March 4, 2026

CTC RFB 26217 ADDENDUM NO. 2

RE: HVAC & Plumbing Renovations
Headquarters Building
Mountwest Community and Technical College
One Montgomery Way, Huntington, WV 25701
Architect's Project No. 24065

TO: Prospective Bidders

FROM: ZMM, Inc. Architects and Engineers

This Addendum forms a part of the Contract Documents and modifies the original Bidding Documents.

ATTACH THIS ADDENDUM TO THE FRONT COVER OF THE PROJECT MANUAL AND ACKNOWLEDGE RECEIPT OF THIS ADDENDUM IN THE SPACE PROVIDED ON THE BID FORM.

PART 1 - CLARIFICATIONS

A. Base Bid and Alternates:

1. Base Bid: Includes all work not expressly indicated in alternates. This includes, but is not limited to, boiler replacement, new pumps, controls, boiler flue, etc.
2. Alternate #1. This work includes demolition of the existing sewage ejector pumps, installation of new 2" plumbing vent, installation of new sewage ejector pumps, and controls, as indicated on the drawings.
3. Alternate #2. This work includes all demolition and new work associated with AHU-1 and AHU-2 in the Penthouse Mechanical room.

B. Air-distribution Cleaning shall be limited to AHU-1 and AHU-2 only.

PART 2 - CHANGES TO SPECIFICATIONS

A. ADD Section 221316 "Sanitary Waste and Vent Piping" as attached to this Addendum.

B. ADD Section 221329 "Sanitary Sewerage Pumps" as attached to this Addendum.

C. DELETE Section 232513 "Water Treatment for Closed-Loop Hydronic System".

D. Section 235216 "Condensing Boilers" – REPLACE Paragraph 2.6.A with the following: "The boiler shall be designed to accommodate sealed, direct, or other positive-pressure venting options. Provide an available pressure-drop range for longer runs and upsizing."

E. Section 250923 “Direct Digital Control (DDC) System for HVAC” – REPLACE Paragraph 1.2 A with the following: “Provide an extension of the existing Building Automation System (BAS) to control all mechanical equipment associated with this project.”

1. Retain Subparagraph Nos. 1.2.A.1 through 1.2.A.3.

END OF ADDENDUM

Attachments: Section 221316 “Sanitary Waste and Vent Piping” .....5 pages
Section 221329 “Sanitary Sewerage Pumps” .....4 pages

SECTION 221316

SANITARY WASTE AND VENT PIPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section pertains only to vent piping serving sewage ejector.

1.3 PERFORMANCE REQUIREMENTS

A. Provide components and installation capable of producing piping systems with the following minimum working-pressure ratings, unless otherwise indicated:

1. Vent Piping: 10-foot head of water.

1.4 SUBMITTALS

A. Product Data: For pipe, tube, fittings, and couplings.

B. Field Test Reports: Indicate and interpret test results for compliance with performance requirements.

C. Smoke Test Report: Provide complete report of testing, noting deficiencies and explaining remedial work taken to correct said deficiencies. After deficiencies are corrected, provide a follow-up test and report.

1.5 QUALITY ASSURANCE

A. Piping materials shall bear label, stamp, or other markings of specified testing agency.

B. All cast iron soil pipe and fittings shall be marked with the collective trademark of the Cast Iron Soil Pipe Institute (CISPI) and be listed by NSF International.

PART 2 - PRODUCTS

2.1 PIPING MATERIALS

A. Refer to Part 3 "Piping Applications" Article for applications of pipe, tube, fitting, and joining materials.

B. Flexible Transition Couplings for Underground Nonpressure Piping: ASTM C 1173 with elastomeric sleeve. Include ends of same sizes as piping to be joined and include corrosion-resistant metal band on each end.

2.2 CAST-IRON SOIL PIPING

A. Hubless Pipe and Fittings: ASTM A 888 or CISPI 301.

1. Couplings: ASTM C 1277 assembly of metal housing, corrosion-resistant fasteners, and ASTM C 564 rubber sleeve with integral, center pipe stop.
   a. Standard, Shielded Stainless-Steel Couplings: CISPI 310, stainless-steel shield; stainless-steel bands; and sleeve.

B. Hub-and –Spigot Pipe and Fittings
1. Pipe and fittings: ASTM A 74, Service class.
2. Gaskets: ASTM C 564, rubber.

PART 3 - EXECUTION

3.1 PIPING APPLICATIONS

A. Transition and special fittings with pressure ratings at least equal to piping pressure ratings may be used in applications below, unless otherwise indicated.

B. Aboveground, Soil, Waste, and Vent Piping: Use the following piping materials for each size range:

1. Sanitary Vent Piping NPS 1-1/4 to NPS 8 Hubless, cast-iron soil piping and the following:

   a. Couplings: Standard, shielded stainless steel.

3.2 PIPING INSTALLATION

A. Install cast-iron soil piping according to CISPI's "Cast Iron Soil Pipe and Fittings Handbook," Chapter IV, "Installation of Cast Iron Soil Pipe and Fittings."

B. Make changes in direction for soil and waste drainage and vent piping using appropriate branches, bends, and long-sweep bends. Sanitary tees and short-sweep 1/4 bends may be used on vertical stacks if change in direction of flow is from horizontal to vertical. Use long-turn,

double Y-branch and 1/8-bend fittings if 2 fixtures are installed back to back or side by side with common drain pipe. Straight tees, elbows, and crosses may be used on vent lines. Do not change direction of flow more than 90 degrees. Use proper size of standard increasers and reducers if pipes of different sizes are connected. Reducing size of drainage piping in direction of flow is prohibited.

C. Install vent piping at the following minimum slopes, unless otherwise indicated:
   1. Vent Piping: 1 percent down toward vertical fixture vent or toward vent stack.

D. Sleeves are not required for cast-iron soil piping passing through concrete slabs-on-grade if slab is without membrane waterproofing.

E. Do not enclose, cover, or put piping into operation until it is inspected and approved by authorities having jurisdiction.

3.3 JOINT CONSTRUCTION

A. Refer to Section 200100 "Common Work Results – General Mechanical" for basic piping joint construction.

B. Cast-Iron, Soil-Piping Joints: Make joints according to CISPI's "Cast Iron Soil Pipe and Fittings Handbook," Chapter IV, "Installation of Cast Iron Soil Pipe and Fittings."

3.4 HANGER AND SUPPORT INSTALLATION

A. Refer to Division 20 Section "Hangers and Supports for General Mechanical Piping and Equipment" for pipe hanger and support devices. Install the following:

   1. Vertical Piping: MSS Type 8 or Type 42, clamps.
   2. Individual, Straight, Horizontal Piping Runs: According to the following:

      a. MSS Type 1, adjustable, steel clevis hangers.

B. Install supports according to Division 20 Section "Hangers and Supports for General Mechanical Piping and Equipment."

C. Support vertical piping and tubing at base and at each floor.

D. Rod diameter may be reduced 1 size for double-rod hangers, with 3/8-inch minimum rods.

E. Install hangers for cast-iron soil piping with the following maximum horizontal spacing and minimum rod diameters:

   1. NPS 1-1/2 and NPS 2: 60 inches with 3/8-inch rod.
   2. NPS 3: 60 inches with 1/2-inch rod.

F. Install supports for vertical cast-iron soil piping every 15 feet.

G. Support piping and tubing not listed above according to MSS SP-69 and manufacturer's written instructions.

3.5 CONNECTIONS

A. Drawings indicate general arrangement of piping, fittings, and specialties.

B. Connect soil and waste piping to exterior sanitary sewerage piping. Use transition fitting to join dissimilar piping materials.

C. Connect drainage and vent piping to the following:
   1. Equipment: Connect vent piping to sewage ejector and extend new piping as indicated.

3.6 FIELD QUALITY CONTROL

A. During installation, notify authorities having jurisdiction at least 24 hours before inspection must be made. Perform tests specified below in presence of authorities having jurisdiction.

   1. Roughing-in Inspection: Arrange for inspection of piping before concealing or closing-in after roughing-in and before setting fixtures.
   2. Final Inspection: Arrange for final inspection by authorities having jurisdiction to observe tests specified below and to ensure compliance with requirements.

B. Reinspection: If authorities having jurisdiction find that piping will not pass test or inspection, make required corrections and arrange for reinspection.

C. Reports: Prepare inspection reports and have them signed by authorities having jurisdiction.

D. Test sanitary drainage and vent piping according to procedures of authorities having jurisdiction or, in absence of published procedures, as follows:

   1. Test for leaks and defects in new piping and parts of existing piping that have been altered, extended, or repaired. If testing is performed in segments, submit separate report for each test, complete with diagram of portion of piping tested.
   2. Leave uncovered and unconcealed new, altered, extended, or replaced drainage and vent piping until it has been tested and approved. Expose work that was covered or concealed before it was tested.
   3. Repair leaks and defects with new materials and retest piping, or portion thereof, until satisfactory results are obtained.
   4. Prepare reports for tests and required corrective action.

E. <u>After the system is complete, but before ceiling tiles are installed, perform a Smoke Test as described below:</u>

   1. <u>Introduce artificial smoke into the system from roof vent.</u>

2. Observe the piping system for leaks from traps, pipe joints, etc.

3. Provide a written report itemizing each leak and a description of remedial work to correct the deficiencies.

4. Re-test the system and provide a follow-up written report.

5. System may be tested in sections, provided that a report is submitted for each section.

3.7 CLEANING

A. Clean interior of piping. Remove dirt and debris as work progresses.

B. Protect drains during remainder of construction period to avoid clogging with dirt and debris and to prevent damage from traffic and construction work.

C. Place plugs in ends of uncompleted piping at end of day and when work stops.

END OF SECTION

SECTION 221329 - SANITARY SEWERAGE PUMPS

PART 1 - GENERAL

1.1 SUMMARY

A. Remove existing sewage ejector pump, basin, controls and all associated items in their entirety. Existing sanitary piping shall remain for reconnection to new. Field verify existing conditions prior to bid and adjust installation of new work accordingly.

B. Contractor shall modify existing sewage ejector force main piping as required to connect to new ejector. Piping size and material of new force main shall match existing.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles. Include rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories.

B. Shop Drawings:

1. Include plans, elevations, sections, and mounting and attachment details.
2. Include details of equipment assemblies. Indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
3. Vibration Isolation Base Details: Detail fabrication including anchorages and attachments to structure and to supported equipment. Include adjustable motor bases, rails, and frames for equipment mounting.
4. Include diagrams for power, signal, and control wiring.

1.3 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For pumps and controls, to include in operation and maintenance manuals.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Retain shipping flange protective covers and protective coatings during storage.

B. Protect bearings and couplings against damage.

C. Comply with manufacturer's written instructions for handling.

1.5 COORDINATION

A. Coordinate sizes and locations of concrete bases with actual equipment provided.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

B. UL Compliance: Comply with UL 778 for motor-operated water pumps.

2.2 SEWAGE EJECTOR

A. Description: Factory-assembled and -tested sewage-pump unit.

B. Basis of Design: Weil 1303 – duplex sewage ejector system with basin.

C. PUMP
1. Case: Cast Iron.
2. Impeller: Cast Iron.
3. Shaft: 1 inch diameter, Carbon Steel.
4. Upper Sleeve Bearing: Bronze.
5. Lower Bearing: Bronze.
6. Strainer: Cast Iron.
7. Legs: Coated.
8. Discharge Pipe: 2 inch Galvanized.
9. Flexible Coupling.
10. Coupling Guards.
11. Ball Thrust Bearing.
12. GPM: 25.

D. MOTOR
1. RPM: 1150.
2. Voltage/Phase: 208/3.
3. HP: 1-1/2.

E. BASIN
1. Dimensions: 36” diameter, 5’-0” deep.
2. 36” diameter cover.

F. CONTROL PANEL
1. Weil model 8136.
2. NEMA 4X Enclosure.
3. Dimensions: 14x12.

G. CONTROLS
1. Pedestal Float Switch.
2. Mechanical Lever Duplex Float Switch System.
3. Auxiliary Contacts for Remote Alarm.

2.3 MOTORS

A. Comply with NEMA designation, temperature rating, service factor, enclosure type, and efficiency requirements for motors specified in Section 220500 "Common Work Results for Plumbing."

1. Motor Sizes: Minimum size as indicated. If not indicated, large enough so driven load will not require motor to operate in service factor range above 1.0.

B. Motors for submersible pumps shall be hermetically sealed.

PART 3 - EXECUTION

3.1 EARTHWORK

A. Excavation and filling are specified in Section 312000 "Earth Moving."

3.2 EXAMINATION

A. Examine roughing-in for plumbing piping to verify actual locations of sanitary drainage and vent piping connections before sewage pump installation.

3.3 INSTALLATION

A. Install system in accordance with manufacturer’s written instructions. Contractor to contact manufacturer prior to bid for all items required for a fully operational system and shall furnish and install any items necessary at no additional cost.

B. Pump Installation Standards:

1. Comply with HI 1.4 for installation of centrifugal pumps.
2. Comply with HI 3.1-3.5 for installation of progressing-cavity sewage pumps.

C. Equipment Mounting:

1. Install progressing-cavity sewage pumps on cast-in-place concrete equipment base(s). Comply with requirements for equipment bases and foundations specified in Section 033000 "Cast-in-Place Concrete."
2. Comply with requirements for vibration isolation and seismic-control devices specified in Section 220548 "Vibration and Seismic Controls for Plumbing Piping and Equipment."
3. Comply with requirements for vibration isolation devices specified in Section 220548.13 "Vibration Controls for Plumbing Piping and Equipment."

D. Wiring Method: Comply with requirements in Section 260519 "Low-Voltage Electrical Power Conductors and Cables."

E. Wiring within Enclosures: Bundle, lace, and train conductors to terminal points with no excess and without exceeding manufacturer's limitations on bending radii. Provide and use lacing bars and distribution spools.

3.4 CONNECTIONS

A. Comply with requirements for piping specified in Section 221316 "Sanitary Waste and Vent Piping." Drawings indicate general arrangement of piping, fittings, and specialties.

B. Where installing piping adjacent to equipment, allow space for service and maintenance.

3.5 FIELD QUALITY CONTROL

A. Manufacturer's Field Service: Engage a factory-authorized service representative to test, inspect, and adjust components, assemblies, and equipment installations, including connections.

B. Perform the following tests and inspections:

1. Perform each visual and mechanical inspection.
2. Leak Test: After installation, charge system and test for leaks. Repair leaks and retest until no leaks exist.
3. Operational Test: After electrical circuitry has been energized, start units to confirm proper motor rotation and unit operation.
4. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

C. Pumps and controls will be considered defective if they do not pass tests and inspections.

D. Prepare test and inspection reports.

3.6 STARTUP SERVICE

A. Engage a factory-authorized service representative to perform startup service.

1. Complete installation and startup checks according to manufacturer's written instructions.

3.7 ADJUSTING

A. Adjust pumps to function smoothly, and lubricate as recommended by manufacturer.

B. Adjust control set points.

3.8 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain controls and pumps.

END OF SECTION 221329