

ADDENDUM NUMBER 3

MARTIN LUTHER KING COMMUNITY CENTER
HVAC SYSTEM REPLACEMENT
Site #773, Bldg. #2110
1531 West Vliet Street
Milwaukee, WI 53205

Project Number: P202-13610
Notice Number: 6879

Date of Addendum: December 5, 2013

This Addendum to the Contract Documents is issued to modify, explain or correct the original documents, dated November 1, 2013, and is hereby made part of the Contract Documents. Acknowledge receipt of this Addendum in the space provided on the Bid Form, or bid may be rejected.

BIDDING DOCUMENTS

REVISE the Alternate Bid #2 to read "Alternate Bid 2: Provide deduct to the base bid to not replace all existing Cabinet Unit Heaters, Unit Heaters, Convectors and finned pipe radiation and provide new electric thermostats and **control** valves. The control on these existing systems will not be part of the new DDC system."

CONTRACT DOCUMENTS

Section 23 05 00 – Common Work Results for HVAC

REVISE Section 1.02, A to read: "**THIS CONTRACTOR IS THE PRIME CONTRACTOR AND SHALL PROVIDE ALL SERVICES REQUIRED FOR A COMPLETE PROJECT.**"

REPLACE Section 1.02, C in its entirety: "**ALL REQUIRED ROOFING WORK SHALL BE PART OF THIS CONTRACT.**"

ADD Section 1.02, D: "**ALL WORK SHALL BE PERFORMED AFTER 8:00 PM AND BEFORE 7:00 AM.**"

DELETE All references to "separate roofing contract."

Section 23 07 00 – HVAC Insulation

ADD 2.02, L. Calcium Silicate:

"L. CALCIUM SILICATE INSULATION:

1. Rigid hydrous calcium silicate, ASTM C533, Type I, minimum dry density of 12.5 lbs. per cu. ft., thermal conductivity of not more than 0.44 at 300 degrees F, maximum water absorption of 90% by volume, minimum compressive strength 140 psi at 5% deformation, rated for service range of 0 degrees F to 1,200 degrees F,. Material to be visually coded or marked to indicate it is asbestos free."

ADD 2.03, F Protective Metal Jackets (PMJ):

"D. PROTECTIVE METAL JACKETS (PMJ):

1. .016 inch thick aluminum or .010 inch thick stainless steel with safety edge.
2. Provide a protective metal jacket (PMJ) for the following insulated piping:
 - a. All pipe exposed to the weather.

3. Lap seams a minimum of 2 inches. Secure with metal bands for end to end joints, and rivets or sheet metal screws for longitudinal joints. Rivets, screws, and bands to be constructed of the same material as the jacket. Locate seams on bottom for exterior applications."

ADD The following to table 3.04, C, Duct Insulation Schedule:

<u>Service</u>	<u>Insulation Type</u>	<u>Jackets</u>	<u>Insulation Thickness</u>
Exposed Supply Ducts in Occupied Areas	Double wall perforated with fiberglass liner	None	1"
Round Exposed Supply Ducts From Variable Air Volume Devices To Air Outlets	Double wall perforated with fiberglass liner	None	1"

ADD 3.05, F. Generator Exhaust:

"F. EMERGENCY GENERATOR EXHAUST PIPE

1. Insulate entire exhaust pipe and muffler with 4" of calcium silicate insulation, and provide protective metal jackets.
2. All fittings shall be covered with mitered joints and 1/4" layer of insulating cement."

Section 23 21 23 – Pumps

ADD Axiom as an approved manufacturer of Glycol Fill Pumps.

Section 23 25 00 – HVAC Water Treatment

REVISE 3.03, C to read: "Premix the glycol water solution in the polyethylene drum to a concentration of 30% by volume..."

Section 23 31 00 – HVAC Ducts and Casings

ADD 3.01, R: "R. All exposed ductwork located in occupied areas shall be painted. Refer to specification 09 90 00 Painting and Finishing for requirements."

REVISE 3.04, D to read:

"D. Cleaning of Existing Ductwork to Remain

1. The Contractor shall be responsible for the removal of visible surface contaminants and deposits from within the HVAC system in strict accordance with these specifications.
 - a. The HVAC system includes any interior surface of the facility's air distribution system for conditioned spaces and/or occupied zones. This includes the entire heating, air-conditioning and ventilation system from the points where the air enters the system to the points where the air is discharged from the system. The return air grilles, return air ducts to the air handling unit (AHU), supply air ducts, turning vanes, and supply diffusers/grilles are all considered part of the HVAC system. The HVAC system also includes other components such as exhaust grilles and ductwork.
 - b. Prior to the commencement of any cleaning work, the HVAC system cleaning contractor shall perform a visual inspection of the HVAC system to determine appropriate methods, tools, and equipment required to satisfactorily complete this project. The cleanliness inspection should include air handling units and representative areas of the HVAC system components and ductwork. In HVAC systems that include multiple air handling units, a representative sample of the units should be inspected. The cleanliness inspection shall be conducted without negatively impacting the indoor environment.
 - c. Contractor shall conduct a site evaluation, and establish a specific, coordinated plan which details how each area of the building will be protected during the various phases of the project.

2. General HVAC System Cleaning Requirements
 - a. Containment: Debris removed during cleaning shall be collected and precautions must be taken to ensure that Debris is not otherwise dispersed outside the HVAC system during the cleaning process.
 - b. Particulate Collection: Where the Particulate Collection Equipment is exhausting inside the building, HEPA filtration with 99.97% collection efficiency for 0.3-micron size (or greater) particles shall be used. When the Particulate Collection Equipment is exhausting outside the building, Mechanical Cleaning operations shall be undertaken only with Particulate Collection Equipment in place, including adequate filtration to contain Debris removed from the HVAC system. When the Particulate Collection Equipment is exhausting outside the building, precautions shall be taken to locate the equipment down wind and away from all air intakes and other points of entry into the building.
 - c. Controlling Odors: Measures shall be employed to control odors and/or mist vapors during the cleaning process.
 - d. Component Cleaning: Cleaning methods shall be employed such that all HVAC system components must be Visibly Clean. Upon completion, all components must be returned to those settings recorded just prior to cleaning operations.
 - e. Air-Volume Control Devices: Dampers and any air-directional mechanical devices inside the HVAC system must have their position marked prior to cleaning and, upon completion, must be restored to their marked position.
 - f. Service Openings: The contractor shall utilize service openings, as required for proper cleaning, at various points of the HVAC system for physical and mechanical entry, and inspection.
 1. Contractor shall utilize the existing service openings already installed in the HVAC system where possible.
 2. Other openings shall be created where needed and they must be created so they can be sealed in accordance with industry codes and standards.
 3. Closures must not significantly hinder, restrict, or alter the airflow within the system.
 4. Closures must be properly insulated to prevent heat loss/gain or condensation on surfaces within the system.
 5. Openings must not compromise the structural integrity of the system.
 6. Construction techniques used in the creation of openings should conform to requirements of applicable building and fire codes, and applicable NFPA and SMACNA Standards.
 7. Cutting service openings into flexible duct is not permitted. Flexible duct shall be disconnected at the ends as needed for proper cleaning and inspection.
 8. All service openings capable of being re-opened for future inspection or remediation shall be clearly marked and shall have their location reported to the Mechanical Contractor for inclusion in the As-Built Documents
 - g. Air distribution devices (registers, grilles & diffusers): The contractor shall clean all air distribution devices..
3. Source Removal Cleaning
 - a. All methods used shall incorporate the use of vacuum collection devices that are operated continuously during cleaning. A vacuum device shall be connected to the downstream end of the section being cleaned through a predetermined opening. The vacuum collection device must be of sufficient power to render all areas being cleaned under negative pressure, such that containment of debris and the protection of the indoor environment are assured.

- b. All methods require mechanical agitation devices to dislodge debris adhered to interior HVAC system surfaces, such that debris may be safely conveyed to vacuum collection devices. Acceptable methods will include those, which will not potentially damage the integrity of the ductwork, nor damage porous surface materials such as liners inside the ductwork or system components.
4. Cleanliness Verification
- a. Visual Inspection: The HVAC system shall be inspected visually to ensure that no visible contaminants are present.
 - b. If no contaminants are evident through visual inspection, the HVAC system shall be considered clean.
 - c. If visible contaminants are evident through visual inspection, those portions of the system where contaminants are visible shall be re-cleaned and subjected to re-inspection for cleanliness."

DRAWINGS

-MECHANICAL-

Sheet MD100 – Mechanical Lower Level Demolition Plan

REVISE Demolition Keyed Note #8 to read: "Remove Existing S-4, including associated ductwork, piping, power wiring and controls. Remove existing concrete housekeeping pad. Smooth concrete to match existing floor finish."

REVISE Demolition Keyed Note #9 to read: "Remove Existing S-5, including associated ductwork, piping, power wiring and controls. Remove existing concrete housekeeping pad. Smooth concrete to match existing floor finish."

ADD Demolition Keyed Note #16 directed at existing hot water pumps located in Mechanical 140B: "Remove existing hot water heating pumps, including associated piping, power wiring and controls. Remove existing concrete housekeeping pads. Smooth concrete to match existing floor finish."

Sheet MD101 – Mechanical Ground Floor Demolition Plan

REVISE Demolition Keyed Note #5 to read: "Remove Existing S-1, including associated ductwork, piping, power wiring and controls. Remove existing concrete housekeeping pad. Remove no concrete below the elevation of the existing topping. Smooth concrete topping to match existing floor finish."

REVISE Demolition Keyed Note #6 to read: "Remove Existing S-2, including associated ductwork, piping, power wiring and controls. Remove existing concrete housekeeping pad. Remove no concrete below the elevation of the existing topping. Smooth concrete topping to match existing floor finish."

REVISE Demolition Keyed Note #7 to read: "Remove Existing S-3, including associated ductwork, piping, power wiring and controls. Remove existing concrete housekeeping pad. Remove no concrete below the elevation of the existing topping. Smooth concrete topping to match existing floor finish."

Sheet M300 – Mechanical Ground Floor Demolition Plan

ADD the following General Note to Drawing 1: "New Housekeeping Pad Reinforcement: Provide (2) - #3 bars around the perimeter of the house keeping slab. Drill and epoxy #3 bars with standard hook @ 18" o/c with 4" min embed in to concrete."

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Sheet M301 – Mechanical Ground Floor Demolition Plan

ADD the following General Note to Drawing 1: "New Housekeeping Pad Reinforcement: Provide (2) - #3 bars around the perimeter of the house keeping slab. Drill and epoxy #3 bars with standard hook @ 18"o/c with 4" min embed in to precast plank and topping with screentubes."

-ELECTRICAL-

Sheet E100 – Electrical Lower Level Power Plan

REVISE Plan Note #1: "New generator shall be city water cooled..." to read: "Replacement generator shall be radiator and fan cooled."

End of Addendum No. 3