, SHALL BE READ AS ONE DOCUMENT. THESE DRAWINGS SHOW THE DESIGN INTENT FOR THE COMPLETED INSTALLATION OF THE PILES AND THE REPAIR OF THE BLOCK WALLS. THE CONTRACTOR IS RESPONSIBLE FOR ANY TEMPORARY WORKS NECESSARY FOR THE COMPLETION OF CONSTRUCTION, THE
- MAINTENANCE OF STRUCTURAL STABILITY DURING CONSTRUCTION, AND FOR ALL SAFETY CONSIDERATIONS IN AND AROUND THE CONSTRUCTION SITE. PROPOSED SUBSTITUTIONS AND/OR REVISIONS TO ANY SPECIFIED MATERIAL OR FRAMING ASSEMBLY SHALL BE SUBMITTED TO WHM FOR REVIEW. IF THE CONTRACTOR BIDS. ORDERS, FABRICATES, OR OTHERWISE PROCEEDS WITH ANY SUBSTITUTIONS OR
- REVISIONS PRIOR TO REVIEW AND ACCEPTANCE BY WHM, IT DOES SO COMPLETELY AT ITS OWN RISK. PROPOSED SUBSTITUTIONS OF PROPRIETARY PRODUCTS WILL NOT BE PERMITTED UNLESS ADEQUATE ENGINEERING DATA IS SUBMITTED FOR REVIEW TO, AND DEEMED
- ACCEPTABLE BY, WHM. WHM MAY REQUIRE AT ITS SOLE DISCRETION DESIGNS OF SUBSTITUTIONS TO BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER. THE CONTRACTOR SHALL REMAIN COMPLETELY RESPONSIBLE FOR ENSURING SAFE LOADING IS NOT EXCEEDED ON ANY INCOMPLETE OR TEMPORARY STRUCTURE DURING

## 2. CODES:

- STRUCTURAL MATERIALS AND ASSEMBLIES SPECIFIED ON THESE DRAWINGS HAVE BEEN ٠ DESIGNED IN ACCORDANCE WITH PART 4 OF THE BRITISH COLUMBIA BUILDING CODE 2012 (HEREINAFTER REFERRED TO AS 'THE CODE').
- ALL STRUCTURAL MATERIALS AND FRAMING ASSEMBLIES SHALL COMPLY WITH THE CODE AND ALL CSA STANDARDS AND DESIGN GUIDES REFERENCED THEREIN. ALL CSA AND ASTM STANDARDS APPLICABLE TO THE WORK, WHETHER REFERENCED IN THESE DRAWINGS OR NOT, SHALL BE THE MOST CURRENT EDITIONS ENACTED IN THE
- JURISDICTION IN WHICH THE CONSTRUCTION IS TO TAKE PLACE.
- 3. PROJECT SCOPE: THE PROJECT INVOLES THE INSTALLATION OF PILES WHERE DIFFERENTIAL SETTLEMENT OCCURRED AND THE REPAIR OF THE BLOCK WALLS AFFECTED BY THIS SETTLEMENT. THE RENOVATIONS WILL NOT ADVERSELY EFFECT THE EXISTING GRAVITY OR LATERAL
  - LOAD RESISTING CAPACITY OF THE EXISTING BUILDING.
- 4. DESIGN PARAMETERS:
- SEE THE TABLES STARTING ON S101.

CONSTRUCTION.

- 5. CONTRACTOR'S SUBMITTALS: WHM WILL REVIEW SUBMITTALS (WHICH INCLUDE SHOP DRAWINGS) TO THE EXTENT DEEMED NECESSARY BY WHM TO ASCERTAIN GENERAL CONFORMANCE TO THE DESIGN INTENT AND/OR AS REQUIRED BY THE BUILDING AUTHORITY HAVING JURISDICTION. REGARDLESS OF ANY TERMINOLOGY USED IN THE COURSE OF SUCH REVIEWS, WHM NEVER APPROVES SUBMITTALS AS THESE DOCUMENTS ARE AN INSTRUMENT OF SERVICE
  - OF THE CONTRACTOR WHO PREPARED THEM, AND THEREFORE REMAIN ENTIRELY THE CONTRACTOR'S RESPONSIBILITY. THE GENERAL CONTRACTOR / CONSTRUCTION MANAGER MUST REVIEW ALL SUBMITTALS
  - FROM SUB-CONTRACTORS FOR CONFORMANCE TO THE CONTRACT DOCUMENTS BEFORE SUBMITTING THEM TO WHM AND AFFIX THEIR STAMP TO THE SUBMITTALS INDICATING COMPLETION OF THIS REVIEW.

DESIGN RESPONSIBILITY IS DELEGA
SIGNED, PRIOR TO SUBMISSION, BY
COLUMBIA.
THE CONTRACTOR SHALL SUBMIT E
WILL SCAN A9ND RETURN BY EMAIL
THEREON.
IN CERTAIN CIRCUMSTANCES WHM

#### 6. PRICING AND TENDERING:

- UNLESS OTHERWISE APPROVED BY THE OWNER IN WRITING, THE CONTRACTOR SHALL NOT BASE FIXED-PRICE TENDERS ON THESE DRAWINGS UNLESS THE DRAWINGS HAVE BEEN ISSUED EITHER FOR TENDER OR CONSTRUCTION AND ARE SO MARKED IN THE "ISSUES" COLUMN AT THE RIGHT SIDE OF EACH SHEET. ANY DRAWINGS THAT HAVE NOT BEEN ISSUED FOR TENDER OR CONSTRUCTION. (THIS INCLUDES DRAWINGS THAT HAVE BEEN ISSUED FOR PRICING), ARE SUBJECT TO CHANGE WITHOUT NOTICE. WHM SHALL IN NO WAY BE HELD RESPONSIBLE FOR ANY PRICING UNDERTAKEN BASED ON SUCH DRAWINGS, NOR FOR THE COST OF ANY SUBSEQUENT CHANGES TO THE DRAWINGS. THE CONTRACTOR SHALL ACCOUNT FOR ALL CONTINGENCY ALLOWANCES NOTED ON THE TENDER AND CONSTRUCTION DRAWINGS. ADDENDA, SKETCHES, FIELD REPORTS, AND OTHER WRITTEN INSTRUCTIONS ISSUED BY WHM AFTER DRAWINGS ARE ISSUED FOR TENDER OR CONSTRUCTION SHALL BE CONSIDERED AN INTEGRAL PART OF THE STRUCTURAL CONTRACT DOCUMENTS. THE CONTRACTOR SHALL BE HELD FULLY RESPONSIBLE FOR CONSTRUCTING THE WORK IN CONFORMANCE WITH SUCH DOCUMENTS. IF THE CONTRACTOR BELIEVES THAT ANY ADDENDA, SKETCHES, FIELD REPORTS, OR OTHER WRITTEN INSTRUCTIONS ISSUED BY WHM AFTER DRAWINGS ARE ISSUED FOR TENDER OR CONSTRUCTION CONSTITUTE ADDITIONAL COST TO THE OWNER, THIS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL PROCEED WITH SUCH WORK ONLY UPON RECEIVING APPROVAL FROM THE OWNER. ALL BIDS BASED ON THESE DRAWINGS SHALL INCLUDE UNIT RATE PRICES THAT SHALL APPLY TO BOTH FUTURE ADDITIONS AND DELETIONS TO THE DRAWINGS. BIDDERS SHALL SUPPLY SUCH UNIT RATES FOR ALL DISTINCT COMPONENTS OF THE WORK. THIS REQUIREMENT SHALL APPLY UNLESS THE OWNER SPECIFICALLY WAIVES IT IN WRITING. SEE NOTE SECTION 2 FOR CONTINGENCY ALLOWANCE FOR RENOVATION WORK. • 7. FIELD REVIEWS: WHM IS RESPONSIBLE FOR UNDERTAKING FIELD REVIEWS OF STRUCTURAL COMPONENTS
  - SET FORTH IN THESE DRAWINGS. CONTRACTOR'S RESPONSIBILITY. REVIEWS AND SHALL FURNISH THEM TO WHM UPON REQUEST. THEIR OWN INSPECTIONS OF THE WORK. PHOTOGRAPHS, INCLUDING DIGITAL PHOTOGRAPHS SUBMITTED TO WHM BY EMAIL, ARE ADDITION, PHOTOGRAPHS SHALL BE CLEARLY LABELED WITH DATE, LOCATION, AND ACCRUE TO THE CONTRACTOR PURSUANT TO IT'S CONTRACT WITH THE OWNER. IN THE CONTRACT DOCUMENTS.
  - FIELD REVIEW REPORTS SHALL BE CONSIDERED PART OF THE STRUCTURAL CONTRACT CONTRACTOR

### 8. BUILDING ENVELOPE AND OTHER WATERPROOFING:

•	WHM DOES NOT OFFER ANY SERVICES
	ANY WAY WHATSOEVER, IN THIS FIELD
	FOR ANY ISSUES WHATSOEVER IN REL
	MOISTURE CONTROL, DRAINAGE, MOUL
•	THE OWNER IS ADVISED TO RETAIN A C

THIS FIELD OF WORK TO PROVIDE WHATEVER ADVICE THEY MAY REQUIRE.

## 2. Existing Conditions

SITE VERI	FICATION:
•	THE STRUCTURAL DESIGN INTENT DE EXISTING BUILDING STRUCTURE AND CURRENT AT THE TIME THE EXISTING VARY FROM THE ACTUAL ON-SITE CO WITH PHOTOGRAPHS OR SKETCHES
•	CONDITIONS AND SHALL IMMEDIATEL THE CONTRACTOR SHALL MAINTAIN T
•	STRUCTURE AND IS RESPONSIBLE FO THE CONTRACTOR SHALL REPORT TO UNSAFE OR OTHERWISE INADEQUATE DESIGN INTENT. SUCH CONDITIONS II
	<ul> <li>EXCESSIVE DEFLECT</li> <li>ANY OTHER EVIDENCE</li> </ul>
•	PRIOR TO FABRICATION OF ANY STRU COMPLETE A SITE REVIEW OF CRITICA DIMENSIONS TO ENSURE PROPER FIT DISCREPANCIES TO WHM PRIOR TO S
•	THE CONTRACTOR SHALL ENSURE TH DIMENSIONS ARE RECORDED FOR TH INCLUDING THAT OF SUBCONTRACTO
•	RESPONSIBILITY FOR THE ACCURACY FOR COORDINATION COMMENCEMENT OF CONSTRUCTION ACCEPTANCE OF EXISTING CONDITIO

### 3. Masonry

1.	RESPONS	BILIT	<b>Y</b> :
	•		ONTRACTOR SHALL ENSURE ALL
		CURED	) TO ALL CODE REQUIREMENTS A
	•	NO CO	NCRETE GROUT SHALL BE CAST
		BEEN S	SATISFIED. SEE NOTE SECTION 1
2.	CODE:		
	•	STRUC	TURAL MASONRY WORK SHALL (
		REFER	ENCED DOCUMENTS.
		a.	MASONRY DESIGN AND CONSTR
		b.	MATERIALS AND PRACTICE:
		с.	CONCRETE BLOCKS:
		d.	MASONRY GROUT:

MORTAR: WELDABLE REINFORCEMENT:

#### SHOP DRAWINGS AND CALCULATIONS FOR ANY STRUCTURAL COMPONENT FOR WHICH ATED TO THE CONTRACTOR SHALL BE SEALED AND A PROFESSIONAL ENGINEER REGISTERED IN BRITISH

EACH SUBMITTAL TO WHM, WHO, AFTER REVIEWING IT, THE SUBMITTAL WITH ANY COMMENTS MARKED M'S CAD FILES MAY BE CONDITIONALLY USED AS

BACKGROUNDS FOR SHOP DRAWINGS. SUCH CIRCUMSTANCES WILL BE ENTIRELY AT WHM'S DISCRETION AND FILES WILL ONLY BE PROVIDED UPON RECEIPT OF WHM'S WAIVER FORM SIGNED BY THE PARTY PREPARING THE SHOP DRAWINGS. IN CERTAIN CIRCUMSTANCES, AT THE DISCRETION OF WHM, FEES MAY BE CHARGED TO THE CONTRACTOR FOR USE OF STRUCTURAL FILES AS SHOP DRAWINGS.

AND ASSEMBLIES SHOWN IN THESE DRAWINGS. WHERE THE GEOTECHNICAL ASPECT OF THE RENOVATION IS INVOLVED (SEE SECTION 4.2), WHM WILL COMMUNICATE WITH BRAUN GEOTECHNICAL LTD. FOR THE LATTER TO PERFORM THE FIELD REVIEW. THE PURPOSE OF THESE REVIEWS IS TO ASCERTAIN GENERAL CONFORMANCE WITH THE DESIGN INTENT AS

THE FREQUENCY AND SCOPE OF FIELD REVIEWS ARE DETERMINED SOLELY BY WHM. THE CONTRACTOR SHALL ARRANGE ADEQUATE OPPORTUNITY FOR WHM TO UNDERTAKE A FIELD REVIEW. ALL STRUCTURAL COMPONENTS AND ASSEMBLIES SET FORTH IN THESE DRAWINGS SHALL REMAIN UNCONCEALED AND VISIBLE UNTIL EITHER REVIEWED IN THE FIELD BY WHM AND TO THEIR SATISFACTION, OR OTHERWISE PERMITTED BY WHM. THE CONSULTANTS MAY REQUIRE ANY CONCEALMENT OR OBSTRUCTIONS TO BE REMOVED AS REQUIRED TO FACILITATE FIELD REVIEW. CONSEQUENT REPAIR COST WILL BE THE

THE CONTRACTOR SHALL KEEP WHM APPRISED OF THE CONSTRUCTION SCHEDULE AT ALL TIMES SO THAT FIELD REVIEWS CAN BE SCHEDULED AT LEAST 48 HOURS IN ADVANCE. THE CONTRACTOR SHALL INSPECT ALL WORK IN THE FIELD PRIOR TO CALLING WHM TO SCHEDULE FIELD REVIEWS. THE CONTRACTOR SHALL KEEP RECORDS OF THESE

THE CONTRACTOR SHALL NOT CONSIDER FIELD REVIEWS BY WHM AS A SUBSTITUTE FOR

**NOT** AN ACCEPTABLE SUBSTITUTE FOR IN-PERSON FIELD REVIEW BY WHM EXCEPT IN SPECIFIC INSTANCES AND CIRCUMSTANCES PRE-APPROVED BY WHM. IN SUCH CASES. THE PHOTOGRAPHS SHALL BE SUBMITTED IN SUCH A MANNER THAT WHM CAN REVIEW AND NOTE ANY DEFICIENCIES FOR CORRECTION WELL IN ADVANCE OF CONCEALMENT. IN

ORIENTATION, AND SHALL COMPLETELY DOCUMENT ALL ASPECTS OF THE WORK. INCOMPLETE AND/OR INCORRECT WORK MAY REQUIRE REPEAT FIELD REVIEWS BY WHM WHM WILL INVOICE THE OWNER FOR SUCH REPEAT REVIEWS, THE COSTS OF WHICH MAY

FIELD REVIEWS ARE **NOT** UNDERTAKEN FOR THE CONTRACTOR'S BENEFIT. THE CONTRACTOR ALWAYS REMAINS COMPLETELY RESPONSIBLE FOR QUALITY ASSURANCE/ CONTROL RELATING TO ALL CONSTRUCTION MATERIALS, ASSEMBLIES AND PROCESSES,

AND FOR BUILDING THE WORK IN CONFORMANCE WITH THE DESIGN INTENT AS SET FORTH

DOCUMENTS, AND AS SUCH, REQUIRE FULL AND COMPLETE ATTENTION FROM THE

S, NOR HOLDS ITSELF OUT AS BEING QUALIFIED IN OF WORK. WHM WILL NOT ACCEPT ANY LIABILITY ATION TO WATERPROOFING, WATER INGRESS, JLD, MILDEW, FUNGUS, ETC.

COMPETENT AND WELL-INSURED PROFESSIONAL IN

- EPENDS ON ASSUMED AS-BUILT DIMENSIONS FOR THE D ON ASSUMED DETAILING AND PLACING PRACTICES G STRUCTURE WAS BUILT. THESE ASSUMPTIONS MAY ONDITIONS. THE CONTRACTOR SHALL DOCUMENT S ANY ACTUAL VARIATIONS FROM THE ASSUMED LY INFORM WHM.
- I THE INTEGRITY AND SAFETY OF THE EXISTING OR ALL TEMPORARY WORKS PER NOTE SECTION 1 TO WHM ANY EXISTING CONDITIONS THAT APPEAR TE WITH RESPECT TO THE CODE OR THE STRUCTURAL INCLUDE BUT ARE NOT LIMITED TO:

CTIONS. NCE OF STRUCTURAL FAILURE.

RUCTURAL MEMBERS, THE CONTRACTOR SHALL CAL "TIE-IN" DIMENSIONS AND CONFIRM ALL TT OF NEW WORK TO EXISTING. REPORT ANY

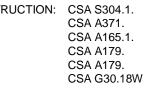
STARTING WORK. THAT ALL NECESSARY AS-BUILT AND TIE-IN

HE PURPOSE OF COORDINATING ALL WORK, ORS. THE CONTRACTOR SHALL ASSUME COMPLETE CY AND COMPLETENESS OF SUCH DIMENSIONS, AND

ON OR ANY PART THEREOF CONSTITUTES IONS AND MEANS DIMENSIONS AND ELEVATIONS HAVE BEEN CONSIDERED, VERIFIED AND HAVE BEEN DEEMED ACCEPTABLE.

> MASONRY WORK IS DELIVERED, INSTALLED, AND AND TO REQUIREMENTS ON THESE DRAWINGS. T UNTIL WHM'S FIELD REVIEW OBLIGATIONS HAVE

CONFORM IN ALL RESPECTS TO THE CODE AND ALL



3. WORKMANSHIP: ALL MASONRY WORK:

- a. SHALL BE CONSTRUCTED BY EXPERIENCED PLACERS SUPERVISED BY AN EXPERIENCED FOREMAN. CREDENTIALS SHALL BE FURNISHED TO WHM UPON REQUEST
- b. SHALL BE BUILT LEVEL, PLUMB AND TO THE DIMENSIONS SPECIFIED IN THE CONTRACT DOCUMENTS.
- c. SHALL BE APPROPRIATELY CURED AND PROTECTED FROM ADVERSE CONDITIONS SUCH AS RAIN, COLD, HEAT, DELETERIOUS CHEMICALS, ETC. IN CONFORMANCE WITH THE CODE. WHM IS NOT RESPONSIBLE FOR DEFINING CURING AND PROTECTION METHODS AND PROCESSES. THIS IS THE CONTRACTOR'S RESPONSIBILITY. WHM RECOMMENDS THE CONTRACTOR RETAIN A PROFESSIONAL MATERIALS ENGINEERING CONSULTANT TO ADVISE ON APPROPRIATE CURING AND PROTECTION METHODS TO ENSURE ALL MASONRY WORK MEETS ALL STRUCTURAL AND ARCHITECTURAL REQUIREMENTS.
- ALL MORTAR BEDS AND JOINTS SHALL BE NEATLY TOOLED WITH ALL GROUT AND MORTAR SPILLAGE REMOVED. ALL CELLS CONTAINING REINFORCEMENT OR EMBEDDED HARDWARE SHALL BE
- COMPLETELY FILLED WITH CONCRETE GROUT. CONCRETE GROUT SHALL BE FULLY AND ADEQUATELY CONSOLIDATED BY VIBRATION
- WITH SPECIAL CARE AND ATTENTION GIVEN TO AREAS OF CONGESTED REINFORCEMENT AND EMBEDDED HARDWARE, INSERTS, DUCTS, PIPES, ETC.
- CLEANOUTS ARE REQUIRED TO DEMONSTRATE ADEQUATE FILL AND CONSOLIDATION. UNDER NO CIRCUMSTANCES SHALL MASONRY WORK PROCEED WITH FROZEN MATERIALS, INCLUDING REINFORCEMENT.
- ALL REINFORCEMENT: SHALL BE POSITIONED AT THE CENTRE OF THE BLOCK COURSE AND TIED SECURELY IN PLACE SUCH THAT IT WILL NOT DISPLACE AT ALL DURING GROUT
- PLACEMENT b. SHALL BE CONTINUOUS. LAP SPLICES SHALL BE MINIMIZED BUT WHERE REQUIRED SHALL BE TENSION LAPS. LAPPED BARS SHALL BE IN CONTACT WITH EACH OTHER. SEE TABLES FOR EMBEDMENT AND LAP LENGTH REQUIREMENTS. c. GROUT SHALL NOT BE CAST UNTIL WHM REVIEWS THE REINFORCEMENT AND FINDS IT IN GENERAL CONFORMANCE WITH THE STRUCTURAL DRAWINGS.

#### 4. MATERIALS - CONCRETE MASONRY BLOCKS: CONCRETE MASONRY BLOCKS SHALL BE STANDARD HOLLOW CONCRETE MASONRY UNITS

- ALL CMU SHALL BE OF STANDARD METRIC DIMENSIONS. STANDARD IMPERIAL SIZES SHALL NOT BE USED UNLESS EXPLICITLY SPECIFIED ON THE PLANS OR PERMITTED IN WRITING BY THE ARCHITECT. NOMINAL CMU SIZE SHALL BE 200 THICK x 200 HIGH x 400 LONG. ACTUAL SIZE IS 190 x 190 x 390. CUT BLOCKS OR SQUARE HALF-BLOCKS SHALL BE USED ONLY WHERE REQUIRED TO
- ACHIEVE THE CORRECT ELEMENT DIMENSIONS AND EVEN THEN IN THE MINIMUM POSSIBLE NUMBERS. FACE SHELLS AND WEBS SHALL BE MINIMUM 32mm AND 26mm THICK RESPECTIVELY.
- BLOCKS SHALL BE COMPRISED OF REGULAR WEIGHT CONCRETE. •
- BLOCKS SHALL BE TYPE H/15/A/M (f'm = 15 MPa).

## FINISHING FOR SURFACE TEXTURE AND COLOUR REQUIRED IS BY OTHERS.

- 5. MATERIALS MORTAR AND GROUT: MORTAR SHALL BE TYPE S PREPARED BY PROPORTION SPECIFICATION (TYPE 10
  - PORTLAND CEMENT)
  - GROUT FOR CORE-FILLS SHALL BE HIGH-SLUMP CONCRETE. SEE CONCRETE MIX TABLE FOR PARTICULAR REQUIREMENTS.
  - GROUT MIXES SHALL BE PROPORTIONED SO THAT PROPER CONSOLIDATION CAN BE
  - ACHIEVED IN AREAS OF CONGESTED REINFORCEMENT, EMBEDDED HARDWARE, ETC. CELLS TO BE GROUTED ARE TO BE KEPT CLEAN AND CLEAR OF ANY PIPING, CONDUITS OR OTHER MATERIAL
  - POUR LIFTS FOR GROUT FILLED CORES ARE NOT TO EXCEED 5'-0". IF CLEAN OUTS OR SPECIAL PROCEDURES APPROVED BY WHM ARE PROVIDED, POUR LIFTS MAY BE INCREASED TO MAXIMUM 10'-0".

#### 6. MATERIALS - REINFORCEMENT:

- SHALL BE RATED FOR 400 MPa YIELD STRESS. SHALL BE STANDARD DEFORMED BILLET STEEL BARS.
- SHALL NOT BE WELDED IN ANY WAY.
- SHALL BE FREE OF DIRT. OIL. AND OTHER DELETERIOUS MATERIAL THAT MAY INHIBIT PROPER BONDING WITH GROUT

### 4. Foundations and Soils

1. ALL FOUNDATION AND SOILS WORK: SHALL CONFORM TO THE CODE, THE GEOTECHNICAL REPORT, AND AS NOTED HEREIN.

### 2. THE GEOTECHNICAL ENGINEER:

- FOR THIS PROJECT IS BRAUN GEOTECHNICAL LTD. HAS PRODUCED A GEOTECHNICAL REPORT DATED OCTOBER 21. 2015.
- SHALL BE FULLY RESPONSIBLE FOR ALL ENGINEERING ASPECTS OF THE SOILS IN RELATION TO THE BASE BUILDING STRUCTURE. THESE ASPECTS INCLUDE, BUT ARE NOT LIMITED TO: a. VERTICAL & LATERAL SOIL PRESSURE.
  - RECOMMENDATIONS REGARDING CORROSION OF CONCRETE OR STEEL
  - (REINFORCEMENT, PILING, ETC.) FOUNDATION COMPONENTS.
  - BACKFILL. EXCAVATIONS.
  - e. FIELD REVIEW OF ITEMS DOCUMENTED ABOVE WITH SIGNED AND SEALED FIELD REPORTS SUBMITTED TO THE BUILDING OFFICIAL AND WHM.

### 3. THE PILES CONTRACTOR/S:

- SHALL BE FULLY RESPONSIBLE FOR THE TYPE, CAPACITY, LENGTH, SPACING AND
- INSTALLATION OF THE PILES. SHALL COORDINATE WITH THE GEOTECHNICAL ENGINEERS AS REQUIRED TO DETERMINE SOIL-DEPENDENT CAPACITIES OF THE PILES INCLUDING ANY CAPACITY LIMITATIONS IMPOSED BY DRIVING STRESSES.
- SHALL PERFORM THE REQUISITE SITE TESTING OF THE PILES WHOSE PROCEDURES AND RESULTS ARE SUBJECT TO THE GEOTECHNICAL ENGINEERS REVIEW & APPROVAL.
- SHALL BE FULLY RESPONSIBLE FOR THE GROUT INJECTION UNDER THE SLAB-ON-GRADE. THE SCOPE OF THE GROUT INJECTION SHALL BE DETERMINED IN COORDINATION WITH
- THE GEOTECHNICAL ENGINEERS. SHALL SUBMIT SIGNED AND SEALED PILE SHOP DRAWINGS FOR WHM AND BRAUN GEOTECHNICAL REVIEW PRIOR TO INSTALLATION.

## General Tab **GRAVITY LOAD** GROUND SNOW: RAIN LOAD: ROOF SNOW: CANOPY SNOW: IMPORTANCE FACTO **GRAVITY LOAD** AREA / USE ROOF

CANOPY WEST C GRID LINE G **UPPER FLOOR**/ STAIR LANDING

\* 2 1/2" THK. CONC BEAMS + 10 psf S

Concrete Table: Embedment And Lap Lengths							
TYPE	28 DAY CONCRETE STRENGTH fc (MPa)	BAR DIAMETER					
		10M	15M	20M	25M	30M	35M
EMBEDMENT	25 OR LOWER	13" (325mm)	18" (450mm)	22" (550mm)	36" (900mm)	43" (1075mm)	51" (1275mm)
LENGTH (E. LEN.),	30	12" (300mm)	17" (425mm)	20" (500mm)	33" (825mm)	39" (975mm)	46" (1150mm)
(SEE NOTE 1)	35 OR HIGHER	12" (300mm)	16" (400mm)	19" (475mm)	30" (750mm)	36" (900mm)	43" (1075mm)
TENSION LAP	25 OR LOWER	17" (425mm)	24" (600mm)	29" (725mm)	47" (1175mm)	55" (1375mm)	66" (1650mm)
LENGTH, (T. LAP)	30	16" (400mm)	22" (550mm)	27" (675mm)	43" (1075mm)	51" (1275mm)	60" (1500mm)
(SEE NOTE 1)	35 OR HIGHER	14" (350mm)	20" (500mm)	25" (625mm)	40" (1000mm)	47" (1175mm)	56" (1400mm)
	-						-
COMPRESSION LAP LENGTH (C. LAP)	ALL fc	12" (300mm)	18" (450mm)	24" (600mm)	30" (750mm)	36" (900mm)	42" (1050mm)
LAP LENGTH - MASONRY:		24" (600mm)	32" (800mm)	36" (900mm)	54" (1350mm)	-	-

Concrete Ta

COMPONENT

MASONRY GRO

ole:	ble: Structural Design Parameters							
DS:	SN	NON						
	Ss	=	2.40 kPa (50 psf )					
	Sr	=	0.30 kPa (6.27 psf )					
	s	=	2.22 kPa ( 46.4 psf ) ALSO SEE SNOW DIAGR	AM WHERE APPLICABLE				
	S	=	4.78 kPa (100 psf)					
TOR:	ls	=	1.0 (ULS)					
		=	0.9 (SLS)					
DS: DEAD AND LIVE								
Ξ		[	DEAD LOADS IN kPa (psf)	LIVE LOAD IN kPa (psf)				
			1.0 (20)	SEE ROOF SNOW MIN. 1.0 (20)				
OF			1.0 (20) SEE CANOPY SNOW MIN. 1.0 (20)					
}∕ G			2.39 (50) <sup>*</sup> 4.78 (100)					
CRETE TOPPING ON STEEL DECK AND ON STEEL SUPERIMPOSED DEAD LOAD.								

. FOR HORIZONTAL BARS WITH MORE THAN 12" (300) CONCRETE COVER BELOW THE BAR, MULTIPLY LENGTHS NOTED ABOVE BY **1.3** (DOES NOT INCLUDE HORIZONTAL BARS IN WALLS)

able: Mix Requirements									
	MIN. 28 DAY <b>STRENGTH</b> f'c (MPa)	MAX. <b>AGGREGATE</b> SIZE	EXPOSURE CLASS	MIN. % CEMENT REPLACE- MENT					
OUT / FILL	20	3/8" (10mm)	Ν	40					

2227 Douglas Road Burnaby, BC CANADA V5C 5A9 one: (604) 484-2859 Fax: (604) 484-2861 STRUCTURAL ENGINEERS | whmengineers.com SSUED FOR TENDER NOV. 26/2015 SSUED FOR REVIEW NOV. 10/2015 ISSUE / REVISION DATE Seal

Project Title

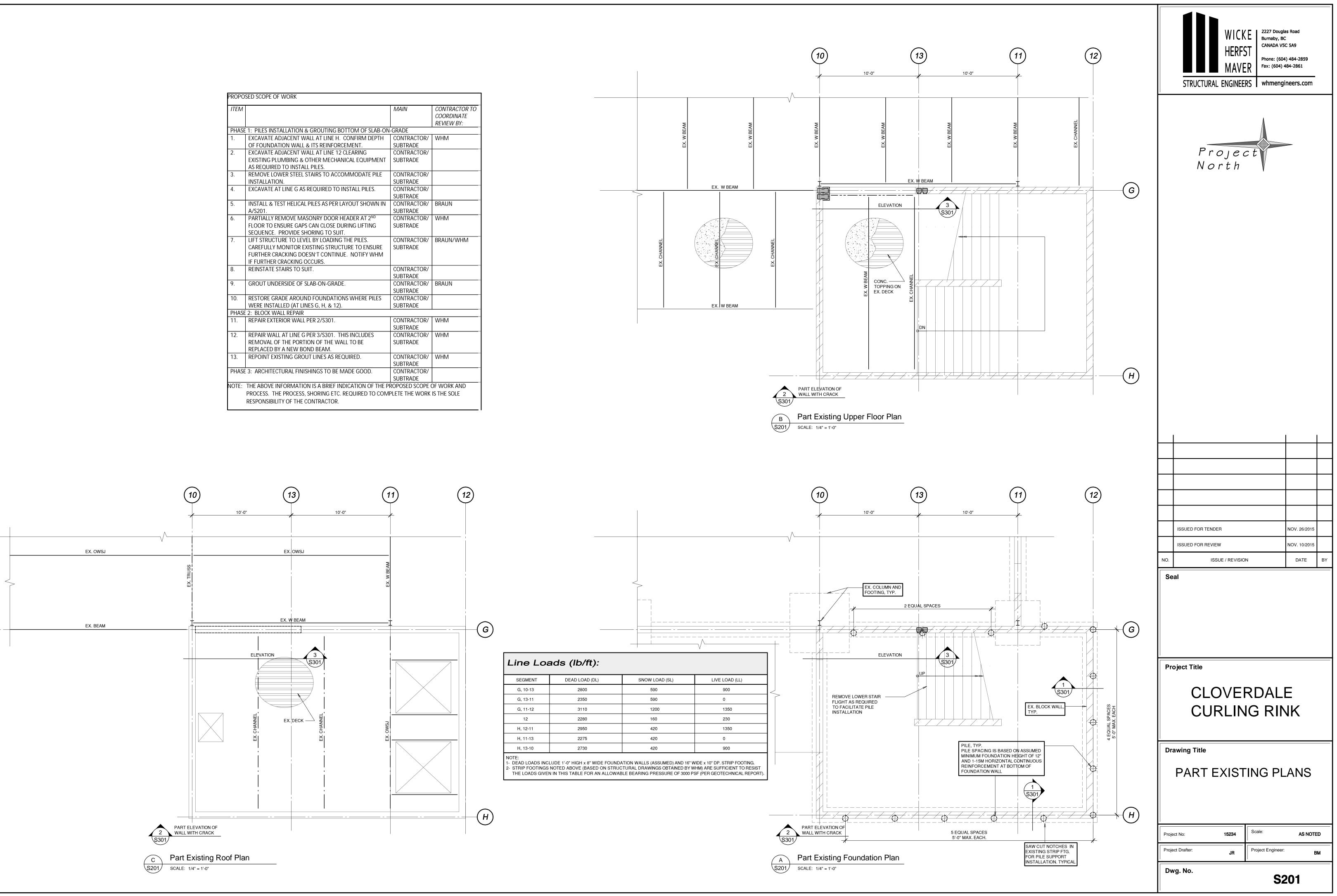
# CLOVERDALE **CURLING RINK**

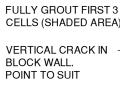
**Drawing Title** 

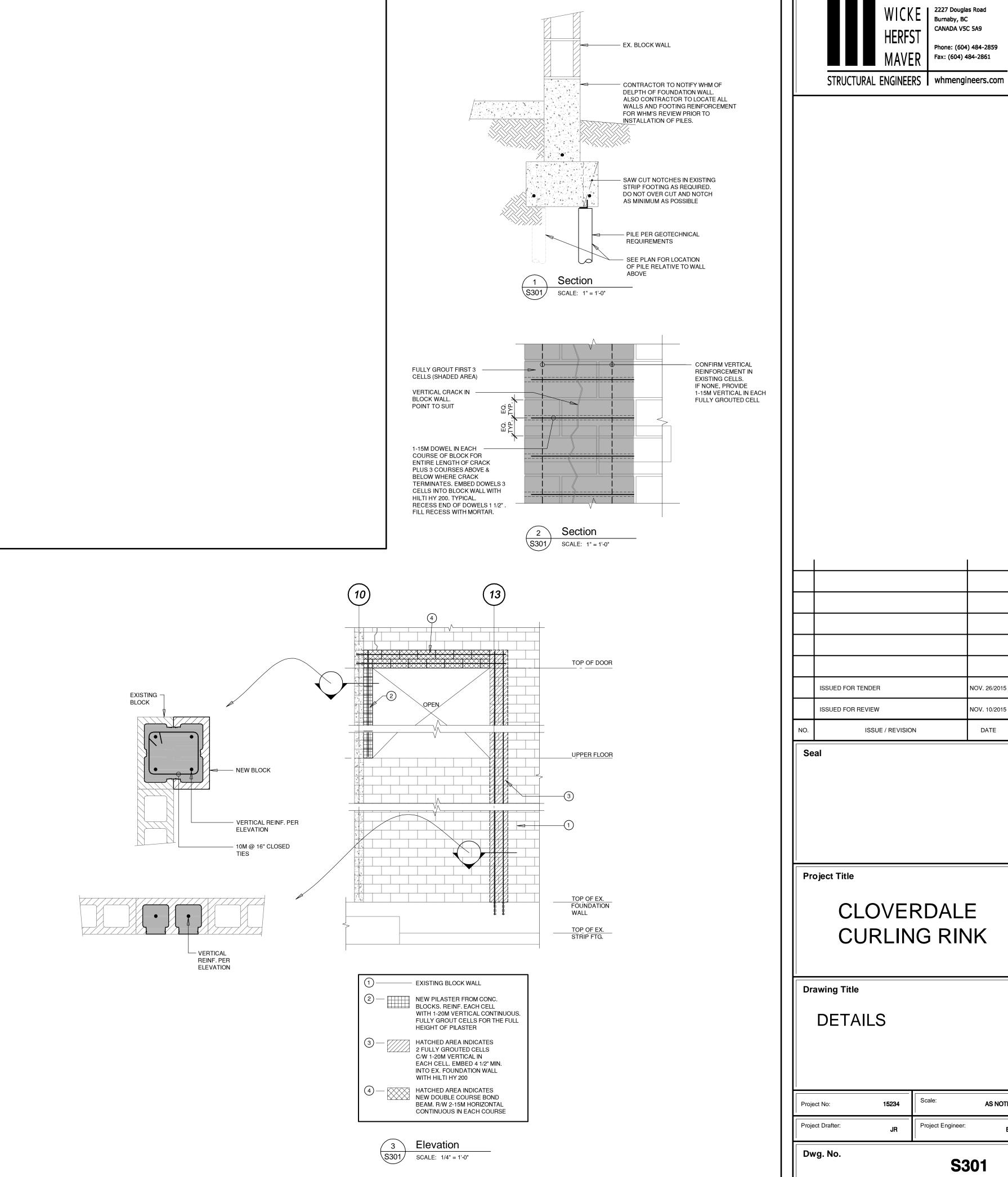
# **GENERAL NOTES** AND TABLE

### Scale 15234 AS NOTED Project No: Project Drafter: Project Engineer: Dwg. No. **S101**

ITEM		MAIN
ρηνεί	LET PILES INSTALLATION & GROUTING BOTTOM OF SLAB-ON	
1.	EXCAVATE ADJACENT WALL AT LINE H. CONFIRM DEPTH	CONTRACTOR/
1.	OF FOUNDATION WALL & ITS REINFORCEMENT.	SUBTRADE
2.	EXCAVATE ADJACENT WALL AT LINE 12 CLEARING	CONTRACTOR
	EXISTING PLUMBING & OTHER MECHANICAL EQUIPMENT	SUBTRADE
	AS REQUIRED TO INSTALL PILES.	CODITINE
3.	REMOVE LOWER STEEL STAIRS TO ACCOMMODATE PILE	CONTRACTOR/
	INSTALLATION.	SUBTRADE
4.	EXCAVATE AT LINE G AS REQUIRED TO INSTALL PILES.	CONTRACTOR/
		SUBTRADE
5.	INSTALL & TEST HELICAL PILES AS PER LAYOUT SHOWN IN	CONTRACTOR/
	A/S201.	SUBTRADE
6.	PARTIALLY REMOVE MASONRY DOOR HEADER AT 2 <sup>ND</sup>	CONTRACTOR/
	FLOOR TO ENSURE GAPS CAN CLOSE DURING LIFTING	SUBTRADE
	SEQUENCE. PROVIDE SHORING TO SUIT.	
7.	LIFT STRUCTURE TO LEVEL BY LOADING THE PILES.	CONTRACTOR/
	CAREFULLY MONITOR EXISTING STRUCTURE TO ENSURE	SUBTRADE
	FURTHER CRACKING DOESN'T CONTINUE. NOTIFY WHM	
	IF FURTHER CRACKING OCCURS.	
8.	REINSTATE STAIRS TO SUIT.	CONTRACTOR/
		SUBTRADE
9.	GROUT UNDERSIDE OF SLAB-ON-GRADE.	CONTRACTOR/
		SUBTRADE
10.	RESTORE GRADE AROUND FOUNDATIONS WHERE PILES	CONTRACTOR/
	WERE INSTALLED (AT LINES G, H, & 12).	SUBTRADE
-	2: BLOCK WALL REPAIR	•
11.	REPAIR EXTERIOR WALL PER 2/S301.	CONTRACTOR/
		SUBTRADE
12.	REPAIR WALL AT LINE G PER 3/S301. THIS INCLUDES	CONTRACTOR/
	REMOVAL OF THE PORTION OF THE WALL TO BE	SUBTRADE
	REPLACED BY A NEW BOND BEAM.	
13.	REPOINT EXISTING GROUT LINES AS REQUIRED.	CONTRACTOR/
		SUBTRADE
PHAS	3: ARCHITECTURAL FINISHINGS TO BE MADE GOOD.	CONTRACTOR/
		SUBTRADE
IOTE:	THE ABOVE INFORMATION IS A BRIEF INDICATION OF THE P	
	PROCESS. THE PROCESS, SHORING ETC. REQUIRED TO COM	PLETE THE WORK
	RESPONSIBILITY OF THE CONTRACTOR.	







NOV. 26/2015 NOV. 10/2015 DATE

# CLOVERDALE CURLING RINK

# AS NOTED Project Engineer: BM S301

# SCHEDULE B APPENDICES 3 THROUGH 11

Information from Schedule C of the RFQ will be inserted at the time of the award of the Contract:

Schedule B – Appendix 3	Schedule of Prices
Schedule B – Appendix 4	Construction Schedule
Schedule B – Appendix 5	Key Personnel, Sub-Contractors, and Material Suppliers

Forms to be included at the time of the award of the contract:

Schedule B – Appendix 6 Schedule B – Appendix 7	Prime Contractor Designation Contractor Health & Safety Expectations (Responsibility of Contractor(s))		
Schedule B – Appendix 8	Statutory Declaration		
Schedule B – Appendix 9	Form 3 <i>Builders Lien Act</i> (Section 7(10)) Certification of Completion		
Schedule B – Appendix 10	Form 2 <i>Builders Lien Act</i> (Section 7 (4)) Notice of Certification of Completion		
Schedule B – Appendix 11	Post Compliance Form Certification of Completion		



# **SCHEDULE C - QUOTATION**

### RFQ Title: CLOVERDALE CURLING RINK REPAIRS

RFQ No: 12	220-040-2016-011
------------	------------------

CONTRACTOR		
Legal Name:		
Address:		
Phone:		
Fax:		
Email:		
TO:		

City Representative: Richard D. Oppelt, Purchasing Manager

Address: Surrey City Hall Finance & Technology Department – Purchasing Section Reception Counter 5<sup>th</sup> Floor West 13450 – 104 Avenue, Surrey, B.C., Canada, V3T 1V8

Email for PDF Files: purchasing@surrey.ca

- 1. If this Quotation is accepted by the City, a contract will be created as described in:
  - (a) the Agreement;
  - (b) the RFQ; and
  - (c) other terms, if any, that are agreed to by the parties in writing.
- 2. Capitalized terms used and not defined in this Quotation will have the meanings given to them in the Agreement and RFQ. Except as specifically modified by this Quotation, all terms, conditions, representations, warranties and covenants as set out in the Agreement and RFQ will remain in full force and effect.
- 3. I/We have reviewed the Sample Agreement (Schedule B). If requested by the City, I/we would be prepared to enter into the Sample Agreement, amended by the following departures (list, if any):

ę	Section	Requested Departure(s) / Alternative(s)
-		
		requires that the successful Contractor have the following in place <b>before the Work</b> :
•	(a) <u>Wo</u> "O pro	orkers' Compensation Board coverage in good standing and further, if an wner Operator" is involved, personal operator protection (P.O.P.) will be ovided,
(	(b) <u>Pri</u>	brkers' Compensation Registration Number; <u>me Contractor</u> qualified coordinator is Name:; d Contact Number:;
(	(c) <u>Ins</u> mii the	surance coverage for the amounts required in the proposed Agreement as a nimum, naming the City as additional insured and generally in compliance with city's sample insurance certificate form available on the City's Website at <u>w.surrey.ca</u> . search <u>Standard Certificate of Insurance</u> ;
•	(d) Cit (e) If t	y of Surrey or Intermunicipal <u>Business License</u> : Number; he Contractor's goods and services are subject to GST, the Contractor's <u>GST</u> <u>mber</u> is; and
(	(f) If t wit	the Contractor is a company, the <u>company name</u> indicated above is <u>registered</u> h the Registrar of Companies in the Province of British Columbia, Canada, corporation Number
		date of this Quotation, we advise that we have the ability to meet all of the uirements <b>except as follows</b> (list, if any):
5	Section	Requested Departure(s) / Alternative(s)
-		
t ii	his Quota	actor acknowledges that the departures it has requested in Sections 3 and 4 of tion will not form part of the Contract unless and until the City agrees to them by initialing or otherwise specifically consenting in writing to be bound by any of
nge	es and Ad	ditions to Specifications and Scope:
I	n addition	to the warranties provided in the Agreement, this Quotation includes the

7. I/We have reviewed the RFQ, Schedule A – Scope of Work and Drawings. If requested by the City, I/we would be prepared to meet those requirements, amended by the following departures and additions (list, if any):

# Requested Departure(s) / Alternative(s) / Addition(s)

# Fees and Payments

8. The Contractor offers to supply to the City of Surrey the Goods and Services for the prices plus applicable taxes as follows:

F.O.B.	Payment Terms:		Ship Via:
Destination			
paid within days, o		or the day of the month	
	following, or net 30 days	s, on a best effort basis.	
Item #	Item N	Name	Amount
•		, plant and equipment and all	
	-	e performance of the Work as	
	-	ppendix 1 – Special Provisions,	
	••••••	Specifications (Project) and	
		gs, at for the Cloverdale Curling	
Rink R	epairs.		
JOD SITE	location is 6150 176 <sup>th</sup> Stre	et, Surrey, BC.	
Drawing (Sched	The detailed scope of Work is as described on the Contract Drawings (Schedule B – Appendix 2A), Special Provisions (Schedule B – Appendix 1), and Supplementary Specifications (Project) (Schedule B- Appendix 2).		
Lump	Lump Sum Amount:		\$
Note:			
	included in the above amounts.		
Subtotal:			\$
CURRENCY: Canadian		GST (5%):	\$
TOTAL QUOTATION PRICE:			\$

# List of Alternate Prices:

9. The following is a list of Alternate Price(s) to the Work and forms part of this RFQ, upon the acceptance of any or all of the Alternate Price(s). The Alternate Prices are an addition or a deduction to the Total Quotation Price and do not include GST. DO NOT state a revised Total Quotation Price.

Description of Alternate Prices	Addition		Deduction	
AP-1.	\$[	]	\$[	1
AP 2.	\$[	]	\$[	]

# List of Separate Prices:

10. The following is a list of Separate Price(s) to the Work and forms part of this RFQ, upon the acceptance of any or all of the Separate Price(s). The Separate Prices are an addition or a deduction to the Total Quotation Price and do not include GST. DO NOT state a revised Total Quotation Price.

Description of Separate Price Items	Addition		Deduction	
SP-1. Performance Bond at 50% of total of	contract value	:		
	\$[	]	\$[	]
SP-2. Labour and Material Payment Bond	at 50% of tot	al contra	ct value:	
	\$[	]	\$[	]

# Force Account Labour and Equipment Rates:

11. Contractors should complete the following tables setting out the all-inclusive hourly labour rates including overhead and profit for approved extras/credits for all applicable categories of labour (use the spaces provided and/or attach additional pages, if necessary):

# Table 1 – Hourly Labour Rate Schedule:

Labour Category	Straight Time/hr (Plus GST)	Overtime Rate/hr (Plus GST)
.1 Superintendent	\$	\$
.2 Foreman	\$	\$
.3 Journeyman	\$	\$
.4 Apprentice	\$	\$
.5 Skilled Labourer	\$	\$
.6	\$	\$
.7	\$	\$

# Table 2 – Hourly Equipment Rate Schedule:

No.	Equipment Description	Hourly Equipment Rate
		\$
		\$

# Metro Vancouver's Non-Road Diesel Engine Emissions Regulation By-law No. 1161, 2012 (the Bylaw)

12. Contractor should confirm they are in compliance with By-law (if applicable)

□ Applicable as follows	Not applicable to this project

No.	Equipment Description	Engine Tier	Engine Registration
		Designation	Number as Issued by
			Metro Vancouver
1		Tier 0 or Tier 1	
2		Tier 0 or Tier 1	
3	Q	Tier 1	
4	し	Tier 1	
5		Tier 0 or Tier 1	

# **Construction Schedule:**

- 13. Contractors should provide an estimated schedule, with major item descriptions and time indicating a commitment to perform the Contract within the time specified (use the spaces provided and/or attach additional pages, if necessary).
  - (a) Commence the Work on or before: \_\_\_\_\_; and
  - (b) Substantial Performance:

Contractor may provide a Microsoft Project (or similar) schedule outlining the Critical Path and should include all major phases of the Work and indicate start and substantial completion dates for each.

ACTIVITY	SCHEDULE								
	1 2 3 4 5 6 7 8 9							10	
					7				
	S.		<b>VIIP</b>	╢Ц目					

Proposed Disposal Site: \_\_\_\_\_

### Key Personnel & Subcontractors:

14. Contractor to provide information on the background and experience of all key personnel proposed for the performance of the Work (use the spaces provided and/or attach additional pages, if necessary):

# Key Personnel

Name:	
Experience:	
Dates:	
Project Name:	
Responsibility:	

15. Contractor to provide the following information on the background and experience of all proposed subcontractors and material suppliers for the divisions or sections of the work/or supply listed below: (use the spaces provided and/or attach additional pages, if necessary): [Note: It is not necessary for Contractor to list all subcontractors and material suppliers that the Contractor proposes to use – only those for the divisions or sections of work / supply listed below

Description Of Work/supply	Subcontractor & Material Supplier Names	Years Of Working With Contractor	Telephone Number and Email

The City reserves the right of approval for each of the subcontractors and material suppliers. The Contractor will be given the opportunity to substitute an acceptable subcontractor and material supplier, if necessary.

### **Experience and References:**

16. Contractor's relevant **experience and qualifications** for the performance of the Work similar to those required by the Agreement (use the spaces provided and/or attach additional pages, if necessary):

- 17. Contractor's **references** for work performed by your firm of a similar nature and value (name and telephone number) (use the spaces provided and/or attach additional pages, if necessary). The City's preference is to have a minimum of three references. Previous clients of the Contractor may be contacted at the City's discretion.
- 18. I/We the undersigned duly authorized representatives of the Contractor, having received and carefully reviewed the RFQ and the Agreement, submit this Quotation in response to the RFQ.

This Quotation is executed by the Contractor this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

# CONTRACTOR

I/We have the authority to bind the Contractor.

(Legal Name of Contractor)

(Signature of Authorized Signatory)

(Signature of Authorized Signatory)

(Print Name and Position of Authorized Signatory) (Print Name and Position of Authorized Signatory)

# ATTACHMENT 1 - CITY OF SURREY, PROJECT COMPLETION DELIVERABLES WORKSHEET

Project Name:	
Project Address:	Date:
End of Project Walk-through:	End of Project Walk-through:
City Representative:	Contractor/Contractor Rep:
Department:	Company Name:
Contact phone number:	Contact phone number:
Fax number:	Fax number:

A. BUILDING PERMITS – CLOSED OUT Architectural Electrical Mechanical / Plumbing Structural Other B. O&M MANUALS RECEIVED *Shop Drawings to be included in O&M Manuals Architectural 1 Electronic (PDF) file 2 Hardcopies	E. AS-BUILT DRAWING SUBMITTALS Architectural 1 Set of AutoCAD As-Built DWG files 1 Set of PDF As-Built drawings 1 Set of paper construction drawings Civil 1 Set of AutoCAD As-Built DWG files 1 Set of PDF As-Built drawings 1 Set of paper construction drawings Electrical 1 Set of AutoCAD As-Built DWG files
Electrical	<ul> <li>☐1 Set of PDF As-Built drawings</li> <li>☐1 Set of paper construction drawings</li> <li>Fire Protection</li> <li>☐1 Set of AutoCAD As-Built DWG files</li> <li>☐1 Set of PDF As-Built drawings</li> <li>☐1 Set of paper construction drawings</li> <li>Landscaping</li> <li>☐1 Set of AutoCAD As-Built DWG files</li> <li>☐1 Set of PDF As-Built drawings</li> <li>☐1 Set of paper construction drawings</li> <li>Mechanical / Plumbing</li> <li>☐1 Set of AutoCAD As-Built DWG files</li> <li>☐1 Set of PDF As-Built drawings</li> </ul>
<ul> <li>D. FALL PROTECTION / RESTRAINT SYSTEM</li> <li>Complete</li> <li>Wall plaques displayed as required</li> <li>1 (PDF) containing the Fall Protection Safety</li> </ul>	<ul> <li>F. FIRE SAFETY PLAN</li> <li>Complete</li> <li>Wall plaques displayed throughout facility</li> <li>1 Electronic (PDF) file of the fire safety plan</li> <li>2 paper copies of the fire safety plan</li> </ul>
System Signed:	
City Representative	Contractor Representative

Fire Chief/ Representative

Internal Representative

#### **ATTACHMENT 2**

### PRIME CONTRACTOR DESIGNATION LETTER OF UNDERSTANDING

As per the requirements of the Workers' Compensation Act Part 3, Division 3, Section 118 (1-3), which states:

#### Coordination of multiple-employer workplaces

**118** (1) In this section:

Project File No.:

"**multiple-employer workplace**" means a workplace where workers of 2 or more employers are working at the same time:

"prime contractor" means, in relation to a multiple-employer workplace,

- (a) the directing contractor, employer or other person who enters into a written agreement with the owner of that workplace to be the prime contractor for the purposes of this Part, or
- (b) if there is no agreement referred to in paragraph (a), the owner of the workplace.

(2) The prime contractor of a multiple-employer workplace must

- (a) ensure that the activities of employers, workers and other persons at the workplace relating to occupational health and safety are coordinated, and
- (b) do everything that is reasonably practicable to establish and maintain a system or process that will ensure compliance with this Part and the regulation in respect to the workplace.
- (3) Each employer of workers at a multiple-employer workplace must give to the prime contractor the name of the person the employer has designated to supervise the employer's workers at that workplace.

By signing this Agreement, the Contractor accepts all responsibilities of a prime contractor as outlined in the Workers' Compensation Act, and WorksafeBC OH&S Regulation.

As a Contractor signing this Prime Contractor Designation form with the City of Surrey (the "owner"), you are agreeing that your company, management staff, supervisory staff and workers will comply with the Workers' Compensation Board (WCB) Occupational Health and Safety Regulation and the *Workers' Compensation (WC) Act.* 

Any WorksafeBC OH&S violation by the prime contractor may be considered a breach of contract resulting in possible termination or suspension of the agreement and/or any other actions deemed appropriate at the discretion of the City.

Any penalties, sanctions or additional costs levied against the City, as a result of the actions of the prime contractor are the responsibility of the prime contractor.

The Contractor acknowledges having read and understood the information above.

1220-040-2016-011

By signing this Prime Contractor Designation form, the Contractor agrees as a representative of the firm noted below, to accept all responsibilities of the prime contractor for this project.

The Contractor understands and accepts the responsibilities of the prime contractor designation in accordance with the *Workers' Compensation Act* while contracted by the City of Surrey for project and will abide by all Workers' Compensation Board Regulation requirements.

- <b>j</b>		
Project Title and Site Location:		
Prime Contractor Name:		
Prime Contractor Address:		
Telephone/Fax Numbers: Phone:	Fax:	
Name of Person in Charge of Project:		
Name of Person Responsible for Coordinating Heal Phone:	th & Safety Activities:	
Prime Contractor Signature:	Date:	
Please return a signed copy of this memo to the Section, 13450 – 104 Avenue, Surrey, British Colun	City of Surrey, Finance & Technology Departmennbia, V3T 1V8	nt, Purchasing
If you have any questions, please contact the City 4658.	y of Surrey, Manager Occupational Health & Safe	ty at 604-591-

### **ATTACHMENT 3**

### **CONTRACTOR HEALTH & SAFETY EXPECTATIONS**

### **RESPONSIBILITY OF CONTRACTOR(S)**

The City of Surrey strives to maintain a safe work environment for employees and contractors and insists upon the enforcement of safe practices and procedures in all premises and in all work activities. It is essential that all contractors and their employees and sub-contractor(s) perform in the same manner. It is every employers and contractors responsibility to ensure that staff and public are protected from workplace hazards.

As a contractor to the City of Surrey, you are expected to conform to the requirements of the Workers' Compensation Act, the WCB Occupational Health and Safety Regulation and to all federal, provincial and local laws and regulations. The City of Surrey Building Owner, Project Manager, and the Manager, Occupational Health & Safety or designate have the authority to order an unsafe act to cease or to have an unsafe piece of equipment removed from the premises or, in extreme situations, to shut down a job entirely. Any City of Surrey Employee that observes a safety infraction by a contractor performing work for the City of Surrey should bring it to the attention of a manager immediately or Occupational Health & Safety (604-591-4131).

The following information is provided as typical City of Surrey requirements, but does not relieve the contractor from complying with all applicable local, provincial and federal laws, regulations and bylaws.

### PERSONNEL

- 1. You are expected to inform your employees of any potential hazard in the workplace and advise of appropriate action to be taken should a hazard be found or a fire or accident occur.
- 2. Contractors will restrict persons invited on the premises to employees only. No families or friends are permitted.
- 3. The contractor will advise the City of any on-site accidents involving the contractor's employees, or injuries to others caused by the contractor's business.

### SAFETY MANAGEMENT SYSTEM

- 1. Contractors will ensure their employees utilize proper safety equipment and clothing as required for job site activities.
- Contractors must follow and have on site proper written safe work procedures for hazardous work, e.g. Fall protection, confined space entry, hotwork, lockout, excavations and shoring, traffic management, etc.
- 3. Contractor must Identify workplace risk and implement suitable controls.
- 4. Contractor must provide safety training and education to staff and have training records available for review.
- 5. Contractor must have a health & safety program for its workers and sub-contractors
- 6. Contractor will provide appropriate First-Aid coverage for their workers and subcontractors.
- 7. Contractor must forward a weekly work task list prior to work commencement.
- 8. The qualified safety coordinator must participate in the City of Surrey OHS Orientation or attend the Prime Contractor's Orientation.

### **WORK AREAS – City Facilities**

No work by contractors shall occur in any area without prior consent of the City of Surrey Manager, Civic Facilities or his designated representative. Work during normal business hours of the City shall not create undue noise, smells or otherwise unduly disturb the work of City of Surrey staff or the public. If an activity requires that a disturbance is likely, the contractor shall whenever possible only do that work outside normal business hours.

All activities that create a hazard (i.e. work from a ladder, removal of a floor tile, emission of VOC's, etc.) to persons outside the contractor's supervision shall have warning devices, delineation or barriers, sealed spaces, etc. as would normally be required to protect any person from that hazard.

### SAFETY ATTITUDE

Your safety record and attitude are important criteria used to judge your qualification for future bidding on solicitations with the City of Surrey.

You can help ensure employee safety and your eligibility for future business with the City if you exhibit and practice a "Safe Work - Safe City" attitude.

The City of Surrey is concerned about the health, safety and wellbeing of all employees and contractors. It is essential we maintain a healthy, safe and productive work environment.

#### All Employees & Contractors:

It is everyone responsibility to:

- know and comply with WCB regulations and
- follow established safe work procedures
- immediately report any work related injury to his/her supervisor; and to the city representative
- not remain on the work site while his/her ability to work is in any way impaired
- report unsafe acts and conditions to their supervisor
- correct unsafe conditions immediately whenever it is possible to do so
- take reasonable care to protect your health & safety and the health and safety of other persons who may be affected by your act's or omissions at work

An employee must refuse to work if continuing to do so would endanger the health and safety of the employee, fellow employees or others. The worker must immediately report the circumstances of the unsafe condition to his or her supervisor or manager. If the unsafe condition is not remedied or the issue is not resolved the Manager, Occupational Health & Safety must be contacted.

# A common sense approach usually resolves the issue.



### **GENERAL RULES**

- 1. For all secured worksites, contracted workers are required to sign in and sign out each day
- 2. (Access cards may be issued a worker may need to provide an Identification document (i.e. Driver's License) in exchange).
- 3. <u>Personal protective equipment</u>, as determined by the City, through consultation with the Contractors Health and Safety Representatives must be worn when and where required. (Hard Hats, Safety Footwear, Safety Vests and Safety Glasses must be worn on active construction sites. Hearing Protection must be worn when noise levels are above 85dBA.)
- 4. Horseplay, gambling and the use of alcohol or narcotics will not be tolerated.
- 5. No Smoking within 7.5M of a City owned buildings door exits, windows and vents.
- 6. Report ALL injuries to your supervisor immediately and notify the City's site representative.
- 7. <u>Report any unsafe conditions</u>, including someone under the influence or hazards, which may allow an injury to occur to you, a fellow worker, or others on the worksite.
- 8. Report any property damage, regardless of how minor.
- Restricted and controlled products will be labeled, used and stored in accordance with the associated regulations, e.g. WHMIS. Follow all procedural instructions when using or handling <u>hazardous</u> <u>materials/controlled products</u> and ensure that all containers of hazardous/controlled product materials are properly labelled and stored in designated areas.
- 10. Obey all posted signs and notices. Do not venture into areas that you are not authorized to enter.
- 11. Always use the correct posture when lifting and get assistance if the weight is excessive.
- 12. Do not work within the limits of approach to high voltage equipment.
- 13.If working at heights greater than 10 feet a Fall Protection system must be in place. The appropriate Fall Protection equipment must be worn at all times.
- 14. **Housekeeping (**Orderliness and good housekeeping are basic requirements and must be maintained at all times):
- a) Aisles are to be kept clear at all times.
- b) Individual work areas are to be kept clean and tidy.
- c) All materials, tools, products and equipment are to be kept in their designated areas.
- d) Liquid spills are to be cleaned up immediately to prevent slips and falls.
- e) Accumulation of oily rags, combustible refuse or similar fire hazards will not be tolerated.

### 15. Fire Prevention:

- a) Become familiar with Surroundings and emergency exit.
- b) Ensure aisles and exits are not blocked at any time.
- c) Anytime a fire extinguisher is used, report it immediately to your supervisor, so that it can be recharged.

- **16. Equipment Operation** (Any equipment, which could create a hazard, must be maintained in good condition):
- a) Equipment must not be repaired, adjusted or operated unless by a "competent person" who understand the safe operating procedures.
- b) Always be aware of the use and location of the "EMERGENCY STOP" button, if equipment is so equipped, before using the equipment.
- c) Loose clothing, jewelry and long hair must be secured to prevent becoming entangled with equipment.
- d) The Operator must check all safety devices on equipment before operation.
- e) All equipment must be turned off and the appropriate "lock-out" procedure followed, prior to repairs, cleaning, adjustment or lubrication.
- f) Radio/Walkman/I-pod Head phones are not allowed to be worn during regular work operations.
- g) All ladders must be of an approved type and length. Unacceptable ladders must be removed immediately from the premises.
- h) All vehicles and equipment on City property must be kept in safe mechanical condition at all times, and be operated only by persons with a valid driver's license and/or proper training and qualifications.
- i) Contractors will not operate any equipment, valves, switches, etc., which are part of the City's operation, unless specific permission is received from the Department Representative.
- 17. **Ground Disturbance** –Every time you dig in the ground, with a shovel or mechanized equipment, you run the risk of loss of life or damage to property if you hit any of the many buried cables, conduits, gas or oil pipelines and/or other underground facilities that serve our city, <u>BC One Call Must be called and a ticket</u> <u>obtained prior to commencing any ground disturbance activities.</u>

Issued By:	Occupational Health & Safety Section - Contractor Coordination Program		
Date:	Revised: January 14, 2014 Original: August 15, 2014		
Distributed:	Via Email & Posted on Intranet: January 16, 2015 : <u>August 15, 2014</u>		

This document does not replace the Workers' Compensation Act or WorkSafeBC OH&S regulation. Each individual Contractor must have specific health and safety safe work rules and procedures that apply to their work tasks. Each Contractor must comply with the Workers' Compensation Act and WorkSafeBC Occupational Health & Safety Regulation and to all federal, provincial and local laws and regulations. If a contractor is unable to comply they must bring this to the attention of their qualified safety representative and to the Prime Contractor safety representative immediately.

Authorized Signature: \_\_\_\_\_

Name:

(Please Print)

Date:



# **ATTACHMENT 4**

# **GEOTECHNICAL REPORT**

# BRAUN GEOTECHNICAL, PRELIMINARY GEOTECHNICAL REPORT DATED NOVEMBER 20, 2015 REFERENCE #15-6553



Foundations, Excavation & Shoring Specialists

Braun Geotechnical

106A – 9785 192 St. Surrey, BC V4N 4C7 Tel: 604-513-4190 Fax: 604-513-4195 info@braungeo.com

www.braungeo.com

**Foundations** 

Excavation & Shoring

Slope Stability

Natural Hazards

Pavement Design and Management

Reinforced Soil Walls and Slopes



November 20, 2015

Our File: 15-6553

Via email: twiebe@surrey.ca

City of Surrey 13450 104 Avenue Surrey, BC V3T 1V8

# Attn: Tom Wiebe

Re: Preliminary Geotechnical Report Cloverdale Curling Rink Settlement Assessment 6150 176 Street, Surrey, BC

# 1.0 INTRODUCTION

As requested, Braun Geotechnical Ltd. has carried out a geotechnical exploration for the above-referenced project. The geotechnical work has been performed in general accordance with the terms and conditions of the Braun Geotechnical Fee Estimate dated September 29, 2015 (our reference No. P15-4727). The scope of work included a site reconnaissance review, a subsurface exploration at select settlement assessment locations, collection and compilation of available geological and geotechnical information, review of foundation drawings, and provision of preliminary repair alternatives. No consideration has been given to environmental issues.

# 2.0 SITE DESCRIPTION AND PROPOSED DEVELOPMENT

The subject site is the Cloverdale Curling Rink building located at 6150 176 Street, in the City of Surrey, BC. It is understood that new cracks have recently formed within the southwest stairwell of the building.

It is understood that repairs to the differentially settled portion of the building are proposed by the City of Surrey.

# 3.0 SITE OBSERVATIONS AND DESK STUDY REVIEW

Structural drawings of the Curling Rink were provided to Braun Geotechnical, however, a second floor expansion was subsequently carried out and drawings for the expansion were not available.

Wicke Herfst Maver Structural Engineers (WHM) carried out a preliminary structural assessment at the subject site in order to determine the possible cause of the settlement and cracking. The findings of the WHM assessment are noted in the WHM site review memo "CoS-Cloverdale Curling Rink – Review of wall cracks," dated September 24, 2015. The WHM memo noted the following:

• The separation observed at gridline G from the remainder of the building is an indication that there has been rotation of the stairwell south of gridline 10, which is likely a result of settlement along the southern edge of stairwell (gridlines referenced from the original structural drawings, see Figure 1).

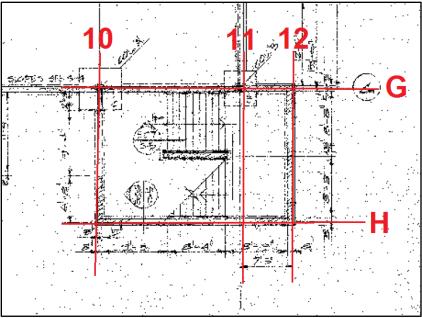


Figure 1: Southwest stairwell foundation main floor plan.

A site reconnaissance was carried out on September 25, 2015 to review areas of concern, with a follow-up site walkover/meeting on October 15, 2015. The following observations were made at the southwest corner of the building:

- Cracking was observed within the masonry walls at the north corners of the stairwell along gridline 10.
- Masonry cracks at gridlines G and 10 on the second floor were observed to be up to approximately 25mm wide (Figure 2).
- Separation was noted within the metal cladding and the masonry portion of the building at gridlines 11 and G (Figure 3).



Figure 2: Cracks observed at gridlines G and 10

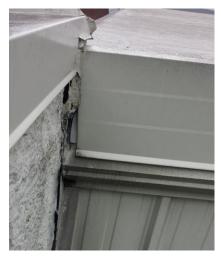


Figure 3: Separation observed at wall gridlines 11 and G



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- On the roof water ponding was observed on the southern portion of the stairwell between approximately gridlines 11 and 12 (Figure 4).
- The observed ponding water and wall cracking were generally consistent with the WHM assessment that settlement had likely occurred at the south foundation wall (gridline 12).
- Evidence of separation between the foundation/building walls and the slab was not observed (i.e. the slab has likely settled with the building), however, cracks in the slab were observed in the east west direction, parallel to the inferred south foundation wall settlement (Figure 5).



Figure 4: Ponded water observed on the roof at the south side of the stairwell

Figure 5: Cracked slab observed below stairwell

• Based on interview information with onsite Curling Rink personnel on October 15, 2015, it is understood that an expansion was carried out to the Curling Rink, which included a second floor addition north of the stairwell. The expansion was carried out on the opposite side of the inferred settlement, and as such, is not considered to be a likely contributor to the observed cracking.

Historical government air photos available for most decades dating back to 1940 were reviewed. The air photo review noted the following:

- The curling rink was observed in all of the air photos from 1984 to 2007, and was absent in the 1979 and older air photos.
- An existing single family dwelling (SFD) was observed on the subject site at the location of the southwest stairwell on the 1959 to 1979 air photos.
- The existing stairwell area was vacant in the 1949 air photos, and was generally obscured from view in the 1940 air photo due to low resolution.

# 4.0 SITE EXPLORATION

Two test holes, TH15-01 and TH15-02, were drilled on October 8, 2015, using a truck mounted solid stem auger drill under subcontract to Braun Geotechnical to depths of 7.6 and 6.0m, respectively. The soil conditions were logged in the field by a representative from Braun Geotechnical and representative soil samples were returned for moisture content laboratory testing and further classification. Test hole locations are shown on the attached plan (Dwg. 15-6553-01).



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### 5.0 SOIL AND GROUNDWATER CONDITIONS

A review of available published and in-house geological information indicated that the study site area is underlain by Capilano Sediments comprising mainly marine silt loam to clay loam with minor sand, silt, and stony glaciomarine marine deposits up to 60+ meters thick.

The findings of the test hole exploration are detailed on the attached test hole logs. A generalized subsoil profile based on the test holes is provided below.

### <u>FILL</u>

Variable FILL, including dark-brown, damp, loose SAND with some organics, trace to some silt and occasional rootlets (organic rich FILL), and brown to grey-brown, damp to moist, loose to compact SAND with trace fine gravel and trace to some silt, and very stiff SILT with occasional organic interlayers was encountered immediately below existing grades within TH15-01 and TH15-02 to depths of 1.4 and 1.2m, respectively.

### Stiff to Very Stiff SILT

Grey, occasionally brown mottled, damp to moist, stiff to very stiff SILT with trace sand, trace clay, and occasional fine gravel was encountered below the fill within TH15-01 and TH15-02 to depths of 3.8 and 4.1m, respectively.

### Soft to Firm SILT

Grey, occasionally brown mottled, moist, soft to firm SILT with trace to some clay to clayey SILT, with trace to some fine sand was encountered below to the depth of the test hole exploration.

### **GROUNDWATER**

Groundwater was encountered at the time of drilling within TH15-01 and TH15-02 at depths of 4.1 and 3.0m, respectively. Note that groundwater levels measured during drilling and shortly thereafter are typically influenced by the disturbance caused during drilling. Groundwater levels are expected to fluctuate seasonally, and with drainage conditions.

The subsurface conditions described above were encountered at the test hole locations only. Subsurface conditions at other locations could vary.

# 6.0 DISCUSSION AND RECOMMENDATIONS

### 6.1 General

The test holes generally encountered loose to compact/very stiff fill overlying natural silt soils. The natural silt was stiff to very stiff near surface, becoming soft to firm with depth.

Typically the natural very stiff silt encountered during the site exploration is considered suitable for an allowable bearing pressure of 3000 psf (143 kpa). Strip and pad footings should have minimum widths of 450mm (18") and 600mm (24"), respectively. Footings should be founded at least 450mm (18") below final finished adjacent grade for prost protection. Additionally, the allowable bearing capacity assumes that any fill below 1H:1V (horizontal to vertical) from the edge of footings is comprised of structural fill (well graded sand and/or sand and gravel compacted to at least 95% Modified Proctor Density).

It is considered that the causes of the observed settlement may include but may not necessarily be limited to one or more of the following:

1. Variable unsuitable fill may be present below the southern footing. Although fill was encountered within the test holes along the outer perimeter of the building, variable fill may or may not be present below the inferred settled footings.



Note that due to utility conflicts, the test holes were not drilled adjacent to the south foundation wall. However, subgrade conditions are expected to be similar to those encountered along the west wall.

- 2. The existing footings may not be suitable for the existing dead and live loads. The structural consultant should confirm that the assumed allowable loading of the footings have not been exceeded, and that the minimum footing width/embedment requirements have been met.
- 3. The natural very stiff silt subgrade may have been disturbed and/or water softened prior to casting the footings, and as such, the subgrade may not be suitable for the aforementioned allowable bearing capacity.
- 4. It is considered that any of the above 3 items (or a combination of the 3) may have been a contributing factor, with subgrade settlement possibly having occurred gradually since construction of the structure. It is considered that the concrete may have held together (i.e. bridged the settlement areas), with the cracks only expressing recently. Additionally, it is considered that the expressed cracking and/or settlement may have been triggered and/or amplified by the relatively dry weather during the summer of 2015.

### 6.2 Rehabilitation

It is recommended that consideration be given to underpinning the southern stairwell footings using helical piles (or approved equivalent), founded within the natural stiff to very stiff soils. The footings should be structurally connected to the helical piles such that the footings are supported entirely on the helical piles. Spacing of the helical piles and the ability of the existing foundations to span between the helical piles should be reviewed by the Structural Consultant. Lifting of the foundations and infilling of the void below may also be considered subject to suitable soils being exposed below the footings.

Note that additional structural reinforcement of the existing footings and/or structures bearing on the footings may be required, and should be determined by the Structural Consultant. Further, it is anticipated that cosmetic repairs would be required to the building following repairs to the existing footings.

Following repairs to the existing footings, slab jacking may be required to lift the existing slab to match repaired footing grades and/or to fill any under-slab voids.

Detailed helical pile design, including pile capacity, test pile requirements, and minimum pile spacing, for the exterior strip footings would be provided under a separate cover once the structural loading has been finalized, and following discussions with pile installers (to discuss equipment/pile availability, and installation procedures.

# 7.0 GEOTECHNICAL FIELD REVIEWS

Field reviews are essential to confirm that the recommendations of the geotechnical report are understood and followed.

Geotechnical field reviews should be arranged by the Contractor to address the following:

- Installation of helical piles (including test pile);
- Review of temporary excavation cut slopes/shoring (if required).



### 8.0 CLOSURE

This report is prepared for the exclusive use of the City of Surrey and their designated representatives and may not be used by other parties without the written permission of Braun Geotechnical Ltd.

If the development plans change, or if during construction soil conditions are noted to be different from those described in this report, Braun Geotechnical should be notified immediately in order that the geotechnical recommendations can be confirmed or modified, if required. Further, this report assumes that field reviews will be completed by Braun Geotechnical during construction.

The site contractor should make their own assessment of subsurface conditions and select the construction means and methods most appropriate to the site conditions.

This report should not be included in the specifications without suitable qualifications approved by the geotechnical engineer. The report should be considered preliminary and subject to review and revision as required for final project design and construction.

The use of this report is subject to the conditions on the Report Interpretation and Limitations, sheet which is included with the report. The reader's attention is drawn specifically to those conditions, as it is considered essential that they be followed for proper use and interpretation of this report.

We hope the above meets with your requirements. Should any questions arise, please don't hesitate to contact the undersigned.

Yours truly,

Yours truly Brain Geotechnical Ltd. **ILLON** 39484 BRITISH Harman Dhillon, P.Eng. Geotechnical Engineer Éncl: **Report Interpretation and Limitations** 

Location Plan Test Hole Logs

otechnical Ltd. Singha, P.Eng.

Geotechnical Engineer

X:/2015 Projects/15-6553 Cloverdale Curling Rink Settlement Review - 6150 176 Street, Surrey, BC/Preliminary Geotechnical Report 15-6553 2015-11-20.docx



# REPORT INTERPRETATION AND LIMITATIONS

### 1. STANDARD OF CARE

Braun Geotechnical Ltd. (Braun) has prepared this report in a manner consistent with generally accepted engineering consulting practices in this area, subject to the time and physical constraints applicable. No other warranty, expressed or implied, is made.

### 2. COMPLETENESS OF THIS REPORT

This Report represents a summary of paper, electronic and other documents, records, data and files and is not intended to stand alone without reference to the instructions given to Braun by the Client, communications between Braun and the Client, and/or to any other reports, writings, proposals or documents prepared by Braun for the Client relating to the specific site described herein.

This report is intended to be used and quoted in its entirety. Any references to this report must include the whole of the report and any appendices or supporting material. Braun cannot be responsible for use by any party of portions of this report without reference to the entire report.

### 3. BASIS OF THIS REPORT

This report has been prepared for the specific site, development, design objective, and purpose described to Braun by the Client or the Client's Representatives or Consultants. The applicability and reliability of any of the factual data, findings, recommendations or opinions expressed in this document pertain to a specific project at described in this report and are not applicable to any other project or site, and are valid only to the extent that there has been no material alteration to or variation from any of the descriptions provided to Braun. Braun cannot be responsible for use of this report, or portions thereof, unless we were specifically requested by the Client to review and revise the Report in light of any alterations or variations to the project description provided by the Client.

If the project does not commence within 18 months of the report date, the report may become invalid and further review may be required.

The recommendations of this report should only be used for design. The extent of exploration including number of test pits or test holes necessary to thoroughly investigate the site for conditions that may affect construction costs will generally be greater than that required for design purposes. Contractors should rely upon their own explorations and interpretation of the factual data provided for costing purposes, equipment requirements, construction techniques, or to establish project schedule.

The information provided in this report is based on limited exploration, for a specific project scope. Braun cannot accept responsibility for independent conclusions, interpretations, interpolations or decisions by the Client or others based on information contained in this Report. This restriction of liability includes decisions made to purchase or sell land.

### 4. USE OF THIS REPORT

The contents of this report, including plans, data, drawings and all other documents including electronic and hard copies remain the copyright property of Braun Geotechnical Ltd. However, we will consider any reasonable request by the Client to approve the use of this report by other parties as "Approved Users." With regard to the duplication and distribution of this Report or its contents, we authorize only the Client and Approved Users to make copies of the Report only in such quantities as are reasonably necessary for the use of this Report or any portion thereof available to any other party without express written permission from Braun. Any use which a third party makes of this Report – in its entirety or portions thereof – is the sole responsibility of such third parties. BRAUN GEOTECHNICAL LTD. ACCEPTS NO RESPONSIBILITY FOR DAMAGES SUFFERED BY ANY PARTY RESULTING FROM THE UNAUTHORIZED USE OF THIS REPORT.

Electronic media is susceptible to unauthorized modification or unintended alteration, and the Client should not rely on electronic versions of reports or other documents. All documents should be obtained directly from Braun.

### 5. INTERPRETATION OF THIS REPORT

Classification and identification of soils and rock and other geological units, including groundwater conditions have been based on exploration(s) performed in accordance with the standards set out in Paragraph 1. These tasks are judgemental in nature; despite comprehensive sampling and testing programs properly performed by experienced personnel with the appropriate equipment, some conditions may elude detection. As such, all explorations involve an inherent risk that some conditions will not be detected.

Further, all documents or records summarizing such exploration will be based on assumptions of what exists between the actual points sampled at the time of the site exploration. Actual conditions may vary



significantly between the points investigated and all persons making use of such documents or records should be aware of and accept this risk.

The Client and "Approved Users" accept that subsurface conditions may change with time and this report only represents the soil conditions encountered at the time of exploration and/or review. Soil and ground water conditions may change due to construction activity on the site or on adjacent sites, and also from other causes, including climactic conditions.

The exploration and review provided in this report were for geotechnical purposes only. Environmental aspects of soil and groundwater have not been included in the exploration or review, or addressed in any other way.

The exploration and Report is based on information provided by the Client or the Client's Consultants, and conditions observed at the time of our site reconnaissance or exploration. Braun has relied in good faith upon all information provided. Accordingly, Braun cannot accept responsibility for inaccuracies, misstatements, omissions, or deficiencies in this Report resulting from misstatements, omissions, misrepresentations or fraudulent acts of persons or sources providing this information.

#### 6. DESIGN AND CONSTRUCTION REVIEW

This report assumes that Braun will be retained to work and coordinate design and construction with other Design Professionals and the Contractor. Further, it is assumed that Braun will be retained to provide field reviews during construction to confirm adherence to building code guidelines and generally accepted engineering practices, and the recommendations provided in this report. Field services recommended for the project represent the minimum necessary to confirm that the work is being carried out in general conformance with Braun's recommendations and generally accepted engineering standards. It is the Client's or the Client's Contractor's responsibility to provide timely notice to Braun to carry out site reviews. The Client acknowledges that unsatisfactory or unsafe conditions may be missed by intermittent site reviews by Braun. Accordingly, it is the Client's or Client's Contractor's responsibility to inform Braun of any such conditions.

Work that is covered prior to review by Braun may have to be re-exposed at considerable cost to the Client. Review of all Geotechnical aspects of the project are required for submittal of unconditional Letters of Assurance to regulatory authorities. The site reviews are not carried out for the benefit of the Contractor(s) and therefore do not in any way effect the Contractor(s) obligations to perform under the terms of his/her Contract.

### 7. SAMPLE DISPOSAL

Braun will dispose of all samples 3 months after issuance of this report, or after a longer period of time at the Client's expense if requested by the Client. All contaminated samples remain the property of the Client and it will be the Client's responsibility to dispose of them properly.

#### 8. SUBCONSULTANTS AND CONTRACTORS

Engineering studies frequently requires hiring the services of individuals and companies with special expertise and/or services which Braun Geotechnical Ltd. does not provide. These services are arranged as a convenience to our Clients, for the Client's benefit. Accordingly, the Client agrees to hold the Company harmless and to indemnify and defend Braun Geotechnical Ltd. from and against all claims arising through such Subconsultants or Contractors as though the Client had retained those services directly. This includes responsibility for payment of services rendered and the pursuit of damages for errors, omissions or negligence by those parties in carrying out their work. These conditions apply to specialized subconsultants and the use of drilling, excavation and laboratory testing services, and any other Subconsultant or Contractor.

#### 9. SITE SAFETY

Braun Geotechnical Ltd. assumes responsibility for site safety solely for the activities of our employees on the jobsite. The Client or any Contractors on the site will be responsible for their own personnel. The Client or his representatives, Contractors or others retain control of the site. It is the Client's or the Client's Contractors responsibility to inform Braun of conditions pertaining to the safety and security of the site – hazardous or otherwise – of which the Client or Contractor is aware.

Exploration or construction activities could uncover previously unknown hazardous conditions, materials, or substances that may result in the necessity to undertake emergency procedures to protect workers, the public or the environment. Additional work may be required that is outside of any previously established budget(s). The Client agrees to reimburse Braun for fees and expenses resulting from such discoveries. The Client acknowledges that some discoveries require that certain regulatory bodies be informed. The Client agrees that notification to such bodies by Braun Geotechnical Ltd. will not be a cause for either action or dispute.





# Test Hole Log: TH15-01

File: 15-6553

Project: Cloverdale Curling Rink Settlement Review Client: City of Surrey Location: 6150 176 Street, Surrey, BC



	· · · · ·						
Depth		Sample	Soil Description	Sample #	Water Cont.	Remarks	
$\begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} $		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Soil Description         dark-brown, damp, loose SAND, some organics trace to some silt, occasional rootlets (ORGANIC RICH FILL)         grey-brown, damp, loose to compact SAND, trace fine gravel, trace silt (FILL)         brown to grey-brown, damp, loose to compact, SAND, with trace fine gravel, some silt mixed with dark brown, damp, loose sand, some organics, some silt, occasional zones of silty sand (VARIABLE FILL)         grey, occasionally brown mottled, damp, very stiff SILT, trace sand, trace clay, occasional fine gravel         grey, occasionally brown mottled, moist, stiff SILT, trace clay         grey, occasionally brown mottled, moist, firm SILT, trace to some clay         grey, moist, soft to firm clayey SILT, some fine sand         grey, moist, soft clayey SILT, trace to some fine sand         End of Test Hole @ 7.6m	S1 S2 S3 S4 S5 S6 S7 S8 S8 S9	Output         18%         31%         20%         55%         41%         54%         47%         43%         46%         53%	Water Level (at time of drilling)	
Sampling M	Logged By:       HD         Equipment:       Truck Auger Rig         Sampling Method:       Lump Sample         Hammer Type:       N/A         Datum:       Ground Surface         Logged By:       HD         Drilling Date:       October 8, 2015         Dwg No.:       15-6553-TH01         Page:       1 of 1						

# Test Hole Log: TH15-02

File: 15–6553 Project: Cloverdale Curling Rink Settlement Review Client: City of Surrey Location: 6150 176 Street, Surrey, BC



Depth		Sample	Soil Description	Sample #	Water Cont.	Remarks
-0-0- ft - m 1 1 2 2 2  3		0000	dark brown, damp, loose SAND, some organics trace to some silt, occasional rootlets (ORGANIC RICH FILL) grey-brown, damp to moist, loose SAND, trace to some silt (FILL) grey, damp, very stiff SILT, occasional organic interlayers (FILL) grey-brown, damp, loose to compact, SAND, trace fine gravel, trace silt (FILL) grey, occasionally brown mottled, damp, very stiff SILT, trace sand	S1 S2 S3 S4 S5	> 24% 12% 31% 39% 49%	Water Level
		0	grey, occasionally brown mottled, moist, stiff SILT, trace clay	S6	44%	—
		0	grey, occasionally brown mottled, moist, firm clayey SILT, some fine sand grey, moist, soft to firm clayey SILT, some fine sand	S7	46%	
206 6 7 7			End of Test Hole @ 6.0m			
25 						
309   10 						
35- <u>-</u> 11						
Sampling M	Equipment: Truck Auger RigDatum: Ground SurfaceLogged By:HDSampling Method: Lump SampleWater Depth: 3.0mDrilling Date:October 8, 2015Hammer Type: N/A(at time of drilling)Dwg No.:15-6553-TH02Page:1 of 1					