



THE CITY OF WINNIPEG

BID OPPORTUNITY

BID OPPORTUNITY NO. 175-2015

ST. JAMES INTERCEPTOR SIPHON REHABILITATION BY CIPP

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PART B - BIDDING PROCEDURES

B1. CONTRACT TITLE

B1.1 ST. JAMES INTERCEPTOR SIPHON REHABILITATION BY CIPP

B2. SUBMISSION DEADLINE

B2.1 The Submission Deadline is 12:00 noon Winnipeg time, March 17, 2015.

B2.2 Bids determined by the Manager of Materials to have been received later than the Submission Deadline will not be accepted and will be returned upon request.

B2.3 The Contract Administrator or the Manager of Materials may extend the Submission Deadline by issuing an addendum at any time prior to the time and date specified in B2.1.

B3. SITE INVESTIGATION

B3.1 Further to C3.1, the Bidder may view the Site without making an appointment.

B4. ENQUIRIES

B4.1 All enquiries shall be directed to the Contract Administrator identified in D4.1.

B4.2 If the Bidder finds errors, discrepancies or omissions in the Bid Opportunity, or is unsure of the meaning or intent of any provision therein, the Bidder shall notify the Contract Administrator of the error, discrepancy or omission, or request a clarification as to the meaning or intent of the provision at least three (3) Business Days prior to the Submission Deadline.

B4.3 Responses to enquiries which, in the sole judgment of the Contract Administrator, require a correction to or a clarification of the Bid Opportunity will be provided by the Contract Administrator to all Bidders by issuing an addendum.

B4.4 Responses to enquiries which, in the sole judgment of the Contract Administrator, do not require a correction to or a clarification of the Bid Opportunity will be provided by the Contract Administrator only to the Bidder who made the enquiry.

B4.5 The Bidder shall not be entitled to rely on any response or interpretation received pursuant to B4 unless that response or interpretation is provided by the Contract Administrator in writing.

B5. CONFIDENTIALITY

B5.1 Information provided to a Bidder by the City or acquired by a Bidder by way of further enquiries or through investigation is confidential. Such information shall not be used or disclosed in any way without the prior written authorization of the Contract Administrator. The use and disclosure of the confidential information shall not apply to information which:

- (a) was known to the Bidder before receipt hereof; or
- (b) becomes publicly known other than through the Bidder; or
- (c) is disclosed pursuant to the requirements of a governmental authority or judicial order.

B5.2 The Bidder shall not make any statement of fact or opinion regarding any aspect of the Bid Opportunity to the media or any member of the public without the prior written authorization of the Contract Administrator.

B6. ADDENDA

- B6.1 The Contract Administrator may, at any time prior to the Submission Deadline, issue addenda correcting errors, discrepancies or omissions in the Bid Opportunity, or clarifying the meaning or intent of any provision therein.
- B6.2 The Contract Administrator will issue each addendum at least two (2) Business Days prior to the Submission Deadline, or provide at least two (2) Business Days by extending the Submission Deadline.
- B6.2.1 Addenda will be available on the Bid Opportunities page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/bidopp.asp>
- B6.2.2 The Bidder is responsible for ensuring that he/she has received all addenda and is advised to check the Materials Management Division website for addenda regularly and shortly before the Submission Deadline, as may be amended by addendum.
- B6.3 The Bidder shall acknowledge receipt of each addendum in Paragraph 10 of Form A: Bid. Failure to acknowledge receipt of an addendum may render a Bid non-responsive.

B7. SUBSTITUTES

- B7.1 The Work is based on the Plant, Materials and methods specified in the Bid Opportunity.
- B7.2 Substitutions shall not be allowed unless application has been made to and prior approval has been granted by the Contract Administrator in writing.
- B7.3 Requests for approval of a substitute will not be considered unless received in writing by the Contract Administrator at least five (5) Business Days prior to the Submission Deadline.
- B7.4 The Bidder shall ensure that any and all requests for approval of a substitute:
- (a) provide sufficient information and details to enable the Contract Administrator to determine the acceptability of the Plant, Material or method as either an approved equal or alternative;
 - (b) identify any and all changes required in the applicable Work, and all changes to any other Work, which would become necessary to accommodate the substitute;
 - (c) identify any anticipated cost or time savings that may be associated with the substitute;
 - (d) certify that, in the case of a request for approval as an approved equal, the substitute will fully perform the functions called for by the general design, be of equal or superior substance to that specified, is suited to the same use and capable of performing the same function as that specified and can be incorporated into the Work, strictly in accordance with the proposed work schedule and the dates specified in the Supplemental Conditions for Substantial Performance and Total Performance;
 - (e) certify that, in the case of a request for approval as an approved alternative, the substitute will adequately perform the functions called for by the general design, be similar in substance to that specified, is suited to the same use and capable of performing the same function as that specified and can be incorporated into the Work, strictly in accordance with the proposed work schedule and the dates specified in the Supplemental Conditions for Substantial Performance and Total Performance.
- B7.5 The Contract Administrator, after assessing the request for approval of a substitute, may in his/her sole discretion grant approval for the use of a substitute as an "approved equal" or as an "approved alternative", or may refuse to grant approval of the substitute.
- B7.6 The Contract Administrator will provide a response in writing, at least two (2) Business Days prior to the Submission Deadline, to the Bidder who requested approval of the substitute.

- B7.6.1 The Contract Administrator will issue an Addendum, disclosing the approved materials, equipment, methods and products to all potential Bidders. The Bidder requesting and obtaining the approval of a substitute shall be responsible for disseminating information regarding the approval to any person or persons he/she wishes to inform.
- B7.7 If the Contract Administrator approves a substitute as an “approved equal”, any Bidder may use the approved equal in place of the specified item.
- B7.8 If the Contract Administrator approves a substitute as an “approved alternative”, any Bidder bidding that approved alternative may base his/her Total Bid Price upon the specified item but may also indicate an alternative price based upon the approved alternative. Such alternatives will be evaluated in accordance with B17.
- B7.9 No later claim by the Contractor for an addition to the Total Bid Price because of any other changes in the Work necessitated by the use of an approved equal or an approved alternative will be considered.
- B7.10 Notwithstanding B7.2 to B7.9, and in accordance with B8.6 deviations inconsistent with the Bid Opportunity document shall be evaluated in accordance with B17.1(a).

B8. BID COMPONENTS

- B8.1 The Bid shall consist of the following components:
- (a) Form A: Bid;
 - (b) Form B: Prices;
 - (c) Bid Security
 - (i) Form G1: Bid Bond and Agreement to Bond, or Form G2: Irrevocable Standby Letter of Credit and Undertaking, or a certified cheque or draft;
- B8.2 Further to B8.1, the Bidder should include the written correspondence from the Contract Administrator approving a substitute in accordance with B7.
- B8.3 All components of the Bid shall be fully completed or provided, and submitted by the Bidder no later than the Submission Deadline, with all required entries made clearly and completely, to constitute a responsive Bid.
- B8.4 The Bid shall be submitted enclosed and sealed in an envelope clearly marked with the Bid Opportunity number and the Bidder's name and address.
- B8.4.1 Samples or other components of the Bid which cannot reasonably be enclosed in the envelope may be packaged separately, but shall be clearly marked with the Bid Opportunity number, the Bidder's name and address, and an indication that the contents are part of the Bidder's Bid.
- B8.5 Bidders are advised not to include any information/literature except as requested in accordance with B8.1.
- B8.6 Bidders are advised that inclusion of terms and conditions inconsistent with the Bid Opportunity document, including the General Conditions, will be evaluated in accordance with B17.1(a).
- B8.7 Bids submitted by facsimile transmission (fax) or internet electronic mail (e-mail) will not be accepted.

B8.8 Bids shall be submitted to:
The City of Winnipeg
Corporate Finance Department
Materials Management Division
185 King Street, Main Floor
Winnipeg MB R3B 1J1

B9. BID

B9.1 The Bidder shall complete Form A: Bid, making all required entries.

B9.2 Paragraph 2 of Form A: Bid shall be completed in accordance with the following requirements:

- (a) if the Bidder is a sole proprietor carrying on business in his/her own name, his/her name shall be inserted;
- (b) if the Bidder is a partnership, the full name of the partnership shall be inserted;
- (c) if the Bidder is a corporation, the full name of the corporation shall be inserted;
- (d) if the Bidder is carrying on business under a name other than his/her own, the business name and the name of every partner or corporation who is the owner of such business name shall be inserted.

B9.2.1 If a Bid is submitted jointly by two or more persons, each and all such persons shall identify themselves in accordance with B9.2.

B9.3 In Paragraph 3 of Form A: Bid, the Bidder shall identify a contact person who is authorized to represent the Bidder for purposes of the Bid.

B9.4 Paragraph 12 of Form A: Bid shall be signed in accordance with the following requirements:

- (a) if the Bidder is a sole proprietor carrying on business in his/her own name, it shall be signed by the Bidder;
- (b) if the Bidder is a partnership, it shall be signed by the partner or partners who have authority to sign for the partnership;
- (c) if the Bidder is a corporation, it shall be signed by its duly authorized officer or officers and the corporate seal, if the corporation has one, should be affixed;
- (d) if the Bidder is carrying on business under a name other than his/her own, it shall be signed by the registered owner of the business name, or by the registered owner's authorized officials if the owner is a partnership or a corporation.

B9.4.1 The name and official capacity of all individuals signing Form A: Bid should be printed below such signatures.

B9.5 If a Bid is submitted jointly by two or more persons, the word "Bidder" shall mean each and all such persons, and the undertakings, covenants and obligations of such joint Bidders in the Bid and the Contract, when awarded, shall be both joint and several.

B10. PRICES

B10.1 The Bidder shall state a price in Canadian funds for each item of the Work identified on Form B: Prices.

B10.1.1 Notwithstanding C12.2.3(c), prices on Form B: Prices shall not include the Manitoba Retail Sales Tax (MRST, also known as PST), which shall be extra where applicable.

B10.2 The quantities listed on Form B: Prices are to be considered approximate only. The City will use said quantities for the purpose of comparing Bids.

B10.3 The quantities for which payment will be made to the Contractor are to be determined by the Work actually performed and completed by the Contractor, to be measured as specified in the applicable Specifications.

B10.4 Payments to Non-Resident Contractors are subject to Non-Resident Withholding Tax pursuant to the Income Tax Act (Canada).

B11. QUALIFICATION

B11.1 The Bidder shall:

- (a) undertake to be in good standing under The Corporations Act (Manitoba), or properly registered under The Business Names Registration Act (Manitoba), or otherwise properly registered, licensed or permitted by law to carry on business in Manitoba; and
- (b) be financially capable of carrying out the terms of the Contract; and
- (c) have all the necessary experience, capital, organization, and equipment to perform the Work in strict accordance with the terms and provisions of the Contract.

B11.2 The Bidder and any proposed Subcontractor (for the portion of the Work proposed to be subcontracted to them) shall:

- (a) be responsible and not be suspended, debarred or in default of any obligations to the City. A list of suspended or debarred individuals and companies is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/debar.stm>

B11.3 The Bidder and/or any proposed Subcontractor (for the portion of the Work proposed to be subcontracted to them) shall:

- (a) have successfully carried out work similar in nature, scope and value to the Work; and
- (b) be fully capable of performing the Work required to be in strict accordance with the terms and provisions of the Contract; and
- (c) have a written workplace safety and health program if required pursuant to The Workplace Safety and Health Act (Manitoba); and
- (d) utilize only CIPP suppliers and installers pre-approved under the City of Winnipeg "Request for Qualifications for the Supply and Installation of Cured-in-Place Pipe (CIPP), Bid Opportunity No. 403-2007".

B11.4 Further to B11.3(c), the Bidder shall, within five (5) Business Days of a request by the Contract Administrator, provide proof satisfactory to the Contract Administrator that the Bidder/Subcontractor has a workplace safety and health program meeting the requirements of The Workplace Safety and Health Act (Manitoba), by providing:

- (a) a copy of their valid Manitoba COR certificate and Letter of Good Standing (or Manitoba equivalency) as issued under the Certificate of Recognition (COR) Program administered by the Construction Safety Association of Manitoba or by the Manitoba Heavy Construction Association's WORKSAFELY™ COR™ Program; or
- (b) a copy of their valid Manitoba SECOR™ certificate and Letter of Good Standing (or Manitoba equivalency) as issued under the Small Employer Certificate of Recognition Program (SECOR™) administered by the Construction Safety Association of Manitoba or by the Manitoba Heavy Construction Association's WORKSAFELY™ COR™ Program; or
- (c) a report or letter to that effect from an independent reviewer acceptable to the City. (A list of acceptable reviewers and the review template are available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/>).

B11.5 The Bidder shall submit, within three (3) Business Days of a request by the Contract Administrator, proof satisfactory to the Contract Administrator of the qualifications of the Bidder and of any proposed Subcontractor.

B11.6 The Bidder shall provide, on the request of the Contract Administrator, full access to any of the Bidder's equipment and facilities to confirm, to the Contract Administrator's satisfaction, that the Bidder's equipment and facilities are adequate to perform the Work.

B12. ELIGIBILITY

B12.1 Various organizations provided investigative services with respect to this Project. In the City's opinion, this relationship or association does not create a conflict of interest or will not likely create a perception of conflict of interest because of this full disclosure and related information. The organizations are:

- (a) Capital Sewer Services Inc. (Brian Ratchford)
- (b) Insituform Technologies Limited (Kevan Howard)

B13. BID SECURITY

B13.1 The Bidder shall provide bid security in the form of:

- (a) a bid bond, in the amount of at least ten percent (10%) of the Total Bid Price, and agreement to bond of a company registered to conduct the business of a surety in Manitoba, in the form included in the Bid Submission (Form G1: Bid Bond and Agreement to Bond); or
- (b) an irrevocable standby letter of credit, in the amount of at least ten percent (10%) of the Total Bid Price, and undertaking issued by a bank or other financial institution registered to conduct business in Manitoba and drawn on a branch located in Winnipeg, in the form included in the Bid Submission (Form G2: Irrevocable Standby Letter of Credit and Undertaking); or
- (c) a certified cheque or draft payable to "The City of Winnipeg", in the amount of at least fifty percent (50%) of the Total Bid Price, drawn on a bank or other financial institution registered to conduct business in Manitoba.

B13.1.1 If the Bidder submits alternative bids, the bid security shall be in the amount of the specified percentage of the highest Total Bid Price submitted.

B13.1.2 All signatures on bid securities shall be original.

B13.1.3 The Bidder shall sign the Bid Bond.

B13.1.4 The Surety shall sign and affix its corporate seal on the Bid Bond and the Agreement to Bond.

B13.2 The bid security of the successful Bidder and the next two lowest evaluated responsive and responsible Bidders will be released by the City when a Contract for the Work has been duly executed by the successful Bidder and the performance security furnished as provided herein. The bid securities of all other Bidders will be released when a Contract is awarded.

B13.2.1 Where the bid security provided by the successful Bidder is in the form of a certified cheque or draft pursuant to B13.1(c), it will be deposited and retained by the City as the performance security and no further submission is required.

B13.2.2 The City will not pay any interest on certified cheques or drafts furnished as bid security or subsequently retained as performance security.

B13.3 The bid securities of all Bidders will be released by the City as soon as practicable following notification by the Contract Administrator to the Bidders that no award of Contract will be made pursuant to the Bid Opportunity.

B14. OPENING OF BIDS AND RELEASE OF INFORMATION

B14.1 Bids will be opened publicly, after the Submission Deadline has elapsed, in the office of the Corporate Finance Department, Materials Management Division, or in such other office as may be designated by the Manager of Materials.

B14.1.1 Bidders or their representatives may attend.

B14.2 Following the Submission Deadline, the names of the Bidders and their Total Bid Prices (unevaluated, and pending review and verification of conformance with requirements) will be available on the Closed Bid Opportunities (or Public/Posted Opening & Award Results) page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/default.stm>

B14.3 After award of Contract, the name(s) of the successful Bidder(s) and the Contract amount(s) will be available on the Closed Bid Opportunities (or Public/Posted Opening & Award Results) page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/default.stm>

B14.4 The Bidder is advised that any information contained in any Bid may be released if required by City policy or procedures, by The Freedom of Information and Protection of Privacy Act (Manitoba), by other authorities having jurisdiction, or by law.

B15. IRREVOCABLE BID

B15.1 The Bid(s) submitted by the Bidder shall be irrevocable for the time period specified in Paragraph 11 of Form A: Bid.

B15.2 The acceptance by the City of any Bid shall not release the Bids of the next two lowest evaluated responsive Bidders and these Bidders shall be bound by their Bids on such Work until a Contract for the Work has been duly executed and the performance security furnished as herein provided, but any Bid shall be deemed to have lapsed unless accepted within the time period specified in Paragraph 11 of Form A: Bid.

B16. WITHDRAWAL OF BIDS

B16.1 A Bidder may withdraw his/her Bid without penalty by giving written notice to the Manager of Materials at any time prior to the Submission Deadline.

B16.1.1 Notwithstanding C23.3, the time and date of receipt of any notice withdrawing a Bid shall be the time and date of receipt as determined by the Manager of Materials.

B16.1.2 The City will assume that any one of the contact persons named in Paragraph 3 of Form A: Bid or the Bidder's authorized representatives named in Paragraph 12 of Form A: Bid, and only such person, has authority to give notice of withdrawal.

B16.1.3 If a Bidder gives notice of withdrawal prior to the Submission Deadline, the Manager of Materials will:

- (a) retain the Bid until after the Submission Deadline has elapsed;
- (b) open the Bid to identify the contact person named in Paragraph 3 of Form A: Bid and the Bidder's authorized representatives named in Paragraph 12 of Form A: Bid; and
- (c) if the notice has been given by any one of the persons specified in B16.1.3(b), declare the Bid withdrawn.

B16.2 A Bidder who withdraws his/her Bid after the Submission Deadline but before his/her Bid has been released or has lapsed as provided for in B15.2 shall be liable for such damages as are imposed upon the Bidder by law and subject to such sanctions as the Chief Administrative Officer considers appropriate in the circumstances. The City, in such event, shall be entitled to all rights and remedies available to it at law, including the right to retain the Bidder's bid security.

B17. EVALUATION OF BIDS

- B17.1 Award of the Contract shall be based on the following bid evaluation criteria:
- (a) compliance by the Bidder with the requirements of the Bid Opportunity, or acceptable deviation there from (pass/fail);
 - (b) qualifications of the Bidder and the Subcontractors, if any, pursuant to B11 (pass/fail);
 - (c) Total Bid Price;
 - (d) economic analysis of any approved alternative pursuant to B7.
- B17.2 Further to B17.1(a), the Award Authority may reject a Bid as being non-responsive if the Bid is incomplete, obscure or conditional, or contains additions, deletions, alterations or other irregularities. The Award Authority may reject all or any part of any Bid, or waive technical requirements or minor informalities or irregularities, if the interests of the City so require.
- B17.3 Further to B17.1(b), the Award Authority shall reject any Bid submitted by a Bidder who does not demonstrate, in his/her Bid or in other information required to be submitted, that he/she is responsible and qualified.
- B17.4 Further to B17.1(c), the Total Bid Price shall be the sum of the quantities multiplied by the unit prices for each item shown on Form B: Prices.
- B17.4.1 Further to B17.1(a), in the event that a unit price is not provided on Form B: Prices, the City will determine the unit price by dividing the Amount (extended price) by the approximate quantity, for the purposes of evaluation and payment.

B18. AWARD OF CONTRACT

- B18.1 The City will give notice of the award of the Contract or will give notice that no award will be made.
- B18.2 The City will have no obligation to award a Contract to a Bidder, even though one or all of the Bidders are determined to be responsible and qualified, and the Bids are determined to be responsive.
- B18.2.1 Without limiting the generality of B18.2, the City will have no obligation to award a Contract where:
- (a) the prices exceed the available City funds for the Work;
 - (b) the prices are materially in excess of the prices received for similar work in the past;
 - (c) the prices are materially in excess of the City's cost to perform the Work, or a significant portion thereof, with its own forces;
 - (d) only one Bid is received; or
 - (e) in the judgment of the Award Authority, the interests of the City would best be served by not awarding a Contract.
- B18.3 Where an award of Contract is made by the City, the award shall be made to the responsible and qualified Bidder submitting the lowest evaluated responsive Bid, in accordance with B17.
- B18.3.1 Following the award of contract, a Bidder will be provided with information related to the evaluation of his/her Bid upon written request to the Contract Administrator.
- B18.4 If no Contract is awarded, then the City of Winnipeg will pay the requested Bidder up to a maximum of five hundred dollars (\$500.00) for each of the requested submissions listed in E2 for the preparation and delivery of Shop Drawings. Delivery of the Shop Drawings to the City and payment of the above amounts will constitute full and final consideration of each party to the other and neither party will have any further liability to the other with respect to this Bid Opportunity.

PART C - GENERAL CONDITIONS

C0. GENERAL CONDITIONS

- C0.1 The *General Conditions for Construction* (Revision 2006 12 15) are applicable to the Work of the Contract.
- C0.1.1 The *General Conditions for Construction* are available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at http://www.winnipeg.ca/matmgt/gen_cond.stm
- C0.2 A reference in the Bid Opportunity to a section, clause or subclause with the prefix “**C**” designates a section, clause or subclause in the *General Conditions for Construction*.

PART D - SUPPLEMENTAL CONDITIONS

GENERAL

D1. GENERAL CONDITIONS

D1.1 In addition to the *General Conditions for Construction*, these Supplemental Conditions are applicable to the Work of the Contract.

D2. SCOPE OF WORK

D2.1 The Work to be done under the Contract shall consist of Sewer Rehabilitation by Cured-in-Place (CIPP) Methods.

D2.2 The major components of the Work are as follows:

- (a) Mobilization to the Site;
- (b) Sewer cleaning and video inspection;
- (c) Internal sewer preparation;
- (d) Flow control (sewer);
- (e) Full segment lining by CIPP, and
- (f) Surface restoration, site clean-up and demobilization.

D3. DEFINITIONS

D3.1 When used in this Bid Opportunity:

- (a) "**ASTM**" means American Society for Testing and Materials;
- (b) "**CIPP**" means Cured in Place Pipe;
- (c) "**CIPP Supplier and Installer**" means only the Suppliers and Installers that were pre-approved under the City of Winnipeg "Request for Qualifications for Supply and Installation of Cured-in-Place-Pipe (CIPP), Bid Opportunity No. 403-2007" shall be approved for this project.

D4. CONTRACT ADMINISTRATOR

D4.1 The Contract Administrator is AECOM Canada Ltd., represented by:

Adam Braun, P.Eng.
Municipal Engineer
99 Commerce Drive
Winnipeg, MB R3P 0Y7

Telephone No. 204-477-5381

Facsimile No. 204-284-2040

D4.2 At the pre-construction meeting, Mr. Braun will identify additional personnel representing the Contract Administrator and their respective roles and responsibilities for the Work.

D4.3 Bids Submissions must be submitted to the address in B8.8.

D5. CONTRACTOR'S SUPERVISOR

D5.1 At the pre-construction meeting, the Contractor shall identify his/her designated supervisor and any additional personnel representing the Contractor and their respective roles and responsibilities for the Work.

D6. OWNERSHIP OF INFORMATION, CONFIDENTIALITY AND NON DISCLOSURE

- D6.1 The Contract, all deliverables produced or developed, and information provided to or acquired by the Contractor are the property of the City and shall not be appropriated for the Contractors own use, or for the use of any third party.
- D6.2 The Contractor shall not make any public announcements or press releases regarding the Contract, without the prior written authorization of the Contract Administrator.
- D6.3 The following shall be confidential and shall not be disclosed by the Contractor to the media or any member of the public without the prior written authorization of the Contract Administrator;
- (a) information provided to the Contractor by the City or acquired by the Contractor during the course of the Work;
 - (b) the Contract, all deliverables produced or developed; and
 - (c) any statement of fact or opinion regarding any aspect of the Contract.
- D6.4 A Contractor who violates any provision of D6 may be determined to be in breach of Contract.

D7. NOTICES

- D7.1 Except as provided for in C23.2.2, all notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications to the Contractor shall be sent to the address or facsimile number identified by the Contractor in Paragraph 2 of Form A: Bid.
- D7.2 All notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications to the City, except as expressly otherwise required in D7.3, D7.4 or elsewhere in the Contract, shall be sent to the attention of the Contract Administrator at the facsimile number identified in D4.1.
- D7.3 Notwithstanding C21., all notices of appeal to the Chief Administrative Officer shall be sent to the attention of the Chief Financial Officer at the following facsimile number:
- The City of Winnipeg
Chief Financial Officer
Facsimile No.: 204 949-1174
- D7.4 All notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications required to be submitted or returned to the City Solicitor shall be sent to the following facsimile number:
- The City of Winnipeg
Legal Services Department
Attn: Director of Legal Services
Facsimile No.: 204 947-9155

D8. FURNISHING OF DOCUMENTS

- D8.1 Upon award of the Contract, the Contractor will be provided with five (5) complete sets of the Bid Opportunity. If the Contractor requires additional sets of the Bid Opportunity, they will be supplied to him/her at cost.

SUBMISSIONS

D9. AUTHORITY TO CARRY ON BUSINESS

- D9.1 The Contractor shall be in good standing under The Corporations Act (Manitoba), or properly registered under The Business Names Registration Act (Manitoba), or otherwise properly

registered, licensed or permitted by law to carry on business in Manitoba, or if the Contractor does not carry on business in Manitoba, in the jurisdiction where the Contractor does carry on business, throughout the term of the Contract, and shall provide the Contract Administrator with evidence thereof upon request.

D10. SAFE WORK PLAN

- D10.1 The Contractor shall provide the Contract Administrator with a Safe Work Plan at least five (5) Business Days prior to the commencement of any Work on the Site but in no event later than the date specified in C4.1 for the return of the executed Contract.
- D10.2 The Safe Work Plan should be prepared and submitted in the format shown in the City's template which is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/Safety/default.stm>
- D10.3 Notwithstanding B11.4 at any time during the term of the Contract, the City may, at its sole discretion and acting reasonably, require an updated COR Certificate or Annual Letter of good Standing. A Contractor, who fails to provide a satisfactory COR Certificate or Annual Letter of good Standing, will not be permitted to continue to perform any Work.

D11. INSURANCE

- D11.1 The Contractor shall provide and maintain the following insurance coverage:
- (a) commercial general liability insurance, in the amount of at least two million dollars (\$2,000,000.00) inclusive, with The City of Winnipeg and AECOM Canada Ltd. added as an additional insured, with a cross-liability clause, such liability policy to also contain contractual liability, unlicensed motor vehicle liability, non-owned automobile liability and products and completed operations, to remain in place at all times during the performance of the Work and throughout the warranty period;
 - (b) if applicable, Automobile Liability Insurance covering all motor vehicles, owned and operated and used or to be used by the Contractor directly or indirectly in the performance of the Work. The Limit of Liability shall not be less than \$2,000,000 inclusive for loss or damage including personal injuries and death resulting from any one accident or occurrence.
- D11.2 Deductibles shall be borne by the Contractor.
- D11.3 The Contractor shall provide the City Solicitor with a certificate(s) of insurance, in a form satisfactory to the City Solicitor, at least two (2) Business Days prior to the commencement of any Work but in no event later than the date specified in C4.1 for the return of the executed Contract.
- D11.4 The Contractor shall not cancel, materially alter, or cause each policy to lapse without providing at least thirty (30) Calendar Days prior written notice to the Contract Administrator.

D12. PERFORMANCE SECURITY

- D12.1 The Contractor shall provide and maintain performance security until the expiration of the warranty period in the form of:
- (a) a performance bond of a company registered to conduct the business of a surety in Manitoba, in the form attached to these Supplemental Conditions (Form H1: Performance Bond), in the amount of fifty percent (50%) of the Contract Price; or
 - (b) an irrevocable standby letter of credit issued by a bank or other financial institution registered to conduct business in Manitoba and drawn on a branch located in Winnipeg, in the form attached to these Supplemental Conditions (Form H2: Irrevocable Standby Letter of Credit), in the amount of fifty percent (50%) of the Contract Price; or

- (c) a certified cheque or draft payable to “The City of Winnipeg”, drawn on a bank or other financial institution registered to conduct business in Manitoba, in the amount of fifty percent (50%) of the Contract Price.

D12.1.1 Where the performance security is in the form of a certified cheque or draft, it will be deposited by the City. The City will not pay any interest on certified cheques or drafts furnished as performance security.

D12.2 The Contractor shall provide the City Solicitor with the required performance security within seven (7) Calendar Days of notification of the award of the Contract by way of letter of intent and prior to the commencement of any Work on the Site but in no event later than the date specified in C4.1 for the return of the executed Contract.

D13. SUBCONTRACTOR LIST

D13.1 The Contractor shall provide the Contract Administrator with a complete list of the Subcontractors whom the Contractor proposes to engage (Form J: Subcontractor List) at least two (2) Business Days prior to the commencement of any Work on the Site but in no event later than the date specified in C4.1 for the return of the executed Contract.

D14. EQUIPMENT LIST

D14.1 The Contractor shall provide the Contract Administrator with a complete list of the equipment which the Contractor proposes to utilize (Form K: Equipment List) at least two (2) Business Days prior to the commencement of any Work on the Site but in no event later than the date specified in C4.1 for the return of the executed Contract.

D15. DETAILED WORK SCHEDULE

D15.1 The Contractor shall provide the Contract Administrator with a detailed work schedule at least two (2) Business Days prior to the commencement of any Work on the Site but in no event later than the date specified in C4.1 for the return of the executed Contract.

D15.2 The detailed work schedule shall consist of the following:

- (a) a Gantt chart for the Work based on the C.P.M. schedule.

D15.3 Further to D15.2(a), the C.P.M. schedule shall clearly identify the start and completion dates of all of the following activities/tasks making up the Work as well as showing those activities/tasks on the critical path:

- (a) Pipeline Cleaning
- (b) Deployment of Flow Control Measures
- (c) CCTV Inspections
- (d) CIPP Lining Work
- (e) Site Restoration

SCHEDULE OF WORK

D16. COMMENCEMENT

D16.1 The Contractor shall not commence any Work until he/she is in receipt of a letter of intent from the Award Authority authorizing the commencement of the Work.

D16.2 The Contractor shall not commence any Work on the Site until:

- (a) the Contract Administrator has confirmed receipt and approval of:
 - (i) evidence of authority to carry on business specified in D9;
 - (ii) evidence of the workers compensation coverage specified in C6.15;

- (iii) the Safe Work Plan specified in D10;
- (iv) evidence of the insurance specified in D11;
- (v) the performance security specified in D12;
- (vi) the Subcontractor list specified in D13;
- (vii) the equipment list specified in D14; and
- (viii) the detailed work schedule specified in D15.

(b) the Contractor has attended a pre-construction meeting with the Contract Administrator, or the Contract Administrator has waived the requirement for a pre-construction meeting.

D16.3 The City intends to award this Contract by April 21, 2015.

D16.3.1 If the actual date of award is later than the intended date, the date specified in D18.4 will be adjusted by the difference between the aforementioned intended and actual dates.

D17. WORKING DAYS

D17.1 Further to C1.1(jj), the Contract Administrator's determination of whether or not atmospheric and Site conditions are such that a Working Day is deemed to have elapsed may be based at one time on one type of work while at another time a Working Day may be based on another type of work. When more than one type of major work is involved, the quantity of equipment that must be able to work in order to meet the requirements of a Working Day may vary considerably from that specified in the General Conditions.

D17.2 In the event that incidental work is behind schedule which, in the opinion of the Contract Administrator, should have been or could have been carried out by the Contractor in conjunction with or immediately following work of a major type, the City hereby reserves the right to charge Working Days on the incidental work until such time as it is up to schedule.

D17.3 When the major type of work involves restoration of the site to the condition it was prior to rainfall, Working Days shall not be charged.

D17.4 The Contract Administrator will furnish the Contractor with a daily record for each major type of work showing various information concerning the equipment, the time it worked, could have worked and Working Days charged. This report is to be signed each day by an authorized representative of the Contractor.

D18. SUBSTANTIAL PERFORMANCE

D18.1 The Contractor shall achieve Substantial Performance within ten (10) consecutive Working Days of the commencement of the Work as specified in D16.

D18.2 When the Contractor considers the Work to be substantially performed, the Contractor shall arrange, attend and assist in the inspection of the Work with the Contract Administrator for purposes of verifying Substantial Performance. Any defects or deficiencies in the Work noted during that inspection shall be remedied by the Contractor at the earliest possible instance and the Contract Administrator notified so that the Work can be reinspected.

D18.3 The date on which the Work has been certified by the Contract Administrator as being substantially performed to the requirements of the Contract through the issue of a certificate of Substantial Performance is the date on which Substantial Performance has been achieved.

D18.4 The Contractor shall achieve Substantial Performance by October 16, 2015.

D19. TOTAL PERFORMANCE

D19.1 The Contractor shall achieve Total Performance within thirty (30) consecutive Working Days of the commencement of the Work as specified in D16.

- D19.2 When the Contractor or the Contract Administrator considers the Work to be totally performed, the Contractor shall arrange, attend and assist in the inspection of the Work with the Contract Administrator for purposes of verifying Total Performance. Any defects or deficiencies in the Work noted during that inspection shall be remedied by the Contractor at the earliest possible instance and the Contract Administrator notified so that the Work can be reinspected.
- D19.3 The date on which the Work has been certified by the Contract Administrator as being totally performed to the requirements of the Contract through the issue of a certificate of Total Performance is the date on which Total Performance has been achieved.

D20. LIQUIDATED DAMAGES

- D20.1 If the Contractor fails to achieve Substantial Performance or Total Performance in accordance with the Contract by the days fixed herein for same, the Contractor shall pay the City the following amounts per Working Day for each and every Working Day following the days fixed herein for same during which such failure continues:
- (a) Substantial Performance - two thousand dollars (\$2,000.00);
 - (b) Total Performance - five hundred dollars (\$500.00).
- D20.2 The amounts specified for liquidated damages in D20.1 are based on a genuine pre-estimate of the City's losses in the event that the Contractor does not achieve Substantial Performance or Total Performance by the days fixed herein for same.
- D20.3 The City may reduce any payment to the Contractor by the amount of any liquidated damages assessed.

CONTROL OF WORK

D21. JOB MEETINGS

- D21.1 Regular weekly job meetings will be held at the Site. These meetings shall be attended by a minimum of one representative of the Contract Administrator, one representative of the City and one representative of the Contractor. Each representative shall be a responsible person capable of expressing the position of the Contract Administrator, the City and the Contractor respectively on any matter discussed at the meeting including the Work schedule and the need to make any revisions to the Work schedule. The progress of the Work will be reviewed at each of these meetings.
- D21.2 The Contract Administrator reserves the right to cancel any job meeting or call additional job meetings whenever he/she deems it necessary.

D22. PRIME CONTRACTOR – THE WORKPLACE SAFETY AND HEALTH ACT (MANITOBA)

- D22.1 Further to C6.24, the Contractor shall be the Prime Contractor and shall serve as, and have the duties of the Prime Contractor in accordance with The Workplace Safety and Health Act (Manitoba).

D23. THE WORKPLACE SAFETY AND HEALTH ACT (MANITOBA) – QUALIFICATIONS

- D23.1 Further to B11.4, the Contractor/Subcontractor must, throughout the term of the Contract, have a Workplace Safety and Health Program meeting the requirements of The Workplace Safety and Health Act (Manitoba). At any time during the term of the Contract, the City may, at its sole discretion and acting reasonably, require updated proof of compliance, as set out in B11.4.

MEASUREMENT AND PAYMENT

D24. PAYMENT

D24.1 Further to C12, the City may at its option pay the Contractor by direct deposit to the Contractor's banking institution.

WARRANTY

D25. WARRANTY

D25.1 Warranty is as stated in C13.

FORM H1: PERFORMANCE BOND
(See D12)

KNOW ALL MEN BY THESE PRESENTS THAT

_____ ,
(hereinafter called the "Principal"), and

_____ ,
(hereinafter called the "Surety"), are held and firmly bound unto **THE CITY OF WINNIPEG** (hereinafter called the "Obligee"), in the sum of

_____ dollars (\$_____)

of lawful money of Canada to be paid to the Obligee, or its successors or assigns, for the payment of which sum the Principal and the Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS the Principal has entered into a written contract with the Obligee for

BID OPPORTUNITY NO. 175-2015

ST. JAMES INTERCEPTOR SIPHON REHABILITATION BY CIPP

which is by reference made part hereof and is hereinafter referred to as the "Contract".

NOW THEREFORE the condition of the above obligation is such that if the Principal shall:

- (a) carry out and perform the Contract and every part thereof in the manner and within the times set forth in the Contract and in accordance with the terms and conditions specified in the Contract;
- (b) perform the Work in a good, proper, workmanlike manner;
- (c) make all the payments whether to the Obligee or to others as therein provided;
- (d) in every other respect comply with the conditions and perform the covenants contained in the Contract; and
- (e) indemnify and save harmless the Obligee against and from all loss, costs, damages, claims, and demands of every description as set forth in the Contract, and from all penalties, assessments, claims, actions for loss, damages or compensation whether arising under "The Workers Compensation Act", or any other Act or otherwise arising out of or in any way connected with the performance or non-performance of the Contract or any part thereof during the term of the Contract and the warranty period provided for therein;

THEN THIS OBLIGATION SHALL BE VOID, but otherwise shall remain in full force and effect. The Surety shall not, however, be liable for a greater sum than the sum specified above.

AND IT IS HEREBY DECLARED AND AGREED that the Surety shall be liable as Principal, and that nothing of any kind or matter whatsoever that will not discharge the Principal shall operate as a discharge or release of liability of the Surety, any law or usage relating to the liability of Sureties to the contrary notwithstanding.

IN WITNESS WHEREOF the Principal and Surety have signed and sealed this bond the

_____ day of _____, 20____ .

SIGNED AND SEALED
in the presence of:

(Witness as to Principal if no seal)

(Name of Principal)

Per: _____ (Seal)

Per: _____

(Name of Surety)

By: _____ (Seal)
(Attorney-in-Fact)

**FORM H2: IRREVOCABLE STANDBY LETTER OF CREDIT
(PERFORMANCE SECURITY)**
(See D12)

(Date)

The City of Winnipeg
Legal Services Department
185 King Street, 3rd Floor
Winnipeg MB R3B 1J1

RE: PERFORMANCE SECURITY - BID OPPORTUNITY NO. 175-2015
ST. JAMES INTERCEPTOR SIPHON REHABILITATION BY CIPP

Pursuant to the request of and for the account of our customer,

(Name of Contractor)

(Address of Contractor)

WE HEREBY ESTABLISH in your favour our irrevocable Standby Letter of Credit for a sum not exceeding in the aggregate

_____ Canadian dollars.

This Standby Letter of Credit may be drawn on by you at any time and from time to time upon written demand for payment made upon us by you. It is understood that we are obligated under this Standby Letter of Credit for the payment of monies only and we hereby agree that we shall honour your demand for payment without inquiring whether you have a right as between yourself and our customer to make such demand and without recognizing any claim of our customer or objection by the customer to payment by us.

The amount of this Standby Letter of Credit may be reduced from time to time only by amounts drawn upon it by you or by formal notice in writing given to us by you if you desire such reduction or are willing that it be made.

Partial drawings are permitted.

We engage with you that all demands for payment made within the terms and currency of this Standby Letter of Credit will be duly honoured if presented to us at:

(Address)

and we confirm and hereby undertake to ensure that all demands for payment will be duly honoured by us.

All demands for payment shall specifically state that they are drawn under this Standby Letter of Credit.

Subject to the condition hereinafter set forth, this Standby Letter of Credit will expire on

(Date)

It is a condition of this Standby Letter of Credit that it shall be deemed to be automatically extended from year to year without amendment from the present or any future expiry date, unless at least 30 days prior to the present or any future expiry date, we notify you in writing that we elect not to consider this Standby Letter of Credit to be renewable for any additional period.

This Standby Letter of Credit may not be revoked or amended without your prior written approval.

This credit is subject to the Uniform Customs and Practice for Documentary Credit (2007 Revision), International Chamber of Commerce Publication Number 600.

(Name of bank or financial institution)

Per: _____
(Authorized Signing Officer)

Per: _____
(Authorized Signing Officer)

FORM K: EQUIPMENT
(See D14)

ST. JAMES INTERCEPTOR SIPHON REHABILITATION BY CIPP

<p>1. Category/type:</p> <p>Make/Model/Year: _____ Serial No.: _____</p> <p>Registered owner: _____</p> <p>Make/Model/Year: _____ Serial No.: _____</p> <p>Registered owner: _____</p> <p>Make/Model/Year: _____ Serial No.: _____</p> <p>Registered owner: _____</p>
<p>2. Category/type:</p> <p>Make/Model/Year: _____ Serial No.: _____</p> <p>Registered owner: _____</p> <p>Make/Model/Year: _____ Serial No.: _____</p> <p>Registered owner: _____</p> <p>Make/Model/Year: _____ Serial No.: _____</p> <p>Registered owner: _____</p>
<p>3. Category/type:</p> <p>Make/Model/Year: _____ Serial No.: _____</p> <p>Registered owner: _____</p> <p>Make/Model/Year: _____ Serial No.: _____</p> <p>Registered owner: _____</p> <p>Make/Model/Year: _____ Serial No.: _____</p> <p>Registered owner: _____</p>

FORM K: EQUIPMENT
(See D14)

ST. JAMES INTERCEPTOR SIPHON REHABILITATION BY CIPP

<p>4. Category/type:</p> <p>Make/Model/Year: _____ Serial No.: _____</p> <p>Registered owner: _____</p> <p>Make/Model/Year: _____ Serial No.: _____</p> <p>Registered owner: _____</p> <p>Make/Model/Year: _____ Serial No.: _____</p> <p>Registered owner: _____</p>
<p>5. Category/type:</p> <p>Make/Model/Year: _____ Serial No.: _____</p> <p>Registered owner: _____</p> <p>Make/Model/Year: _____ Serial No.: _____</p> <p>Registered owner: _____</p> <p>Make/Model/Year: _____ Serial No.: _____</p> <p>Registered owner: _____</p>
<p>6. Category/type:</p> <p>Make/Model/Year: _____ Serial No.: _____</p> <p>Registered owner: _____</p> <p>Make/Model/Year: _____ Serial No.: _____</p> <p>Registered owner: _____</p> <p>Make/Model/Year: _____ Serial No.: _____</p> <p>Registered owner: _____</p>

PART E - SPECIFICATIONS

GENERAL

E1. APPLICABLE SPECIFICATIONS AND DRAWINGS

- E1.1 These Specifications shall apply to the Work.
- E1.2 *The City of Winnipeg Standard Construction Specifications* in its entirety, whether or not specifically listed on Form B: Prices, shall apply to the Work.
- E1.2.1 *The City of Winnipeg Standard Construction Specifications* is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/Spec/Default.stm> .
- E1.2.2 The version in effect three (3) Business Days before the Submission Deadline shall apply.
- E1.2.3 Further to C2.4(d), Specifications included in the Bid Opportunity shall govern over *The City of Winnipeg Standard Construction Specifications*.
- E1.3 The following are applicable to the Work:

<u>Appendix No.</u>	<u>Title</u>
A	Flow Control Drawings

<u>Drawing No.</u>	<u>Drawing Name/Title</u>
10983	St. James Interceptor Siphon Rehabilitation by CIPP – Plan/Profile

GENERAL REQUIREMENTS

E2. SHOP DRAWINGS

- E2.1 Description
- This Specification shall revise, amend, and supplement the requirements of CW 1100 of the City of Winnipeg's Standard Construction Specifications.
 - The term "Shop Drawings: means drawings, diagrams, illustrations, schedules, performance charts, brochures, and other data, which are to be provided by the Contractor to illustrate details of a portion of the Work.
- E2.2 Submit all Shop Drawings in accordance with CW 1100 except as modified herein.
- E2.3 The Contractor shall submit specified Shop Drawings to the Contract Administrator for review. All submissions must be in metric units. Where data is in imperial units, the correct metric equivalent shall also be shown on all submissions for Engineering review.
- E2.4 Submit Shop Drawing submissions within seven (7) Calendar days of a request as indicated in E2 or receipt of Notice of Award in accordance with B18, whichever is earlier.
- E2.5 Allow for a seven (7) Calendar day period for review by the Contract Administrator of each individual submission and re-submission, unless noted otherwise in the Contract Documents.
- E2.6 Shop drawing submissions will be limited to 2 reviews per shop drawing. This shall include a review of the initial submission and a review of the revised submission. Costs associated with subsequent reviews will be charged to the contractor.
- E2.7 Expedited Shop Drawings
- E2.7.1 Further to CW 1100, in order to expedite Shop Drawings with critical timelines, the lowest responsive Bidder, as outlined in B17, will be required, after receiving a written request

from the Contract Administrator, to arrange for the preparation of Shop Drawings for the following items with critical timelines:

(a) CIPP liner designs

E2.7.2 Schedule to submit Shop Drawing listed in E2.7.1 within seven (7) Calendar days of a request as indicated in E2.4 or receipt of Notice of Award in accordance with B18, whichever is earlier.

E2.8 Measurement and Payment

(a) If Award is made to the lowest responsive Bidder, then the provision of Shop Drawings will be considered incidental to the price for supply and delivery of equipment. No additional payment will be made. If no contract is awarded payment for shop drawings prepared will be paid in accordance with B18.4.

E3. RIVER CROSSING SITE ACCESS

E3.1 General

(a) The Contractor shall provide and develop access to manhole, chambers or pipeline access locations prior to undertaking rehabilitation work.

E3.2 Submittals

(a) The Contractor shall submit a site access plan for review by the Contract Administrator a minimum of five (5) working days prior to commencing Work on site.

E3.3 Site Access Requirements:

(a) St James Interceptor Siphon (Elmvale Crescent at McCallum to Assiniboine Avenue near Carroll Rd)

(i) Access on both sides is grassed right-of-way.

(ii) Provide access to both chambers for preparation, cleaning, and inspection work.

(b) Where tracked equipment is utilized, protect roadways and pathways from damage with planking. No payment will be made for damages caused by equipment tracks on unprotected surfaces.

(c) Where site access utilizes grassed right-of-ways, limit access for heavy equipment to a single pathway directly from street to work area, Protect grassed areas with planking or other measures to minimize rutting and damage.

(d) Laydown and storage areas shall be staged away from areas prone to damage

(e) Private property shall be delineated by erecting of construction fencing at perimeter of work site.

E3.4 Methods of Measurement and Payment

(a) Development of site access shall be considered incidental to the Work and will not be measured for payment. No separate payment will be made.

E4. CHAMBER MODIFICATIONS

E4.1 Description

(a) This Specification shall cover the modification of manholes and junction chambers.

E4.2 Description of Work:

E4.2.1 Remove existing gate valves in the upstream junction chamber.

E4.3 Products

E4.3.1 Fasteners

- (a) Bolts shall be ASTM A307 or ASTM F568M, grade B.
- (b) Nuts shall be ASTM A563 or ASTM A563M, grade B

E4.3.2 Non-Shrink Grout

- (a) Grout, if required, shall be Sika Grout 212 or CPD Non Shrink Grout or approved equal in accordance with B7, mixed and applied in accordance with the manufacturer's instructions and of a consistency suitable for the intended application, as approved by the Contract Administrator.

E4.3.3 Sealant

- (a) Sealant for the sluice gate cover plate shall be a general purpose butyl sealant rated for buried and exterior locations.

E4.3.4 Coatings

- (a) Unless otherwise specified herein coatings for all metal chamber piping and fittings shall be a liquid epoxy meeting the requirements of E4.3.5.

E4.3.5 Liquid Epoxy Coatings

- (a) Liquid epoxy coatings shall conform to AWWA C210.
- (b) All coatings shall be applied in a minimum of two (2) or more layers (5 mils dry film thickness minimum each coat) for a minimum final coating dry film thickness of the greater of 16 mils or the thickness recommended by the manufacturer for immersion service.
- (c) Coatings for all exposed steel, piping, valves, and actuators shall be Polyamide Epoxy. Approved products: Enviroline 230, Bar-Rust 234P, Specialty Polymer Coatings SP-7888, Themec Series 140F Pota-Pox Plus, Amerlock 2 or approved equal in accordance with B7.
- (d) Submit product data for coating products in accordance with E2.

E4.4 Methods

E4.4.1 Removal of existing gate valves:

- (a) Remove existing gate valves, actuators, valve stems, and supports from the upstream junction chamber.
- (b) Cut anchor bolts for valves and valve stem supports off flush with wall and coat all remaining and exposed steel and cast iron components in accordance with E4.3.5 and E4.4.2.
- (c) Install 6.35 mm steel plate on chamber roof and seal with approved butyl sealant in accordance with E4.3.3. Coat steel plate and fasteners in accordance with E4.3.5 and E4.4.2.
- (d) Patch any holes or damage done to the existing concrete surface using approved products and methods.

E4.4.2 Coatings

- (a) Where indicated on the Drawings and directed by the Contract Administrator, prepare metal surfaces for recoating using the following methods:
 - (i) Steel - Prepare steel surfaces for recoating by blast cleaning to near-white metal as specified by Joint Surface Preparation Standard NACE No.2/SSPC-SP10.
 - (ii) Cast and Ductile Iron - Prepare ductile iron surface in accordance with NAPP 500-03.

- (iii) Remove all dust and loose residues from the prepared surfaces and chamber floor. The surface shall be roughened to a degree suitable for the coating system employed.
- (b) Primer coat to follow immediately after completion of sandblasting and prep.
- (c) Apply liquid epoxies of prepared surfaces in accordance with AWWA C210, E4.3.5, and the manufacturer's recommendations.

E4.5 Measurement and Payment

E4.5.1 Removal of Existing Sluice Gates

- (a) "Removal of Existing Sluice Gate Valves" shall be measured and paid on a Lump Sum basis as listed in the Form B: Prices.
- (b) Payment for "Removal of Existing Sluice Gate Valves" shall include all work required to remove valves, coat exposed steel, and repair existing concrete walls as specified herein.

E5. TEMPORARY FLOW DIVERSIONS

E5.1 Description

- (a) This Specification shall cover the supply and installation of flow diversions for the purposes of rehabilitating the pipelines.

E5.2 Submittals

- (a) Submit a flow diversion plan for each site in accordance with E2. The flow diversion plan shall include the following and submitted a minimum of 10 Working Days prior to the planned installation:
 - (i) A sketch and description detailing the proposed arrangement of the flow diversions. Sketch's shall include the following:
 - (i) Location of all plugs
 - (ii) Location of all anchoring locations
 - (iii) Location of any sandbag weirs or other temporary works
 - (ii) A list of the key components required for the flow diversion, including but not limited to the following:
 - (i) Inflatable plugs
 - (ii) Piping or hoses (as required)
 - (iii) Fittings
 - (iv) Plug anchoring materials
 - (iii) A detailed procedure for installation and removal of the flow diversion. Procedure shall include the following:
 - (i) Procedure for launching flow through plugs
 - (ii) Procedure for launching temporary blocking plugs
 - (iii) Procedure for anchoring all plugs
 - (iv) Procedure for swapping the flow diversion
 - (v) Removal procedure for flow diversions measures
 - (vi) Required sluice gate operations
 - (vii) Pumping out weir chamber
 - (iv) Monitoring plan. Plan shall include a 24 hr contact person.
 - (v) Means and methods for dealing with excessive flows or wet weather events

E5.3 Products

E5.3.1 Temporary Inflatable Plugs

- (a) Plugs shall be capable of withstanding a minimum of 69 kPa (10 psi) of backpressure.
- (b) Plugs shall be capable of being anchored from upstream.
- (c) Inflatable plugs (if required) shall be provided by the Contractor.

E5.3.2 Flow-Through Plugs

- (a) Flow Through Plugs (Supplied by City)
 - (i) The City of Winnipeg has available for use on this project, the following flow through plugs, in near new condition (purchased for inspection programs of this pipeline in 2014). Plugs are manufactured by Lansas Products. Should the Contractor choose to use these plugs, they shall exercise reasonable care and follow manufacture instructions for use. The Contractor will be responsible of damages only as result of abuse or misuse of the products outside normal industry use.
 - ◆ 600 to 900 mm plug with 400 mm flow-through port.
 - ◆ 450 to 600 mm plug with 400 mm flow-through port.
 - (b) Supplied by Contractor
 - (i) Flow-through plug must be sized for installation in either the 500 or 600 mm siphon pipes and have a minimum flow through size of 400 mm.
 - (ii) Plug shall be capable of withstanding a minimum of 69 kPa (10 psi) of backpressure.
 - (iii) Plug shall be capable of being anchored from upstream or downstream
 - (iv) Submit shop drawings for flow through plugs in accordance with CW1110.
 - (v) Approved manufacturers: Lansas Products, Cherne Industries, Stemar Equipment and Supply Co., or approved equal in accordance with B7. Submit shop drawings for flow-through plugs, deployment and anchoring system in accordance with E2.
 - (c) The flow through plugs provided by the City are located at 360 McPhillips St. The contractor shall be responsible for picking up and returning the plugs to the City upon completion of the work. The plugs shall be washed and returned in the same condition as they were when picked up. The Contractor shall provide written notice to the Contract Administrator a minimum of 10 working days prior to picking up the plugs.

E5.3.3 Bypass Hose and Fittings

- (a) Bypass hose shall be a semi rigid or flexible style slip on discharge hose. Flexible discharge hose may be obtained from Winkler Canvas Ltd.
- (b) Tee's and wyes shall be used were required.
- (c) Hose and fittings must be designed to withstand pressures no less than the allowable back pressure on the plugs.
- (d) Submit shop drawings for hose and piping in accordance with E2.

E5.3.4 Sandbags

- (a) Where required, provide sandbags for diversion of flow. Remove and dispose of sandbags upon completion of inspection. Sandbags in contact with sewage shall be disposed of at an approved disposal facility.
- (b) Contractor shall keep track of all sandbags deployed into the pipeline and ensure all are removed after completion of the work.

- E5.3.5 Stop Logs and Plywood Diversion Dykes
- (a) Stop logs and plywood diversion dykes may be used to direct wastewater flows where chamber configurations permit. Plywood to have a minimum thickness of 19 mm and to be braced as required to resist hydrostatic pressures.
- E5.3.6 Plug Anchoring
- (a) Plugs shall be anchored upstream utilizing steel cable or synthetic winch line capable of restraining plug with minimal cable deformation and stretching. Anchoring lines must be capable of supporting tension forces generated by plugs exposed to a minimum of 69 kPa of backwater with a minimum safety factor of 5.
 - (b) Submit shop drawings for anchor line in accordance with E2 complete with calculations showing adequacy of line for tended purpose.
- E5.4 Flow Control – General
- (a) Cleaning work may be undertaken in live flow.
 - (b) Where activities do not require flow bypass, one of the two (2) siphon pipes can be blocked or restricted by tools or equipment for extended duration during dry weather flow.
- E5.5 Flow Diversion Scheduling
- (a) Schedule and timing of flow diversions, temporary blockages and pumping station shutdowns are impacted by a number of factors such as system operation, maintenance activities, rainfall, and daily usage peaks. The City will endeavor to provide the requested schedule times and dates, but reserves the right to delay, postpone or re-schedule system operation events.
 - (b) The Contractor shall provide a minimum of five (5) Working Days notice to the Contract Administrator, in writing, prior to installing flow diversions and bypasses.
 - (c) Temporary flow diversions may only occur during dry weather flows.
 - (d) Installation of flow-through plugs requiring temporary flow blockages may only occur during off peak periods, weekdays between 10:00 PM and 6:00 AM.
- E5.6 Deployment of Temporary Flow Diversions
- (a) Install flow through bypass plugs as shown on the Drawings in Appendix A and in accordance with the manufacturer's recommendations and submitted flow diversion plan. Flow through bypass plugs may be left in place during peak day time dry weather flows. Flow diversions shall not be left in place without full time water level monitoring.
 - (b) The Contractor shall provide personal for fulltime monitoring of upstream manholes during the following operations:
 - (i) Bypass plug installation and operation
 - (ii) Deployment of blocking plugs
 - (iii) Any time the sluice gate in the adjoining weir chamber is closed
 - (c) Be prepared to deflate or remove flow diversions immediately due to flow backups, wet weather flows or as requested by the Contract Administrator.
- E5.7 Installation of Inflatable Plugs and Piping
- (a) Install flow through plugs as per manufacturers recommendations
 - (b) Plugs to be anchored to upstream manhole or chamber
 - (c) Provide air supply and monitor plug inflation pressure, in accordance with manufacturer's recommendations.
 - (d) Support piping and fittings as required to prevent significant deflection when full of water
 - (e) Submit an inflatable plug installation plan for each plug installation a minimum of 5 working days prior to the planned installation.

E5.8 Measurement and Payment

E5.8.1 Flow Control

- (b) "Flow Control" shall be measured and paid on a Lump Sum basis as listed in the Form B: Prices.
- (c) Payment for "Flow Control" shall include the following:
 - (i) Supply of all anchors, cables, piping, hoses, fittings, and any other materials required to successfully install the bypass work.
 - (ii) Supply of all labour to complete installation, operation, and removal of flow diversion works.
 - (iii) Full time monitoring of upstream water levels as required specified herein.

E6. CURED-IN-PLACE-PIPE (CIPP)

E6.1 Description

E6.1.1 This specification covers the supply and installation of full segment cured-in-place pipe (CIPP).

E6.2 Definitions

E6.2.1 Cured-in-place-pipe (CIPP) means trenchless sewer rehabilitation by installing a resin-felt composite structure which when cured will form a continuous-close fit liner within an existing sewer.

E6.2.2 Approved CIPP Suppliers and Installers means suppliers and installers pre-approved under City of Winnipeg "Request for Qualifications for the Supply and Installation of Cured in Pipe (CIPP)". A list of pre-approved CIPP suppliers and installers is included in the Specifications.

E6.2.3 Full segment CIPP means CIPP extending from manhole to manhole or manhole to node (wye or tee connection to another sewer).

E6.2.4 Minimum material requirements for CIPP shall conform to ASTM D5813 "Standard Specification for Cured-In-Place Thermosetting Resin Sewer Pipe" and the supplemental requirements noted herein.

E6.3 Materials

E6.3.1 Pre-Approved CIPP Suppliers and Installers and Materials

- (a) The following is a list of sewer lining systems – suppliers and installers and materials that have been pre-approved under the City of Winnipeg "Request for Qualifications for the Supply and Installation of Cured in Pipe (CIPP)" Bid Opportunity No. 253-2006 and Bid Opportunity 403-2007 for 2010 City of Winnipeg sewer rehabilitation projects.

Table E2.3.1a): Pre-Approved CIPP Suppliers and Installers

Applicant	<i>Insituform Technologies Limited</i>	<i>Capital Commercial Pipe Services</i>	<i>Nelson River Construction Inc.</i>	<i>Clean Water Works Inc.</i>
Contact	Andrew Foster 780-413-0200	Brian Ratchford 905-522-0522	Brad Morton 204-949-8700	Jeff Pappin 613-745-2444
Supplier	Insituform Technologies Inc.	Capital Commercial Pipe Services	C.I.P.P. Corporation	Clean Water Works Inc.
Installer	Insituform Technologies Limited	Capital Commercial Pipe Services	Nelson River Construction Inc.	Clean Water Works Inc.
Liner Name	Standard ITL CIPP & Standard ITL CIPP AISC	Capital Lining System (CIPP)	C.I.P.P. Corp Liner	CWW CIPP Design

E6.3.2 CIPP Design Objectives

- (a) Design objectives for CIPP include.
- (b) Maximizing the structural enhancement of the sewer by installing a close-fit CIPP.
- (c) Providing no impact or increasing the hydraulic capacity of the rehabilitated sewer.
- (d) Reducing infiltration and exfiltration.
- (e) Preventing root intrusion.
- (f) Providing sufficient chemical resistance to prevent further sewer pipe degradation related to the conveyance of sewage.
- (g) Minimizing sewer service disruption during rehabilitation.
- (h) Minimizing the time required to complete the sewer rehabilitation.
- (i) Minimizing disturbance to pavements and boulevards.
- (j) Minimizing disruption to vehicular and pedestrian traffic.
- (k) Minimizing the impact of construction on commercial, industrial, and institutional facilities.
- (l) Select CIPP and plan approach to rehabilitation toward maximizing the achievement of these design objectives.*

E6.3.3 CIPP Design – General

- (a) Design CIPP as a low head pipe in a fully deteriorated pipe condition and the depth of cover calculated based on the pipe profile provided on the Drawings.
- (b) Size CIPP in accordance with the design objectives to provide a close-fit to the host pipe with no annulus except for the maximum allowable diametric shrinkage due to curing permitted in ASTM D5813.
- (c) Perform a design check to confirm that head losses through the CIPP will be equal to or less than the existing siphon. Use the “Colebrook-White” formula with assumed “ks” value of 0.03 for the CIPP liner. The “ks” value for the existing section can be taken to be 3 based on Table C.1 (b) of Volume I – Sewer Renovation, WRc Sewerage Rehabilitation Manual, 4th Edition for a pipe in normal condition with light and localised accumulation of silt or heavy slimming exceeding 5 mm in depth. Assume the following flow rates through the siphons:
 - (i) 500 mm – 450 L/s
 - (ii) 600 mm – 730 L/s

E6.3.4 CIPP Circular Design – Fully Deteriorated Condition

- (a) Design CIPP for fully deteriorated pipe condition in accordance with Appendix X1 of ASTM F1216 and the following minimum design assumptions.
 - (i) Live Load: AASHTO HSS20.
 - (ii) Calculate dead load based on soil density of 1920 kg/m^3 .
 - (iii) River level elevation (flood stage) of 232.86 m.
 - (iv) Minimum internal surcharge of 330.58 m.
 - (v) Minimum value for ovality of the existing sewer will be 2% unless a greater value is indicated in the contract specifications or as determined from observation of the maintenance inspection.
 - (vi) Long-term value for flexural modulus of elasticity will be considered to be the projected value at 50 years of a continuous application of the design load based on the specific resin and felt composite as established by ASTM D2990 and approved for use in the pre-qualification process.
 - (vii) Modulus of soil reaction (E') will be assumed to be 6900 kPa.
 - (viii) Minimum factor of safety (N) of 2.

E6.3.5 Existing Sewer Design Conditions

- (a) An information package is available upon request. The package includes:
 - (i) Record drawings
 - (ii) Site photos
 - (iii) Sonar data from previous inspections
 - (iv) CCTV inspection data
- (b) The Contractor shall be aware the video inspections provided were completed immediately after sewer cleaning and the amount of sediment and debris present at the time of this Bid Opportunity may not be the same. The Contractor shall be responsible to determine the actual amount of sediment and debris in the sewers included in this Work.

E6.3.6 Submittals Before Starting Work

- (a) Provide the required submittals to the Contract Administrator a minimum of 10 days before starting the lining in accordance with E2.
- (b) Submit the CIPP design Shop Drawings. Designs shall be sealed and signed by a Professional Engineer licensed to practice in the Province of Manitoba and include the following information.
 - (i) CIPP thickness computations including all specified design checks. Identify design assumptions based on a review of the Sewer Maintenance Inspection that differ from the information provided in the Specifications for the existing sewer design conditions.
 - (ii) Calculations showing the hydraulic capacity of the CIPP sewer will be equal to or greater than the existing sewer.
 - (iii) Name and manufacturer of the resin and tube proposed for each CIPP.
 - (iv) CIPP curing schedule provided by the resin supplier indicating the temperature, staging, duration and pressure required to achieve a proper cure of the resin and fabric tube composite.
 - (v) Other information that may reasonably be required by the Contract Administrator to confirm the CIPP design proposed conforms to the specified requirements and design intent.
- (c) Provide resin samples as follows.
 - (i) Arrange for the manufacturer of the resin to forward a reference sample of each type of resin proposed for use on the works to a test laboratory designated by the Contract Administrator to be used as a comparative reference sample for infrared spectrum testing.

- (ii) Deliver a representative sample from each resin batch to be used on the project before adding the catalyst from the wet-out facility to a test laboratory designated by the Contract Administrator.
- (iii) The Contract Administrator will arrange and pay for an infrared analysis of the samples.
- (d) Submit an operations protocol in accordance with E2 that provides information on the following.
 - (i) Resin impregnation method.
 - (ii) Designated location of the wet out facility.
 - (iii) Documentation the resin to be used has not exceeded its shelf life as recommended by the manufacturer of the resin.
 - (iv) Volume and weight of resin to be impregnated into each liner and repair section including the proposed excess allowance for polymerization and migration (typically 7%) into cracks and joints of the host pipe.
 - (v) Roller gap setting required to provide the final installed CIPP thickness based on the proposed volume of resin.
- (e) Submit a construction protocol in accordance with E2 that provides information on the following.
 - (i) Proposed main line and sewer service flow control arrangements.
 - (ii) Minimum pressure to hold the tube tight against the existing sewer and the maximum pressure to not damage the sewer or uncured liner.
 - (iii) Provide the maximum allowable axial and longitudinal tensile stress for the fabric tube and the arrangement for monitoring pull-in forces during installation if liner insertion is to be by pull-in methods.
 - (iv) Number and location of heat source monitor gauges.
 - (v) Minimum and maximum allowable temperature during each phase of the cure period as measured at the heat source return line.
 - (vi) Number of stages and anticipated time for each stage of the curing period based on resin supplier's recommendations.
 - (vii) Estimated length of time required to reinstate the main line sewer and sewer services.

E6.4 Construction Methods

E6.4.1 Verification of Existing Sewer Dimensions

- (a) Verify dimensional requirements of each sewer to be rehabilitated prior to manufacture of the CIPP tube as follows.
 - (i) Length of sewer from manhole to manhole for full segment and partial full segment CIPP.
 - (ii) Diameter and cross-section of the sewer at the upstream and downstream manholes and at a minimum distance of 500 millimetres inside the sewer from each manhole.
- (b) Use calibrated callipers or other suitable measuring device capable of measuring accurately to +/- 1 millimetre to confirm cross section geometry at clock positions of:
 - (i) 12:00 to 6:00,
 - (ii) 2:00 to 8:00,
 - (iii) 3:00 to 9:00, and
 - (iv) 4:00 to 10:00.
- (c) Estimate the remainder of the sewer dimensional requirements based on dimensional checks and the Sewer Maintenance Inspections.

E6.4.2 Sewer Cleaning

- (a) Remove loose and solid debris in accordance with CW 2140 to adequately prepare the sewer for lining.

E6.4.3 Sewer Inspections

- (a) Perform the following sewer inspections in accordance with CW 2145 in the presence of the Contract Administrator.
 - (i) Pre-Lining Inspection after sewer cleaning and preparation. No coding of the submission will be required.
 - (ii) Post-Lining Inspection subsequent to installing the CIPP and sewer service reinstatement. Full coding required. Perform post-lining inspection immediately after sewer service reinstatement while flow control measures are in place.
 - (iii) Warranty Inspection before expiration of the warranty period and acceptance. Full coding required.
- (b) Provide a copy of the video to the Contract Administrator.
- (c) Advise the Contract Administrator of any condition that is contrary to the design conditions or assumptions made that may affect either long or short term performance of the CIPP prior to liner design.
- (d) Review the Pre-Lining Inspection videotape with the Contract Administrator at least 24 hours before installing the CIPP and obtain approval to install the CIPP. The Pre-Lining Inspection shall confirm:
 - (i) Necessary cleaning and pipe preparation work, including internal and external sewer repairs, have been satisfactorily completed.
 - (ii) Condition of the sewer pipe is consistent with the design conditions and the Specifications. Advise the Contract Administrator of any condition that is contrary to the design conditions or assumptions made that may affect either long or short term performance of the CIPP prior to commencing lining.
 - (iii) Location, condition and operational status of all sewer services.
- (e) Review Sewer Service Reports while reviewing the Pre-Lining Inspection.
- (f) Post-Lining Inspection is to confirm the adequacy of sewer service reinstatements and the fit and finish of the CIPP.
- (g) Warranty Inspection to confirm the fit and finish of the CIPP, need for any remedial work and acceptance of any repair work performed during the warranty period. Sewer cleaning in accordance with CW 2140 is required to obtain a satisfactory inspection.

E6.4.4 Weather

- (a) Review the Environment Canada weather forecast with the Contract Administrator before starting CIPP lining installation.
- (b) Delay installation of CIPP when the anticipated weather conditions are such that anticipated sewer flow will exceed the flow control measures provided.

E6.4.5 Installation of CIPP

- (a) Install liners by inversion methods in accordance with ASTM F1216 or by pull-in methods in accordance with ASTM F1743.
- (b) Full segment and partial full segment CIPP shall be cured by hot water or steam.
- (c) Carry out workmanship in accordance with ASTM D5813.
- (d) Trim ends of CIPP neatly to fit flush with interior vertical surface and manhole benching and seal to make watertight.
- (e) Fill annular spaces where the CIPP does not make an adequate seal with the host pipe at manholes, termination points and sewer services due to broken or misaligned pipe with a resin mixture compatible with the CIPP.

- (f) Extend limits for internal point repairs a minimum of 300 millimetres in each direction beyond the limits of the defect to be repaired. Extend internal point repairs that terminate at sewer service services a minimum distance of 300 millimetres beyond the limit of the service.
- (g) Ensure termination points of internal point repairs provide a smooth and uniform flow transition to the host pipe for the full circumference of the repair.

E6.4.6 Sewer Inspection Reports

- (a) Provide the Contract Administrator with the following sewer inspection reports prepared in accordance with CW 2145.
 - (i) Pre and post-lining inspection and reports before Total Performance of Work.
 - (ii) Warranty inspection report before Final Acceptance of Work.

E6.4.7 Quality Control Records

- (a) Maintain the following Quality Control records of the work and provide to the Contract Administrator after completion of the work.
 - (i) Summary of the resin impregnation process including:
 - ◆ Volume of resin supplied.
 - ◆ Excess quantity of resin added during the wet out to account for polymerization and migration into the host pipe.
 - ◆ Roller gap setting.
 - ◆ Resin catalyst(s) used.
 - ◆ Time and location of the wet out.
 - ◆ Means taken to store and transport the resin impregnated CIPP from the wet out facility to the job site.
 - (ii) Means of curing liners.
 - (iii) Continuous log of pressure maintained in the liner during the curing period.
 - (iv) Pulling force used to pull or winch CIPP into place in the host sewer and measured liner elongation.
 - (v) Continuous log of temperature at boiler in and out and at all thermistors placed between the host pipe and the liner at all manholes during the initial cure, cure, and cool down periods.

E6.4.8 Confined Test Samples

- (a) Provide necessary forms of the same diameter as the host pipe and secure a minimum 200 millimetre long full diameter confined test sample from each CIPP.
- (b) Locate the test sample from inside an intermediate manhole or at a termination point and invert through the form.
- (c) Cut the CIPP sample to coincide with multi-piece form if used for CIPP larger than 450 millimetres in diameter to facilitate removal from the manhole.
- (d) Identify the sewer where the liner sample is from on the form or sample itself if no form and provide to the Contract Administrator intact in the form.
- (e) The Contract Administrator will coordinate and pay for CIPP sample testing to confirm the CIPP flexural strength, flexural modulus and thickness in accordance with the requirements of ASTM D5813, D790, and ASTM D3567.
- (f) If it can be demonstrated that it is impractical to obtain confined test samples due to CIPP size and site specific conditions then results from test plate samples modified in accordance with Clause E6.4.9(d) of this specification will be used to confirm flexural strength and flexural modulus.

E6.4.9 Test Plate Samples

- (a) Obtain and provide the Contract Administrator with test plate samples of each CIPP.

- (b) Prepare test plate samples on-site from the actual CIPP and cure in the following manner:
 - (i) in a clamped mold placed in the downtube or manhole for water-cured liners.
 - (ii) In a clamped mold placed in a container filled with uniformly distributed steam from the installation manhole for steam-cured liners.
- (c) The Contract Administrator will coordinate and pay for test plate sample testing to confirm the flexural strength, flexural modulus and thickness in accordance with the requirements of ASTM D5813, D790, and D3567.
- (d) Flexural strength and flexural modulus results obtained from test plates will be reduced by the maximum percentage difference of the confined pipe and test plate samples prepared from the same CIPP system for at least 3 previous CIPP linings on the same project.
- (e) Schedule installation of liners for which confined pipe samples are impractical to obtain after at least 3 other CIPP linings on the same project have been completed and confined pipe and test plate samples have been secured to provide collaborative testing.
- (f) Obtain and provide the Contract Administrator with pre and post lining measurements taken in accordance with Clause E6.4.1 of this specification to confirm in-place liner thickness.
- (g) The Contract Administrator will review liner thickness results taken from test plates or unconfined samples on a case-by-case basis.

E6.4.10 Infrared Spectroscopy

- (a) The Contract Administrator will arrange and pay for testing to compare the infrared spectrum of the resin field samples supplied from the wet-out to the reference spectrum generated from the resin sample provided by the resin manufacturer to verify installed material acceptability.

E6.4.11 Post Construction Design Review for Total Performance

- (a) The Contract Administrator will perform a post-construction design review to ensure that the completed CIPP meets the 50 year design life structural requirements prior to Total Performance. The design review will utilize the measured values for flexural strength, flexural modulus, and CIPP thickness from the confined pipe sample testing or the reduced strength/modulus values obtained from the test plate testing in circumstances where confined pipe samples are not able to be secured.
- (b) CIPP strength values will be further reduced to account for creep based on the creep reduction values recommended in the pre-qualification submissions to assess the suitability of the liner to meet the 50 year design life requirement. The use of full enhancement factors in this analysis will be limited to liners that are confirmed by visual classification to be close-fit liners based on the post-lining sewer inspection.
- (c) The Contract Administrator will advise of any discrepancies between the constructed CIPP and the design requirements.
- (d) Perform necessary remedial measures to confirm that a CIPP deemed as structurally deficient will comply with the 50 year design life requirement such as confirmation of actual ovality, determination of a more representative groundwater elevation locally through monitoring, and supplemental strength testing and thickness measurements.
- (e) Install a supplemental CIPP of the required thickness to structurally enhance the installed CIPP if supplemental testing fails to confirm the CIPP will meet the 50 year design life requirement.
- (f) Review remedial action with the Contract Administrator prior to implementation.
- (g) Perform further testing, monitoring and calculations and install structural enhancements at own cost.

E6.5 Measurement and Payment

E6.5.1 Mobilization and Demobilization

- (a) Mobilization and demobilization will be measured on a lump sum basis and paid for at the Contract Lump Sum Price for "Mobilization and Demobilization". Payment for Mobilization and demobilization shall include all costs associated with mobilization and demobilization, site set up, and cleanup.
- (b) 50% of the Mobilization and Demobilization lump sum price will be paid once lining crews arrive on site to commence lining installation.
- (c) The remaining 50% of the Mobilization and Demobilization lump sum price will be paid subsequent to the completion of the CIPP installation and site cleanup.

E6.5.2 Verification of Existing Sewer Dimensions

- (a) Verification of existing sewer dimensions including the pre-design inspection will not be measured for separate payment and will be included with CIPP installation.

E6.5.3 Submittals Before Starting Work

- (a) Submittals required before starting work including CIPP design, resin samples, operations protocol and construction protocol will not be measured for separate payment and will be included with CIPP installation.

E6.5.4 Sewer Cleaning

- (a) Sewer cleaning will be measured and paid for in accordance with CW 2140.
- (b) Only one item of payment will be made for pre-lining cleaning.

E6.5.5 Sewer Inspections

- (a) Sewer inspections will be measured and paid for in accordance with CW 2145.

E6.5.6 CIPP Installation

- (a) Liner installation will be measured on a length basis for each size and paid for at the Contract Unit Price for "Full Segment CIPP". Length to be paid for will be the total length of CIPP supplied and installed in accordance with this specification, accepted and measured by the Contract Administrator.
- (b) Full segment CIPP measurement will be made horizontally at grade, above the centreline of the pipe from centre to centre of manholes.
- (c) Eighty (80) percent of the payment will be made upon satisfactory completion of the CIPP installation work. The remaining twenty (20) percent of the payment will be made upon confirmation of the CIPP strength and delivery and acceptance of all required submissions, shop drawings, and reports.

E6.5.7 Sewer Inspection Reports

- (a) Sewer inspection reports measured and paid for in accordance with CW 2145.

E6.5.8 Quality Control Records

- (a) Quality control records will not be measured for separate payment and will be included with payment for CIPP installation.

E6.5.9 Test Samples

- (a) CIPP test samples will not be measured for separate payment and will be included with payment for CIPP installation.

E7. RESTORATION

E7.1 Description

E7.1.1 This specification covers the restoration of the work site.

E7.2 Restoration Works

(a) Sodding

(i) Sod disturbed grassed areas in accordance with CW3510.

E7.3 Measurement and Payment

E7.3.1 Supply and installation of sod shall be measured and paid in accordance with CW 3510.

E7.3.2 Payment for restoration works will be limited to areas disturbed to facilitate construction. Surface restoration outside of the designated construction areas shall be at the Contractors expense.

PART F - SECURITY CLEARANCE

F1. SECURITY CLEARANCE

- F1.1 Each individual proposed to perform the following portions of the Work:
- (a) any Work on private property;
 - (b) communicating with residents and homeowners in person or by telephone;
- F1.1.1 Each Individual shall be required to obtain a Criminal Record Search Certificate from the police service having jurisdiction at his/her place of residence. Or
- (a) BackCheck, forms to be completed can be found on the website at: <http://www.backcheck.net/> ; or
 - (b) Commissionaires (Manitoba Division), forms to be completed can be found on the website at: <http://www.commissionaires.mb.ca/> .
- F1.2 Prior to the award of Contract, and during the term of the Contract if additional or replacement individuals are proposed to perform Work, the Contractor shall supply the Contract Administrator with a Criminal Record Search Certificate obtained not earlier than one (1) year prior to the Submission Deadline, or a certified true copy thereof, for each individual proposed to perform such Work.
- F1.3 Any individual for whom a Criminal Record Search Certificate is not provided, or for whom a Criminal Record Search Certificate indicates any convictions or pending charges related to property offences or crimes against another person will not be permitted to perform any Work specified in F1.1.
- F1.4 Any Criminal Record Search Certificate obtained thereby will be deemed valid for the duration of the Contract subject to a repeated records search as hereinafter specified.
- F1.5 Notwithstanding the foregoing, at any time during the term of the Contract, the City may, at its sole discretion and acting reasonably, require an updated criminal records search. Any individual who fails to provide a satisfactory Criminal Record Search Certificate as a result of a repeated criminal records search will not be permitted to continue to perform any Work specified in F1.1.