Department of Design and Construction

# DDC M/WBE Small Purchase

## PWQMAHVAC - Maspeth Town Hall HVAC Upgrade Replacement -Special Inspections

Greetings,

The **Department of Design and Construction** is seeking a Special Inspector to provide special inspection services for the PWQMAHVAC - Maspeth Town Hall HVAC Upgrade Replacement - **Special Inspections** project.

**Scope Overview:**

The scope of this project is to replace the existing heating, ventilation and air conditioning (HVAC) system with a new variable refrigerant flow (VRF) system for the cellar and first floor of the building. The VRF system will provide more efficient and flexible cooling and heating for the different zones of the cellar and first floor. The existing HVAC system will be decommissioned and removed, and the new VRF system will be installed and connected to the existing ductwork and electrical wiring. The project will also include testing, commissioning and training for the operation and maintenance of the new VRF system.

**Scope of Work:**

**Superstructure**

1. The attic AC units are expected to be upgraded and enlarged for improved building cooling. Although units are getting enlarged, existing beam and post dunnage should be sufficient to sustain a unit marginally larger. Existing structure needs to be analyzed for new load based on final operating weight, configuration, and location.

2. Reconfiguration of existing attic opening is required for enlargement of access to the attic. Removal and modification of existing structural framing at opening may be needed. Possible modifications may include sistering existing framing with 2x8 (or similar) to reinforce adjacent beams. New supplemental 2x8 beams are also needed to frame out new opening.

I**NTERIORS**

- Interior Construction

1.Remove existing metal panel ceiling in the storage/pantry and reframe the ceiling/attic floor

for temporary approx. 60” square opening. Reframe temporary opening and install a new 36” square aluminum frame, single leaf attic floor access hatch with engineered lift assist. Install new gypsum board ceiling and vertical walls of the opening and paint. (50 SF) Finish corners at ceiling opening with painted wood trim.

2. Remove and replace existing painted steel attic access ladder to meet all applicable codes. Patch the wall and floor as needed to match existing.

3. Remove all loose plywood panels and wood planks covering the ceiling wood joists and install a new rated attic floor assembly throughout the attic. (approx. 3,000 SF)

4. Remove all batt insulation in attic and discard. Install new foil-faced batt insulation. An air gap must be provided between the all insulation and roof sheathing throughout the attic

5. Provide new wall insulation at first floor office northwest office exterior wall.

6. Provide new convector for new radiator in northwest office

7. Patch wall and floor as necessary.

8. Patch Boiler Room walls after duct , piping, etc. removals.

• HVAC

1.VRF will be the primary source of space heating in the building and the existing boiler including perimeter fin tube radiation will be the supplemental source of heating.

2.Provide new Cellar VRF Split-Air Cooled Cassettes with Minor Ductwork and Wall Mounted Evaporators for 9 Tons Total.

3.Existing ductwork to be modified and removed as necessary including in the existing boiler room along with potential soffit removal.

4.Provide new cellar split system controls and new refrigerant piping and condensate drains.

5.The new cellar split system 9 tons multi-zoned outdoor condensing unit will be located at the building south elevation driveway with a new 12” high concrete pad and vibration isolator.

6.Provide New Attic VRF AC-1 and 2 Evaporators, 8 Tons Each=16 Tons and condensers to be located at the building south elevation driveway. condensate drains.

7.Provide new attic split system controls and new refrigerant piping and condensate drains.

8.Replace Attic Return Fans

9.Existing first floor ductwork and air outlets to remain except on upgraded AC unit where ductwork modifications are required.

10.Provide new ductwork insulation on modified main section of supply and return ducts and existing ductwork with missing and disturbed duct insulation.

11.Provide One Cellar 10 Ton Dedicated Outside Air System (DOAS) Evaporator in the existing classroom adjacent to the existing boiler room.

12.Existing West/Front Elevation Louver and Opening to Modified, Enlarged and Raised for New Cellar Dedicated Outside Air and Existing Boiler Ventilation. The new louver shall include a new motorized damper and ductwork in existing office to mechanical conversion.

13.Modified and add new ductwork as necessary to incorporate the new cellar DOAS serving the cellar level.

14.Provide One Attic 10 Ton DOAS Evaporator connected to the existing outside air ductwork. The outside air intake to the units will be tempered by adding an electric duct heater to maintain desired OA intake temperature during extreme cold conditions. A motorized damper is to be added on OA intake duct.

15.Provide One Multiple Zoned DOAS Condenser for the cellar and attic units located in the south driveway.

16.Existing Attic Electric Duct Heater HC-1 & 2 to be removed.

17.The existing and modified portion of all ductwork to be commissioned, tested, and balanced prior to completion.

18.Existing kitchen, toilet, and attic exhaust to remain.

19.Provide a new first floor office radiator in the northwest corner, including all necessary coring and piping.

- **Fire Protection**

1.Modify sprinkler as necessary for new ductwork and removed soffits.

- **Electrical**

1. Reconfigure the electrical distribution and provide a new 400A sub-panel for the new HVAC loads in the cellar electrical room.

2.Existing wiring for the existing equipment to be removed, including exposed conduit.

3.Provide power wiring (existing risers to remain) inside and new conduits / wiring outside.

4.Provide main shutoff switch and phase loss protection circuit.

5.Provide new circuit breakers / disconnects and control wiring for HVAC units.

6.Provide new LED light fixtures at new condenser units. It is recommended that fixture and lighting layout to be selected in such way to minimize re-circuiting and hence, limit the patching. All conduit to be concealed in the building.

**Communication / Electronic Safety Security**

1.Provide new duct smoke detectors and HVAC shutdown with wiring from HVAC units to the fire alarm control panel. The fire alarm control panel will be modified and re-programed for the new work. Installation of fire alarm safety tie-ins in compliance with current codes.

**F –SPECIAL CONSTRUCTION AND DEMOLITION**

1.Basement level system: Remove (3) three existing AC vertical evaporators, existing outdoor condensing unit including associated refrigerant pipes and section of main supply and return ductwork.

2.Attic MER / First floor system: Remove existing AC units, return fans, electric duct heaters located in the attic including associated refrigerant pipes and section of supply and return ductwork.

**Inspections Required:**

- Cast-in-place concrete - BC1705.3,
- Structural Steel Details – BC 1705.2.2,
- Structural Stability of existing structures – BC BC1705.25.1,
- Post Installed Anchors – BC 1705.3.7, Structural
- Wood Frame- BC 1704 & BC 110.3.3,
- Final - BC 110.5

**TR-1 Mechanical Systems - BC 1704.15**

**Energy Code Progress Inspections TR-8**

- SHUTOFF DAMPERS **IIB2**
- HVAC-R AND SERVICE WATER HEATERING EQUIPMENT **IIB3**
- HVAC-R AND SERVICE WATER HEATING SYSTEM CONTROLS **IIB4**
- HVAC-R AND SERVIE WATER PIPING DESIGN AND INSULATION **IIB5**
- DUCT LEAKAGE TESTING, INSULATION AND DESIGN **IIB6**
- MAINTENANCE INFORMATION **ID1**

Department of Design and Construction

**DOB-approved job application numbers:**

- Q01349527-I1
- Q01356605-I1
- Q01356625-I1
- Q01357376-I1

**Anticipated Construction Start Date:** 04/13/2027

**Anticipated Construction End Date:** 5/25/2028

**Not to exceed amount:** $58,541.00

**CCDs:** 408

**Please Note:** Proposers are required to submit all required documents using the RFI Response Form as a single PDF file.