



REQUEST FOR QUOTATIONS

Title: 2018 SMALL DIAMETER SANITARY SEWER RELINE PROGRAM

Reference No.: 1220-040-2018-027

(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 construction minor works services described in Schedule A – specifications of Goods and scope of Services (the "Goods and Services"). The description of the Goods and Services 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 labeled with the Contractor's name, RFQ title and number. A Quotation should be submitted in the form attached to this RFQ as Schedule C – 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: purchasing@surrey.ca

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 two (2) copies (three (3) in total) which should be delivered to the City at the office of:

Name: Richard D. Oppelt, Purchasing Manager
Purchasing Section
at the following location:

Address: City of Surrey,
Finance Department - Purchasing Section
Reception Counter, 5th Floor West
13450 – 104th Avenue, Surrey, B.C., Canada, V3T 1V8

3. DATE

The City would prefer to receive Quotations on or before **April 3, 2018**. The City's office hours are 8:30 a.m. to 4:30 p.m., Monday to Friday, except statutory holidays.

4. CONTRACT DOCUMENTS

All the work outlines in the Quotation shall be carried out in strict accordance with the schedule of Provisions, Drawings, Specifications and Conditions listed in Schedule B of the Request for Quotation.

Master Municipal Construction Documents Volume II can be purchased from Support Services Unlimited, Suite 302, 1107 Homer Street, Vancouver, B.C., V6B 2Y1, (604) 681-0295 for \$135.00 plus GST and shipping, per set. Supplementary Master Municipal Construction Documents can be purchased at the City of Surrey Engineering Department for \$30.00, GST inclusive, per copy.

5. 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: 1220-040-2018-027

6. 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 www.bcbid.gov.bc.ca (the "BC Bid Website") and the City Website at www.surrey.ca (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.

7. 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.

8. 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 agreement on behalf of the City. Delivery of the signed Quotation by the City may be by fax or pdf email. In that event, the resulting Agreement will be comprised of

the documents included in the definition of Agreement in Schedule B – Sample Construction Contract – Minor Works (MMCD).

9. 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.

10. CONTRACTOR'S QUALIFICATIONS

By submitting a Quotation, a Contractor represents that it has the expertise, qualifications, resources, and relevant experience to supply the Goods and Services. Tradesmen engaged in the performance of the Services 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.

11. 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.

12. 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.

13. 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.

14. 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.

15. PERFORMANCE BOND

No Bonding is required.

16. LIABILITY INSURANCE

The following shall be additional named insured on this Contract:

City of Surrey
Consultant
Sub-Contractors

17. LIQUIDATED DAMAGES

Attention is drawn to MMCD Platinum Edition GC 13.9; Liquidated Damages

18. BID SECURITY

Bid Security is not required for this Quotation

SCHEDULE A – SCOPE OF WORK

PROJECT TITLE: 2018 Small Diameter Sanitary Sewer Reline Program

PROJECT No.: 1220-040-2018-027

1. DESCRIPTION OF SCOPE OF WORK

The scope of Work includes the provision of all labour, supervision, materials, plant, equipment, layout, survey, permits, and inspections, and related services to the relining of 150 mm diameter sanitary sewer mains and 100 mm sanitary sewer service connections.

Job site location consists of multiple roads and lots in the Birdland area of Surrey (See attached Map; Schedule B, Appendix 3A, for exact location)

The general components of the work include flushing mains and service connections, provision for traffic control, flow diversion of the sewer section being rehabilitated and other related works.

The detailed scope of work is as described on the Contract Drawings (Schedule B, Appendix 3A), Special Provisions (Schedule B – Appendix 1), and Supplementary Specifications (Project) (Schedule B- Appendix 3).

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.

**SCHEDULE B
CONSTRUCTION CONTRACT – MINOR WORKS (MMCD)**

Title: 2018 Small Diameter Sanitary Sewer Reline Program

AGREEMENT No.: 1220-040-2018-027

THIS AGREEMENT dated the _____ day of _____, 2018.

BETWEEN:

CITY OF SURREY
13450 104th Avenue
Surrey, B.C. V3T 1V8

(The "**City**")

OF THE FIRST PART

AND:

(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:

Installation of sanitary sewer pipe relines, by approved methods, on existing small diameter (150mm AC) sanitary gravity mains and any AC sanitary sewer service connections connected to these mains.

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. THE WORK

- 1.1 The Contractor will perform all Work and provide all labour, equipment and material and do all things strictly as required by the Contract Documents.

- 1.2 The Contractor will commence the Work on or after **April 27, 2018**. The Contractor will proceed with the Work diligently, will perform the Work generally in accordance with the **Construction Schedule as set out in Appendix 5** as required by the Contract Documents and will achieve Substantial Performance of the Work on or before **July 31, 2018** subject to the provisions of the Contract Documents for adjustments to the Contract Time. Should the Contractor fail to complete the Work under the Contract within the time specified, the City will be entitled to compensation from the Contractor, as detailed in SP 2.
- 1.3 If the Work is not fully completed within the time required in the preceding Schedule B – Section SP.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. Time shall be of the essence of the Contract.
- 1.4 Time shall be of the essence of the Contract.

2. CONTRACT DOCUMENTS

- 2.1 All of the Contract Documents shall constitute the entire Contract between the City and the Contractor.
- 2.2 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.
- 2.3 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) Construction Standards;
 - (c) Specifications;
 - (d) Drawings; and
 - (e) All other Contract Documents.

3. CONTRACT PRICE

- 3.1 The Contract Price for the Work shall be the sum of _____ **<insert amount in words>** Dollars and _____ **<insert amount in words>** Cents (\$_____), plus goods and services tax in the amount of _____ **<insert amount in words>** Dollars and _____ **<insert amount in words>** Cents (\$_____), for a total Contract Price of _____ **<insert amount in words>** Dollars and _____ **<insert amount in words>** 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.
- 3.2 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.

4. HOLDBACKS

- 4.1 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.
- 4.2 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.
- 4.3 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.
- 4.4 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.
- 4.5 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.

5. INVOICING AND PAYMENT

- 5.1 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.
- 5.2 The Contractor shall submit invoice(s) for payment to the Contract Administrator, no more frequently than a monthly basis. Any and all Extra Work as approved by the City, must be clearly identified and quantified on a separate invoice(s).
- 5.3 The invoice(s) submitted for the completion of the Work shall be clearly itemized to the details of 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 line item completed, tax (if any), a 10% lien holdback, and a grand total. The grand total will be subject to other holdbacks if required.
- 5.4 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.

- 5.5 For earlier payment, the Contractor can offer a cash discount. All payment cheques are mailed.

6. PERFORMANCE OF THE WORK

- 6.1 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.
- 6.2 The Contractor will not proceed with any work that is not part of the Work, except in accordance with the Contract.
- 6.3 The Contractor will apply for and pay for all necessary permits and licenses and pay all fees required for the performance of the Work.

7. CHANGES

- 7.1 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.
- 7.2 The Contractor will not proceed with any Change without a written Change Order signed by the City.

8. SITE CONDITIONS

- 8.1 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.

9. DOCUMENTS

- 9.1 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.
- 9.2 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.

10. TIME

- 10.1 The Contractor will proceed diligently and complete the Work in a good and workmanlike manner and strictly in accordance with the Construction Schedule.
- 10.2 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.
- 10.3 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.
- 10.4 Time is of the essence of the Contract.

11. TAXES AND DUTIES

- 11.1 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.
- 11.2 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.

12. BUILDER'S LIENS

- 12.1 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.

13. CITY DIRECTIONS

- 13.1 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.
- 13.2 The City's Representative may at any time and from time to time inspect the Work.
- 13.3 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.
- 13.4 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.

14. MATERIAL TESTING AND INSPECTIONS

- 14.1 The Contractor will retain one or more independent Contractors with the relevant professional education, skill and experience, to carry out and report upon all material 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.
- 14.2 If Work is designated for tests, inspections or approvals by authorized agencies, the Contractor will give the Contract Administrator reasonable notice of when the Work will be ready for review and inspection.

15. USE OF PLACE OF WORK

- 15.1 The Contractor will confine its tools, machinery, equipment and materials to limits as may be established by the City's Representative, acting reasonably.
- 15.2 The Contractor is responsible for the cleanliness of the Place of Work and accountable for the disposal of all excess and scrap materials. The Place of Work, at all times must be kept clean of any debris to avoid mishaps and all unwanted materials must be disposed of in an environmentally friendly manner at approved sites with no extra expense to the City
- 15.3 The Contractor shall dispose of all debris, trash and unsuitable materials collected under this Contract off site. 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.
- 15.4 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.
- 15.5 The Contractor shall 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.
- 15.6 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.
- 15.7 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.
- 15.8 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.

- 15.9 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.
- 15.10 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.
- 15.11 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.
- 15.12 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.

16. SUPERVISION

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

17. CODES AND REGULATIONS

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

18. CONTRACTOR'S WARRANTY

- 18.1 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.
- 18.2 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 period of one (1) year 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.
- 18.3 The Contractor shall undertake all repairs or replacements at times that will minimize interference with the City's operations.
- 18.4 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.
- 18.5 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 Certificate of Substantial Performance, or a Certificate of Total Performance, or payment to the Contractor of any money under the Contract.

19. WAIVERS

- 19.1 The Contractor's application for the Certificate of Substantial Performance 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.
- 19.2 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.

20. SUBSTANTIAL PERFORMANCE

- 20.1 The Contract Administrator will, after receipt of a written application from the Contractor for a Certificate of Substantial Performance, make an inspection and assessment of the Work and issue a Certificate of Substantial Performance or if the Contractor Administrator decides that Substantial Performance has not been achieved, consult with the Contractor and advise the Contractor of the Work required to achieve Substantial Performance.
- 20.2 An application for Substantial Performance shall be accompanied by:
 - (a) a sworn declaration in a form acceptable to the Contract Administrator 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 sub-contractors and suppliers, have been paid; and
 - (b) documentation satisfactory to the Contract Administrator showing compliance with Workers' Compensation Board requirements.

- 20.3 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.
- 20.4 The Contract Administrator 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 sub-contractors, including the sub-contractors, as required under the *Builders Lien Act*.

21. TOTAL PERFORMANCE

- 21.1 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.
- 21.2 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.

22. WORKERS' COMPENSATION BOARD AND OCCUPATIONAL HEALTH AND SAFETY

- 22.1 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.
- 22.2 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.
- 22.3 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.

- 22.4 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 safety. 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 Prime 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.
- 22.5 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.
- 22.6 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.
- 22.7 The Contractor understands and undertakes to comply with all the WCB 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, and products and any future MSDS updates shall be forwarded.

23. INSURANCE

- 23.1 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,
 - owner'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, tunneling 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 sub-Contractors;
 - (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.
- 23.2 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.
- 23.3 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.
- 23.4 If requested to do so, the Contractor will provide the City with a copy of insurance policies relating to the Work.

24. INDEMNIFICATION

- 24.1 The Contractor shall indemnify and hold harmless the City, its elected officials, its officers, agents and employees 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.

25. REJECTED WORK

- 25.1 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 re-executed promptly and properly at the Contractor's expense.

26. DEFAULT

- 26.1 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.

- 26.2 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.
- 26.3 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.

27. CORRECTION BY CITY

- 27.1 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.

28. ASSIGNMENT AND SUBCONTRACTS

- 28.1 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.
- 28.2 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.
- 28.3 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.
- 28.4 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.
- 28.5 The Contractor shall not be required to employ as a subcontractor a person or firm to whom he may reasonably object.
- 28.6 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.
- 28.7 Nothing contained in the Contract Documents shall create a contractual relationship between a subcontractor and the City.

29. NOTICES

- 29.1 Communications between the City and the Contractor, including all written notices required by the Contract Documents, may be delivered by hand, or by fax, or by pre-paid registered mail to the addresses set out below:
- (a) City of Surrey
<insert department name>
<insert division/section name, if applicable>

13450 104 Avenue,
Surrey, B.C. V3T 1V8

Telephone:
Fax:
Attention:

(b) The Contractor:

<insert full legal name and address of Contractor>

Telephone: <insert>
Fax: <insert>
Attention: <insert>

(c) The Contract Administrator:

Wedler Engineering.
#202 – 10216 128 St., Surrey, B.C.
Attention: Tim Jorgensen, Project Manager

29.2 A communication or notice that is addressed as above shall be considered to have been received:

- (a) immediately upon delivery, if delivered by hand; or
- (b) immediately upon transmission if sent and received by fax; or
- (c) after five (5) days from date of posting if sent by registered mail.

29.3 The City or the Contractor may, at any time, change their address for notice by giving written notice to the other at the address then applicable.

29.4 The sender of a notice by fax assumes all risk that the fax will be received properly.

30. FORCE MAJEURE

30.1 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.

30.2 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.

31. GENERAL

- 31.1 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.
- 31.2 All schedules and appendices attached to the Contract will be read and construed as forming part of the Contract.
- 31.3 The Contract will be interpreted in accordance with the laws of the Province of British Columbia.
- 31.4 The headings are included in the Contract for convenience only and will not be referred to in interpreting the Contract.
- 31.5 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.
- 31.6 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

<INSERT FULL LEGAL NAME OF CONTRACTOR>

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

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 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 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 \$500.00 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.3 Requirements of Work & Personnel

S.P. 3.1 Risk, Health & Safety

Refer to the attached Risk, Health and Safety Responsibility of Contractor requirements (Attachment 3) that outline the responsibility for all Contractors working for the City of Surrey.

S.P. 3.2 Safety

The Contractor shall, at all times, employ safety procedures required by the Workers' Compensation Board, and any other safety regulations relating to the control of vehicle and pedestrian traffic.

The Contractor shall be solely and completely responsible for the safe condition of the work site including safety of all persons and property during performance of the work. The Contractor shall operate at the work site and perform the work in a manner, which meets the “Industrial Health

and Safety Regulations". The requirements shall apply continuously and not be limited to only normal working hours. The Contractor shall provide all safety equipment required to carry out the work in accordance with the above procedures. The Contractor must supply proof of status and coverage, and such coverage must include not only employees, but also management and principals if they will be physically involved in the project.

All personnel provided for the work and services shall, at the Contractor's expense, be properly attired with safety-toed footwear, hardhat, recognized clothing, and all other provisions of the Industrial Health and Safety Regulations of the Workers' Compensation Board of B.C.

Workers' Compensation Board must cover all employees, and it is required to indicate your registration number on the attached form.

Non-compliance to the above paragraphs by personnel will be considered in violation of the contract and will result in immediate dismissal of personnel involved with the job site and continued non-compliance will result in cancellation of the contract.

S.P.4 Safety Procedures and Health Regulations

S.P. 4.1 General

In addition to the City of Surrey's General Safety requirements, the following details additional safety procedures and requirements associated with the special nature of this project.

The Contractor shall at all times employ safety procedures required by the Workers' Compensation Board, BC. Electrical Inspection and City of Surrey's Confined Space Entry Safety Procedure.

The Contractor shall be solely and completely responsible for the conditions of the work site including safety of all persons and property during performance of the work. The Contractor shall maintain the work site and perform the work in a manner, which meets the "Industrial Health and Safety Regulations" especially those pertaining to Confined Space Entry, the "Industrial First Aid Regulations" of the Worker's Compensation Board of British Columbia, and the City of Surrey's Confined Space Entry Procedure Schedule C – Attachment 3 and Attachment 4. These requirements shall apply continuously and not be limited to normal working hours. The Contractor shall provide his own lighting, ventilation equipment, breathing apparatus, harnesses, manlift device and lifelines, free standing tripod point, gas detector, as well as any other safety equipment required to carry out the work in accordance with the above procedures.

S.P. 4.2 Safety Training

The Contractor will be responsible for ensuring that all workers have completed training, prior to the start of work, in all applicable disciplines in accordance with WCB requirements. All training costs and the equipment required to undertake this training are the sole responsibility of the Contractor.

The City will have the right to request proof of training and any specific information regarding the content of that training.

Training will be required in, but not limited to, the following areas for this project:

- Confined Space Rescue
- Confined Space Entry
- Ventilation
- Atmospheric Monitoring
- Self-Contained Breathing Apparatus
- Personal Protective Equipment

The Contractor must be able to demonstrate to the City that their workers have an understanding, working knowledge of confined space entry practices, and a working knowledge of all equipment required to carry out the work.

In the event that work involving untrained individuals is being undertaken, the City will have the right to stop the work until properly trained individuals are assigned. Any costs incurred as a result will be borne by the Contractor.

S.P. 4.3 Documentation to be Available on Site

The Contractor shall keep on-site, during the duration of the project, the following documentation:

- i) Contractor's confined space entry program, including, but not limited to: confined space entry procedures, lockout procedures, emergency response procedure, etc.
- ii) Written confirmation of confined space training received by employees.
- iii) Documentation verifying that equipment being used meets applicable WCB requirements.

S.P. 4.4 Site Inspections and Audit

The Contractor shall allow the City the right of inspection and audit of site safety conditions and all pertinent health and safety performance records to measure adherence to safety and health objectives. Such inspection and/or audit may take place without prior warning or notice of intent.

S.P.5 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.

S.P.6 Availability of Place of Work

The Place of Work is available for the immediate commencement of the Work. The anticipated start date is **January 2, 2018**. The Contractor will schedule the Work accordingly.

S.P.7 Quality Assurance

Work covered shall be performed by a single firm experienced in all aspects of relining of sewer mains and service connections or 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.8 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.9 Project Safety

It is the Contractor's responsibility to perform work consistent with good construction practice in the safest manner possible. The health and safety of all members of the

construction team and the general public is the responsibility of the Contractor. To ensure that the safest possible conditions exist on this project, all personnel must adhere strictly to the current requirements of the Occupational Health and Safety Regulations and WCB standards for HVAC Projects; the Contractor's Corporate Health & Safety Program; the Contractor's Site Safety Plan and all applicable codes.

S.P.10 Traffic and Public Safety

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 the Ministry of Transportation and Highways regulations for work performed on City highways and including their right-of ways.

The City may apply for permit from the Ministry of Transportation and Highways for work performed on provincial highways and including their right-of-ways. The Contractor shall at his own expense obtain a copy of the permit from the City and shall comply with all conditions of the permit.

The Contractor shall at all times ensure the safety of the public (vehicular and pedestrian traffic) and its employees while installing, maintaining thermoplastic and/or other pavement markings or pavement marking eradication work.

Whenever such works are carried out, 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.11 Construction Access

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.

S.P.12 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.13 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.14 Hours of Work

The Contractor shall comply with all of the applicable bylaws of the City of Surrey. All work to be performed during between the hours of 7:00 am to 7:00 pm, Monday to Friday.

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

If the Contractor wishes to carry out the work outside the normal working hours, and the approval is given by the City, no extra compensation, in any form (e.g. overtime, etc.) will be given without prior written approval from the City.

S.P.15 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 sub-contractor'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.16 Worksite Conduct

All labourers and workers, while working in and around the work site and 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.17 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 sub-contractor, or anyone directly or indirectly employed by Contractor or its sub-contractors 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.18 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.19 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 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.

S.P.20 Final Inspection and Payment

When the Work is finally complete and the Contractor is ready for a final inspection, the Contractor is to notify the City and Contract Administrator, in writing and arrangements will be made for final inspection. 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.21 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.22 Qualifications of Contractor

By submitting a Quotation, a Contractor represents that it has the expertise, qualifications, resources, and relevant experience to supply the Goods and Services. Tradesmen engaged in the performance of the Services 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.

S.P.23 Consultant

The Consultant will be the Contract Administrator during the performance of the Services until the Services are complete.

The Consultant will advise and consult with the City. The City's instructions to the Contractor may be forwarded through the Consultant.

The Consultant may periodically visit the Work site(s) 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 accordance with the Contract Documents. On the basis of these on-site inspections, the Consultant will keep the City informed of the progress of the Work, and will guard the City against defects and deficiencies in the Work by the Contractor and certify to the City that the Work in place equals or exceeds the amount requested by the Contractor on all applications for payment.

The Consultant will be the interpreter of the requirements of the drawings and specifications and any changes made to the drawings and specifications.

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SCHEDULE B – APPENDIX 2

METHOD OF MEASUREMENT AND PAYMENT

1.0 General

The methods of measurement and payment as described in the individual sections of the MMCD will not apply to the work in this Contract. This section replaces any MMCD paragraph entitled Measurement and Payment.

1.1 Payment

.1 All payment for work within this Contract is included in the lump sum(s) and unit prices listed in Schedule C. No separate or extra payment will be made for the work described as part of the work in the contract documents.

.2 The work includes all materials, labour, equipment, plant, cut and waste, specified testing, other incidentals, and miscellaneous materials necessary to complete the work in conformance with the Contract Drawings and Specifications.

.3 The determination of the percentage of the work complete for the purposes of a progress payment will be made by the Contract Administrator and will be determined to an accuracy of plus or minus 5%

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SCHEDULE B - APPENDIX 3

SUPPLEMENTARY SPECIFICATIONS – (PROJECT) (SSP) Related to Wastewater Cleaning, CCTV Inspection, And Relines

These supplementary specifications shall apply in conjunction with the Master Municipal Construction Documents (MMCD) Platinum Edition Volume II (2009) – General Conditions, Specifications and Standard Detail Drawings, as amended (not included herein); and the City of Surrey Supplementary Master Municipal Construction Documents: Supplementary Specifications and Supplementary Standard Drawings, latest edition and revisions (not included herein).

SUPPLEMENTARY SPECIFICATIONS – (PROJECT)

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SP 1 General

This section outlines all special provisions (SSP's) related to sewer rehabilitation including flushing, video, repair, inspections, pipe relines, manhole repairs, etc. Only those items related to the Scope of Work outlined in SSP 2 will be applicable to this contract.

SSP 2 Scope of Work

The Contract involves the delivery of labour, equipment and material for the installation of sanitary sewer pipe relines, by approved methods, on existing small diameter (150mm and 200mm) asbestos cement sanitary gravity systems, which includes both mains and service connections. Not all service connections have inspection chambers but they do tie in to a manhole and will require a full reline. A lateral and main\lateral connection method of lining shall be utilized for services connected directly to manholes to form the best possible seal and reline result.

SSP 3 Description of Work

The work carried out under this Contract may be described generally as the installation of relines, by approved methods, on existing sanitary gravity systems, including:

1. Flushing and cleaning sanitary sewers, and as required to permit testing service interfaces as shown on contract maps;
2. Closed Circuit Television (CCTV) inspection and deficiency reporting for sanitary sewers;
3. Digitally video inspect and prepare reports upon completion of all rehabilitation work;
4. Provision for traffic control and traffic diversion in accordance with the General Conditions;
5. Restrict and divert sewage flow from the sewer main section or service connection being inspected, tested or rehabilitated, as required;
6. Relining of those sections shown on the attached plans;
7. Any other related works.

SSP 4 Limits of Site

The *Site* is limited to City right-of-ways and the private property covered by property impact statements, or consented to by owners.

SSP 5 Completion Date

The Contractor will provide the goods and services for the period commencing on **April 27, 2018** and terminating on **July 31, 2018**.

SSP 6 Access

Overview maps are included in the Contract to assist Bidders with reviewing access to the different manholes and inspection chambers on the highlighted sewer sections. City crews will locate as many manholes and inspection chambers as possible.

It is the responsibility of the Contractor to ensure vehicles are not parked over the manholes and other sanitary appurtenances. The Contractor shall schedule work by posting no parking signs along the street on the day before the scheduled operation. Traffic signs are available from the Engineering Operations Yard, 6651 - 148th Street, Surrey, for collection and must be returned before final payment can be made. Any loss or damage to the sign shall be borne by the Contractor.

The City has located the inspection chambers for conducting the reline of the service laterals. The Contractor shall be responsible for any damage done to private property during the course of accessing the inspection chambers to conduct the video inspection.

The Contractor shall notify residents prior to accessing easements and rights-of-way adjacent to private property. Permission to access private property shall be obtained from the resident(s) prior to accessing the property. When required, work shall be rescheduled so as not to disturb residents.

The Contractor shall notify the Contract Administrator of any sewer sections that cannot be video inspected due to un-located manholes or property access problems.

SSP 7 Traffic Control

Work shall not be performed on arterial and collector roadways between 6:00 a.m. and 9:00 a.m. or between 3:30 p.m. and 7:00 p.m., unless otherwise approved by the Contract Administrator.

SSP 8 Supply of Water

The Contractor may obtain water from the City as detailed below (with 48 hours' notice) by contacting the City's Representative. Supply of Water must be coordinated through the Water Operations section, as permits may be required for water use.

- a) Designated Fill Stations or standpipes
- b) Fire hydrants

SSP 9 Requirements of Work & Personnel

The following units of work defined pertain to sewer inspection and rehabilitation. Only those applicable to this contract will be considered.

SSP 9.1 Work Defined

SEWER LINE CLEANING shall be performed with hydraulically propelled, high-velocity jet, or mechanically powered equipment. Selection of equipment shall be based on field conditions such as access to manholes, quantity of debris, size of sewer, depth of flow, etc.

LATERAL SEWER SEALING shall be accomplished using special techniques and equipment working from the main sewer or an access point.

LATERAL SEWER LINING shall be accomplished from a clean out, from a manhole, or remotely from the mainline.

SEWER LINE SECTION SEALING including lateral connections and manholes shall be accomplished using the flooding method with a net hydrostatic exfiltration head of at least 1.2 m.

SEWER PIPE AND LINING INSERTION shall be performed in mainline sewers. Processes include Cured-in-Place Pipe (CIPP), Fold and Form (Deformed/Reformed), Slipline Pipe, Pipe Sections Insertion, Spiral Wound Liner, and Pipe Bursting.

SEWER MANHOLE SEALING shall be accomplished by structure sealing with chemical grout, cementitious materials, resin-soaked oakum, and manufactured seals; by frame sealing with applied materials or manufactured seals; and by cover sealing.

SEWER MANHOLE REHABILITATION shall be accomplished by application of sealing, plugging, patching, coating, and lining processes and materials that will seal, protect or structurally rehabilitate the manhole. Methods include lining and structural enhancement of the manhole using cast-in-place concrete, spray applied cementitious material, cured-in-place thermoset pipe, profiled PVC (grouted) liners, and prefabricated fiberglass (grouted). Work may include repair of manhole chimney and corbel; by step removal or replacement; and by frame & cover reinstallation or replacement.

SEWER FLOW CONTROL shall be performed as required to comply with these specifications.

TELEVISION INSPECTION shall be required to reveal and document sewer line conditions and/or performed in advance of or in conjunction with pipe testing/sealing, pipe repair, and pipe lining activities.

NOTICE OF CLIENT/OWNER REQUIREMENTS which are relevant to and within the scope of work to be performed under the contract.

MUNICIPAL AND OTHER LICENSES AND PERMITS and assistance in obtaining approvals or consent from utilities or carriers such as the telephone company or other persons or organizations upon whose property or authority performance of work under the contract might impinge; or a written release from responsibility for the performance of work under the contract if and to the extent such work is precluded by the inability to obtain approvals or consent.

CLEARANCE OF BLOCKAGES OR OBSTRUCTIONS in the sewer system, if any, if such clearance is required for performance of work under the contract and if such clearance is not otherwise provided for within the contract.

LOCATION AND EXPOSURE OF ALL MANHOLES, unless otherwise provided for in the Technical Specifications of the contract. The city will locate and designate all manhole access points open and accessible for the work, and provide rights of access to these points.

A MANHOLE-NUMBERING SYSTEM referenced to a map for all areas of the project and accurate manhole invert elevations when required for performance of the work will be supplied by the city.

THE SHUTDOWN OR MANUAL OPERATION OF PUMP STATIONS if such becomes necessary for performance of the work shall be by the City.

NOTICE TO THIRD PARTIES (such as public utilities and the telephone company) of the Contractor's intent to perform work in an area where such

parties may have rights to underground property or facilities, and request for maps or other descriptive information as to the nature and location of such underground facilities or property and assurance of the Contractor's ability to enter upon any public or private lands to which access is required for performance of the work under the contract.

INFORMATION PERTINENT TO THE SITE of the project including reports prepared under previously accomplished studies or surveys and other data relative to the project, including, maps, drawings, construction specifications, sewer system records, etc.

SSP 9.2 Occupational Health and Safety

The Contractor and its employees and the Contractor's sub-contractors and their employees shall conform to all health and safety laws, by-laws, or regulations of the Province of British Columbia including any regulations requiring installation or adoption of safety devices or appliances. The City of Surrey may, on twenty-four (24) hours written notice to the Contractor, suspend the work hereunder as a result of failure to install such devices or because the conditions of immediate danger exist that would be likely to result in injury to any person. Such suspension will continue until the default or failure is corrected.

Without limiting the generality of any other indemnities granted by the Contractor herein, the Contractor shall indemnify and save harmless the City of Surrey against any loss or expense or penalty suffered or incurred by the City of Surrey by reason of failure of the Contractor, its agents or employees, or any sub-contractors of the Contractor, its agents or employees to comply or ensure compliance with the health and safety laws, by-laws and regulations mentioned above.

Further, the Contractor warrants that it will not produce or discharge in any manner or form, directly or indirectly, chemicals or toxic substances and that all vehicles and equipment used will not pose a hazard to, or harm or adversely affect anyone coming into contact with them and covenants and agrees to provide the City of Surrey with an environmental plan (where applicable), acceptable to the City of Surrey, 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.

- (a) The Contractor shall provide all his work in such a manner that it ensures safety, of the public and in accordance with the safety regulations of the Workers' Compensation Board.
- (b) It is required that the Contractor understands and undertakes to comply with all the W.C.B. Industrial Health and Safety Regulations for hazardous materials and substances namely, the new "Workplace Hazardous Materials Information Systems (WHMIS)" Regulations.

If you are unfamiliar with the Industrial Health and Safety Regulations covering hazardous materials and substances, in particular the WHMIS regulations, or if you are uncertain as to how they relate to the work you are performing for the City of Surrey on its premises/work site, we suggest you call the W.C.B. Head Office in Richmond during normal business hours – (8:30 a.m. – 4:30 p.m., Monday to Friday).

WHMIS INFORMATION
RESEARCH AND STANDARDS DEPARTMENT
W.C.B. Occupational Safety and Health Division
6951 Westminster Highway
Richmond, B.C., V7C 1C6

SSP 10 Unit Price

The following items relate to payment for all items related to sewer rehabilitation, **ONLY** those applicable to the work of this contract shall apply. All measurements shall be as specified or made by conventional means with accuracies consistent with field conditions and common practice. Should a discrepancy in measurement exist which is greater than 10%, the item in question shall be re-measured by both the Contractor and the Owner's Representative for verification.

Measurements for payments shall be based on the following schedule:

General Conditions MMCD 2009 Section 9.4 is replaced by:

"The respective amounts of work and service to be done and carried out and materials to be furnished in the Schedule of Quantity and Prices are an estimate for purpose of comparing tenders only. The City does not expressly nor by implication agree that the actual amounts of work or material of any class will correspond even approximately to this estimate, but reserves the right to increase or decrease the amounts of any class or portion of the Work, or to omit portions of the Work that may be deemed necessary or expedient by the City. The Contractor shall make no claim for anticipated profits, for loss of profit, for damages, or for any extra payment whatsoever, except as provided for herein, because of any difference between the amount of actual work done and material actually furnished and the quantities stated in Schedule "C".

SSP 11 Notification/Schedule of Work

The Contractor shall provide a weekly e-mail status report to the Contract Administrator and the City's Representative containing:

- The anticipated schedule of activities and locations for the upcoming workweek
- A brief summary of the work completed in the previous week (length of sewer inspected/tested, length of sewer relined)
- Any problems or unusual finding encountered the previous week
- Any other issues related to the work progress

E-mail contact information will be provided at the pre-construction meeting.

Failure of the Contractor to provide notification will result in the application of liquidated damages.

The hours of work will be from 7:00 a.m. to 5:00 p.m. or as approved by the City.

The Contract Administrator and the City's Representative shall be informed one week in advance of any stoppage or restart of work.

Operation for each of the items may be separate and may involve several mobilizations, setting ups and demobilization. Payment for these services and works is deemed to be included in the Unit Rates bid in the Schedule of Quantities & Prices.

SSP 12 Quality of Work Performance

All sanitary sewers in the designated line to be CCTV inspected shall be cleaned completely of all foreign materials.

Manhole covers shall be reinstated in a firm non-movable position.

The performance demonstration by the Contractor and what is required by the City in addition to this performance demonstration shall be the minimum standard for the level of services to be provided in this Contract.

The Contractor shall follow flushing procedures as outlined in Attachment 6– Sanitary Sewer Flushing Procedures. All damage resulting from the non-compliance of this procedure will be the responsibility of the Contractor. The value of unresolved claims against the Contractor will be deducted from progress payment and held until the claim has been resolved to the satisfaction of the City or its delegate.

SSP 13 Dump Sites

All waste that is removed from the Wastewater sewer system under this contract shall be disposed of by the Contractor at their cost at an approved off-site disposal area. The cost of the removal of the waste material shall be included in the Unit Rates bid in the Schedule of Quantities and Prices

SSP 14 Sewer Flow Control

When the depth of flow in the sewer section exceeds the allowable 1/3 of the pipe diameter, one or more of the following methods shall be used:

- a) Work to be scheduled during off-peak times subject to the approval of the City (Noise By-law shall be complied with during this Contract work. Specifically, 7:00 p.m. - 9:00 a.m., Monday to Saturday). When working during off-peak times, the Contractor will be responsible for notifying neighbouring residents of the intended work schedule a minimum of 48 hours before commencing the work.
- b) Plugging or Blocking
A sewer line plug may be inserted into the sewer section at a manhole upstream from the section to be inspected. The plug shall be designed such that either all or a portion of the impeded sewage flow can be released. During the inspection, testing and rehabilitation work, flow shall be either shut-off or substantially reduced in order to inspect the pipe at the invert.
- c) All or a portion of the flow shall be diverted from the sewer section by diverting flow from the upstream to the downstream of the sewer section concerned, including all the flow of the service connections to the sewer section concerned if necessary or if diverted.

All temporary work shall be removed upon completion of the work or at the end of each shift as directed by the City.

The Contractor shall take the necessary precaution to prevent any damage to the public and private property.

No separate payment will be made for this work, which shall be deemed to be included in the unit prices bid in the Schedule of Quantities & Prices.

SSP 15 Sewer Cleaning

SSP 15.1 Intent

The intent of sewer line cleaning is to remove foreign materials from the lines and restore the sewer to a minimum of 95% of the original carrying capacity or as required for proper seating of internal pipe joint sealing packers. Since the success of the other phases of work depends a great deal on the cleanliness of the lines, the importance of this phase of the operation is emphasized. It is recognized that there are some conditions such as broken pipe and major

blockages that prevent cleaning from being accomplished or where additional damage would result if cleaning were attempted or continued. Should such conditions be encountered, the Contractor will not be required to clean those specific manhole sections. If in the course of normal cleaning operations, damage does result from pre-existing and unforeseen conditions such as broken pipe, the Contractor will not be held responsible.

SSP 15.2 General

1. Prior to all CCTV inspection, all sewer sections shall be cleaned using hydraulically propelled or high velocity hydro cleaning equipment or any acceptable method of cleaning according to the City's Sanitary Sewer Flushing Procedure in Attachment no. 6.
2. High velocity hydro cleaning equipment shall be capable of delivering 4.0 l/sec (60gpm) at a working pressure of 8273 KPA (1200 PSI) with nozzle capable of producing a scouring action from 15° to 45° in all size sewers designated to be cleaned.
3. All dirt, grit, grease, rocks, and all other foreign materials shall be collected, removed and disposed of from the designated sewers and manholes.
4. Precaution shall be taken to protect the sewers from damage from the cleaning operation. Precaution shall also be taken to prevent any damage or flooding to public or provide property served by the sewers section involved.
5. When flushing a sanitary sewer main line, it will be necessary to remove the I.C. lids (where possible) to reduce the chance of pressure fluctuations (back or low pressure) in the house plumbing. If a pressure fluctuation situation does occur, the City shall be notified immediately. The contractor is fully responsible for any damage caused by pressure fluctuations, and shall be responsible to mitigate the situation with the property owner.

In the event the operator is requested, by the City to clear a sanitary sewer I.C. blockage, it is to be pumped out in order to remove debris, and then flushed after plugging the private side of the sanitary I.C. This is also to eliminate pressure fluctuations.

In the process of flushing, debris such as gravel, etc., when present, must be collected and removed at the down-stream manhole.

The following conditions shall be reported to the City, with pertinent information such as asset type and identifying numbers, address or location, type of problem discovered or encountered, and severity of problem, if known:

- Grease in a main line;
- Roots in a main line;
- Structural damage to a main line;
- Infiltration at a manhole;
- Structural damage in a manhole;
- Inability to locate or access an existing manhole because it is buried or obstructed.

Unless otherwise specified, the contractor is responsible for and shall adhere to all WCB regulations and Health and Safety regulations, including, but not limited to:

- Traffic control;

- Safety apparel and apparatus;
 - Confined space entry;
 - Overhead electrical safety;
 - Contaminated waste transport and disposal;
6. Payment for this work will be made under Schedule B - QUOTATION – Table 1 and Table 2. No additional payment will be made for additional flushing or cleaning required when performing service interface testing and grouting on lines that have already been cleaned under the contract.

SSP 15.3 Cleaning Equipment

SSP 15.3.1 Hydraulically Propelled Equipment

The equipment used shall be of a movable dam type and be constructed in such a way that a portion of the dam may be collapsed at any time during the cleaning operation to protect against flooding of the sewer. The movable dam shall be equal in diameter to the pipe being cleaned and shall provide a flexible scraper around the outer periphery to insure removal of grease. If sewer cleaning balls or other equipment, which cannot be collapsed, is used, special precautions to prevent flooding of the sewers and public or private property shall be taken.

SSP 15.3.2 High-Velocity Jet (Hydro cleaning) Equipment

All high-velocity sewer cleaning equipment shall be constructed for ease and safety of operation. The equipment shall have a selection of two or more high-velocity nozzles. The nozzles shall be capable of delivering 4.0 l/sec (60 gpm) at a working pressure of 8273 KPA (1200 PSI), and capable of producing a scouring action from 15 to 45 degrees, in all size lines designated to be cleaned. Equipment shall also include a high-velocity gun for washing and scouring manhole walls and floor. The gun shall be capable of producing flows from a fine spray to a solid stream. The equipment shall carry its own water tank, auxiliary engines, pumps, and hydraulically driven hose reel.

SSP 15.3.3 Mechanically Powered Equipment

Bucket machines shall be in pairs with sufficient power to perform the work in an efficient manner. Machines shall be belt operated or have an overload device. Machines with direct drive that could cause damage to the pipe will not be allowed. A power rodding machine shall be either a sectional or continuous rod type capable of holding a minimum of 228 meters of rod. The rod shall be specifically heat-treated steel. To ensure safe operation, the machine shall be fully enclosed and have an automatic safety clutch or relief valve. (This method is not used on this contract)

SSP 15.3.4 Cleaning Precautions

During sewer cleaning operations, satisfactory precautions shall be taken in the use of cleaning equipment. When hydraulically propelled cleaning tools (which depend upon water pressure to provide their cleaning force) or tools which retard the flow in the sewer line are used, precautions shall be taken to insure that the water pressure created does not damage or cause flooding of public or private

property being served by the sewer. When possible, the flow of sewage in the sewer shall be utilized to provide the necessary pressure for hydraulic cleaning devices. When additional water from fire hydrants is necessary to avoid delay in normal work procedures, the water shall be conserved and not used unnecessarily. No fire hydrant shall be obstructed in case of a fire in the area served by the hydrant

SP 16 CCTV Inspections

SSP 16.1 General

1. The Contractor shall use a pan and tilt type camera, and record in colour, in MPEG 2 format. Each entrance and exit manhole shall also be visually inspected, digitally video recorded and digitally photographed.
2. The designated sanitary sewer shall be flushed and completely cleaned prior to inspection. Digital Video inspection shall be performed only after sewers have been thoroughly cleaned so that a clear picture of the interior of the sewer can be obtained. Particular emphasis is made to the removal of accumulated grease where standard flushing practices will loosen the material so that cracks and breaks can be observed during digital video inspection. Where the camera is impeded, the contractor shall immediately notify the City of Surrey who will make arrangements to clear the line. Dewatering the main segment shall not be considered an acceptable line cleaning practice for the purpose of digital video inspections.
3. The Contractor shall be equipped with a blower fan capable of de-misting sewers when required.
4. Reports, Summaries, digital images and videos for each sewer section shall be uploaded to the City within a week of video inspection of that sewer section, as per Attachment # 7.
5. Depth of flow in the sewer shall not exceed one-third the pipe diameter during the digital video inspection.
6. Digital Video inspections with submerged or unclear sections longer than 3 meters in total length between consecutive manholes will not be accepted. Videos containing sections of mains or laterals where the camera is not centred in the pipe (not providing a 360° view) for longer than 1 meter will not be accepted.
7. The travelling speed of the camera in the pipeline shall be limited to:
 - a. 0.1 m/s for pipeline of diameter less than 200 mm.
 - b. 0.15 m/s for diameters exceeding 200 mm but not exceeding 310 mm.
 - c. 0.20 m/s for diameters exceeding 310 mm.
8. If the inspection is abandoned due to an obstruction, manhole access constraints, collapse or water depth, contact the City Representative and inform them of the issue, than an attempt must be made from downstream manhole to complete the inspection.
9. If, during the inspection, a defect that is rated as a 4 or a 5 by the PACP coding system is found, then the City Representative must be contacted immediately. The Contractor must stay on site until the Representative or a Wastewater Operations Supervisor dispatched by the Representative is on site and has verified the video of the defect. Failure to follow

this procedure may result in the Contractor being held liable for any damages the City or a Home Owner incurs due to the failure of the sewer system at the point of the unreported defect.

10. If attempting to LAMP camera and there is an issue with access at the upstream manhole location then the inspection should be attempted from the downstream access point. If access at both locations is unsuitable to perform the inspection then inform the City Representative immediately and an agreeable solution to conduct the inspections will be determined.
11. Scheduling of all digital video inspections shall be closely coordinated with the City Representative to ensure that the inspections are conducted during low flow periods. The Contractor shall proceed with the requested digital video inspection of a section within 48 hours of receiving notice from the City. The City reserves the right to cancel or alter scheduled inspections without notice. If determined by the City that the flow conditions would impair the quality of the inspection results (due to surcharged conditions) night time inspections may also be required subject to the approval of the City.
12. Weekly totals of sewer lengths digitally video recorded and hours spent within the previous week shall be submitted to the Contract Administrator and the City's Representative every Monday morning.

SSP 16.2 Process

1. A sample of inspection report(s), digital video, and corresponding WMV data file shall be submitted for review by the Consultant to the Wastewater Operations Section, and Contract Administrator accordingly. This submission must satisfy all of the specifications contained herein, and the submitted report submission will be used as a benchmark for subsequent inspection submissions.

No Video Inspection surveys are to be carried out until an acceptable sample inspection report has been approved by the Consultant or by the City's Representative.

CCTV operator to have received and carefully reviewed all of the Contract Documents, including the Instructions for Quote and Specifications and Standard Detail Drawings prior to Contract starting.

2. A copy of the CCTV operator's current NASSCO certification certificate shall be submitted to the Consultant or the Contract Administrator at least one week prior to the start of the CCTV Inspection operations.

A copy of the CCTV operator's certification must be submitted for each CCTV operator working on the contract.

A copy of the CCTV reviewer's certification must be submitted for each reviewer/inspector working on the contract.

3. Coding accuracy is to be a function of the number of defects or construction features not recorded (omissions), and the correctness of the coding and classification recorded. Coding accuracy must satisfy the following requirements:

Header accuracy	95%
Detail accuracy	90%

The contractor is to implement a formal coding accuracy verification system, at the onset of the work that is reviewed and approved by the Contract Administrator or the City Representative. The coding accuracy is to be verified by the Contractor on a random basis, on a minimum of 10% of the inspection reports. The Contract Administrator or the City Representative shall be entitled to review the accuracy verification results, and be present when the assessments are being conducted.

A minimum of two accuracy verifications are to be performed and recorded each working week. Coding that does not satisfy the accuracy requirements, are to be recoded, and the accuracy of the inspection report immediately preceding and following the non-compliant inspection are to be verified. This process is to be repeated until the inspections meet the accuracy requirements.

The Contract Administrator or the City Representative reserves the right to request an independent certified reviewer to assess the accuracy of the reports submitted, at the Contractor's expense.

An operator failing to meet the accuracy requirements on two occasions will not be permitted to code on the remainder of the contract until they have successfully re-attended an Operator's Certification course and re-written the NASSCO Pipeline Assessment Certification Program.

4. As per CSA 6.5.3 Camera Speed:

"The camera must maintain a speed that will allow for the defects to be observed clearly. If the pipe is inspected too fast the picture can appear pixelated and defects can be missed. The speed can vary depending on the pipe diameter smaller than 200mm, 9m/min for pipes with a diameter between 200mm and 300mm, and 12m/min for pipes with a diameter larger than 300mm, or as agreed to by the owner. The camera should stop and pan special features within the pipe, such as maintenance hole interfaces, taps, and major defects."

Non-uniform or jerky movement will not be acceptable. The camera shall pause at each defect as listed in Section F and at each service connection.

Clear, well-defined pictures of the defects shall be taken, utilizing 360 degree rotating heads and full pausing capabilities, and the lighting system.

5. Digital video recording shall commence as close as practical to the face of the manhole. The chainage measurement shall reflect the distance from the center of the manhole. All reports and digital video shall consider the length of the main segment being inspected as commencing at the center of the start manhole, and terminating at the center of the end (finish) manhole. A main segment shall be defined as the distance from center to center of successive manholes.

SSP 16.3 Recording Equipment

a) Digital Video Images and sound shall be recorded in MPEG 2 format at standard speed.

b) Digital still images shall be recorded in JPG format

Each digital image shall be stored with a unique filename to match the image reference number in the PACP form and PACP data exchange file. The naming convention shall reflect the contract, and the sequence number of the photograph recorded on the data sheet. The exact format requires approval from the Contract Administrator and the City's Representative, prior to commencement of a contract.

c) All events and defects encountered in the sewer, including manholes, locations, and direction changes, shall be audibly voice labeled in a clear and concise presentation.

d) Each section of sewer shall be identified verbally and graphically on the video indicating the upstream and downstream manholes, and the date and time of the digital video inspection at the beginning of each main segment being inspected. Only the distance measurement is to be displayed on the digital video during the main segment recording process.

e) The Contractor shall utilize NASSCO's PACP and LACP to record pipe defects and observations.

- Continuous forward distance readout from the reference manhole and audible notation shall be made at all pipe defects including:
- The defect description, as described by the NASSCO PACP codes.
- The forward distance from the center of the reference manhole.

The contractor shall provide the inspection data in the standard NASSCO PACP and LACP data exchange format. A sample of the data file, complete with pictures (JPEG), and video files (MPEG 2) shall be submitted to Contract Administrator and the City's Representative prior to commencement of the work, for approval.

SSP 16.4 Safety Equipment

The Contractor shall be fully equipped for traffic control and manhole (confined space) entry, and employ safety procedures required by the Workers' Compensation Board. The contractor will keep on-site, during the duration of the work, all documentation relating to:

Confined Space Entry, including entry and emergency procedures;
Written confirmation of confined space training received by employees;
Documentation verifying that equipment being used meets applicable WCB requirements.

SSP 16.5 Inspection Reports

The City of Surrey Utilizes **NASSCO's (<http://www.nassco.org/>) Pipeline Assessment Certification Program** (PACP) and **Lateral Assessment Certification Program** (LACP) to code for C.C.T.V.

- A) The required video inspection information shall be recorded on NASSCO'S C.C.T.V. Inspection Forms. See Attachment 8 for an example of the forms. Only one sewer section (manhole to manhole) or lateral Inspection (Inspection Chamber to main or main to Inspection chamber) shall be recorded in each data sheet unless otherwise approved.
- B) Each pipe defect record shall be in accordance with NASSCO's PACP or LACP coding.

- C) All field measurements shall be made using the SI unit system.
- D) The City will provide GIS files to upload work order and facility ID information into PACP and LACP databases. An ESRI license will be provided by The City upon request.
- E) The PACP and LACP Inspection table, Media Inspection Table, Media Conditions Table and Custom Fields Table will be populated as per Attachment # 7.
- F) Digital images (still photographs) with a minimum 1024 x 768 pixel resolution (in addition to the digital video record) shall be taken of all manholes and pipe defects and observations as defined in NASSCO's PACP.

Photograph pictures shall clearly indicate the sewer section identification (upstream and downstream manholes), distance from reference manhole (chainage) and picture number, without encroaching or obstructing the subject of the Photograph (defects, etc.).
- G) Database and Report files shall follow the naming convention WO#-<Date>-#. See Attachment # 7.
- H) Files are to be uploaded to the Surrey MFTP Site once a week on a specific day that is agreed on by both the City and the Contractor. See Attachment # 7 for the process of uploading to the City's MFTP site.

SSP 16.6 PACP Data Exchange Process

A PACP database shall not contain multiple asset types (e.g. mainlines and laterals) and assets from multiple work orders.

The Pipe Segment Facility ID will consist of a 10-digit number and will serve as the unique identifier for each of the Sanitary Mainlines and Laterals. This ID will be available on each of the maps that the City of Surrey provides and will, also, be exported by the GIS file into the Inspection table of the PACP and LACP database(s).

The Contractor must ensure that the Pipe Segment Facility ID corresponds with the pipe that is being video inspected by referring to the maps provided by the City before commencing a CCTV inspection. For Laterals the contractor must also ensure that the property address corresponds to the Pipe Segment Facility ID. Non-compliance will result in a failure to import all observations acquired from the inspection into the City Works Management System.

If a Pipe Segment Facility ID is not provided by the City the contractor shall attempt to contact the City to obtain the Pipe Segment Facility ID. The asset will not be videoed without the Pipe Segment Facility ID.

If an Asset's Facility ID does not have a work order attached to it by the City, than work cannot be performed on the asset until the work order is attached to it by the City and the proper GIS file has been sent to the contractor.

SSP 16.7 Measurements for Payments

Payment for the digital video inspection of the sanitary sewer lines, mains and laterals, shall be made under Schedule B, and shall include all necessary recording and reporting as per SSP19.

SSP 17 Grease Removal

The removal of normal amounts of grease is included in the payment for Schedule C-6: Schedule of Quantities & Prices, Sections 1 and 2. If excessive grease that cannot be removed using hydro cleaning equipment is encountered, the Contractor shall notify the Contract Administrator, and request permission to remove the grease by alternate means. The Contractor shall provide the Contract Administrator with an hourly rate for excessive grease removal, including equipment, labour, disposal and all other costs for excess grease removal. If the quoted hourly rate is accepted by the Contract Administrator, the Excessive Grease Removal will be paid for under a change order. After receiving the Contract Administrator's approval, the Contractor shall proceed with the grease removal. The Contractor will be responsible for submitting records noting the location and time spent on excess grease removal within 48 hours of the completion of the excessive grease removal work.

No payment will be made for excessive grease removal work without the prior approval of the Contract Administrator, or if the records are submitted later than 48 hours after the completion of the work.

SSP 18 Sewer Lining

SSP 18.1 Liner Materials

Acceptable liner technologies are Fold and Form and Cured in Place Pipe (CIPP). The liner technology proposed for point repairs and liners shall be specified on the Product Description form in the Tender Submission Documents.

Fold and Form

The formed PVC pipe shall meet the performance requirements of ASTM D 3034, F1504-97, F1871, or latest edition and revision. All test data, whether theoretically extrapolated or actual must be validated by an independent third party qualified in testing these procedures.

The PVC compound / material used for the folded pipe shall conform to ASTM D 1784 classification 12334-B or 12344-B or 12454-B or 12454-C or latest edition and revision.

Cured-In-Place Pipe (CIPP)

The Cured-In-Place Pipe (CIPP) shall meet the performance and material requirements of ASTM F1216 or ASTM F1743 or latest edition and revision. All test data, whether theoretically extrapolated or actual must be validated by an independent third party qualified in testing these procedures.

SSP 18.2 Liner Design

The Contractor shall be responsible for preparing designs for all relining and point repairs in the Contract. Liner designs shall be signed and sealed by a Professional Engineer registered in the Province of British Columbia, and submitted to the Contract Administrator prior to commencing the work. No additional payment will be made for the design of the liners. Payment for this

work shall be deemed to be included in the unit prices tendered in the Schedule of Quantities & Prices.

The liner shall be sized such that there is no loss in capacity of the existing sewer. Calculations of pipe flow before and after liner installation shall be submitted to the Contract Administrator for approval. The Contractor shall field measure the internal circumference of the sewers to determine the exact size of liner that is required so that the liner is tight to the wall of the existing pipe.

The length of the liner shall be that deemed necessary by the Contractor to effectively carry out the insertion and sealing of the liner at the inlet and outlet points. The Contractor shall verify the lengths in the field before cutting the liner to length.

Point repairs shall be sized to allow for a minimum 500mm overlap from each end of the noted defect. The estimated length of liner required for each point repair is included in the Point Repair summary in Section F, however the Contractor shall be responsible for determining the actual length of the point repair, including the overlap, by conducting the initial CCTV video inspection.

SSP 18.3 Testing

The City will arrange for third party laboratory testing of the liner material. The Contractor is responsible for the preparation and submittal of the following samples, representative of the work performed under the same field conditions:

- For each pipe diameter, liner design and liner product used, one (1) segment of point repair lining product approximately 1 m in length.
- For each relining project, one (1) segment of lining product approximately 1 m in length prepared in the field at the inversion length.

These samples will be tested to the specified ASTM standards.

If testing discloses non-conformance to these standards, repair work shall be completed at the Contractor's expense. Testing and/or quality assurance completed by other agencies does not relieve the Contractor of responsibilities for documentation of installation conditions, inspection, testing, etc. as required by the Contract.

SSP 18.4 Documentation

The Contractor will document the conditions under which each section of sewer rehabilitation is completed as follows:

General

- Date and time
- Contractor
- Street Name
- Product (CIPP or Fold and Form Brand Name)
- Diameter
- Standard Dimension Ratio (SDR)
- Spool batch number
- Upstream and downstream Manhole numbers

Insertion Conditions

- Ambient Air temperature
- Maximum drawing force
- Insertion Rate
- Visual observations (note presence of creases, impregnation poor areas, crazing)

Processing Parameters (Fold and Form)

- Head and tail temperature readings (start, middle, and end of cook)
- Cook time and average pressure
- Cool-down pressure/temperature
- Cool-down duration

Processing/Wet-out Process (CIPP)

- Resin type (polyester, vinyl ester or epoxy)
- Resin source and batch numbers
- Vacuum pressure
- Visual observations – evidence of distribution of resin/air entrapment
- Quantity of resin utilized
- Total impregnation time

SSP 18.5 Warranty

The contractor shall make any necessary repairs and replacements to remedy, in a manner satisfactory to the engineer and at no cost to the owner, any and all defects, breaks, or failures of the work occurring within one (1) year following the date of acceptance of the work due to: Faulty or inadequate materials or workmanship, and for damage or disturbances to other improvements under, within, or adjacent to the work, whether or not caused by settling, washing, or slipping, when such damage or disturbance is caused, in whole or in part, from activities of the contractor in performing his duties and obligations under this contract. When such defects or damage occur, within the time period described herein before, in any part of the surface or subsurface improvements not included in the work under the contract, the contractor shall repair the same and the one-year warranty period required shall, with relation to such required repair, be extended one (1) year from the date of completion of such repairs.

SSP 18.6 Installation

The Contractor shall be responsible for clearing the line of obstructions such as solids, dropped joints, protruding material (concrete, rocks, etc.) protruding branch connections or broken pipe that will prevent the insertion of the liner. If inspection reveals an obstruction that cannot be removed by normal “no-dig” techniques, the Contractor shall make a point excavation to uncover, remove or repair the obstruction.

For “Pull-in” type installations, the Contractor shall use a recently calibrated Dynamometer with the winch during the installation procedure.

No separate payment will be made for removing line obstructions. The payment for this requirement shall be deemed to be included in the unit prices tendered in the Schedule of Quantities & Prices.

SSP 18.7 Liner Retrieval

If the liner installation is terminated before completion, the Contractor shall be responsible for the retrieval of the liner, at no additional cost. The existing sewer shall be reinstated to a condition equal to or better than before the attempted liner installation.

SSP 18.8 Liner Finish

The finished lining shall be continuous over the entire length of an insertion run and shall be free from visual defects such as foreign inclusions, dry spots, pinholes and delamination. The lining shall be impervious and free of any leakage from the pipe to the surrounding ground or from the ground to the inside of the lined pipe.

Any defects, which will affect the integrity or strength of the linings, shall be repaired at the Contractor's expense.

SSP 18.9 Liner End Seals

The liner ends in the manhole shall be tight fitting. Any lip or obstruction created by the liner shall be gently tapered. The liner ends shall not obstruct sewage flow. A watertight sealing product, compatible with the liner, shall be applied at the terminal points after the liner has fully stabilized.

If, due to broken or misaligned pipe at the access point, the lining fails to make a tight seal, the Contractor shall apply a seal at that point. The seal shall be compatible with the liner and shall make a tight seal.

Each end of point repairs shall be grouted to form a smooth transition from the original pipe to the relined section. End grouting shall be air tested to a pressure of 5 psi to verify the effectiveness and completeness of the grouting. End grouting that fails to pass the air test shall be re-grouted and retested until the air test is passed. The volume of grout used for end grouting shall be recorded.

Liner end work shall not commence until the liner has fully stabilized.

SSP 19 Reline Mainline

Payment for relining sanitary sewer mainline shall be made per each mainline segment, manhole to manhole at the tendered unit prices under Schedule B Prices and Quantities for the appropriate pipe diameter, and shall include flushing and cleaning the sanitary sewer line, degreasing, root cutting, cutting protruding hubs, removing debris, pre/post relining Closed Circuit Television (CCTV) inspection and reporting of the sanitary sewer line, identifying service connection locations, determining actual liner length, liner design and submission of sample for testing, notifying residents, restricting and diverting sewage flow from mainline and service connections if required, provision of traffic control, supply and installation of relining, end grouting and testing, service connection reinstatement including interface grouting and testing, and any other related work.

SSP 20 Reline Service Connections (Sanitary Laterals)

Payment for relining sanitary sewer service connections shall be made per each service connection segment, inspection chamber or property line to mainline or manhole at the tendered unit price under Schedule B Prices and Quantities for the appropriate pipe diameter, and shall include flushing and cleaning the sanitary sewer line, degreasing, root cutting,

cutting protruding hubs, removing debris, pre/post relining Closed Circuit Television (CCTV) inspection and reporting of the sanitary sewer line, determining actual liner length, liner design and submission of sample for testing, notifying residents, restricting and diverting sewage flow from mainline and service connections if required, provision of traffic control, supply and installation of relining, end grouting and testing, service connection reinstatement including interface grouting and testing, and any other related work. The intent is to utilize a service connection reline system that addresses the interface area to ensure a complete, sealed system. Where possible a lateral and main/lateral connection reline method shall be implemented and the cost reflected in Schedule C – Fees and Payments. This approach shall also be utilized where connections enter directly into a manhole.

SSP 21 Approximate Quantities

The City does not expressly nor by implication agree that the actual amounts of work will correspond even approximately to the quantities proposed, but reserves the right to increase or decrease the amounts of any class or portion of the work, or to omit portions of the work that may be deemed necessary, or expedient by the City Representative. The Contractor shall make no claim for anticipated profits, for loss of profit, for damages, or for any extra payment whatsoever, except as provided for herein, because of any difference between the amounts of actual work and material actually stated. Payment will be made only for the actual measured quantities of work performed.

SSP 22 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 the Schedule of Quantities and Prices.

ASTM STANDARD: There are basically two types of ASTM Standards, which apply to pipeline rehabilitation products: “D” standards, which are for testing procedures and material, compound classifications, and “F” standards which are basically product specific. Within the “F” standards there are two types of documents; material specifications and installation practices.

CHANGE ORDER: A written order to the Contractor authorizing an addition, deletion, or revision in the work within the general scope of work of the agreement, or authorizing an adjustment in the agreement price or agreement time.

CONTRACTOR: Any individual, firm, partnership, corporation, or combination of any or all jointly submitting a proposal to whom the Contract is awarded by the Owner or its executors, administrators, successors or assigns.

CONTRACT ADMINISTRATOR: means the person, firm or corporation appointed by the Owner and identified by the Owner in writing to the Contractor. The Contract Administrator may be the Owner’s Engineer, other employee or officer, or may be and outside consultant.

CREW: The number of persons required for the performance of work at a site as determined by the Contractor in response to task difficulty and safety considerations at the time or location of the work.

DEBRIS: Soil, rocks, sand, grease, roots, etc., in a sewer line excluding items mechanically attached to the line such as intruding service connections, intruding pipe, joint, materials, and the like.

EASEMENT: A liberty, privilege, or advantage without profit, which the owner of one parcel of land may have in the land of another. In this agreement, all land, other than public streets, in which the Owner has sewer system lines or installations and right of access to such lines or installations.

ENGINEER: The City Engineer, Commissioner of Public Works, Superintendent of Public Works, or an Engineer of a municipality including such assistants as are authorized to represent him, or the consulting engineer acting through his authorized agents, who represents the Owner during the construction phase activities.

FLOW CONTROL: A method whereby normal sewer flows or a portion of normal sewer flows are blocked, retarded, or diverted (bypassed) within certain areas of the sewer collection system.

HYDRAULIC CLEANING: Techniques and methods used to clean sewer lines with water, e.g.: water pumped in the form of a high-velocity spray and water flowing by gravity or head pressure. Devices include high-velocity jet cleaners, cleaning balls, and hinged-disc cleaners.

INFILTRATION: The water entering a sewer system, including building sewers, from the ground, through such means as defective pipes, pipes joints, connections, or manhole walls. Infiltration does not include, and is distinguished from, inflow.

INFILTRATION/INFLOW: A combination of infiltration and inflow wastewater volumes in sewer lines, with no way to distinguish either of the basic sources, and with the same effect of usurping the capacities of sewer systems and facilities.

INFLOW: The water discharged into a sewer system, including service connections, from such sources as roof leaders; cellar, yard, and area drains; foundation drains; cooling water discharges; drains from springs and swampy areas; manhole covers; cross connection from storm drain, combined sewers, catch basins; storm waters; surface runoff, street wash waters; or drainage. Inflow does not include, and is distinguished from, Infiltration.

INSPECTOR: The Owner's on-site representative responsible for inspection and acceptance, approval, or rejection of work performed as set forth in these specifications.

INTERNAL PIPE INSPECTION: The television inspection of a sewer line section. A TV camera is moved through the line at a slow rate and a continuous picture is transmitted to an aboveground monitor.

INVERT: The floor, bottom or lowest point of a conduit.

JOINTS: The means of connection sectional lengths of sewer pipe into a continuous sewer line using various types of jointing materials. The number of joints depends on the lengths of the pipe sections used in the specific sewer construction work.

LINEAR METER: Being one meter. In these specifications used to denote the unit of measurement relating to the length of a sewer line.

MAJOR BLOCKAGE: A blockage (structural defect, collapse, protruding service connection, debris), which prohibits manhole-to-manhole cleaning, TV inspection or rehabilitation procedures.

MANHOLE SECTION: The length of sewer pipe connecting two manholes.

MILESTONE DATE: Means any date specified in the contract documents for completion of the work, or portion of the work, including the date of substantial performance.

OVERFLOW: (1) The excess water that flows over the ordinary limits of a sewer, manhole, or containment structure. (2) An outlet, pipe, or receptacle for the excess water.

OWNER: The City, sanitary district or other municipality, corporation, partnership or individual initiating the project, acting through its legally constituted officials, officers or employees.

SANITARY SEWER: A sewer intended to carry only sanitary or sanitary and industrial wastewaters from residences, commercial buildings, industrial parks, and institutions.

SEWER CLEANING: The utilization of mechanical or hydraulic equipment to dislodge, transport, and remove debris from sewer lines.

SEWER PIPE: A length of conduit, manufactured from various materials and in various lengths, that when joined together can be used to transport wastewaters from the points of origin to a treatment facility. Types of pipe: Acrylonitrile-butadiene-styrene (ABS); Asbestos-Cement (AC); Brick Pipe (BP); Concrete Pipe (CP); Cast Iron Pipe (CIP); Polyethylene (PE); Polyvinylchloride (PVC); Reinforced Concrete (RC); Reinforced Plastic Mortar (RPM); Steel Pipe (SP); Vitrified Clay (VC).

SITE: Any location where work has been or will be done.

SITE ACCESS: An adequately clear zone of a size sufficient to accommodate personnel and equipment required at the location where work is to be performed, including roadway or surface sufficiently unobstructed to permit conveyance of vehicles from the nearest paved roadway to the work location.

SUBCONTRACTOR: An individual, firm, or corporation having a direct contract with the Contractor or with a lower-tier Subcontractor for performance of part of the work.

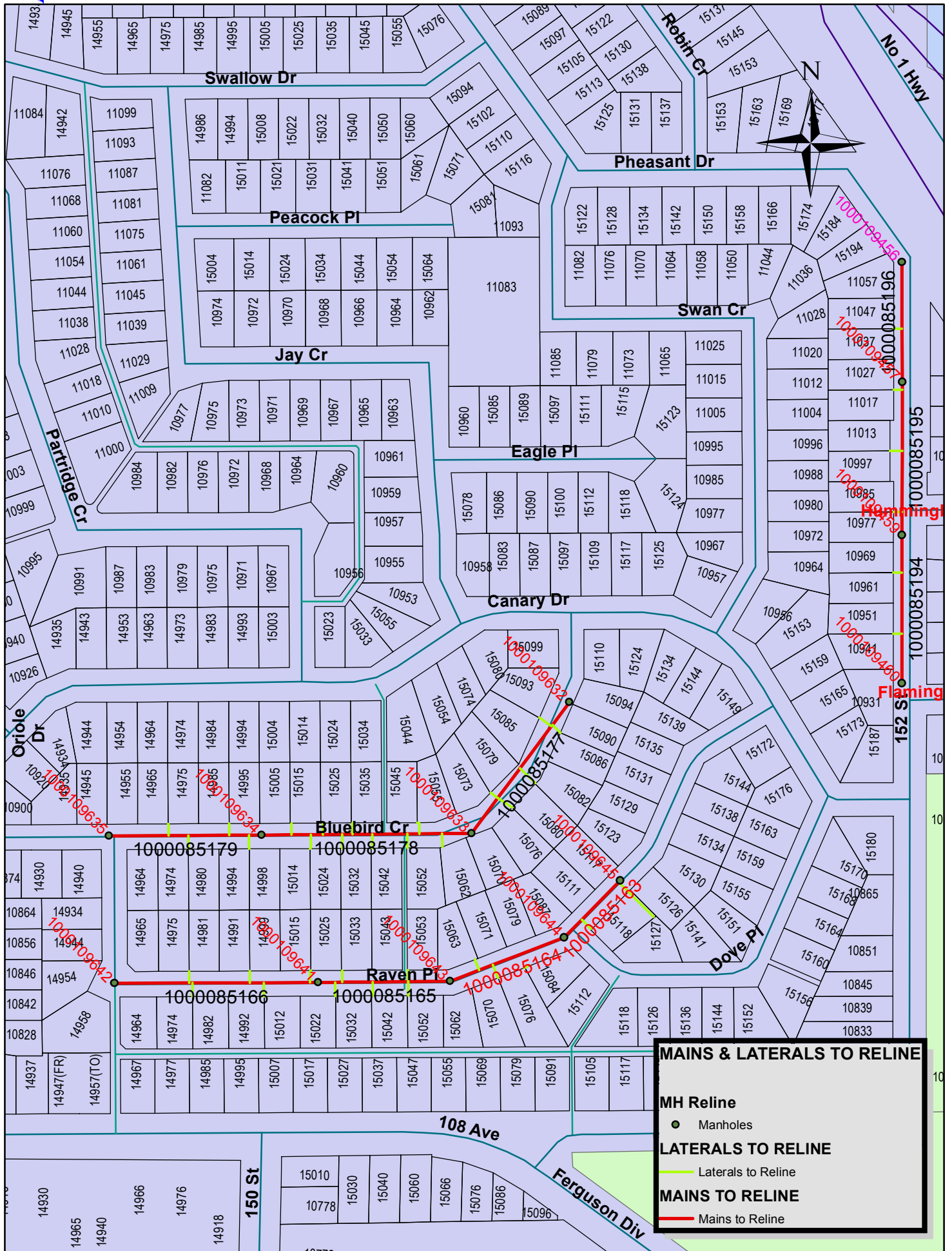
SUBSTANTIAL PERFORMANCE: means the stage of completion when:

- (1) all work, as certified by the Contract Administrator, is capable of completion or correction at a cost of not more than"
 - (i) 3% of the first \$500,000 of the contract price
 - (ii) 2% of the next \$500,000 of the contract price; and
 - (iii) 1% of the balance of the contract price; and
- (2) the work, or a substantial part of it, is ready for the use or is being used for the purpose intended.

SURCHARGE: When the sewer flow exceeds the hydraulic carrying capacity of the sewer line.

SWALE (DIP, SAG, BELLY): A significant deviation in pipe grade such as to cause entrapment of solids, semisolids, and liquids, thereby impeding the accuracy and/or effectiveness of flow measurements, cleaning, and internal inspection.

SCHEDULE B - APPENDIX 3-A - CONTRACT DRAWINGS



BIRDLAND SDP RELINE PROJECT PHASE III

SCHEDULE C

APPENDICES 4 THROUGH 11

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

Schedule B – Appendix 4	Schedule of Prices
Schedule B – Appendix 5	Construction Schedule
Schedule B – Appendix 6	Key Personnel, Subcontractors and Material Suppliers

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

Schedule B – Appendix 7	Project Completion Deliverable
Schedule B – Appendix 8	Prime Contractor Designation Letter of Understanding
Schedule B – Appendix 9	Risk, Health and Safety
Schedule B – Appendix 10	Compliance to Safety Procedure, Entry Procedure for Confined Spaces
Schedule B – Appendix 11	Compliance to Safety Procedure, Working in Confined Spaces



SCHEDULE C - QUOTATION

RFQ Title: 2018 SMALL DIAMETER SANITARY SEWER RELINE PROGRAM

RFQ No: 1220-040-2018-027

CONTRACTOR

Legal Name: _____

Address: _____

Phone: _____

Fax: _____

Email: _____

TO:

City Representative: Richard D. Oppelt, Purchasing Manager

Address: Surrey City Hall,
Finance Department – Purchasing Section
Reception Counter 5th Floor West
13450 – 104th 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):

Section**Requested Departure(s) / Alternative(s)**

4. The City requires that the successful Contractor have the following in place **before providing the Work**:

- (a) Workers' Compensation Board coverage in good standing and further, if an "Owner Operator" is involved, personal operator protection (P.O.P.) will be provided,
Workers' Compensation Registration Number _____;
- (b) Prime Contractor qualified coordinator is Name: _____
and Contact Number: _____;
- (c) Insurance coverage for the amounts required in the proposed Agreement as a minimum, naming the City as additional insured and generally in compliance with the City's sample insurance certificate form available on the City's Website at www.surrey.ca. search [Standard Certificate of Insurance](#);
- (d) City of Surrey or Inter-municipal Business License: Number _____;
- (e) If the Contractor's goods and services are subject to GST, the Contractor's GST Number is _____; and
- (f) If the Contractor is a company, the company name indicated above is registered with the Registrar of Companies in the Province of British Columbia, Canada, Incorporation Number _____.

As of the date of this Quotation, we advise that we have the ability to meet all of the above requirements **except as follows** (list, if any):

Section**Requested Departure(s) / Alternative(s)**

5. The Contractor acknowledges that the departures it has requested in Sections 3 and 4 of this Quotation will not form part of the Contract unless and until the City agrees to them in writing by initialing or otherwise specifically consenting in writing to be bound by any of them.

Changes and Additions to Specifications and Scope:

6. In 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:

Payment Terms:

A cash discount of ____% will be allowed if invoices are paid within ____ days, or the ____ day of the month following, or net 30 days, on a best effort basis.

SUMMARY TABLE

	Description	Price
A.	Reline - Sanitary Mains	
B.	Reline - Sanitary Laterals	
C.	SUB-TOTAL:	
D.	GST 5%:	
E.	TOTAL:	

TABLE A: Reline (Sanitary Mains)

2018 SMALL DIAMETER RELINE PROJECT - PHASE III MAINS QUANTITIES								
FACILITYID	SIZE	CALC_LENGTH	MATERIAL	YR	UP_NODE	DOWN_NODE	LOCATION	COST/SEGMENT
1000085163	150	47.98436829	Asbestos Cement	1959	1510810894	1509210877	15117 Raven Pl.	
1000085164	150	73.37153944	Asbestos Cement	1959	1509210877	1505810864	15087 Raven Pl.	
1000085165	150	78.07254191	Asbestos Cement	1959	1505810864	1501810864	15063 Raven Pl.	
1000085166	150	122.061378	Asbestos Cement	1959	1501810864	1495810864	15025 Raven Pl.	
1000085177	150	98.06037171	Asbestos Cement	1983	1509310947	1506410908	15094 Bluebird Cr.	
1000085178	150	125.883972	Asbestos Cement	1983	1506410908	1500110908	15070 Bluebird Cr.	
1000085179	150	91.37101181	Asbestos Cement	1983	1500110908	1495610908	15005 Bluebird Cr.	
1000085194	150	88.8200456	Asbestos Cement	1970	1519210953	1519210997	10931 152 St.	
1000085195	150	91.55002676	Asbestos Cement	1970	1519210997	1519211043	10977 152 St.	
1000085196	150	71.3	Asbestos Cement	1970	1519211043	1519211078	11027 152 St.	
							Total	\$ -

TABLE B: Reline (Sanitary Laterals)

2018 SMALL DIAMETER RELINE PROJECT, PHASE III - LATERAL QUANTITIES				
ADDRESS	FACILITYID	SIZE	LENGTH	COST/LATERAL
14965/14975 Bluebird Cr.	1000181198	100	6.944546957	
14974/14980 Bluebird Cr.	1000203998	100	8.294501265	
14985/14995 Bluebird Cr.	1000179887	100	6.973776997	
14994/14998 Bluebird Cr.	1000256126	100	8.264457202	
15014/15024 Bluebird Cr.	1000166598	100	8.505281833	
15015 Bluebird Cr.	1000147147	100	6.960188229	
15025 Bluebird Cr.	1000256135	100	6.910273254	
15032 Bluebird Cr.	1000226368	100	8.360304799	
15035 Bluebird Cr.	1000218980	100	6.860353049	
15042 Bluebird Cr.	1000147131	100	8.410221885	
15045/15055 Bluebird Cr.	1000173364	100	7.561627111	
15052 Bluebird Cr.	1000233820	100	8.460220519	
15062 Bluebird Cr.	1000147130	100	7.9803814	
15073 Bluebird Cr.	1000233823	100	5.38619619	
15076/15080 Bluebird Cr.	1000226369	100	10.12068527	
15079 Bluebird Cr.	1000233823	100	5.38619619	
15082 Bluebird Cr.	1000147133	100	12.68569211	
15085 Bluebird Cr.	1000158832	100	8.949984376	
15086/15090 Bluebird Cr.	1000241251	100	6.767581733	
14974/14982 Raven Pl.	1000196669	100	8.190204053	
14975/14981 Raven Pl.	1000241259	100	7.040067164	
14992/15012 Raven Pl.	1000218979	100	8.275290566	
149991/14999 Raven Pl.	1000191700	100	7.070118406	
15015/15025 Raven Pl.	1000147143	100	7.406672748	
15022/15032 Raven Pl.	1000211527	100	8.213064344	
15033 Raven Pl.	1000147142	100	7.058779217	
15042 Raven Pl.	1000211528	100	8.225623892	
15052 Raven Pl.	1000181195	100	8.286074852	
15053 Raven Pl.	1000147141	100	6.946582442	
15084 Raven Pl. (West conn.)	1000179276	100	2.143665086	
15118 Raven Pl.	1000196665	100	7.957393762	
15127 Dove Pl.	1000241257	100	29.5705643	
10941/10951 152 St.	1000196651	100	5.180088456	
10961/10969 152 St.	1000173342	100	5.180078126	
10977/10985 152 St.	1000173343	100	5.170225153	
10997/11013 152 St.	1000147116	100	7.300163546	
11017/11027 152 St.	1000147117	100	5.180078126	
11037/11047 152 St.	1000179252	100	5.046953126	
				\$ -

NOTE: A spreadsheet with comprehensive information regarding the laterals will be provided to the contractor with the accepted bid, or if the contractor requires more information, for completing the bid.

List of Optional Prices:

9. The following is a list of Optional Price(s) and forms part of this RFQ, upon the acceptance of any or all of the Optional Price(s). The Optional 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 Optional Prices	Addition	Deduction
OAP-1.	\$ []	\$ []
OAP 2.	\$ []	\$ []

Force Account Labour and Equipment Rates:

10. Contractors should complete the following tables setting out the all-inclusive hourly 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 – Schedule of Labour Rates:

Labour Category	Straight Time/hr (Plus GST)	Overtime Rate/hr (Plus GST)
.1 Superintendent	\$	\$
.2 Foreman	\$	\$
.3 Journeyman	\$	\$
.4 Apprentice	\$	\$
.5 Skilled Labourer	\$	\$
.6 Grease Cutting	\$	\$
.7 Root Cutting	\$	\$
.8 Flushing	\$	\$
.9 Hub Cutting	\$	\$
.10 Grouting	\$	\$
.11	\$	\$

Table 2 – Schedule of Equipment Rates:

No.	Equipment Description	Hourly Rate
1.		\$
2.		\$
3.		\$
4.		\$

Construction Schedule:

11. 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
	SAMPLE									

Proposed Disposal Site: _____

Key Personnel & Subcontractors:

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

Key Personnel

Name: _____
Experience: _____
Dates: _____
Project Name: _____
Responsibility: _____

13. Contractor to provide the following information on the background and experience of all subcontractors and material suppliers proposed to undertake a portion of the Goods and Services (use the spaces provided and/or attach additional pages, if necessary):

<i>Description Of Work/supply</i>	<i>Subcontractors & Material Suppliers Names</i>	<i>Years Of Working With Contractor</i>	<i>Telephone Number And Email</i>

Experience and References:

14. Contractor's relevant **experience and qualifications** in delivering Goods and Services similar to those required by the Agreement (use the spaces provided and/or attach additional pages, if necessary):

15. 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.

16. 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)

ATTACHMENTS

RFQ Title: 2018 Small Diameter Sanitary Sewer Reline Program

RFQ No: 1220-040-2017-027

1. Project Completion Deliverables
2. Prime Contractor Designation Letter of Understanding
3. Contractor Health & Safety Expectations
4. Compliance to Safety Procedure, Entry Procedure for Confined Space
5. Compliance to Safety Procedure, Working in Confined Space
6. Sanitary Sewer Main Flushing & Cleaning – Back Pressure Avoidance & Problem Reporting Procedure
7. Sanitary Sewer CCTV File Transfer Requirements
8. PACP & LACP Inspection Forms

Attachment # 1 – PROJECT COMPLETION DELIVERABLES

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: _____

BUILDING PERMITS – CLOSED OUT

- ☐ Architectural
- ☐ Electrical
- ☐ Mechanical / Plumbing
- ☐ Structural
- ☐ Other

O&M MANUALS RECEIVED

- ☐ Architectural
Additional insertions to follow: _____
- ☐ Electrical
Additional insertions to follow: _____
- ☐ Mechanical
Additional insertions to follow: _____
- ☐ Other
Additional insertions to follow: _____

PROJECT CLOSE-OUT

- ☐ Project Summary Report
- ☐ Substantial Completions
- ☐ Deficiencies List
- ☐ Transfer of Utilities (Hydro/Teresan)
Notify City of Surrey (604-591-4804)
- ☐ Asset Inventory Forms including HVAC
- ☐ TCA Cost Summary Finance, & Warranty
Information sheets & Project summary
with graphics

FALL PROTECTION SYSTEM

- ☐ Installed
 - ☐ Fall Protection plans displayed throughout building as required.
 - ☐ 1 CD containing the Fall Protection Safety System (details & plans)

E. AS-BUILT DRAWING SUBMITTALS

Architectural

- ☐ 1 CD containing AutoCAD As-Built DWG files
- ☐ 1 CD containing scanned sealed As-Built drawings
- ☐ 1 paper copy of sealed drawings

Electrical

- ☐ 1 CD containing AutoCAD As-Built DWG files
- ☐ 1 CD containing scanned sealed As-Built drawings
- ☐ 1 paper copy of sealed drawings

Mechanical / Plumbing

- ☐ 1 CD containing AutoCAD As-Built DWG files
- ☐ 1 CD containing scanned sealed As-Built drawings
- ☐ 1 paper copy of sealed drawings

Structural

- ☐ 1 CD containing AutoCAD As-Built DWG files
- ☐ 1 CD containing scanned sealed As-Built drawings
- ☐ 1 paper copy of sealed drawings

Civil

- ☐ 1 CD containing AutoCAD As-Built DWG files
- ☐ 1 CD containing scanned sealed As-Built drawings
- ☐ 1 paper copy of sealed drawings

Landscape

- ☐ 1 CD containing AutoCAD As-Built DWG files
- ☐ 1 CD containing scanned sealed As-Built drawings
- ☐ 1 paper copy of sealed drawings

Other:

- ☐ 1 CD containing AutoCAD As-Built DWG files
- ☐ 1 CD containing scanned sealed As-Built drawings
- ☐ 1 paper copy of sealed drawings

F. FIRE SAFETY PLAN

- ☐ Completed
 - ☐ Fire safety floor plans displayed throughout building as required.
 - ☐ 1 CD containing the fire safety plan
 - ☐ 2 paper copies of the fire safety plan

Signed: _____

City Representative

Contractor Representative

Internal Representative

Fire Chief/ 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:*

"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.

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.

Project File No.: 1220-040-2017-027

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 Health & Safety Activities: _____
Phone: _____

Prime Contractor Signature: _____ Date: _____

Please return a signed copy of this memo to the City of Surrey, Finance & Technology Department, Purchasing Section, 13450 – 104 Avenue, Surrey, British Columbia, V3T 1V8

If you have any questions, please contact the City of Surrey, Manager Occupational Health & Safety at 604-591-4658.

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.
2. Contractors must follow and have on site proper written safe work procedures for hazardous work, e.g. Fall protection, confined space entry, hot work, 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



A common sense approach usually resolves the issue.

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.

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. Personal protective equipment, 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. Report any unsafe conditions, 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.
9. 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 hazardous materials/controlled products 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, **BC One Call Must be called and a ticket obtained prior to commencing any ground disturbance activities.**

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

COMPLIANCE TO SAFETY PROCEDURE ENTRY PROCEDURE FOR CONFINED SPACE

This procedure shall be used as a guideline only. The Contractor shall be responsible for familiarization with this and all WCB requirements.

THERE MUST BE A MINIMUM OF TWO PEOPLE

- ONE PERSON ALWAYS ON THE SURFACE, AND**
- ONE PERSON IN THE WELL**

MAN LIFT/RETRIEVAL DEVICES MUST BE USED

1.
 - a) Open manhole lids, turn on blower/fan to ventilate wet well for approximately two to three minutes.
 - b) Leave fan running until job is completed.
 - c) Manhole must be circulated by a blower fan to allow fresh air into the confined space. Check levels on gas detector by lowering into well. If levels are not safe, portable fans MUST be used.
2. Turn gas detector "ON":
 - * Oxygen levels should read between 20.0 to 21.0
 - * H₂S levels should read 000
 - * LEL levels should read 000

NOTE: - Readings shall be taken before entering well.
 - Record gas levels on "Confined Entry Space" forms and hand in daily.
3.
 - a) Lower gas detector by rope/cord into lower portion of wet well where work shall be performed.
 - b) Pull detector to surface and check gas levels. If levels are safe, entry into well is permitted.
4. Gas detector MUST be left "ON" and brought down into well with person(s) entering.
5. Check levels on gas detector when in well. Proceed with washing/repairing of station.
6. If at any time the gas detector goes "OFF" (ringing), EXIT WET WELL IMMEDIATELY and check levels.

Attachment # 5

COMPLIANCE TO SAFETY PROCEDURE WORKING IN CONFINED SPACE

Where work is to be carried out, in any confined space where harmful atmosphere may develop, the following procedures must be followed:

- a) The space must be ventilated continuously.
- b) Gas detection equipment must be calibrated in an atmosphere that is known to be safe.

Tests for harmful or explosive substances and oxygen deficiency shall be made and recorded immediately prior to entry, after any interruptions in the work procedure and at intervals to ensure the continuing safety of the worker in the confined space.

If a harmful atmosphere develops, the worker will immediately evacuate the space and will not re-enter until it has been tested and found to be safe to do so.

- c) A safety belt or harness of a type which will keep the worker in a position to permit rescue, will be worn.
- d) A life line will be attached to the belt or harness which is tended at all times by another person stationed outside the entrance to the confined space, who shall be equipped for and capable of effecting rescue.

I, the undersigned, acknowledge having read and understand the information above.

By signing this Agreement, I agree as a representative of the firm noted below, to accept all responsibilities and compliant to all the Workers' Compensation Board regulation requirements.

Project File No. 1220-040-2018-027

Company: _____.

Project Title: Wastewater Sewer Inflow & Infiltration Investigation Program

Signed: _____
(Company Owner)

Date: _____

Witness: _____

Date: _____

ATTACHMENT # 6

SANITARY SEWER MAIN FLUSHING & CLEANING - BACK-PRESSURE AVOIDANCE

AND PROBLEM REPORTING PROCEDURE

Back-Pressure Avoidance

A Back-Pressure situation can develop when there is a significant change in pressure, either positive or negative, within the sewer system caused by the sewer flushing and cleaning. This change in pressure can force water and air towards the private plumbing system displacing water in toilets and p-traps within the building and impact private property.

To avoid a Back-Pressure situation it is critical that operators and contractors take precautions and follow the procedures outlined below:

- ❖ To reduce the chance of a Back-Pressure occurring in the building's plumbing system the operator or contractor flushing and cleaning the sewer must remove the Inspection Chamber lid(s) of the service connection(s) connected to the section of main (manhole to manhole) being flushed. Manhole covers, upstream and downstream of the main section being flushed must also be removed.
- ❖ The City documents and tracks these Back-Pressure occurrences in their Work Management System to ensure that a reoccurrence does not take place. This back-pressure list is updated when the list changes and is distributed to all contractors on the City's Hire Equipment and Contract lists. The operator or contractor is responsible to obtain the most recent and up to date Back-Pressure information and take the required precautions to avoid a Back-Pressure reoccurrence.
- ❖ The operator or contractor must be aware of the water pressure being applied and utilize the appropriate pressure to effectively clean the sewer system without using excessive pressure.
- ❖ The operator or contractor must ensure that they are maintaining and replacing their flushing equipment (nozzles, hoses, etc.) on a frequent basis. Worn or damaged sewer flushing equipment can cause an increase in both water discharged and air pressure when flushing and cleaning sewer systems.
- ❖ If a Back-Pressure situation occurs, the operator and contractor must immediately notify the City's Dispatch at 604.590.7226.
 - The contractor is fully responsible for any damage caused by the Back-Pressure situation, and shall be responsible to mitigate the situation with the property owner, including compensation.
- ❖ In the event the operator or contractor is requested by the City to clear a sanitary sewer inspection chamber blockage, the inspection chamber is to be vacuumed out in order to remove debris, and then flushed after plugging the private side of the sanitary inspection chamber. These steps will eliminate Back-Pressure and protect private property.

Other Flushing and Reporting Procedures

- ❖ In the process of flushing, debris such as gravel, etc. must be collected and removed (vacuumed) at the down-stream manhole and not released into the downstream system.
- ❖ The following conditions shall be reported to the City immediately, with pertinent information, such as asset type and identifying numbers, address or location, type of problem discovered or encountered and severity of problem, if known:
 - Grease in line;
 - Roots in line;
 - Blockages in line;
 - Large amounts of gravel, rocks or other debris;
 - Structural damage to line;
 - Infiltration at a manhole;
 - Structural damage in manhole;
 - Inability to locate or access an existing manhole or inspection chamber because it is buried or obstructed.
 - Damage to an inspection chamber and missing lids.

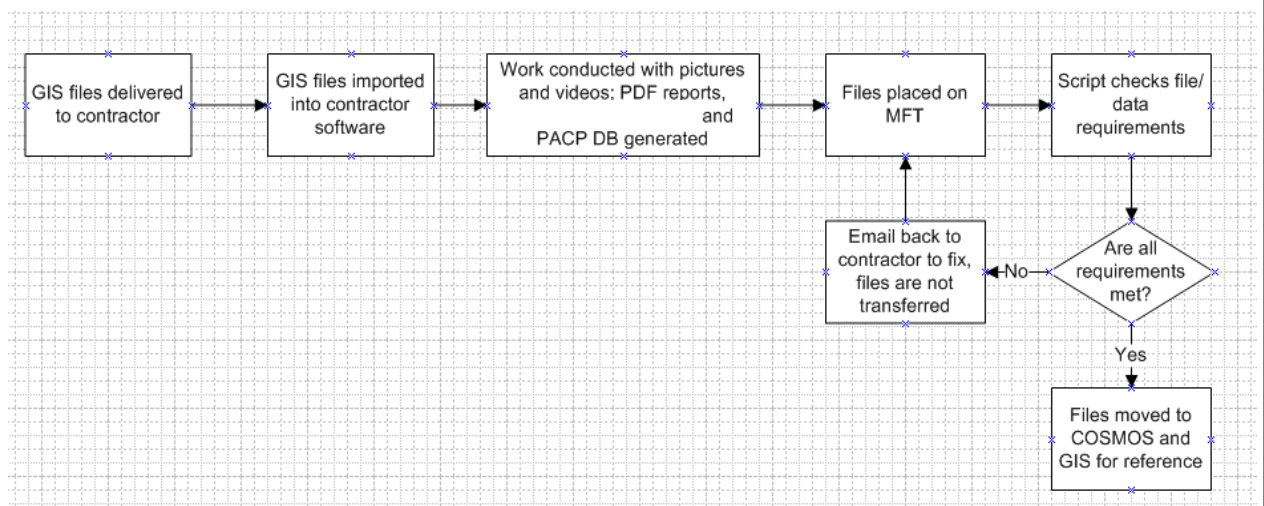
Attachment # 7

SANITARY SEWER CCTV FILE TRANSFER REQUIREMENTS



A. PROCESS OVERVIEW

Starting immediately, Sanitary Sewer contractors will be required to send PACP databases, PDF reports (one detailed for each main and one summary for all), videos and pictures of inspected mains and/or laterals to the City, daily, via our Managed File Transfer (MFT, replacing the City's current FTP).



B. CONTRACTOR REQUIREMENTS

1) **No manual data entry** of WO# and FacilityIDs into your PACP databases. Instead, the City will provide extracted GIS files with work order and FacilityID data for you to upload into your PACP databases to help eliminate human error on data entry. The City will provide an ESRI license upon request.

The GIS file will be a file geodatabase (ESRI product), named by contractor and contained within a parent folder or zip file named by work order number. Your system (Contractor's) should be set up to handle this process.

2) The **PACP db** should be named with the WO# followed by a dash character followed by the CCTV date in the format YYYYMMDD, for example 2170605-20160113.mdb

No DVD # is required.

3a) In the PACP db, use **Inspections** table for pacp inspections

- The WorkOrder field should contain the WO# (provided in step 1). If the PACP database is an older version and does not have the WorkOrder field, then store the WO# into the PO_Number field instead.
 - If valid WO#(s) are not provided then it will result in an error when the City's processing scripts run and an email will be sent to the contractor to provide a newer version of the PACP db (with a different name, with a -Seq# appended to it's filename) with valid WO#(s).
- The Pipe_Segment_Reference field should contain the Facility ID (FID) (provided in step 1), which is a ten digit unique identifier for the asset.
 - If additional assets were found in the field that were not originally identified in step 1 then use the string UM followed by a 3 digit sequence# for the FID value (e.g. UM001 or UM099) and please add your comments to the Additional_Info field that describes the asset found, preferably, including its location, type, size, length and other description attributes.
 - If valid FID(s) are not provided then it will result in an error when the City's processing scripts run and an email will be sent to the contractor to provide a newer version of the PACP db with valid FID(s).
- The Date field must be populated with the date of the CCTV inspection.

3b) In the PACP db, use **LACP_Inspections** for lacp inspections

- The WorkOrder field should contain the WO# (provided in step 1). If the PACP database is an older version and does not have the WorkOrder field, then store the WO# into the PO_Number field instead.
 - If valid WO#(s) are not provided then it will result in an error when the City's processing scripts run and an email will be sent to the contractor to provide a newer version of the PACP db with valid WO#(s).
- The Lateral_Segment_Reference field should contain the Facility ID (FID) (provided in step 1), which is a ten digit unique identifier for the asset.
 - If additional assets were found in the field that were not originally identified in step 1 then use the string UL followed by a 3 digit sequence# for the FID value, (e.g. UL001 or UL099) and please add your comments to the Additional_Info field that describes the asset found, preferably, including it's location, type, size, length and other description attributes.
 - If valid FID(s) are not provided then it will result in an error when the City's processing scripts run and an email will be sent to the contractor to provide a newer version of the PACP db with valid FID(s).
- The Date field must be populated with the date of the CCTV inspection.

4) In the PACP db, **Media_Inspections** table

- The VideoName field must contain the name(s) of the video file(s). We recommend for the best quality and smallest files size (reduced upload times and easier storage),

that the video file be in Windows Media Video format. We also support Mpegs if required. Any other file formats must be vetted and tested by the City prior to submission.

- Each video file provided needs to have a record in the Media_Inspections table. If the video names are not provided in the Media_Inspections table then it will result in an error when the City's processing scripts run and an email will be sent to the contractor to please provide a newer version of the PACP db with video names.
We use the video name information so that we can map it to an Inspection record to get the WO# and FID then we rename the video file(s) into the format WO#- FID-Seq#.

5) In the PACP db, **Media Conditions** table

- The Image_Reference field must contain the name(s) of the picture file(s).
 - Each picture file provided needs to have a record in the Media_Conditions table. If the picture file names are not provided in the Media_Conditions table then it will result in an error when the City's processing scripts run and an email will be sent to the contractor to please provide a newer version of the PACP db with picture file names. We use the picture file name information so that we can map it to an Inspection record to get the WO# and FID then we rename the picture file(s) into the format WO#-FID-Seq#.

6) In the PACP db, **Custom_Fields** table

- The Custom_Field_One field must contain the Structural Quick Rating.
 - If Structural Quick Rating(s) are not provided then it will result in an error when the City's processing scripts run and an email will be sent to the contractor to please provide a newer version of the PACP db with Structural Quick Rating(s).
- The Custom_Field_Two field must contain the O&M Quick Rating.
 - If O&M Quick Rating(s) are not provided then it will result in an error when the City's processing scripts run and an email will be sent to the contractor to please provide a newer version of the PACP db with O&M Quick Rating(s).

7) **Summary PDF** report

- The Summary PDF report needs to follow the same naming convention as it's associated PACP db, see item 2) where it should be named with WO# followed by a dash character followed by the cctv date in the format YYYYMMDD, for example 2170605- 20160113.pdf
 - If the Summary PDF report cannot be matched to a PACP db with the same file name then it will result in an error when the City's processing scripts run and an email will be sent to the contractor to inform them of this. The Summary PDF filename needs to match its associated PACP db filename so that our scripts can look into its associated PACP db to determine which assets are in the Summary PDF.

8) Detailed PDF reports

- The Detailed PDF reports should be named with the FID followed by a dash character followed by the CCTV date in the format YYYYMMDD, for example 1000086460-20160113.pdf (where 1000086460 is the facilityID of the main or lateral and 20160113 is the date Jan 13, 2016) and there should only be one pipe asset in each Detail pdf report. In other words, there should be a separate Detail pdf report for each asset. In the unlikely scenario where we have more than one Detail pdf report for a particular asset, then they should be named same as above but with a dash 2 digit sequence number appended to it's filename, for example 1000086460-20160113-01.pdf and 1000086460- 20160113-02.pdf
 - If the FID of the Detailed PDF report filename is not valid then it will result in an error when the City's processing scripts run and an email will be sent to the contractor to please provide another file with a valid FID.

9) **All files to be placed on the MFT site** (see section C) grouped into folders named with the WO# followed by a dash character followed by the CCTV date in the format YYYYMMDD, for example 2170605-20160113, no later than 10 PM.

10) ERROR HANDLING AND RESPONSE:

It is expected that the errors be fixed by the contractor and the files reloaded within a business day. It is also expected that the City be notified of any changes to contact emails.

It is required that all file names provided be unique, as a file cannot be submitted that has already been submitted previously, except for when it is within the same business day. For example, if a file was submitted but then later on in the day, determined that the file provided was incorrect and you would like to make a change to it, then you may provide another file with the same name through the MFT site within the same day, which will overwrite the file that was previously provided earlier in the day.

In the case where a PACP db has been received by us and processed and a new version of the PACP db is being requested for fixes, then name the new PACP db file exactly the same as previously, but with a dash Seq# appended. For example, if the original PACP db was named 2170605-20160113.mdb and a newer PACP db is being provided to fix the errors, then name the new PACP db 2170605-20160113-2.mdb

Assumptions:

-Work will not be performed on an asset (Facility ID), and imported through this process that does not have a work order number associated with it (with the asset attached to the work order).

-Contractor is using the most recent defect Rating Scores available (the software is up to date).

C. MANAGED FILE TRANSFER CONTRACTOR INSTRUCTIONS

CCTV files upload requirements for City of Surrey

- 1) A valid user id and password provided by City of Surrey
- 2) A SFTP client such as WSFTP Pro, SmartFTP, WinSCP to connect to City of Surrey SFTP site
- 3) City of Surrey SFTP site info:

Please select “yes” to store the server’s rsa host key in the registry cache if you are prompted by the SFTP client

Host/Site name: MFT.SURREY.CA

File protocol: SFTP

Port number: 22

- 4) Daily upload must be completed prior to 10:00PM. For best performance, upload prior to 8:00am or after 6:00pm. It is recommended that the contractor use a client that has scheduling functionality so the upload is automated at a specified time.
- 5) Submission times to be the same day of the work for anything that is on demand work; program items to be uploaded once weekly on assigned day to be provided by the City.
- 6) Provide your e-mail address so the system could send you an e-mail alert when a file fails to upload

Depending on the average daily upload size, please use table provided below to determine your upload speed requirements. For example, if you need to upload 5GB of data per day, you should have an Internet Service Provider (ISP) with a minimum **upload** speed of 15Mbps to keep the uploading time under one hour.

	Transfer Rate
Upload Speed (Mbps)	GB / hour
10	4.5
15	6.75
20	9

See section D for official ISP recommendation for optimal performance.

D. INTERNET SERVICE PROVIDER RECOMMENDED SPECS

It is recommended for ease of access and reasonable upload times that your internet meets the following specifications: 30 Mbps Symmetrical Fiber Gateway

Attachment # 8

PACP & LACP Inspection Forms



PACP Inspection Form Header Section

Red font fields = Mandatory, Black font fields = Optional

General Information			
1. Surveyed by	2. Certificate No.	3. Reviewed by	4. Reviewer Certificate No.
5. Owner	6. Customer	7. P/O Number	8. Work Order Number
9. Media Label	10. Project	11. Date YYYYMMDD	12. Time HH MM
13. Sheet Number	14. Weather	15. Pre-Cleaning	16. Date Cleaned YYYYMMDD
17. Flow Control	18. Purpose of Survey	21. Inspection Status	
19. Direction of Survey	20. Inspection Technology Used	22. Consequence of Failure	
23. Pressure Value			
Location			
24. Drainage Area	25. Pipe Segment Reference	26. Street (Name & Number)	
27. City	28. Location Code	29. Location Details	
Pipe			
30. Pipe Use	31. Height (Diameter)	32. Width	33. Shape
34. Material	35. Lining Method	36. Coating Method	37. Pipe Joint Length
38. Total Length	39. Length Surveyed	40. Year Constructed YYYY	41. Year Renewed YYYY
Measurements			
42. Upstream MH No.	43. Upstream MH Rim to Invert	44. Upstream MH Rim to Grade	45. Upstream MH Grade to Invert
46. Upstream MH Northing*	47. Upstream MH Easting*	48. Upstream MH Elevation**	
49. Downstream MH No.	50. Downstream MH Rim to Invert	51. Downstream MH Rim to Grade	
52. Downstream MH Grade to Invert	53. Downstream MH Northing*	54. Downstream MH Easting*	
55. Downstream MH Elevation**	56. MH Coordinate System*	57. MH Vertical Datum**	58. GPS Accuracy
59. Additional Information			

*Entry required if Northing, Easting or Coordinate System data is recorded

**Entry required if Elevation or Vertical Datum data is recorded

USMH



DSMH



Details Section

Distance (feet) (meters)	Video Ref.	Code Group/ Descriptor/ Modifier	Continuous Defect	Value			Joint	Circumferential Location		Image Ref.	Remarks
				1st	2nd	%		At/From	To		

NASSCO-PACP-V7-0-0-IF



PACP Inspection Form Details Continuation Section

1. Surveyed by	5. Owner	11. Date	13. Sheet No.	42. Upstream MH No.	49. Downstream MH No.
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Distance (feet) (meters)	Video Ref.	Code	Continuous Defect	Value			Joint	Circumferential Location		Image Ref.	Remarks
		Group/ Descriptor/ Modifier		Dimension		%		At/ From	To		
				1st	2nd						

Red font fields = Mandatory, Black font fields = Optional



LACP Inspection Form Header Section

General Information

1. Surveyed By	2. Certificate No.	3. Reviewed By	4. Reviewer Certificate No.
5. Owner	6. Customer	7. P/O Number	8. Work Order Number
9. Media Label	10. Project	11. Date YYYYMMDD	12. Time
13. Sheet Number	14. Weather	15. Pre-Cleaning	16. Date Cleaned YYYYMMDD
17. Purpose of Survey	18. Direction of Survey	19. Inspection Technology Used	20. Inspection Status
21. Consequence of Failure		22. Pressure Value	

Location

23. Drainage Area	24. Pipe Segment Reference	25. Lateral Segment Reference	
26. Street (Number & Name)	27. City	28. Location Code	29. Location Details

Lateral

30. Pipe Use	31. Size	32. Material	33. Lining Method	34. Total Length
35. Length Surveyed	36. Year Constructed	37. Year Renewed	38. Property Line	

Measurements

39. Access Point ID No.	40. Tap Location	41. Rim to Invert	42. Access Pt. Northing*	43. Access Pt. Easting*
44. Access Pt. Elevation**	45. Coordinate System*	46. Vertical Datum**	47. GPS Accuracy	
48. Downstream Manhole ID No.	49. Upstream Manhole ID No.	50. Start Manhole		

51. Additional Information

- * Information required, if Northing, Easting or Coordinate System data is recorded.
** Information required, if Elevation or Vertical Datum data is recorded.

