

THE CITY OF WALTHAM
MASSACHUSETTS

PURCHASING DEPARTMENT
**Veterans Memorial Ice Rink,
Mechanical Upgrades**

ADDENDUM NO. 3

Oct. 17 2017

CHANGES, CORRECTIONS AND CLARIFICATIONS

The attention of bidders submitting proposals for the above subject project is called to the following addendum to the specifications. The items set forth herein, whether of omission, addition, substitution or clarification are all to be included in and form a part of the proposal submitted.

THE NUMBER OF THIS ADDENDUM (NO. 3) MUST BE ACKNOWLEDGED IN SECTION 00 10 10-1 (B) Form for General Bid and SECTION 00 10 20-1 B Form for Sub Bid.

ITEM 1: ANSWERS TOP POSED QUESTIONS

- 1) All existing rink cold glycol piping will be removed form chillers back to existing main butterfly valves.
 - a. **Correct. Store onsite in approved totes for re-use.**

- 2) No concrete pads are required for new chiller skids.
 - a. **Correct. New skid may bolt to existing floor similar to existing.**

- 3) Pipe bollards can be used instead of fencing around outdoor condensing units.
 - a. **Correct. Provide a minimum of 3 bollards across the font of each condenser pad. Bollards to be 40 galvanized steel pipe, 6" diameter. Pipe sections to be 7'-0" long with 3'-0" of bury and 4'-0" exposed above grade. Excavation around bollards to allow for a minimum of 6" of concrete to be placed around entire buried section. Bollards to be concrete filled and have a hand finished domed top.**

- 3) All concrete work, roofing work, Kalwall system modifications, structural steel dunnage, sketch SSK-mechanical unit platform and CMU masonry work is to be done by the General Contractor.
- a. Kalwall panel(s) infill to be sheet metal of IMP by HVAC contractor. Also by GC is responsible for painting, cutting patching and coring for other trades, cutting and patching at condenser pads (Add Alt #1 only)
- 4) Roof curbs for ductwork penetrations to be supplied by the HVAC subcontractor for installation by the General Contractor.
- a. Correct.
- 5) All plumbing work including any gas piping is to be done by a licensed plumber and be made part of the General Contractor's scope of work.
- a. Correct
- 6) Engineer to confirm where pipe or duct insulation is to be used on the project.
- a. Exterior ductwork for dehumidifier to receive 1" minimum insulation. Hot water systems to be insulated per code.
- 7) Engineer to clarify the scope of the filed sub bid electrical work as it relates to contract drawing page 9 of 12 and what control wiring scope may be required of the filed sub bid HVAC work or work of the General Contractor.
- a. **Work of Electrical Contractor:**
EC to be responsible for the work depicted on Sht 9 of 12 PLUS: As depicted on the plans, with consideration to local and applicable codes, provide three (3) Phase electrical service for the refrigeration units, pumps, fans and control wiring. A distribution block is provided in the respective control panels for a single point power hookup in each. EC shall provide and install all conduit, power wiring, and fused disconnect switches as are required by the rink refrigeration equipment in accordance with the project drawings. Furnish and install all control conduits, and pull all control wire shown on the rink drawings. Refrigeration Contractor will terminate wire connections to the terminal strips and control units. EC to install and connect all three (3) phase power wiring as depicted on the contract drawings (including new cooling tower).
Provide fused disconnects, conduit and power wiring to outdoor mounted dehumidification unit. Control conduit between the dehumidifier, RAM indoor air management system, operator control panel, and emergency exhaust fan/damper shall be by the HVAC contractor. Termination of the control wiring in the dehumidifier and RAM panels will be by the Refrigeration Contractor. Additional conduit and control wire shall be installed from the dehumidifier to the control panel in the mechanical room for remote monitoring of operation by HVAC Contractor
Provide control for the mechanical room exhaust fan as required by local code and per ASHRAE guidelines. Mechanical room exhaust fan contactor must be connected to the Refrigeration Contractor's refrigerant alarm/controller located in the mechanical room. The Refrigerant controller shall be a Yellow Jacket brand or approved equal and be provided by the Refrigeration Contractor. The conduit and conductor between the exhaust fan and the control shall be provided and installed by the EC.

A1. Work of the HVAC Contractor:

Furnish and install (including all crane work, rigging etc.) the Desiccant Humidifier. Reminder: an alternate manufacturer may be used provided unit is of equal or better performance. If an alternate unit is approved, HVAC contractor to provide GC with bolting pattern so that roof dunnage may be modified as required.

- Furnish and install all plain and insulated interior and exterior ductwork per plan. Weather proofing of exterior duct by HVAC contractor.
 - Dehumidifier ductwork shall be Galvanized spiral ductwork and shall be provided for the dehumidifier process air in the rink exposed area as reflected on the project plans. The first 50' of duct from the wall where the dehumidifier is placed shall not have any vents. Beyond 50' and to the end of the ductwork, openings shall be provided at regular intervals at the 3:00 and 9:00 position on the duct for a horizontal discharge in each direction. The openings shall be sized and placed at regular intervals to provide a low velocity throw for the minimum turbulence possible in the space.
 - Remove existing translucent fiberglass panels (Kalwall) at locations of duct penetrations. Infill around duct with either insulated galvanized sheet metal OR insulated metal panel. Retain and re-use aluminum stop frames and provide a weathertight seal.
 - Furnish and install (including low voltage wiring) humidistat and RAM air quality package for detection of CO, Co2 and NO2 gasses. Ram sensor and humidistat to be installed in rink on an exterior wall at top of glass height. NOTE: there is a contradiction between plans and specs for humidistat **control** location. It is to be installed in the chiller room. Humidity sensor in the rink to be interlocked with and activate Dehumidifier. RAM unit to be interlocked with and activate ventilation fans (existing) in South gable end when pre-set limits are exceeded.
 - Balance the system within the rink so that equal flow is emanated from each grille.
 - Power wiring, roof dunnage, roof repair, gas piping are by others.
- 8) Can we reuse the existing 4" steel refrigerant relief piping for the new chiller refrigerant relief piping?
- a. Yes, provided it is in serviceable condition.
- 9) Please clarify if the existing secondary coolant expansion tank can be re-used.
- a. No. All piping from the butterfly valves upward is to be new.
- 10) Last contract drawing H-1 shows the Add Alternate for the new air conditioning system, and it has electrical requirements shown. Please confirm these electrical requirements and work is part of the filed electrical sub bid scope.
- a. Confirmed for power wiring. Control wiring by HVAC Contractor.

- 11) Please confirm the filed sub bid HVAC work scope is limited to the base bid furnish and install of the dehumidifier and related duct and ventilation system and the add alternate shown on drawing H-1.
 - a. HVAC contractor owns the above plus control wiring for the dehumidification and air conditioning systems. See all previous responses.

End of Addendum 3