



**THE CITY OF WINNIPEG**

# **BID OPPORTUNITY**

**BID OPPORTUNITY NO. 619-2009**

**SUPPLY AND DELIVERY OF SLUICE AND FLAP GATES**

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## **PART B - BIDDING PROCEDURES**

### **B1. CONTRACT TITLE**

B1.1 SUPPLY AND DELIVERY OF SLUICE AND FLAP GATES

### **B2. SUBMISSION DEADLINE**

B2.1 The Submission Deadline is 4:00 p.m. Winnipeg time, August 14, 2009.

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. ENQUIRIES**

B3.1 All enquiries shall be directed to the Contract Administrator identified in D3.1.

B3.2 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 promptly notify the Contract Administrator of the error, discrepancy or omission at least five (5) Business Days prior to the Submission Deadline.

B3.3 If the Bidder is unsure of the meaning or intent of any provision therein, the Bidder should request clarification as to the meaning or intent prior to the Submission Deadline.

B3.4 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.

B3.5 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.

B3.6 The Bidder shall not be entitled to rely on any response or interpretation received pursuant to B3 unless that response or interpretation is provided by the Contract Administrator in writing.

### **B4. ADDENDA**

B4.1 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.

B4.2 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.

B4.2.1 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>

B4.2.2 The Bidder is responsible for ensuring that he 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.

B4.3 The Bidder shall acknowledge receipt of each addendum in Paragraph 8 of Form A: Bid. Failure to acknowledge receipt of an addendum may render a Bid non-responsive.

## **B5. SUBSTITUTES**

- B5.1 The Work is based on the materials, equipment, methods and products specified in the Bid Opportunity.
- B5.2 Substitutions shall not be allowed unless application has been made to and prior approval has been granted by the Contract Administrator in writing.
- B5.3 Requests for approval of a substitute will not be considered unless received in writing by the Contract Administrator at least seven (7) Business Days prior to the Submission Deadline.
- B5.4 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 material, equipment, method or product 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 Contract;
  - (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 Contract.
- B5.5 The Contract Administrator, after assessing the request for approval of a substitute, may in his 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.
- B5.6 The Contract Administrator will provide a response in writing, at least two (2) Business Days prior to the Submission Deadline, only to the Bidder who requested approval of the substitute.
- B5.6.1 The Bidder requesting and obtaining the approval of a substitute shall be entirely responsible for disseminating information regarding the approval to any person or persons he wishes to inform.
- B5.7 If the Contract Administrator approves a substitute as an “approved equal”, any Bidder may use the approved equal in place of the specified item.
- B5.8 If the Contract Administrator approves a substitute as an “approved alternative”, any Bidder bidding that approved alternative may base his 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 B13.
- B5.9 No later claim by the Contractor for an addition to the price(s) because of any other changes in the Work necessitated by the use of an approved equal or an approved alternative will be considered.
- B5.10 Notwithstanding B5.2 to B5.9, and in accordance with B6.7, deviations inconsistent with the Bid Opportunity document shall be evaluated in accordance with B13.1(a).

## **B6. BID SUBMISSION**

- B6.1 The Bid shall consist of the following components:

- (a) Form A: Bid;
  - (b) Form B: Prices;
- B6.2 Further to B6.1, the Bidder should include the written correspondence from the Contract Administrator approving a substitute in accordance with B5.
- B6.3 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 in ink, to constitute a responsive Bid.
- B6.4 The Bid Submission may be submitted by mail, courier or personal delivery, or by facsimile transmission.
- B6.5 If the Bid Submission is submitted by mail, courier or personal delivery, it shall be enclosed and sealed in an envelope clearly marked with the Bid Opportunity number and the Bidder's name and address, and shall be submitted to:
- The City of Winnipeg  
Corporate Finance Department  
Materials Management Division  
185 King Street, Main Floor  
Winnipeg MB R3B 1J1
- B6.5.1 Samples or other components of the Bid Submission 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 Submission.
- B6.6 Bidders are advised not to include any information/literature except as requested in accordance with B6.1.
- B6.7 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 B13.1(a).
- B6.8 If the Bid Submission is submitted by facsimile transmission, it shall be submitted to (204) 949-1178.
- B6.8.1 The Bidder is advised that the City cannot take responsibility for the availability of the facsimile machine at any time.
- B6.9 Bids submitted by internet electronic mail (e-mail) will not be accepted.
- B7. BID**
- B7.1 The Bidder shall complete Form A: Bid, making all required entries.
- B7.2 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 own name, his 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 own, the business name and the name of every partner or corporation who is the owner of such business name shall be inserted.
- B7.2.1 If a Bid is submitted jointly by two or more persons, each and all such persons shall identify themselves in accordance with B7.2.
- B7.3 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.

- B7.4 Paragraph 10 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 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;
  - (d) if the Bidder is carrying on business under a name other than his 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.
- B7.4.1 The name and official capacity of all individuals signing Form A: Bid should be printed below such signatures.
- B7.4.2 All signatures shall be original.
- B7.5 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.

## **B8. PRICES**

- B8.1 The Bidder shall state a price in Canadian funds for each item of the Work identified on Form B: Prices.
- B8.1.1 Prices on Form B: Prices shall include:
- (a) duty;
  - (b) freight and cartage;
  - (c) Provincial and Federal taxes [except the Goods and Services Tax (GST) and Manitoba Retail Sales Tax (MRST, also known as PST), which shall be extra where applicable] and all charges governmental or otherwise paid;
  - (d) profit and all compensation which shall be due to the Contractor for the Work and all risks and contingencies connected therewith.
- B8.1.2 Prices on Form B: Prices shall not include the Manitoba Association for Resource Recovery Corporation (MARRC) Environmental Handling Charge (EHC) which shall be extra where applicable.
- B8.2 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.
- B8.3 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.

## **B9. QUALIFICATION**

- B9.1 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, or if the Bidder does not carry on business in Manitoba, in the jurisdiction where the Bidder does carry on business; 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.

- B9.2 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>
- B9.3 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);
- B9.4 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.
- B9.5 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.

## **B10. OPENING OF BIDS AND RELEASE OF INFORMATION**

- B10.1 Bids will not be opened publicly.
- B10.2 Following the Submission Deadline, the names of the Bidders and their bid prices (unevaluated, and pending review and verification of conformance with requirements or evaluated prices) 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>
- B10.3 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>
- B10.4 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.

## **B11. IRREVOCABLE BID**

- B11.1 The Bid(s) submitted by the Bidder shall be irrevocable for the time period specified in Paragraph 9 of Form A: Bid.
- B11.2 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 for the time period specified in Paragraph 9 of Form A: Bid.

## **B12. WITHDRAWAL OF BIDS**

- B12.1 A Bidder may withdraw his Bid without penalty by giving written notice to the Manager of Materials at any time prior to the Submission Deadline.
- B12.1.1 Notwithstanding C21, 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.

- B12.1.2 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 10 of Form A: Bid, and only such person, has authority to give notice of withdrawal.
- B12.1.3 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 10 of Form A: Bid; and
  - (c) if the notice has been given by any one of the persons specified in B12.1.3(b), declare the Bid withdrawn.
- B12.2 A Bidder who withdraws his Bid after the Submission Deadline but before his Bid has been released or has lapsed as provided for in B11.2 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.

### **B13. EVALUATION OF BIDS**

- B13.1 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 therefrom (pass/fail);
  - (b) qualifications of the Bidder and the Subcontractors, if any, pursuant to B9 (pass/fail);
  - (c) Total Bid Price;
  - (d) economic analysis of any approved alternative pursuant to B5;
- B13.2 Further to B13.1(a), the Award Authority may reject a Bid as being non-responsive if the Bid Submission 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.
- B13.3 Further to B13.1(b), the Award Authority shall reject any Bid submitted by a Bidder who does not demonstrate, in his Bid or in other information required to be submitted, that he is responsible and qualified.
- B13.4 Further to B13.1(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.
- B13.4.1 If there is any discrepancy between the Total Bid Price written in figures, the Total Bid Price written in words and the sum of the quantities multiplied by the unit prices for each item, the sum of the quantities multiplied by the unit prices for each item shall take precedence.
- B13.4.2 Further to B13.1(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.
- B13.5 This Contract will be awarded as a whole.

### **B14. AWARD OF CONTRACT**

- B14.1 The City will give notice of the award of the Contract or will give notice that no award will be made.
- B14.2 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.



- B14.2.1 Without limiting the generality of B14.2, 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.
- B14.3 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 B13.
- B14.3.1 Following the award of contract, a Bidder will be provided with information related to the evaluation of his Bid upon written request to the Contract Administrator.
- B14.4 Notwithstanding C4 and Paragraph 6 of Form A:Bid, the City will issue a Purchase Order to the successful Bidder in lieu of the execution of a Contract.
- B14.5 The Contract Documents, as defined in C1.1(n) (ii) in their entirety shall be deemed to be incorporated in and to form a part of the Purchase Order notwithstanding that they are not necessarily attached to or accompany said Purchase Order.

## **PART C - GENERAL CONDITIONS**

### **C0. GENERAL CONDITIONS**

- C0.1 The *General Conditions for the Supply and Delivery of Goods* (Revision 2008 05 26) are applicable to the Work of the Contract.
- C0.1.1 The *General Conditions for the Supply and Delivery of Goods* 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 Supply of Goods*.

## **PART D - SUPPLEMENTAL CONDITIONS**

### **GENERAL**

#### **D1. GENERAL CONDITIONS**

D1.1 In addition to the *General Conditions for the Supply and Delivery of Goods*, 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 supply of a cast iron sluice and flap gates, and associated hardware.

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

- (a) Supply 914mm x 914mm cast iron sluice gate and thimble
- (b) Supply 914mm diameter flap gate and thimble.

#### **D3. CONTRACT ADMINISTRATOR**

D3.1 The Contract Administrator is MMM Group Limited, represented by:

Grantley King, P.Eng.  
Project Engineer  
111-93 Lombard Avenue  
Winnipeg, MB R3B 3B1  
Telephone No.: (204) 272-2013  
Facsimile No.: (204) 943-4948

#### **D4. NOTICES**

D4.1 Notwithstanding C21.3, all notices of appeal to the Chief Administrative Officer shall be sent to the attention of the Chief Financial Officer at the following address or facsimile number:

The City of Winnipeg  
Chief Financial Officer  
Administration Building, 3rd Floor  
510 Main Street  
Winnipeg MB R3B 1B9  
Facsimile No.: (204) 949-1174

### **SUBMISSIONS**

#### **D5. AUTHORITY TO CARRY ON BUSINESS**

D5.1 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.

#### **D6. INSURANCE**

D6.1 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 added as an additional insured; such liability policy to also contain a cross-liability clause, non-owned automobile liability and products and completed operations cover, to remain in place at all times during the performance of the Work;
- (b) if required, automobile liability insurance for owned automobiles used for or in connection with the Work in the amount of at least two million dollars (\$2,000,000.00), to remain in place at all times during the performance of the Work;

D6.2 Deductibles shall be borne by the Contractor.

D6.3 The Contractor shall provide the Contract Administrator 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 for the return of the executed Contract.

D6.4 The Contractor shall not cancel, materially alter, or cause the policy to lapse without providing at least thirty (30) Calendar Days prior written notice to the Contract Administrator.

#### **D7. MATERIAL SAFETY DATA SHEETS**

D7.1 The Contractor shall provide the Contract Administrator with one (1) copy of Material Safety Data Sheets (MSDS's) for each product to be supplied under the Contract at least two (2) Business Days prior to the commencement of Work but in no event later than seven (7) Calendar Days from notification of the award of Contract.

D7.2 Throughout the term of the Contract, the Contractor shall provide the Contract Administrator with revisions or updates of the MSDS's as soon as may be reasonably possible.

### **SCHEDULE OF WORK**

#### **D8. COMMENCEMENT**

D8.1 The Contractor shall not commence any Work until he is in receipt of a notice of award from the City authorizing the commencement of the Work.

D8.2 The Contractor shall not commence any Work until:

- (a) the Contract Administrator has confirmed receipt and approval of:
  - (i) evidence of authority to carry on business specified in D5;
  - (ii) evidence of the workers compensation coverage specified in C6.16;
  - (iii) evidence of the insurance specified in D6; and
  - (iv) the Material Safety Data Sheets specified in D7.
- (b) the Contractor has attended a meeting with the Contract Administrator, or the Contract Administrator has waived the requirement for a meeting.

#### **D9. DELIVERY**

D9.1 Goods shall be delivered by January 31, 2010, f.o.b. destination, freight prepaid to:

Terry Wazny  
Regional Wastewater Supervisor  
360 McPhillips Street  
Winnipeg, MB. R3E 2L1

Telephone No.: (204) 986 - 4788

D9.2 The Contractor shall confirm each delivery with the Contract Administrator or his/her designate, at least two (2) Business Days before delivery.

D9.3 Goods shall be delivered between 8:30 a.m. and 4:30 p.m. on Business Days.

D9.4 The Contractor shall off-load goods as directed at the delivery location.

**D10. LIQUIDATED DAMAGES**

D10.1 If the Contractor fails to achieve delivery of the goods within the time specified in D9.1. The Contractor shall pay the City five hundred dollars (\$500.00) per Calendar Day for each and every Calendar Day until the goods have been delivered.

D10.2 The amount specified for liquidated damages in D10.1 is based on a genuine pre-estimate of the City's damages in the event that the Contractor does not achieve Delivery by the day fixed herein for same.

D10.3 The City may reduce any payment to the Contractor by the amount of any liquidated damages assessed.

**MEASUREMENT AND PAYMENT**

**D11. PAYMENT**

D11.1 Further to C10, the City may at its option pay the Contractor by direct deposit to the Contractor's banking institution.

**WARRANTY**

**D12. WARRANTY**

D12.1 Warranty is as stated in C11.

## PART E - SPECIFICATIONS

### GENERAL

#### E1. APPLICABLE SPECIFICATIONS AND DRAWINGS

E1.1 These Specifications shall apply to the Work.

E1.2 The following are applicable to the Work:

<u>Drawing No.</u>	<u>Drawing Name/Title</u>
	Cover
LD-5437	Flap and Sluice Gates

E1.3 Bidders are reminded that requests for approval of substitutes as an approved equal or an approved alternative shall be made in accordance with B5.

#### E2. GOODS

E2.1 The Contractor shall supply Sluice and Flap Gates, inclusive of Thimbles in accordance with the requirements hereinafter specified.

E2.2 Item No. 1 – Sluice Gate and Thimble shall be in accordance with E4.

E2.3 Item No. 2 – Flap Gate and Thimble shall be in accordance with E5.

#### E3. SHOP DRAWINGS

E3.1 Description

- (a) This Specification shall revise, amend, and supplement the requirements of CW 1100.
  - (i) The term 'shop drawings' means drawings, diagrams, illustrations, schedules, performance charts, brochures, and other data including site erection drawings which are to be provided by the Contractor to illustrate details of a portion of the Work.
  - (ii) 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.
- (b) Shop Drawings
  - (i) Original drawings are to be prepared by the Contractor, Subcontractor, supplier, distributor, or manufacturer, which illustrate appropriate portion of work; showing fabrication, layout, setting or erection details as specified in appropriate sections.
- (c) Contractor's Responsibilities
  - (i) Review shop drawings, product data and samples prior to submission and stamp and sign drawings indicating conformance to the Contract requirements.
  - (ii) Verify:
    - (a) Field measurements.
    - (b) Field construction criteria.
    - (c) Catalogue numbers and similar data.
  - (iii) Coordinate each submission with requirements of work and Contract Documents. Individual shop drawings will not be reviewed until all related drawings are available.
  - (iv) Notify Contract Administrator, in writing at time of submission, of deviations from requirements of Contract Documents.

- (v) Responsibility for deviations in submission from requirements of Contract Documents is not relieved by Contract Administrator's review of submission, unless Contract Administrator gives written acceptance of specified deviations.
  - (vi) Responsibility for errors and omissions in submission is not relieved by Contract Administrator's review of submittals.
  - (vii) The Contractor shall make all corrections required by the Contract Administrator and shall resubmit the required number of corrected copies of Shop Drawings for review. The Contractor shall direct specific attention in writing or on resubmitted Shop Drawings to revisions other than the corrections requested by the Contract Administrator on previous submission.
  - (viii) After the Contract Administrator has reviewed and return of copies, distribute copies to sub-trades as appropriate.
  - (ix) Maintain one (1) complete set of reviewed shop drawings, filed by Specification Section Number, at the site of the work for use and reference of the Contract Administrator and Subcontractors.
- (d) Submission Requirements
- (i) Schedule submissions at least 14 Calendar days before dates reviewed submissions will be needed, and allow for a 14 Calendar day period for review by the Contract Administrator of each individual submission and re-submission, unless noted otherwise in the Contract Documents.
  - (ii) Submit three (3) paper prints of shop drawings. The Contractor is advised that the Contract Administrator will retain one and return two (2) copies of all submittals to the Contractor.
  - (iii) Accompany submissions with transmittal letter, containing:
    - (a) Date.
    - (b) Project title and Bid Opportunity number.
    - (c) Contractor's name and address.
    - (d) Number of each shop drawing, product data, and sample submitted.
    - (e) Specification section, title, number and clause.
    - (f) Drawing number and detail/section number.
    - (g) Other pertinent data.
  - (iv) Submissions shall include:
    - (a) Date and revision dates.
    - (b) Project title and bid opportunity number.
    - (c) Name of:
      - (i) Contractor
      - (ii) Subcontractor
      - (iii) Supplier
      - (iv) Manufacturer
      - (v) Separate detailer when pertinent
    - (d) Identification of product of material.
    - (e) Relation to adjacent structure or materials.
    - (f) Field dimensions, clearly identified as such.
    - (g) Specification section name, number and clause number or drawing number and detail/section number.
    - (h) Applicable standards, such as CSA or CGSB numbers.

- (i) Contractor's stamp, initialled or signed, certifying review of submission, verification of field measurements, and compliance with contract documents.
- (e) Other Considerations
  - (i) Fabrication, erection, installation or commissioning may require modifications to equipment or systems to conform to the design intent. Revise pertinent shop drawings and resubmit.
  - (ii) Material and equipment delivered to the site of the works will not be paid for at least until pertinent shop drawings have been submitted and reviewed.
  - (iii) Incomplete shop drawing information will be considered as stipulated deductions for the purposes of progress payment certificates.
  - (iv) No delay or cost claims will be allowed that arise because of delays in submissions, re-submissions, and review of shop drawings.
  - (v) If the Contract Administrator requests details or items on shop drawings, which the Contractor believes, require extra payment or contract time, the Contractor shall make any claims forthwith and receive acceptance, as extra work, or rejection, before fabrication proceeds.

### E3.2 Measurement and Payment

- (a) Preparation, submission, and revisions of shop drawings shall be incidental to the Work and no separate payment will be made

## E4. CAST IRON SLUICE GATE

### E4.1 Description

- (a) General
  - (i) This Specification shall cover the supply and delivery of a cast iron sluice gate, wall thimble, mechanical lift operator, stem, wall brackets and accessories.
- (b) General Design:
  - (i) Specification Standard: AWWA C560-00
  - (ii) Type: Rising stem with stop nut, flange back with standard bottom closure.
  - (iii) Mounting: Type F wall thimble.
  - (iv) Seating Head: Maximum design seating head for all sluice gates will be from centreline of the gate to the top of the gate chamber.
  - (v) Operator and Lift: Enclosed gear lift with pedestal. Operator to be finished with a 50 millimetre x 50 millimetre square nut suitable for attachment of an electric portable drill for opening.
  - (vi) Operator shall turn counter clock wise to open.
  - (vii) Stem Cover: Gear lift to be complete with stem cover with acrylic window with gradations in suitable increments for the entire range of gate operation.
  - (viii) Stem Guides: Adjustable in both the horizontal and vertical directions.

### E4.2 Materials

- (a) Frame, Slide, guides and yoke ASTM A48 Cast Iron, Class 30
- (b) Seating Faces ASTM B21 Naval Bronze, Alloy 482
- (c) Wall Thimble ASTM A48 Cast Iron, Class 30
- (d) Wedges ASTM B564 Manganese Bronze, Alloy 865
- (e) Wedge Blocks ASTM A48 Cast Iron, Class 30
- (f) Fasteners & Anchors ASTM A276 Type 316 Stainless Steel
- (g) Stem ASTM A276 Type 304 Stainless Steel



- (h) Stem Couplings ASTM A276 Type 304 Stainless Steel
- (i) Stem Guide ASTM A48 Cast iron, Class 30 with Bronze bushings
- (j) Operator Pedestal ASTM A48 Cast Iron, Class 30 or Steel
- (k) Stem cover Aluminum or galvanized steel
- (l) Shop Drawings
  - (i) Submit shop drawings of the cast iron sluice gate, wall thimble, mechanical lift operator, stem, wall brackets and accessories in accordance with E3 of this specification.
- (m) Operating and Maintenance Manuals
  - (i) Provide five (5) copies of all the manufacturer's brochures and technical literature detailing correct installation procedure and recommended operating and maintenance instructions. Manuals shall be bound with the project title and gate description identified on the front cover. Final payment for sluice gates will not be made until the above information has been provided to the Contract Administrator.
- (n) Delivery and Shipping
  - (i) The Contract Administrator will examine the sluice gate assemblies, thimble, frame, stem, operator and accessories upon delivery and will reject any equipment that is found to be damaged to the extent that, in the Contract Administrator's opinion, it cannot be put to the use for which it was intended. The Contractor shall arrange with the gate supplier to repair any superficially damaged equipment to the satisfaction of the Contract Administrator.
  - (ii) It shall be the responsibility of the Contractor to negotiate any claims for damage with the carrier and to make arrangements to have any rejected equipment replaced as soon as possible at no extra expense to the City.

#### E4.3 Construction Methods

- (a) Shop Testing
  - (i) The fully assembled gate shall be shop inspected, adjusted and tested for operation and leakage at the design head before shipping.
  - (ii) Provide the following information to the Contract Administrator prior to delivery of sluice gate and operator assemblies:
    - (i) A certified copy of the Chemical and Physical Analysis on all materials used in the manufacture of the sluice gate, wall thimble, stem, operator and accessories or certification that the materials used are in strict accordance with this specification.
    - (ii) Copies of the test reports for Performance and Leakage tests. Included on the report shall bear the signature of the official who is responsible for the gate assembly and testing.
- (b) Field Testing
  - (i) Field testing will be performed by Others once the sluice gate has been installed to ensure compliance with the allowable leakage rate indicated in the latest edition of AWWA C501.
  - (ii) The Contract Administrator will arrange for a qualified field representative of the sluice gate supplier/manufacturer to be present during field testing.
  - (iii) Generally, the test for seating head will be performed by closing the gate against high river levels in the spring and measuring the leakage rate through the gate.
  - (iv) If it is not possible to use high river level, an inflatable plug will be installed in the outfall, the chamber filled with water to the specified head and the leakage rate measured through the gate.
  - (v) The test for the unseating head will be performed by closing the sluice gate and flap gate, filling the chamber between the gates with water to the specified head and measuring the leakage rate through the gates. The flap gate may be braced when

closed to eliminate leakage through it during the test. Any damage to the flap gate shall be corrected by the supplier/manufacture at their expense.

- (vi) If the gate fails the field leakage test, the supplier/manufacture shall be responsible for the cost associated to repeat the test, and shall undertake adjustments, replacements or other modifications necessary to facilitate the test at his own expense. The sequence shall be repeated until the gate passes the allowable leakage rate.

#### E4.4 Method of Measurement

- (a) Supplying and delivery of cast iron sluice gate, mechanical lift operator, stem, wall brackets and accessories will be measured on a unit basis. The unit to be paid for shall be the total number of units supplied in accordance with this Specification, and acceptable to the Contract Administrator.
- (b) Supplying and delivery of cast iron wall thimble and accessories will be measured on a unit basis. The unit to be paid for shall be the total number of units supplied in accordance with this Specification, and acceptable to the Contract Administrator.

#### E4.5 Basis of Payment

- (a) Supplying and delivery of cast iron sluice gate, mechanical lift operator, stem, wall brackets and accessories will be paid for at the Contract Unit Price per each for "Supply and Delivery of Cast Iron Sluice Gate, Mechanical Lift Operator, Stem, Wall Brackets and Accessories", measured as specified herein, which price will be payment in full for supplying all materials and for performing all operations herein described and all other items incidental to the Work included in this Specification.
- (b) Supplying and delivery of cast iron wall thimble and accessories will be paid for at the Contract Unit Price per each for "Supply and Delivery of Cast Iron Wall Thimble and Accessories", measured as specified herein, which price will be payment in full for supplying all materials and for performing all operations herein described and all other items incidental to the Work included in this Specification.

### **E5. CAST IRON FLAP GATE**

#### E5.1 Description

- (a) General
  - (i) This Specification shall cover the supply and delivery of a cast iron flap gate, wall thimbles, and accessories.
- (b) General Design:
  - (i) Type: Flange Back for mounting on a wall thimble or flat concrete wall.
  - (ii) Mounting: Type F wall thimble
  - (iii) Seating Head: Maximum design seating head for the flap gate will be from centreline of the gate to the top of the gate chamber unless noted otherwise on the Drawings.
  - (iv) Cover: One piece cast iron with lifting eye for manual operation
  - (v) Seat: One piece cast iron, raised surface and inclined to assure positive closure.
  - (vi) Links: Complete with grease nipples at pivot pints and adjusting screws to align seating faces.
  - (vii) Pivot Lugs: One piece cast iron adjustable in the horizontal plane without removal of cover, complete with grease nipples.

#### E5.2 Materials

- (a) Cast Iron pieces: ASTM A48 Cast Iron, Class 30
- (b) Seating Faces: ASTM B21 Bronze, Alloy 482
- (c) Links: Cast iron or high tensile Bronze B584 – C865
- (d) Bushings: Bronze B21, Alloy 482

- (e) Hinge Pins: ASTM A276, Type 316 stainless steel or silicon Bronze B98-CA655
- (f) Fasteners: ASTM A276, Type 316 stainless steel
- (g) Shop Drawings
  - (i) Submit shop drawings of cast iron flap gate and wall thimble in accordance with E3 of this specification.
- (h) Operating and Maintenance Manuals
  - (i) Provide five (5) copies of all the manufacturer's brochures and technical literature detailing correct installation procedure and recommended operating and maintenance instructions. Manuals shall be bound with the project title and gate description identified on the front cover. Final payment for flap gates will not be made until the above information has been provided to the Contract Administrator.

### E5.3 Construction Methods

- (a) Delivery and Shipping
  - (i) The Contract Administrator will examine the flap gate assemblies and wall thimbles upon delivery and will reject any equipment that is found to be damaged to the extent that, in the Contract Administrator's opinion, it cannot be put to the use for which it was intended. The Contract Administrator shall arrange with the gate supplier to repair any superficially damaged equipment to the satisfaction of the Contract Administrator.
- (b) Shop Testing
  - (i) The fully assembled gate shall be shop inspected, adjusted and tested for operation and leakage at the design head before shipping.
  - (ii) Provide the following information to the Contract Administrator prior to delivery of the flap gate and wall thimble:
    - (i) A certified copy of the Chemical and Physical Analysis on all materials used in the manufacture of the flap gate and wall thimble or certification that the materials used are in strict accordance with this specification.
    - (ii) Copies of the test reports for Performance and Leakage tests. Included on the report shall be the signature of the official who is responsible for the gate assembly and testing.
- (c) Field Testing
  - (i) Field testing will be performed by Others once the flap gate is installed to ensure compliance with the allowable leakage rate of 1.24 L/min per metre of seated perimeter at any head.
  - (ii) The Contract Administrator will arrange for a qualified field representative of the flap gate supplier/manufacturer to be present during field testing.
  - (iii) The test for seating head will be performed by closing the flap gate and sluice gate, filling the chamber between the gates with water to the specified head and measuring the leakage rate through the gates.
  - (iv) If the gate fails the field leakage test, the supplier/manufacturer shall be responsible for the cost associated to repeat the test, and shall undertake all adjustments, replacements or other modifications necessary to facilitate the test at his own expense. The sequence shall be repeated until the gate passes the allowable leakage rate.

### E5.4 Measurement and Payment

- (a) Supply, installation and testing of cast iron flap gates and wall thimbles will be included in gate chamber construction.

### E5.5 Method of Measurement

- (a) Supplying and delivery of cast iron flap gate with eye on flap, and accessories will be measured on a unit basis. The unit to be paid for shall be the total number of units supplied in accordance with this Specification, and acceptable to the Contract Administrator.
- (b) Supplying and delivery of cast iron round-round wall thimble and accessories will be measured on a unit basis. The unit to be paid for shall be the total number of units supplied in accordance with this Specification, and acceptable to the Contract Administrator.

#### E5.6 Basis of Payment

- (a) Supplying and delivery of cast iron flap gate with eye on flap, and accessories will be paid for at the Contract Unit Price per each for "Supply and Delivery of Cast Iron Flap Gate and Accessories", measured as specified herein, which price will be payment in full for supplying all materials and for performing all operations herein described and all other items incidental to the Work included in this Specification.
- (b) Supplying and delivery of cast iron round-round opening wall thimble and accessories will be paid for at the Contract Unit Price per each for "Supply and Delivery of Cast Iron Round-Round Opening Wall Thimble and Accessories", measured as specified herein, which price will be payment in full for supplying all materials and for performing all operations herein described and all other items incidental to the Work included in this Specification.