



**THE CITY OF WINNIPEG**

# **BID OPPORTUNITY**

**BID OPPORTUNITY NO. 657-2014**

**MACLEAN PUMPING STATION - LDV1 1200MM BUTTERFLY VALVE  
REPLACEMENT**

## TABLE OF CONTENTS

### PART A - BID SUBMISSION

Form A: Bid	1
Form B: Prices	4
Form G1: Bid Bond and Agreement to Bond	5
Form G2: Irrevocable Standby Letter of Credit and Undertaking	7

### PART B - BIDDING PROCEDURES

B1. Contract Title	1
B2. Submission Deadline	1
B3. Site Investigation	1
B4. Enquiries	1
B5. Confidentiality	2
B6. Addenda	2
B7. Substitutes	2
B8. Bid Components	3
B9. Bid	4
B10. Prices	5
B11. Qualification	5
B12. Bid Security	6
B13. Opening of Bids and Release of Information	7
B14. Irrevocable Bid	7
B15. Withdrawal of Bids	7
B16. Evaluation of Bids	8
B17. Award of Contract	8

### PART C - GENERAL CONDITIONS

C0. General Conditions	1
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### PART D - SUPPLEMENTAL CONDITIONS

#### General

D1. General Conditions	1
D2. Scope of Work	1
D3. Definitions	1
D4. Contract Administrator	1
D5. Contractor's Supervisor	2
D6. Ownership of Information, Confidentiality and Non Disclosure	2
D7. Notices	2
D8. Furnishing of Documents	3

#### Submissions

D9. Authority to Carry on Business	3
D10. Safe Work Plan	3
D11. Insurance	3
D12. Performance Security	4
D13. Subcontractor List	4
D14. Equipment List	4
D15. Detailed Work Schedule	4

#### Schedule of Work

D16. Commencement	5
D17. Schedule Restrictions	5
D18. Working Days	6
D19. Critical Stages	6
D20. Substantial Performance	6
D21. Total Performance	7
D22. Liquidated Damages	7

<b>Control of Work</b>	
D23. Job Meetings	7
D24. Prime Contractor – The Workplace Safety and Health Act (Manitoba)	8
D25. The Workplace Safety and Health Act (Manitoba) – Qualifications	8
<b>Measurement and Payment</b>	
D26. Payment	8
<b>Warranty</b>	
D27. Warranty	8
Form H1: Performance Bond	9
Form H2: Irrevocable Standby Letter of Credit	11
Form J: Subcontractor List	13
Form K: Equipment	14
Form L: Contractor Experience	16
<b>PART E - SPECIFICATIONS</b>	
<b>General</b>	
E1. Applicable Specifications and Drawings	1
<b>General Requirements</b>	
E2. Site Security and Protection	1
E3. Shop Drawings	1
E4. Condition, Protection of and Access to Reservoir Compounds and Aqueducts	2
E5. Environmental Protection	3
E6. Butterfly Valve and Chamber Piping	5
E7. Chamber Modifications	10
E8. Restoration	11
E9. Patching and Crack Repair	11
E10. Pruning	17
E11. Tree Removal	18
<b>PART F - SECURITY CLEARANCE</b>	
F1. Security Clearance	1
<b>APPENDICES</b>	
Appendix A Forms	
Appendix B Photos of Valve Chamber LDV1	
Appendix C Shop Drawings of City Supplied Valve	

## **PART B - BIDDING PROCEDURES**

### **B1. CONTRACT TITLE**

B1.1 MACLEAN PUMPING STATION - LDV1 1200MM BUTTERFLY VALVE REPLACEMENT

### **B2. SUBMISSION DEADLINE**

B2.1 The Submission Deadline is 12:00 noon Winnipeg time, July 23, 2014.

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 Contract Administrator or an authorized representative will be available at the Site from 9:00 AM to 10:00 AM on July 16, 2014 to provide Bidders access to the Site.

B3.2 The Bidder is advised that the valve chamber is a Confined Entry location. Persons wishing to enter the chamber will be required to supply all necessary personal protective safety equipment, including a fall restraint harness, hard hat, and safety boots. The City of Winnipeg will provide a retrieval hoist, lighting, and gas detector. Personnel attending the site shall be properly trained in Confined Space Entry in accordance with Manitoba legislation and their individual company policy.

B3.3 The Bidder shall not be entitled to rely on any information or interpretation received at the Site investigation unless that information or interpretation is the Bidder's direct observation, or is provided by the Contract Administrator in writing.

B3.4 Proponents will not be allowed to take pictures at any of the site investigations. The Proponent may request pictures of specific areas from the Project Manager identified in D4. The pictures will then be issued to all the Proponents registered for the site investigations.

B3.5 Although attendance at the Site Investigations is not mandatory, the City strongly suggests that Proponents attend.

B3.6 Proponents are required to register for the Site Investigations at least 48 hrs. prior by contacting the Contract Administrator identified in D4.

B3.7 Bidders registered for the site visit must provide the Project Manager identified in D4 with a Public Safety Verification search obtained not earlier than one (1) year prior to the site visit.

- (a) The Public Safety Verification Check may be obtained from BackCheck. Forms to be completed can be found on the website at: <http://www.backcheck.net/>. Note that the check will take between 12 and 48 hrs.to complete. See PART F - for further information.

### **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 five (5) 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 B16.

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 B16.1(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 B16.1(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.

B10.2 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);
- (d) obtain Security Clearances in accordance with PART F - ;

B11.4 Further to B11.3(a) the Bidder and/or any proposed Subcontractor undertaking the work must be able to demonstrate the following qualifications in accordance with B11.6 (Form L: Contractor Experience):

- (a) A minimum of one (1) successful installation of a 1200 mm or larger butterfly valve.

- (b) A minimum of three (3) successful installations of 900 mm or larger butterfly valves.
- (c) A minimum of three (3) successful installations of 900 mm or larger grooved couplings.

B11.5 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/>.)

B11.6 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.

B11.7 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. BID SECURITY**

B12.1 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.

B12.1.1 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.

B12.1.2 All signatures on bid securities shall be original.

B12.1.3 The Bidder shall sign the Bid Bond.

B12.1.4 The Surety shall sign and affix its corporate seal on the Bid Bond and the Agreement to Bond.

B12.2 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.

- B12.2.1 Where the bid security provided by the successful Bidder is in the form of a certified cheque or draft pursuant to B12.1(c), it will be deposited and retained by the City as the performance security and no further submission is required.
- B12.2.2 The City will not pay any interest on certified cheques or drafts furnished as bid security or subsequently retained as performance security.
- B12.3 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.

### **B13. OPENING OF BIDS AND RELEASE OF INFORMATION**

- B13.1 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.
- B13.1.1 Bidders or their representatives may attend.
- B13.2 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>
- B13.3 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>
- B13.4 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.

### **B14. IRREVOCABLE BID**

- B14.1 The Bid(s) submitted by the Bidder shall be irrevocable for the time period specified in Paragraph 11 of Form A: Bid.
- B14.2 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.

### **B15. WITHDRAWAL OF BIDS**

- B15.1 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.
- B15.1.1 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.
- B15.1.2 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.
- B15.1.3 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 B15.1.3(b), declare the Bid withdrawn.

B15.2 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 B14.2 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.

## **B16. EVALUATION OF BIDS**

B16.1 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.

B16.2 Further to B16.1(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.

B16.3 Further to B16.1(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.

B16.4 Further to B16.1(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.

B16.4.1 Further to B16.1(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.

## **B17. AWARD OF CONTRACT**

B17.1 The City will give notice of the award of the Contract or will give notice that no award will be made.

B17.2 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.

B17.2.1 Without limiting the generality of B17.2, 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.

- B17.3 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 B16.
- B17.3.1 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.
- B17.4 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 E3 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](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 the replacement of an existing 1200 millimeter butterfly valve and spool piece with a new 1200 millimeter butterfly valve (supplied by City) and spool piece and associated chamber upgrades.

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

- (a) Excavation.
- (b) Removal of existing roof slab.
- (c) Removal and salvage of valve chamber components including existing 1,200 millimetre valve and actuator.
- (d) Installation of City supplied 1,200 millimetre butterfly valve.
- (e) Modification of existing valve chamber piping to suit new valve.
- (f) Preparation and painting of existing piping within the valve chamber.
- (g) Replacement and sealing of roof slab.
- (h) Installation of chamber insulation.
- (i) Restoration.

#### **D3. DEFINITIONS**

D3.1 When used in this Bid Opportunity:

- (a) "AWWA" means American Waterworks Association,
- (b) "CSA" means Canadian standard Association,
- (c) "NSF" means National Sanitation Foundation,
- (d) "ASTM" means American Society for Testing and Materials,
- (e) "ASME" means American Society of Mechanical Engineers,
- (f) "ANSI" means American National Standards Institute,
- (g) "NACE" means National Association of Corrosion Engineers, and
- (h) "SSPC" means Society for Protective Coatings.

#### **D4. CONTRACT ADMINISTRATOR**

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

Adam Braun, P.Eng.  
Municipal Engineer

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.
- D15.3 Further to D15.2(a) the 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) Pump Station and feedermain shutdown
  - (b) Site Preparation and Excavation
  - (c) Removal of roof slabs
  - (d) Replacement of butterfly valve
  - (e) Preparation and Painting of chamber piping

- (f) Replacement of roof slabs and exterior chamber work
- (g) Restoration
- (h) Substantial Performance
- (i) Total Performance

## **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.
  - (c) The Contractor has provided Security Clearances as specified in E2.
- D16.3 The Contractor shall not commence the Work on the Site before October 27, 2014.
- D16.4 The City intends to award this Contract by September 12, 2014.
- D16.4.1 If the actual date of award is later than the intended date, the dates specified for Commencement, Critical Stages, Substantial Performance, and Total Performance will be adjusted by the difference between the aforementioned intended and actual dates.

### **D17. SCHEDULE RESTRICTIONS**

- D17.1 Shutdown of half of the MacLean Pumping Station will be scheduled based on a number of factors including routine maintenance and repair work, water demand, weather and other factors. The City shall endeavour to make the specified time periods available to the Contractor to schedule his Work requiring removal of a portion of the North half of the Maclean Pumping Station from service and isolation of the Spears Road and isolating the Birds Hill and South Transcona Feeder mains from the MacLean Reservoir, without limiting the City's control over the operation of the regional water system to complete other work, maintain adequate system service and maintain the integrity of the infrastructure. The City shall reserve the right to cancel and/or delay these schedule dates at any time, due to any circumstances that could adversely affect water supply system operation, including but not limited to high water demand, abnormal weather, failures of related water system components and/or security concerns.
- D17.2 The Contractor shall provide a minimum of ten (10) Business Days notice to the Contract Administrator, in writing, of requiring a shutdown. The City will endeavour to schedule the shutdown as requested, pursuant to D17.1.
- D17.3 Pump Station and Feedermain Shutdowns:

- (a) Further to D17.1, shutdown of the north half of the MacLean Pumping Station, Birds Hill and South Transcona Feeder mains are limited to a maximum of seven (7) Calendar Days, measured from the completion of draining the Feeder main and Discharge piping by City forces to turn over of system back to the City of Winnipeg for the restoration of pumping station and feeder main operation.
- (b) The pump station and feeder main shutdown will only be permitted between November 10, 2014 and December 12, 2014.
- (c) The north half of the MacLean Pumping Station, Birds Hill and South Transcona Feeder mains will not be taken out of service unless all piping, valves, connectors, fittings and miscellaneous components required to complete the installation are on site, tested, and pre-fitted, to ensure that the Aqueduct and Reservoir can be restored to service with the timeframe noted in D17.3.
- (d) Changes to these criteria will not be permitted without the approval of the City of Winnipeg Water and Waste Department.
- (e) The shutdown windows listed in D17.3(a) shall be considered a critical stage. Shutdowns exceeding those listed in D17.3(a) shall be subject to liquidated damages in accordance with D22.

#### **D18. WORKING DAYS**

- D18.1 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.
- D18.2 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.
- D18.3 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.
- D18.4 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.
- D18.5 Working days shall be suspended if restoration work cannot be completed due to weather conditions outside of the Contractor's control.

#### **D19. CRITICAL STAGES**

- D19.1 The Contractor shall achieve critical stages of the Work in accordance with the following requirements:
  - (a) Shutdown for Replacement of the 1200 mm butterfly valve shall be completed within seven (7) Calendar Days as measured in D17.3(a);

#### **D20. SUBSTANTIAL PERFORMANCE**

- D20.1 The Contractor shall achieve Substantial Performance within fifteen (15) consecutive Working Days of the commencement of the Work as specified in D16.
- D20.2 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.

D20.3 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.

#### **D21. TOTAL PERFORMANCE**

D21.1 The Contractor shall achieve Total Performance within twenty (20) consecutive Working Days of the commencement of the Work as specified in D16.

D21.2 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.

D21.3 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.

#### **D22. LIQUIDATED DAMAGES**

D22.1 If the Contractor fails to achieve Critical Stages, 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 or Calendar Day for each and every Working Day or Calendar Day following the days fixed herein for same during which such failure continues:

- (a) Critical Stage – Shutdown for Replacement of the 1200 mm butterfly valve – one thousand five hundred dollars (\$1,500.00) per Calendar Day;
- (b) Substantial Performance - one thousand five hundred dollars (\$1,500.00) per Working Day;
- (c) Total Performance – five hundred dollars (\$500.00) per Working Day.

D22.2 The amounts specified for liquidated damages in D22.1 are based on a genuine pre-estimate of the City's losses in the event that the Contractor does not achieve critical stages, Substantial Performance or Total Performance by the days fixed herein for same.

D22.3 The City may reduce any payment to the Contractor by the amount of any liquidated damages assessed.

#### **CONTROL OF WORK**

##### **D23. JOB MEETINGS**

D23.1 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.

D23.2 The Contract Administrator reserves the right to cancel any job meeting or call additional job meetings whenever he/she deems it necessary.

**D24. PRIME CONTRACTOR – THE WORKPLACE SAFETY AND HEALTH ACT (MANITOBA)**

D24.1 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).

**D25. THE WORKPLACE SAFETY AND HEALTH ACT (MANITOBA) – QUALIFICATIONS**

D25.1 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**

**D26. PAYMENT**

D26.1 Further to C12, the City may at its option pay the Contractor by direct deposit to the Contractor's banking institution.

**WARRANTY**

**D27. WARRANTY**

D27.1 Notwithstanding C13.2, the warranty period shall begin on the date of Total Performance and shall expire two (2) years thereafter unless extended pursuant to C13.2.1 or C13.2.2, in which case it shall expire when provided for thereunder.

**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. 657-2014

MACLEAN PUMPING STATION - LDV1 1200MM BUTTERFLY VALVE REPLACEMENT

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. 657-2014

MACLEAN PUMPING STATION - LDV1 1200MM BUTTERFLY VALVE REPLACEMENT

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 D15)

**MACLEAN PUMPING STATION - LDV1 1200MM BUTTERFLY VALVE REPLACEMENT**

<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 D15)

**MACLEAN PUMPING STATION - LDV1 1200MM BUTTERFLY VALVE REPLACEMENT**

<p><b>4. Category/type:</b></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><b>5. Category/type:</b></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><b>6. Category/type:</b></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 L: CONTRACTOR EXPERIENCE**

(See B11)

**MACLEAN PUMPING STATION - LDV1 1200MM BUTTERFLY VALVE REPLACEMENT**

Attach additional resumes and documents as required. Indicate whether Projects/Project Personnel are for Contractor or Subcontractor, and if applicable include name of Subcontractor.

**1. Project References:**

Project Client/Contact: \_\_\_\_\_  
(Name)

\_\_\_\_\_  
(Address)

\_\_\_\_\_ (phone) \_\_\_\_\_ (email)

<u>Year</u>	<u>Description of Project, including type of pipe</u>	<u>Value</u>
-------------	---	--------------

_____	_____	_____
_____	_____	_____
_____	_____	_____

**2. Project References:**

Project Client/Contact: \_\_\_\_\_  
(Name)

\_\_\_\_\_  
(Address)

\_\_\_\_\_ (phone) \_\_\_\_\_ (email)

<u>Year</u>	<u>Description of Project, including type of pipe</u>	<u>Value</u>
-------------	---	--------------

_____	_____	_____
_____	_____	_____
_____	_____	_____

**FORM L: CONTRACTOR EXPERIENCE**

(See B11)

**MACLEAN PUMPING STATION - LDV1 1200MM BUTTERFLY VALVE REPLACEMENT**

**3. Project References:**

Project Client/Contact: \_\_\_\_\_

(Name)

\_\_\_\_\_  
(Address)

\_\_\_\_\_  
(phone)

\_\_\_\_\_  
(email)

<u>Year</u>	<u>Description of Project, including type of pipe</u>	<u>Value</u>
-------------	---	--------------

_____	_____	_____
_____	_____	_____
_____	_____	_____

**4. Project References:**

Project Client/Contact: \_\_\_\_\_

(Name)

\_\_\_\_\_  
(Address)

\_\_\_\_\_  
(phone)

\_\_\_\_\_  
(email)

<u>Year</u>	<u>Description of Project, including type of pipe</u>	<u>Value</u>
-------------	---	--------------

_____	_____	_____
_____	_____	_____
_____	_____	_____

**FORM L: CONTRACTOR EXPERIENCE**

(See B11)

**MACLEAN PUMPING STATION - LDV1 1200MM BUTTERFLY VALVE REPLACEMENT**

**5. Project References:**

Project Client/Contact: \_\_\_\_\_

(Name)

\_\_\_\_\_  
(Address)

\_\_\_\_\_  
(phone)

\_\_\_\_\_  
(email)

<u>Year</u>	<u>Description of Project, including type of pipe</u>	<u>Value</u>
-------------	---	--------------

_____	_____	_____
_____	_____	_____
_____	_____	_____

**6. Project References:**

Project Client/Contact: \_\_\_\_\_

(Name)

\_\_\_\_\_  
(Address)

\_\_\_\_\_  
(phone)

\_\_\_\_\_  
(email)

<u>Year</u>	<u>Description of Project, including type of pipe</u>	<u>Value</u>
-------------	---	--------------

_____	_____	_____
_____	_____	_____
_____	_____	_____

**FORM L: CONTRACTOR EXPERIENCE**

(See B11)

**MACLEAN PUMPING STATION - LDV1 1200MM BUTTERFLY VALVE REPLACEMENT**

**7. Project Personnel:**

Name and Title: \_\_\_\_\_  
(Name)

Qualifications: (attach resume and fill out information below)

<u>Year</u>	<u>Description of Past Project</u>	<u>For Whom Work Was Performed</u>	<u>Value</u>

**8. Project Personnel:**

Name and Title: \_\_\_\_\_  
(Name)

Qualifications: (attach resume and fill out information below)

<u>Year</u>	<u>Description of Past Project</u>	<u>For Whom Work Was Performed</u>	<u>Value</u>

**9. Project Personnel:**

Name and Title: \_\_\_\_\_  
(Name)

Qualifications: (attach resume and fill out information below)

<u>Year</u>	<u>Description of Past Project</u>	<u>For Whom Work Was Performed</u>	<u>Value</u>

**FORM L: CONTRACTOR EXPERIENCE**

(See B11)

**MACLEAN PUMPING STATION - LDV1 1200MM BUTTERFLY VALVE REPLACEMENT**

**10. Project Personnel:**

Name and Title: \_\_\_\_\_  
(Name)

Qualifications: (attach resume and fill out information below)

<u>Year</u>	<u>Description of Past Project</u>	<u>For Whom Work Was Performed</u>	<u>Value</u>

## 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	Forms
B	Photos of Valve Chamber LDV1
C	Shop Drawings of City Supplied Valve

<u>Drawing No.</u>	<u>Drawing Name/Title</u>
1-0630Y-D0001-001	Cover Sheet
1-0630Y-C0001-001	Site Plan
1-0630Y-C0002-001	Existing Chamber and Piping – Plans, Sections, Details and Removals
1-0630Y-C0003-001	Proposed Chamber Modifications – Plans, Sections and Details.

### GENERAL REQUIREMENTS

#### E2. SITE SECURITY AND PROTECTION

- E2.1 Description
- (a) This specification covers on site security requirements during construction.
- E2.2 Site Security
- (a) All personnel on site are required to obtain a Criminal Record Search Certificate and Public Safety Verification Check, as outlined in PART F - . The Contractor shall submit copies of the Criminal Record Search Certificates to the Contract Administrator identified in D4. The City of Winnipeg Water Services Division will issue time-limited photo security passes to personnel identified as approved to work on the project. Personnel receiving passes are not permitted to provide or share security passes with other personnel to gain access to the Site. Violation of this policy will result in immediate dismissal of the personnel from the Site.
- E2.3 Photographs
- (a) All site photographs required for construction documentation shall be approved by City of Winnipeg Water Services Division representative, as identified by the Contract Administrator.

#### E3. SHOP DRAWINGS

- E3.1 Description

- (a) This Specification shall revise, amend, and supplement the requirements of CW 1100 of the City of Winnipeg's Standard Construction Specifications.
- (b) 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.

E3.2 Submit all Shop Drawings in accordance with CW 1100 except as modified herein.

E3.3 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.

E3.4 Submit Shop Drawing submissions within seven (7) Calendar days of a request as indicated in E3 or receipt of Notice of Award in accordance with B17, whichever is earlier.

E3.5 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.

E3.6 Expedited Shop Drawings

E3.6.1 Further to CW 1100, in order to expedite Shop Drawings with critical timelines, the lowest responsive Bidder, as outlined in B16, 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) AWWA C606 shouldered joint coupling.
- (b) AWWA C606 shouldered joint end ring

E3.6.2 Schedule to submit Shop Drawing listed in E3.6.1 within seven (7) Calendar days of a request as indicated in E3.4 or receipt of Notice of Award in accordance with B17, whichever is earlier.

E3.7 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 B17.4.

#### **E4. CONDITION, PROTECTION OF AND ACCESS TO RESERVOIR COMPOUNDS AND AQUEDUCTS**

E4.1 Description

E4.1.1 This Section details operating constraints for all work to be carried out in close proximity to the MacLean Pumping Station and surrounding yard piping.

E4.1.2 The MacLean Pumping Station is a critical component of the City of Winnipeg Regional Water Supply System and work in close proximity to the Reservoir and surrounding yard piping shall be undertaken with an abundance of caution.

E4.2 Security

E4.2.1 The Contractor is required to take measures necessary to secure the work areas when the work areas are vacated. The Contractor shall ensure that all openings to valve chambers are properly secured when off site. Valve chamber hatches shall be locked. Removable concrete cover openings shall be secured with timber framing or other approved temporary cover, properly secured to prevent easy removal. The City shall be permitted to include a "double lock" mechanism whereby the City can add a City of Winnipeg lock, to permit access to City personnel in off hours.

#### E4.3 General Considerations for Work within the MacLean Compound

##### E4.3.1 Work around the MacLean Reservoir structure shall be limited as follows;

- (a) Light duty trucks and service vehicles will be permitted adjacent to the valve chamber.
- (b) Heavy equipment and cranes will only be permitted in designated locations. A crane staging area shall be developed near the valve chamber. Do not operate heavy equipment and cranes within 3 m of the feedermain centerline or valve chamber wall.
- (c) Under no circumstances will traffic or equipment be permitted overtop valve chambers.

##### E4.3.2 It is the Contractors' responsibility to ensure that all work crew members understand and observe the requirements of E4.2, E4.3 and E4.5. Prior to commencement of on-site Work, the Contractor's superintendent, foreman and heavy equipment operators shall attend an orientation meeting that will outline restrictions for working on and around the Aqueduct. Failure to comply with these restrictions will be grounds for removing the offending personnel from the site.

#### E4.4 Submittals

##### E4.4.1 Submit proposed construction equipment specifications to the Contract Administrator for review seven (7) days prior to construction. The submissions need to include sufficient data on operational weights, dimensions, and payloads to facilitate assessment that the proposed construction equipment is not in excess of the typical construction loading that this assessment was based on. Submittal shall include:

- (a) Equipment operating weight and dimensions including wheel or track base, track length or axle spacing, track widths or wheel configurations
- (b) Payload weights
- (c) Load distributions in the intended operating configuration

#### E4.5 Yard Piping and Feedermain Crossings

##### E4.5.1 Work around yard and feedermain piping, as shown on the Drawings, shall be limited to existing paved surfaces. The yard and feedermain piping is constructed of Prestressed Concrete Cylinder Pipe conforming to AWWA Standard C301, and has limited ability to withstand increased earth and live loading. Therefore, every precaution must be undertaken to ensure that applied loading during all phases of construction is within accepted loading parameters. Generally, legal traffic loads, equivalent to an AASHTO HS20 design vehicle, or other City of Winnipeg regional roadway restrictions in place at the time of the Works, will be permitted to cross piping on existing paved surfaces. Larger loads may be permitted upon approval of the Contract Administrator. The Contractor must submit details of the equipment proposed for the crossing as per E4.4. Equipment must cross the Aqueduct in a responsible, careful manner (i.e. slowly).

### E5. ENVIRONMENTAL PROTECTION

##### E5.1 The Contractor shall be aware that the MacLean Reservoir and Pump Station compound and piping is for potable water supply and no contamination by fuel, chemicals, etc. shall be permitted at any time. Fuels or chemicals shall not be stored within 30 metres of the Reservoir or yard piping.

##### E5.2 The Contractor shall plan and implement the Work of this Contract strictly in accordance with the requirements of the environmental protection measures as herein specified.

##### E5.3 The Contractor is advised that at least the following Acts, Regulations, and By-laws apply to the Work:

##### E5.3.1 Federal

- (a) Canadian Environmental Protection Act (CEPA) c.16

(b) Transportation of Dangerous Goods Act and Regulations c.34

E5.3.2 Provincial

- (a) The Dangerous Goods Handling and Transportation Act D12
- (b) The Endangered Species Act E111
- (c) The Environment Act c.E125
- (d) The Fire Prevention Act F80
- (e) The Manitoba Nuisance Act N120
- (f) The Public Health Act c.P210
- (g) The Workplace Safety and Health Act W120
- (h) And current applicable associated regulations.

E5.4 The Contractor is advised that the following environmental protection measures apply to the Work.

E5.4.1 Materials Handling and Storage

- (a) Construction materials shall not be stored within five (5) metres of the Aqueduct or piping centerline.

E5.4.2 Fuel Handling and Storage

- (a) Fueling of stationary equipment shall be completed with portable tanks containing only enough fuel to fill equipment.

E5.4.3 Waste Handling and Disposal

- (a) The construction area shall be kept clean and orderly at all times during and at completion of construction.
- (b) At no time during construction shall personal or construction waste be permitted to accumulate for more than one day at any location on the construction site, other than at a dedicated storage area as may be approved by the Contract Administrator.
- (c) Indiscriminate dumping, littering, or abandonment shall not take place.
- (d) No on-site burning of waste is permitted.
- (e) Equipment shall not be cleaned near watercourses; contaminated water from onshore cleaning operations shall not be permitted to enter watercourses.

E5.4.4 Dangerous Goods/Hazardous Waste Handling and Disposal

- (a) Dangerous goods/hazardous waste are identified by, and shall be handled according to, The Dangerous Goods Handling and Transportation Act and Regulations.
- (b) The Contractor shall be familiar with The Dangerous Goods Handling and Transportation Act and Regulations.

E5.4.5 Emergency Spill Response

- (a) The Contractor shall ensure that due care and caution is taken to prevent spills.
- (b) The Contractor shall report all major spills of petroleum products or other hazardous substances with the potential for impacting the environment and threat to human health and safety to the Contract Administrator and Manitoba Environment, immediately after occurrence of the environmental accident, by calling the 24-hour emergency telephone phone number (204) 945-4888.
- (c) The Contractor shall designate a qualified supervisor as the on-site emergency response coordinator for the project. The emergency response coordinator shall have the authority to redirect manpower in order to respond in the event of a spill.
- (d) The following actions shall be taken by the person in charge of the spilled material or the first person(s) arriving at the scene of a hazardous material accident or the on-site emergency response coordinator:

- (i) Notify emergency-response coordinator of the accident:
  - identify exact location and time of accident
  - indicate injuries, if any
  - request assistance as required by magnitude of accident (Manitoba Environment 24-hour Spill Response Line (204) 945-4888, Police, Fire Department, Ambulance, company backup)
- (ii) Assess situation and gather information on the status of the situation, noting:
  - personnel on site
  - cause and effect of spill
  - estimated extent of damage
  - amount and type of material involved
  - proximity to waterways and the Aqueduct
- (iii) If safe to do so, try to stop the dispersion or flow of spill material:
  - approach from upwind
  - stop or reduce leak if safe to do so
  - dike spill material with dry, inert sorbent material or dry clay soil or sand
  - prevent spill material from entering waterways and utilities by diking
  - prevent spill material from entering Aqueduct manholes and other openings by covering with rubber spill mats or diking
- (iv) Resume any effective action to contain, clean up, or stop the flow of the spilled product.
- (e) The emergency response coordinator shall ensure that all environmental accidents involving contaminants shall be documented and reported to the Manitoba Environment according to The Dangerous Goods Handling and Transportation Act Environmental Accident Report Regulation 439/87.

#### E5.5 Controlled Products

- (a) Materials classified as “Controlled Products” under Regulation 52/88, “Workplace Hazardous Materials Information System”, including amendments, are prohibited inside the Aqueduct, unless the material will be directly employed in the Work.
- (b) Notwithstanding the aforementioned requirement, materials have been tested by an ANSI accredited laboratory and meet the requirements of ANSI/NSF 60, “Standard for Drinking Water Treatment and Chemicals – Health Effects”, and ANSI/NSF 61, “Standard for Drinking Water System Components – Health Effects”, including the patching repair material, and epoxy resin adhesive, as specified in the Specifications, shall be permitted inside the Aqueduct.

### **E6. BUTTERFLY VALVE AND CHAMBER PIPING**

#### E6.1 Supply and Field Testing of 1200 Butterfly Valve

E6.1.1 The 1200 mm butterfly valve and actuator are being supplied under a separate Bid Opportunity, City of Winnipeg Bid Opportunity No. 86-2010. The valve and actuator supplied under Bid Opportunity 86-2010 have been delivered to the City of Winnipeg MacLean Pumping Station at 875 Lagimodiere Boulevard. Contact for the Valve Supply Contract is:

Flo-Crest Equipment

(204) 633-0682

E6.1.2 The Contractor shall attend a delivery inspection, with the Valve Supply Contractor, and Contract Administrator. The Supply Contractor, prior to turning valves over to the Installation Contractor, shall rectify any damage noted during the delivery inspection. Written acceptance of the valves and actuators by a duly completed “Certificate of Equipment Delivery (Form 200)” (Appendix B) shall constitute acceptance for installation from the Installation Contractor.

- E6.1.3 The City has performed a hydrostatic leakage testing of the valves, after delivery.
- E6.1.4 The Installation Contractor may leave the valve and actuator in storage at the City facility at 875 Lagimodiere Boulevard, until required on-site for pre-assembly and installation.
- E6.1.5 Once removed from storage at the City facility, the Contractor shall provide 24 hour secure storage for the valve. Once delivered to the Site for pre-assembly and installation, the valve shall remain stored in a secure, on-site storage compound.
- E6.1.6 The Contractor shall supply new bolts and gaskets for the butterfly valve.
- E6.2 Lock-out and Tag-out Procedures for Isolation of Pump Station and Feedermain Piping
- E6.2.1 The City of Winnipeg will endeavor to provide redundant valve closures (double blocking) of pressurized pipelines that enter the work space where possible. However, there are locations within the system where it is impractical to provide double blocking without widespread service disruption. Where operation of the McLean Pump Station and the feedermain network does not allow double blocking, non-redundant valve closures (single blocking) will be provided.
- E6.2.2 At locations where only single valve blocking is practical, additional safety measures and monitoring will be required in order to provide a safe work environment for employees. Development of adequate safety plans in accordance to the WorkPlace Safety and Health Act and Regulation 217/06 are the responsibility of the Contractor, but as a minimum shall include;
- (a) Provision of adequate egress from confined spaces including removal of removable roof slabs and manhole covers, and provision of ladders and other means of site exit
  - (b) Use of body harnesses and safety hoisting equipment at all times when pressurized systems are disassembled and protected only by single block valves.
  - (c) Monitor and assess water leakage in closed system prior to disassembly of system. Monitor water leakage rate and advise Contract Administrator immediately of change in inflow rates. Evacuate confined space if necessary.
- E6.2.3 The Contractor, City of Winnipeg Water and Waste Department, and Contract Administrator will all be required to lock out all valves closed in order to facilitate this work. Where site access and lockout space on system valves is limited, the following lockout/tag out procedures will be implemented;
- (a) City of Winnipeg will provide a single lock, chains and other devices to adequately secure valves within pits and chambers. Contractor will have right to inspect the installation and satisfy that the lockout system is adequate. All locks utilized will be commonly keyed.
  - (b) Key(s) for single locked valves will be place in secure lock box at the site. City staff, Contractors, and Contract Administrator will place personal/company locks compete with identification and tag out information on this lock box.
  - (c) Key(s) placed within the secure lock box will not be removed until all City staff, Contractor, and Contract Administrator locks have been removed from the lock box, and verified that the work is completed.
  - (d) City staff will then unlock all valves, and will commence with restoration of the systems to service.
- E6.2.4 Lockout locations for valves are identified below. Where valve is a single block location, it is identified.

Valve Name	Location	Size (mm)	Single Block Location
W-VP00000108	Lagimodiere Blvd. and Marion St.	900	Yes
W-VA70000225	Panet Rd. North of	750	

	Dugald Rd.		
W-VA70001768	Lagimodiere Blvd. south of GWWD Railway	600	
W-VA70001769	Lagimodiere Blvd. south of GWWD Railway	750	
W-VA70001955	Mazenod Rd. south of GWWD Railway	750	
N/A	Bypass Valve within LDV1 Chamber	600	Yes
N/A	Discharge Valve within Maclean Pumping Station	1200	Yes

E6.3 Shop Drawings

E6.3.1 Submit shop drawings for all fittings, valves, piping, and couplings in accordance with E3.

E6.3.2 Submit Shop Drawings of all temporary support structures, beams, hoists anticipated for valve and pipe removal and installation.

E6.4 Materials

E6.4.1 Bolts

- (a) Bolts for chamber piping shall be ASTM A307 grade B. Bolt size, type and diameter shall be in accordance with AWWA C207. Bolt length suitable for coupling AWWA C207 Class D flange.
- (b) Anti-seize compound shall be used on all bolts.

E6.4.2 Flange Gaskets

- (a) 3mm, full-faced, SBR rubber gaskets or neoprene in accordance with AWWA C207.
- (b) Gaskets shall be one piece construction where possible.
- (c) Segmented gaskets shall be constructed of a minimum number of segments and joints shall be of dovetailed construction, or other jointing methods approved by the Contract Administrator.

E6.4.3 Steel Chamber Fittings

- (a) Steel fittings shall be manufactured in accordance with AWWA C200.
  - (i) Minimum wall thicknesses of 9.5 millimetres.
  - (ii) Minimum steel yield strength of 207 MPa (30,000 psi)
- (b) Flange for fitting shall be AWWA C207 minimum Class D Flange.
- (c) Shouldered end ring shall conform to AWWA C606 and be compatible with the existing Style 44 Victaulic coupling end ring located on the 1200 mm wall piece (if reused).
- (d) Interior and exterior of the fitting shall be painted in accordance with E6.4.9 or E6.4.10 and E6.5.5.

E6.4.4 Shouldered end pipe couplings shall conform to AWWA C606 and be compatible with the existing Victaulic Style 44 end ring located on the 1200 mm wall piece (if reused).

- (a) Minimum requirements are:
  - (i) Couplings shall be epoxy coated in accordance with AWWA C210 or AWWA C213. Epoxy coating must be NSF 61 certified.

(ii) Bolts and nuts shall conform to AWWA C606 and be galvanized in accordance with ASTM A153.

(b) Approved Products: Victaulic Style 44 coupling and shouldered end rings or approved equal in accordance with B7.

#### E6.4.5 Ball Valves

(a) Small diameter threaded ball valves (75 mm diameter and less) shall be all cast bronze two-piece type with chromium plated ball complete with lever handle rated for minimum 1.0 MPa non-shock cold water service. Bronze material shall conform to ASTM B62. Acceptable product: Apollo, Red-White or approved equal in accordance with B7.

(b) Ductile iron ball valves shall be constructed from ductile iron and come complete with a stainless steel ball, ASME B16.1 CLASS 125 flanges and stem, Kitz #90 , Series 4000D as manufactured by American Valve Inc. or approved equal in accordance with B7.

#### E6.4.6 Threaded Piping, Fittings and Flanges

(a) Small diameter brass threaded piping, fittings and flanges (75mm diameter and less) shall be cast red brass conforming to ASTM B43 or cast bronze conforming to ASTM B62. Flange dimension and drilling shall be in accordance with ANSI B16.24 - 150#.

(b) Small Diameter steel threaded fittings and flanges (75mm diameter and less) shall be in accordance with ANSI B16.5 - Class 150.

(c) Small diameter steel pipe nipples shall be Schedule 80 steel.

#### E6.4.7 Flange Isolation Kits

(a) Flange isolation kits shall be used where noted, where dissimilar metal piping or fittings are joined.

(b) Flange isolation kits shall be to City of Winnipeg specification except as modified below.

(c) Each kit shall be double flange isolation kit with insulating sleeves and washers for each flange of the bolted connection.

(d) Bolt sleeves shall be comprised of G10 or G11 epoxy glass.

#### E6.4.8 Stainless Steel Extension Shaft

(a) A 50 mm diameter stainless steel extension shaft shall be supplied with the butterfly valves for surface operation as shown on the Drawings.

(b) The extension shaft shall be configured for a 50 mm AWWA operating nut.

(c) The extension shaft shall be located a minimum of 150 mm and maximum of 450 mm from the proposed final grade.

(d) Extension shaft to be installed with a wall mounted shaft support. The support shall be manufactured from ductile iron, steel, or stainless steel. All steel and iron components must be epoxy coated as per E6.4.9 and E6.5.5.

#### E6.4.9 Liquid Epoxy Coatings

(a) All paint for exposed metal surfaces shall conform to AWWA C210.

(b) All paint shall be NSF 61 certified for immersion service in pipelines.

(c) 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.

(d) Interior pipe linings shall be a 100% solids liquid epoxy product. Approved products: Enviroline 230, Bar-Rust 234P, Specialty Polymer Coatings SP-7888, or approved equal in accordance with B7.

- (e) Exterior 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, Tnemec Series 140F Pota-Pox Plus, Amerlock 2 or approved equal in accordance with B7.
- (f) Submit product data for interior lining and exterior coating products in accordance with E3.

#### E6.4.10 Fusion Bonded Epoxy Coatings

- (a) As an alternative to liquid epoxy coatings specified in E6.4.9 the contractor may use a fusion bonded epoxy coating conforming to AWWA C213.
- (b) Fusion bonded epoxies shall be NSF 61 certified for immersion service in pipelines.
- (c) The final minimum coating thickness shall be the greater of 16 mils or the thickness recommended by the manufacturer for immersion service.
- (d) Submit product data for interior lining and exterior coating products in accordance with E3.

### E6.5 Construction Methods

#### E6.5.1 Removal of Existing Valve and Piping

- (a) Remove roof slab.
- (b) Remove existing butterfly valve, actuator and spool piece.

#### E6.5.2 Installation of Butterfly Valve

- (a) Modify concrete base to accommodate installation of new valve.
- (b) Install butterfly valve as shown on the Drawings. Valve shall be installed with the valve shaft in the horizontal position. The Supply Contractor is obligated to provide installation supervision, and will completed Form 202 (Appendix B) upon successful installation.

#### E6.5.3 Commissioning of Butterfly Valve

- (a) The Contractor shall assist in operation of the butterfly valve for the purpose of commissioning. The Supply Contractor is required to complete Form 203 (Appendix B), indicating a qualified representative has checked the installed equipment, and has found the equipment to be installed and operating in accordance to the specifications.

#### E6.5.4 Threaded Valves, Fittings, and Blind Flanges

- (a) Install threaded nipples and flanges where indicated. Wrap all threads with a minimum of two wraps of Teflon tape or "pipe dope" containing Teflon. Isolate dissimilar metal flanges with isolation kits in accordance with E6.4.7.

#### E6.5.5 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 NAF 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) Protect valve seals, machined surfaces, threads, and nameplates from sandblasting.
- (c) Primer coat to follow immediately after completion of sandblasting and prep.

- (d) Apply liquid epoxies of prepared surfaces in accordance with AWWA C210, E6.4.9, and the manufactures recommendations.
- (e) Apply fusion bonded epoxies of prepared surfaces in accordance with AWWA C213, E6.4.10, and the manufactures recommendations.
- (f) Provide adequate ventilation and heat to facilitate curing of coatings.
- (g) Interior linings for pipes and fittings shall be applied and cured as recommended by the manufacturer prior to placing into service. Linings must be fully cured for immersion service prior to installation and reinstating the line into service. Where accelerated cure times are required for assembly and water immersion, a coating and curing plan shall be submitted to the Contract Administrator in accordance with E3.

## E6.6 Method of Measurement and Basis of Payment

### E6.6.1 Replacement of Valve LDV1 at MacLean Pumping Station and Reservoir

- (a) Replacement of Butterfly Valve LDV1 at MacLean Pumping Station and Reservoir shall be measured on a lump sum basis. The lump sum price shall include construction of temporary access as required, excavation, removal, replacement and re-sealing of removable concrete slab, removal of butterfly valve and chamber piping, valves and appurtenances, installation of the City-supplied butterfly valve, supply and installation of chamber piping, miscellaneous valves, fittings, appurtenances, and new Victaulic 44 coupling, pavement restoration, heating and hoarding, and any other materials or labour required to complete the Work.

## E7. CHAMBER MODIFICATIONS

### E7.1 Description

- E7.1.1 This specification covers removal and reinstallation of the chamber roof slabs and insulation work.

### E7.2 Shop Drawings

- E7.2.1 Submit shop drawings for insulation in accordance with E3.

### E7.3 Materials

#### E7.3.1 Rigid Insulation

- (a) High Strength Rigid insulation for below grade: to CAN/ULC S701, Type 4, Styrofoam HI 40 by Dow Chemical, Foamular 400 by Owens Corning; thickness as indicated on Drawings.

#### E7.3.2 Protection Board

- (a) 19 millimetre pressure treated plywood intended for bellow grade applications.

#### E7.3.3 Joint Filler

- (a) Joint Filler
  - (i) Joint filler for concrete slab shall be self-leveling, polyurethane sealant to meet requirements of ASTM C920, Type S, Grade P, Class 25, Use T, M, A, O, and I.
  - (ii) Approved product: Vulkem 45 as manufactured by Tremco, Sikaflex-1c SL, or approved equal in accordance with B7.
- (b) Backer rod shall meet requirements of ASTM C1330.
- (c) Bond Breaker: pressure sensitive plastic tape, which will not bond to sealants.
- (d) Joint Cleaner: xylol, methylethyleketon or non-corrosive type recommended by sealant manufacturer and compatible with joint forming materials.

### E7.4 Construction Methods

- E7.4.1 Remove and store removable roof slabs carefully and in a manner to precludes damage to the slabs.
- E7.4.2 Installation of Roof Slab
- (a) Remove all existing sealants and clean joint surfaces as per sealant manufacturer's instructions.
  - (b) Re-install roof slab.
  - (c) Apply joint filler as per manufacturer's instructions.
  - (d) Fill all lifting hook recesses with polyurethane sealant.
- E7.4.3 Installation of Insulation
- (b) Clean surfaces to receive insulation. Place insulation as indicated on Drawings. Ensure joints between boards are tight. Stager joints where possible.
  - (c) Cover horizontal surfaces with protection board and sand layer as shown on the drawings.
- E7.5 Measurement and Payment
- (a) Removal and reinstallation of roof slabs and the supply and installation of insulation and associated materials shall be considered incidental to "Replacement of LDV1 and Associated Work" and will not be measured for payment. No additional payment will be made.

## **E8. RESTORATION**

### **E8.1 Description**

- E8.1.1 This specification covers the restoration of work sites.

### **E8.2 Restoration Works**

- (a) Sodding
  - (i) Sod disturbed grassed areas in accordance with CW3510.
- (b) Concrete Pavement and Curbing shall be repaired in accordance with the City of Winnipeg's Standard Construction Specifications.

### **E8.3 Measurement and Payment**

- E8.3.1 Supply and installation of sod shall be measured and paid in accordance with CW 3510.
- E8.3.2 Concrete pavement and curb repairs shall be considered incidental to "Replacement of LDV1 and Associated Work" and will not be measured for payment. No additional payment will be made.
- E8.3.3 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.

## **E9. PATCHING AND CRACK REPAIR**

### **E9.1 Description**

- E9.1.1 This Specification shall cover the Work of removing, preparing, and patching areas of defective concrete cracks and water leakage on the interior surfaces of the existing structure.
- E9.1.2 The work to be done by the Contractor under this Specification shall include the furnishing of all superintendence, overhead, labour, materials, equipment, tools supplies, and all things necessary for and incidental to the satisfactory performance of all work as hereinafter specified.

## E9.2 Shop Drawings

- E9.2.1 Submit shop drawings for all injection and grouting materials in accordance with E3.
- E9.2.2 Submit a polyurethane injection procedure in accordance with E3.

## E9.3 Materials

### E9.3.1 General

- (a) The Contractor shall be responsible for the supply, safe storage, and handling of all materials set forth in this Specification.
- (b) Materials required to contain a spill in accordance with manufacturers printed instructions and Material Safety Data Sheet (MSDS) shall be kept near the immediate repair work area inside the Aqueduct at all times.

### E9.3.2 Delivery, Storage, and Handling of Materials

- (a) All material shall be delivered to the Work site, stored, and handled in a careful and workmanlike manner in accordance with manufacturers' printed instructions and recommendations.
- (b) Store materials in a manner which will prevent deterioration and contamination. Deteriorated or contaminated materials shall be removed from site.

### E9.3.3 Testing

- (a) There shall be no charge to the City for any materials taken by the Contract Administrator for testing purposes.
- (b) Any materials which, in whole or in part, do not conform to the Specifications detailed herein or are found to be defective in manufacture or have become damaged in transit, storage, or handling operations shall be replaced by the Contractor at their own expense.

### E9.3.4 Patching Repair Material

- (a) Patching repair material shall be polymer modified mortar based SikaTop 122 Plus or SikaTop 123 Plus by Sika Canada Inc., Emaco S88-CA by Master Builders Technologies division of Chemrex, or approved equal in accordance with B7.

### E9.3.5 Epoxy Bonding Adhesive

- (a) Epoxy bonding adhesive shall be Sikadur 32, Hi Mod by Sika Canada Inc., SCB Concessive 1422 by Master Builders Technologies division of Chemrex, or approved equal in accordance with B7.

### E9.3.6 Non-Shrink Grout

- (a) Non-shrink grout shall be cement based Grout 212 by Sika Canada Inc., or Special Grout 110 by Five Star Products Inc., or approved equal in accordance B7.

### E9.3.7 Polyurethane Grout

- (a) Acid Flushing Solution
  - (i) Acid flushing solution shall be pre-mixed solution of food grade phosphoric acid meeting the requirements of ANSI/NSF 60, "Standard for Drinking Water Treatment and Chemicals -- Health Effects", diluted to a 5%±0.5% solution, by volume, with potable water prior to delivery to site. Diluting concentrated (>5%) phosphoric acid solution on site is prohibited.
- (b) Polyurethane Injection Resin
  - (i) Polyurethane injection resin shall be single-component Diphenylmethane Diisocyanate (MDI) based, water-activated, hydrophobic type Specton Flex F1000 Polyurethane Resin and Accelerator by Specton Construction Chemicals Ltd., Spetec LF/PUR F1000 Flexible Resin and Accelerator by Tecinvest NV, Belgium, or Hydro Active Flex LV and Hydro Active Flex Cat by DeNeef Construction Chemicals (U.S.) Inc., or approved equal in accordance with B7

meeting the requirements of ANSI/NSF 61, "Standard for Drinking Water System Components -- Health Effects" Surface Seal.

(c) Surface Seal

- (i) Surface seal material shall be polymer modified mortar SikaTop 122 PLUS or SikaTop 123 PLUS by Sika Canada Inc., epoxy based Sikadur 31 Hi-Mod Gel or Sikadur Injection Gel by Sika Canada Inc., cementitious based Thoro Waterplug by Harris Specialty Chemicals Canada Inc., or approved equal in accordance with B7, meeting the requirements of ANSI/NSF 61, "Standard for Drinking Water System Components -- Health Effects".

(d) Injection Packers and Ports

- (i) Injection packers and ports shall be as recommended by the manufacturer of the polyurethane injection resin. Injection packers and ports shall be supplied with a removable zerk coupling, or other one-way ball or check valve.

(e) Injection Pump Cleaner

- (i) Injection pump cleaner shall be as recommended by the manufacturer of the polyurethane injection resin. Injection pump cleaner shall not contain acetone, toluene, MEK, or other flammable petroleum solvents.

E9.4 Submittals

E9.4.1 Product Literature

- (a) The Contractor shall submit product literature consisting of general product brochure, technical data sheet(s), Material Safety Data Sheet(s), mixing instructions, and installation instructions for the patching repair material to the Contract Administrator prior in accordance with E3.

E9.5 Equipment

E9.5.1 General

- (a) All equipment, tools, and facilities used shall be suitable for the Work and shall be kept in good working order.
- (b) Mechanical chipping hammers shall be limited to maximum lightweight (15-pound) hammers.

E9.5.2 Polyurethane Injection Equipment

- (a) Polyurethane injection resin shall be installed using a positive displacement type pump. The polyurethane injection equipment shall be equipped with pail heater(s) suitable for plastic pails capable of maintaining the polyurethane resin and accelerator mixture between 10° and 70° Celsius. A thermometer shall be provided with each pump for monitoring the temperature of the polyurethane resin. All polyurethane injection equipment inside the Aqueduct shall be removed from the Aqueduct at the end of the work inside the Aqueduct.

E9.6 Construction Methods

E9.6.1 Concrete Patching

- (a) Miscellaneous concrete patching of walls, platforms or other areas within the valve chamber will be identified by the Contract Administrator.
- (b) Provide suitable protective clothing and gloves for persons working with restoration materials.
- (c) During installation and curing of restoration materials, if the ambient temperature is expected to go below the manufacturer's recommended minimum temperature provide enclosures and heat as required.
- (d) Use restoration materials in accordance with manufacturer's printed instructions, and as specified.

- (e) Continuously check materials and applications for correct use.
- (f) Identify and delineate areas of defective concrete, including but not limited to honeycombed, spalled, and delaminated concrete, by sounding techniques for review by the Contract Administrator. The Contract Administrator shall designate the limits of the defective concrete to be repaired.
- (g) Remove delaminated, loose, and spalled concrete using lightweight mechanical chipping hammers or other suitable means to sound concrete. Protect reinforcing bars during removal.
- (h) Cut into sound concrete 50 to 100 mm beyond the areas of delaminated, loose, and spalled concrete, and remove concrete to a depth of 19 mm minimum. Prevent feathering of the patches by providing vertically saw-cut edges.
- (i) Cut and remove concrete a minimum of 25 mm behind exposed reinforcing bars.
- (j) Thoroughly clean all surfaces previously chipped of any loose concrete and/or laitance and prepare surface for patching in accordance with printed instructions from the manufacturer of the patching mortar. Use pressure washing to clean and prepare concrete surfaces. Do not damage the structures. Carry out cleaning in accordance with Steel Structures Painting Council, 1982 (SSPC)-SP 13.
- (k) Repair any damage caused by the cleaning.
- (l) Prime exposed reinforcing bars with epoxy bonding adhesive, in accordance with manufacturer's written instructions.
- (m) Provide supplementary reinforcing bars where required.
- (n) Apply patching material to concrete substrate in accordance with the manufacturer's printed instructions required.
- (o) The patch shall be finished to match the profile of the surrounding concrete.
- (p) Cure patches in accordance with manufacturer's printed instructions.

#### E9.6.2 Polyurethane Injection and Crack Repairs

- (a) General
  - (i) The Contractor shall locate, prepare, acid flush, test for watertightness, and inject with polyurethane injection resin and accelerator mixture non-watertight cracks, joints and pipe penetrations designated for repair.
  - (ii) The Contractor shall carry out the injection work in a manner consistent with achieving the objective of a watertight repair.
  - (iii) Once the drill holes for watertightness testing and injection have been installed along cracks, joints and pipe penetrations, the interior surface shall be kept clean and free of dirt and standing water until the injection work has been completed..
  - (iv) All excess unused polyurethane materials shall be removed from the work area.
- (b) Drilling Holes for Watertightness Testing and Injection
  - (i) Drill holes shall be installed along cracks, joints and pipe penetrations designated for repair to test the watertightness of the cracks and joints as required to meet the performance requirements for injection where the cracks and joints are found to be non-watertight.
  - (ii) The requirements for installing drill holes for watertightness testing and injection provided below represent acceptable minimum standards of practice.
  - (iii) The drill holes for watertightness testing and injection shall be drilled at an angle between forty-five (45) degrees and thirty (30) degrees from perpendicular to the surface of the concrete and perpendicular to the alignment of the cracks or joints.
  - (iv) For drill holes for pipe penetrations, drill holes shall not penetrate beyond the pipeline concrete coating. Drill holes shall be drilled around the perimeter of the pipe, a minimum of 100 millimeters from the outside diameter of the pipe.

- (v) The drill holes shall intersect the cracks at the midpoint of the concrete section, and intersect the joints at the midpoint between the waterstop and interior concrete surface, except as noted otherwise.
  - (vi) The drill holes shall be located on alternate sides of the crack or joint where possible, unless the orientation of the crack or joint is known or has been verified by non-destructive testing techniques or core drilling.
  - (vii) The spacing of the drill holes shall not exceed 300 millimetres, except as noted otherwise. The location and angle of the drill holes shall be adjusted to suit the orientation of the crack or joint and at locations where a crack intersects with the crack or joint.
  - (viii) Measures shall be taken to assist in locating the drill holes at the required distance from the crack or joint and at the required angle, such as using a template, during the Work especially at the commencement of drilling holes for watertightness testing and injection and at the beginning of each subsequent shift.
  - (ix) Measures shall be taken to prevent drilling the holes for watertightness testing and injection too shallow, too deep, and/or damaging the existing waterstop in the joints.
  - (x) Dust and debris in the drill holes and on the interior surface of the arch and invert slab resulting from the drilling operation, shall be removed by flushing with water prior to installing the injection packers or ports.
  - (xi) Install injection packers or ports in the drill holes in accordance with the manufacturer's printed instructions with the zerk coupling, or other one-way ball or check valve, to permit testing for watertightness and acid flushing of the cracks and joints.
- (c) Watertightness Testing and Acid Flushing of Cracks and Joints
- (i) Test the watertightness and flush the cracks and joints with the acid flushing solution at a pressure of 7 MPa (1000 psi), or the resin injection pressure, whichever is greater. The acid flushing solution shall be applied for a sufficient duration to test the watertightness of the cracks and joints. Where the cracks and joints are found to be non-watertight, the acid flushing solution shall be permitted to penetrate the full depth and length of the cracks or joints.
  - (ii) Following the acid flushing, the cracks and joints shall be flushed with copious quantities of potable water at a pressure of 7 MPa (1000 psi), or the resin injection pressure, whichever is greater, until there is no more evidence of acid flushing solution visible in the flush water.
  - (iii) At locations where the cracks or joints are determined to be watertight, remove the injection packers or ports, and repair the drill holes with patching repair material.
  - (iv) Where the cracks or joints are determined to be non-watertight, carry out injection work to satisfy the performance requirements of the Specification.
  - (v) Drill holes located along cracks or joints that are found to be watertight shall be clearly identified by means of a chalk mark alongside the drill hole.
  - (vi) The worker who is carrying out the acid flushing operations shall be clearly identified by wearing a reflective safety vest and signs indicating "Acid Flushing".
  - (vii) The portion of the work area where acid flushing is being carried out shall be clearly identified by signs and isolated by placing orange pylons, or other temporary barriers, and signs indicating "Acid Flushing" at either end of the siphon.
- (d) Application of Surface Seal along Cracks and Joints
- (i) Apply a surface seal along the length of the cracks and joints found to be non-watertight in order to contain the polyurethane injection resin and accelerator mixture during injection.

- (ii) A smooth trowel or sponge float finish shall be provided on the surface seal to provide a uniform surface free of projections. At locations where the required finish is not provided, re-finish by grinding or other suitable means.
- (iii) Cure the surface seal in accordance with manufacturer's printed instructions.
- (e) Polyurethane Injection Resin and Accelerator Mixture
  - (i) Add accelerator to the polyurethane injection resin at the required dosage to produce a cured polyurethane material meeting the performance requirements, and mix thoroughly in accordance with the manufacturer's printed instructions until a homogeneous mixture is obtained.
  - (ii) Heat the polyurethane injection resin and accelerator materials prior to and during the mixing and injection to a temperature between 30° and 55° Celsius. Injection shall not take place when the polyurethane injection resin and accelerator mixture is less than 30° Celsius or more than 55° Celsius.
- (f) Injection of Cracks and Joints
  - (i) Inject the polyurethane injection resin and accelerator mixture with water, or in a neat form into cracks and joints in a sequential manner, and re-inject as required, to meet the performance requirements.
  - (ii) The procedure suggested below for injection of invert cracks has been found to be effective in meeting the performance requirements during previous repairs, as it permits excess water, dirt, and other residue present in the crack to be vented out through adjacent injection packers or ports. Prior to commencing the injection work along an invert crack, remove the zerk couplings from the injection packers or ports except for the two packers located where the injection work will commence. Commence injection work in the first two packers. Once clean polyurethane resin is vented from the third injection packer, cease injection at the first packer, and install the zerk coupling and commence injection at the third packer. Repeat the process for the fourth and subsequent packers until the full length of the invert crack has been injected.
- (g) Repair of Isolated Locations of Infiltration
  - (i) Drill holes for injection, acid flush, apply surface seal, and carry out injection work as detailed herein above.
  - (ii) At locations where the infiltration is significant, apply cementitious based surface seal in accordance with manufacturer's printed instructions to minimize the infiltration prior to commencing the injection work.
  - (iii) Carry out multiple injections as required to meet the performance requirement.
- (h) Removal of Packers and Ports and Patching
  - (i) Following the completion of the injection work, the Contractor shall remove the remaining injection packers and ports, and patch the remaining holes with the patching repair material.

## E9.7 Quality Control

### E9.7.1 Corrective Action

- (a) The Contractor shall at their own expense, correct such work or replace such materials found to be defective under this Specification and carry out additional quality control testing.

## E9.8 Method of Measurement and Basis of Payment

E9.8.1 "Polyurethane Injection" shall be measured and paid on a lump sum basis as per Form B of the Bid Opportunity. Payment shall include all materials and labour required to successfully complete the work.

E9.8.2 Concrete patching repairs shall be considered incidental to "Replacement of LDV1 and Associated Work" and will not be measured for payment. The contractor shall allow for the placement of up to 0.028 cubic metres (1 cubic foot) of concrete which shall be included in

the lump sum price for the "Replacement of LDV1 and Associated Work". No measurement will be made for waste material, materials mixed in excess of required volume, or materials placed outside the limits set out by the Contract Administrator.

## **E10. PRUNING**

### **E10.1 Description**

E10.1.1 This specification covers the pruning of existing trees as required to facilitate construction.

### **E10.2 Quality Control**

E10.2.1 Person performing work shall possess a valid Manitoba Arborists License.

### **E10.3 Materials**

#### **E10.3.1 Wound Dressing**

- (a) Wound dressing shall be horticultural accepted non-hardening bituminous emulsion, free of materials toxic to callus formation, containing disinfectant for fungal and other diseases.

### **E10.4 Construction Methods**

#### **E10.4.1 Scheduling of Work**

- (a) The Contractor shall review work with Contract Administrator prior to starting work.

#### **E10.4.2 Pruning**

- (a) Prune individual trees as indicated by the Contract Administrator. Remove dead, dying, diseased interfering, objectionable and weak growth in order to promote healthy development suitable to the purpose for which plant material is grown.
- (b) Prune in accordance with Agriculture Canada Publication 1505-1977, The Pruning Manual.
- (c) Employ clean sharp tools and make cuts flush with main branch, smooth and sloping as to prevent accumulation of water. Remove projecting stumps on trunks or main branches. Remove dead and injured branches and branches that rub causing damage to bark. Trim trees without changing their natural shape. Do not damage lead branches or remove smaller twigs along main branches.

#### **E10.4.3 Cut Back**

- (a) Eliminate narrow crotches as much as possible; avoid cutting back to small suckers. Remove smaller limbs and twigs to leave foliage evenly distributed.
- (b) When reducing overall size, make symmetrical in appearance to maintain tree-like form typical of species.
- (c) Do not remove more than one-third of total branching at single operation.

#### **E10.4.4 Repair and Protection**

- (a) Repair cuts and old scars in accordance with Agriculture Canada Publication 1505-1977, The Pruning Manual.
- (b) Paint new cuts 100mm in diameter and over with wound dressing.

E10.5 Method of Measurement and Basis of Payment

E10.5.1 Pruning of trees shall be considered incidental to the "Replacement of LDV1 and Associated Work" and will not be measured for payment. No additional payment will be made.

**E11. TREE REMOVAL**

E11.1 Description

E11.1.1 This specification amends CW 3110 Clearing and Grubbing.

E11.2 Quality Control

E11.2.1 Person performing work shall possess a valid Manitoba Arborists License.

E11.3 Construction Methods

E11.3.1 If the Contractor requires removing trees to access the Site or facilitate construction, the Contractor shall submit a plan to the Contract Administrator for review, a minimum of 14 Calendar Days prior to removal. No removals of trees shall be made without written approval by the Contract Administrator. The plan shall at a minimum indicate:

(a) Trees requiring removal, and description of requirement for removal

E11.4 Method of Measurement and Basis of Payment

E11.4.1 Tree removals shall be considered incidental to the "Replacement of LDV1 and Associated Work" and will not be measured for payment. No additional payment will be made.

## PART F - SECURITY CLEARANCE

### F1. SECURITY CLEARANCE

- F1.1 Each individual proposed to perform Work under the Contract shall be required to obtain a Criminal Record Search Certificate from the police service having jurisdiction at his place of residence. This can be obtained from one of the following;
- (a) police service having jurisdiction at his/her place of residence; or
  - (b) BackCheck, forms to be completed can be found on the website at: <http://www.backcheck.net/> ; or
  - (c) Commissionaires (Manitoba Division), forms to be completed can be found on the website at: <http://www.commissionaires.mb.ca/> .
- F1.2 Each individual proposed to perform Work under the Contract shall be required to obtain a Public Safety Verification Check. This can be obtained from one of the following;
- (a) BackCheck, forms to be completed can be found on the website at: <http://www.backcheck.net/> ; or
- F1.2.1 Contact Ron Risley at 204-986-3758 if you have any questions regarding the Public Safety Verification.
- F1.3 Prior to the commencement of any Work, 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 the Work.
- F1.4 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.
- F1.5 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.
- F1.6 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.



# **Appendix A**

## **Forms**

## **Appendix B**

### **Photos of Valve Chamber LDV1**

## **Appendix C**

### **Shop Drawings of City Supplied Valve**