

REQUEST FOR A STANDING OFFER (RFSO)

ADDRESS ENQUIRIES TO: Allan Lapensée, Sr. Contract Officer Allan.lapensee@ncc-ccn.ca	BID DEADLINE: December 6, 2017 at 3pm EST
RETURN TO: Submit your proposal, price envelope and this page signed and return to: →	National Capital Commission Procurement Services 40 Elgin Street 2 nd floor security office Ottawa, ON K1P 1C7 Reference NCC tender file # AL1723

This page is to be dated, signed and returned with your proposal, thereby acknowledging having read, understood and accepted the terms of reference of this RFSO and any/all other attachments referred to herein.

We hereby OFFER to sell and/or supply to the National Capital Commission upon the terms and conditions set out herein, the supplies and/or services listed above and on any attached sheets at the submitted price(s).	
Bidder's Name & Address Tel: Fax: Email:	Print Name Signature Date
ADDENDUM ACKNOWLEDGEMENT: I/We acknowledge receipt of the following addendums and have included for the requirement of it/them in my/our tendered price:	_____ _____ Bidder to enter the number of addendums issued (i.e. #1, #2, etc.) if any.

	Insert one « X »
I m bidding to perform the services in Ottawa, ON	
I m bidding to perform the services in Gatineau, QC	
I m bidding to perform the services in both; Ottawa, ON and Gatineau, QC	

1.0 INSTRUCTIONS TO BIDDERS

- 1.1 Complete & submit page 1 of this RFSO, a technical proposal in four (4) duplicate copies and one price envelope to provide services to the National Capital Commission's (referred to as the "Commission" or the "NCC") Terms of Reference document attached herewith. The proposal can be submitted in either official language.
- 1.2 Enquiries regarding this proposal must be submitted in writing to Allan Lapensée , Sr. Contract Officer, at e-mail address allan.lapensee@ncc-ccn.ca as early as possible within the solicitation period. Enquiries should be received no later than fourteen (14) calendar days prior to the date set for solicitation closing to allow sufficient time to provide a response. Enquiries received after that time may result in an answer not being provided. To ensure consistency and quality of the information provided to all Proponents, the Senior Contract Officer shall examine the content of the enquiry and shall decide whether or not to issue an amendment. All enquiries and other communications related to this proposal sent throughout the solicitation period are to be directed **ONLY** to the Senior Contract Officer named above. Non-compliance with this requirement during the solicitation period can, for that reason alone, result in disqualification of a proposal.
- 1.3 The technical proposal is to include all information as defined in the Terms of Reference (see Rated Requirements).
- 1.4 The price schedule forms (appendices A and B) must be enclosed in an envelope separate from the technical proposal documents. Unless otherwise specified by the NCC, the all-inclusive prices quoted shall be net prices in Canadian funds excluding taxes, F.O.B Destination: National Capital Region, including all costs as detailed in the terms of reference. The rates will remain fixed for the entire term of the Standing Offer Agreement.
- 1.5 As a green initiative, the NCC requests that the Bidder's Technical Proposal follow these green practices:
 - use recycled paper products
 - print double sided
 - use a maximum font of 11
 - no binders and/or plastic sheets (note plastic/metal spirals are acceptable)
- 1.6 All proposals will be evaluated against mandatory requirements compliance. Then, proposals are scored according to the rated requirements and evaluation criteria. Proposals meeting all mandatory requirements and obtaining a minimum score of 80% for the technical component will be considered as technically admissible. The selection of the successful firm(s) shall be made on the basis of the best overall value to the Commission in terms of technical merit and cost, per province. This will be determined by dividing the proposed cost by the total technical score so as to establish the lowest cost per point per province. The total cost for the purpose of evaluating proposals shall be the sum of the two totals of Appendices A and B excluding taxes. The NCC intends to award a minimum of one (1) Standing Offer Agreement per province.

**REQUEST FOR A STANDING OFFER AGREEMENT (RFSO)
CCTV INSPECTION, SERVICES, REPAIRS AND SEWER LINING FOR VARIOUS LOCATIONS IN THE NATIONAL CAPITAL REGION
NATIONAL CAPITAL COMMISSION (NCC) TENDER FILE # AL1723**

- 1.7 A debriefing of a Proponent's Technical Proposal will be provided, if requested to the NCC Project Manager identified in the letter of notification of contract award, within 15 days of receipt of this notice. The debriefing will include an outline of the reasons the submission was not successful.
- 1.8 If any supplier holding an SOA has their SOA terminated, the NCC reserves the right to 'replenish' the list of SOAs, by offering an SOA to another supplier. The basis for deciding which suppliers are offered 'replenishment' SOAs shall be 'the next ranked supplier(s)' as per rankings established above.
- 1.9 The Commission is a Crown Corporation subject to the Goods and Services Tax (GST) and the Provincial Sales Tax (HST or QST). The successful supplier will be required to indicate separately, with the request for payment, the amount of GST and HST/QST, to the extent applicable, that the Commission will pay. These amounts will be paid to the successful Bidder who will be required to make the appropriate remittances to Revenue Canada and the respective provincial governments. The successful bidder(s) must complete & return the T1204 form and attach a voided cheque for direct deposit purposes.
- 1.10 The Occupational Health & Safety Requirements, the Security Requirements and the General Conditions will also form part of the resulting SOA and subsequent call-up purchase order(s).
- 1.11 In order to avoid any misunderstanding and be fair to all suppliers, please note that proposals received after the closing time and date will not be accepted.
- 1.12 The Commission reserves the right to not accept the lowest or any of the proposals submitted, to cancel the RFSO, and/or to reissue the RFSO in its original or revised form. The Commission also reserves the right to negotiate with the successful proponent and/or any/all proponents.
- 1.13 Facsimile transmittal of proposals will not be accepted.
- 1.14 Proposals will be held in strict confidence. There will not be a public opening of the proposals submitted for this RFSO. Notwithstanding the foregoing, proponents are advised that as a Crown Corporation, the Commission is subject to the provisions of the *Access to Information Act*. Information submitted by third parties will only be exempted from disclosure if the records or part of them qualify for an exemption under the ATI Act.
- 1.15 This RFSO, SOA and call-up purchase order(s) resulting from this process is to be interpreted, construed, governed by, and the relation between parties is to be determined in accordance with the laws of the Province of Ontario and such Federal laws applicable therein.
- 1.16 The Commission shall not be obligated to reimburse or compensate any proponent, its sub-contractors or manufacturers for any costs incurred in connection with the preparation of a response to this RFSO. All copies of proposals submitted in response to this RFSO shall become the property of the Commission and will not be returned.

- 1.17 This RFSO and all supporting documentation have been prepared by the Commission and remain the sole property of the Commission, Ottawa, Canada. The information is provided to the proponent solely for its use in connection with the preparation of a response to this RFSO and shall be considered to be the proprietary and confidential information of the Commission. These documents are not to be reproduced, copied, loaned or otherwise disclosed directly or indirectly, to any third party except those of its employees having a need to know for the preparation of the Bidder's response, and the Bidder further agrees not to use them for any purpose other than that for which they are specifically furnished.
- 1.18 The successful Bidder shall indemnify and save harmless the Commission from and against all claims, damages, costs and expenses sustained or incurred by the Commission resulting from any action or legal proceeding on infringement, made, sustained, brought, prosecuted, threatened to brought or prosecuted, by any person that was under the direction and control of the Bidder during the term of the resulting SOA and call-up purchase order(s) and which person is claiming or claims a moral right, as set out under the Copyright Act. The obligation to indemnify under this clause survives termination of the resulting SOA and call-up purchase order(s) and will remain in force for the duration of the copyright in the work created under the resulting SOA and call-up purchase order(s). This obligation to indemnify relative to alleged moral rights infringement(s) is in addition to the Bidder's other obligations to indemnify and save harmless which are set out in the Commission's General Conditions.

2.0 REQUEST FOR STANDING OFFER AGREEMENT

2.1 INTRODUCTION

One method of supply used by the NCC to satisfy the requirements of identified internal users is to arrange a Standing Offer Agreement (SOA) to provide goods, services or both to the NCC during a specified period. The identified internal users to be served may then be a delegated purchasing authority and may access the source of supply directly, as and when requested, by issuing purchase orders detailing the exact quantities of goods or services they wish to order from the Offeror at a particular time during the effective period of the Offeror's offer and in accordance with the predetermined conditions. This method of supply is particularly useful in acquiring frequently ordered commercially and non-commercially available goods or services when the total volume or value of goods or level of services that may be required by one or more identified users can be estimated beforehand, but it is not possible at the outset to identify the exact requirements for any given user at a specific time in the future.

The NCC foresees a potential need for **CCTV INSPECTION, SERVICES, REPAIRS AND SEWER LINING FOR VARIOUS LOCATIONS IN THE NATIONAL CAPITAL REGION**, as more particularly stated herein and in the attached; you are hereby invited to provide to the NCC a Standing Offer. If you wish to submit an offer you are required to do so, on the enclosed forms and format. Please be advised that the quantity of goods and/or services and the estimated expenditure specified in the attached are only an approximation of requirements given in good faith. The making of a standing offer by the Offeror shall not constitute an agreement by the NCC to order any or all of the said goods and/or services. The NCC may make one or several purchase orders against a Standing Offer, each such purchase orders constituting an acceptance of said Standing Offer for the part of the said goods or services described in the purchase order. A request does not commit the NCC to authorize the utilization of a Standing Offer or to pay any cost incurred in the submission of offers, or cost incurred in

making necessary studies for the preparation thereof, or to procure or contract for any goods or services. The NCC reserves the right to reject or authorize for utilization any offer in whole or in part, with or without further discussion or negotiation.

2.2 GENERAL PROVISIONS

The Offeror acknowledges that a Standing Offer is not a contract. The Offeror offers to sell or provide and deliver to the NCC, upon the terms and conditions hereinafter set out, the goods and/or services detailed herein and at the prices listed herein or on the pricing basis set out herein, AS AND WHEN REQUESTED by authorized NCC users such goods and/or services the authorized user orders, in accordance with the following provisions.

It is understood and agreed that:

- a purchase order against a Standing Offer shall form a contract only for those goods or services, or both, which have been ordered, provided always that such a purchase order is made in accordance with the provisions of the Standing Offer;
- the issue and distribution of the authorization to use any resulting Standing Offer does not oblige the NCC to authorize or order all or any of the goods and/or services described in the Standing Offer;
- The NCC's liability shall be limited to that which arises from purchase orders against any resulting Standing Offer made within the period specified herein;
- The NCC reserves the right to procure the specified goods and/or services by means of contracts, standing offers, or by other contracting methods.

2.3 STANDING OFFER REQUIREMENT:

The National Capital Commission (NCC) wishes to retain the services of a **qualified contractor per province** as detailed in the Terms of Reference on an "as and when requested" basis under a Standing Offer Agreement. The term proponent, used throughout this document, is defined as the entity submitting a proposal and shall mean a supplier, an entity formed through a prime Bidder/sub-Bidder relationship, a consortium or a joint venture. Proponents shall provide all of the required services enumerated within the terms of reference. To ensure equal opportunities for all proponents, and to eliminate risk of conflict of interest, all proponents are advised that the National Capital Commission will not accept more than one submission per supplier, whether the supplier applies as a single entity, part of a joint venture, or as a sub-consulting member of the team.

2.4 PERIOD OF THE STANDING OFFER AGREEMENT:

The duration of the SOA is for a period of four (4) years from the date of award.

2.5 CALL-UP PURCHASE ORDER DOCUMENT:

The authorized "Purchase order Against a Standing Offer" document will be NCC Purchase Order # XXXXXX. The purchase order document shall specify the supplier name and address, Purchase Order number, delivery date required, delivery location, description of goods or services performed quantities, unit prices, purchase order limit, and an approval signature to proceed by the authorized designated user.

2.6 CALL-UP PURCHASE ORDER LIMITATION:

The maximum all-inclusive amount payable for any one purchase order (call-up) shall be \$100,000 CDN including applicable taxes. Services should not be delivered until NCC's Contracts has issued a purchase order number specific to that call-up purchase order. If no extra services are authorized by the NCC Project Manager, the written quotation shall constitute the maximum amount payable under the call-up purchase order.

2.7 ESTIMATED SOA EXPENDITURE:

The combined estimated expenditure for all Standing Offer Agreements awarded is \$ 1,400,000.00 CDN including taxes. As operational requirements become more defined, the NCC reserves the right to increase the total estimated expenditure by 10% but in no circumstance will the total estimated expenditure for the SOA(s) be more than \$ 1,540,000.00 including taxes.

The NCC reserves the right to terminate the SOA of any supplier that shows repeated failure to satisfactorily manage the quality of the goods and/or timeliness of delivery of services.

2.8 INVOICING:

Send the original and two (2) copies of the invoice directly to:
National Capital Commission
Accounts Payable
202, 40 Elgin St., 3rd floor
Ottawa, Ontario, K1P 1C7

Or, in an effort to promote the electronic transmission of invoices to our Accounts Payables department, the National Capital Commission is encouraging its suppliers to transmit their invoices as an attachment via e-mail to the following address payables@ncc-ccn.ca For storage purposes it would be preferable that the file format of the attachment be saved in a .jpg format.

To ensure prompt payment, please prepare your invoice in accordance with the prices quoted. Errors in invoicing can cause delay of payment. Submit your invoice to the address shown on the Purchase Order and clearly indicate the Purchase Order number.

Itemized invoices are to be submitted to NCC Accounts Payable at intervals of not less than 30 days.

2.9 NOTIFICATION OF WITHDRAWAL OF STANDING OFFER:

In the event the Offeror wishes to withdraw their offer, they will inform the NCC with a minimum of 30 days prior written notice. Any withdrawal of the offer will not affect any purchase orders made prior to the 30 days written notification.

GENERAL CONDITIONS

1. Definition of Terms

In the Contract,

1. the "Project Manager/Officer" means such person as may be specifically designated by or on behalf of the Chief Executive Officer and/or Executive Director upon the award of this contract.
2. "work" includes the whole of the works, Labour and materials, matters and things to be done, furnished and performed by the Contractor under the contract.

2. Assignment and Subcontracting

This contract may not be assigned without the written consent of the National Capital Commission, and neither the whole nor any part of the work may be subcontracted by the Contractor without the consent of the Project Manager/Officer. Every subcontract shall incorporate all the terms and conditions of this contract which can reasonably be applied thereto.

3. Indemnification

The Contractor shall indemnify, and save harmless the National Capital Commission from and against all claims, losses, costs, damages, suits, proceedings, or actions arising out of or related to the Contractor's activities in executing the work, other than those arising from a defect in title to the site of the work or the infringement of a patent arising from a design supplied by the National Capital Commission, but including his omissions improper acts or delays in executing the work under the contract.

4. Property of the National Capital Commission

The Contractor shall be responsible for any loss of or damage, excluding reasonable wear and tear, to any property of the National Capital Commission arising out of the performance of the work whether or not such loss arises from causes beyond his control. Such property shall only be used by the Contractor as may be directed by the Project Manager/Officer and the Contractor shall, at any time when requested to do so, account to the Project Manager/Officer for the use of such property.

GENERAL CONDITIONS

5. Permits and By-Laws

The Contractor shall comply with all laws and regulations, relating to the work whether federal, provincial or municipal, as if the work was being constructed for a person other than the National Capital Commission and shall pay for all permits and certificates required in respect of the execution of the work.

6. Canadian Labour and Materials

Insofar as is practicable the Contractor shall employ and use Canadian labour and materials in the execution of the work and utilize the services of the Canada Manpower Centre in the recruitment of such labour.

7. Publicity

1. The Contractor will neither permit any public ceremony, nor erect or permit the erection of any sign or advertising, in connection with the work without the approval of the Project Manager/Officer.
2. All exterior signs erected by the contractor will be in both official languages and subject to NCC approval.

8. Materials, Equipment, etc. to become Property of the National Capital Commission

All materials and plants used or provided for the work shall be the property of the National Capital Commission, shall not be removed from the site of the work and shall be used only for the purpose of the work, until the Project Manager/Officer shall certify that they are, if not incorporated in the work, no longer required for the purpose of the work. The Contractor shall be liable for all loss or damage to materials or plants that are the property of the National Capital Commission by virtue of this section.

9. Contractor's Superintendent and Workers

The Contractor will keep a competent superintendent on the site of the work at all times during the progress of the work unless otherwise authorized by the Project Manager/Officer. The superintendent must be acceptable to the Project Manager/Officer and have the authority to receive on behalf of the Contractor any order or communication in respect of the contract. Any superintendent and workers not acceptable to the Project Manager/Officer because of incompetency, improper conduct or security risk will be removed from the site of the work and replaced forthwith.

GENERAL CONDITIONS

10. Co-operation with other Contractors

The Contractor will co-operate fully with other contractors or workers sent onto the site of the work by the Project Manager/Officer. If the sending onto the work of other contractors and workers could not have been reasonably foreseen by the Contractor when entering into the contract, and if, in the opinion of the Project Manager/Officer the Contractor has incurred additional expense by such action, and if the Contractor has given written notice of claim within thirty days of such action, the National Capital Commission will pay the cost of such additional expense to the Contractor calculated in accordance with Section 20.

11. Claims Against and Obligations of the Contractor or Subcontractor

1. The Contractor shall ensure that all his lawful obligations and lawful claims against him arising out of the execution of the work are discharged and satisfied, at least as often as this contract requires the National Capital Commission to discharge its obligations to the Contractor and shall supply the Project Manager/Officer with a Statutory Declaration deposing to the existence and condition of such claims and obligations when called upon to do so.
2. The National Capital Commission may, in order to discharge lawful obligations and satisfy lawful claims against the Contractor or a subcontractor arising out of the execution of the work, pay any amount, which is due and payable to the Contractor under the contract and from a conversion or a negotiation of the security referred to in Section 18 hereof, if any, directly to the obligees of and the claimants against the Contractor or the subcontractor.

12. Project Manager/Officer's Rights and Obligations

The Project Manager/Officer shall:

1. have access to the work at all times during its execution and the Contractor will provide the Project Manager/Officer with full information and assistance in order that he may ensure that the work is executed in accordance with the contract;
2. decide any question as to whether anything has been done as required by the contract or as to what the Contractor is required by the contract to do, including questions as to the acceptability of, the quality or quantity of any labour, plant or material used in the execution of the work, and the timing and scheduling of the various phases of the work;
3. have the right to order additional work, dispense with, or change the whole or any part of the work provided for in the plans and specifications. The Project Manager/Officer shall decide whether anything done or not done as a result of directions given under this sub-section has increased or decreased the cost of the work to the Contractor and the amount payable under the contract to the Contractor will be increased or decreased accordingly by an amount calculated in accordance with Section 20 hereof.

The Contractor shall comply with any decision or direction of the Project Manager/Officer given under this section.

GENERAL CONDITIONS

13. Delay, Non-compliance, or Default by the Contractor

If the Contractor delays in the commencement, execution or completion of the work, fails to comply with a direction or decision of the Project Manager/Officer properly given, or is in default in any other manner under the contract, the Project Manager/Officer may do such things as he deems necessary to correct the Contractor's default.

The Contractor will reimburse the National Capital Commission for all costs, expenses and damages incurred or sustained by the National Capital Commission, by reason of the Contractor's default, or in correcting the default. In addition to the aforementioned remedies in this section, the National Capital Commission may, if the default continues for 6 days after notice in writing of default has been given to the Contractor by the Project Manager/Officer, terminate the contract in accordance with Section 17.

14. Changes in soil conditions, National Capital Commission delays

1. The Contractor will receive no additional payment for additional costs incurred due to loss, damage or any other reason whatsoever, without the express certification of the Architect/Engineer that the additional cost, loss or damage is directly attributable to:
 - i) in the case of a flat-rate contract, a significant difference between the soil condition information contained in the plans and specifications and actual on-site soil conditions;
 - ii) negligence or delay on the part of the National Capital Commission, following the contract signing date, in providing complete information or in executing its full contract responsibilities or, according to current trade practice, the Contractor has submitted to the Architect/Engineer a written notice of claim for additional costs, loss or damages, not later than thirty (30) days following the date on which the varying soil conditions were noticed, or the date on which said negligence or delay commenced. The amount of any additional payments to be issued under this article will be calculated as per Article 20.
2. If, in the opinion of the Architect/Engineer, the Contractor has ensured a savings due to the differing soil conditions cited above, the amount of this savings will be deducted from the total price of the Contract stated in Article 1 of the Offer and Agreement.

15. Protesting Project Manager/Officer's Decision

If the Contractor, within 10 days of receiving any decision or direction of the Project Manager/Officer, gives written notice to the Project Manager/Officer that the decision or direction is accepted under protest, the National Capital Commission will pay to the Contractor the cost, calculated according to Section 20, of anything that the Contractor was required to do, as a result of the decision or direction, beyond what the contract correctly understood would have required him to do.

GENERAL CONDITIONS

16. Suspension or Termination of the Contract

1. The National Capital Commission may upon notice in writing to the Contractor suspend or terminate the contract at any time. The Contractor will comply with such notice immediately.
2. If the National Capital Commission suspends the work for 30 days or less the Contractor must, subject to his remedy under Section 15 hereof, complete the work when called upon to do so. If the National Capital Commission suspends the work for a period in excess of 30 days the Contractor may request the National Capital Commission to terminate the work under sub-section 4 hereof.
3. If the National Capital Commission terminates the contract because of default by the Contractor, the insolvency of or the commission of an act of bankruptcy by the Contractor, the obligations of the National Capital Commission to make payments to the Contractor shall cease and no further payments shall be made to the Contractor or less the Project Manager/Officer shall certify that no financial prejudice will result to the National Capital Commission from such further payments. Termination under this sub-section shall not relieve the Contractor of any legal or contractual obligations other than the physical completion of the work. In such circumstances the Project Manager/Officer may complete or have the work completed as he sees fit and all costs and damages incurred by the National Capital Commission due to the non-completion of the work by the Contractor shall be payable by the Contractor to the National Capital Commission.
4. If the National Capital Commission terminates the work other than in accordance with sub-section 3 hereof, the National Capital Commission will pay to the Contractor an amount calculated in accordance with Section 20 hereof subject to any additions or deductions otherwise provided by the General Conditions or Labour Conditions less any payments made pursuant to Section 25.3, hereof. In no event, however, shall such amount be greater than the amount which would have been payable to the Contractor had the contract been completed.

17. Security Deposit

If any security deposit is provided by the Contractor pursuant to this contract it shall be dealt with in accordance with the Government Contracts Regulations, provided that if the Contractor is in breach or default under the contract the National Capital Commission may convert or negotiate such security to its own use. If a Labour and Material Payment Bond is provided pursuant to the contract the Contractor shall post on the site of the work a notice to that effect which shall include the name and address of the Surety, definition of those persons protected therein and an outline of the procedure for submitting a claim.

18. No Additional Payment

The amount payable to the Contractor under this contract will not be increased or decreased by reason of any increase or decrease in the cost of the work brought about by any increase or decrease in the cost of plant, labour or material, except that, in the event of a change in any tax, that affects the cost of any materials incorporated or to be incorporated in the work, imposed under the Excise Act, the Excise Tax Act, the Old Age Security Act, the Customs Act or

GENERAL CONDITIONS

Customs Tariff, made public after the date of the submission of the tender, an appropriate adjustment may be made.

19. Determination of Costs

For the purposes of Section 11, 13.3, 15, 16 and 17.4, the amount payable to the Contractor shall, subject to the provisions of Section 25.2.ii) hereof, be based on the unit prices, if any, set out in Clause 4 of the Offer and Agreement. If such unit prices are not applicable the Project Manager/Officer and the Contractor may mutually agree on the amount payable. Failing such agreement the amount payable shall be the reasonable and proper expenses paid or legally payable by the Contractor directly attributable to the work plus 10% of such expenses to cover overhead, including finance and interest charges, and profit, as certified by the Project Manager/Officer.

20. Records to be Kept by Contractor

1. The Contractor shall maintain full records of his estimates of and actual cost to him of the work together with all proper tender calls, quotations, contracts, correspondence, invoices, receipts and vouchers relating thereto, shall make them available to audit and inspection by the National Capital Commission, or by persons acting on its behalf, shall allow them to make copies thereof and to take extracts therefrom, and shall furnish them with any information which they may require from time to time in connection with such records.
2. The records maintained by the Contractor pursuant to this section shall be kept intact until the expiration of two years from the date of issuance of the Final Certificate of Completion under sub-section 24 of the General Conditions or until the expiration of such other period as the National Capital Commission may direct.
3. The Contractor shall require all subcontractors and all firms, corporations and persons directly or indirectly having control of the Contractor to comply with Sections 1 and 2 as if they were the Contractor.

21. Extension of Time

The National Capital Commission may, on the application of the Contractor, made before the day fixed for the completion of the work, extend the time for completion of the work. The Contractor shall pay to the National Capital Commission an amount equal to the National Capital Commission's expenses and damages incurred or suffered by reason of the delay in completion of the work unless in the opinion of the National Capital Commission such delay was due to causes beyond the control of the Contractor.

22. Cleaning of Work

The Contractor will upon completion of the work, clear and clean the work and its site to the satisfaction of and in accordance with any directions of the Project Manager/Officer.

GENERAL CONDITIONS

23. Project Manager/Officer's Certificates

On the day that the work has been completed and the Contractor has complied with the contract and all orders and directions pursuant thereto to the satisfaction of the Project Manager/Officer, the Project Manager/Officer will issue to the Contractor a Final Certificate of Completion. In the case of a unit price contract, the Project Manager/Officer will at the same time issue a Final Certificate of Measurement setting out the final quantities used or employed in respect of the classes and units set out in the Unit Price Table, and any subsequent amendments thereto, under Clause 4 of the Offer and Agreement, such certificate to be binding upon the Contractor and the National Capital Commission.

24. Payment

1. The National Capital Commission will pay and the Contractor will accept as full consideration for the work performed and executed an amount by which the amount referred to in Clause 1 of the Offer and Agreement together with the aggregate of the amounts payable by the National Capital Commission under Section 11, 13.3, 15.1, 16 and 19 minus the aggregate of any payments by the National Capital Commission under Section 12 and indemnification and amounts payable to or costs and damages incurred by the National Capital Commission under Sections 4, 5, 9, 13.3, 14, 15.2, 17.3, 19 and 22.
2. In the case of a unit price contract:
 - i) The amount referred to in Clause 1 of the Offer and Agreement will be deemed to be the amount computed by totalling the products of the unit prices set out in Clause 4 of the Offer and Agreement, as amended pursuant to sub-paragraph ii) hereof, if applicable, and the actual quantities of such units as set out in the Project Manager/Officer's Final Certificate of Measurement, subject to and, adjustment provided for in sub-paragraph ii) of this sub-section.
 - ii) The Project Manager/Officer and the Contractor may, by agreement in writing, add to the aforesaid Unit Price Table other classes of labour, etc., units of measure, estimated quantities and prices per unit, and may if the actual quantities as set out in the aforesaid Final Certificate of Measurement exceed or fall short of the estimated quantities in respect of any item(s) shown in the aforesaid Unit Price Table by more than 15% amend the unit prices shown in the Unit Price Table for such items, provided that in the event the actual quantities exceed the estimated quantities by more than 15% the aforementioned amendment to the unit prices shall apply only to the actual quantities in excess of 115% of the estimated quantities. Where the Project Manager/Officer and the Contractor fail to agree on the amount of any adjustment as contemplated by this sub-section the revised or new prices per unit shall be determined in accordance with Section 20 hereof.

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3. If the amount of the Contract is in excess of \$5,000 the Contractor shall be entitled to receive progress payments upon submitting Progress Claims which must be approved by Progress Reports issued by the Project Manager/Officer at monthly intervals. The amount to be paid to the Contractor for a progress payment shall be 90% of the value of the work certified by the Project Manager/Officer in the Progress Report as having been completed since the date of the immediately preceding Process Claim, if any, when a Labour and Material Payment Bond has been furnished under the contract the amount to be paid under this sub-section shall be 95% of the value certified by the Project Manager/Officer.
4. Sixty (60) days after the issue by the Project Manager/Officer of the Final Certificate of Completion there shall become due and payable to the Contractor the amount described in sub-section 1 of this section less the aggregate of the amounts, if any, paid pursuant to sub-section 3 of this section.
5. Notwithstanding sub-sections 3 and 4 of this section, no payments shall be due or payable to the Contractor if he has failed to supply any Statutory Declaration pursuant to Section 12, surety bond or security deposit pursuant to Clause 5 of the Offer and Agreement.
6. A payment by the National Capital Commission pursuant to this section shall not be construed as evidence that the work is satisfactory or in accordance with the contract.
7. Delay in making a payment by the National Capital Commission under this section shall not be deemed to be breach of the contract. However, subject to sub-section 5 of this section, if payment of any Progress Claim under sub-section 3 of this section is not made within 60 days of the date of receipt of the Contractor's Progress Claim, such Progress Claim shall be deemed to be overdue and the Contractor shall be entitled to interest at the rate of 5% per annum of the amount overdue for the period commencing at the end of the forty-fourth day after the said date of receipt of the Progress Claim and ending on the date paid.
8. The National Capital Commission may set-off against any amount payable or debt due by the National Capital Commission under this contract the amount of any debt due to the National Capital Commission under this contract or any other contract between the Contractor and the National Capital Commission.

25. Correction of defects

Should the Contractor receive notice from the Architect/Engineer requiring the correction, at the Contractor's expense, of any defect or vice, regardless the cause, the Contractor will complete the necessary corrections on or before the deadline specified in said notice, in the event that the defect or vice becomes evident not later than twelve (12) months following the date of the Final Certificate of Completion.

GENERAL CONDITIONS

26. Liability Insurance

The Contractor shall, at its own expense, purchase, provide and maintain in force for the duration of the contract comprehensive general public liability insurance, naming the National Capital Commission as co-insured, against claims for personal injury (including death) or property damage or public liability claims due to any accident or occurrence, arising out of or in connection with the execution of the contract, indemnifying and protecting the National Capital Commission to a limit of not less than five million (\$5 000 000.00) per occurrence. There shall be no right of subrogation of the Contractor or the insurer and the policy of insurance shall contain a severability of interests clause. The Contractor shall provide the National Capital Commission with a copy of the certificate of insurance no less than five (5) days after the award of the contract. The National Capital Commission reserves the right to cancel the contract if the National Capital Commission does not receive the said certificate in which event the contract shall be null and void.

27. Workers Compensation

Successful construction project Contractors shall be required to provide evidence of compliance with workers' compensation legislation applicable to the place of the work including payments due thereunder, prior to award of the contract. Every successful construction project Contractor shall be required to provide evidence of such compliance at the time of submitting its first progress claim, at the time of substantial performance of the Work, and prior to issuance of the Certificate of Completion.

Occupational Health and Safety Requirements

1. General

- 1.1** In this Contract “OHS” means “occupational health and safety”.
- 1.2** With respect to the work to be performed under the Contract, the Contractor covenants and agrees to perform at, and to enforce conformity with, a standard equivalent to or greater than the best practices prevailing in the construction industry at that time.
- 1.3** The Contractor acknowledges that, to the extent that the following matters may be affected by conduct of the work, it is responsible for the:
- 1.3.1 health and safety of persons on site;
 - 1.3.2 safety of property on site;
 - 1.3.3 protection of persons adjacent to the site; and,
 - 1.3.4 protection of the environment.
- 1.4** Without limiting the generality of section 1.3, the Contractor acknowledges that it is required to, and covenants and agrees to, comply and to enforce compliance with all laws or regulations that may be applicable to the conduct of the work including, without limitation:
- (a) the provisions of the *Occupational Health and Safety Act* of Ontario and all regulations, policies or directives issued thereunder for work performed in Ontario;
 - (b) *La Loi sur la santé et la sécurité du travail* of Québec and all regulations, policies or directives issued thereunder for work performed in Québec;
 - (c) Applicable provisions of the *Canada Labour Code, Part II*;
 - (d) Employment standards legislation in the province(s) in which any part of the work is performed; and
 - (e) Any policies or directives issued by the NCC in respect of the subject matter of the contract.
- The NCC will present any such policies or directives referred to in paragraph (e) to the Contractor in written form by not later than the pre-construction meeting. The Contractor is obliged to ensure that the relevant policies and directives have been communicated to and acknowledged by all its employees and that they will be complied with. The NCC reserves the right to require the Contractor to produce evidence satisfactory to the NCC acting reasonably that the Contractor has discharged the foregoing obligations.
- 1.5** By entering into the Contract with the NCC, the Contractor represents and warrants to the NCC that it has informed itself of and is knowledgeable about the obligations imposed by the legislation referred to in 1.4. above.
- 1.6** For purposes of the relevant provincial OHS legislative regime the Contractor acknowledges and agrees that it is the “Constructor” and covenants to discharge and accept all liability for the performance of the obligations of the “Constructor” in respect of the work provided for in the Contract. Notwithstanding a determination by the relevant authority having jurisdiction that the NCC is the “Constructor” in the event of a dispute between the Contractor and the NCC, the

- Contractor acknowledges and agrees that the Contractor shall be financially responsible for the implementation of protective measures necessary to fulfill the obligations of the “Constructor”.
- 1.7** As between the NCC and the Contractor, the NCC’s decision as to whether the Contractor is discharging its obligations in respect of OHS issues shall be definitive. Without limiting the generality of the foregoing, in the event of any dispute with respect to instructions given by the NCC’s designated representative, the Contractor may note such dispute, but must nevertheless forthwith comply with any such instructions.
- 1.8** The Contractor hereby indemnifies and agrees to hold harmless the NCC, its agents and employees, from and against any and all claims, demands, losses, costs (including legal fees on a full indemnity basis), damages, actions, suits or proceedings (hereinafter collectively referred to as “claims”) by third parties that arise out of or are attributable to the Contractor’s errors or omissions in the performance of the Contract. Without limiting the generality of the foregoing, this indemnification extends to any claims related to any violation of any statute or regulation relating to OHS matters.
- 1.9** The NCC shall provide the contractor:
- 1.9.1 a written description of every known and foreseeable health and safety hazard to which persons employed in the performance of the work may be exposed because of the nature of the site;
 - 1.9.2 a list of any prescribed materials, equipment, devices and clothing necessary because of the nature of the site;
 - 1.9.3 with written information indicating the prescribed circumstances and manner to use all prescribed materials, equipment, devices and clothing listed pursuant to 1.9.2; and,
 - 1.9.4 with a copy of any NCC policies and procedures that may be applicable in relation to the work site.
- 1.10** Without limiting the generality of 1.9, prior to the commencement of the work by the contractor, the contractor shall, at the contractor’s expense:
- 1.10.1 take all reasonable care to ensure that all persons employed in the performance of the work or granted access to the work or its site are informed of any health and safety hazard described pursuant to 1.9.1;
 - 1.10.2 provide all persons employed in the performance of the work or granted access to the work or its site with prescribed materials, equipment, devices and clothing listed pursuant to 1.9.2;
 - 1.10.3 take all reasonable care to ensure that all persons employed in the performance of the work or granted access to the work or its site are familiar with the prescribed circumstances and manner all prescribed materials, equipment, devices and clothing listed pursuant to 1.9.2; and
 - 1.10.4 take all reasonable care to ensure that all persons employed in the performance of the work or granted access to the work or its site are familiar with policies and procedures referred to in 1.9.4.

2. Qualifications of Personnel

- 2.1** By entering into this agreement the contractor represents and warrants that it has the requisite experience, training, formal certification and equipment to enable it to discharge the obligations enumerated in sections 1.3, 1.4, 1.5 and 1.6 above.
- 2.2** The Contractor represents and warrants that supervisory personnel employed by the Contractor in respect of performance of any part of the work have the requisite experience, authority, training, formal certification and equipment to ensure that the obligations enumerated in sections 1.3, 1.4, 1.5 and 1.6 above are discharged and agrees to deliver such evidence as may be required by the NCC from time to time to verify same.

3. Certification

- 3.1** After receiving notification that its bid has been retained and prior to and as a condition of contract award, the Contractor covenants and agrees to deliver a Worker's Compensation Clearance Certificate. Where the duration of the project is greater than sixty days, the Contractor covenants and agrees to deliver up-dated certificates at least every 60 days. In the event of a failure by the Contractor to deliver up-dated certificates, the NCC shall be entitled to immediately terminate the contract without notice and without incurring any liability to the Contractor.
- 3.2** After receiving notification that its bid has been retained and prior to and as a condition of contract award, the Contractor covenants and agrees to deliver historical information on its injury experience including any pertinent Worker's Compensation Experience Reports. Such historical information shall report data for the previous three years.

4. Plans Policies and Procedures

- 4.1** After receiving notification that its bid has been retained and prior to and as a condition of contract award, the Contractor covenants and agrees to deliver for the review and approval of the NCC:

- (a) A copy of the contractor's OHS policy;
- (b) A safety program and plan specific to the work to be performed pursuant to the Contract which plan shall include a risk assessment and analysis, a description of safe working methods, injury and incident reporting protocols, regular periodic reporting on compliance with OHS obligations including any policies, practices and procedures otherwise provided for herein, and a site-specific contingency and emergency response plan; and
- (c) Health and safety training records of personnel and alternates responsible for OHS issues on site.

The Contractor covenants and agrees to deliver the necessary material safety data sheets for the review and approval of the NCC prior to entering the site to perform work related to the relevant material.

Approval by the NCC does not amend the provisions of the Contract with respect to the allocation of liability for discharging or failing to discharge OHS obligations. Such liability remains with the Contractor notwithstanding the granting of such approval.

- 4.2** The Contractor acknowledges and agrees that prior to commencement of work it must attend a pre-construction briefing at which any special or additional practices and procedures to be followed in completing the work are to be established. Without limiting the provisions of section 1.4(e) above, the representatives of the Contractor attending the briefing will be required to deliver

- a signed acknowledgement that the practices and procedures set out in the pre-construction briefing have been understood and will be complied with.
- 4.3** At any time and from time to time during the performance of the work, the NCC shall have the right to audit the manner in which the Contractor is discharging its OHS obligations and to determine whether the project specification and/or OHS policies, practices and procedures are being complied with. In the event that the audit discloses any failure by the Contractor to discharge such OHS obligations, the NCC shall be entitled to forthwith rectify at the Contractor's expense any such deficiency and the NCC shall have the further right to immediately terminate the contract without notice and without incurring any liability to the Contractor.
- 4.4** The Contractor covenants and agrees to conform with all requirements of the Workplace Hazardous Materials Information System.
- 4.5** The Contractor acknowledges and agrees that where required by any law or regulation applicable to the performance of the work it must establish and maintain a project health and safety committee. The contractor further acknowledges and agrees that it must enable staff to attend all relevant safety meetings, and that the cost of same, including costs attributable to standing down equipment is included in its bid price and is not independently recoverable.
- 4.6** Where required by the relevant provincial regulatory regime, the Contractor acknowledges and agrees that it is responsible for delivery of notice of the project to the relevant regulatory authority, and for the performance of any other administrative activity required to meet the obligations imposed in the pertinent provincial regulatory regime.
- 4.7** **(Optional depending on hazard or scope of project).** The contractor covenants and agrees that it shall employ and assign to the work, a competent OHS professional as Health and Safety Coordinator that must:
- (a) have a minimum two (2) years' site-related working experience specific to activities associated with.(identify specific subject matter)
 - (b) have basic working knowledge of specified occupational safety and health regulations,
 - (c) be responsible for completing health and safety training session and ensuring that personnel not successfully completing the required training are not permitted to enter the site to perform the Work,
 - (d) be responsible for implementing, enforcing daily and monitoring the site-specific Health and Safety Plan, and
 - (e) be on site during execution of the Work.
- The parties acknowledge that in lieu of employing an OHS professional, the Contractor may provide same by sub-contracting for such services.
- 4.8** Upon completion of the work the Contractor covenants and agrees to participate with the NCC in a post performance interview to evaluate the performance of the Contractor in respect of the OHS obligations under the contract. Without limiting the generality of the foregoing, the interview will identify areas of compliance and non-compliance in terms of:
- (a) actual performance of the work;
 - (b) reporting or procedural requirements;

(c) resolution of deficiencies.

The contractor acknowledges and agrees that the results of the post-completion interview may be relied upon by the NCC in evaluating bids subsequently submitted by the Contractor on other NCC projects.

SECURITY REQUIREMENTS

Security Requirements

The NCC complies with Treasury Board's *Policy on Government Security* and consequently, it will require that the contractor's personnel submit to a personal security screening process (Security Clearance Form TBS/SCT 330-60E). The NCC may also perform a credit check when the duties or tasks to be performed require it or in the event of a criminal record containing a charge/offence of a financial nature.

Personal information associated with these clearances is retained in the following information bank: Personnel Security Screening _ PSU 917.

The NCC reserves the right to not award the Contract until such time as the contractor's personnel core employees have obtained the required level of security screening as identified by the NCC's Corporate Security. In this case the level of security required will be **Reliability***

****For operation needs, with advice or assistance from NCC Corporate Security, the security level can be upgraded (Confidential, Secret or Top Secret) on the basis of the sensitivity of the information and assets that need to be accessed.***

Additional information

As part of their personal screening, individuals may be required to provide evidence of their status as a Canadian citizen or permanent resident as well as any other information/documentation requested by the NCC's Corporate Security in order to complete the screening.

The NCC reserves the right to refuse access to personnel who fail to obtain the required level of security screening.

The NCC reserves the right to impose additional security measures with respect to this contract as the need arises.

When warranted by a Security threat and risk assessment (TRA) or any type of Security Assessment, physical security safeguards can be recommended by NCC Corporate Security to reflect changes in the threat environment or for operational purposes.

The NCC also reserves the right to request that the Contractor submit to a *Designated Organization Screening* and/or *Facility Security Clearance* – depending on the nature of the information it will be entrusted with.

Company Security Representative

The contractor shall appoint one Company Security Representative (CSR) as well as one alternate (for companies who have more than five employees).

Selection criteria for the CSR and the alternate are the following:

- They must be employees of the contractor's firm;

SECURITY REQUIREMENTS

- They must have a security clearance (the NCC will process the clearances once the individuals have been identified).

Responsibilities of the Company Security Representative

The CSR's responsibilities are the following:

- Act as liaison between the NCC's Corporate Security and the contractor to ensure coordination;
- In collaboration with the NCC's Corporate Security, identify the contractor's personnel who will require access to NCC information/assets/sites **as well as any recurring subcontractors** (and their employees) who will require similar access and may not be supervised by the contractor at all times during such access. Ensure that accurate and complete Personnel Security Screening documentation is submitted to the NCC's Corporate Security for the employees/subcontractors who have been identified;
- Ensure that employees/subcontractors, upon notification of having been granted a Security status (**Reliability-Site Access-Secret**), sign the *Security Screening Certificate and Briefing Form* and return to the NCC's Corporate Security;
- Ensure that only persons who have been security screened to the appropriate level and who are on a "need-to-know basis" will have access to information and assets;
- Maintain a current list of security screened employees/subcontractors;
- Ensure proper safeguard of all information and assets, including any information/assets entrusted to subcontractors;
- If a Security incident or suspected breach of security occurs, prepare and submit to the NCC an occurrence report as soon as possible.

Access to site

Unless otherwise indicated, all visits to "secure" sites (official residences) shall be coordinated with, and approved through NCC Corporate Security.

References

[Security of Information Act](#)

[Access to Information Act](#)

[Privacy Act](#)

[Policy on Government Security](#)

Supplier No. / N° du fournisseur

New supplier / Nouveau fournisseur Update / Mise à jour

**SUPPLIER-DIRECT DEPOSIT PAYMENT AND TAX INFORMATION FORM
FOURNISSEUR-FORMULAIRE DE PAIEMENT PAR DÉPÔT DIRECT ET RENSEIGNEMENTS AUX FINS DE L'IMPÔT**

For NCC use only / À l'usage de la CCN seulement

PART 'A' - IDENTIFICATION / PARTIE 'A' - IDENTIFICATION

Legal name of entity or individual / Nom légal de l'entité ou du particulier	Operating name of entity or individual (if different from Legal Name) / Nom commercial de l'entité ou du particulier (s'il diffère du nom légal)		
Former Public Servant in receipt of a PSSA Pension / Ancien fonctionnaire qui reçoit une pension en vertu de la LPPF		<input type="checkbox"/> Yes / Oui	<input type="checkbox"/> No / Non
An entity, incorporated or sole proprietorship, which was created by a Former Public Servant in receipt of a PSSA pension or a partnership made of former public servants in receipt of PSSA pension or where the affected individual has a controlling or major interest in the entity. / Une entité, constituée en société ou à propriétaire unique, créée par un ancien fonctionnaire touchant une pension en vertu de la LPPF, ou un partenariat formé d'anciens fonctionnaires touchant une pension en vertu de la LPPF, où les entités dans lesquelles ils détiennent le contrôle ou un intérêt majoritaire.		<input type="checkbox"/> Yes / Oui	<input type="checkbox"/> No / Non
Address / Adresse	Telephone No. / N° de téléphone :	Fax No. / N° de télécopieur :	
Postal code / Code postal	()	()	

PART 'B' - STATUS OF SUPPLIER / PARTIE 'B' - STATUT DU FOURNISSEUR

IMPORTANT : CHOOSE ONLY ONE OF THE FOLLOWING/CHOISIR SEULEMENT UNE DES OPTIONS SUIVANTES:

(1) Sole proprietor / Propriétaire unique <input type="checkbox"/>	If sole proprietor, provide: / Si propriétaire unique, indiquez :	Last Name / Nom de famille	First name / Prénom	Initial / Initiale
(2) Partnership / Société de personnes <input type="checkbox"/>	(3) Corporation / Société <input type="checkbox"/>			
Business No. (BN) / N° de l'entreprise (NE) -	OR / OU	SIN / NAS -		
GST/HST / TPS et TVH	QST / TVQ (Québec)			
Number / Numéro : Not registered / non inscrit <input type="checkbox"/>	Number / Numéro : Not registered / non inscrit <input type="checkbox"/>			
Type of contract / Genre de contrat	Contract for services only / Contrat de services seulement <input type="checkbox"/>			
	Contract for mixed goods & services / Contrat de biens et services <input type="checkbox"/>		Contract for goods only / Contrat de biens seulement <input type="checkbox"/>	
Type of goods and/or services offered / Genre de biens et / ou services rendus :				

PART 'C' - FINANCIAL INSTITUTION / PARTIE 'C' - RENSEIGNEMENTS SUR L'INSTITUTION FINANCIÈRE

Please send a void cheque with this form / Veuillez, s.v.p., envoyer un spécimen de chèque avec ce formulaire

Branch Number / N° de la succursale	Institution No. / N° de l'institution :	Account No. / N° de compte :
Institution name / Nom de l'institution :		Address / Adresse :
Postal Code / Code postal :		

PART 'D' - DIRECT DEPOSIT PAYMENT NOTIFICATION / PARTIE 'D' - AVIS DE PAIEMENT PAR DÉPÔT DIRECT

E-mail address / Adresse courriel :

PART 'E' - EMAIL ADDRESS TO SEND CONTRACTS / PARTIE 'E' - ADRESSE COURRIEL POUR ENVOYER LES CONTRATS

E-mail address / Adresse courriel :

PART 'F' - CERTIFICATION / PARTIE 'F' - CERTIFICATION

I certify that I have examined the information provided above and it is correct and complete, and fully discloses the identification of this supplier.	Je déclare avoir examiné les renseignements susmentionnés et j'atteste qu'ils sont exacts et constituent une description complète, claire et véridique de l'identité de ce fournisseur.		
Where the supplier identified on this form completes part C, he hereby requests and authorizes the National Capital Commission to directly deposit into the bank account identified in part C, all amounts payable to the supplier.	Lorsque le fournisseur indiqué sur ce formulaire remplit la partie C, par la présente, il demande et autorise la Commission de la capitale nationale à déposer directement dans le compte bancaire indiqué à la partie C, tous les montants qui lui sont dus.		
Name of authorized person / Nom de la personne autorisée	Title / Titre	Signature	Date
Telephone number of contact person / Numéro de téléphone de la personne ressource : ()			

IMPORTANT

Please fill in and return to the National Capital Commission with one of your business cheque unsigned and marked « VOID » (for verification purposes).

Mail or fax to: Procurement Services
National Capital Commission
202-40 Elgin Street
Ottawa, ON K1P 1C7 Fax: (613) 239-5007

Veillez remplir ce formulaire et le retourner à la Commission de la capitale nationale avec un spécimen de chèque de votre entreprise non signé et portant la mention « ANNULÉ » (à des fins de vérification).

Poster ou télécopier à : Services de l'approvisionnement
Commission de la capitale nationale
40, rue Elgin, pièce 202
Ottawa (Ontario) K1P 1C7 Télécopieur : (613) 239-5007

SUPPLIER – DIRECT DEPOSIT PAYMENT AND TAX INFORMATION FORM

FOURNISSEUR – FORMULAIRE DE PAIEMENT PAR DÉPÔT DIRECT ET RENSEIGNEMENTS AUX FINS DE L'IMPÔT

Supplier Tax Information

Pursuant to paragraph 221(1) (d) of the *Income Tax Act*, NCC must declare form T-1204, contractual payments of government for services, all payments made to suppliers during the calendar year in accordance to related service contracts (including contracts for mixed goods and services).

The paragraph 237(1) of the *Income Tax Act* and the article 235 of the Income Tax Regulations require the supplier to provide all necessary information below to the organization who prepares the fiscal information forms.

Questions: Sylvie Monette, Accounts Payable Supervisor
(613) 239-5678 ext. 5156 or sylvie.monette@ncc-ccn.ca

Direct deposit payment information

All amounts payable by NCC to the supplier will be deposited directly into the account you identified in part C. A NCC payment advice notice will also be sent to you by e-mail detailing the particularities of the payment to the address identified in part D.

Until we process your completed form, we will still pay you by check.

You must notify the NCC of any changes to your financial institution, branch or account number. You will then have to complete a new form.

The account you identified has to hold Canadian funds at a financial institution in Canada.

The advantages of direct deposit payment

Direct deposit payment is a convenient, dependable, safe and timesaving way to receive your invoice payment. Direct deposit payment is completely confidential.

There are fewer risks of direct deposit payment being lost, stolen, or damaged as may happen with cheques.

Funds made by direct deposit payment will be available in your bank account on the same day that we would have mailed your cheque.

Renseignements sur les fournisseurs aux fins de l'impôt

En vertu de l'alinéa 221(1) (d) de la *Loi de l'impôt sur le revenu*, la CCN est tenu de déclarer, à l'aide du formulaire T-1204, Paiements contractuels de services du gouvernement, tous paiements versés aux fournisseurs pendant une année civile en vertu de marchés de services pertinents (y compris les marchés composés à la fois de biens et de services).

Le paragraphe 237 (1) de la *Loi de l'impôt sur le revenu* et l'article 235 du Règlement de l'impôt sur le revenu obligent les fournisseurs à fournir toutes les informations demandées ci-dessous à l'organisme qui prépare les formulaires de renseignements fiscaux.

Questions : Sylvie Monette, Superviseure aux comptes payable
(613) 239-5678 poste 5156 ou sylvie.monette@ncc-ccn.ca

Renseignements sur le paiement par dépôt direct

Tous les montants versés par la CCN au fournisseur seront déposés directement dans le compte identifié à la partie C. Un avis de paiement de la CCN détaillant les particularités du paiement par dépôt direct vous sera envoyé par courriel à l'adresse courriel identifiée à la partie D.

Nous continuerons à vous payer par chèque jusqu'à ce que nous ayons traité votre formulaire.

Vous devez aviser la CCN de tout changement d'institution financière, de succursale ou de numéro de compte. Vous devrez donc remplir un nouveau formulaire.

Le compte que vous désignez doit être un compte en monnaie canadienne, détenu dans une institution financière au Canada.

Avantages du paiement par dépôt direct

Le paiement par dépôt direct est une méthode pratique, fiable et sécuritaire, qui permet de gagner du temps dans la réception de vos paiements de factures. Le paiement par dépôt direct est entièrement confidentiel.

Avec les paiements par dépôt direct, il y a moins de risques de perte, de vol ou de dommage, comme cela peut se produire dans le cas des chèques.

Les paiements effectués par paiement par dépôt direct sont versés dans votre compte le jour même où nous aurions posté votre chèque.

TERMS OF REFERENCE

STANDING OFFER AGREEMENT

FOR CCTV INSPECTION, SERVICES, REPAIRS AND SEWER LINING FOR
VARIOUS LOCATIONS IN THE NATIONAL CAPITAL REGION

Terms of Reference

1.0.0 SECTION 1 - GENERAL

1.0 Introduction

The National Capital Commission wishes to retain the services of firms that can provide CCTV, Inspection, repairs and sewer lining services on an "as and when requested" basis under a Standing Offer Agreement (SOA). The locations of the sites would be within the National Capital Region in the provinces of Ontario (Ottawa) and Québec (Gatineau).

One SOA will be awarded for the Ontario side (Ottawa) and another SOA awarded for the Quebec side (Gatineau).

1.1.1 Scope of Work:

The work under this SOA shall include but not be limited to the provision of all labour, materials, accessories, equipment, tools, transportation, services and technical competence for performing the following work in strict accordance with the specifications and subject to the terms and conditions of the contract:

- a) Sewer inspection using closed circuit television inspection (CCTV) of sewers 2,100 mm in diameter or less at specified locations within the NCC lands. The Contractor will not be required to clean sewers before conducting any sewer inspection unless directed by the NCC;
- b) Cleaning of Sanitary sewers, storm sewers, combined sewers and Culverts including removal of all silt, debris, grease and gravel where deemed necessary by the NCC.
- c) CCTV Inspection Septic Tank
- d) Cleaning of Manhole and Catchbasin sumps.
- e) Reports containing paper report along with video media as specified herein.
- f) Sewer spot repairs
- g) Sewer lining

1.1.2 Evaluation Methodology

1. Technical Evaluation:

The NCC shall evaluate and numerically score each technical proposal in accordance with the evaluation criteria shown in the Evaluation Criteria Grid contained within this document. Contractors must obtain a minimum of 80 points in order to have their pricing envelopes opened..

The work is in the Province of Ontario and Québec. The successful Contractor shall fully acquaint himself with all applicable federal, provincial and municipal regulations, codes and guidelines relating to the work of this Standing Offer Agreement. The Contractor will be

required to comply with these by-laws without extra compensation of any nature. The Contractor shall also be required to obtain permits and other such licenses required for any project and pay for any other charges incidental to such permits at no additional cost to the NCC.

2. Indicate Prior Experience and References:

All bidders must provide, and submit on separate letterhead with their proposal submission in the following format indicated below, references on previous or current contracts or Standing Offer Agreements for similar work/similar scope, completed during the last thirty-six (36) month period. References will be contacted.

	<u>Buildings/Location Serviced</u>	<u>Description of Contract</u>	<u>Period of Contract</u>	<u>Contact Name</u>	<u>Telephone Number</u>
1.					() -
2.					() -
3.					() -

All bidders will be required to produce evidence of satisfactory performance on similar contracts that the bidder(s) firm has serviced, including proof of completion on schedule, investigation studies of similar scope and complexity under similar conditions of flow and pipe configuration using the specified technology.

3. Fee Evaluation - Price Schedule Sheet: Appendix A and B

The all inclusive unit prices tendered are to cover all costs associated with the service including, but not limited to:

- a) Scheduling, supervision, co-ordination, training and reporting;
- b) All safety related items such as confined space requirements and traffic control;
- c) Conducting quality control verification of deliverables, etc;
- d) CCTV inspection including measuring actual pipe length, final inspection report, mandrel testing, and “stringing” of sewer if required;
- e) Cleaning of sewers including any disposal costs of residue and time to refill with water;
- f) Sewer re-lining;
- g) Any applicable permits.
- h) Costs related to disposal of materials.
- i) All expenses, administration, overhead and profit.
- j) Costs related to travel to/and from your place of business and a NCC site located in the National Capital Region (Ottawa & Gatineau)
- k) Costs related to employee accommodation and meals, if applicable

1.3.0 CONTRACTOR’S EQUIPMENT, EXPERIENCE & ABILITY:

Prior to undertaking the work, if requested by the NCC, the Contractor shall provide to the NCC the following information:

- a) Names and experience of all operators to be used in carrying out the CCTV inspections and sewer cleaning for this project.
- b) Safety and personal protective (PPE) equipment to be used while conducting the CCTV inspection and sewer cleaning (if required) for examination by the NCC.
- c) Federal security clearances where required for sensitive work areas.

1.4.0 HOURS OF WORK:

Hours of work shall not start prior to or earlier than 7:30 A.M. Ottawa time and conclude not later than 4:00 P.M. Ottawa time from Monday to Friday. Actual working hours may be extended if necessary, where mutually agreed upon in writing between the Contractor and the NCC.

1.5.0 WORK SCHEDULE:

No work will be carried-out without a valid Work Entry Permit.

General

The Contractor may be required to attend meetings for regular or emergency work if deemed necessary by the NCC at no additional cost to the NCC.

Regular Work Assignments

The Contractor shall start work within forty-eight (48) hours of receiving a call up purchase order from the NCC. Every effort/attempt will be made by the NCC to provide at least a full day’s work in a limited work area on each call-out, however, the NCC may require CCTV on a less than 8 hours per day basis. For call-outs requiring less than one full working day, a minimum charge of four hours will apply.

The NCC, on the working day prior to the regular work being done, will advise the Contractor of the location where the contractor’s unit will be working on the following day. The NCC Inspector shall be notified immediately, if for any reason, the contractor’s unit will not be available to complete work on any particular day or part thereof. In the case of lost time due to inclement weather, excessive fogging within the sewers, breakdown, change in work requests, etc., the Contractor shall only be paid for the actual hours worked or metres of work requested.

Where appropriate, the Contractor may be required to submit detailed work schedule to the NCC for work requested. The work shall be scheduled for continuous work if required.

The NCC reserves the right to change or cancel work without any given notice to the Contractor.

Emergency Work

When emergency work is scheduled by the NCC, the Contractor is required to respond within four (4) hours of receipt of a written work order or work request. The NCC, as a result of urgent or emergency requirements, may request work to be completed within forty-eight (48) hours.

1.6.0 JOB MEETINGS:

The NCC’s Inspector reserves the right to call job meeting(s) whenever deemed necessary. The Contractor’s Supervisor or his/her representative shall attend these meetings at no additional cost to the NCC.

1.7.0 MISCELLANEOUS:

1.7.1 DAILY REPORT(S):

The Contractor shall prepare Daily Report(s) for each working day in a form approved by the NCC. This report shall include the following information:

- a) Day, date, start time, end time, hours worked, any downtime and reason for loss of time.
- b) A summary of the location and amount of work done including location (using the NCC’s structure numbers if assigned), lengths of sewer inspected, sewer sizes and comments describing any unusual circumstances encountered.
- c) Number of passes, amount and type of material removed for each pipe section cleaned (sewer cleaning).

Daily reports shall be in a format that is acceptable to the NCC. Any changes to the daily report shall be made by the Contractor at no extra cost to the NCC.

1.7.2 CONTRACTOR'S PERSONNEL:

The Contractor shall provide competent and experienced operators, satisfactory to the NCC, who shall be on-site at all times when work is in progress. Any employee, agent or subcontractor of the Contractor deemed for any reason unsatisfactory by the NCC, shall be removed from the work and replaced upon receipt of written notification to this effect from the NCC to the Contractor. All operators shall be fully skilled and adequate in number to complete the work on schedule. At no time shall a work crew be composed of less than two people.

In areas where an additional person is required, such as for confined space entry or traffic control reasons, the Contractor shall provide additional personnel at no additional cost to the NCC.

1.7.3 OWNERSHIP OF DOCUMENTS:

All plans, drawings, designs, infrastructure data, and documentation provided by the NCC to the Contractor shall remain the property of the NCC, and the content of these documents shall not be communicated in any way to any other party nor used for any purpose other than to execute the work of this Agreement. All documents shall be returned to the NCC at the completion of the contract period or as specified by the NCC.

All draft reports, final reports and video recordings (analog or digital) of the inspection work shall become the property of the NCC, and the contents of those reports shall be treated as confidential and not communicated to any party other than the NCC. The Contractor shall not divulge any information communicated to or found by him while carrying out the work of this Agreement, and such information shall not be used by the Contractor on any other project without the approval of the NCC.

The Contractor shall not duplicate any documents or data, such as plans, maps, reports, videos or digital information without the approval of the NCC.

1.7.4 TRAFFIC CONTROL:

Prior to the commencement of work, the Contractor shall submit a Traffic and Pedestrian Control Plan to the NCC detailing the proposed work area, types and location of traffic control devices to be used and how pedestrian traffic will be managed.

Signs, the placement of signs, flashers and channelizing methods for the guidance and protection of pedestrian and vehicular traffic must conform to all Ministry of Transportation Ontario (MTO) and Ministry of Transportation Quebec (MTQ) Regulations. Specifically the MTO, Ontario Traffic Manual Book 7, Temporary Condition (March 2001) and the Ministry of Transportation of Quebec (MTQ) Ouvrages Routiers Volume V – Traffic Control Devices (December 2012).

Materials and equipment must be confined to one (1) side of the street only and stored so as not to interfere with visibility and/or corner movement. Sidewalks must not be totally obstructed at any time. Satisfactory facilities for pedestrian crossing at corners must be provided. Flag person to guide pedestrian and vehicular traffic when required must be provided.

1.7.5 SEWER ACCESSIBILITY:

Certain sewer locations may not be accessible by roadway and ground conditions may not be suitable for heavy equipment during or soon after a wet weather periods. The Contractor is responsible for re-scheduling work and notifying the NCC in the event a sewer may not be accessible. Should the Contractor or his representative damage an area and is deemed responsible by the NCC, the Contractor will be responsible to reinstate the damaged area to its original condition at no cost to the NCC.

1.7.6 AVAILABLE WATER – HYDRANT:

Water from fire hydrants may be used after obtaining a permit from the City of Ottawa or the City of Gatineau (only when additional quantities of water are required to avoid delays in normal working 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.

1.8.0 CONTROL OF FIRE HYDRANTS PROGRAM:

(i) Registration of Water Carrying Vehicles

Every water-carrying vehicle that would draw water from a City flusher hydrant must be registered with the appropriate municipal drinking water authority by the owner of the vehicle of his/her agent.

The following vehicle information is recorded:

- a) name, address and telephone number of each registered owner
- b) vehicle registration number
- c) license plate number
- d) capacity of vehicle in gallons or cubic meters

(ii) Permit Issuance & Displaying of Permit

Each registered vehicle must have a permit to take from a City flusher hydrant. The permit shall be displayed in the windshield of the vehicle while taking water. The combination of the vehicle permit in the windshield and the flusher band on the hydrant would confirm that the hauler is registered and the water is being taken from a designated hydrant.

2.0.0 SECTION 2 - SEWER LINE CLEANING & INSPECTION

2.1.0 GENERAL

The intent of sewer line cleaning is to remove foreign materials from the lines and restore the sewer to the original carrying capacity. 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. The method of cleaning will depend on the size of the pipe and accessibility for heavy equipment. Selection of a method that suits the conditions is the responsibility of the Contractor.

2.2.0 EQUIPMENT

2.2.1 COMBINATION HIGH-VELOCITY JET (HYDRO-CLEANING)/VACUUM EQUIPMENT

All high velocity sewer cleaning equipment shall be truck-mounted for ease of operation. The equipment shall have a minimum of 150 m of 25 mm I.D. high pressure hose, with a selection of two or more high velocity nozzles. The nozzles shall have a capacity of 230 l/minute (60 GPM) at a working pressure of 13,790 KPa (2,000 PSi). The nozzles shall be capable of producing a scouring action from 15 degrees to 45 degrees in all size lines designated to be cleaned.

Equipment shall carry its own 4,540 litre (1,200 imperial gallons) water tank (minimum) capable of holding corrosive or caustic cleaning or sanitizing chemicals if required by the Inspector, auxiliary engine, pump, and hydraulic drive hose reel. All controls shall be located so that the equipment can be operated above-ground. Suction hose shall be minimum 200 mm (8 inch) diameter capable of a minimum 5,080 mm (200 inches) of negative water pressure and up to 227 m³/min (8,000 CFM) suction.

2.3.0 EXECUTION OF WORK

2.3.1 GENERAL

No work shall be carried out at any time without a valid work permit and no work shall be started without the NCC’s Inspector present to inspect the work.

The NCC’s Inspector will determine the scope of work for all sewer cleaning.

The Contractor must review the cleaning requirements as established by the NCC’s Inspector and select a method of cleaning which will allow for difficult access conditions, (i.e. soft ground unsuitable for vacuum truck) should they exist. The Contractor is responsible for coordinating all sewer-cleaning activities.

The contractor shall ensure that the equipment arrive on site with no disposable materials. The NCC’s inspector will verify this. Should the equipment arrive on site with disposable material, the Contractor will be required to immediately empty the equipment at an approved location, as specified herein, at no additional cost to the NCC.

2.3.2 TRIAL SEWER CLEANING

Prior to executing a Standing Offer Agreement, the best ranked Bidder will be required to undertake a cleaning demonstration of a test section of sewer at his cost. This may include calcite and roots. Failure to meet equipment specifications will result in rejection of the Tender.

2.3.3 CLEANING PRECAUTIONS

During sewer cleaning operations, all reasonable 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 that retard the flow in the sewer line are used, precautions shall be taken to insure that the water pressure created will not damage or cause flooding of public or private property. When possible, the flow of sewage in the sewer shall be used 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.

2.3.4 SEWER CLEANING

The designated sewer sections shall be cleaned between consecutive manholes using high-velocity jet. In general, sewer cleaning will start at the upstream sewer sections and work in a downstream direction. Selection of the equipment used shall be based on the conditions of lines and access limitations. The equipment and methods selected shall be satisfactory to the NCC. The equipment shall be capable of removing dirt, grease, rocks, sand, and other materials and minor obstructions from the sewer lines and manholes (eg. large rocks, manhole covers, etc.). If cleaning of an entire section cannot be successfully performed from one manhole, the equipment shall be set up on the other manhole and cleaning again attempted. If, again, successful cleaning cannot be performed or the equipment fails to traverse the entire manhole section, it will be assumed that a major blockage exists and the cleaning effort shall be abandoned. Where possible, the location of major blockages shall be identified using CCTV equipment.

2.3.5 MATERIAL REMOVAL

All sludge, dirt, sand, rocks, grease, and other solid or semi-solid material resulting from the cleaning operation shall be removed at the downstream manhole of the section being cleaned. Passing

material from manhole section to manhole section, which could cause line stoppages, accumulations of sand in wet wells, or damage pumping equipment, shall not be permitted. The Contractor shall maintain record of the amount and type of material removed for each section of pipe in a format approved by the NCC.

2.3.6 DISPOSAL OF MATERIALS

Debris shall be kept in totally enclosed containers at all times and shall be removed from the site at the end of each day or when the containers are full. Under no circumstances will the Contractor be allowed to accumulate debris, etc. on the site of work beyond the stated time. All debris shall be removed from the site and disposed by the Contractor at no additional cost to the NCC.

All solids or semi-solids resulting from the cleaning operations shall be removed from the site and disposed of in accordance with the Regulations governing the Province. The Contractor must notify the NCC prior to commencing work and throughout the contract period (if changed) of the landfill site or method used for material disposal.

2.3.7 FINAL ACCEPTANCE

Sewer cleaning shall be carried out in accordance with NCC's standards to the satisfaction of the NCC's Inspector.

Final acceptance of the sewer cleaning shall be made upon the acceptance review of the corresponding video CCTV inspection. Should CCTV inspection results reveal the sewer cleaning work to be deficient, the sewer shall be re-cleaned and re-inspected (CCTV) at the Contractor's expense until the work complies with these specifications.

All sewer cleaning activities including number of passes, the amount and type of material removed shall be included in the daily report.

2.4.0 SEWER INSPECTION (CCTV)

2.4.1 GENERAL:

The sewer inspection shall be performed to observe and record structural and service defects along with construction features. The results shall be submitted in an inspection report consisting of paper report along with digital video recording (on CD-R or DVD).

2.4.2 EQUIPMENT:

Inspection equipment shall consist of inspection unit, cameras, lighting, cables, power source, monitor (s), data acquisition system, digital video recorder, and other related equipment.

2.4.3 INSPECTION UNIT (Vehicle):

The inspection unit shall consist of a self-contained vehicle with separate areas for viewing and equipment storage. The vehicle shall be equipped with a cellular telephone or a suitable communication system linking all required crewmembers. The inspection unit shall provide direct accessibility of the CCTV camera/crawler to the manhole from the rear of the vehicle. The inspection unit shall have sufficient spare parts to ensure a minimum of down time. The equipment must be in good mechanical condition to ensure contract completion within the time frame specified with minimal equipment breakdown.

The CCTV unit shall be equipped with a winch.

The video monitoring area shall be arranged such that the NCC's Inspector is provided with sufficient space to sit comfortably and have a clear and direct view of the video.

2.4.4 CAMERA (CCTV):

The closed-circuit television (CCTV) colour camera shall be specifically designed and constructed for sewer inspection. The CCTV camera shall be operative in environments with 100% humidity. Camera equipment shall consist of a self-contained, CCTV camera (high resolution, 400 lines of resolution) with a monitoring unit connected by a co-axial cable. The CCTV camera shall be self propelled and must be capable of surveying in a stable condition any pipe diameter up to 1980 mm and pipe length of up to 300 meters where entry can be obtained at each end, without reversals. The cable shall be of a single length and joining cables to attain 300 meters in cable length will not be permitted.

The CCTV camera must be a true **PAN & TILT** camera physically capable of radial rotation of 360⁰, lateral rotation (tilting) of 275⁰. The adjustment of focus and iris shall allow optimum picture quality and the focal range shall be adjustable from 100 mm to infinity. The camera lens shall include built in directional lighting.

The mounting of the camera shall be adjustable such that the central axis of the camera lies at a point equidistant between the invert and obvert of the pipe during the inspection of the sewer. The camera's picture resolution shall, at the discretion of the NCC, be confirmed at any time using a RS resolution chart (retina type) or other method.

2.4.5 CAMERA TRANSPORTER:

The camera shall be transported through the sewer by means of a self-propelled camera transporter. The transporter shall permit complete inspection of the sewer from the centre of the start manhole to the centre of the finish manhole while maintaining a centerline path. The camera transporter shall be capable of moving forward and reverse at variable speeds. The camera transporter must be stable and adjustable so as the position of the lens (centre) is in the centre of the sewer. The camera position tolerance shall be +/- 10% of the vertical dimension of the sewer.

Example:

Pipe Diameter	Adjustable Height Requirements
305 mm	152 mm
610 mm	305 mm
900 mm	450 mm
1500 mm	750 mm

The Contractor shall immediately notify the NCC's Inspector if the camera can not be adjusted to the required height within the sewer.

The Contractor shall not manually transport or mount the camera on a float or skid type apparatus unless approved by the NCC's Contact Administrator.

2.4.6 LIGHTING:

Lighting for the camera shall be suitable to allow a clear picture of the entire periphery of the pipe. The unit shall have a self-contained lighting system capable of providing a clear monitor picture, and lighting the periphery of the pipe of a minimum illumination level of 100 foot candles over a minimum distance of two (2) meters. If picture quality is unsatisfactory, as determined by the NCC's Inspector, the equipment shall be removed and no payment will be made for an unsatisfactory inspection.

The lighting shall be set-up in such a manner that will project a shadow of the body of the camera and /or transporter onto the surface of the pipe within the field of vision of the camera when it is aimed at the centre of the sewer line.

In order to minimize down time, the contractor shall have the required additional lighting within the CCTV inspection unit.

2.4.7 RECORDING EQUIPMENT:

The Contractor shall provide to the NCC a recordable compact disc (CD/CD-R) or digital video disc (DVD) made by a reputable manufacturer acceptable by the NCC. The digital video files shall be supplied in MPEG1 format (no audio) or MPEG4 DivX format. Picture size shall be 352x240 @ 30 frames per second with a data/bit rate of MPEG-1 @ 2.4 M-bits/sec.

Each video file must show start and ending manhole numbers along with a continuous display of the distance in metres from the starting manhole location. This information shall be shown continuously in the bottom center portion of the video.

Monitor

A monitor located on site shall provide a clear colour picture of sufficient size and clarity to be easily viewed by the Contractors Operator and the NCC's Inspector, and it shall clearly define the details of the interior of the sewer. The picture quality on the monitor shall provide a continuous 300 line (or greater) resolution video picture. Should the monitor not be of sufficient size or clarity, the contractor will be required to upgrade the monitor immediately.

Electronic Distance Measurement (encoder)

Accurate distance measurements are important. Measurement for location of defects shall be above ground by means of a meter device. Marking on the cable, or the like, which would require interpolation for depth of manhole, will not be allowed. The accuracy of the distance meter shall be checked by use of a roll-a-tape, and the accuracy shall be satisfactory to the NCC's Inspector. Linear measure through pipes from the center of manhole must be accurate to within +/- 2 % of the actual measured pipe length by the Contractor.

The Contractor shall replace the roll-a-tape if deemed to be inaccurate by the NCC's Inspector.

2.5.0 EXECUTION OF WORK

2.5.1 PRIOR TO COMMENCING SEWER INSPECTION:

No work shall be carried out at any time without a valid work permit

Prior to commencing the sewer inspection, **the linear distance between the centre of the manhole at each end of the pipe section shall be measured by the Contractor, using a roll-a-tape and recorded.** Flow control measures shall be implemented in the event flow levels are greater than what is specified in section 2.2.1. The NCC's inspector will verify the accuracy of the Contractor's roll-a-tape as required.

The Contractor shall provide all necessary equipment to produce "fog-free" conditions in the sewer, e.g. enclosure, heater and blowers, etc. This is to be completed to the satisfaction of the NCC's Inspector. No sewer inspection shall proceed while FOG is present in the pipe or with a dirty camera lens.

2.5.2 CAMERA/TRANSPORTER MOVEMENT:

All sewer inspections shall be performed in the direction of the flow unless there's no accessibility to a manhole or a reverse setup is required (due to obstruction). The sewer inspection shall be conducted on a single sewer section at any one time and **always starting at the upstream manhole and proceed downstream in a consecutive manner.** Each sewer section shall be inspected by moving the camera equipment along the pipe axis in a self-propelled fashion. The contractor shall not winch the camera without approval of the NCC's Inspector.

The face of the start manhole shall be clearly visible at the start of the inspection and the sewer inspection shall proceed to the centre of the downstream manhole. The sewer inspection recording shall have a continuous chainage/distance indicated on the screen and on the video media used to record the inspection. The chainage/distance shall commence when the front of the CCTV camera is approximately one (1) meter from the centre of the starting manhole and begin to move immediately as the camera moves. The method used shall be the same for all CCTV inspection conducted.

The accuracy measured by the camera/transporter shall be within 2 percent (%) of the length of the sewer as compared to the above ground measured pipe length (roll-a-tape). If the chainage/distance is not accurate to this limit, the NCC can decide to reject the sewer inspection and the Contractor shall re-inspect the sewer at no extra cost to the NCC.

The maximum speed of the camera/transporter during the sewer inspection shall be ten (10) meters per minute.

2.5.3 SURVEY & DEFECT IDENTIFICATION:

The contractor shall record and report survey and defect information to the NCC in a report format as defined in section 3.5.0.

Prior to commencing the defect identification process, the Contractor shall complete all survey information with the exception of the distance measured by the camera/transporter, which is completed at the end of the sewer inspection.

The Contractor shall always begin the defect identification process by entering start of inspection, water level (if available) and reversal should a reverse sewer inspection be required. The end of the defect identification process shall always end by entering the water level (if available) and end of inspection, unless the inspection is abandoned. The water level is recorded at the start of the inspection and as it changes within the sewer in increments of 5% the pipe diameter (if available).

During the sewer inspection the picture shall be in focus from the point of the observation to a minimum of two (2) pipe lengths ahead of the camera. The contractor shall take the necessary time to identify all defects and/or observations necessary to describe to condition of the pipe. The Contractor shall use as many defects/observation necessary to describe what is seen during the sewer inspection. The camera/transporter shall be stopped to ensure accurate recording of all defects or observations. The Contractor shall ensure all defects/observations are identified in a same manner with respect to camera distance and position of the camera. The camera shall stop for a minimum of two (2) seconds and then pan & tilt for all major defects and connections. While the camera is in the process of panning & tilting a defect or connection, the Contractor shall ensure the transporter does not move forward or backward. For all service connections, the operator shall ensure that the camera is observing directly down the connection for no less than five (5) seconds.

It is important to identify all defects and not just the worst ones.

2.5.4 REVERSE SEWER INSPECTION:

If the sewer inspection of an entire sewer line cannot be completed due to a collapse, excessive deformation or intruding connection, obstruction or severe displaced joint (s), the equipment shall be moved to the other manhole (opposite end) and the inspection again attempted.

Should the Contractor not complete the reverse inspection, the NCC's Inspector must be advised immediately. The NCC will decide whether to abandon the sewer inspection, modify the camera/transport set-up, remove the obstruction or perform an emergency repair.

For uncompleted inspections, the Contractor shall provide the following information to the NCC's Inspector:

- a) Structure ID
- b) Measured pipe length (m)
- c) CCTV length information (m)
- d) Reason for abandoned inspection.

2.5.5 SUMP CONDITION (SAG):

If water levels in the sewer do not permit a full view of the pipe due to sag or dips, the Contractor may be required to complete the sewer inspection (first pass) to document the start and end of every sag conditions in the line. Subsequent to identifying sag conditions, the Contractor may be required to perform flow control measures while conducting a second sewer inspection (second pass). The second sewer inspection shall be performed in the same manner as the first inspection. If required, the NCC Inspector will schedule flow control measures and the second sewer inspection with the Contractor.

The NCC's Inspector must be on site when the Contractor performs any flow control measures.

Reports and video recording of sewers requiring second sewer inspection shall be provided with the report submission.

Payment for the subsequent sewer inspection will be based upon the price schedule CCTV sewer inspection per unit rate.

2.5.6 NEW MANHOLE:

Should a new manhole or new pipe section be identified (discovered) during the sewer inspection, the Contractor shall perform the following activities:

- a) Split the existing pipe section into separate segments;
- b) The new pipe section will carry the same identifier (Structure ID) as the previous pipe section inspected and modified to include a suffix such as a, b, c... Each pipe section shall be referenced as individual pipe sections in the inspection log/reports;
- c) The new manhole number shall be the same as the upstream manhole number provided by the NCC and modified to include a suffix a, b, c...
- d) The location of the new pipe section shall be marked on the drawing and provided in the associated paper report.

2.5.7 CAMERA/TRANSPORTER BECOMES STUCK:

The Contractor shall take every reasonable precaution to ensure that his equipment does not become stuck or jammed in the sewer. Should this occur, the Contractor shall notify the NCC immediately. Should excavation be required to remove the camera, the NCC shall arrange for this and provided the contractor is not deemed responsible, will pay the cost. Excavation of the equipment will begin within forty-eight (48) hours of notification.

The Contractor shall be responsible for marking the location of the equipment within the sewer on the ground surface and shall remain on site during the excavation. Once the excavation is secure and the top of pipe is visible, it shall be the Contractor's responsibility to retrieve his equipment from the sewer. No claim for lost time or to retrieve the equipment will be considered due to this occurrence.

2.5.8 DAILY REPORTS:

The Contractor shall submit daily reports to the NCC

2.6.0 INSPECTION REPORTS AND VIDEO RECORDING

2.6.1 SUBMISSIONS / DELIVERABLES:

The Contractor shall submit the deliverables (reports) within **10** working days from the date of the last sewer section (structure ID) was inspected for each paper report. This includes paper reports (2 copies), digital report and video media (including case) in digital format for the associated sewer.

If any report is inaccurate, incomplete, or in the opinion of the NCC insufficient, or if the clarity of the colour video is unacceptable to the NCC, the Contractor shall re-inspect the runs in question and provide new reports at no cost to the NCC.

Documentation of the television report shall be in a format acceptable to the NCC and include the minimum following information:

2.6.2 PAPER REPORT:

The Contractor shall prepare a hard copy paper report in duplicate to the NCC for every video recording provided.

The paper report shall be presented on a street-by-street basis (Survey ID) and be sequenced in the same order as the sewer inspection on the video media. The paper report shall consist of the following:

- a) **Title page;**
- b) **Index summarizing the content of the paper report (sorted by Structure ID);**
- c) **Sewer Inspection (CCTV) information including; Survey & Defect information**
- d) **Digital images of all major pipe defects and two (2) images showing typical pipe condition;**
- e) **Digital image of all manholes (two (2) images per manhole);**
- f) **Map or plan per report showing each pipe inspected including the start and end manholes and surrounding area. (Maps will be provided by the NCC) Contractor may be required to make photocopies to produce necessary maps.**

The paper report shall be submitted for each Survey ID with appropriate cover and backing and it's entire content shall be assembled with a plastic comb type binding (cerlock). Each report shall be properly labeled with a title page (on the cover of the binder) with the project number; survey ID; street information, sewer type (s) along with the date the CCTV inspection was performed.

The digital images for the sewer pipe shall not exceed six (6) per page and shall be positioned in the report to provide viewing of the images and the corresponding defect/observation information. In addition, the Contractor shall provide two (2) digital images of the sewer showing its typical condition at the starting and mid point of the sewer pipe.

Manhole images shall include for each manhole a picture showing the surface surrounding the manhole along with manhole cover and another picture showing the inside condition of the manhole.

The paper report shall be in a format and quality acceptable to the NCC.

2.6.3 Digital Report

The Contractor shall submit in a digital format the survey and defect information for each pipe identified in the paper report. This information must be submitted in a format acceptable to the NCC.

2.6.4 VIDEO RECORDING(S):

2.6.4.1 Digital Format:

The Contractor shall also provide to the NCC a recordable compact-disc (CD-R), digital video disc (DVD) or USB memory stick in one of the following formats:

- a) MPEG1 (MPG) file format. (30 fps, 352 x 240, 2.4 M-bits/sec) (no sound)
- b) MPEG4 DivX (MPG) file format. (30 fps, 352 x 240, 2.4 M-bits/sec) (no sound)

The compact disc CD-R, digital video disc DVD or USB memory stick used shall be made by a reputable manufacturer and must be approved by the Inspector. The NCC must approve the process used and quality of the digital video produced by the Contractor.

Should the Contractor have capability of recording the digital video file within the CCTV unit during the CCTV inspection, the Contractor shall provide a single digital video file for all sewer pipes inspected for every survey ID and the file name for each video file shall be the Survey ID.

Should the digital video file be recorded following the CCTV inspection such as the Contractors office, the Contractor shall provide a single digital video file for every report and the file name for each video file shall be the report ID. The digital video file(s) shall only include complete and not partial pipe sections (structure ID). Should additional CD-R's, DVD's or USB sticks be required per report-ID, the Contractor shall include a prefix to the report-id. (a,b,c.)

2.6.4.2 Analog format:

DELETED

2.7.0 Survey Information (for overlay & report):

The Survey information shall be displayed on the screen and recorded during the sewer inspection for a minimum of fifteen (**15 seconds**) at the start of each sewer pipe section. The overlay shall be displayed on the screen and recorded with a black background and white text or other format acceptable to the NCC. The sewer inspection shall not proceed when the survey information is displayed or without having entered all of the information with the exception of the CCTV pipe length. The survey information overlay shall be displayed on the screen and recorded with the following information **as a minimum**:

<u>ITEM</u>		<u>DESCRIPTION</u>
1	Job/Report Number	Provided by NCC
2	Operator Name	Operator of CCTV Unit
3	Tape Number/Survey ID	Provided by NCC
4	Structure ID	As provided by the NCC (unique identifier) (include "R" for reversal type inspection)
5	Street Name	Identify Street Name including from and to street
6	Upstream Cross Street	(If available) Identify name of cross street near upstream manhole
7	Downstream Cross Street	(If available) Identify name of cross street near downstream manhole
8	Upstream Manhole ID	As provided by the NCC
9	Downstream Manhole ID	As provided by the NCC
10	From House	House address at U/S Manhole
11	To House	House address at D/S Manhole
12	CCTV Pipe Length	Obtained from CCTV Distance (meters)
13	Sewer Type	Identify the type of sewer as sanitary, storm or combined
14	Pipe Size	Pipe Diameter in mm
15	Pipe Material	Pipe Material see schedule D-1
16	Camera Travel Direction	With Flow or Against Flow
17	Date of Inspection	Date of inspection
18	Video Recording Equipment Index or Count	Video Index
19	Comments	

2.7.1 Defect Information (for report)

The report shall contain as a minimum the following defects or observations:

Defect/Observation	Major	Pan & Tilt	Defect Description
Longitudinal Cracks	Y	Y	Hairline or open crack running along pipe axis, pieces still in place.
Circular Cracks	Y	Y	Hairline or open crack running along pipe circumference, pieces still in place
Multiple Cracks (spider web)	Y	Y	Hairline or open crack in a spider web or similar arrangement (no deformation), pieces still in place.
Fractures/Broken Pipe	Y	Y	Cracks become visibly open and pipe walls becomes slightly dislodged, pieces still in place.
Collapse Pipe	Y	Y	Severe deformation greater than (>) 20 % of vertical height of pipe
Partially Collapse pipe	Y	Y	Minor or moderate pipe deformation less than (<) 20% of vertical height of pipe.
Deformed Pipe	Y	Y	Plastic pipes only, pipe is out of round. Enter %H in comments.
Missing Pipe	Y	Y	Missing or hole in pipe significantly larger than a puncture.
Puncture	--	Y	Small hole in pipe from external device.
Broken Joint	--	Y	Piece of pipe is missing at the joint, includes severe chipping.
Offset Joint	--	--	The spigot of the pipe is not significantly aligned with the socket of the adjacent pipe.
Open Joint	--	--	Joint in which adjoining pipe segment is significantly displaced longitudinally.
Exposed Gasket	--	--	Gasket at joint is visible within sewer, use clock from & clock to reference to identify location.
Exposed Rebar	Y	Y	Interior surface of the pipe is defective and the reinforcing steel is visible.
Debris	--	--	Any deposition at invert of pipe, Minor <=10% Moderate: : >10% and <=25% Major >25% of vertical height of pipe.
Grease	Y	Y	Usually located at inside upper surface of the pipe, Minor: <=10% Moderate: >10% and <=25% Major >25% of cross-sectional area of the pipe.
Obstruction	Y	Y	Significant accumulation of material or single object obstructing flow (includes concrete) Describe obstruction in comments.

Defect/Observation	Major	Pan & Tilt	Defect Description
Roots	Y	Y	Roots entering pipe through joints, defects, connections. Minor: taps, strings Moderate: root mass <=10% Major >10% of cross-sectional area of the pipe.
Sag	--	--	Consists of a significant change in water level for an extended distance within the sewer. Generally when the water level increase by approximately 50% of the vertical height of the pipe.
Evidence of Infiltration	--	--	Visible staining indicating previous infiltration, excludes calcite.
Active Infiltration	Y	Y	Visible groundwater entering the sewer though joints, defects or connections, etc. Minor: seepers, slow drips. Moderate: fast drips or stream Major: Gusher, fast stream .
Calcite	--	--	Encrustation of mineral deposits from infiltration, etc. Minor: <=10% Moderate: >10% and <=25% Major >25% of cross-sectional area of the pipe.
Line Deviation	--	--	Horizontal line deflection only, pipe ahead of camera does not lie in a straight line. Clock From used to identify direction of deviation.
Diameter change	--	--	Each occurrence of an increase or decrease in pipe diameter; Describe approximate new diameter in comments.
Connection	--	Y	A lateral pipe which as been added (connecting) to sewer.
Protruding Connection	Y	Y	Connection (lateral) is extending into the sewer, Minor: <=10% Mod: >10% and <=25% Major: >=25% of horizontal width of pipe.
Connection Defective	--	Y	Adjacent connection has visible defects. Provide details in comments.
Observation	Y	Y	Used in conjunction with a comment. Describe observation (s) in comments.
Start of Inspection	--	--	Identifies the start of the sewer inspection. Digital Image Required.
End of Inspection	--	--	Sewer inspection completed; Camera at downstream manhole or end point of inspection.
Inspection abandoned	--	--	Used to identify sewer inspection could not be completed. Describe reason for abandoning the inspection.
Reversal	--	--	Identifies the sewer inspection is proceeding against the flow required due to obstruction or other reason. Provide reason for reversal in comments.

2.7.2 Sewer Inspection (overlay):

Prior to commencing the sewer inspection, the Contractor shall ensure the video index on the recording equipment is adjusted to zero (00:00:00). A continuous video overlay to be displayed and recorded at the bottom of the screen or video image as follows:

Start MH # _____, Distance _____ m, End MH# _____

Should the sewer inspection be a reversal, the contractor shall provide in addition to the above the word “**REV**” (or similar) located just above the distance. (*reversal inspection is performed only when an obstruction exist in the line segment*)

Labeling:

The Contractor shall ensure that the case and the DVD or CD-R is properly labeled with a number conforming to the NCC's format. The disc number shall be the survey id number as provided by the NCC.

DVD, CD-R and Case:

Each video media (DVD and CD-R) and its case shall be labeled with the following information:

<p style="text-align: center;">National Capital Commission Street Name SURVEY ID Date (Month/Day/Year)</p>
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2.8.0 QUALITY ASSURANCE**2.8.1 CAMERA POSITION:**

The camera position tolerance shall be +/- 10% of the vertical dimension of the sewer. Should the camera position not meet this tolerance requirement, the Contractor will be required to re-inspect the sewer at no extra cost to the NCC.

2.8.2 DISTANCE ACCURACY:

Distance measurement within the sewer (CCTV unit) shall be within 2% of the above ground measurement as confirmed by the measured pipe length (roll-a-tape) between the start & finish manhole (centre of the cover).

Should the distance measurement not satisfy this distance accuracy requirement as determined by the NCC's Inspector, the Contractor shall re-inspect the sewer at no extra cost to the NCC.

2.8.3 VIDEO RECORDING RESOLUTION:

The video recording playback shall provide a minimum 400 lines of resolution around the periphery of the picture. If requested by the NCC, the Contractor shall perform a resolution test using a Retina type resolution chart as follows:

- a) Recording shall show the camera and accessories set up for an actual inspection where specified by the NCC;
- b) Should the recording be within a sewer, the recording shall show the camera being introduced and reaching its final position for the test;
- c) Resolution chart shall be placed in front of the camera to provide full picture on the monitor/screen;
- d) Resolution chart shall be illuminated evenly and uniformly without reflection and illumination source shall accurately simulate the lighting conditions used during the sewer inspection;
- e) The test shall be recorded for a period of 30 seconds;
- f) The camera shall be identified on the recording.

g) The test shall be performed at the beginning of the video recording media.

2.8.4 OPERATOR QUALIFICATIONS:

Each inspection unit shall have at a minimum of one operator on site at all times who has a minimum of three (3) years experience operating a sewer CCTV inspection unit. The operator shall have complete knowledge and ability with the operation of the inspection unit and capable of making accurate observations and recording of all conditions.

The operator shall be conversant with and able to carry out field repairs to equipment.

The Contractor shall not perform any sewer inspections without a qualified operator.

2.8.5 SURVEY & DEFECT IDENTIFICATION ACCURACY:

NCC's Verification

On-Site:

The NCC's Inspector may conduct random on site inspection of the survey & defect identification accuracy and will provide the results to the Contractors. Should this verification not meet the NCC's defect identification requirements, the Contractor will be required to make the necessary corrections or may be required to re-inspect the sewer at not additional cost to the NCC.

Report Submissions:

The NCC may review all report submissions for survey & defect identification accuracy, etc. Should this verification not meet the NCC's requirements, the report with deficiencies will be returned to the Contractor. The Contractor shall review and correct all the survey and defect/observation information (report) and re-submit to the NCC.

The process will be repeated until the report submission meets the NCC's requirements.

2.8.6 ACCEPTANCE OF INSPECTION:

Sewer inspection paper report(s) and video recording will be reviewed by the NCC to ensure compliance with the specifications. Non-compliant report submissions will be returned to the Contractor for correction, at the Contractor's expense. The Contractor shall re-submit the corrected submission within seven (7) working days. This process shall be repeated until the NCC is satisfied with the submission.

2.8.7 DAMAGES AND COMPLAINTS:

The Contractor shall immediately notify the NCC's Inspector of each complaint received. The Contractor shall provide to the NCC the following information:

- a) Address
- b) Persons name(s) (if known)
- c) Description of the Complaint (if known)
- d) Action taken by the Contractor (if any).
laws in force in Ontario.

3.0 SECTION 3 - CURED IN PLACE PIPE (CIPP) REHABILITATION

3.1 GENERAL

This specification covers the requirements for the rehabilitation of pipelines by the installation of a continuous and tight fitting cured-in-place pipe liner. Unit rates are to include all labour, equipment and materials required to complete the CIPP lining work including inversion and inflation equipment, curing equipment, hoisting equipment including boom trucks and/or mobile cranes, dewatering equipment and traffic and pedestrian / cyclist control devices.

3.2 REFERENCES

CSA Standards

B64.5-07	Double Check Valve (DCVA) Backflow Preventers [Part of B64 Series-07, Backflow Preventers and Vacuum Breakers Compendium]
D 638-08	Standard Test Method for Tensile Properties of Plastics
D 790-07e1	Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials
D 2990-09	Standard Test Methods for Tensile, Compressive, and Flexural Creep and Creep-Rupture of Plastics
F 1216-09	Standard Practice for Rehabilitation of Existing Pipelines and Conduits by the Inversion and Curing of a Resin-Impregnated Tube
F 1743-08	Standard Practice for Rehabilitation of Existing Pipelines and Conduits by Pulled-in-Place Installation of Cured-in-Place Thermosetting Resin Pipe (CIPP)

NSF International

61-2008	Drinking Water System Components - Health Effects
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American Water Works Association (AWWA)

C510-07	Double Check Valve Backflow Prevention Assembly
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3.3 DEFINITIONS

For the purpose of this specification, the following definitions apply:

Cured-In-Place Pipe (CIPP) Lining means the rehabilitation of sewers and watermains by installation of a CIPP liner system within an existing pipe.

Engineer means a professional engineer licensed by the provincial regulating authority to practice in the province where the project is located: Professional Engineers of Ontario (PEO) or Ordres des Ingénieurs du Québec (OIQ)

Resin means a general purpose, unsaturated, styrene-based, thermoset resin and catalyst system or an epoxy resin and hardener that is compatible with the inversion process.

3.4 DESIGN AND CIPP SUBMISSION REQUIREMENTS

3.4.1 Design Requirements

The engineering design shall be in accordance with ASTM F 1216 with the following criteria:

Design conditions:

- i. CIPP design shall assume fully deteriorated condition of the original pipe.
- ii. CIPP design shall assume no bonding to the original pipe wall.

Parameters for design:

- i. Design life of 50 years.
- ii. Safety factor of 2 on external load.
- iii. Groundwater depth is full soil depth, unless otherwise known.
- iv. Soil modulus of 4.8 MPa, unless otherwise known.
- v. Soil density of 1925 kg/m³, unless otherwise known.
- vi. Live load is Highway H20 of 110 MPa.
- vii. Ovality no greater than 10%.
- viii. Long-term flexural modulus.

Tube installation forces or pressures shall be limited so as not to stretch the tube longitudinally by more than 5% of the original length.

The flexible tube shall be fabricated to a size that neatly fits the internal circumference of the host pipe. Allowance shall be made for circumferential stretching during insertion.

3.4.2 CIPP Submission Requirements

The design for the lining shall be submitted to the Project Manager for approval 14 days prior to installation. The design calculations shall show technical assumptions, identify the design formulas used, and show the wall thickness and finished inside diameter. The ovality condition used in the calculations shall be identified.

The engineering design shall graphically illustrate the installation conditions (i.e., depth of pipeline, water table, pipe invert and crown, and full details of the parameters used).

The following information shall be submitted to the Project Manager 7 days prior to commencing Work:

- a) A work plan outlining the schedule, procedures, and work site.
- b) A list of personnel, including backup personnel, with their qualifications and experience.
- c) A traffic, pedestrian and cyclist control plan.
- d) Safety plan, including the company safety manual and emergency procedures.
- e) Product by-pass or temporary supply system plans, including methods, with a list of equipment to be used.

- f) Manufacturer's technical data containing complete information on:
 - i. Material composition, physical properties, and dimensions of the new product.
 - ii. Recommendations for transportation, handling, and storage.
 - iii. Repair of product damaged during installation.
 - iv. Installation and connection details.
 - v. Inversion pressures.
 - vi. Product curing procedures listing the curing temperature and duration, including cool down time for the product.
- g) Contingency plans for the following potential conditions:
 - i. Damage to the existing service connections.
 - ii. Improper placement of the CIPP.
 - iii. Damage to the host pipe.
 - v. CIPP's failure to achieve structural integrity.

3.5 MATERIALS

3.5.1 Liner

The CIPP liner material shall have the following minimum characteristics:

- a) Initial Structural Properties of the Lining
 - i. Flexural modulus 1,724 MPa according to ASTM D 790.
 - ii. Flexural strength 31 MPa according to ASTM D 790.
 - iii. Tensile strength, for pressure pipes only, 21 MPa according to ASTM D 638.
 - iv. 50-year creep reduction of 50%+ according to ASTM D 2990.

- b) Material Properties for Pipelines

The finished CIPP liner shall meet the chemical resistance requirements in accordance with ASTM F 1216 and shall be resistant to all chemicals and agents found in the water supply.

For CIPP liners installed in watermains, the liner shall be NSF/ANSI 61 compliant.

3.5.2 Tube

The CIPP tube shall consist of one or more layers of flexible needled felt or an equivalent non-woven material capable of carrying resin able to withstand installation pressures and curing temperatures and shall be compatible with the resin system used. The material shall be capable of stretching to fit irregular pipe sections and negotiate bends. The inner layer and the finished pipe surface shall have an impermeable plastic coating for enhancement of corrosion protection, flow, and abrasion properties of the liner. The tube shall be fabricated to a size that fits tightly to the internal circumference and the length of the original conduit, when installed.

The tube shall be marked at regular intervals not to exceed 1.5 m along its entire length with the manufacturer's name or identification symbol.

3.5.3 Resin

The CIPP resin shall meet the requirements of ASTM F 1216.

3.5.4 Calibration Hose

If a calibration hose is used for inflation of the CIPP liner system, it shall comply with the requirements of ASTM F 1743.

3.5.5 Double Check Valve Backflow Preventers

Double check valve backflow preventers shall be according to CSA B64.5 or AWWA C510.

3.6 CONSTRUCTION

3.6.1 General

The Project Manager shall be notified at least 48 hours in advance of starting work.

The Contractor shall confirm the exact size and length of all existing pipes to be rehabilitated prior to undertaking the manufacturing of any tubes.

All required equipment shall be on-site and in satisfactory working order prior to commencing the installation of a lining section.

Work shall progress and continue as required to minimize downtime on pipelines and out-of-service periods on laterals.

At least 7 days prior to any interruption in service, the Contractor shall advise, in writing, all residents who may be affected by the rehabilitation process about the nature, duration, and expected date of any interruption in service and the contact information of the Contractor. The Contractor shall notify all affected residents or businesses of the specific time of the disruption to their service at least 24 hours in advance and shall endeavour to minimize their inconvenience. During the course of the rehabilitation and any associated service interruption, the residents shall be kept regularly informed regarding any matters that affect them. When the interruption has ended, residents shall be advised immediately either verbally or in writing.

The Contractor shall carry out testing as specified in the Contract Documents to confirm that each service connection is live.

3.6.2 Transporting, Unloading, Storing, and Handling Materials

Manufacturer's recommendations for transporting, unloading, storing, and handling of materials shall be followed.

3.6.3 Dewatering

Dewatering shall be according to OPSS 517 or approved Dewatering Plan.

3.6.4 Sewer Lining, By-Pass of Flow for Sewers

When specified in the Contract Documents, during the execution of the work, the sewer flow shall be by-passed around the pipeline being relined.

Pumps and by-pass lines shall be of adequate capacity and size to handle all flows.

When interruption of sewer line flows is necessary to properly conduct the inspection and rehabilitation operations, acceptable methods of flow control shall be used. The Contractor is to make all necessary arrangements with the owners, property managers, and residents of each building. The Contractor shall contact all property owners or tenants or both to coordinate the repair work to the sewer and minimize any impact to the residents and businesses.

During the inspection and rehabilitation, sewer flows shall be shut off in order to enable proper inspection of the pipe invert. After the work is completed, flows shall be restored to normal.

On all liner installation dates, the Contractor shall maintain a primary and stand-by by-pass pump and pump power supply on-site. Sufficient power supply and hoses shall be on-site in order to allow the pump to discharge into the next downstream sewer section. The stand-by by-pass pump and power supply shall be of an equal or better capability than the primary by-pass pump and power supply. No by-pass pumps or related equipment shall be disconnected or removed from the sewer or work site until after all service connections have been reinstated and the Contractor has recorded the post-installation video.

All by-pass pumping shall be in place and operational prior to the final pre-installation inspection. All by-pass pumping capacities and configurations shall be approved by the Project Manager prior to the actual liner installation date. When specified in the Contract Documents, all by-pass pumps and related equipment shall be silenced equipment or contained within an acceptable sound reduction structure.

3.6.5 Preparation of Existing Pipeline

A pre-installation inspection shall be completed in the presence of the Project Manager prior to the commencement of the pipeline rehabilitation.

The existing pipeline to be rehabilitated shall be prepared in accordance with the manufacturer's requirements for CIPP installation. Debris, grease, and other deposits shall be removed from the pipeline. Any obstructions remaining after flushing and cleaning shall be removed without damaging the existing pipeline walls. All roots that interfere with the lining installation shall be removed. Any calcite build-up in the existing pipeline that interferes with the CIPP shall be removed by means that do not damage the existing pipeline walls. Protrusions from deposits such as calcite shall not exceed 6 mm.

Existing service laterals that protrude more than 6 mm into the pipeline shall be removed without damage to the lateral or the pipeline wall. Flail type equipment is not permitted for the removal of protruding laterals.

The Contractor shall also install a screen in the downstream maintenance hole in order to catch any material, including cut outs from service connection openings that may migrate downstream. Such material shall be removed from the maintenance hole.

If the pre-installation inspection reveals an obstruction such as a protruding service connection, a dropped joint, or a collapse that prevents the inversion process and it cannot be removed by conventional sewer cleaning equipment, then the Contractor shall attempt a trenchless technique to remove or repair the obstruction. Any necessary excavation shall be approved in writing by the Project Manager prior to the commencement of the work.

When the filling of voids is necessary to ensure structural integrity of the pipeline and to prevent bridging of the liner, the Contractor shall submit a detailed procedure outlining the process and materials to be used to fill the voids to the Project Manager for approval.

3.6.6 Cured-In-Place Pipe Lining Installation

The installation of the CIPP lining shall be according to the manufacturer's procedure.

Before installation begins, the Contractor shall obtain manufacturer's recommendations of the minimum pressure required to hold the tube tight against the existing pipes and the maximum allowable pressure, so as not to damage the existing pipe. Once the installation has started, pressure shall be maintained between the minimum and maximum pressures until the installation has been completed.

The existing pipes shall be dewatered for any CIPP installation that does not use an inversion method to expand the tube against the pipe wall.

3.6.7 Curing

The CIPP installation shall be according to ASTM F 1216. Qualified personnel shall monitor the curing process and maintain written records, including boiler monitor graphs, water temperatures, lining temperatures, and water head throughout the curing process. These records shall be made available to the Project Manager upon request.

The CIPP shall be inserted and cured in accordance with the manufacturer's parameters and procedures required for the process.

Readings shall be made and recorded at 30-minute intervals of:

- a) the boiler water, temperature in.
- b) the boiler water, temperature out.

Liner external surface temperatures at access points shall be measured using thermocouples. Thermocouples shall be placed at the invert level at the remote end of the repair to determine temperature at this location during the curing cycle.

The time required for the cure shall be determined by the temperature monitoring and shall be adjusted to suit the lengths, diameter, thickness, field conditions, and ambient temperature applicable to each pipe lining section.

Leakage testing of the CIPP shall be conducted during the cure while under hydrostatic pressure.

3.6.8 Cool-Down

The CIPP shall be cooled to a temperature below 38 °C before relieving the hydrostatic head. Cool-down may be accomplished by the introduction of cool water into the CIPP to replace water being drained from a small hole made in the down-stream end. Care should be taken in the release of the static head so that a vacuum does not develop that could damage the newly installed CIPP.

Prior to releasing the water used for curing the liner, the water shall be cooled to the ambient temperature of the sewer into which it is to drain.

3.6.9 Inflation Bladder Removal

For pulled-in-place installation techniques where the inflation bladder is designed to not bond to the CIPP, all portions of the bladder material shall be removed from the CIPP.

3.6.10 Liner Termination

The liner termination at and through sections shall be neat and free of obstructions. If the liner termination fails to make a watertight seal with the existing pipe, a seal shall be applied at this point. Sealing process shall use a material compatible with the liner pipe.

In the case where the liner is installed through an existing maintenance hole, the liner shall be trimmed neatly and parged at the spring line of the liner and at the interface between the liner and any other existing sewers or service connections entering into the maintenance hole.

4.0 Site Restoration

Following completion of the work, the contractor is responsible for restoring areas damaged by work activities to restore disturbed areas to the pre-work conditions.

- Grassed areas are to be reinstated with topsoil and seed or sod at the direction of the NCC Inspector.
- Road cuts, where authorized, are to be reinstated to match the existing road structure, or as directed by the Engineer.

5.0 Safety and Flow Control

5.1 Informational and Warning Devices

In addition to vehicular traffic management, the contractor shall also provide additional measures as required to control pedestrian and cyclist traffic within the work area. These additional measures may include, but not limited to, the following:

- Provide and maintain signs, flashing warning lights and other devices required to indicate construction activities or other temporary and unusual conditions resulting from Project Work which requires road user response.
- Supply and erect signs, delineators, barricades and miscellaneous warning devices, as specified in applicable standards.
- Place signs and other devices according to applicable standards in recommended locations.
- Meet with Engineer prior to commencement of work to prepare a list of signs and other devices required for the project. If on site situation changes, revise list to approval of Engineer.

5.2 Traffic Control Personnel

In situations listed below, provide competent flag persons, trained and equipped in accordance with the relevant workplace safety legislation: Occupational Health and Safety Act (OHSA), Ontario or Act Respecting Occupational Health and Safety (AOHS), Quebec.

- When public traffic is required to pass working vehicles or equipment, which block all, or part of travelled roadway;
- When it is necessary to institute one-way traffic system through construction area or other blockage where traffic volumes are heavy, approach speeds are high and traffic signal system is not in use;
- When workmen or equipment are employed on travelled way over brow of hills, around sharp curves or at other locations where oncoming traffic would not otherwise have adequate warning;
- Where temporary protection is required while other traffic control devices are being erected or taken down;
- For emergency protection when other traffic control devices are not readily available;
- In situations where complete protection for workers, working equipment and public traffic is not provided by other traffic control devices.

5.3 Flow Control and Management

Work areas where bypass flow control is required, the contractor is to prepare and submit a flow bypass management plan which is to include as a minimum:

- Calculations showing required bypass flow capacity
- Schematic layout showing bypass layout, pump locations, effluent discharge locations, suction inlet locations, fish screen locations (if required)
- Proposed pumping equipment
- Associated erosion and sediment control measures related to bypass flow control

6.0 Evaluation Criteria Grid

Technical evaluation of the proposal will be completed in accordance with the clauses contained in the Request for Proposal document and evaluated based on the following criteria chart:

6.1 RATED REQUIREMENTS

The proposals shall be evaluated on the following:

	<i>Rated Requirements</i>	<i>Weighted factor</i>
1	Contractor's comparable experience in: Sewer inspection using closed circuit television inspection, <u>re-lining</u> , <u>mitigation in environmentally sensitive sites</u> , reporting and repairs. This will be evaluated from the Contractor's Qualification Statement and List of Projects (Ref Section 1.1.2.2). The greater the comparable experience for each of these items the more points that will be awarded. The NCC reserves the right to self assess in the range of \$25K-45K	50
2	Experience of proposed Principle-in-Charge, Project Manager, Site Superintendent, Foreman, and Estimator on projects of similar nature and evidence that their performance was deemed satisfactory to the consultants and owner and that the project was completed within schedule. For projects not completed on schedule, explain why. This will be evaluated from the Contractor's Qualification Statement, List of Projects, and References. References may be contacted.	25
3	Demonstration of Contractor's quality control measures and ability to achieve a high standard of workmanship to specified standards and consultant/owner expectations. This will be evaluated from photographs / photocopies and testimonials / references included with the Contractor's Qualification Statement and List of Projects	15
4	Health and Safety policy statement and record of lost time accidents over the last 5 years.	10
		100

The technical evaluation is based on a total of 100 points. The minimum required is 80 points. Only the price envelopes of those firms that qualify (ie. 80 points or over), shall be opened.

The selection of the successful firm(s) shall be made on the basis of the best overall value to the Commission in terms of technical merit and cost, per province. This will be determined by dividing the proposed cost by the total technical score so as to establish the lowest cost per point per province. The total cost for the purpose of evaluating proposals shall be the sum of the two totals of Appendices A and B excluding taxes.

Appendices A and B: Price Forms