



**CANADA'S REPRESENTATIVE**

MISSION PROCUREMENT – AAGC  
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**REQUEST FOR QUOTATION (RFQ)**

<b>TITLE</b> Supply and Installation of Boilers at Canadian Embassy in Washington, D.C.	
<b>SOLICITATION NO.</b> 24-242784	<b>DATE</b> September 21, 2023
<b>PROPOSAL DELIVERY</b>  In order for the proposal to be valid, it must be received no later than 14:00 pm EST (Ottawa, Ontario time) on October 12, 2023. This date is referred to herein as the "Closing date".  Only electronic copies will be accepted and received at the following email address:  <a href="mailto:internationalproposals@international.gc.ca">internationalproposals@international.gc.ca</a>  Solicitation #: 24-242784	
<b>OFFER TO: FOREIGN AFFAIRS, TRADE AND DEVELOPMENT CANADA</b>  <b>WE HEREBY OFFER TO SELL TO HIS MAJESTY THE KING IN RIGHT OF CANADA, IN ACCORDANCE WITH THE TERMS AND CONDITIONS SET OUT HEREIN, REFERRED TO HEREIN OR ATTACHED HERETO, THE GOODS AND SERVICES LISTED HEREIN AND ON ANY ATTACHED SHEETS AT THE PRICE(S) SET OUT THEREFOR.</b>  <b>NAME AND TITLE OF PERSON AUTHORIZED TO SIGN ON BEHALF OF THE SUPPLIER.</b>	
_____ <b>Signature</b>	_____ <b>Date</b>



## Part 1 - GENERAL INFORMATION

### 1.1 Introduction

The bid solicitation is divided into 4 parts plus attachments and annexes, as follows:

- Part 1 General Information: provides a general description of the requirement;
- Part 2 Bidder Instructions: provides the instructions, clauses and conditions applicable to the bid solicitation;
- Part 3 Bid Preparation Instructions: provides Bidders with instructions on how to prepare their Bid to address the evaluation criteria specified;
- Part 4 Evaluation Procedures and Basis of Selection: indicates how the evaluation will be conducted, the evaluation criteria that must be addressed in the bid, and the basis of selection;
- Part 5 Resulting Contract Clauses: includes the clauses and conditions that will apply to any resulting contract.

The annexes include the Statement of Work (Annex A), Basis of Payment (Annex B), Security Requirement Check List (Annex C) and Engineering diagrams (Annex D).

### 1.2 Summary

- 1.2.1 The purpose of this RFQ is to select a supplier to enter into a contract with the Department of Foreign Affairs, Trade and Development (DFATD) for the supply and installation of boilers at the Embassy of Canada in Washington DC, as described in the Statement of Work (Annex A).
- 1.2.2 There are no Security requirements associated with this requirement, however, Contractor's personnel shall be escorted and placed under supervision at the Embassy of Canada at all times during the performance of the Work.
- 1.2.3 The requirement may be subject to the provisions of the: CFTA, CCFTA, CPTPP, CCFTA, CETA, CHFTA, CKFTA, CPaFTA, CPFTA, CUFTA, CUKFTA, WTO-GPA

### Interpretation

In this document, unless the context otherwise requires:

"Applicable Tax" means any tax applicable in the jurisdiction of the Work.

"Bid" or "Proposal" is an offer to provide services or supply goods as a result of a solicitation.

"Bidder" means the person or entity (or, in the case of a joint venture, the persons or entities) submitting a proposal to perform a contract for goods, services or both. It does not include the parent, subsidiaries or other affiliates of the Bidder, or its subcontractors.

"Canada", "Crown", "His Majesty", the "Minister" or the "Government" means His Majesty the King in right of Canada as represented by the Minister of Foreign Affairs and any other person duly authorized to act on behalf of that minister;



"Work" means all the activities, services, goods, equipment, matters and things required to be done, delivered or performed by the Bidder under the Contract.

## **PART 2 - BIDDER INSTRUCTIONS**

### **2.1 Standard Instructions, Clauses and Conditions**

All instructions, clauses and conditions identified in the Request for Quotation (RFQ) by number, date and title are set out in the [Standard Acquisition Clauses and Conditions Manual](https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual) (<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual>) issued by Public Works and Government Services Canada. Bidders who submit an offer agree to be bound by the instructions, clauses and conditions of the RFQ and accept the clauses and conditions of the resulting contract(s).

The 2003 (2023-06-08) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the RFQ.

#### **2.1.1 Subsection 06 (2022-03-29) Late Bids**

This subsection is deleted in its entirety and is hereby replaced by the following:  
Bids received after the stipulated RFQ closing date and time will be disqualified and no further consideration will be given to them.

#### **2.2.2 Subsection 07 (2022-03-29) Delayed Bids**

This subsection is deleted in its entirety and does not form part of this RFQ.

#### **2.1.3 Subsection 08 (2019-03-04) Transmission by Facsimile or by epost connect**

This subsection is deleted in its entirety and does not form part of the RFQ. Canada does not accept receipt of offer by means of a facsimile or by epost Connect service.

## **2.2 SUBMISSION OF BIDS**

**2.2.2** Bids must be received by DFATD at the electronic address identified and by the date and time on page 1 of the solicitation. Bids must NOT be sent directly to Canada's Representative. Canada will not be responsible for Bids delivered to a different address. Bids sent directly to Canada's Representative may not be considered.

**2.2.3** The e-mail address indicated on page one (1) of the solicitation is for the purpose of Bids submission and enquiries concerning that solicitation. No other communications are to be forwarded to this address.

**2.2.4** Canada requires that each Bid, at closing date and time or upon request from Canada's Representative, be signed by the Bidder or by an authorized representative of the Bidder. If any required signature(s) are not submitted as requested, Canada's Representative may inform the Bidder of a time frame within which to provide the signature(s). Failure to comply with the request of Canada's Representative and to provide the signature(s) within the time frame provided may render the Bid non-responsive. If a Bid is submitted by a joint venture, it must be in accordance with section 17 Joint Venture, of 2006 (2022-12-01) *Standard Instructions – Request for Standing Offers - Goods or Services - Competitive Requirements*.

**2.2.5** It is the Bidder's responsibility to:

- (a) obtain clarification of the requirements contained in the RFQ, if necessary, before submitting a Bid;
- (b) prepare its Bid in accordance with the instructions contained in the RFQ;
- (c) submit by closing date and time a complete Bid;



- (d) send its Bid only to the email address specified on page 1 of the bid solicitation;
- (e) ensure that the Bidder's name, and the RFQ number are clearly visible on the attachment(s) containing the Bid; and,
- (f) provide a comprehensible and sufficiently detailed Bid, including all requested pricing details, that will permit a complete evaluation in accordance with the criteria set out in the RFQ.

**2.2.6** Unless specified otherwise in the RFQ, Canada will evaluate only the documentation provided with a Bidder's Bid. Canada will not evaluate information such as references to Web site addresses where additional information can be found, or technical manuals or brochures not submitted with the Bid.

**2.2.7** Format of Bid Documents: Bidders must submit bid documents in any of the following approved formats:

- i. Adobe PDF
- ii. Microsoft Word or Microsoft Excel

- a) Bidders that submit bid documents in other formats do so at their own risk, as Canada may be unable to read them.
- b) Canada is not responsible for:
  - i. Any technical problems the bidder may be experiencing in submitting a bid,
  - ii. attachments rejected or quarantined because they contain malware or other code that is screened out by DFATD for security reasons; or
  - iii. any technical problems that prevent DFATD from opening the attachments is corrupted or otherwise cannot be opened or cannot be read, it will be evaluated without that portion of the bid. Bidders will not be permitted to submit substitute attachments to replace any that are corrupt or empty or submitted in an unapproved format.

**2.2.8** A Bid cannot be assigned or transferred in whole or in part.

### **2.3 Enquiries and questions - Request for Quotation**

All enquiries must be submitted in writing to the Canada's Representative **no later than three (3) calendar days** before the RFQ closing date. Enquiries received after that time may not be answered.

Bidders should reference as accurately as possible the numbered item of the RFQ to which the enquiry relates. Care should be taken by Bidders to explain each question in sufficient detail in order to enable Canada to provide an accurate answer. Technical enquiries that are of a proprietary nature must be clearly marked "proprietary" at each relevant item. Items identified as "proprietary" will be treated as such except where Canada determines that the enquiry is not of a proprietary nature. Canada may edit the question(s) or may request that Bidders do so, so that the proprietary nature of the question(s) is eliminated, and the enquiry can be answered to all Bidders. Enquiries not submitted in a form that can be distributed to all Bidders may not be answered by Canada.

### **2.4 Language of Bids:**

Bids documents and supporting information must be submitted in either English or French.

### **2.5 Applicable Laws**

The RFQ and any contract resulting from it must be interpreted and governed, and the relations between the parties determined, by the laws in force in Ontario.



## PART 3 - BID PREPARATION INSTRUCTIONS

### 3.1 Bid Preparation Instructions

- Canada requests that the Bidder submits its Bid in accordance with section 05 of the 2006 standard instructions.

The Bid must be gathered per section and separated as follows:

Section I: Technical Bid

Section II: Financial Bid

**Please note:** Bids may be modified or resubmitted only **before** the RFQ closing date, and must be done in writing. This includes electronically transmitted responses. The latest Bid received will supersede any previously received Bid.

### 3.2 TECHNICAL BID INSTRUCTIONS

**Section I:** to be labeled "**Technical Bid**";

In their Technical Bid, Bidder should demonstrate their understanding of the requirements contained in the RFQ and explain how they will meet these requirements.

Bidders must submit their response to the mandatory technical criteria as per clause 4.1 of this RFQ.

### 3.3 FINANCIAL BID INSTRUCTIONS

**Section II:** to be labeled "**Financial Bid**";

**3.3.1** Bidder must submit their Financial Bid in accordance with Annex B – Basis of Payment. Prices must appear in Section II **only** and must not be indicated in any other section of the Bid. Failure to comply may result in the Bid being declared non-compliant and rejected from further consideration. All the information required in the Basis of Payment should appear in a separate document and should be identified as the Financial Bid. Financial Bids will only be opened after the evaluation of the Technical Bid is completed.

**3.3.2 Firm Price:** Bidder must quote an all-inclusive Firm Price and in **American Dollars (CAD)** on the attached Annex B, Basis of Payment. The Firm Price must include, but not necessarily be limited to, all costs resulting from the performance of the Work as described in this RFQ, all travel, living costs and all overhead costs including disbursements and all Applicable Taxes shown separately.

**3.3.3. All Costs to be Included:** The financial bid must include all costs for the requirement described in this RFQ for the entire contract period.

**3.3.4** All payments will be made according to the terms of payment set out in the Draft Contract.

### 3.4 Exchange Rate Fluctuation

The requirement does not offer exchange rate fluctuation risk mitigation. Requests for exchange rate fluctuation risk mitigation will not be considered. All bids including such provision will render the bid non-responsive.



**PART 4 – EVALUATION PROCEDURES AND BASIS OF SELECTION**

**Mandatory Technical Criteria**

Failure to comply with any of the mandatory criteria of the Table 4.1 will disqualify the Bid and the Bid will receive no further consideration. **The Bidder must provide a proof for every mandatory criteria of the Table 4.1**

MANDATORY TECHNICAL CRITERIA Table 4.1			
N°	Description	Compliance (Bidder to complete)	Proof
M1	Bidder must submit a Summary Work Plan as part of their Technical Proposal that respects the parameters mentioned in referenced drawings. The Summary Work Plan must include: a summary schedule of work, milestones, workflow, and deliverables;	Yes No	Bidder to submit.
M2	Bidder must submit one (1) commercial boiler replacement projects of similar scope as per Annex A – Statement of Work, demonstrating the required years of experience with references, each with a construction value of at least USD \$175,000, completed in the past five (5) years from bid closing date in which the Bidder functioned in the role of the general contractor for the entire period of the project.  Information on specific projects must include: • title of project(s), location (city, country); • brief description of project scope, cost and schedule; • dates of participation in the project (indicate year, month, day; and, corporate role in the project	Yes No	Bidder to submit.
M3	Bidder must be legally able to work in the USA and must be able to demonstrate this. For more information, see the note below this table.	Yes No	Bidder to submit.
M4	Bidder must propose 1 personnel who both must have a minimum of 5 years' experience within the past 10 years who has carried out boiler replacements.  For each individual being proposed, Bidder must provide a resume, including but not limited to the following: • area(s) of expertise, as well as the role for which they were responsible; • individual's years of relevant experience; • individual's years of employment with the Bidder's firm; and, • responsibilities held for projects they have completed.	Yes No	Bidder to submit.

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**Note for M3:**

If the Bidder is registered or located in USA, they must provide a certified copy of company registration in USA or printed copy of your company website showing company information.

For Bidders not registered and not located in USA, they will typically need either a work permit or visa or both, but it is the Bidder's responsibility to inform themselves of what they will need in order to execute work in the Canadian Embassy in Washington, DC. The Canadian Embassy in Washington (DC) nor Canadian government will not be



responsible for providing assistance nor sponsoring non-USA companies with acquiring any work permits / insurance / visas, etc.

However, the Government of Canada will provide a letter stating that the Bidder is travelling to perform work on behalf of the Government of Canada. The letter will state what the work is and what equipment the Bidder will need to bring along with serial numbers. The letter should be taken to the USA's Embassy to obtain the visas/work permits.

#### **4.2 To be declared responsive, a bid must:**

- (a) comply with all the requirements of this RFQ; and
- (b) meet all mandatory criteria.

#### **4.3 Basis of Selection**

Should Canada elect to proceed with a contract, the Bidder with the lowest priced compliant Bid will be awarded the Contract. Canada reserves the right to not award the contract for variety of reasons.



## PART 5 – RESULTING CONTRACT CLAUSES

### 5.1 Standard Instructions, Clauses and Conditions

All clauses and conditions identified in the Contract by number, date and title are set out in the [Standard Acquisition Clauses and Conditions Manual](https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual) (<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual>) issued by Public Works and Government Services Canada.

[2010C](#) (2022-12-01), General Conditions - Services (Medium Complexity) and General Conditions [2010A](#) (2022-12-01) Goods (medium complexity), apply to and form part of the Contract.

### 5.2 Insurance – No Specific Requirement

The Contractor is responsible for deciding if insurance coverage is necessary to fulfill its obligation under the Contract and to ensure compliance with any applicable law. Any insurance acquired or maintained by the Contractor is at its own expense and for its own benefit and protection. It does not release the Contractor from or reduce its liability under the Contract.

### 5.3 Security Provisions

There is no security requirement associated with this requirement, however, Contractor's personnel shall be escorted and placed under supervision at the Embassy of Canada at all times during the performance of the Work.

## 5.4 BASIS OF PAYMENT

### 5.4.1 Firm Price

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid firm price as specified in Annex "B" Basis of Payment in United States Dollars (USD), Value Added Tax (VAT) extra (if applicable).

Canada will not pay the Contractor for any design changes, modifications or interpretations of the Work, unless they have been approved, in writing, by the Contracting Authority before their incorporation into the Work.

### 5.4.2 Method of Payment – Single Payment

Canada will pay the Contractor upon completion and delivery of the Work in accordance with the payment provisions of the Contract if:

- a) an accurate and complete invoice and any other documents required by the Contract have been submitted in accordance with the invoicing instructions provided in the Contract;
- b) all such documents have been verified by Canada;
- c) the Work delivered has been accepted by Canada.

## 5.5 Compliance with Local Law

In the performance of Services under this Contract, the Contractor will comply with all applicable provisions of the laws in force in Washington D.C. United States of America

## 5.6. Period of the Contract

The period of the contract is from the contract award date until March 31, 2024.





5.7 Authorities

5.7.1 Contracting Authority (to be entered at award)

The Contracting Authority is:

Name and Title: \_\_\_\_\_

Organization: \_\_\_\_\_

Telephone: \_\_\_\_ - \_\_\_\_ - \_\_\_\_

E-mail address: \_\_\_\_\_

The Contracting Authority is responsible for the establishment of the Contract, its administration and its revision, if applicable. Any changes to the contract must be executed and approved by the Contracting Authority.

5.7.2 Project Authority (to be entered at award)

The Project Authority is:

Name and Title: \_\_\_\_\_

Organization: \_\_\_\_\_

Telephone: \_\_\_\_ - \_\_\_\_ - \_\_\_\_

E-mail address: \_\_\_\_\_

The Project Authority is the representative of the department or agency for whom the Work will be carried out pursuant to the Contract and is responsible for all the technical content of the Work under the resulting Contract.

5.7.3 Bidder's Representative (to be entered at standing offer award)

Name and Title: \_\_\_\_\_

Company: \_\_\_\_\_

Telephone: \_\_\_\_ - \_\_\_\_ - \_\_\_\_

E-mail address: \_\_\_\_\_

The Contractor reserves the right to replace the above-named representative by giving written notice to the Contracting Authority

5.8 Health and Safety

The Contractor must follow the prevention and infection control measures of the workplace or put in place by the Canadian Embassy (i.e. practise physical distancing, practise proper hand washing, avoid touching face with unwashed hands, etc.) and follow the proper protocols to complete the required work such as utilizing the appropriate equipment and personal protective equipment (PPE) as necessary. The Contractor is responsible for all costs associated with the compliance to protective measures and any other costs related to the general health and safety of its employees and agents.

The Contractor must ensure that health and safety guidelines are adhered to with respect to all health and safety regulations and measures including personnel and fire hazards recommended by national codes and/or prescribed by the authorities having jurisdiction concerning equipment, work habits and procedures.

The Contractor must ensure that all equipment used to perform the work is in a state of good repair including performing periodical testing of on-site equipment in accordance with any Health & Safety requirement under USA Law. The Project Authority reserves the right to have equipment judged to be unsafe, not suitable or defective taken out of service. The Contractor must be responsible for supplying suitable replacement equipment.



## ANNEX A – STATEMENT OF WORK

### TITLE:

Supply and Installation of Boilers at Canadian Embassy in Washington, D.C.

### OBJECTIVE AND BACKGROUND:

A recent feasibility study confirmed the 24-year old boilers and associated equipment need to be replaced with new units.

### WORK TO BE PERFORMED

The Contractor must replace the three old boilers and associated equipment according to the electrical and mechanical specifications and the specifications and diagrams provided in Appendix 1 of Annex A and Annex D. The Contractor must supply and install new boilers and dispose of the old boilers.

### LOCATION OF WORK

Work is to be completed at the Embassy of Canada in Washington, D.C. 501 Pennsylvania Ave NW, Washington DC 20001.

### TIMELINE

The work to be performed defined in Annex A – Statement of Work, and Appendix 1 to Annex A must be completed by the contractor by November 1, 2023. This completion date must be used in the Contractors, Summary of Work – Mandatory Criteria (M1).



## APPENDIX 1 TO ANNEX A

### ELECTRICAL GENERAL SPECIFICATIONS

#### I. GENERAL

##### A. BASIC MATERIALS AND METHODS

1. General: the work includes all labor, materials, equipment, devices, permits and payment of all fees and all other operations necessary for the installation of the complete electrical system indicated or specified. Take into account all factors and conditions affecting electrical work indicated on the associated mechanical and electrical drawings and specifications.
2. Codes: comply with the 2020 national electrical code and local codes. Ordinances and regulations, except where plans or specifications are stricter.
3. Permits: obtain all required permits and inspections and pay all associated fees under this section of the specification without additional cost to the owner.
4. Test: upon completion of work and adjustment of equipment, test all systems under direction of the owner. Test for short circuits, grounds and functional performance.
5. Materials: all materials and equipment shall be new, of first class quality and approved under applicable standards. All materials for which 'U.L.' labeling service is established shall bear the 'U.L.' label.
6. The owner reserves the right to reject any material or work if, in their opinion it is not in strict accordance with the contract documents.
7. Grounding: properly ground all electrical equipment in accordance with the requirements set forth in the NEC.
8. Bidders are recommended to visit the site prior to the preparation of their bid.
9. Coordinate all equipment locations, mounting heights. Etc., with mechanical drawings. Notify Engineer of any conflicts prior to installations.
10. Certificates: provide the owner with final electrical inspection certificate.
11. All dimensions are above finished floor unless otherwise noted.
12. All panel boards and electrical equipment are existing unless otherwise noted.
13. The contractor shall provide new, typewritten circuit schedules on panel door. Schedule shall contain circuit number respectively to circuit breaker number, equipment designation and room number.
14. The contractor shall notify the owner's representative in writing as to the construction schedule to allow sufficient time for coordination of existing building activities with the work.
15. The contractor shall provide O&M documents after project completion.

#### II. EQUIPMENT

##### A. RACEWAYS

1. Electrical metallic tubing: Ansi-80.3; Nepco, Walker, Youngstown, Republic or Pittsburgh. Use compression type connectors and coupling of all steel rain-tight. Nylon insulated. Throat type; i4 b or steel city for sizes through 2 inches.
2. Flexible metallic conduit: galvanized or national flex steel.
3. Liquid-tight flexible conduit: anaconda with nylon insulated, throat type connectors; T 4 B Series 5331.
4. Armor clad cable: two. Three or four wire type ac or act. Simplex or general cable.

##### B. WIRE

1. All wire and cable shall be copper THW or THHN. Color-coded per NEC. Unless otherwise noted. Minimum wire size shall be #12 AWG. Homeruns greater than 100 feet in length shall be #10 AWG minimum.

##### C. JUNCTION AND PULL BOXES



1. Install junction or pull boxes wherever required to facilitate wire pulling or connection. Fabricate boxes from code gauge minimum, galvanized steel, and equip with screw cover. Label circuits inside each box and on cover exterior with one-half inch high-stenciled letters.

#### D. PANEL BOARDS

1. Panel boards are existing to remain.
2. Branch circuit overcurrent protective devices shall be bolt-on molded case circuit breakers. Branch circuit overcurrent protective devices shall also meet NEMA, ANSI, EEE, ANO U.L. Where "equipped space" or 'space' is called for on panel schedule, provide necessary bus device supports and connections for future devices. Provide typewritten schedule of all branch circuit and feeder connections in frame on inside door of each panel door under plastic cover.
3. See panel board schedule for minimum KA ratings.

#### I. SAFETY SWITCHES

1. Heavy duty, front operated type, with number of poles, fuses, and capacities as indicated. Interlock front cover with switch. Voltage rating: 250 or 600 volts to suit circuit voltage application. Provide NEMA 3r enclosures for weatherproof switches. NEMA 1 enclosure elsewhere. Except as otherwise noted.
2. Switches shall be capable of withstanding available fault current or let through current before fuse operates without damage or change in rating. Design and coordinate fuse cups to accommodate class and type of fuse specified or indicated when with switch.
3. Arrange switches for padlocking in 'open' position.
4. Acceptable manufacturers: square d. General Electric, Siemens or Cutler-Hammer.

#### III. EXECUTION

##### A. WIRING METHODS

1. Install wiring in metal raceway except where armor clad cable is specified. Size raceways as required by national electrical code. Except where larger sizes are indicated or specified. Minimum raceway size unless otherwise noted 3/4-inch. Conceal wiring as necessary to meet requirements for flush outlets. Make wall outlets flush.
2. For wiring exposed or concealed in dry construction. Use EMT except where another wiring method is indicated or specified. Use EMT for all feeder runs

#### MECHANICAL SPECIFICATIONS

##### A. GENERAL REQUIREMENTS

1. These notes apply to all mechanical work for this project. Contractor shall coordinate all requirements herein with all trades affected by this work.
2. Review the drawings for notes, dimensions and coordinate with other trades involved. Contractor is responsible for coordinating all space conditions before installation of any trades. If contractor allows one trade to install his work prior to coordination with the other trades, the contractor shall make all necessary changes required to correct the conditions at no additional cost to the owner. Notify Engineer of conflicts before proceeding with work.
3. Drawings shall be considered diagrammatic only. Drawings are generally to scale and are drawn as accurately as scale will permit; however, contractor shall determine all critical dimensions in the field. Drawings are not erection drawings and do not indicate every fitting, elbow, offset, etc. Coordination with existing structure and other trades is required to complete the job.
4. Report any alteration to and/or deviations from the drawings to the owner and secure their approval before starting any alterations.
5. Inspect existing equipment, owner-furnished equipment and materials prior to starting work to verify condition.
6. Perform the work in accordance with all applicable local and national codes.
7. Obtain written permission from owner to interrupt utilities, existing life safety systems and other services.



8. All work that affects the existing roof shall be performed in strict accordance with the current roofing system manufacturer's recommendations. To preserve the roof warranty. Failure to do so will result in the correction of all deficiencies. The costs of which will be deducted from the amounts owed to the contractor.

#### B. SUBMITTALS AND PROJECT CLOSE OUT

1. Submit four copies of product and capacity data for equipment to the Engineer as directed before ordering equipment.
2. Warranty: all equipment, labor and materials provided shall have a full one-year warranty. Contractor shall provide labor and materials required to correct deficiencies during the warranty period. Submit warranty certificates to tenant and/or building owner for record purposes.
3. Product data to be submitted shall be published by the manufacturer and shall contain complete and detailed engineering and dimensional information. Product data submitted shall contain only information relevant to the particular equipment or material to be furnished. The contractor shall not submit catalogs, which describe several different items in addition to those items to be used. Unless all irrelevant information is marked out or unless relevant information is clearly marked. Product data from each manufacturer shall be identified and submitted separately.
4. The contractor shall provide one copy of operating instructions and maintenance data books for all new equipment furnished. Maintenance instruction manuals shall include complete oiling, cleaning and servicing data compiled in a clear and easily understandable form. The manuals shall also include lists of replacement parts. Motor ratings and actual loads. Include the following where applicable:
  - A. Identifying name and mark number.
  - B. Locations (where several similar items are used, provide a list).
  - C. Complete nameplate data.
  - D. Parts list.
  - E. Performance curves and data.
  - F. Wiring diagrams.
  - G. Lubrication charts.
  - H. Installation instructions.
  - I. Manufacturers' start up documentation.
  - J. Manufacturers' recommended operating and maintenance instructions with all non-applicable information deleted.
5. Cleaning: the contractor shall after satisfactory completion of all pressure tests and after temporary operation. Properly clean every piece of apparatus furnished under this contract upon completion of the work.
6. Upon project completion. Provide two (2) compiled electronic copies of the approved submittals in pdf format.

#### C. PENETRATIONS

1. Provide 18 gage galvanized sheet metal sieves' for all pipe and duct penetrations through existing masonry walls. Pack void space with U.L. listed 3m or dough caulk-type fireproof and waterproof sealant.
2. Seal caulk and provide fire stop around any openings, penetrations and sieves through fire rated walls, floors, partitions, and ceilings. U.L. labeled and listed fire rated materials and fire stops shall be used in accordance with this requirement and other specification sections.
3. All roof modifications shall be performed in accordance with the roofing manufacturer's recommendations, so that the roofing system warranty will be maintained. Submit installation and flashing details to Architect for approval.

#### D. DEMOLITION

1. General:
  - A. The general extent of existing mechanical work to be dismantled and removed is indicated on the drawings.



- B. All components of systems and equipment are not indicated individually where items are to be removed. Unless otherwise indicated. Remove all associated valves, electrical components, piping, hangers and insulation. Platforms, bases, and all other items related to equipment and materials are indicated to be removed.
- C. Where not sure whether a particular item is to be removed, request clarification from the owner's representative prior to starting work.
- 2. Disposition: unless otherwise indicated, all items and material indicated to be removed shall become the property of the contractor and shall be disposed of off-site.
- 3. Protection: protect from damage any existing work to remain. Replace with materials and equipment conforming to these specifications, any existing to be removed materials and equipment damaged during the course of the work.
- 4. Terminations and patching:
  - A. Disconnect existing to be removed ductwork and piping from existing to remain at the points indicated. If not indicated, verify point with the owner's representative prior to disconnection.
  - B. Where existing floors, walls and roofs must be cut or are damaged during removal of mechanical work. Patch areas to match adjacent construction. Where roofs or other surfaces exposed to weather are altered, contractor shall repair surfaces per recommendations of original roof installer to maintain warranty.

#### E. PIPING - HVAC

- 1. Heating hot water piping:
  - A. Type I copper tubing with wrought copper fittings and 95/5 solder joints or sch40 black steel with 150 lbs malleable iron screwed or 150 lb butt-welding fittings. Provide dielectric nipples at points of connection between copper and ferrous pipe. Test with water at 100 psi for 4 hours.
  - B. Insulate with 1-inch-thick insulation.
- 2. Condensing boiler drain piping and acid neutralizing tank piping:
  - A. Schedule 80 PVC pipe with PVC fittings and solvent welded joints.
  - B. PVC welding solvents shall have a VOC content not more than 510 g/l and primer shall not have a VOC content more than 550 g/l.
- C. Pitch at min. 1 percent slope. Provide deep seal trap sized to suit system pressure at each AC unit- submit calculations indicating basis of trap depth for each unit.
- D. Insulate with ½-inch thick insulation.
- 3. Pipe welding: conform to ANSI b31.1. Prepare all pipe ends by beveling. Make all butt welds full penetration. Use factory fittings for tees, elbows, and branch connections.
- 4. Valves and specialties:
  - A. General Low pressure steam and condensate (15 PSIG and USS): class 125. Install with stems horizontal or above. All valves of the same manufacturer. Size valves to match piping.
  - B. Ball and gate valves: bronze body, threaded or solder ends. Class 150; NIBCO. Watts, Combraco.
  - C. Butterfly valves: class 150 lug style body, one piece stainless steel shaft. Nickel or cadmium plated disc, buna or neoprene seat; NIBCO, Jenkins or Fairbanks.
  - D. Check valves: class 250 cast iron flanged body, spring-loaded wafer disc, bronze trim; NIBCO or centerline.
  - E. Pressure relief and regulator valves: watts or amtrol.
  - F. Pressure/temperature tapping's: Petes plugs.
  - G. Thermometers: Nine-inch column, separate weu, terce or weksler.
  - H. Pressure gauges: 4 1/2 inch diameter, furnish with gauge cock; terrice.
  - I. Flexible connectors: garlock style 8100, 150 psig working pressure.
  - J. Automatic air vent: amtrol no. 720.
  - K. Air separator: amtrol no. 721.
  - L. Strainer: bronze or cast iron to suit piping. Y-pattern with brass or stainless steel screen. Flanged for 2-1/2' and larger. Armstrong or Sarco.
  - M. Backflow preventer: dual check type. Watts's series 7.
  - N. Threaded flexible connector: galvanized steel to suit application. Minimum braided length: 12 time's nominal pipe size. Metrafux.



5. Pipe marking:
  - A. All piping, metal parts of valves, equipment, and equipment supports exposed in finished spaces or exposed to weather outside of building shall be primed and finish painted with exterior black equipment enamel.
  - B. Provide pipe identification marking for all piping to match existing system in building. For new construction or where no existing system exists, use standard set on 'setmark'. Mark pipe service and direction of flow for all pipe runs at 50 feet on center maximum.
  - C. Provide brass valve tags for each valve, except normal shutoff or local control valves on fixtures.

#### F. PIPING - PLUMBING

1. Domestic water piping:
  - A. Type I copper tubing with wrought copper fittings ANO 95/5 solder joints. Test with water at 100 psi for 4 hours.
  - B. Insulate pipe with 1/2-inch-thick insulation.
2. Natural gas piping:
  - A. Low pressure (16-inch WC and less): schedule 40 black steel pipe ASTM a53 or a120 with class 125 black threaded cast iron fittings and threaded joints.
  - B. High pressure (above 16 inches WC): schedule 40 black steel pipe. ASTM a53 or a120 with 150 lb, forged steel. Butt welding fittings and welded joints.
  - C. Provide pipe identification and paint per local codes.

#### G. HANGERS AND SUPPORTS

1. Factory fabricated hangers and supports. Mss-sp-58/2009 for acceptable types. Installation and spacing. Use plastic coated supports for copper tubing. Expansion bolts/shields: red head. Hilti or WEJ-IT SEU drilling or steel shield, load rated. Do not use dried anchors in post tension slabs without approval of owner. Do not cut reinforcing steel with drilled inserts.
2. Roof mounted equipment and piping:
  - A. Suspended fans: combination steel spring/neoprene k shear hangers except use neoprene in shear for fans USSs than 1/2 H.P. - Korfund Series H.
  - B. Manufacturer: vibration mounting and controls. Mason, Industries. Korfund.

#### H. THERMAL INSULATION AND DUCT LINING

1. Domestic water and heating hot water systems - pipe, fittings, and valve insulation:
  - A. Pre-molded fiberglass pipe insulation with paper-free vapor barrier all service
  - B. Jacket and fiberglass fluid zeston fitting covers. Make insulation continuous at sleeves and supports. Jacket shall be fabricated entirely of clean materials that do not support mold growth, and shall be impervious to moisture. Provide with an integral adhesive closure system, sealed with a compatible, manufacturer approved mold-resistant vapor barrier mastic.
  - C. Provide 20 gage shields at supports.
  - D. Provide weatherproof, factory fabricated, aluminum jacket for piping, fittings and valves above roof.
2. Condensate drain piping insulation:
  - A. Flexible elastomeric material utilizing closed-cell sponge- or expanded-rubber materials. Comply with ASTM C 534, type I for tubular materials.
  - B. Acceptable manufacturers: Armaceu Uc. Armaflex; K-Flex Usa. Insul-Lock. Insul-Tube and K-Flex Ls.
3. Acceptable manufacturers:
  - A. Johns Manville. Owens Corning, Knauf, Armstrong.
  - B. Piping ASJ covering shall be Owens Corning 'Evolution' series or equal.
  - C. PVC pipe covers shall be Zeston/Ceelco or equal.
  - D. All materials shall comply with acceptable provisions of NFPA 90A.
4. Execution:
  - A. Install all insulation, sealants and coverings in strict accordance with the manufacturer's recommendations.



B. Maintain integrity of vapor barrier for au cold insulation systems. Do not use staples or other penetrating fasteners. Seal all joints & seams with compatible mastic sealant approved by the insulation manufacturer for the application. Seal after balancing and adjusting of system to avoid disturbing the insulation after it has been sealed.

#### I. DUCTWORK

1. Fabricate and install in accordance with SMACNA standards for applicable pressure and class.
2. Boiler flue:
  - A. All listed. Factory fabricated, double wall metalbestos model DF or IPS boiler flue as required to suit application, with all required accessories including roof cap, wall support units, support plates, drain section, elbows, transitions flashing and thimbles.
  - B. Inner liner shall be type 430 stainless steel suitable for condensing environment.
  - C. Outer jacket shall be aluminized steel.
  - D. Provide minimum 1" ceramic fiber insulation internal to system, between inner and outer walls. System shall be rated for service with 1000 degrees f continuous operation, 1400 degrees f intermittent operation.
  - E. Manufacturers: metalbestos, heat fab, and duravent.

#### J. TESTING AND BALANCING

1. Balance new and existing air distribution systems to provide indicated air quantities. Including but not limited to the following:
  - A. Boilers
  - B. Boiler pumps
  - C. Exhaust fans and variable speed controllers.
  - D. Boiler barometric dampers.
2. Use independent balancing subcontractor certified by the NEBB or AABC. Provide 1/8" scale reproducible drawings, which are keyed to numbered equipment and devices as shown on drawings, and balance report, submit four copies of drawings and report for approval.
3. Inspect all dampers and controls and notify owner of any deficiencies and UST any deficient equipment in balancing report.

#### K. EQUIPMENT

1. Install, test and start-up in accordance with manufacturer's instructions. Technicians currently certified by the factory for each equipment item shall perform start-up.
2. Clean, inspect and adjust as required all existing exhaust fans to remain. Notify owner of any deficiencies.
3. Install all equipment maintaining manufacturers recommended and code required clearances.
4. Boiler
  - A. The boiler shall bear the ASME 'H' stamp for 160 psi working pressure and shall be national board listed. The 316l stainless steel combustion chamber shall be designed to drain condensation to the bottom of the heat exchanger assembly. A built in trap shall allow condensation to drain from the heat exchanger assembly. The complete heat exchanger assembly shall carry a ten (10) year warranty.
  - B. The boiler shall comply with the energy efficiency requirements of the latest edition of the Ashrae 90.1 standard and the minimum efficiency requirements of the latest edition of the bts2000 standard, the boiler shall operate at a minimum of 94% thermal efficiency at full fire. All models shall operate up to 98% thermal efficiency with return water temperatures at 1cot or below. The boiler shall be certified for indoor installation.
  - C. The boiler shall be constructed with a heavy gauge steel jacket assembly, primed and pre-painted on both sides. The combustion chamber shall be sealed and completely enclosed. Independent of the outer jacket assembly, so that integrity of the outer jacket does not affect a proper seal. A burner/flame observation port shall be provided. The burner shall be a premix design and constructed of high temperature stainless steel with a woven metal fiber outer covering to provide modulating firing rates. The boilers shall be supplied with a gas valve designed with negative pressure regulation and be equipped with a variable speed blower system, to precisely control the fuel/air





mixture to provide modulating boiler firing rates for maximum efficiency. The boiler shall operate in a safe condition at a derated output with gas supply pressures as low as 4 inches of water column.

- D. The boiler shall utilize a 24v ac control circuit and components. The control system shall have a eutron XC display for boiler set-up, boiler status and boiler diagnostics. All components shall be easily accessed, serviceable from the front, and top of the jacket. The boiler shall be equipped with; a temperature/pressure gauge, high limit temperature control certified to ul353. ASME certified pressure relief valve. Outlet water temperature sensor, return water temperature sensor, a ui 353 certified flue temperature sensor, outdoor air sensor, low water flow protection and built-in adjustable freeze protection.
- E. The boiler shall be capable of controlling a variable speed boiler pump to keep a constant delta t at all modulation rates. The boiler shall have the capability to accept a 0-10 VOC input connection for BMS control of modulation or set point, enable and disable of the boiler, variable system pump signal and a 0-10v dc output of boiler modulation rate. The boiler shall have a built-in cascade with sequencing options for lead lag" or efficiency optimized' modulation logic, with both capable of rotation while maintaining modulation of up to eight boilers without utilization of an external controller. Supply voltage shall be 120 volt / 60 hertz / single phase.
- F. The boiler shall be equipped with two terminal strips for electrical connection. A low voltage connection board with 42 data points for safety and operating controls, i.e. auxiliary relay, auxiliary proving switch, alarm contacts, runtime contacts, manual reset low water cut off, flow switch, high and low gas pressure switches, tank thermostat and three wall thermostat/zone controls, system supply sensor, outdoor sensor, building management system signal, control contacts and cascade control circuit. A high voltage terminal strip shall be powered for supply voltage. The high voltage terminal strip plus integral relays is provided for independent pump control of the system pump and the boiler pump.
- G. The boiler shall have an independent laboratory rating for oxides of nitrogen of 20 ppm or less corrected to 3% on. The manufacturer shall verify proper operation of the burner, all controls and the heat exchanger by connection to water and venting for a factory fire test prior to shipping.
- H. Provide a condensate neutralization kit for each boiler, bms gateway to central control systems, sidewall vent kit.
- I. Manufacturers: Patterson Kelley - Storm or equal

#### L. AUTOMATIC TEMPERATURE CONTROLS

- 1. Provide automatic temperature control systems to affect compute operating systems per operating sequences indicated.
- 2. Provide required ATC power connections to circuit breaker panels.
- 3. Comply with latest edition on the NEC. Run all exposed wiring with EMT. Use plenum rated cable for low voltage wiring (24V & USS) concealed in walls.
- 4. Demonstrate system operation to owner.
- 5. Automatic temperature control system and equipment shall be of same manufacturer as existing building temperature control system (Delta-Southland).
- 6. Update graphics of existing building controls system to indicate new components added, in identical fashion to similar existing equipment currently controlled by the system.
- 7. Extend existing building controls system to new equipment as follows:
  - A. Provide monitoring and set point adjustment of heat-timer boiler controller through existing BCS.

#### M. TEMPERATURE CONTROL SEQUENCES

- 1. Boiler
  - A. Boiler shall be energized through the BCS. Controls contractor to coordinate tie-in to existing boiler control panel.
  - B. Boiler panel alarm signal shall be monitored by BCS.
  - C. When boiler is energized. Exhaust EF-1 shall be energized.

#### N. COMMISSIONING

- 1. The Contractor must develop a commissioning plan for the project to document operation of all equipment. Submit plan to the owner and engineer for approval prior to the commissioning. All systems to be demonstrated to the



owner's representatives and all contractors to be on site during the demonstration(s). Provide remote communications devices. As needed to perform the demonstrations

2. Equipment to be demonstrated are as follows:
  - A. Boiler venting fan
  - B. Boilers (control integration per drawing m501)
  - C. Boiler pumps
  - D. Boiler sequencing
  - E. Gas detection system (alarm stages and remote signals)
  - F. Controls interface and operation
3. Contractor to provide written report of commissioning plan for review and approval by the owner and engineer.

- E001\_ELECTRICALCOVERSHEET
- E201\_ELECTRICALNEWWORKPLAN
- E501\_PANELBOARDSCHEDULES
- M001\_MECHANICALCOVERSHEET
- M101\_MECHANICALDEMOPLAN.PDF
- M201\_MECHANICALNEWWORKPLAN
- M501\_MECHANICALSCHEDULESDETAILS



**ANNEX B – BASIS OF PAYMENT**

**PRICE PROPOSAL FORM**

Name of the Firm: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Contact Person: \_\_\_\_\_  
 Phone number: (\_\_\_\_) \_\_\_\_ - \_\_\_\_\_  
 Email: \_\_\_\_\_@\_\_\_\_\_

The Bidder shall provide a Quote containing all pricing necessary to execute all Work as per Annex A – Statement of Requirement.

All material shall be delivered and installed at the Canadian Embassy in Washington, D.C.

If needed, the Contractor can add additional pricing elements to the table below, but cannot delete the existing pricing elements. The pricing elements where nothing is entered will be considered \$0.00 value by Canada.

**Total Price Proposal:**

Description	Extended Price (USD)
Equipment and material	\$ _____
Labor	\$ _____
Travel and living (if applicable)	\$ _____
Extended warranty (if applicable)	\$ _____
Applicable Taxes	\$ _____
<b>TOTAL</b>	

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Name and Title of the Contractor's Representative



**ANNEX C – SECURITY REQUIREMENT CHECK LIST (SRCL)**

**Provided as a separate document.**

**ANNEX D – ENGINEERING DIAGRAMS**

**Provided as a separate document.**