



**THE CITY OF WINNIPEG**

# **BID OPPORTUNITY**

**BID OPPORTUNITY NO. 201-2009**

**BOILER REPLACEMENT – FIRE STATION NO. 23 – 880 DALHOUSIE DR.**

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## **PART B - BIDDING PROCEDURES**

### **B1. CONTRACT TITLE**

B1.1 BOILER REPLACEMENT – FIRE STATION NO. 23 – 880 DALHOUSIE DR.

### **B2. SUBMISSION DEADLINE**

- B2.1 The Submission Deadline is 4:00 p.m. Winnipeg time, March 25, 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. SITE INVESTIGATION**

- B3.1 Further to C3.1, the Contract Administrator or an authorized representative will be available at the Site from 10:00a.m. to 11:00 a.m. on March 17, 2009 to provide Bidders access to the Site.
- B3.2 The Bidder is advised that the facility is not available for viewing, other than the date specified above.
- 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.

### **B4. ENQUIRIES**

- B4.1 All enquiries shall be directed to the Contract Administrator identified in D3.1.
- 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. ADDENDA**

- B5.1 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.
- B5.2 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.

- B5.2.1 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>
- B5.2.2 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.
- B5.3 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.
- B6. SUBSTITUTES**
- B6.1 The Work is based on the Plant, Materials and methods specified in the Bid Opportunity.
- B6.2 Substitutions shall not be allowed unless application has been made to and prior approval has been granted by the Contract Administrator in writing.
- B6.3 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.
- B6.4 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.
- B6.5 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.
- B6.6 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.
- B6.6.1 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.
- B6.7 If the Contract Administrator approves a substitute as an “approved equal”, any Bidder may use the approved equal in place of the specified item.
- B6.8 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 B14.

B6.9 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.

B6.10 Notwithstanding B6.2 to B6.9, and in accordance with **Error! Reference source not found.** deviations inconsistent with the Bid Opportunity document shall be evaluated in accordance with B14.1(a).

## **B7. BID COMPONENTS**

B7.1 The Bid shall consist of the following components:

- (a) Form A: Bid;
- (b) Form B: Prices.

B7.2 Further to B7.1, the Bidder should include the written correspondence from the Contract Administrator approving a substitute in accordance with B6.

B7.3 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.

B7.4 The Bid Submission may be submitted by mail, courier or personal delivery, or by facsimile transmission.

B7.5 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

B7.5.1 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.

B7.6 Bidders are advised not to include any information/literature except as requested in accordance with B7.1.

B7.7 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 compliance by the Bidder with the requirements of the Bid Opportunity or acceptable deviation there from. (pass/fail);.

B7.8 If the Bid Submission is submitted by facsimile transmission, it shall be submitted to (204) 949-1178.

B7.8.1 The Bidder is advised that the City cannot take responsibility for the availability of the facsimile machine at any time.

B7.8.2 Bids submitted by internet electronic mail (e-mail) will not be accepted.

## **B8. BID**

B8.1 The Bidder shall complete Form A: Bid, making all required entries.

B8.2 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.

B8.2.1 If a Bid is submitted jointly by two or more persons, each and all such persons shall identify themselves in accordance with B8.2.

B8.3 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.

B8.4 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 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 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.

B8.4.1 The name and official capacity of all individuals signing Form A: Bid should be printed below such signatures.

B8.4.2 All signatures shall be original.

B8.5 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.

## **B9. PRICES**

B9.1 The Bidder shall state the lump sum price in Canadian funds for the Work on Form B: Prices.

B9.2 Prices from Non-Resident Bidders are subject to a Non-Resident Withholding Tax pursuant to the Income Tax Act (Canada).

## **B10. QUALIFICATION**

B10.1 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.

B10.2 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>

B10.3 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);

B10.4 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.

B10.5 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.

## **B11. OPENING OF BIDS AND RELEASE OF INFORMATION**

B11.1 Bids will not be opened publicly.

B11.2 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>

B11.3 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>

B11.4 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.

## **B12. IRREVOCABLE BID**

B12.1 The Bid(s) submitted by the Bidder shall be irrevocable for the time period specified in Paragraph 9 of Form A: Bid.

B12.2 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.

## **B13. WITHDRAWAL OF BIDS**

B13.1 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.

B13.1.1 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.



- B13.1.2 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.
- B13.1.3 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 B13.1.3(b), declare the Bid withdrawn.
- B13.2 A Bidder who withdraws his Bid after the Submission Deadline but before his Bid has been released or has lapsed as provided for in B12.2 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.

#### **B14. EVALUATION OF BIDS**

- B14.1 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 B10 (pass/fail);
  - (c) Total Bid Price;
- B14.2 Further to B14.1(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.
- B14.3 Further to B14.1(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.
- B14.4 Further to B14.1(c), the Total Bid Price shall be the lump sum price shown on Form B: Prices.
- B14.4.1 If there is any discrepancy between the lump sum price written in figures and the lump sum price written in words, the price written in words shall take precedence.

#### **B15. AWARD OF CONTRACT**

- B15.1 The City will give notice of the award of the Contract or will give notice that no award will be made.
- B15.2 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.
- B15.2.1 Without limiting the generality of B15.2, 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.

B15.3 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 B14.

B15.3.1 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.

B15.4 Notwithstanding C4, the City will issue a Purchase Order to the successful Bidder in lieu of the execution of a Contract.

B15.5 The Contract, as defined in C1.1, in its entirety shall be deemed to be incorporated in and to form a part of the Purchase Order notwithstanding that it is not necessarily attached to or accompany said Purchase Order.

## **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 replacement of two (2) existing boilers with new units to match original model number types and outputs.

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

- (a) replacement of existing boilers.
- (b) All mechanical and electrical modification requirements

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

D3.1 The Contract Administrator is:

Andy Urbanowicz  
Project Officer  
Planning, Property & Development Department  
3<sup>rd</sup> Floor – 65 Garry Street  
R3C 4K4

Telephone No. (204) 986-2311  
Facsimile No. (204) 947-2284

D3.2 At the pre-construction meeting, the Contract Administrator will identify additional personnel representing the Contract Administrator and their respective roles and responsibilities for the Work.

#### **D4. CONTRACTOR'S SUPERVISOR**

D4.1 At the pre-construction meeting, the Contractor shall identify his designated supervisor and any additional personnel representing the Contractor and their respective roles and responsibilities for the Work.

#### **D5. NOTICES**

D5.1 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.

D5.2 All notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications to the City, except as expressly otherwise required in D5.3, D5.4 or elsewhere in the Contract, shall be sent to the attention of the Contract Administrator at the address or facsimile number identified in D3.1.

D5.3 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 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

- D5.4 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 address or facsimile number:

The City of Winnipeg  
Internal Services Department  
Legal Services Division  
Attn: City Solicitor  
185 King Street, 3rd Floor  
Winnipeg MB R3B 1J1  
Facsimile No.: (204) 947-9155

## **SUBMISSIONS**

### **D6. AUTHORITY TO CARRY ON BUSINESS**

- D6.1 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.

### **D7. SAFE WORK PLAN**

- D7.1 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.
- D7.2 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>

### **D8. INSURANCE**

- D8.1 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, 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) 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) at all times during the performance of the Work and until the date of Total Performance;
  - (c) all risks course of construction insurance in the amount of one hundred percent (100%) of the total Contract Price, written in the name of the Contractor and The City of Winnipeg, at all times during the performance of the Work and until the date of Total Performance.
- D8.2 Deductibles shall be borne by the Contractor.

D8.3 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.

D8.4 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.

## **D9. PERFORMANCE SECURITY**

D9.1 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.

D9.1.1 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.

D9.2 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.

## **D10. SUBCONTRACTOR LIST**

D10.1 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.

## **D11. SECURITY CLEARANCE**

D11.1 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.

D11.2 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.

D11.3 Any individual for whom a Criminal Record Search Certificate is not provided, or for whom a Criminal Record Search Certificate indicates any convictions or pending charges related to property offences or crimes against another person, will not be permitted to perform any Work.

D11.4 Any Criminal Record Search Certificate obtained thereby will be deemed valid for the duration of the Contract subject to a repeated records search as hereinafter specified.

D11.5 Notwithstanding the foregoing, at any time during the term of the Contract, the City may, at its sole discretion and acting reasonably, require an updated criminal records search. Any

individual who fails to provide a satisfactory Criminal Record Search Certificate as a result of a repeated criminal records search will not be permitted to continue to perform any Work.

## **SCHEDULE OF WORK**

### **D12. COMMENCEMENT**

- D12.1 The Contractor shall not commence any Work until he is in receipt of a letter of intent from the Award Authority authorizing the commencement of the Work.
- D12.2 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 D6;
    - (ii) evidence of the workers compensation coverage specified in C6.15;
    - (iii) the Safe Work Plan specified in D7;
    - (iv) evidence of the insurance specified in D8;
    - (v) the performance security specified in D9;
    - (vi) the Subcontractor list specified in D10;
    - (vii) the security clearances specified in D11.
  - (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.
- D12.3 The Contractor shall commence the Work on the Site within seven (7) Working Days of receipt of the letter of intent.

### **D13. SUBSTANTIAL PERFORMANCE**

- D13.1 The Contractor shall achieve Substantial Performance within ninety (90) consecutive Working Days of the commencement of the Work as specified in D12.
- D13.2 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.
- D13.3 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.

### **D14. TOTAL PERFORMANCE**

- D14.1 The Contractor shall achieve Total Performance within one hundred (100) consecutive Working Days of the commencement of the Work as specified in D12.
- D14.2 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.
- D14.3 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.

## **D15. LIQUIDATED DAMAGES**

- D15.1 If the Contractor fails to achieve Substantial Performance in accordance with the Contract by the day fixed herein for Substantial Performance, the Contractor shall pay the City one hundred dollars (\$100) per Working Day for each and every Working Day following the day fixed herein for Substantial Performance during which such failure continues.
- D15.2 The amount specified for liquidated damages in D15.1 is based on a genuine pre-estimate of the City's damages in the event that the Contractor does not achieve Substantial Performance by the day fixed herein for same.
- D15.3 The City may reduce any payment to the Contractor by the amount of any liquidated damages assessed.

## **CONTROL OF WORK**

### **D16. JOB MEETINGS**

- D16.1 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.
- D16.2 The Contract Administrator reserves the right to cancel any job meeting or call additional job meetings whenever he deems it necessary.

### **D17. PRIME CONTRACTOR – THE WORKPLACE SAFETY AND HEALTH ACT (MANITOBA)**

- D17.1 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).

## **MEASUREMENT AND PAYMENT**

### **D18. PAYMENT**

- D18.1 Further to C12, the City may at its option pay the Contractor by direct deposit to the Contractor's banking institution.

### **D19. PAYMENT SCHEDULE**

- D19.1 Further to C12, payment shall be in accordance with the following payment schedule:
- (a) Monthly progress billing.

## **WARRANTY**

### **D20. WARRANTY**

- D20.1 Notwithstanding C13.2, the warranty period shall begin on the date of Total Performance and shall expire one (1) year thereafter, except where longer warranty periods are specified in the respective Specification sections, 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 D9)

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. 201-2009

BOILER REPLACEMENT – FIRE STATION NO. 23 – 880 DALHOUSIE DR.

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 D9)**

\_\_\_\_\_  
(Date)

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

RE: PERFORMANCE SECURITY - BID OPPORTUNITY NO. 201-2009  
BOILER REPLACEMENT – FIRE STATION NO. 23 – 880 DALHOUSIE DR.

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 (1993 Revision), International Chamber of Commerce Publication Number 500.

\_\_\_\_\_  
(Name of bank or financial institution)

Per: \_\_\_\_\_  
(Authorized Signing Officer)

Per: \_\_\_\_\_  
(Authorized Signing Officer)



## 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>Specification No.</u>	<u>Specification Title</u>
15010	Mechanical General Provisions
15055	Pipe Cleaning & Chemical Treatment
15100	Insulation
15600	Liquid Heat Transfer

Drawing No.      Drawing Name/Title

M1.0                Existing & New Work

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## **15010: MECHANICAL GENERAL PROVISIONS**

### **PART 1 - GENERAL**

#### **1.1 SCOPE OF WORK**

- .1 Work to include all labour, material, and equipment, required for installing, testing, and placing in initial operation "All" Division 15000 Sections along with electrical requirements to replace the two existing boiler as follows:
  - .1 Match:
    - .1 The original model number types.
    - .2 Outputs.
  - .2 Modify existing piping arrangement (match existing material types) and re-trim each boiler with new components, mechanical and electrical devices (include necessary control), adding new as required as part of the trimming requirements. In addition provide: (1) boiler(s) shutdown from outside boiler room, (2) temperature pressure gauges.

#### **1.2 CONTRACTOR RESPONSIBILITY**

- .1 The Contractor shall assist in the work with the Contract Administrator to see that the Work of all trades is properly carried out in accordance with the standards set forth in the drawing and specifications.

#### **1.3 SITE VISIT REPORT**

- .1 This Contractor's Work will be reviewed periodically by the Contract Administrator, solely for purpose of determining general quality of Work, and or other Work performed.

#### **1.4 LIABILITY**

- .1 Protect and maintain work until building has been completed and accepted. Protect work against damage during installation. Cover with tarpaulins if necessary. Repair all damage to floor and wall surfaces resulting from carrying out of work, without expense to Project.
- .2 Cooperate with all trades to ensure proper installation of all equipment. Review all contract drawings.
- .3 On completion of work, remove tools, surplus and waste material and leave work in clean, perfect condition.

#### **1.5 WELDING REGULATIONS**

- .1 Do the work in accordance with the following standards except where specified otherwise:
  - .1 ANSI/ASME B31.1- Latest Edition: ASME Code for Pressure Piping and Power piping.
  - .2 CSA W48 series Electrodes.
  - .3 CSA B51-M- Latest Edition, ASME Boiler, Pressure Vessel and Pressure Piping Code.
  - .4 CAN/CSA-W117.2-M- Latest Edition, Code for safety in welding and cutting (Requirements for welding operators).
  - .5 AWS B3.0- Latest Edition, Welding procedures and performance qualifications.
- .2 Welders Qualifications
  - .1 Welding qualifications to be in accordance with CSA B51-M- Latest Edition.

- .2 Use qualified and licensed welders possessing certificate for each procedure to be performed from Authority having Jurisdiction.
  - .3 Furnish welder's qualifications to Contract Administrator.
  - .4 Each welder to possess identification stamp issued by Authority having Jurisdiction.
- .3 Include for hot work permits, fire watch with fire protection, as review approved by City and Contract Administrator.

## **1.6 MATERIALS**

- .1 Insure that items to be furnished fit space available. Make necessary field measurements to ascertain space requirements including those for connections and furnish and install equipment of size and shape so final installation shall suit true intent and meaning of Contract Documents:
  - .1 Promptly notify Contract Administrator in writing of conflicts between requirements of Contract Documents and Manufacturer's directions and obtain Contract Administrator's written instructions before proceeding with work. Bear expenses arising from correcting deficiencies of work that do not comply with Manufacturer's directions or such written instructions from Contract Administrator.
- .2 Follow Manufacturer's directions in delivery, storage, protection, installation of equipment and materials.
- .3 Deliver equipment and material to site and tightly cover and protect against dirt, water, and chemical or mechanical injury. Equipment to be readily accessible for inspection. Store items subject to moisture damage (such as controls) in a dry, heated space.
- .4 Equipment listed as 'equal' in specifications or submitted as alternate in accordance with B6. Substitutes by Contractor must meet all space requirements, specified capacities and must have factory suitable options and equipment characteristics of specified equipment as interpreted by Contract Administrator. Install equipment in strict accordance with manufacturer's published recommendations.

## **1.7 OPENINGS IN FIRE SEPARATIONS**

- .1 Contractors having openings in fire separations for passage of pipes, duct, etc., are responsible for fire-stopping around such holes in order to maintain integrity of fire separations. Work shall be performed by a licensed qualified tradesperson.

## **1.8 TRIAL USAGE**

- .1 Contract Administrator reserves right to use any piece of mechanical equipment, device or material installed under this Contract, for such reasonable lengths of time and at such times as Contract Administrator may require, to make complete and thorough test of same, before final completion and acceptance of any work. Such tests not to be construed as evidence of acceptance of any part of contract. It is agreed and understood, that no claim for damage will be made for any injury or breakage to any part or parts of the above due to aforementioned tests, weather caused by weakness or inaccuracy of parts, or by defective materials or workmanship of any kind whatsoever, Contractor to supply all labour and equipment for such tests.

## **1.9 TEMPORARY USE OF EQUIPMENT**

- .1 Permanent systems and/or equipment not to be used during construction period, without Contract Administrator's written permission.
- .2 Equipment used during construction period to be thoroughly cleaned and overhauled. Replace worn or damaged parts so equipment is in perfect condition, to entire satisfaction of Contract Administrator.

- .3 Provide proper care, attention and maintenance for equipment while it is being used. If, in opinion of Contract Administrator, sufficient care and maintenance is not being given to equipment and systems, Contract Administrator reserves right to forbid further use of said equipment and systems.

## 1.10 MECHANICAL SHOP DRAWINGS

- .1 Contractor shall submit for review a minimum of six sets of detailed shop drawings. Refer to clause "Appendix of Manufacturers" for shop drawing requirements.
  - .1 Check shop drawings for conformity to plans and specifications before submission.
  - .2 Include name of project, equipment supplier and clause number equipment is specified. Drawings shall bear the approval stamps and signatures of the Trades involved in the properly co-ordinated installation of the equipment.
- .2 Shop drawings shall be submitted metric/Imperial units.
- .3 Submit materials and equipment by manufacturer, trade name and model number. Include copies of applicable brochure or catalogue material. Do not assume applicable catalogues are available in the Contract Administrator's Office. Maintenance and operating manuals are not suitable submittal.
- .4 Clearly mark each sheet of printed submittal material (using arrows, underlining or circling) to show particular sizes, types, model numbers, ratings, pressure drops capacities, performance and factory available options actually being proposed. Cross out non-applicable material. Note on the submittal specified features such as special tank linings, pump seals, materials or painting.
- .5 Include dimensional data for roughing in and installation, technical data sufficient to check that equipment meets requirements of drawings and specifications. Include wiring, piping and service connection data, motor sizes complete with voltage ratings and schedules.
- .6 Clearly indicate division of responsibility. No item, equipment or description of work shall be indicated to be supplied or work to be done "By Others" or "By Purchaser". Any item, equipment or description of work shown on shop drawings shall form part of contract, unless specifically noted to contrary.
- .7 Take full responsibility for securing and verifying field dimensions. In case where fabrication must proceed prior to field dimensions being available, check all shop drawings and approve for dimensions only. In this case guarantee that dimensions will be worked to and ensure that other trade are aware of these dimensions and shall comply with them.
- .8 Review by Contract Administrator shall be mutually understood to refer to general design only. If errors in detailed dimensions or interference with work are noticed, attention of Contractor will be called to such errors or interferences but Contract Administrator's review of drawings will not in any way relieve Contractor from responsibility for said errors or interferences or from necessity of furnishing such work, and materials as may be required for completion of work as called for in Contract Document.

## 1.11 OPERATION AND MAINTENANCE MANUAL

- .1 Contractor shall provide Contract Administrator with three (3) copies of operating and Maintenance manuals incorporating the following:
  - .1 Bind Operation & Maintenance Manual for Mechanical Systems in the hard-backed binder.
  - .2 Provide a master index at beginning of Manual showing items included. Use plastic tab indexes for sections of Manual.
  - .3 First section shall consist of name, address and phone number of Contract Administrators, Contractors and Sub-Contractors. Also include a complete list of equipment installed with name, address, and phone number vendor.
  - .4 Provide a section for each type of item of equipment.

- .5 Submit three (3) copies of Operation & Maintenance Manual to Contract Administrator for his approval. Use one of these approved copies during final instruction/inspection and leave with building systems operator.
- .2 Include descriptive literature (Manufacturer's). Literature shall show capacities and size of equipment used and be marked indicating each specific item with applicable data underlined.

## 1.12 SAFETY DEVICE TESTING

- .1 Make complete inspection of all safety devices alarm or control to ensure:
  - .1 Are complete in accordance with manufacture's recommendations.
  - .2 Are connected and operating according to all local regulations.
  - .3 On completion of the inspections, supply to Contract Administrator letters and/or certificates (forward to O/M Manual) confirming that inspections testing and item have been completed with description of test procedures.

## 1.13 REQUIRED INSTRUCTION

- .1 In addition to authorised site start-up supervision and instructions required of individual equipment manufacturers and systems as noted, Contractor's construction supervisor to instruct in operation and maintenance of all equipment and systems to satisfaction of the Contract Administrator. Instruction period shall occur after pre-final inspection when systems are properly working and before final payment is made. Instruction shall be given using the O&M Manuals. See Table 1.
- .2 Operating instructions shall include:
  - .1 General description of each mechanical system listed above.
  - .2 Step by step procedure to follow in putting each piece of mechanical equipment into operation as well as seasonal shut down.
  - .3 Provide schematic control diagrams for each separate system. Each diagram shall show locations of start-stop switches, insertion sensors, flow switches thermostats, thermometers, firestats, pressure gauges, automatic valves. Mark correct operating settings for each control instrument on these diagrams.
  - .4 Provide diagram for electrical control system showing wiring of related electrical control items such as firestats, fuses, interlocks electrical switches, and relays.
  - .5 Provide a drawing of each temperature control panel identifying components on the panels and their function.
- .3 Maintenance instructions shall include: Manufacturer's maintenance instructions for each piece of mechanical equipment installed in Project. Instructions shall include name of vendor, installation instructions, parts numbers & lists, operations of equipment, maintenance & lubrication instructions and safety device settings with in acceptable operating ranges.
- .4 Provide services of qualified and experienced personnel to prepare proper documentation and to instruct in the operation and preventative maintenance of equipment and system provided. Complete documentation and turnover prior to final inspection.
- .5 Contractor shall submit to Contract Administrator, suitable document signed by Division Representative stating:
  - .1 The Contract Administrator and City has received satisfactory instruction in operation and maintenance of all equipment and systems as outlined in Article No. 1 of this sub-section.
  - .2 Operation and maintenance manuals have been reviewed with City and Contract Administrator.

## 1.14 HANGERS AND SUPPORTS

- .1 General:
  - .1 Fabricate hangers, supports and sway braces in accordance with ANSI B31.1 and MSS-SP-58.

- .2 Piping, ductwork and equipment securely supported from building structure. Perforated strap or wire hangers not permitted.
  - .3 Provide suitable attachments equal in quality stated below and where required. Provide fabricated steel supports as required to adequately support piping and equipment. Details to be approved by Contract Administrator. Supports to be of welded construction except where adjustment is required.
  - .4 Hangers to be adjustable after pipe is in place. Parts must be adequate strength for weight to be supported with safety factor of 5 to 1.
  - .5 Provide cadmium plated hangers and supports.
- .2 Horizontal Piping:
    - .1 Hangers (all to be over-sized, size to suit O.D. of exterior pipe insulation) shall adequately support piping system. They shall be located near or at changes in piping direction and concentrated loads. Provide vertical adjustment to maintain pitch required for proper drainage. Allow for piping expansion and contraction. Pipe weight and stresses shall be supported independent of any equipment.
  - .3 Saddles and Shields
    - .1 Cold piping 31mm (1-1/4") and over: protection shield with high density insulation under shield with uninterrupted vapour barrier. Shields shall have minimum length of 300mm (12") to spread weight.
      - .1 Grinnell Fig. 167; Pipe Shields Incorporated.
    - .2 Hot piping 31mm (1-1/4") and over: protective saddle with insulation under saddle. Shields shall have minimum length of 300mm (12") to spread weight.
      - .1 Grinnell Fig. 160 to 166; Pipe Shields Incorporated

## 1.15 THERMOMETERS & PRESSURE GAUGES

- .1 Direct Reading Thermometers:
  - .1 Dial type, having stainless steel cases, rings and stems, glass covers and adjustable pointers. Accuracy to be 1% of full span. Thermometers to operate at mid point of scale or range.
  - .2 Thermometers to have 76 mm (3") dia. Dials. Use back or bottom inlet stems, whichever is best suited for ease or reading. Choice of stem types shall not be made until piping and equipment, etc. has been erected. Stem type to be approved by Contract Administrator.
- .2 Range: Temperature – Match existing.
- .3 Copper, brass or bronze separable wells for copper pipe and stainless steel for steel or plastic pipe to have insulation extensions, where mounted on insulated piping or equipment, to ensure dials are clear. Stems and wells to be immersed in liquid flow, minimum length of stems to be 152 mm (6").
  - .1 Where a separable well is mounted in pipe 38 mm (1 1/4") dia. or less, enlarge pipe to 50 mm (2") dia. for well length plus 76 mm (3").
- .4 Use pressure gauges on pressure reducing valve stations, sections and discharges of pumps and where noted.
  - .1 Gauges on water system to have a ball valve for shut off.
- .5 Gauges shall have aluminium cases, bronze geared movements, stainless steel bourdon tube, friction glass cover, steel slip ring and precision type pointer. Accuracy to be 1% of full span. Pressure gauges to operate at mid point of scale or range.
  - .1 Range: Pressure – Match existing.
- .6 Use 76 mm (3") dials. Gauges chosen with indicating needle at 12 o'clock position for normal operating pressure. Gauges shall have dual indication (ie., kPa, Psi) with kPa prominent figure.

## 1.16 REMOVALS

- .1 Where existing piping, equipment, tubing, control panel, equipment and/or devices is no longer to be used as part of the mechanical system the responsible division replacing the above shall completely remove the existing from site.

## 1.17 EXISTING SYSTEMS

- .1 Where work requires temporary interruption of mechanical services, notify the Contract Administrator 24 hours in advance the length of shutdown and extent of work involved, before service may resume normal operation. This work shall be done during the time actually required to make necessary connections to existing work. Shut down, draining and re-charging of existing (system and/or lines) to accommodate new connections shall be done by the Contractor. Cost for this work to be carried by the Contractor and shall be co-ordinated with the Contract Administrator.
- .2 Carefully dismantle existing mechanical equipment to be removed or relocated, together with reusable materials. Existing equipment, piping, ductwork, conduit, light fixtures which interfere with the new installation shall be temporarily disconnected, remove that which City does not wish to retain shall become the Contractor's property and removed from the site when so directed. Where noted this existing equipment shall be reused in new work after first repairing and reconditioning any defective items (i.e., entry doors, frames stair and railing). Permanently disconnected mechanical and electrical connections shall be safely capped and sealed flush within finished surfaces. Remove existing inactive services with interfere with work execution.
- .3 Where portions of the existing building are occupied by City during term of this contract. Schedule new work so normal functions within building are not unduly interrupted. Work in existing building to be scheduled so as to provide minimum of inconvenience to City, i.e. Perform work either where areas are vacated during night period or at periods when it is permissible to work in specific areas during daytime. Contractor shall submit a schedule for review by the Contract Administrator.
- .4 Arrange work so that interruption of services is kept to a minimum. Obtain permission from Contract Administrator prior to cutting into services. Where deemed necessary by Contract Administrator temporary piping to be installed, and/or work to be carried out at night and on weekends.
- .5 Contractor shall maintain continuous and adequate ventilation heating, fire protection, plumbing, washroom facilities and other services during entire time of the Contract. Provide temporary connections, valving, etc. where necessary to meet this requirement.
- .6 The Contractor shall be responsible for all costs, required to repair all damages to the existing building, equipment, etc., caused through the execution of work in this Contract.

## 1.18 INDOOR AIR QUALITY (IAQ) CONTROL DURING CONSTRUCTION

- .1 Contractor is responsible for maintaining proper and acceptable IAQ during construction.
- .2 Contractor shall follow the guidelines and/or Work procedures laid out in the following publications:
  - .1 ASHRAE 62.
  - .2 ASHRAE 55.
  - .3 The Manitoba Workplace Health Regulation.
    - .1 List of IAQ protective measures to be instituted on the site.
    - .2 Schedule for inspection and maintenance of IAQ measures.
    - .3 Contractor is responsible for ensuring that the Work of all Sub-contractors reporting to the Contractor adheres to this Section. The Contractor shall take appropriate measures to correct his Work or the Work of his Sub-contractors as needed to address IAQ problems during the course of the Work.

- .1 Control at the source. Measures would include:
    - .1 Using solvent free or less hazardous products.
    - .2 Changing the work process to eliminate the hazard altogether.
  - .2 Control along the path.
    - .1 Use of hoarding c/w negative pressure machines/smoke eaters to maintain a negative pressure in the dirty area relative to the clean area.
  - .3 Control at the Worker using Personal Protective Equipment. Under no circumstances will control at the Worker be an acceptable solution for the occupants affected by the Work.
  - .4 Contractor shall provide MSDSs of all products used in the Work prior to the commencement of the Work.
- .3 During new construction, dehumidification may be required to control mould growth in ductwork and on porous materials such as drywall installed on smoke seal walls in crawlspaces. If these conditions exist, provide dehumidification units in quantities to keep the indoor RH below 60%, where the following conditions exist:
- .1 Indoor air conditions are likely to exceed 25 °C and 60% RH for a period of 24 hours.

## 1.19 APPENDIX OF MANUFACTURERS

- .1 Following Appendix of Manufacturers lists manufacturers of equipment and materials acceptable to Contract Administrator, subject to individual clauses under the various sub-sections of the Work Specifications. See item 'Materials' under this section of specification.
- .2 Product noted in individual specification clauses is an item that meets specification in all respects regarding performance, quality of material and workmanship, and is acceptable to Contract Administrator without qualification. Equipment proposed from other manufacturers listed as 'Approved Manufacturers' and alternates shall meet same standards.
- .3 Submit shop drawings for all items marker with asterisk (\*).

### EQUIPMENT OR MATERIAL:

- .1 **INSULATION:**
  - .1 Pipe Insulation
    - .1 Mason; Fibreglas; Atlas; Knauf
  - .2 External Duct Insulation
    - .1 Knauf; Mason; Fibreglas;
  - .3 Fire Retardant Canvas
    - .1 Alpha-Maritex 3451-RW; Clairmont Diplag 60; S.Fattal Thermocanvas
- .2 **LIQUID HEAT TRANSFER:**
  - .1 Chemical treatment\*
    - .1 Betz Dearborn; Perolin; Bird-Archer; Accurate Treatment
  - .2 Boilers: Natural Gas
    - .1 AO Smith
- .3 **H.V.A.C. BALANCE & TESTING:**
  - .1 Air and Fluid Balances
    - .1 Air Movement & Mechanical Services; DFC, AHS, Airtronics

## PART 2 - SCHEDULE

*Table 1 – REQUIRED System INSTRUCTION*

System Instruction	Hours
Hot water heating (Includes controls)	4
Chemical Treatment – Hot Water Heating (Use Present City Supplier)	1
Boiler Controls Only – Hot Water Heating: Initial heating season.	4
Boiler Controls Only – Hot Water Heating: Next heating season.	4

### 15055: PIPE CLEANING & CHEMICAL TREATMENT

## PART 1 - GENERAL

### 1.1 GENERAL

- .1 All drawings and all sections of the specifications shall apply to and form an integral part of this section.

### 1.2 WORK INCLUDED

- .1 Chemical treatment of hot water heating system (new with isolated flush).
- .2 Cleaning of hot heating water system (new with isolated flush).
- .3 Provide clean softened water c/w report indicating solution parameters as installed after completion.
- .4 After Division 15600 has provided clean softened water for hot water heating system Division 15055 shall provide a report indicating solution parameters as installed after completion.
- .5 Site Visit at commissioning stage c/w recommendations of procedure. Provide additional (1) mid winter season check c/w report and recommendations.

### 1.3 RELATED WORK

- .1 Division 15600 to provide assistance to clean and treat systems. Note each boiler circulating pump gaskets and seals are to be replaced. All strainer screens to be removed and replaced with new.

### 1.4 QUALITY ASSURANCE

- .1 Provide chemical treatment, chemicals and equipment by an agency that specializes in this type of work. Agency shall take full responsibility for providing suitable working systems.
- .2 Notify the Contract Administrator prior to commencing cleaning operation.

### 1.5 SUBMITTAL

- .1 Submit shop drawings including proposed chemicals, quantities and calculations, procedures and equipment to be supplied. Provide written operation instructions and system schematics.
- .2 Provide written report containing log and procedure of system cleaning giving times, dates, problems encountered and condition of water.



- .3 Submit written report containing results of tests and list of chemicals added every 14 days during temporary usage of treated systems.

## 15100: INSULATION

### PART 2 - SCHEDULE

*TABLE 2 - Pipe Insulation*

System	Type	Remarks
Piping – Hot Water Heating	P-1	A, B, E

**Remarks**

- A -** Unless otherwise noted, Insulate completely: (1) all new piping  
**B -** Repair existing insulation where connecting to new.

**Piping Material Legend**

- P-1** Preformed fibreglass heavy density full range with factory applied all service jacket. Cold water insulation to be c/w vapour barrier.  
**Hot Water Heating**  
 : Piping 25mm (1" &) to 50mm (2" &) 25mm (2") thick.  
 : Piping 62mm (2½" &) and 350mm (2") thick.

## 15600: LIQUID HEAT TRANSFER

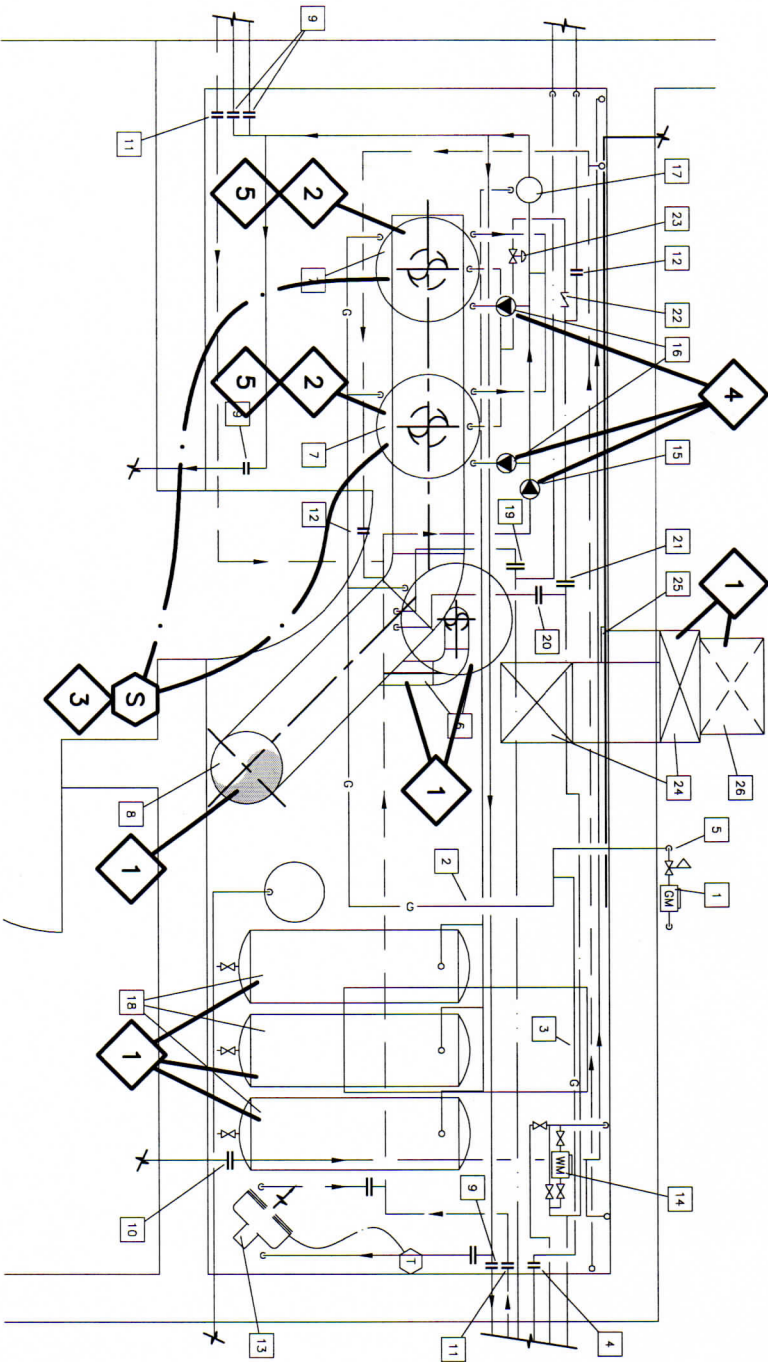
### PART 2 - SCHEDULE

*TABLE 3 – Natural Gas Boilers*

Mark	Mfrs.	Model	BTU/Input	BTU/Output	Hp	Remarks
B-1,2	AO Smith	CHW 660	670 MBH	536 MBH		A, B, C

**Remarks:**

- A -** Match existing control arrangement.  
**B -** Boiler venting arrangement with hot water tank connection, combustion air presently does not meet Code.  
**C -** Boiler chimney has asbestos.



# BOILER ROOM PLAN - EXISTING & NEW

SCALE : 1/4" = 1'-0"

## EXISTING & NEW SUPPLEMENTARY NOTES

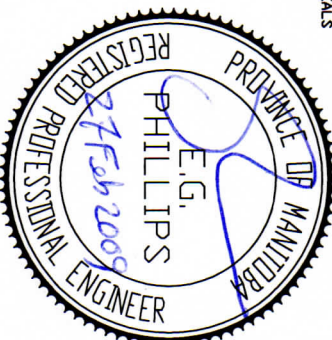
1. Typical existing arrangement to remain as is.
2. Existing boiler(s) to be removed completely. New installed.
3. Note all asbestos removal is by City.
4. Provide boiler shut down switch outside boiler room.
5. Note existing pipe arrangement to be re-used. Provide new trim to each boiler being replaced to meet code. Modify piping to suit.
6. All modified pipe to include exterior pipe insulation (2" thick).



TPR MECHANICAL CONSULTANTS LTD.  
 101-1805 ST. JAMES STREET, ROOM 150  
 PH: 622-4088 FAX: 622-4088

**Unies** Ltd. Consulting Engineers

NO.	REVISION/DESCRIPTION	BY	DATE
R 1	FOR TENDER	BP/RP	27/E3/09
R 0	FOR TENDER SUBMITTAL	BP/RP	11/JUL/08



### Certificate of Authorization

Unies Ltd.

No. 186 Expiry: April 30, 2009

DRAWN BY: NNL/P CHECKED BY: BP/RP APPROVED: BP/RP  
 DATE: FEB 27/09 USER APPROVAL



THE CITY OF WINNIPEG  
 CIVIC BUILDINGS DEPARTMENT  
 400-180 KING ST. R3B 3G8

PROJECT

**Boiler Replacement**  
 Fire Hal No. 23  
 880 Dalhousie Drive

SHEET TITLE  
**EXISTING & NEW WORK**  
 BOILER ROOM PLAN

SCALE AS NOTED PROJECT NO. 201-2009 SHEET NO. M1.0