



REQUEST FOR QUOTATIONS

Title: 2017 STORM SEWER CCTV INSPECTION PROGRAM

Reference No.: 1220-040-2017-048

MINOR WORKS SERVICES (MMCD)

(Construction Services)

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REQUEST FOR QUOTATIONS

(TO BE READ WITH "INSTRUCTIONS TO TENDERERS – PART II" CONTAINED IN THE EDITION OF THE PUBLICATION
"MASTER MUNICIPAL CONSTRUCTION DOCUMENTS" SPECIFIED IN SCHEDULE 1 BELOW)

1. INTRODUCTION

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

2. ADDRESS FOR DELIVERY

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

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

(a) Email

If the *Contractor* chooses to submit by email, the *Contractor* should submit the Quotation electronically in a single pdf file to the *Owner* by email at: purchasing@surrey.ca.

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

(b) Hard Copy

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

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

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

3. DATE

The *Owner* would prefer to receive Quotations on or before **April 11, 2017**. The *Owner's* office hours are 8:30 a.m. to 4:00 p.m., Monday to Friday, except statutory holidays.

4. INQUIRIES

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

Name: Richard D. Oppelt, Purchasing Manager
Email: purchasing@surrey.ca
Reference: 1220-040-2017-048

5. ADDENDA

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

6. NO CONTRACT

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

7. ACCEPTANCE

A Quotation will be an offer to the *Owner* which the *Owner* 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 *Owner* unless and until both the authorized signatory and the purchasing representative have signed the Contract on behalf of the *Owner*. Delivery of the signed Quotation by the *Owner* may be by pdf email. In that event, the resulting Contract will be comprised of the documents included in the definition of Contract in Schedule B – Draft Contract – Minor Works.

The *Owner* need not necessarily accept the Quote with the lowest Quote Price, or any Quote, and the *Owner* reserves the right to reject any and all Quotes at any time, or cancel the RFQ process, without further explanation and to accept any Quote the *Owner* considers to be in any way advantageous to it. The *Owner's* acceptance of any Quote is contingent on having sufficient funding for the Work and a Contract with the *Contractor*.

8. CONTRACTOR'S EXPENSES

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

9. CONTRACTOR'S QUALIFICATIONS

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

10. CONFLICT OF INTEREST

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

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

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

12. CONFIDENTIALITY

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

13. SIGNATURE

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

- (a) If the *Contractor* is a corporation then the full name of the corporation should be included, together with the names of authorized signatories. The Quotation should be executed by all of the authorized signatories or by one or more of them provided that a copy of the corporate resolution authorizing those persons to execute the Quotation on behalf of the corporation is submitted;

- (b) If the *Contractor* is a partnership or joint venture then the name of the partnership or joint venture and the name of each partner or joint venturer should be included, and each partner or joint venturer should sign personally (or, if one or more person(s) have signing authority for the partnership or joint venture, the partnership or joint venture should provide evidence to the satisfaction of the *Owner* that the person(s) signing have signing authority for the partnership or joint venture). If a partner or joint venturer is a corporation then such corporation should sign as indicated in subsection (a) above; or
- (c) If the *Contractor* is an individual, including a sole proprietorship, the name of the individual should be included.

14. ADDITIONAL INSTRUCTIONS

- (a) Amendment to 5.1 of the Instructions to Tenderers-Part II, by deleting the first sentence and replacing with:

“A quote should be on the Form of Quote as provided and be signed by the authorized signatory(s) as follows:”

- (b) Amendment to 5.3 of the Instructions to Tenderers - Part II, by deleting the first sentence and replacing with:

A quote should include the following Appendices.

- (c) Amendment to 15.1 of the Instructions to Tenderers – Part II, by deleting the paragraph after 15.1.3, and replacing with:

In exercising its discretion, the Owner will have regard to the information provided by the Contractor in the Appendices to the Form of Quote as described under IT5.3, and may also have regard to any information obtained by the Owner in evaluating such quote information, any information obtained by the Owner from any other person, firm or corporation relating to their previous experience with the Contractor, as well as the Owner's previous relevant experience, if any, with the Contractor. In exercising this discretion the Owner may consider, but is not limited to, the following criteria in addition to the Quote Price:

- a) the proven experience of the Contractor, and any listed subcontractors to do the Work;
- b) the Contractor's ability to complete the Work within the Preliminary Construction Schedule including timeliness in completing deficient works;
- c) the Contractor's ability to work effectively with the Owner, its consultants and representatives, and the public;
- d) the Contractor's ability to manage and do the work effectively using the named superintendent and submitted subcontractors;
- e) the Contractor's history on other projects including with respect to quality of work, changes in the work, force account work, and the contract administration costs of the Owner; and

- f) the nature of any legal proceedings undertaken by the Contractor, or any officer or director of the Contractor directly (or indirectly through another corporation) against the Owner within the last five years of the Invitation to Quote.

SCHEDULE A – SCOPE OF WORK AND *CONTRACT DRAWINGS*

PROJECT TITLE: 2017 STORM SEWER CCTV INSPECTION PROGRAM

PROJECT No.: 1220-040-2017-048

1. DESCRIPTION OF SCOPE OF WORK

To provide all labour, supervision, materials, plant, equipment, layout, survey, permits, and inspections, and related services to video inspect storm sewer mains and visually inspect storm manholes as noted in the drawings. Furnish certificates confirming work conforms to requirements of Authorities having jurisdiction.

Job site location consists of various locations throughout the City of Surrey as detailed in the attached drawing.

The general components of the work include flushing mains, provision for traffic control, manhole inspections, video of the storm system and other related works.

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

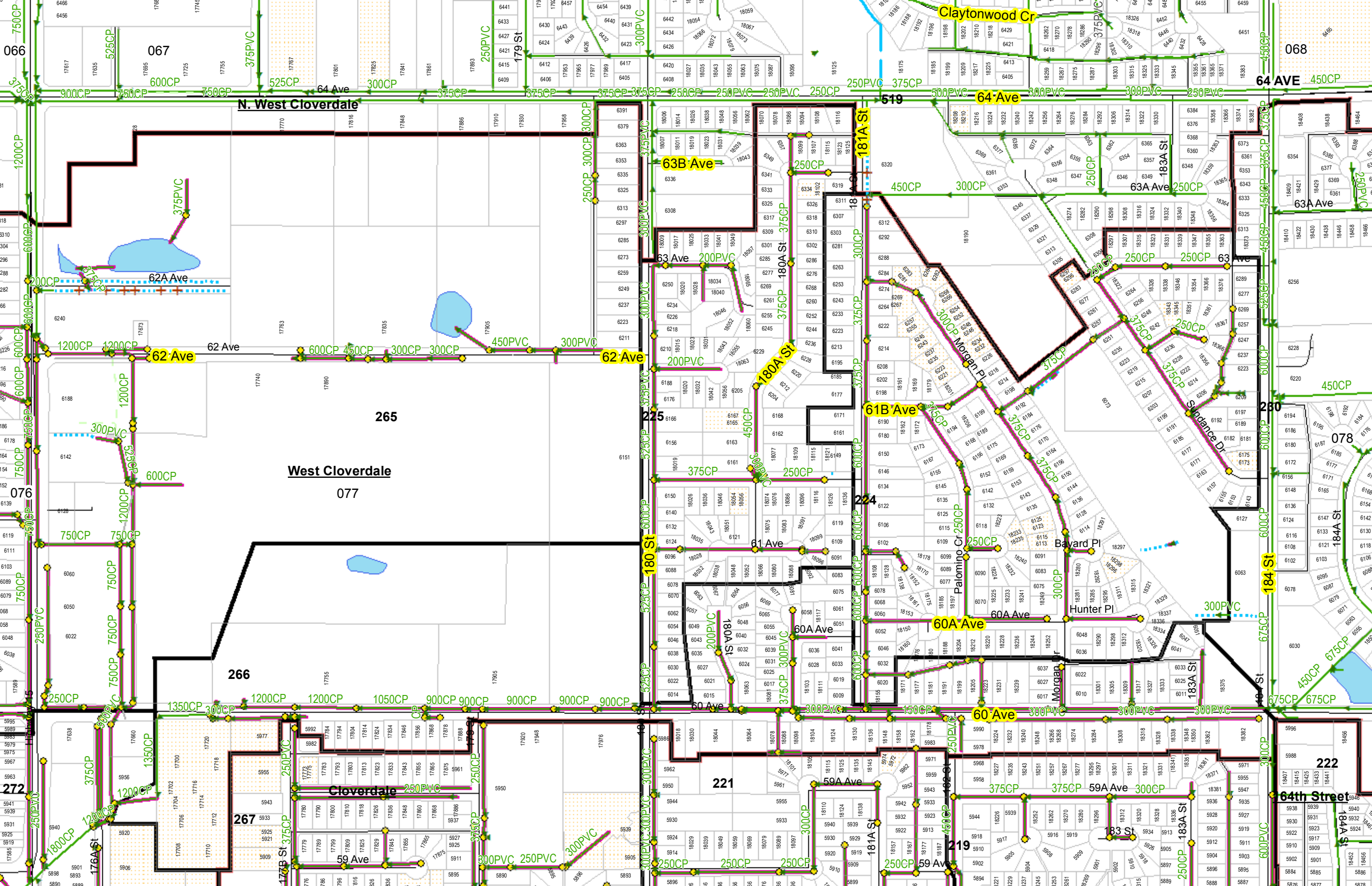
The lack of and/or omission of detailed specifications does not minimize the acceptable levels of service and only the best commercial practices are acceptable.

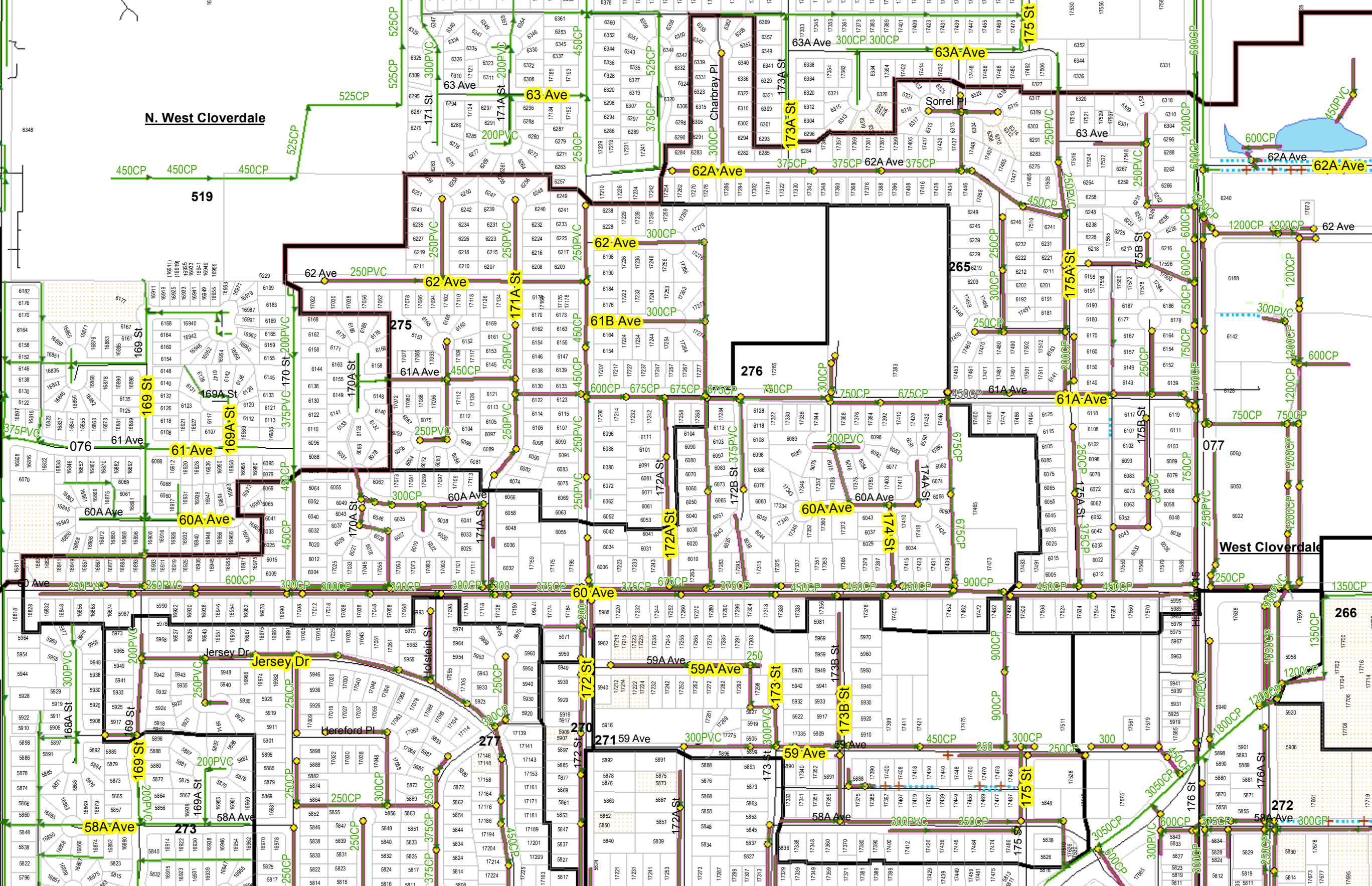
Contractor to comply with all BC Plumbing Code, BC Fire Marshal, Worksafe BC, National Building Code of Canada, BC Boiler Inspector, BC Electrical Inspector, National Fire Protection Association, and any other authorities having local jurisdiction. Failure to abide by these rules and regulations will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

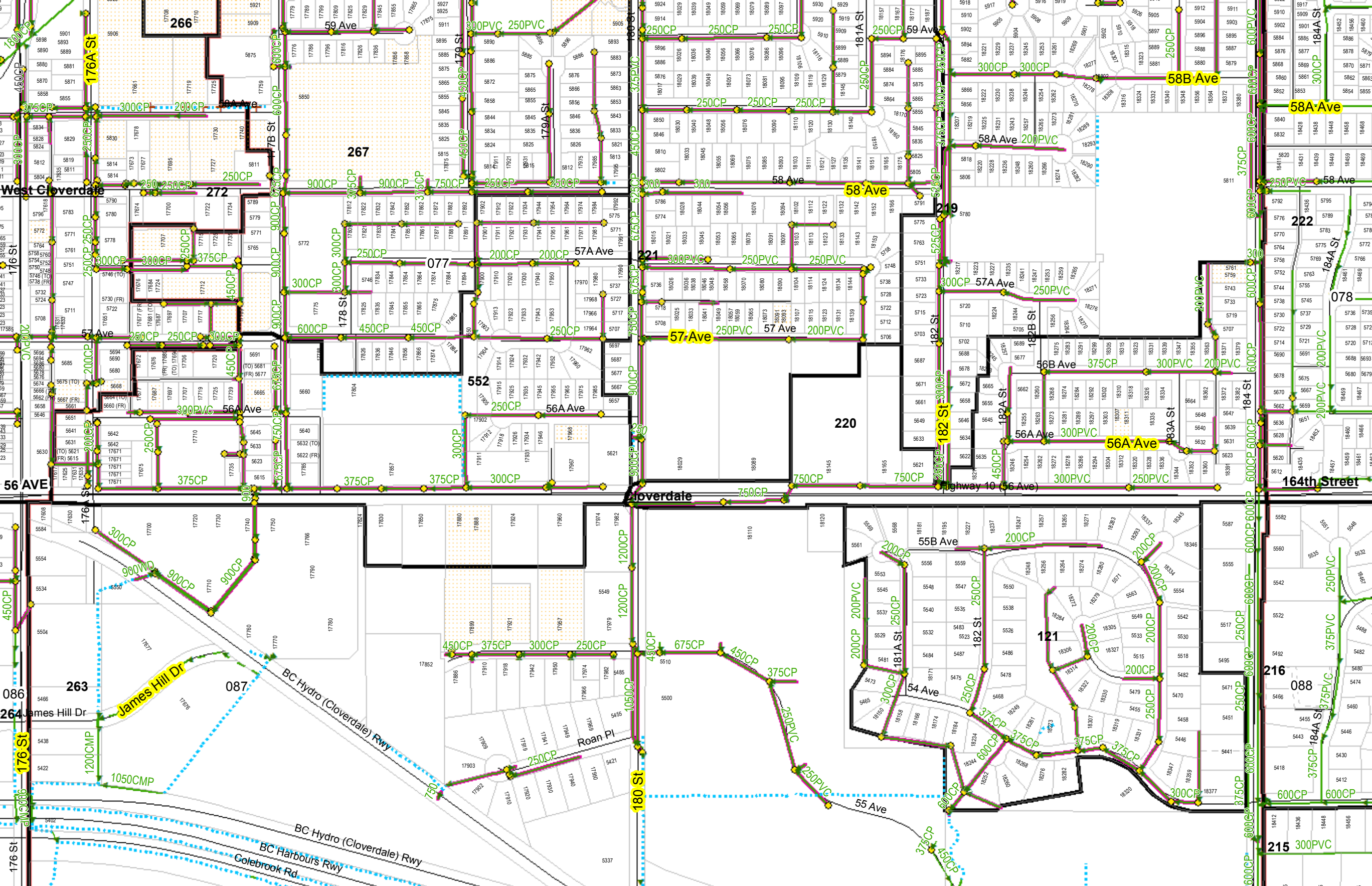
2. *CONTRACT DRAWINGS* – (PROJECT)

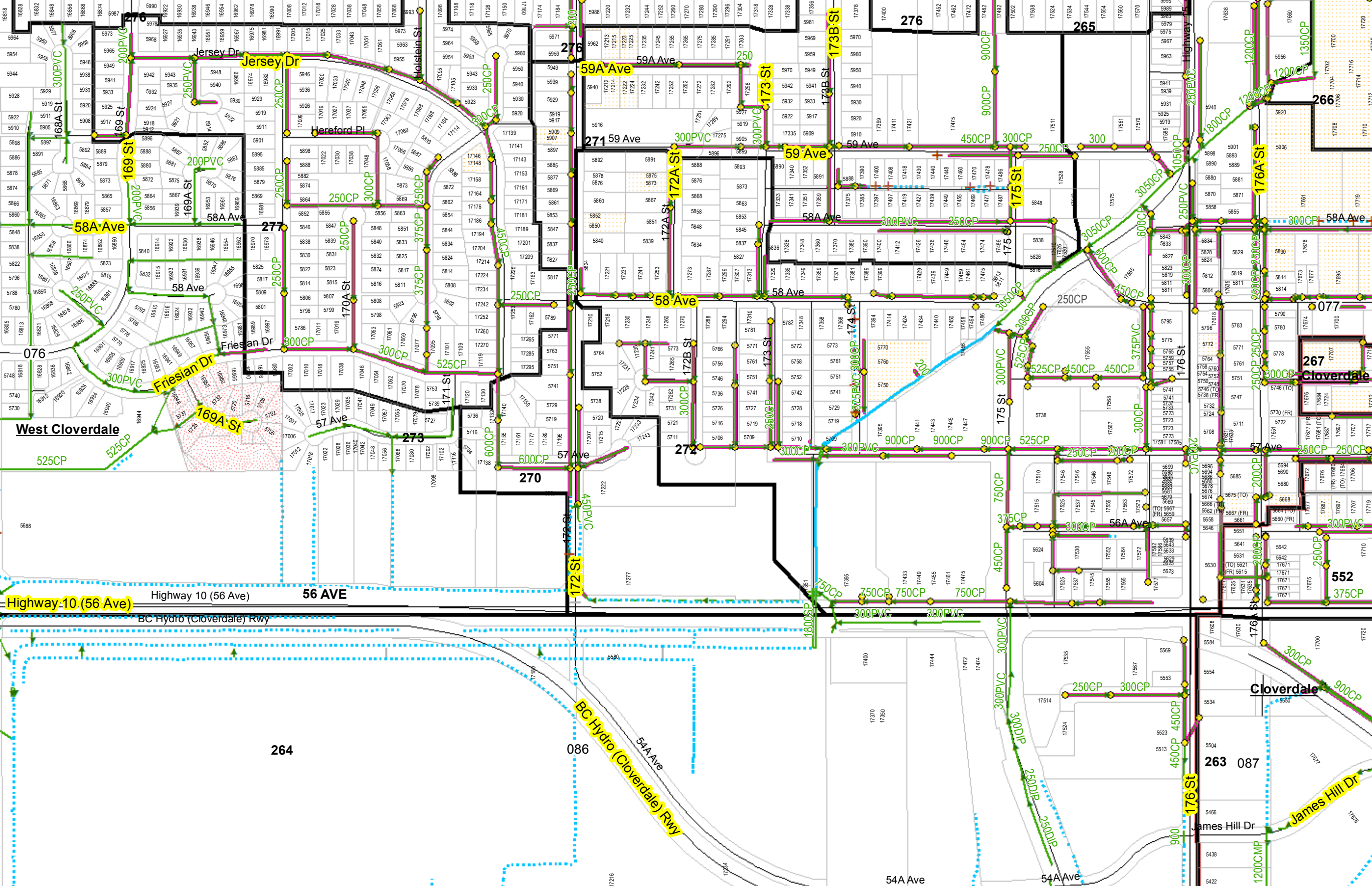
The following drawings/maps are included as part of this RFQ.

DRAWING NUMBER SPECIFICATION / MAPS
MAP – NORTHEAST
MAP – NORTHWEST
MAP – SOUTHEAST
MAP - SOUTHWEST











SCHEDULE B

SAMPLE FORM OF AGREEMENT

1. Form of Agreement between *Owner* and *Contractor*
2. Schedule 1 – Schedule of *Contract Documents*
3. Schedule 2 – List of *Contract Drawings*

SAMPLE FORM OF AGREEMENT

BETWEEN OWNER AND CONTRACTOR

This form of agreement (the "Agreement") made in duplicate this

_____ day of _____, 20____.

Contract:

(TITLE OF CONTRACT)

Reference No.

(OWNER'S CONTRACT REFERENCE NO.)

BETWEEN:

The City of Surrey

(NAME OF OWNER)

(the "Owner")

AND:

(NAME AND OFFICE ADDRESS OF CONTRACTOR)

(the "Contractor")

The Owner and the Contractor agree as follows:

- | | | |
|---|------------|--|
| Article 1 The Work
Start /
Completion
Dates | 1.1 | The <i>Contractor</i> will perform all <i>Work</i> and provide all labour, equipment and material and do all things strictly as required by the <u><i>Contract Documents</i></u> . |
| | 1.2 | The <i>Contractor</i> will commence the <i>Work</i> in accordance with the <u><i>Notice to Proceed</i></u> . The <i>Contractor</i> will proceed with the <i>Work</i> diligently, will perform the <i>Work</i> generally in accordance with the construction schedules as required by the <u><i>Contract Documents</i></u> and will achieve <u><i>Substantial Performance</i></u> of the <i>Work</i> on or before <u>153 Days</u> from the <i>Notice to Proceed</i> date subject to the provisions of the <u><i>Contract Documents</i></u> for adjustments to the <u><i>Contract Time</i></u> . The <i>Contractor</i> will provide the service for the period commencing on <u>May 1, 2017</u> and, terminating on <u>September 30, 2017</u> (the "Term"). |

1.3 Time shall be of the essence of the *Contract*.

Article 2 Contract Documents

2.1 The "Contract Documents" consist of the documents listed or referred to in Schedule 1, entitled "Schedule of Contract Documents", which is attached and forms a part of this Agreement, and includes any and all additional and amending documents issued in accordance with the provisions of the Contract Documents. All of the Contract Documents shall constitute the entire *Contract* between the *Owner* 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.

Article 3 Contract Price

3.1 The price for the *Work* ("Contract Price") shall be the sum in Canadian dollars of the following

1.1.1 the product of the actual quantities of the items of *Work* listed in the Schedule of Quantities and Prices which are incorporated into or made necessary by the *Work* and the unit prices listed in the Schedule of Quantities and Prices; plus

1.1.2 all lump sums, if any, as listed in the Schedule of Quantities and Prices, for items relating to or incorporated into the *Work*; plus

1.1.3 any adjustments, including any payments owing on account of *Changes* 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 owing 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*.

Article 4 Payment

4.1 Subject to applicable legislation and the provisions of the Contract Documents, the *Owner* shall make payments to the *Contractor*.

4.2 At the substantial performance, a holdback will be made from the monthly progress payment to the *Contractor*. The holdback shall be the lesser of \$30,000 or 5% of the total *Contract* value including any change orders.

This holdback shall be released upon the submission, by the *Contractor*, of sufficient field data, to the *Contract Administrator*, for the creation of as-constructed drawings. The sufficiency of data will solely be determined by the *Contract Administrator* before

instructing the *Owner*, in writing, for the release of this holdback.

Article 5 Rights and Remedies

- 5.1 The duties and obligations imposed by the *Contract Documents* and the rights and remedies available thereunder shall be in addition to and not a limitation of any duties, obligations, rights and remedies otherwise imposed or available by law.
- 5.2 Except as specifically set out in the *Contract Documents*, no action or failure to act by the *Owner*, *Contract Administrator* or *Contractor* shall constitute a waiver of any of the parties' rights or duties afforded under the *Contract*, nor shall any such action or failure to act constitute an approval of or acquiescence in any breach under the *Contract*.

Article 6 Notices

- 6.1 Communications among the *Owner*, the *Contract Administrator* 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 as set out below:

The *Owner*:

City of Surrey - Engineering Department

13450 - 104th Avenue

Surrey, BC

V3T 1V8

Attention: Ron Lim, Project Supervisor

The *Contractor*:

Attention: _____

The *Contract Administrator*:

R.F. Binnie & Associates Ltd.

#101 - 19232 Enterprise Way

Surrey, BC V3S 6J9

Attention: Michael Hill, ASCT

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

- 1.1.4 immediately upon delivery, if delivered by hand; or
- 1.1.5 after 5 *Days* from date of posting if sent by registered mail.

6.3 The *Owner* or the *Contractor* may, at any time, change its address for notice by giving written notice to the other at the address then applicable. Similarly if the *Contract Administrator* changes its address for notice then the *Owner* will give or cause to be given written notice to the *Contractor*.

Article 7 General

- 7.1 This *Contract* shall be construed according to the laws of British Columbia.
- 7.2 The *Contractor* shall not, without the express written consent of the *Owner*, assign this *Contract*, or any portion of this *Contract*.
- 7.3 The headings included in the *Contract Documents* are for convenience only and do not form part of this *Contract* and will not be used to interpret, define or limit the scope or intent of this *Contract* or any of the provisions of the *Contract Documents*.
- 7.4 A word in the *Contract Documents* in the singular includes the plural and, in each case, vice versa.
- 7.5 This agreement shall ensure to the benefit of and be binding upon the parties and their successors, executors, administrators and assigns.

IN WITNESS WHEREOF the parties hereto have executed this Agreement the day and year first written above.

Contractor.

(FULL LEGAL NAME OF CORPORATION, PARTNERSHIP OR INDIVIDUAL)

(AUTHORIZED SIGNATORY) (SIGN & PRINT NAME)

(AUTHORIZED SIGNATORY) (SIGN & PRINT NAME)

Owner:

City of Surrey

**(AUTHORIZED SIGNATORY) (SIGN, PRINT NAME &
POSITION)**

**(AUTHORIZED SIGNATORY) (SIGN, PRINT NAME &
POSITION)**

Schedule B – Sample Agreement

Schedule 1: Schedule of *Contract Documents*

The following is an exact and complete list of *Contract Documents*, as referred to in Article 2.1 of the *Agreement*.

Note: The documents noted with “*” are contained in the “Master Municipal Construction Documents – General Conditions, Specifications and Standard Detail Drawings”, Platinum edition dated 2009, and the documents noted with “**” are contained in the City of Surrey Supplementary Master Municipal Construction Documents, edition dated January, 2016 (updated July 11, 2016). All sections of this publication are included in the *Contract Documents*.

1. Agreement, including Schedules;
2. Addenda, if any;
3. Supplementary General Conditions, Project
4. Supplementary General Conditions **;
5. General Conditions*;
6. Supplementary Specifications, Project;
7. Supplementary Specifications**;
8. Specifications*;
9. *Contract Drawings*;
10. Supplementary Standard Detail Drawings**;
11. Standard Detail Drawings*;
12. Executed Form of Quotation, including all Appendices, and Form of Agreement;
13. Schedule 2 to the Agreement – “List of *Contract Drawings*”;
14. Instructions to *Contractors* – Part I; and
15. Instructions to Tenderers – Part II*.

A portion of the *Contract Documents* are included by reference. Copies of these documents have not been included with the RFQ package. These documents are the Instructions to Tenderers -Part II, General Conditions, Specifications and Standard Detail Drawings. They are those contained in the publication entitled “Master Municipal Construction Documents - General Conditions, Specifications and Standard Detail Drawings” and the latest edition of “City of Surrey Supplementary Master Municipal Construction Documents - Supplementary General Conditions, Supplementary Specifications, and Supplementary Standard Drawings”. Refer to Schedule 1 to the Agreement or, if not specified in Schedule 1, then the applicable edition shall be the most recent edition as of the date of the *RFQ*. All sections of this publication are by reference included in the *Contract Documents*.

Any additional information made available to *Contractors* prior to the *preferred Date* by the *Owner* or representative of the *Owner*, such as geotechnical reports or as-built plans, which is not expressly included in Schedule 1 or Schedule 2 to the Agreement, is not included in the *Contract Documents*. Such additional information is made available only for the assistance of *Contractors* who must make their own judgment about its reliability, accuracy, completeness and relevance to the *Contract*, and neither the *Owner* nor any representative of the *Owner* gives any guarantee or representation that the additional information is reliable, accurate, complete or relevant.

Schedule B – Sample Agreement

(COMPLETE LISTING OF ALL DRAWINGS, PLANS AND SKETCHES WHICH ARE TO FORM A PART OF THE CONTRACT OTHER THAN STANDARD DETAIL DRAWINGS AND SUPPLEMENTARY STANDARD DETAIL DRAWINGS.)

Schedule 2: List of *Contract Drawings*

The following *Contract Drawings* are included as part of this RFQ document:

DRAWING NUMBER SPECIFICATION / MAPS
MAP – NORTHEAST
MAP – NORTHWEST
MAP – SOUTHEAST
MAP – SOUTHWEST



Schedule B – Appendix 1

Supplementary General Conditions (Project)

These Supplementary General Conditions (Project) should be read in conjunction with the General Conditions contained in the Master Municipal Construction Documents, Volume II, Printed 2009.

SCHEDULE B – APPENDIX 1

SUPPLEMENTARY GENERAL CONDITIONS (PROJECT)

SGC 1 Scope of Work

The *Contractor* will provide all labour, materials, equipment and plant and other related services to the video inspection of storm sewer mains and visual inspections of storm sewer manholes.

The general components of the Work includes, but not limited to, flushing mains, provision for traffic control, manhole inspections, video of the storm system and other related works.

The Work will be undertaken at the Place of Work, as follows:

Storm Sewer Sub-Catchments 121, 219, 221, 224, 225, 263, 265-267, 270-272, and 275-277 in the Cloverdale area of Surrey, B.C.

The *Contractor* is to furnish certificates confirming Work conforms to requirements of Authorities having jurisdiction.

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

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

Contractor to comply with all BC Plumbing Code, BC Fire Marshal, Worksafe BC, 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.

SGC 2 Contract Time

The Work under this Contract is to be completed not later than:

September 30, 2017 for the CCTV inspections and no later than **October 31, 2017** for completion of any remaining minor weather related sensitive work.

Notwithstanding the above milestone date/s, all Work under this Contract shall be completed by no later than **October 31, 2017**.

Should the *Contractor* fail to complete the Work under the Contract with the individual milestone date/s indicated above, the *Owner* will be entitled to compensation from the *Contractor*, including but not limited to deductions from payments for the following:

- (a) As a genuine pre-estimate of the *Owner's* increased costs for the Consultant and the *Owner's* own staff caused by such delay an amount of \$250.00 per day or pro

rata portion for each calendar day that actual substantial performance is achieved after the substantial performance milestone date; plus

- (b) All direct out-of-pocket costs, such as costs for safety, security, or equipment rental, reasonably incurred by the *Owner* as a direct result of such delay.

If monies owing to the *Contractor* are less than the total amount owing by the *Contractor* to the *Owner* under (a) and (b) above then any shortfall shall immediately, upon written notice from the *Owner*, and upon substantial performance, be due and owing by the *Contractor* to the *Owner*.

SGC 3 Consultant

The Consultant is Binnie Consulting Ltd., 101-19232 Enterprise Way Surrey, BC, V3S 6J9. Telephone: 604-574-3336 Fax: 604-574-7355, E-mail: MHill@binnie.com, represented by: Michael Hill, Project Manager will be the *Owner's* representative during the performance of the Work until the Work is complete. The Consultant will advise and consult with the *Owner*. The *Owner's* instruction(s) 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.

SGC 4 Payment Certifier

The Payment Certifier is R.F. Binnie and Associates Ltd., 101-19232 Enterprise Way Surrey, BC, V3S 6J9. Telephone: 604-574-3336 Fax: 604-574-7355 E-mail: MHill@binnie.com, represented by: Michael Hill, Project Manager.

SGC 5 Project Manager

The Project Manager is City of Surrey, 13450 104 Ave., Surrey BC, V3T 1V8 Telephone: 604-590-7209 Fax: 604-591-7836 E-mail: RLim@surrey.ca, represented by: Ronald Lim, Engineering Assistant.

SGC 6 Schedule of Prices

This Contract is a combination of unit prices and lump sums.

Any Work item that is not implicitly described, or inferred, as being included in any regular item or optional item in the Schedule of Prices shall be included in the lump sum price proposed for 'Miscellaneous Work'.

For unit price items, the number of units for each item (i.e., quantities) as listed in the Schedule of Prices has been estimated. Actual quantities will vary. Payment will be made based on the measurement of the actual quantity of Work incorporated into the Contract.

The unit prices for each item will be applicable regardless of the variation in the actual quantity as compared to the estimated quantity. No adjustment to the unit price will be considered as a result of such variation.

SGC 7 Coordination

The *Contractor* will be responsible for coordinating with other *Contractors* *Owner* forces, outside agencies and others as required throughout the Contract. While it is not an all-inclusive list of potential coordination requirements, the following list of know activities that the *Contractor* should be aware of 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 *Owner* and will be construction concurrent with the Contract.

NONE

SGC 8 Availability of Place of Work

The Place of Work is available for the immediate commencement of the Work. The anticipated start date is **May 1, 2017**. The *Contractor* will schedule the Work accordingly.

SGC 9 Quality Assurance

Work covered shall be performed by a single firm experienced in CCTV inspection, manhole inspections of storm sewer mains or other work of similar nature and scope. Subject to approval of the *Owner*, 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 is not specifically described herein, shall be of suitable construction, composition and quality to achieve their intended function.

SGC 10 Job Conditions

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

SGC 11 Environmental Protection

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

by the *Contractor* to prevent the production or discharge of chemicals or toxic substances into the environment and the actions to be taken should the discharge occur.

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

The *Contractor* will report to the *Owner* 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.

SGC 12 Safety

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

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

Safety – On-Site Hazards and Utilities Present – Before commencing any Work at the Place of Work, the *Contractor* is to make themselves aware of any and all on-site hazards including but not limited to underground and overhead utilities near to the Work area and to take every precaution necessary to eliminate any risk that may exist. If an on-site hazard exists that is causing or may cause injury to any person(s), the *Contractor* is to take immediate action to mitigate risk and damage, and then notify the *Owner* and the *Owner's* consultant (if any).

SGC 13 Traffic Control

The *Contractor* shall at all times ensure that safety of the public (vehicular and pedestrian traffic) and its employees while carrying out CCTV inspections of storm sewer infrastructure in Surrey's Drainage Sub-catchments 121, 219, 221, 224, 225, 263, 265-267, 270-272, and 275-277 in the Cloverdale area.

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 *Owner*. The *Contractor* is to provide such additional services as directed at no extra cost.

SGC 14 Construction Access and Traffic Maintenance

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

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

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

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

The *Contractor* shall:

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

SGC 15 Proposed Substitutions

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

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

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

SGC 16 Manuals

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

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

SGC 17 Hours of Work

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

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

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

SGC 18 Damage

The *Contractor* will be responsible for any and all damages to property or persons and for any losses or costs to repair or remedy the Works as a result of any negligent act or omission, or misconduct in the performance of the Works and its subcontractor's Work and shall indemnify and hold harmless the *Owner*, 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 *Owner*, 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.

SGC 19 Worksite Conduct

All labourers and workers, while working in and around Drainage Sub-catchments 121, 219, 221, 224, 225, 263, 265-267, 270-272, and 275-277, Surrey, British Columbia, and the *Owner* 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 *Owner* 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.

SGC 20 Cleanliness and Disposal of Unwanted Materials

Continuous daily clean-up of the work areas shall be performed by the *Contractor* and trade *Contractor* throughout the performance of the Work and will be undertaken in accordance with the *Contractor's* waste management plan. Clean-up of waste products and debris generated by the *Contractor* and any trade *Contractor* outside of the building and on the site shall be the responsibility of the *Contractor*. Should the *Owner* 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* 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.

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 *Owner* with an environmental plan (where applicable), acceptance to the *Owner*, 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, *Owner* 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.

SGC 21 Accidents; Equipment Safety

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

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

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

SGC 22 Permits and Fees

The *Contractor* is to secure and pay for any additional permits, and governmental fees, licenses and inspection necessary for proper execution and completion of the Work which

is customarily secured after execution of an agreement and which is legally required. The *Contractor* is to comply with and give notices required by laws applicable to performance of the Work.

SGC 23 Final Completion and Payment

When the Work is finally complete and the *Contractor* is ready for a final inspection, the *Contractor* is to notify the *Owner*, in writing. Thereupon, the *Owner* will perform a final inspection of the Work. If the *Owner* 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*.

SGC 24 Workmanship

- (a) General: Workmanship shall be of best quality, executed by workers experienced and skilled in respective duties for which they are employed. Do not employ any unfit person or anyone unskilled in their respective duties. The *Owner* 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 *Owner*, 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 *Owner* at no cost to the *Owner*.

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 *Owner*.

Additionally, all Works required hereunder will be performed as promptly as possible, and in any event within the time stated by the *Owner*, and such Work will be subject to approval and acceptance of the *Owner*, 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 *Owner*.

SGC 25 Vehicles/Equipment

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

Contractors Vehicles/Equipment used in the performance of the Work are to be properly equipped for CCTV inspections and smoke testing. Off-road (e.g. ATV's) type of equipment may be utilized within the parks provided that they conform to Worksafe BC

standards. The units should be sealed to prevent loss of waste materials while collecting & transporting garbage.

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

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

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

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Schedule B – Appendix 2 Supplementary Specifications (Project)

These Supplementary Specifications (Project) should be read in conjunction with the Specifications contained in the Master Municipal Construction Documents, Volume II, Printed 2009 and the City of Surrey Supplementary Specifications and Detailed Drawings.

SUPPLEMENTARY SPECIFICATIONS – (PROJECT)

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SUPPLEMENTARY SPECIFICATIONS (PROJECT)

The *Contractor* is required but is not limited to, as part of his obligation under the Quotation, to perform the various services and activities described in the General Conditions and the Supplementary Specifications (Project) SSP 1 to SSP 22 hereunder.

SSP 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

As part of the scope of Services, the Contractor is to furnish and assume full responsibility for everything required for the orderly progress and proper execution and completion of the Services, whether temporary or permanent and whether or not incorporated into the Services including, but not limited to, materials, equipment, labour, transportation, construction equipment and machinery, tools, appliances, temporary facilities and utilities, and all other facilities and incidentals.

The Services in this agreement involves:

- the flushing and CCTV inspections of approximately 57, 507 lineal meters of Storm Sewer Mainlines ranging from 150 mm to 1200 mm in diameter
- the inspection of approximately 911 manholes, at various locations within the City as shown on the drawings in Appendix 3.

The study area will include flushing, video inspection of storm sewer mainlines and manhole inspections.

This quotation consists of 1 term. The term shall commence on **May 1, 2017** and be completed by **September 30, 2017**.

Please reference the contract drawings for the location of each of the Catchment areas.

SSP 3 Description of Work

The Services carried out may be described generally as the video inspection of storm sewer mains and visual inspections of manholes, complete with digital still photos and interpretive reports utilizing National Association of Sewer Service Companies (NASSCO) coding standard, including:

- Closed Circuit Television (CCTV) inspection and deficiency reporting for Storm Sewer Mainlines in Study Areas as described in SSP 17.
- Manhole Inspection and Reporting.
- Provision for traffic control and traffic diversion in accordance with the General Conditions.

- Restrict and divert the storm water flow from the storm sewer section or service lateral being inspected, tested or rehabilitated, as required;
- Removal of Operational & Maintenance defects prior to a video inspection, (i.e. settled gravel, roots).

The City requires CCTV reports, databases, videos, and photographs to be uploaded directly to the City's servers; DVD's are no longer accepted. The details of the methods of uploading data and exchanging GIS information are outlined in SSP 18. The Contractor should conform to these standards. A failure to meet these requirements may result in the City terminating the contract.

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 **May 1, 2017** and terminating on **September 30, 2017** (the "Term").

SSP 6 Access

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

It is the responsibility of the Contractor to ensure vehicles are not parked over the manholes and other storm sewer 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, 6549 148th Street, Surrey, BC, 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 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 storm sewer sections that cannot be video inspected due to un-located manholes or property access problems.

The Contractor shall notify the City Representative of any debris cages (grillage) that needs to be removed for access to the storm sewer. The Contractor shall give 48 hours' notice and City crews will remove the grillage prior to the video inspection. Upon completion of the inspection of the affected pipe segment, the Contractor shall notify the City that the inspection is complete and the City crews will re-install the grillage.

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 storm 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 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 shall be 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 storm 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 Risk, Health & Safety

Refer to the attached Risk, Health and Safety Responsibility of Contractor requirements (Attachment 2) that outline the responsibility for all contractors working for the City of Surrey.

SSP 9.3 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 Worksafe BC.

(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 Safety Procedures and Health Regulations

SSP 10.1 General

In addition to the City of Surrey's General Safety requirements described in SSP 10, 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 Worksafe BC, BC Electrical Safety Regulation and the 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 Worksafe BC, and the City of Surrey's Confined Space Entry Procedure in 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, man lift 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.

SSP 10.2 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 WorkSafeBC 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.

SSP 10.3 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 WorkSafeBC requirements.

SSP 10.4 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.

SSP 11 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 Appendix 1.

SSP 12 Notification/Schedule of Work and Contract Meetings

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 storm sewer inspected and number of manholes inspected)
- 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 may result in the application of liquidated damages.

The hours of work will be from 7:00 a.m. to 7:00 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.

The Contractor shall conduct video inspections, manhole inspections, and rehabilitation work in the fall, when wet weather and higher groundwater levels will make it easier to identify infiltration sources. Smoke testing shall be conducted in drier weather conditions, typically outside the wet weather periods, where practical.

Mandatory bi-weekly meetings (to be held at the discretion of the City's Representative) will be held between the Contract Administrator, the City's Representative and the Contractor to discuss the progress of work and any issues that have arisen.

SSP 13 Quality of Work Performance

All storm 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 SSP 16. 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 his delegate.

SSP 14 Dump Sites

All waste that is removed from the Stormwater sewer system under this contract shall be disposed of by the Contractor at their cost at an approved off-site disposal area. It is the Contractor's responsibility to ensure that the dump site is compliant with waste disposal laws. 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 15 Storm Sewer Flow Control

When the depth of flow in the storm 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. For the purpose of this contract, "off peak times" can also mean time of dry weather or no-rain days.
- b) **Plugging or Blocking**
A storm sewer line plug may be inserted into the storm 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 storm water 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 storm sewer section by diverting flow from the upstream to the downstream of the storm sewer section concerned, including all the flow of the service connections to the storm 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 unless the required flow control exceeds 23 litres/second. If the flow control required is in excess of 23 litres/second, the contractor shall submit a quote for the extra costs and the City shall review the request on a case by case basis.

SSP 16 Storm Sewer Cleaning

Delete MMCD Section 33 01 30.2 and replace with:

SSP 16.1 Intent

The intent of storm sewer line cleaning is to remove foreign materials from the lines and restore the storm 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 16.2 General

1. Prior to all CCTV inspection, all storm 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 Section E. Where there is heavy debris, if required, the *Contractor* shall make a minimum of 5 passes to satisfactorily remove the debris to restore the storm sewer to a minimum of 95% of the original carrying capacity. This requirement shall be reflected in the unit pricing in Schedule C. If significant debris remains in the storm sewer, extra cleaning shall be completed as a separate pay item based on hourly rates quoted in Force Accounts Labour and Equipment Rates in Schedule C, with prior approval by the Project Manager.
2. High velocity hydro cleaning equipment shall be capable of delivering 4.0 l/sec (60 gpm) at a working pressure of 8274 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, rocks, and all other foreign materials shall be collected, removed and disposed of from the designated storm 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 private property served by the sewers section involved.
5. In the process of flushing, debris such as gravel, etc., when present, must be collected and removed at the down-stream manhole by plugging the outlet of the manhole and vacuuming the deleterious materials. Where a sump manhole is present, the *Contractor* must also vacuum the settled sediment, gravel, debris, etc., from the sump manhole. The City shall not incur any extra costs for this requirement. The requirement shall be reflected in the unit pricing in Schedule C. There are approximately 36 sump manholes under this contract.

City of Surrey Erosion and Sediment Control By-Law, 2006, No. 16138, Part II, Prohibition of Discharge;

“No Person shall cause, or permit another Person to cause, Sediment or Sediment-Laden Water to Discharge, into the Drainage System greater than 75 milligrams per litre of TSS” and;

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:

- 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 WorkSafe BC 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 Appendix 1 - Schedule of Quantities and Prices. 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 16.3 Chlorinated Water and Waste Disposal

16.3.1 Neutralizing Chlorinated Water

The contractor shall neutralize the chlorine in the water used to flush storm mains prior to flushing by the addition of required volume of Sodium Thiosulphate to the flush truck storage tank. It is the contractors' responsibility to determine the correct ratio of Sodium Thiosulphate required to reduce the residual chlorine in the discharge water to acceptable levels in accordance with provincial and federal environmental laws and City of Surrey bylaws.

16.3.2 Decanting and Waste Disposal

The water used for flushing the storm sewer mains that has been vacuumed from the manhole shall be decanted at the approved Sanitary sewer manhole at 5688 168 St. If for any reason the decanting site is

relocated, the City shall not incur any extra costs due to the relocation of the decanting site.

The solid waste that remains after decanting shall be disposed of in accordance with SSP 14 Dump Sites.

SSP 16.4 Cleaning Equipment

SSP 16.4.1 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 16.4.2 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 8274 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 16.4.3 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 16.4.5 Cleaning Precautions

During Storm 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 storm water 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.

SSP 16.4.6 Natural Gas Line Cross-Bores

There is a potential for the existence of natural gas lines that intersect sewer mains due to the way the gas lines were installed. Prior to flushing storm sewers for the purpose of inspection, The *Contractor* shall refer to Fortis BC maps, that the City will provide, for possible Natural Gas Line Cross-bores. Where there is a potential to encounter a cross-bore, the *Contractor* must call *BCOneCall – Call before you clear* at (604) 257-1940 or 1-800-474-6886 and inform the call center agent of the planned flushing work. The call center agent will notify *Fortis BC* and a Fortis agent will be sent to the worksite.

When a blockage is encountered during the sewer inspection, precautions shall be taken by the *Contractor* prior to clearing the blockage with Hydro Cleaning equipment. Where the blockage is obstructing the view of the entire cross section of the pipe, the *Contractor* shall contact *BCOneCall – Call before you clear* at (604) 257-1940 or 1-800-474-6886 and inform the call center agent about a “sewer line blockage.” The call center agent will notify *Fortis BC* and a Fortis agent will be sent to the worksite. Refer to the attached “Backed Up Sewers – Call Before You Clear” procedure (*Attachment 7*).

SSP 17 CCTV Inspections

Delete MMCD Section 33 01 30.1 and replace with:

SSP 17.1 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 storm sewer shall be flushed and completely cleaned prior to inspection. Digital Video inspection shall be performed only after storm sewers have been thoroughly cleaned so that a clear picture of the interior of the storm sewer can be obtained. Particular emphasis is made to the removal of accumulated debris or build-up 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 SSP 18.
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. The City shall not make any extra payments when multiple camera set-ups are required due to extra flushing or other miscellaneous issues during the video inspection. If the situation is unique and the *Contractor* claims that multiple set-ups are required, and are requesting extra payments, the City's representative will review the request on a case by case basis.
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 Storm water 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 storm 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 storm 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 17.2 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 Storm water 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 17.3 Recording Equipment

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

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.

- b) All events and defects encountered in the storm sewer, including manholes, locations, and direction changes, shall be audibly voice labeled in a clear and concise presentation.
- c) Each section of storm 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.
- d) 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 17.4 Safety Equipment

The Contractor shall be fully equipped for traffic control and manhole (confined space) entry, and employ safety procedures required by Worksafe BC.

The Contractor will keep on-site, during the duration of the work, all documentation relating to:

- a) Confined Space Entry, including entry and emergency procedures;
- b) Written confirmation of confined space training received by employees; and
- c) Documentation verifying that equipment being used meets applicable Worksafe BC requirements.

SSP 17.5 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 Schedule B, Appendix 4 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 SSP 18.
- 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 SSP 18.
- 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 SSP 18 for the process of uploading to the City's MFTP site.

SSP 17.6 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 Storm 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 17.7 Measurements for Payments

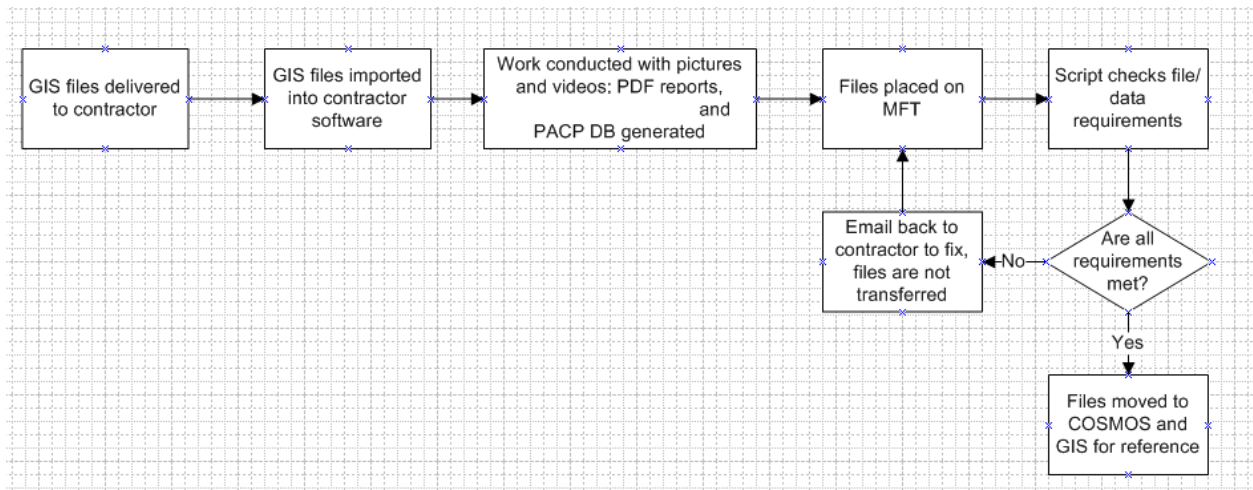
Payment for the digital video inspection of the storm sewer mains shall be made under Appendix 1, and shall include all necessary recording and reporting as per SSP18.

SSP 18 Digital Submissions

The City requires CCTV reports, databases, videos, and photographs to be uploaded directly to the City's servers; DVD's are no longer accepted. The Contractor should conform to these standards. A failure to meet these requirements may result in the City terminating the contract.

A. PROCESS OVERVIEW

Starting immediately, Storm 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 its 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 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.
- 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 its 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 can not 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 its 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 within 5 working days of the field work. Weekly email updates to the contract administrator and operations staff are required to track progress.
- 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 Fibre Gateway.

SSP 19 Manhole Inspection

SSP 19.1 General

Manhole Inspections refers to that portion of the work that is unique to the requirements for non-person-entry inspection of existing sanitary and storm sewer manholes. The City of Surrey Utilizes **NASSCO (<http://www.nassco.org/>) Manhole Assessment Certification Program** (MACP) level 2 inspections.

A) the required inspection information shall be recorded and printed on NASSCO'S manhole Inspection Forms. See Appendix 7 for an example of the form. Only one manhole shall be recorded in each data sheet unless otherwise approved.

SSP 19.2 Payment

Measurement for payment for Manhole Inspections will be for each completed inspection acceptably performed. Payment shall include mobilization / demobilization, traffic control, flow control, all supplies, equipment, materials, machinery and labor to complete work as per Contract Documents.

SSP 19.3 Working Regulations

Work is to conform to all applicable regulation of WorkSafe BC. The contractor shall provide written confirmation to the Contract Administrator that workers have knowledge of confined space entry practices and of equipment required to confined space entry. Work is to conform to all applicable bylaws and regulations.

SSP 19.4 Inspection Process

Report on and record the condition of all features of the inside of the manhole together with ground level conditions within a two (2) meter radius of the cover.

Each manhole is to be observed and assessed according to the Manhole Inspection Report Form, field check sheets, and associated codes. The City of Surrey does not require a manned, confined space entry into the manholes to perform MACP Level 2 Inspections. The Inspection will be performed from surface level and the Contractor will enter all level 2 information to the best of their ability without entering the manhole. The City is aware some information, such as measurements will not be completely accurate.

The City suggests that technology such as a pole cam, the equivalent or technology more advanced be deployed to aid in the inspection of the manholes. The intent is to obtain detailed imagery of the interior of the manhole that improves upon photos taken from surface level.

SSP 19.5 Digital Images

Photograph the interior of each manhole perpendicular to the Digital Images base with an approved digital camera. Digital images (still photographs) must have a minimum resolution of 1024 x 768 pixels

Overlay on each photograph the following data in alphanumeric form such that it will not interfere with the image of the defect condition reported:

1. Inspection number
2. Manhole number (Node number)

Capture the photograph and alphanumeric data as a digital image in Joint Photographic Experts Group (JPEG) format (.jpg). Identify each image file by manhole number and alphabetic suffix. E.g.: SMH0001234-A

SSP 19.6 Inspection Reports

Inspection reports are to consist of digital data output files, digital photographs, a pdf summary report all manholes completed and a detailed pdf report. Submissions are to be made weekly on a continuous basis as the manhole inspection proceeds.

Digital data output files are to be presented on USB flash drives in the manhole inspection table configuration in Microsoft Access database (.mdb) file format. The naming requirements for DB fields should follow that same protocol used for the PACP file transfer requirements. See SSP 18.

The digital database file is to contain survey report information identical to the printed report, exclusive of photographs.

Digital photographs are to be stored on USB flash drive in JPEG (.jpg) format, and hyper-linked to the Manhole Inspection Report MS Access database.

All dimensions and chainage in the reports are to be in metric units.

SSP 20 APPROXIMATE QUANTITIES

The City does not expressly nor by implication agrees 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 21 METHOD OF MEASUREMENT AND PAYMENT

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) All payment for work within this Contract is included in the lump sum(s) and unit prices listed in Appendix 1. 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%

SSP 22 Definitions

In these Supplementary Specifications (Project), 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.

2.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 additional to 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.

SEDIMENT OR SEDIMENT-LADEN WATER: Any sediment, rock, gravel, sand, soil, silt, clay, earth, construction or excavation wastes, or other substances whether or not suspended in water.

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

SANITARY 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).

STORM SEWER PIPE: A length of conduit, manufactured from various materials and in various lengths, that when joined together can be used to transport rain water run-off from the points of origin to a natural water course such as; creeks, rivers, lakes, ocean, etc. 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); Corrugated Steel Pipe (CSP); 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.

TSS: Means total suspended solids measured in milligrams per litre, determined as nonfilterable residue (1.5 micron filter) weighed in dry condition.

- END OF PAGE -



Schedule B – Appendix 3
Contract Drawings (Project)

SCHEDULE B - APPENDIX 3

List of *Contract Drawings (Project)*

The following Contract Drawings (Project) are included in the RFQ documents:

DRAWING NUMBER SPECIFICATION / MAPS
MAP – NORTHEAST
MAP – NORTHWEST
MAP – SOUTHEAST
MAP – SOUTHWEST



Schedule B – Appendix 4
Sample NAASCO Documents

NASSCO PACP REQUIREMENTS

NASSCO'S PIPELINE ASSESSMENT & CERTIFICATION PROGRAM (PACP)©

Section 4—Continuous Defect Coding

"TRULY" 4-1
 "Truly" continuous defects run along the sewer without any interruption for more than three feet (1 meter).
 Examples:
 - Longitudinal Fractures
 - Longitudinal Cracks

"REPEATED" 4-1
 "Repeated" continuous defects occur at regular intervals along the sewer. These occur at pipe joints and include:
 - Encrustation
 - Open Joints
 - Circumferential Fractures

Code Changes in Version 6.0.1
 Added:
 Buckling Wall (KW), Buckling Dimpling (KD), and Buckling Inverse Curvature (KI)

Section 5—Structural Defect Coding (Module 6A)

C CRACK 5-1 CL Longitudinal 5-2 CC Circumferential 5-2 CM Multiple 5-2 CS Spiral 5-2 CH Hinge 5-2	F FRACTURE 5-7 FL Longitudinal 5-7 FC Circumferential 5-7 FM Multiple 5-7 FS Spiral 5-7 FH Hinge 5-7	B BROKEN 5-15 BSV -Soil Visible 5-15 Beyond Defect BV V -Void Visible 5-15 Beyond Defect	H HOLE 5-17 HSV -Soil Visible 5-17 Beyond Defect HV V -Void Visible 5-17 Beyond Defect	D DEFORMED 5-19 DV Deformed 5-19 Vertically (brick) DH Deformed 5-19 Horizontally (brick)	X COLLAPSE 5-23 XP Pipe Collapse 5-23 XB Brick Collapse 5-23	J JOINT 5-26 JO Joint Offset 5-26 (Displaced) JS Joint Separated 5-26 (Open) JA Joint Angular 5-26
S SURFACE DAMAGE 5-31 SRI Roughness Increased 5-31 SRI - M - Mechanical SRI - C - Chemical SRI - Z - Not Evident	S SURFACE DAMAGE 5-31 SAV Aggregate Visible 5-31 SAV - M - Mechanical SAV - C - Chemical SAV - Z - Not Evident	S SURFACE DAMAGE 5-31 SAP Aggregate Projecting 5-31 SAP - M - Mechanical SAP - C - Chemical SAP - Z - Not Evident	S SURFACE DAMAGE 5-31 SAM Aggregate Missing 5-31 SAM - M - Mechanical SAM - C - Chemical Attack SAM - Z - Not Evident	S SURFACE DAMAGE 5-31 SRV Reinforcement Visible 5-31 SRV - M - Mechanical SRV - C - Chemical Attack SRV - Z - Not Evident	S SURFACE DAMAGE 5-31 SRP Reinforcement Projecting 5-31 SRP - M - Mechanical SRP - C - Chemical Attack SRP - Z - Not Evident	S SURFACE DAMAGE 5-31 SRC Reinforcement Corroded 5-31 SRC - M - Mechanical SRC - C - Chemical Attack SRC - Z - Not Evident
S SURFACE DAMAGE 5-31 SMW Missing Wall 5-32 SMW - M - Mechanical SMW - C - Chemical Attack SMW - Z - Not Evident	S SURFACE DAMAGE 5-31 SSS Surface Spalling 5-32 SSS - M - Mechanical SSS - C - Chemical Attack SSS - Z - Not Evident	S SURFACE DAMAGE 5-31 SZ Other 5-32 SZ - M - Mechanical SZ - C - Chemical Attack SZ - Z - Not Evident	S SURFACE DAMAGE 5-31 SCP Corrosion (metal pipe) *no modifiers used	K BUCKLING 5-45 KW Wall 5-45 KD Dimpling 5-45 KI Inverse Curvature 5-45	LF LINING FAILURE 5-49 LFD Detached Lining 5-49 LFDE Detached End 5-49 LFB Blistered Lining 5-49 LFCS Service Cut Shifted 5-49 LFAC Abandoned Connection 5-49	LF LINING FAILURE 5-49 (continued) LFOC Overcut Service 5-49 LFUC Undercut Service 5-49 LFBK Buckled Lining 5-49 LPW Wrinkled Lining 5-49 LFAS Annular Space 5-49
LF LINING FAILURE 5-50 LFBU Bulges 5-50 LFDC Discoloration 5-50 LFDS Delamination 5-50 LFPS Resin Slag 5-50 LFPH Pinholes 5-50 LFZ Other 5-50	WF WELD FAILURE 5-67 WFL Longitudinal 5-67 WFC Circumferential 5-67 WFM Multiple 5-67 WFS Spiral 5-67 WFI Unidentified 5-67	RP POINT REPAIR 5-71 RPR Pipe Replaced 5-69 RPR - D - Defective 5-69 RPP Patch Repair 5-69 RPP - D - Defective 5-69	RP POINT REPAIR 5-71 RPL Localized Pipeliner 5-69 RPL - D - Defective 5-69 RPZ Other 5-69 RPZ - D - Defective 5-69	BRICKWORK 5-77 DB Displaced 5-75 MB Missing 5-75 DI Dropp'd Invert 5-75	BRICKWORK 5-77 MM Missing Mortar 5-75 S Small 5-75 M Medium 5-75 L Large 5-75	

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Section 6—Operational and Maintenance (Module 6B)

D DEPOSITS 6-1 DA Attached 6-1 DAE -Encrustation 6-2 DAS -Grease 6-2 DAR -Ragging 6-2 DAZ -Other 6-2	D DEPOSITS 6-1 DS Settled 6-1 DSF -Fine 6-2 DSGV -Gravel 6-2 DSC Hard/Compacted 6-2 DSZ -Other 6-2	D DEPOSITS 6-1 (continued) DN Ingress 6-1 DNF -Fine 6-3 DNF (silt & sand) 6-3 DNFV -Gravel 6-3 DNZ -Other 6-3	R ROOTS 6-7 RF Fine 6-7 RFB -Barrel 6-7 RFL Lateral 6-7 RFC -Connection 6-8	R ROOTS 6-7 RT Tap 6-7 RTB -Barrel 6-7 RTL Lateral 6-7 RTC -Connection 6-8	R ROOTS 6-7 RM Medium 6-7 RMB -Barrel 6-7 RML Lateral 6-7 RMC -Connection 6-8	R ROOTS 6-7 RB Ball 6-7 RBB -Barrel 6-7 RBL Lateral 6-7 RBC -Connection 6-8
I INFILTRATION 6-13 IS Stain 6-13 IW Weeper 6-13 ID Drinker 6-13 IR Runner 6-13 IG Gusher 6-13	OB OBSTACLES/ OBSTRUCTIONS 6-19 OBB Brick or Masonry 6-19 OBM Pipe Material In Invert 6-19 OBI Object protruding through wall 6-19	OB OBSTACLES/ OBSTRUCTIONS 6-19 OBJ Object wedged In joint 6-19 OBC Object through connection/junction 6-19 OBP External Pipe Cable 6-19	OB OBSTACLES/ OBSTRUCTIONS 6-19 OBS Built Into structure 6-20 OBN Construction Debris 6-20 OBR Rocks 6-20 OBZ Other 6-20	V VERMIN 6-31 VR Rat 6-31 VC Cockroach 6-31 VZ Other 6-31	G GROUT TEST & SEAL 6-33 GTP Grout Test Passed 6-33 GTP - J - Joint 6-33 GTP - L - Lateral 6-33 GTF Grout Test Failed 6-33	G GROUT TEST & SEAL 6-33 GTU Grout Test Unable 6-33 GTU - J - Joint 6-33 GTU - L - Lateral 6-33 GRT Grout Test Location 6-33

Section 7—Construction Features Coding (Module 6C)

T TAP 7-1 TF Factory Made 7-1 TFI -Intruding 7-2 TFA -Active 7-2 TFC -Capped 7-2 TFB -Abandoned 7-2 TFD -Defective 7-2	T TAP 7-1 TB Break In/Hammer 7-2 TBI -Intruding 7-2 TBA -Active 7-2 TBC -Capped 7-2 TBB -Abandoned 7-2 TBD -Defective 7-2	T TAP 7-1 TS Saddle 7-2 TSI -Intruding 7-2 TSA -Active 7-2 TSC -Capped 7-2 TSB -Abandoned 7-2 TSD -Defective 7-2	T TAP 7-1 TR Rehabilitated 7-2 TRI -Intruding 7-2 TRA -Active 7-2 TRC -Capped 7-2 TRB -Abandoned 7-2 TRD -Defective 7-2	IS INTRUDING SEALING MATERIAL 7-9 ISSR Sealing Ring 7-9 ISSRH -Hanging 7-9 ISSRB -Broken 7-9 ISSRL -Loose 7-9	IS INTRUDING SEALING MATERIAL 7-9 ISGT Grout 7-9 ISZ Other 7-9
L LINE (of sewer) 7-11 LL Left 7-11 LLU Left Up 7-11 LLD Left Down 7-11 LR Right 7-11	L LINE (of sewer) 7-11 LRU Right Up 7-11 LRD Right Down 7-11 LU Up 7-11 LD Down 7-11	A ACCESS POINT 7-13 AMH Manhole 7-13 AWA Wastewater Access 7-13 ADP Discharge Point 7-13 ATC Tee Connection 7-13	A ACCESS POINT 7-13 AOC Other Special Chamber 7-13 AM Meter 7-13 AWW Wet Well 7-14 AJB Junction Box 7-14	A ACCESS POINT 7-13 ACO Clean Out 7-14 ACOM -Mainline 7-14 ACOP -Property 7-14 ACOH -House 7-14	A ACCESS POINT 7-13 ACB Catch Basin 7-14 AEP End of Pipe 7-14

Section 8—Miscellaneous Features Coding (Module 6D)

M MISCELLANEOUS FEATURES 8-1 MCU Camera Underwater 8-1 MGO General Observation 8-1 MGP General Photograph 8-1 MSC Shape/Size Change 8-1 (Sewer Dimension/Vertical/ Horizontal) MJL Joint Length Change 8-1	M MISCELLANEOUS FEATURES 8-1 MLC Lining Change 8-2 MMC Material Change 8-2 MSA Survey Abandoned 8-2 MWL Water Level 8-2 MWLS -Sag 8-2	M MISCELLANEOUS FEATURES 8-1 MWM Water Mark 8-2 MY Dye Test 8-2 MYV -Dye Visible 8-3 MYN -Not Visible 8-3
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PACP Inspection Form Header Section

General Information

Red font fields = Mandatory, Black font fields = Optional

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 HHMM
14. Weather	15. Pre-Cleaning	16. Date Cleaned YYYYMMDD	18. Purpose of Survey
19. Direction of Survey	20. Inspection Technology Used		21. Inspection Status
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
				Dimension		%		At/From	To		
				1st	2nd						

NASSCO-PACP-V7-0-0-IF



1. Surveyed by	5. Owner	11. Date	13. Sheet No.	42. Upstream MH No.	49. Downstream MH No.
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[illegible]

Red font fields = Mandatory, Black font fields = Optional



MACP Inspection Form Manhole Component Defect Section

1. Surveyed By (1,2)	5. Owner	11. Date (1,2)	13. Sheet Number (1,2)	22. MH/Access Point No. (1,2)
		YYYYMMDD		

Depth (feet) (meter)	Video Ref	Component	Code	Continuous Defect	Value			Joint	Step	Circumferential Location		Img Ref	Remarks
			Group Descriptor Modifier		Dimension		%			At/ From	To		
					1st	2nd							



MACP Inspection Form Header Section

General Information

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

Location

21. Drainage Area	22. MH/Access Point No. (1,2)	23. Street (1,2)	24. City (1,2)
25. Location Code (2)	26. Surface Type (2)	27. Inflow Potential from Runoff	
28. Location Details			

Manhole

29. MH Use (2)	30. Access Type (1,2)	31. Year Constructed YYYY
32. Year Renewed YYYY	33. Evidence of Surcharge (2)	

Measurements

34. Rim to Invert (2)	35. Rim to Grade (2)	36. Grade to Invert (2)	37. Rim to Grade Exposed
38. Northing*	39. Easting*	40. Elevation**	41. Coordinate System*
42. Vertical Datum**	43. GPS Accuracy		

44. Additional Information

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



MACP Inspection Form Manhole Component Observation Section

Cover

45. Type (2)	46. Shape (2)	47. Size (2)	48. Center Cover Size	49. Size Width (2)
50. Cover Material (2)	51. Hole Diameter (Vent) (2)	52. Hole Number (2)	53. Bearing Surface Diameter (2)	
54. Bearing Surface Width (2)	55. Cover/Frame Fit (2)		56. Cover Condition (1,2)	

Cover Insert

57. Insert Type (2)	58. Cover Insert Condition (2)
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Cover Adjustment Ring

59. Ring Type (2)	60. Ring Material (2)	61. Ring Condition (1,2)	62. Ring Height
-------------------	-----------------------	--------------------------	-----------------

Frame

63. Frame Material (2)	64. Bearing Surface Width (2)	65. Bearing Surface Depth (2)	66. Clear Opening Diam (2)
67. Clear Opening Width (2)	68. Frame Condition (1,2)	69. Seal Condition (2)	70. Offset Distance (2)
71. Seal Inflow (2)	72. Frame Depth		

Chimney

73. Chimney Present (2)	74. First Material (2)	75. Second Material	76. Chimney I/I	77. Clear Opening
78. Chimney Depth (2)	79. Lining Interior	80. Lining Exterior	81. Chimney Condition (1)	

Cone

82. Type (2)	83. Material (2)	84. Depth (2)	85. Lining Interior	86. Lining Exterior	87. Cone Condition (1)
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Wall

88. Wall Diameter (Length)	89. Wall by Size (Width)	90. Material (2)	91. Depth (2)
92. Wall Lining Interior	93. Wall Lining Exterior		94. Wall Condition (1)

Bench

95. Bench Present (2)	96. Bench Material (2)	97. Bench Lining	98. Bench Condition (1)
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Channel

99. Channel Installed (2)	100. Channel Material (2)	101. Type (2)	102. Exposure (2)	103. Channel Condition (1)
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Steps

104. Number (2)	105. Material (2)
-----------------	-------------------

Additional Component Information

106. Additional Component Information

Pipe Connections

107. Pipe No. (2)	108. Clock Pos (2)	109. Rim to Invert (2)	110. Direction (2)	111. Material (2)	112. Shape (2)	113. Height (Diam) (2)	114. Width (2)	115. Cond (2)	116. Seal Cond (2)	117. Pipe Type (2)	118. Struct ID	119. Comment

1 = Mandatory Level 1 Inspection Required, 2 = Mandatory Level 2 Inspection Required

SCHEDULE C - QUOTATION

RFQ Title: 2017 STORM SEWER CCTV INSPECTION PROGRAM

RFQ No: 1220-040-2017-048

CONTRACTOR

Legal Name: _____

Address: _____

Phone: _____

Fax: _____

Email: _____

TO:

Owner Representative: Richard D. Oppelt, Purchasing Manager

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

Email for PDF Files: purchasing@surrey.ca

1. If this Quotation is accepted by the *Owner*, 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. The Contractor confirms that the following appendices are attached to and form a part of this Quotation:
 - (a) the appendices as required by paragraph 5.3 of the Instructions to Tenderers – Part II; and
 - (b) the Bid Security as required by paragraph 5.2 of the Instructions to Tenderers – Part II.

4. I/We have reviewed the sample Form of Agreement (Schedule B). If requested by the *Owner*, I/we would be prepared to enter into the sample Form of Agreement, amended by the following departures (list, if any):

Section

Requested Departure(s) / Alternative(s)

5. The *Owner* 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 *Owner* as additional insured and generally in compliance with the *Owner's* sample insurance certificate form available on the *Owner'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)

6. The *Contractor* acknowledges that the departures it has requested in Sections 4 and 5 of this Quotation will not form part of the Contract unless and until the *Owner* 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:

7. In addition to the warranties provided in the Form of Agreement, this Quotation includes the following warranties:

8. I/We have reviewed the RFQ, Schedule A – Scope of Work and Contract Drawings. If requested by the *Owner*, 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)

Schedule of Quantities and Prices

9. **Schedule of Quantities and Prices** (see paragraph 5.3.1 of the Instruction to Tenderers – Part II):
All prices and Quotations including the *Contract Price* shall include all taxes, but shall not include the GST. The GST shall be shown separately. The Contractor understands and agrees that the quantities as listed in the Schedule of Quantities and Prices are estimated, and that the actual quantities may vary. The *Contractor* offers to supply to the City of Surrey the Goods and Services for the *Contract Price*, plus applicable taxes as follows:

2017 STORM SEWER CCTV PROGRAM					
1.0 FLUSH, VIDEO INSPECT STORM MAINLINES AND PREPARE REPORTS		UNIT	QTY.	UNIT PRICE	AMOUNT
a.	150mm diameter mainline	lin.m	226		\$ -
b.	200mm diameter mainline	lin.m	3950		\$ -
c.	250mm diameter mainline	lin.m	15876		\$ -
d.	300mm diameter mainline	lin.m	11348		\$ -
e.	375mm diameter mainline	lin.m	7161		\$ -
f.	450mm diameter mainline	lin.m	5157		\$ -
g.	525mm diameter mainline	lin.m	1568		\$ -
h.	600mm diameter mainline	lin.m	3428		\$ -
i.	675mm diameter mainline	lin.m	1518		\$ -
j.	750mm diameter mainline	lin.m	2861		\$ -
k.	900mm diameter mainline	lin.m	2326		\$ -
l.	1050mm diameter mainline	lin.m	600		\$ -
m.	1200mm diameter mainline	lin.m	1487		\$ -
				1.0 Subtotal	\$ -
2.0 INSPECT MANHOLE AND PREPARE REPORTS					
a.	Manholes	each	936		\$ -
				2.0 Subtotal	\$ -
SUBTOTAL: 1.0 & 2.0 (Excluding GST)					\$ -

List of Optional Prices:

10. The following is a list of Optional Price(s) to the Work 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
OP-1. Performance Bond at 50% of total <i>Contract Price</i> :		
	\$[]	\$[]
OP-2. Labour and Material Payment Bond at 50% of total <i>Contract Price</i> :		
	\$[]	\$[]

Force Account Labour and Equipment Rates:

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

Table 1 – 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 Hub Cutting	\$	\$
.7 Grouting	\$	\$
.8	\$	\$
.9	\$	\$
.10	\$	\$

Table 2 – Schedule of Equipment Rates:

No.	Equipment Description	Hourly Equipment Rate
1.	Flush/Vactor (Flushing) including operator and labourer	\$
2.	Flush/Vactor (Root Cutting) including operator and labourer	\$
		\$
		\$
		\$

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

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

☐ Applicable as follows ☐ Not applicable to this project

No.	Equipment Description	Engine Tier Designation	Engine Registration Number as Issued by Metro Vancouver
1		<input type="checkbox"/> Tier 0 or <input type="checkbox"/> Tier 1	
2		<input type="checkbox"/> Tier 0 or <input type="checkbox"/> Tier 1	

Preliminary Construction Schedule (See paragraph 5.3.2 of the Instructions to Tenderers – Part II):

13. *Contractors* should provide a preliminary construction 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: **May 1, 2017**; and
- (b) to achieve substantial performance of the work in or before 153 days.

ACTIVITY	CONSTRUCTION SCHEDULE									
	1	2	3	4	5	6	7	8	9	10

Proposed Disposal Site: _____

Key Personnel & Subcontractors (see paragraphs 5.3.3. and 5.3.5 of the Instructions to Tenderers – Part II):

14. *Contractor* to provide information on the background and experience of all key site personnel (e.g., construction project manager, site superintendent, etc.,) proposed for the performance of the Work (use the spaces provided and/or attach additional pages, if necessary):

Key Personnel

Name: _____

Experience: _____

Dates: _____

Project Name: _____

Responsibility: _____

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

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

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

Experience and References (see paragraph 5.3.4 of the Instructions to Tenderers – Part II):

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

17. *Contractor's* references for work performed by your firm of a similar nature and value (name and telephone number) (use the spaces provided and/or attach additional pages, if necessary). The *Owner's* preference is to have a minimum of three references. Previous clients of the *Contractor* may be contacted at the *Owner's* discretion.

18. I/We the undersigned duly authorized representatives of the *Contractor*, having received and carefully reviewed the RFQ and the Agreement, submit this Quotation in response to the RFQ.

This Quotation is executed by the *Contractor* this _____ day of _____, 20__.

CONTRACTOR

I/We have the authority to bind the *Contractor*.

(Legal Name of *Contractor*)

(Signature of Authorized Signatory)

(Signature of Authorized Signatory)

(Print Name and Position of Authorized Signatory)

(Print Name and Position of Authorized Signatory)

ATTACHMENT #1

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 proposal with the *City* of that workplace to be the prime *Contractor* for the purposes of this Part, or
 - (b) if there is no proposal referred to in paragraph (a), the *City* 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 *Contract*, the *Contractor* accepts all responsibilities of a prime *Contractor* as outlined in the *Workers' Compensation Act*, and WCB OH&S Regulation.

As a *Contractor* signing this *Contract* with the *City*, you are agreeing that your company, management staff, supervisory staff and workers will comply with the Worksafe BC Occupational Health and Safety Regulation and the Workers' Compensation (WC) Act.

Any Worksafe BC violation by the prime *Contractor* may be considered a breach of *Contract* resulting in possible termination or suspension of the *Contract* 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 *Contract*, the *Contractor* agrees to accept all responsibilities of the Prime *Contractor* for this project.

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

Contract No.: 1220-040-2017-048

Project Title: 2017 Storm Sewer CCTV Inspection Program

Company Name: _____

WorkSafe BC #: _____

ATTACHMENT #2

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, hotwork, lockout, excavations and shoring, traffic management, etc.
3. *Contractor* must Identify workplace risk and implement suitable controls.
4. *Contractor* must provide safety training and education to staff and have training records available for review.
5. *Contractor* must have a health & safety program for its workers and sub-contractors
6. *Contractor* will provide appropriate First-Aid coverage for their workers and subcontractors.
7. *Contractor* must forward a weekly work task list prior to work commencement.
8. The qualified safety coordinator must participate in the City of Surrey OHS Orientation or attend the Prime *Contractor's* Orientation.

WORK AREAS –City Facilities

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

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

SAFETY ATTITUDE

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

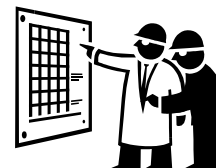
You can help ensure employee safety and your eligibility for future business with the City if you exhibit and practice a "Safe Work - Safe City" attitude.

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

All Employees & Contractors:

It is everyone responsibility to:

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



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

A common sense approach usually resolves the issue.

GENERAL RULES

1. For all secured worksites, contracted workers are required to sign in and sign out each day
2. (Access cards may be issued – a worker may need to provide an Identification document (i.e. Driver's License) in exchange).
3. 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 - <i>Contractor</i> Coordination Program
Date:	Revised: January 14, 2015 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 #3

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 MEN

- ONE MAN ALWAYS ON THE SURFACE, AND
- ONE MAN 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 and 21.0
 - * H2S levels should read 0
 - * LEL levels should read 0

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 #4

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 Worksafe BC regulation requirements.

Project File No.: 1220-040-2017-048

Company:_____.

Project Title: 2017 Storm Sewer CCTV Inspection Program

Signed: _____
(Company Owner)

Date: _____

Witness: _____

Date: _____

ATTACHMENT #5

Builders Lien Act

(Section 7 (4))

Notice of Certification of Completion

**Notice: City of Surrey, Contract 1220-040-2017-048
2017 Storm Sewer CCTV Inspection Program**

Take notice that on _____ **[date]** a certificate of completion, or court order to that effect, was issued with respect to a contract (or subcontract) between:

CITY OF SURREY

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

(the "**OWNER**")

and

(the "**CONTRACTOR**")

in connection with an improvement on land described as follows:

2017 Storm Sewer CCTV Inspection Program

All persons entitled to claim a lien under the *Builders Lien Act* and who performed work or supplied material in connection with or under the contract are warned that the time to file a claim of lien may be abridged and section 20 of the Act should be consulted.

ATTACHMENT #6

Builders Lien Act

(Section 7 (10))

Certification of Completion

I _____ [name of payment certifier], of _____
[address], British Columbia, certify that, for the purposes of the *Builders' Lien Act*, the following
contract or subcontract was completed on _____ [month, day,
year]:

Street address or other description of the land affected by the improvement:

Brief description of the improvement: _____

Brief description of the contract or subcontract, including the date of the contract and the names
of the parties to it:

Signed: _____ [signature of payment certifier]

Dated: _____ [month, day, year]

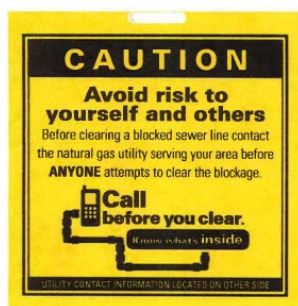
Attachment #7

“Backed Up Sewers - Call before you Clear” – procedures

Stay safe. Don't risk hitting a natural gas line inside a sewer line. Call Before You Clear.

It's important that you know what's inside the pipe before using equipment to clear it. Some natural gas lines were installed in a way that may have caused the gas line to cross through a sewer service line. Also called cross-bores, these intersecting lines can go undetected until clearing a blocked sewer service line damages the natural gas line.

If rotating equipment or water jets rupture the cross bore, a natural gas leak could result. That's why it's vitally important to find out if natural gas lines may be intersecting the sewer line before beginning work to clear a blocked sewer.



To protect yourself, co-workers, and the public, follow these steps when you receive a call regarding a backed up sewer and before anyone attempts to clear the sewer pipe.

1. Call **(604) 257-1940 or 1-800-474-6886** (BC One Call - Call Before You Clear).
2. Inform the agent you are calling about a **“sewer service line blockage.”**
3. Provide the agent with your name and who you work for.
4. Provide the agent with **your cell phone number** so they can contact you directly.
5. Provide them with the location (i.e. address of the house) of the blocked sewer service or sewer main.
6. Answer any other questions and provide as much information as possible to the agent.
7. The agent will provide you with a ticket number. Record the ticket number.
8. Record the time you called the agent
9. Record the time Fortis BC arrives.

Once off the phone with the agent, wait for Fortis BC to call you. The agent will notify Fortis BC immediately and Fortis BC will make every effort to respond in two hours or less to locate gas lines. They treat the call as an emergency. It's a free service available 24 hours a day.

When Fortis BC calls you, they may ask for further details and information. They will examine their records to determine if any potential conflicts exist between their natural gas pipes and whether an in-sewer camera inspection may be needed. They will inform you a crew has been sent out to perform an inspection and locate. The Fortis BC crew should be on site within an hour of the call. Fortis BC works with professionally trained sewer camera contractors who can be sent to your location to complete an inspection. The contractor uses a special camera that goes inside the sewer pipe to identify any conflicts or “cross bores” with underground natural gas lines.

Once the Fortis BC crew has performed the inspection, locate and assessed the situation, they will provide you with instructions on when you can proceed with the work (i.e. to clear the line).

OHS 2014