

O517-14629

ADDENDUM NUMBER 4

MILWAUKEE COUNTY  
WAR MEMORIAL – ART MUSEUM  
HVAC IMPROVEMENTS  
Site #265, Bldg. #40  
750 North Lincoln Memorial Drive  
Milwaukee, WI 53202

Project Number: O517-14629

Notice Number: 6978

Date of Addendum: January 21, 2015

This Addendum to the Contract Documents is issued to modify, explain or correct the original documents, dated December 5, 2014, 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 AND CONTRACT DOCUMENTS

- 1) Refer to attached Barrientos Design and Consulting addendum narrative dated January 6, 2015; Specification Sections 061000-1 and 092900-2.
- 2) Refer to attached Bidding Questions and Responses dated January 21, 2015.
- 3) AHU-N, AHU-S, AHU-NE, AHU-SE, and AHU-EE will be pre-purchased by Milwaukee County per Addendum Number 3. These units will be assigned to the successful bidder. This contractor shall take delivery of units at site and be responsible for installation, startup, and warranty enforcement.
- 4) Final supply grille and associated ductwork layout will be determined upon Architect/Art Museum approval of reflected ceiling plan.
- 5) Alternate Bid No. 1 clarification, due to space limitations, the overall lake water system performance and installation requirements for preferred filters are as follows:
  - a. Amiad Water Systems
    - i. MAP-200 with 3,500 micron perforated 316 stainless steel screen.
    - ii. MAP-200-RL, 8" 800GPM each.
    - iii. AML3 PLC control panel for dual filter control.

Unit is designed for horizontal installation and service.

- 6) Temporary heating shall be provided by Contract 1 Mechanical Contractor. Preferred vendor is Polygon Group, 2008 Bloomingdale Road, Glendale Heights, Illinois 60139; contact representative Ryan Creagan, (630) 2549961, (800) 422-6379. Pricing shall be for heating only. Provide separate cost for temporary cooling if required. Design conditions during construction 65°F db. Humidity is not provided.

DRAWINGS

- 1) Refer to attached Barrientos Design and Consulting addendum narrative dated January 16, 2015.
- 2) Sheet M301B, Detail 1 Enlarged Mechanical Room Ductwork Plan – North.
- 3) Sheet M301B, Detail 2 Enlarged Mechanical Room Ductwork Plan – South.
- 4) Sheet M303B, Detail 3 Mechanical Equipment Mezzanine Floor Plan – West.
- 5) Sheet M303B, Detail 2 Mechanical Equipment Fire Floor Plan – West.
- 6) Sheet M401B, Detail 1 Mechanical Room Piping North.
- 7) Sheet M500, Item 1 Schedules.
- 8) Sheet M502, Item 11 Duct-Mounted Equipment Access Door Detail.
- 9) Sheet M003, Additional Lake Water Cooling details.
- 10) Sheet M100, All work on this level is under Contract 1.
- 11) Sheet M101A, Areas have been clarified as to which are under Contract 1, Contract 2, or are not included as part of either contract.
- 12) Sheet M102A, Noted areas to remove air baseboard are under Contract 2.
- 13) Sheet M104A, Work on this sheet is under Contract 2.
- 14) Sheet M105, Noted areas have been clarified as to which are under Contract 1 and Contract 2.
- 15) Sheet M200, All work on this sheet is under Contract 1.
- 16) Sheet M201A, Noted areas have been clarified as to which are under Contract 1 and which are not included as part of either contract.
- 17) Sheet M300, Air handling unit clarifications.
- 18) Sheet M401A, Revised/enlarged piping view.
- 19) Sheet M500, Schedule modifications.
- 20) Sheet M505, Details 5, 6, and 7 have been added.
- 21) All room thermostat/humidistat locations will be finalized at time of reflected ceiling plan approval. For bidding purposes, all VAV boxes will have individual thermostat/humidistat.
- 22) Sheet E100, New sheet added.
- 23) Sheet E200, New sheet added.

End of Addendum No. 4



**BARRIENTOS**  
design & consulting

**Addendum No.**  
**Issue Date**

Addendum 4  
January 16, 2015

**Project**

Milwaukee Art Museum  
Structural Modifications

**To**

All Prospective Bidders

*This Addendum Narrative consists of 2 pages and the attached documents:*

1. *Technical Specification Sections*



## CHANGES TO TECHNICAL SPECIFICATIONS

Section 06 10 00 – Rough Carpentry.

1. ADD: Entire section.

Section 09 22 16 – Non-Structural Metal Framing.

1. REVISE: Section 2.2 (B) 1 c – Stud Depth – to include “or as needed to match existing wall construction.

Section 09 29 00 – Gypsum Board.

1. ADD: Section 2.3 - Interior Gypsum Board.
2. ADD: Section 2.5 (B) 5 – Skim coat for final coat of Level 5 Finish.
3. ADD: Section 2.6 (B) – Laminating Adhesive
4. REVISE: Section 3.1 (G) – Gypsum Board Finish level
5. CLARIFICATION: Entire section has been attached to this addendum for clarity.

## CHANGES TO DRAWINGS

### General Items

1. At all chase repair locations, provide ‘Art Wall’ finish to match adjacent construction. Typical ‘Art Wall’ consists of 3-5/8” steel studs, 3/4” (fire-resistive) underlayment plywood, and 5/8” gypsum board with a level 5 finish. Coordinate finish and painting with Milwaukee Art Museum staff and Milwaukee County.
2. Provide all necessary materials and labor to close chase opened as ‘test hole’ on the south exterior wall between column lines O and N. Closure to match typical details shown on A701 and A 702.

### Sheet A101 – Proposed Lower Level Plan

1. DELETE: “NOT IN CONTRACT” note at south exterior wall between column lines N & O. Opening to be in-filled per typical details during this project.

### Sheet A102 – Proposed Lower Level Plan

1. DELETE: “NOT IN CONTRACT” note at south exterior wall between column lines N & O. Opening to be in-filled per typical details during this project.

### Sheet A103 – Proposed Lower Level Plan

1. DELETE: “NOT IN CONTRACT” note at south exterior wall between column lines N & O. Opening to be in-filled per typical details during this project.

### Sheet A700 – Typical Plan Details

1. REVISE: At First and Second Floor Typical Plan Details, the “Art Wall’ Finish is to be repaired by the contractor. Contractor shall verify wall composition and match the existing adjacent wall construction. Typical ‘Art Wall’ finish consists of 3-5/8” steel studs, 3/4” (fire resistive) underlayment plywood, and 5/8” gypsum board with a level 5 finish. Coordinate finish and painting with Milwaukee Art Museum Staff and Milwaukee County.



**Sheet A701 – Typical Elevations**

1. REVISE: At First and Second Floor Typical Elevations, the "Art Wall" Finish is to be repaired by the contractor. Contractor shall verify wall composition and match the existing adjacent wall construction. Typical 'Art Wall' finish consists of 3-5/8" steel studs, 3/4" (fire resistive) underlayment plywood, and 5/8" gypsum board with a level 5 finish. Coordinate finish and painting with Milwaukee Art Museum Staff and Milwaukee County.
2. REVISE: Provide 'Art Wall' finish at top and bottom of wall to match existing wall finish.

*End of Addendum*

SECTION 061000  
ROUGH CARPENTRY

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
  - 1. Plywood backing panels.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product.

1.3 INFORMATIONAL SUBMITTALS

- A. Material Certificates: For dimension lumber specified to comply with minimum allowable unit stresses. Indicate species and grade selected for each use and design values approved by the ALSC Board of Review.
- B. Evaluation Reports: For the following, from ICC-ES:
  - 1. Fire-retardant-treated wood.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

- A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, comply with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Grade lumber by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.
  - 1. Factory mark each piece of lumber with grade stamp of grading agency.
  - 2. Dress lumber, S4S, unless otherwise indicated.
- B. Maximum Moisture Content of Lumber: 15 percent for 2-inch nominal thickness or less; 19 percent for more than 2-inch nominal thickness.
- C. Engineered Wood Products: Acceptable to authorities having jurisdiction and for which current model code research or evaluation reports exist that show compliance with building code in effect for Project.
  - 1. Allowable design stresses, as published by manufacturer, shall meet or exceed those indicated. Manufacturer's published values shall be determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency.

2.2 FIRE-RETARDANT-TREATED MATERIALS

- A. General: Where fire-retardant-treated materials are indicated, materials shall comply with requirements in this article, that are acceptable to authorities having jurisdiction, and with fire-test-response characteristics specified as determined by testing identical products per test method indicated by a qualified testing agency.
- B. Fire-Retardant-Treated Lumber and Plywood by Pressure Process: Products with a flame-spread index of 25 or less when tested according to ASTM E 84, and with no evidence of significant progressive combustion when the test is extended an

additional 20 minutes, and with the flame front not extending more than 10.5 feet beyond the centerline of the burners at any time during the test.

1. Exterior Type: Treated materials shall comply with requirements specified above for fire-retardant-treated lumber and plywood by pressure process after being subjected to accelerated weathering according to ASTM D 2898. Use for exterior locations and where indicated.
2. Interior Type A: Treated materials shall have a moisture content of 28 percent or less when tested according to ASTM D 3201 at 92 percent relative humidity. Use where exterior type is not indicated.
- C. Kiln-dry lumber after treatment to maximum moisture content of 19 percent. Kiln-dry plywood after treatment to maximum moisture content of 15 percent.
- D. Identify fire-retardant-treated wood with appropriate classification marking of qualified testing agency.
- E. Application: Treat items indicated on Drawings, and the following:
  1. Plywood backing panels.

### 2.3 PLYWOOD BACKING PANELS

- A. Backing Panels: Plywood, DOC PS 1, Exterior, C-C Plugged, fire-retardant treated, in thickness indicated or, if not indicated, not less than 3/4-inch nominal thickness.

### 2.4 FASTENERS

- A. General: Fasteners shall be of size and type indicated and shall comply with requirements specified in this article for material and manufacture.
- B. Power-Driven Fasteners: Fastener systems with an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC70.

## PART 3 - EXECUTION

### 3.1 INSTALLATION, GENERAL

- A. Framing Standard: Comply with AF&PA's WCD 1, "Details for Conventional Wood Frame Construction," unless otherwise indicated.
- B. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry accurately to other construction. Locate blocking, and similar supports to comply with requirements for attaching other construction.
- C. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
  1. Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code (IBC).
  2. Table R602.3(1), "Fastener Schedule for Structural Members," and Table R602.3(2), "Alternate Attachments," in ICC's International Residential Code for One- and Two-Family Dwellings.
  3. ICC-ES evaluation report for fastener.

END OF SECTION

SECTION 092900  
GYPSUM BOARD

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
  - 1. Interior gypsum board.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Fire-Resistance-Rated Assemblies: For fire-resistance-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 119 by an independent testing agency.

2.2 GYPSUM BOARD, GENERAL

- A. Size: Provide maximum lengths and widths available that will minimize joints in each area and that correspond with support system indicated.

2.3 INTERIOR GYPSUM BOARD

A. **Gypsum Wallboard: ASTM C 1396/C 1396M.**

- 1. **Manufacturers: Subject to compliance with requirements, provide products by one of the following:**
  - a. **American Gypsum.**
  - b. **CertainTeed Corporation.**
  - c. **Georgia-Pacific Building Products.**
  - d. **National Gypsum Company.**
  - e. **United States Gypsum Company.**
- 2. **Thickness: 1/2 inch or 5/8 inch.**
- 3. **Long Edges: Tapered.**

2.4 SPECIALTY GYPSUM BOARD

- A. Gypsum Board, Type C: ASTM C 1396/C 1396M. Manufactured to have increased fire-resistive capability.
  - 1. Manufacturers: Subject to compliance with requirements, provide products by the following:
    - a. American Gypsum.
  - 2. Thickness: As required by fire-resistance-rated assembly indicated on Drawings.
  - 3. Long Edges: Tapered.

## 2.5 JOINT TREATMENT MATERIALS

- A. General: Comply with ASTM C 475/C 475M.
- B. Joint Tape:
  - 1. Interior Gypsum Board: Paper.
- C. Joint Compound for Interior Gypsum Board: For each coat, use formulation that is compatible with other compounds applied on previous or for successive coats.
  - 1. Prefilling: At open joints and damaged surface areas, use setting-type taping compound.
  - 2. Embedding and First Coat: For embedding tape and first coat on joints, fasteners, and trim flanges, use setting-type taping compound.
    - a. Use setting-type compound for installing paper-faced metal trim accessories.
  - 3. Fill Coat: For second coat, use setting-type, sandable topping compound.
  - 4. Finish Coat: For third coat, use drying-type, all-purpose compound.
  - 5. **Skim Coat: For final coat of Level 5 finish, use drying-type, all-purpose compound.**

## 2.6 AUXILIARY MATERIALS

- A. General: Provide auxiliary materials that comply with referenced installation standards and manufacturer's written instructions.
- B. **Laminating Adhesive: Adhesive or joint compound recommended for directly adhering gypsum panels to continuous substrate.**
- C. Steel Drill Screws: ASTM C 1002 unless otherwise indicated.
  - 1. Use screws complying with ASTM C 954 for fastening panels to steel members from 0.112 inch to .190 inch thick.

## PART 3 - EXECUTION

### 3.1 APPLYING AND FINISHING PANELS

- A. Examine panels before installation. Reject panels that are wet, moisture damaged, and mold damaged.
- B. Comply with ASTM C 840.
- C. Isolate perimeter of gypsum board applied to non-load-bearing partitions at structural abutments. Provide 1/4- to 1/2-inch-wide spaces at these locations and trim edges with edge trim where edges of panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant.
- D. For trim with back flanges intended for fasteners, attach to framing with same fasteners used for panels. Otherwise, attach trim according to manufacturer's written instructions.
- E. Prefill open joints and damaged surface areas.
- F. Apply joint tape over gypsum board joints, except for trim products specifically indicated as not intended to receive tape.

- G. Gypsum Board Finish Levels: Finish panels to levels indicated below and according to ASTM C 840:
  - 1. Level 2: At face of all rated gypsum board partitions and as required by fire-resistance-rated assembly indicated on Drawings.
  - 2. **Level 5: At face of "Art Wall" Finish.**

### 3.2 PROTECTION

- A. Protect installed products from damage from weather, condensation, direct sunlight, construction, and other causes during remainder of the construction period.
- B. Remove and replace panels that are wet, moisture damaged, and mold damaged.

END OF SECTION

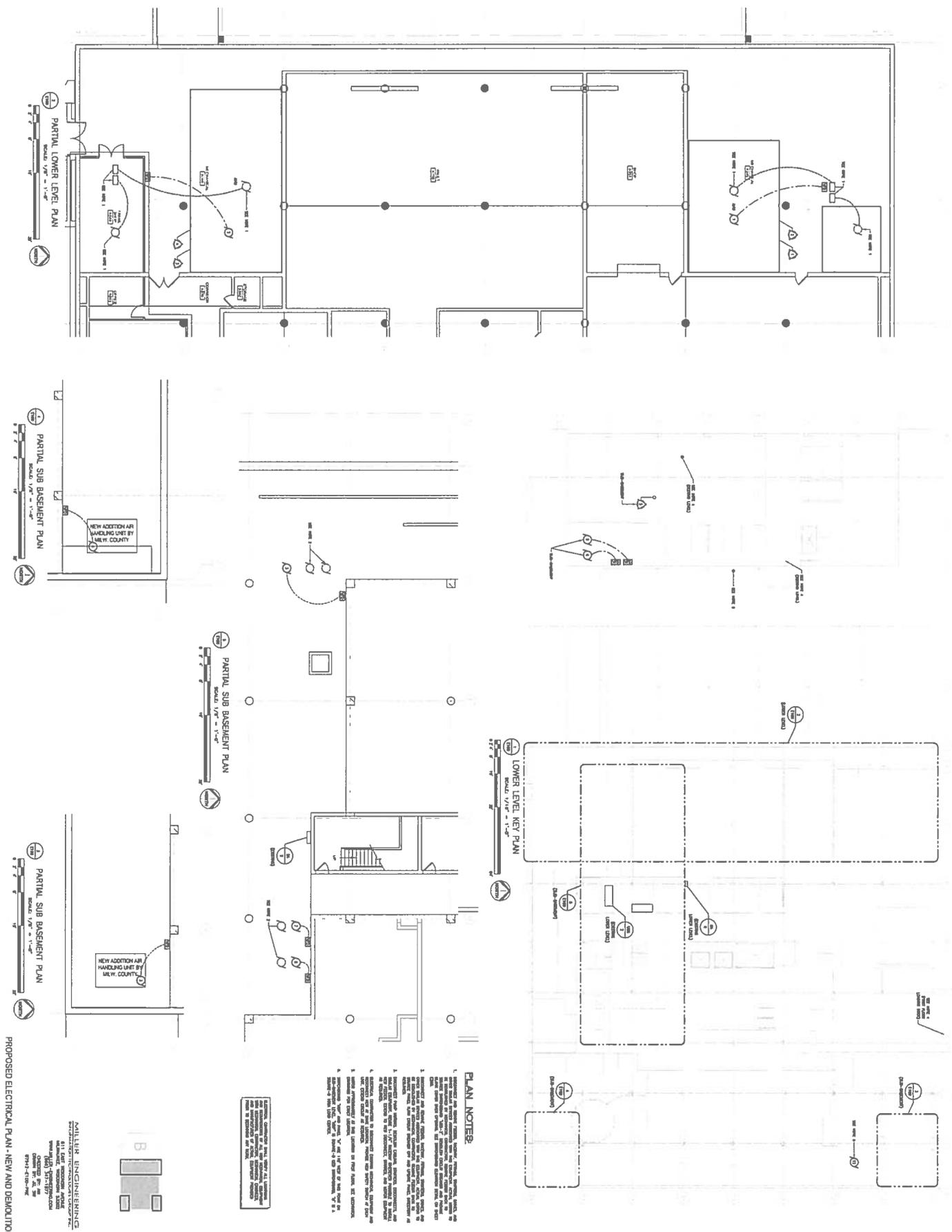
ADDENDUM NUMBER 4

BIDDING QUESTIONS AND RESPONSES

- 1) Confirm that the slab and wall cutting required for all the duct penetrations in existing surfaces associated with AHU-NE and AHU-SE is in contract #1.
  - All slab and wall cutting for ductwork associated with AHU-NE and AHU-SE is contract #1. Final locations will be coordinated with Engineer's office.
- 2) Drawing M301A, confirm that the architectural enclosures that are shown at the duct risers associated with AHU-NE and AHU-SE in both the northeast and southeast corners are in contract #2.
  - The east wall enclosure (duct chase) is under contract with the Art Museum, HGA Architects.
- 3) Confirm that all the openings through floor slabs and walls in the new east addition to accommodate ductwork from AHU-NE and AHU-SE are included in contract #2.
  - All wall and floor penetrations in the new addition are by the Art Museum, HGA Architects.
- 4) Confirm how the MC is to get the 72" round ductwork into the sub-basement.
  - For purpose of bidding, use 72" round duct. Duct size or method of entry will be revised after contract award.
- 5) Forward information as discussed on 1/16/15 regarding the existing underwater intake and discharge piping including photos and the name of the company that investigated documented it.
  - Photos will be available at a later date. The salvage company associated with underwater piping is: Jerry Guyer, Pirates Cove Diving, 1103 West Oklahoma Avenue, Milwaukee, Wisconsin 53215, 414-482-7280.
- 6) Confirm where the cooling coil condensate associated with AHU-NE and AHU-SE is to be drained to.
  - Coil condensate from AHU-NE and AHU-SE will be pumped to floor drain/sump near lake water pumps. Add cost of condensate pumps and 150 feet of 2" Schedule 40 PVC.
- 7) Reference drawing M303B. Please provide more details as to the routing of the RO water to the final destinations. Using this drawing, it's not possible to know the distances or the conditions of the routing, etc.
  - A composite plan is not available. Provide an allowance for 400 feet of pipe and fittings. Composite plan will be prepared prior to installation.
- 8) Confirm who is responsible for infilling any existing floor opening that won't be required after demolition of the existing built-up AHU's.
  - MC will be responsible for all floor repair.

- 9) Confirm who is responsible for removing concrete ribbon curb under the existing built-up return fan housings after demolition.
- MC will be responsible for all ribbon curb removal and repair.
- 10) When is electrical plan available?
- Electrical plans are issued as part of Addendum 4.
- 11) If 6x6 openings do not allow enough access to duct shaft, who revises?
- The wall openings are determined to be adequate, based on sample/test installation. Advise Engineer's office and County of any conflicts.
- 12) M303A: Oval runouts in ceiling double wall or single wall?
- Oval ductwork is single wall wrapped.
- 13) M504: Are curbs required for new built up AHU's?
- New curbs will be required. Final layout will be based on air handling unit award by County.
- 14) M503: Detail 13 please advise what this detail is associated with.
- Suggested ductwork installation in wall of new East addition.
- 15) M300: Who cuts new holes in floor from new AHU to sub-basement and any other openings not shown on drawings?
- If additional openings are required, contact Engineer's office and County.

End of Bidding Questions and Responses



LOWER LEVEL NEW PLAN  
SCALE: 1/8" = 1'-0"

PARTIAL SUB BASEMENT PLAN  
SCALE: 1/8" = 1'-0"

PARTIAL SUB BASEMENT PLAN  
SCALE: 1/8" = 1'-0"

PARTIAL SUB BASEMENT PLAN  
SCALE: 1/8" = 1'-0"

PARTIAL LOWER LEVEL PLAN  
SCALE: 1/8" = 1'-0"

**PLAN NOTES:**

1. REFER TO ALL OTHER DRAWINGS, SPECIFICATIONS, SCHEDULES, NOTES, AND COMMENTS FOR COMPLETE INFORMATION. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE NATIONAL ELECTRICAL CODE (NEC), NATIONAL FIRE ALARM CODE (NFPA), NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 70, NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 99, AND NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 101.
2. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE NATIONAL ELECTRICAL CODE (NEC), NATIONAL FIRE ALARM CODE (NFPA), NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 70, NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 99, AND NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 101.
3. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE NATIONAL ELECTRICAL CODE (NEC), NATIONAL FIRE ALARM CODE (NFPA), NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 70, NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 99, AND NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 101.
4. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE NATIONAL ELECTRICAL CODE (NEC), NATIONAL FIRE ALARM CODE (NFPA), NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 70, NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 99, AND NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 101.
5. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE NATIONAL ELECTRICAL CODE (NEC), NATIONAL FIRE ALARM CODE (NFPA), NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 70, NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 99, AND NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 101.

GENERAL CONTRACTOR SHALL VERIFY ALL CONDITIONS AND CONDITIONS OF WORK BEFORE BEGINNING WORK. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE NATIONAL ELECTRICAL CODE (NEC), NATIONAL FIRE ALARM CODE (NFPA), NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 70, NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 99, AND NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 101.

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PROPOSED ELECTRICAL PLAN - NEW AND DEMOLITION

