

**SECTION 00 91 05  
ADDENDUM NUMBER 5**

**DATE:               SEPTEMBER 7, 2017**

**PROJECT:           ORCHARD VALLEY CLUBHOUSE HVAC RENOVATIONS  
2411 W ILLINOIS AVENUE  
AURORA, ILLINOIS 60506**

**PROJECT NO:       17-253-1110**

**OWNER:            FOX VALLEY PARK DISTRICT  
101 W ILLINOIS AVENUE  
AURORA, ILLINOIS 60506**

**TO:                PROSPECTIVE BIDDERS / PLANHOLDERS OF RECORD**

**This Addendum forms a part of the Contract Documents and modifies the Bidding Documents dated August 15, 2017, with amendments and additions noted below. Acknowledge receipt of this Addendum in the space provided in the Bid Form. Failure to do so may subject the Bidder to disqualification.**

**This Addendum consists of three (3) pages, Documents 00 31 13, 00 41 13, 00 43 23, Specification Section 01 23 00, and Drawings ME200, M300, M410, M411, E300.**

**CHANGES TO ADDENDA**

**1.01 ADDENDUM NUMBER 1 - Dated August 28, 2017, Issued August 29, 2017 by the FVPD/Vendor Registry under the title of Addendum No. 2**

- A. Change the title of this Addendum to Addendum No. 2 and change the Issue Date to August 29, 2017. **On the Bid Form, identify this Addendum as Addendum No. 2 dated August 29, 2017.**

**CHANGES TO BIDDING REQUIREMENTS**

**2.01 DOCUMENT 00 31 13 - PRELIMINARY SCHEDULE**

- A. Delete this Document in its entirety and replace with revised Document 00 31 13 - PRELIMINARY SCHEDULE (attached). This revised document indicates a later anticipated award date and start date, and it extends the construction schedule for this project.

## **2.02 DOCUMENT 00 41 13 - BID FORM**

- A. Delete this Document in its entirety and replace with revised Document 00 41 13 - BID FORM (attached). **Submit this revised Document with your bid in lieu of the original version of this Document.**

## **2.03 DOCUMENT 00 43 23 - BID FORM SUPPLEMENT - LIST OF ALTERNATES**

- A. Add this Document in its entirety (attached). **Submit this new Document with your bid.**

## **CHANGES TO SPECIFICATIONS**

### **3.01 SECTION 01 23 00 - ALTERNATES**

- A. Add this Section in its entirety (attached). This Section converts the Variable Refrigerant Volume (VRV) HVAC System work scope to Alternate No. 1 and converts the building automation system temperature controls work scope to Alternate No. 2.

### **3.02 SECTION 23 09 23 - Direct Digital Control System for HVAC**

- A. Revise the heading of Article 1.06 WEB BROWSER CLIENTS - ALTERNATE NO. 2".  
(Clarification: The content of this Article is part of the scope of Alternate No. 2 only.)
- B. Under Article 2.01 MANUFACTURERS:
  - 1. Delete the first sentence in Paragraph A and replace with the following:  
"A. Johnson Controls, Inc.; Facility Explorer System."  
(Clarification: The "FX-80" previously listed here is only part of Alternate No. 2.)
- C. Under Article 2.03 - CONTROLLERS:
  - 1. Revise the first sentence in Paragraph A to read "BUILDING CONTROLLERS - ALTERNATE NO. 2".  
(Clarification: The content of this Paragraph is part of the scope of Alternate No. 2 only.)
  - 2. Under Paragraph A:
    - a. Insert new Subparagraph 1 as follows:  
"1. JCI Facility Explorer; Model FX-80."
    - b. Increment Subparagraphs previously numbered 1 through 6 so that they are now numbered 2 through 7.

### **3.03 SECTION 23 23 13 - VRV Piping**

- A. Under Article 1.01 GENERAL:
  - 1. Delete Paragraph A through Paragraph E and replace with the following:  
"A. Alternate No. 1:
    - 1. Piping; used specifically for variable refrigerant volume (VRV) air conditioning applications.
    - 2. VRV piping installation certification and training
    - 3. Pipes, tubing, fittings, and specialties.
    - 4. Special duty valves.
    - 5. Refrigerants."

### **3.04 SECTION 23 81 29 - Variable Refrigerant Volume (VRV) HVAC System**

A. Under Article 1.01 GENERAL:

1. Revise the first sentence of Paragraph A. to read as follows:

"A. Alternate No. 1 - Variable refrigerant volume HVAC system includes:"

### **CHANGES TO THE DRAWINGS**

#### **4.01 DRAWING ME200 - MECHANICAL AND ELECTRICAL DEMOLITION FLOOR PLANS**

A. Delete this Drawing in its entirety and replace with revised Drawing ME200 - MECHANICAL AND ELECTRICAL DEMOLITION FLOOR PLANS (attached).

#### **4.02 DRAWING M300 - MECHANICAL FLOOR PLANS**

A. Delete this Drawing in its entirety and replace with revised Drawing M300 - MECHANICAL FLOOR PLANS (attached).

#### **4.03 DRAWING M410 - TEMPERATURE CONTROLS AND DETAILS**

A. Delete this Drawing in its entirety and replace with revised Drawing M410 - TEMPERATURE CONTROLS AND DETAILS (attached).

#### **4.04 DRAWING M411 - MECHANICAL SCHEDULES AND DETAILS**

A. Delete this Drawing in its entirety and replace with revised Drawing M300 - MECHANICAL SCHEDULES AND DETAILS (attached).

#### **4.05 DRAWING E300 - ELECTRICAL FLOOR PLANS**

A. Delete this Drawing in its entirety and replace with revised Drawing E300 - ELECTRICAL FLOOR PLANS (attached).

**END OF DOCUMENT 00 91 05**



**SECTION 00 41 13  
BID FORM - STIPULATED SUM  
SINGLE CONTRACT**

**PROJECT:** ORCHARD VALLEY CLUBHOUSE HVAC RENOVATIONS  
2411 W ILLINOIS AVENUE  
AURORA, ILLINOIS 60506

**BID TO:** FOX VALLEY PARK DISTRICT  
101 W ILLINOIS AVENUE  
AURORA, ILLINOIS 60506

**BID FROM:** Corporate Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
City, State, Zip: \_\_\_\_\_  
Telephone No.: \_\_\_\_\_  
Fax No.: \_\_\_\_\_  
Email Address: \_\_\_\_\_  
Contact Person: \_\_\_\_\_

**1.01 ACCEPTANCE**

The undersigned Bidder agrees, if this Bid is accepted, to enter into an agreement with the Owner, in the form included in the Bidding Documents, to perform and furnish the Work as indicated in the Bidding Documents for the Bid Price and within the Bid times indicated in this Bid and in accordance with the terms and conditions of the Contract Documents.

**1.02 ACKNOWLEDGMENTS**

In submitting this Bid, the Bidder represents that:

- A. This Bid will remain open for acceptance for a period of 90 days from the Bid opening date;
- B. The Owner has the right to reject this Bid;
- C. The Bidder accepts the provisions of the Instructions and Supplementary Instructions to Bidders regarding the disposition of the Bid;
- D. The Bidder agrees to sign and submit the Agreement and other documents required by the Bidding Requirements within 15 days after the Owner's Notice of Award;
- E. The Bidder has examined the complete set of Bidding Documents;
- F. The Bidder has visited the site and become familiar with the general, local, and site conditions;
- G. The Bidder is familiar with Federal, State and Local Laws and Regulations;

- H. The Bidder has correlated the information known to the Bidder; information and observations obtained from visits to the site, reports and drawings identified in the Bidding Documents and additional examinations, investigations, explorations, tests, studies, and data with the Bidding Documents;
- I. This Bid is genuine and not made in the interest of or on behalf of an undisclosed person, firm, or corporation and is not submitted in conformity with an Agreement or rules or group, association, organization, or corporation;
- J. The Bidder has not directly or indirectly induced or solicited another Bidder to submit a false or sham Bid; sought by collusion to obtain for itself an advantage over another Bidder or over the Owner;
- K. The Bidder has received the following Addenda, receipt of which is hereby acknowledged:

- 1. Addendum No. \_\_\_\_\_ Date \_\_\_\_\_
- 2. Addendum No. \_\_\_\_\_ Date \_\_\_\_\_
- 3. Addendum No. \_\_\_\_\_ Date \_\_\_\_\_
- 4. Addendum No. \_\_\_\_\_ Date \_\_\_\_\_
- 5. Addendum No. \_\_\_\_\_ Date \_\_\_\_\_
- 6. Addendum No. \_\_\_\_\_ Date \_\_\_\_\_

**The Bidder understands that, in submitting this Bid, he waives all right to plead any misunderstandings regarding the foregoing.**

**1.03 SINGLE CONTRACT - BASE BID PRICE:**

- A. Refer to Section 01 10 00 - Summary.
- B. The Bidder will complete the Work of the Project in accordance with the Contract Documents for the following price:

- 1. Stipulated Sum Bid Price:

\_\_\_\_\_

(Use Numerals)

\_\_\_\_\_

(Use Words)

**1.04 BID BOND**

A. The Bidder has attached the required bid security in the form described by Document 00 43 13 - Bid Security Form with this Bid.

**1.05 ALLOWANCES**

A. The Bidder has included in the Bid the appropriate allowances as specified in Section 01 21 00 - Allowances.

**1.06 ALTERNATES**

A. The Bidder has attached Document 00 43 23 - Bid Form Supplement - List of Alternates with this Bid. Refer to Section 01 23 00 - Alternates for description of Alternates.

**1.07 CONTRACT TIME**

A. The Bidder agrees to begin and complete Work as indicated in Document 00 31 13 - Preliminary Schedule.

**1.08 OTHER BID FORM SUPPLEMENTS**

- A. The following additional Documents are attached to and made a condition of this Bid:
1. Document 00 43 36 - Proposed Subcontractors Form.
  2. Document 00 45 13 - Bidder's Qualifications.
  3. Document 00 45 36 - Contractor's Certification for Equal Employment Opportunity.
  4. Document 00 45 46.01 - Contractor's Certification of Legal Eligibility for Bidding.
  5. Document 00 45 46.02 - Contractor's Drug-Free Workplace Certification.

**1.09 SIGNATURES**

A. Respectfully submitted this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

B. Type of Firm: (check one)

\_\_\_\_\_ Individual

\_\_\_\_\_ Partnership

\_\_\_\_\_ Corporation

\_\_\_\_\_ Joint Venture

C. Corporate Seal:(SEAL)

D. Full name of firm: \_\_\_\_\_

E. Authorized Signing Officer: \_\_\_\_\_

Title: \_\_\_\_\_

F. Authorized Signing Officer: \_\_\_\_\_

Title: \_\_\_\_\_

**END OF DOCUMENT 00 41 13**



**SECTION 00 43 23  
BID FORM SUPPLEMENT - LIST OF ALTERNATES**

**1.01 PARTICULARS**

A. The following is the list of Alternates referenced in the bid submitted by:

(Bidder) \_\_\_\_\_

Dated \_\_\_\_\_ and which is an integral part of the Bid Form.

**1.02 ALTERNATES LIST**

A. The following amounts shall be added to or deducted from the Bid Amount. Refer to Section 01 23 00 - Alternates.

(Circle One)

1. Alternate # \_\_\_\_: (Add) (Deduct) \$ \_\_\_\_\_

2. Alternate # \_\_\_\_: (Add) (Deduct) \$ \_\_\_\_\_

3. Alternate # \_\_\_\_: (Add) (Deduct) \$ \_\_\_\_\_

4. Alternate # \_\_\_\_: (Add) (Deduct) \$ \_\_\_\_\_

5. Alternate # \_\_\_\_: (Add) (Deduct) \$ \_\_\_\_\_

6. Alternate # \_\_\_\_: (Add) (Deduct) \$ \_\_\_\_\_

7. Alternate # \_\_\_\_: (Add) (Deduct) \$ \_\_\_\_\_

8. Alternate # \_\_\_\_: (Add) (Deduct) \$ \_\_\_\_\_

9. Alternate # \_\_\_\_: (Add) (Deduct) \$ \_\_\_\_\_

10. Alternate # \_\_\_\_: (Add) (Deduct) \$ \_\_\_\_\_

**END OF DOCUMENT 00 43 23**

**SECTION 01 23 00  
ALTERNATES**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Description of Alternates.
- B. Procedures for pricing Alternates.
- C. Documentation of changes to Contract Sum and Contract Time.

**1.02 RELATED REQUIREMENTS**

- A. Document 00 21 13 - Instructions to Bidders: Instructions for preparation of pricing for Alternates.
- B. Document 00 43 23 - Bid Form Supplement - List of Alternates: List of Alternates as supplement to Bid Form.
- C. Document 00 52 00 - Agreement Form: Incorporating monetary value of accepted Alternates.

**1.03 ACCEPTANCE OF ALTERNATES**

- A. Alternates quoted on Bid Forms will be reviewed and accepted or rejected at Owner's option. Accepted Alternates will be identified in the Owner-Contractor Agreement.
- B. Coordinate related work and modify surrounding work to integrate the Work of each Alternate.

**1.04 SCHEDULE OF ALTERNATES**

- A. Alternate No. 1 - Variable Refrigerant Volume HVAC System: State the amount to be added to the Base Bid to provide a variable refrigerant volume (VRV) HVAC system to replace the existing mechanical system on the northern portion of the building.
  - 1. Base Bid Item: No HVAC work. Note: replacement of attic floor decking remains in this area remains part of the Base Bid work.
  - 2. Alternate Bid Item: Variable Refrigerant Volume (VRV) HVAC System and associated work indicated as Alternate No. 1 on Drawings ME200, M300, M410, M411 and E300, and Specified in Section 23 81 29 - Variable Refrigerant Volume (VRV) HVAC System and Section 23 23 13 - VRV Piping.
- B. Alternate No. 2 - Building Automation System Temperature Controls: State the amount to be added to the Base Bid to provide digital controls and building automation system with web based graphic user interface. Note: This Alternate will only be accepted if Alternate No. 1 is also accepted.
  - 1. Base Bid Item: No work related to existing HVAC equipment. Provide individual digital controls for new HVAC equipment, as identified on Drawing M410.
  - 2. Alternate Bid Item: New digital controls for all existing and new HVAC equipment and new building automation system with web-based graphic user interface. Integrate controls for all existing and new equipment into the system. Scope of work is indicated as Alternate No. 2 on Drawings ME200, M300, M410 and M411. The building controller and web-based graphic user interface are described in Section 23 09 23 - Direct Digital Control System for HVAC.

**PART 2 PRODUCTS - NOT USED**

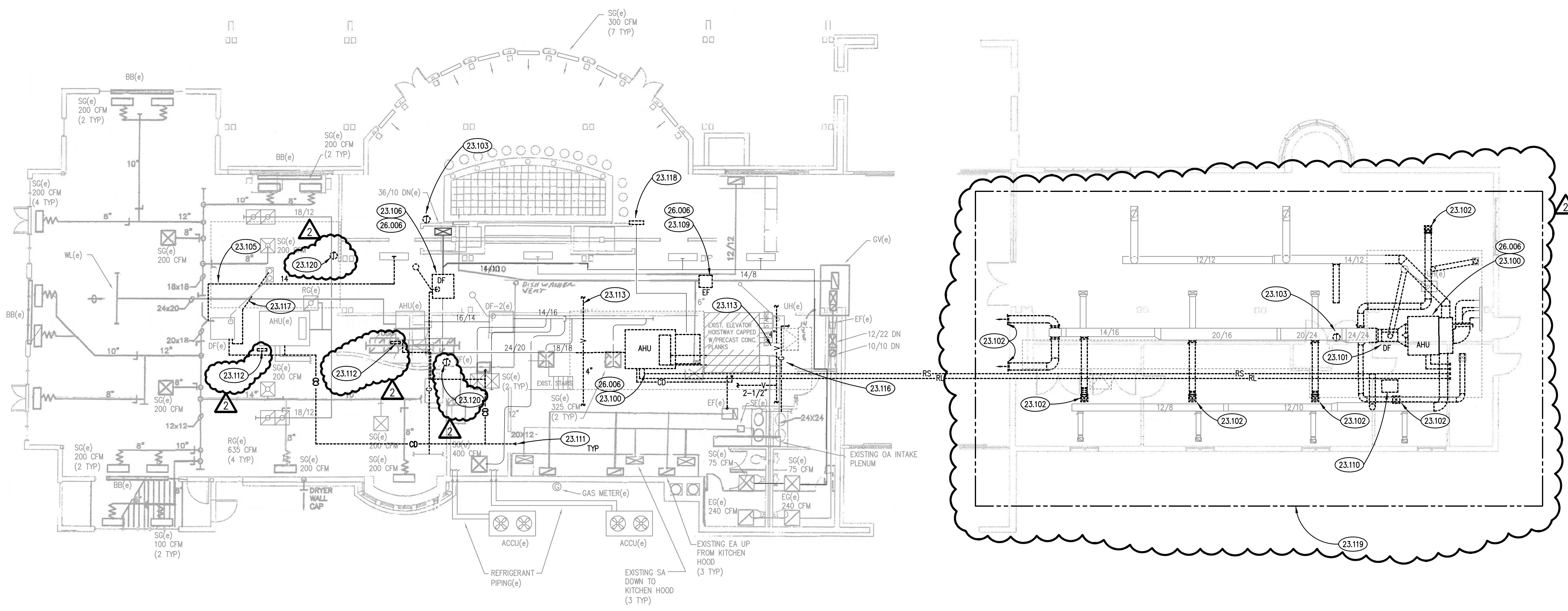
**PART 3 EXECUTION - NOT USED**

**END OF SECTION 01 23 00**

KEYNOTES

KEYNOTES ARE TYPICALLY NOT DUPLICATED WITHIN A GIVEN DETAIL. AN UN-KEYNOTED ITEM IN A DETAIL IS THE SAME AS A KEYNOTED ITEM HAVING THE SAME APPEARANCE WITHIN THE SAME DETAIL.

- 23.100 REMOVE AIR HANDLING UNIT, AIR COOLED CONDENSING UNIT, CONTROLS, AND ASSOCIATED PIPING AND DUCTWORK AS SHOWN.
- 23.101 REMOVE GAS FURNACE AND ALL ASSOCIATED COMPONENTS. TURNOVER GAS FURNACE TO THE OWNER. REMOVE GAS PIPING BACK TO MAIN AND PROVIDE PERMANENT CAP ON PIPE. REMOVE GAS VENT CONNECTOR BACK TO COMMON VENTING AND PROVIDE PERMANENT CAP ON VENT.
- 23.102 REMOVE SUPPLY/RETURN GRILLE AND ASSOCIATED DUCTWORK BACK TO DUCT MAIN. PROVIDE PERMANENT CAP ON DUCTWORK.
- 23.103 REMOVE THERMOSTAT FOR AIR HANDLING UNIT.
- 23.104 REMOVE GAS FIRED MAKE-UP AIR UNIT AND ALL ASSOCIATED DUCTWORK AND COMPONENTS. REMOVE GAS PIPING BACK TO MAIN AND PROVIDE PERMANENT CAP ON PIPE. REMOVE GAS VENT CONNECTOR BACK TO COMMON VENTING AND PROVIDE PERMANENT CAP ON VENT. PROVIDE INSULATED BLANK-OFF PANEL FOR EXISTING WALL LOUVER.
- 23.105 REMOVE DUCT TAKEOFF AS SHOWN. PROVIDE PERMANENT INSULATED CAP ON DUCTWORK. REFER TO NEW WORK PLAN FOR NEW CONNECTION TO SUPPLY GRILLE.
- 23.106 REMOVE DUCT FURNACE AND ASSOCIATED COMPONENTS. PROVIDE TEMPORARY CAP ON GAS VENT CONNECTION FOR NEW CONNECTION. REMOVE GAS PIPING BACK TO MAIN AND PROVIDE TEMPORARY CAP FOR NEW CONNECTION. NEW GAS LINE TO BE ROUTED OVERHEAD AS HIGH AS POSSIBLE.
- 23.107 REMOVE CARBON MONOXIDE AND TEMPERATURE SENSOR FOR MAKE-UP AIR UNIT. REMOVE ALL ASSOCIATED COMPONENTS.
- 23.109 REMOVE EXHAUST FAN.
- 23.110 REMOVE ABANDONED DUCT FURNACE.
- 23.111 REMOVE ALL CONDENSATE PIPING IN ATTIC. PROVIDE PERMANENT CAP ON EXISTING CONDENSATE DISCHARGE TO PLUMBING VENT. SEE NEW WORK PLAN FOR NEW CONDENSATE PIPING.
- 23.112 ALTERNATE NO. 2 - REMOVE EXISTING JCI DX9100 CONTROLLER. PROVIDE NEW JCI FIELD EXPLORER CONTROLLER AND INTERFACE EXISTING POINTS INTO NEW BUILDING AUTOMATION SYSTEM.
- 23.113 REMOVE PLUMBING VENT ON WALKWAY AND ROUTE NEW PLUMBING VENT OVERHEAD AS HIGH AS POSSIBLE. RECONFIGURE EXISTING VENT FOR NEW ROUTING.
- 23.114 ALTERNATE NO. 2 - REMOVE JCI METASYS SYSTEM. PROVIDE NEW JCI FX-80 FOR BUILDING AUTOMATION SYSTEM.
- 23.115 REMOVE ALL ASSOCIATED CONTROLLERS WITH CARBON MONOXIDE SYSTEM. EXHAUST FANS TO REMAIN SWITCH OPERATED.
- 23.116 REMOVE GAS PIPING FOR UNIT HEATER BACK TO MAIN AND PROVIDE TEMPORARY CAP FOR NEW CONNECTION. NEW GAS LINE TO BE ROUTED OVERHEAD AS HIGH AS POSSIBLE.
- 23.117 REMOVE COMBUSTION AIR INTAKE FOR DUCT FURNACE. NEW COMBUSTION AIR INTAKE TO BE ROUTED OVERHEAD.
- 23.118 REMOVE RETURN GRILLE IN BAR AREA.
- 23.119 ALTERNATE NO. 1 - ALL WORK IDENTIFIED IN OUTLINED AREA ASSOCIATED WITH THE REMOVAL OF AHU ABOVE PRO SHOP SHALL BE PART OF ALTERNATE NO. 1 WORK SCOPE. (REFRIGERANT PIPES PASSING THROUGH ATTIC TO AHU ABOVE KITCHEN IS BASE BID WORK SCOPE.)
- 23.120 ALTERNATE NO. 2 - REMOVE THERMOSTAT FOR AIR HANDLING UNIT.
- 26.006 DISCONNECT, PROTECT AND RECONNECT BRANCH CIRCUIT TO MECHANICAL EQUIPMENT INDICATED TO BE REPLACED.
- 26.007 DEMOLISH MECHANICAL EQUIPMENT FEEDER TO EQUIPMENT INDICATED TO BE DEMOLISHED.

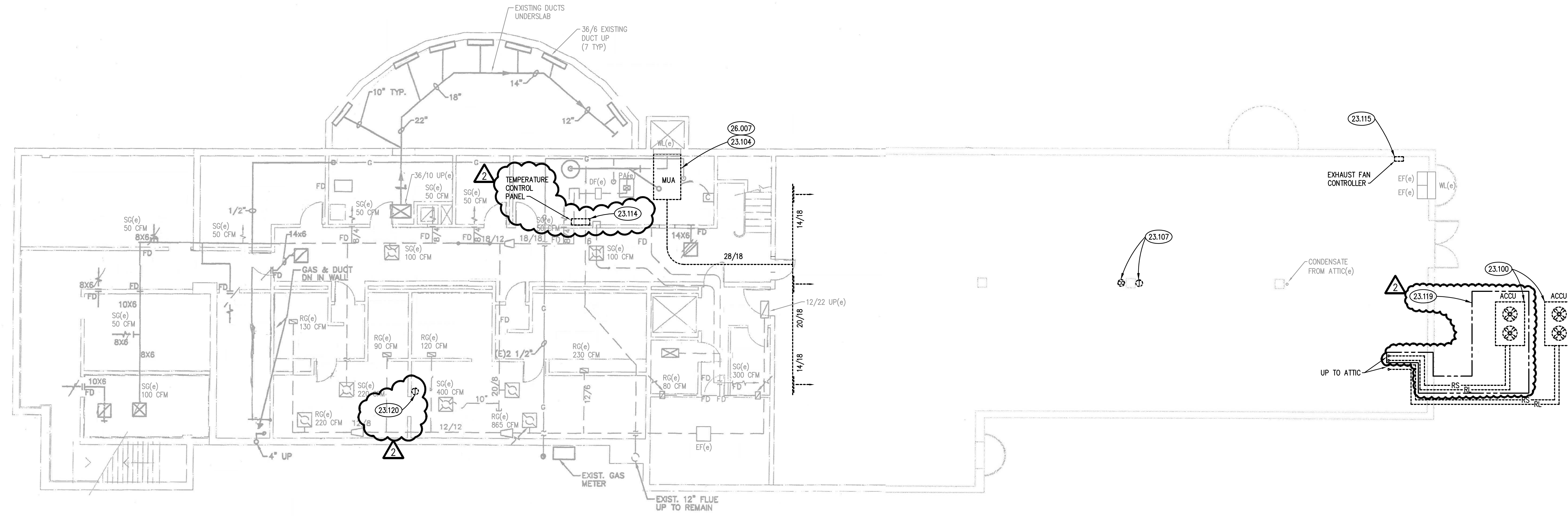


ATTIC MECHANICAL DEMOLITION PLAN 2

SCALE: 1/8" = 1'-0"

MECHANICAL GENERAL NOTES

1. REFER TO DRAWING G100 FOR PROJECT GENERAL NOTES.
2. ATTIC PLAN IS SHOWN OVER FIRST FLOOR FOR REFERENCE.
3. ALL PIPING AND DUCTWORK IS SHOWN DIAGRAMMATICALLY AND DOES NOT SHOW ALL REQUIRED FITTINGS, OFFSETS, DROPS AND RISES. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL MATERIAL AND LABOR FOR A COMPLETE AND WORKING SYSTEM. COORDINATE WITH OTHER TRADES FOR SPACE AVAILABLE AND RELATIVE LOCATIONS OF EQUIPMENT, PIPING, DUCTWORK, ETC.
4. ALL TAPES AND MASTICS USED TO SEAL DUCTWORK LISTED AND LABELED IN ACCORDANCE WITH UL 181A SHALL BE MARKED ACCORDINGLY. ALL TAPES AND MASTICS USED TO SEAL FLEXIBLE DUCTS AND AIR CONNECTORS SHALL COMPLY WITH UL 181B AND MARKED ACCORDINGLY.
5. THERMOSTATIC CONTROLS OF EQUIPMENT SHALL HAVE A 5' F DEADBAND.
6. GENERALLY, SMALL DIAMETER PIPE RUNS FROM DRIPS, CONDENSATE PANS AND OTHER SERVICES ARE NOT SHOWN BUT MUST BE PROVIDED.
7. SPACE ALLOCATION, COORDINATION WITH ELECTRICAL, ARCHITECTURAL, & OTHER MECHANICAL COMPONENTS HAVE BEEN MADE WITH RESPECT TO ALL EQUIPMENT SCHEDULED ON THESE DRAWINGS AND IN THE SPECIFICATIONS OF THE FIRST NAMED MANUFACTURER ONLY. OTHER MANUFACTURERS ARE ACCEPTABLE PROVIDED THEY MEET PERFORMANCE REQUIREMENTS AND AFOREMENTIONED COORDINATION.
8. DO NOT CUT THROUGH THE MASONRY BOND BEAMS OR OTHER STRUCTURAL ELEMENT WHEN INSTALLING OPENINGS REQUIRED FOR ALL DUCTWORK, PIPING, CONDUITS OR OTHER WORK. CONTRACTOR CUTTING THROUGH OR OTHERWISE DAMAGING THESE ELEMENTS WILL BE RESPONSIBLE FOR ALL ASSOCIATED ENGINEERING FEES AND SUBSEQUENT RETRO-FIT/REINFORCING DEEMED NECESSARY TO REINSTATE THE CONTINUITY OF THE DISRUPTED ELEMENTS.
9. HEATING AND COOLING DESIGN LOADS FOR THE BUILDING HAVE BEEN CALCULATED WITH ELITE SOFTWARE. COMMERCIAL HVAC LOADS PROGRAM, VERSION 8.02.34, IN ACCORDANCE WITH ASHRAE STANDARDS. INTERIOR DESIGN TEMPERATURES ARE MAXIMUM 72 DEGREES F FOR HEATING AND A MINIMUM OF 75 DEGREES F FOR COOLING.
10. OBTAIN AND PAY ALL COSTS FOR PERMITS, LICENSES, CERTIFICATE FILING AND ALL INSPECTIONS BY AUTHORITIES HAVING JURISDICTION.
11. ALL VRF/RF PIPING SHALL BE LOCATED ABOVE CEILINGS UNLESS OTHERWISE NOTED OR COORDINATED WITH ARCHITECT/ENGINEER AND OWNER.
12. THE VRF SYSTEM INDICATED ON THE DRAWINGS INCLUDES MAJOR EQUIPMENT ONLY. NONE OF THE INTERCONNECTING PIPING IS SHOWN. THE CONTRACTOR IS RESPONSIBLE TO INCLUDE ALL LABOR AND MATERIAL FOR A FULLY OPERATIONAL SYSTEM. ALL REFRIGERANT PIPING SHALL BE SIZED IN ACCORDANCE WITH THE EQUIPMENT MANUFACTURER'S REQUIREMENTS. ALL PIPING SHALL BE INSULATED THE ENTIRE LENGTH OF THE PIPING.



LOWER LEVEL MECHANICAL DEMOLITION PLAN 1

SCALE: 1/8" = 1'-0"

Kluber, Inc. 601 N. LaSalle Street, Suite 1000, Chicago, IL 60610

ISSUED	DATE	DESCRIPTION
1	08/27/17	ADDENDUM NO. 1
2	09/07/17	ADDENDUM NO. 2

JOB NO. 17-253-1110  
DRAWN BWG / MTK  
CHECKED DDW / MTK  
APPROVED DDW / MTK

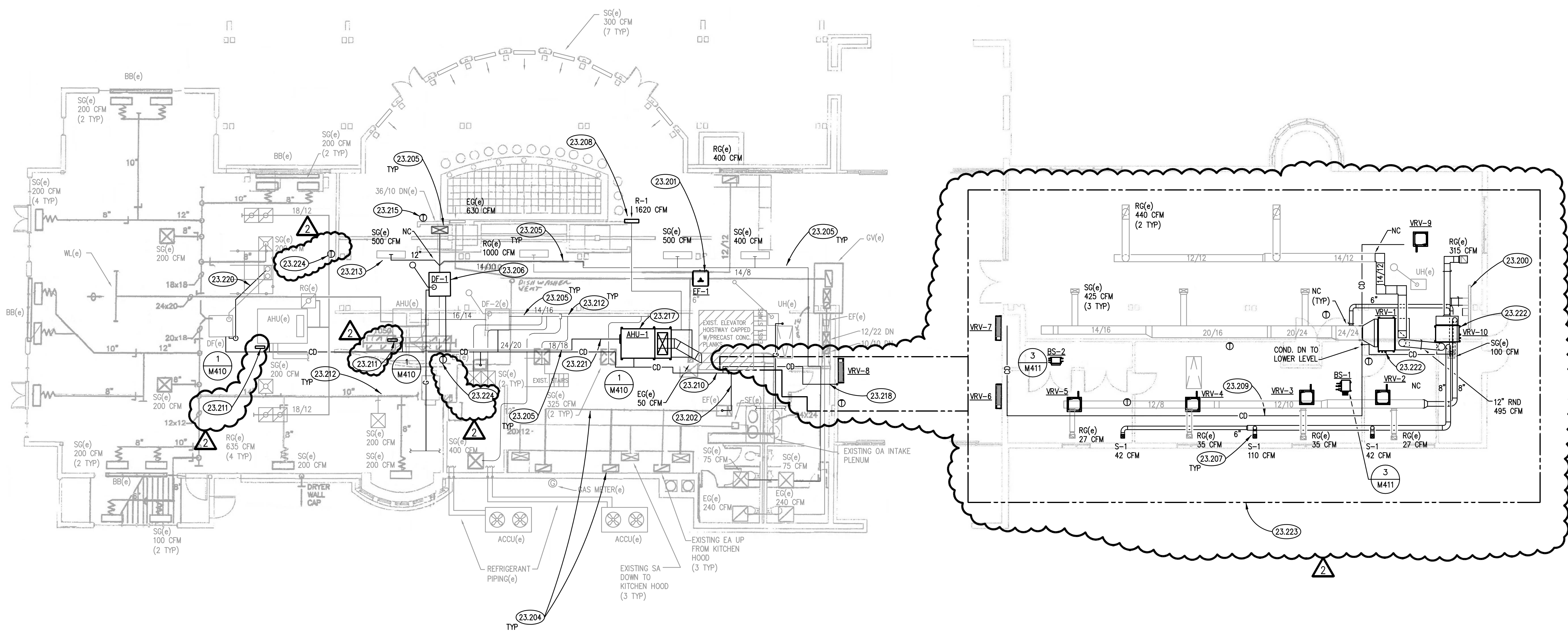
SHEET TITLE  
MECHANICAL AND ELECTRICAL DEMOLITION FLOOR PLANS

SHEET NUMBER

KEYNOTES

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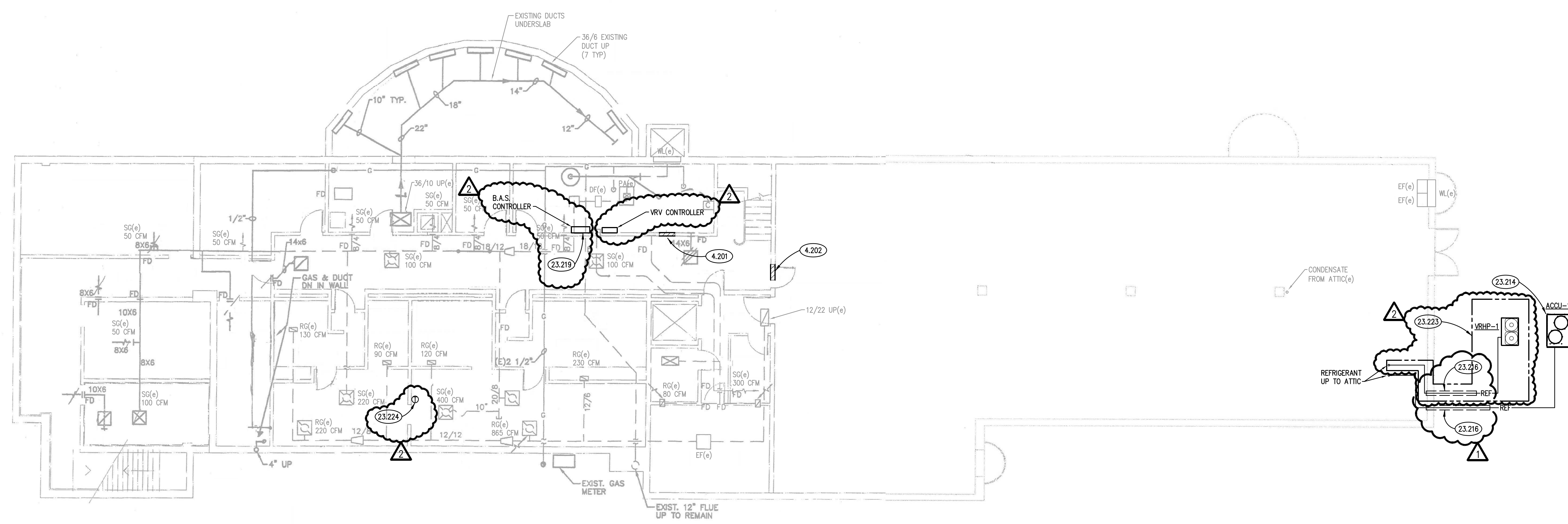
- 4.201 MASONRY ASSEMBLY: PATCH EXISTING CONCRETE MASONRY WALL AFTER DEMOLITION OF MECHANICAL DUCT. PROVIDE NEW, WHOLE ASTM C290 6" THICK NORMAL WEIGHT UNITS, AND PATCH WALL SO AS TO MAINTAIN EXISTING 2-HR FIRE RATING PER UL DESIGN NO. U906.
4.202 MASONRY ASSEMBLY: PATCH EXISTING CONCRETE MASONRY WALL AFTER DEMOLITION OF MECHANICAL DUCT. PROVIDE NEW, WHOLE ASTM C290 6" THICK NORMAL WEIGHT UNITS, AND PATCH WALL SO AS TO MAINTAIN EXISTING 3-HR FIRE RATING PER UL DESIGN NO. U907.
23.200 PROVIDE 12/12 DUCT CONNECTION FROM OUTSIDE AIR PLENUM TO THE RETURN SIDE OF VRV-10 TO SUPPLY 250 CFM OF OUTSIDE AIR. PROVIDE PERMANENT INSULATED CAP ON SECTION OF OUTDOOR AIR PLENUM NOT BEING USED.
23.201 PROVIDE NEW EXHAUST FAN. PROVIDE ALL MATERIALS AND LABOR TO CONNECT EXHAUST FAN TO EXISTING DUCTWORK.
23.202 PROVIDE NEW DRAIN PIPING FOR KITCHEN EXHAUST FAN. ROUTE PIPING BELOW ATTIC FLOORING AND DISCHARGE INTO MOP BASIN ON FIRST FLOOR BELOW.
23.204 ALL EXISTING KITCHEN EXHAUST HOOD DUCTWORK SHALL BE INSULATED.
23.205 ALL EXISTING SUPPLY AIR DUCTWORK SHALL BE INSULATED WITH ADDITIONAL EXTERIOR WRAP.
23.206 PROVIDE NEW DUCT FURNACE. PROVIDE ALL MATERIALS AND LABOR TO CONNECT DUCT FURNACE TO EXISTING DUCTWORK. PROVIDE NEW GAS VENT CONNECTION TO EXISTING VENT OPENING. PROVIDE DRIP PAN AND ASSOCIATED CONDENSATE PIPING UNDER NEW DUCT FURNACE. ROUTE NEW GAS PIPING OVERHEAD AS HIGH AS POSSIBLE.
23.207 PROVIDE NEW SUPPLY AIR DUCTWORK AND ASSOCIATED SUPPLY GRILLES.
23.208 PROVIDE NEW RETURN GRILLE. PROVIDE ALL TRANSITIONS AND FITTINGS TO CONNECT TO EXISTING DUCTWORK.
23.209 PROPOSED ROUTE OF CONDENSATE PIPING. ROUTE ALL CONDENSATE PIPING TO EXISTING CONDENSATE DRAIN. PROVIDE FUNNEL FITTING ON CONDENSATE PIPING TO ALLOW MULTIPLE PIPES TO DISCHARGE INTO CONDENSATE DRAIN. CONDENSATE PIPING SHALL BE INSULATED.
23.210 PROPOSED ROUTE OF NEW CONDENSATE PIPING. ROUTE CONDENSATE PIPING ALONG AIR HANDLING UNITS AND DISCHARGE INTO MOP BASIN ON FIRST FLOOR BELOW. ALL CONDENSATE PIPING SHALL BE INSULATED.
23.211 ALTERNATE NO. 1 - PROVIDE NEW TEMPERATURE CONTROL PANEL FOR AIR HANDLING UNIT. REFER TO DRAWING M410 FOR POINTS LISTED ON EXISTING DX 9100 CONTROLLERS. FIELD VERIFY EXACT POINTS AND SEQUENCES. PROVIDE POINTS AND SEQUENCES WITH CLOSEOUT DOCUMENTS.
23.212 DUCT TAKEOFFS NOT INSULATED PROPERLY. INSULATE AND SEAL DUCT TAKEOFFS.
23.213 PLENUM BOX INSULATION DAMAGED. RE-INSULATE PLENUM BOX.
23.214 PROVIDE NEW AIR-COOLED CONDENSING UNIT. PROVIDE CONDUIT FOR CONTROL WIRING FOR ACCU-1. PROVIDE NEW REFRIGERANT PIPING BETWEEN AIR-COOLED CONDENSING UNIT AND AIR-HANDLING UNIT. SIZE ALL REFRIGERANT PIPING IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
23.215 PROVIDE NEW THERMOSTAT FOR AIR HANDLING UNIT.
23.216 PROVIDE NEW PVC PIPE SLEEVE OF LARGER DIAMETER THAN EXISTING, AS REQUIRED TO ACCOMMODATE NEW INSULATED REFRIGERANT PIPING. ROUTE NEW SLEEVE UNDERGROUND, UNDER PAVEMENT ADJACENT TO NORTH SIDE OF BUILDING AND THROUGH FOUNDATION WALL. EXCAVATE AND REMOVE EXISTING PIPE SLEEVE. REMOVE AND REINSTALL EXISTING CONCRETE PAVEMENT AND BEDDING IN SECTION OF EXISTING WALK ABOVE SLEEVE. CORE LARGER HOLE THROUGH EXISTING FOUNDATION WALL; SEAL ANNULAR SPACE BETWEEN NEW SLEEVE AND EXISTING FOUNDATION WALL; SEAL ANNULAR SPACE BETWEEN REFRIGERANT LINES AND SLEEVE AT NORTH END OF SLEEVE.
23.217 PROVIDE NEW MAKEUP UNIT. NEW AIR HANDLING UNIT SHALL BE RAISED 12" ABOVE ATTIC FLOOR. PROVIDE ALL REQUIRED TRANSITIONS AND FITTINGS TO CONNECT NEW AIR HANDLING UNIT TO EXISTING DUCTWORK. NEW DUCTWORK AND FITTINGS SHALL BE INSULATED.
23.218 PROPOSED ROUTE OF CONDENSATE PIPING. ROUTE CONDENSATE PIPING OVERHEAD AS HIGH AS POSSIBLE. CONDENSATE PIPING SHALL BE INSULATED.
23.219 ALTERNATE NO. 2 - PROVIDE NEW TEMPERATURE CONTROL PANEL FOR PACKAGED AIR HANDLING UNIT. INTERFACE ALL EXISTING POINTS AND SEQUENCES INTO NEW BUILDING AUTOMATION SYSTEM. PROVIDE POINTS AND SEQUENCES WITH CLOSEOUT DOCUMENTS. COORDINATE WITH OWNER FOR ALL EQUIPMENT TAGS IN NEW B.A.S.
23.220 PROVIDE NEW COMBUSTION AIR INTAKE DUCTWORK FOR EXISTING DUCT FURNACE. ROUTE DUCT OVERHEAD TO MAXIMIZE SPACE ABOVE ACCESS HATCH. SIZE DUCT TO MATCH EXISTING.
23.221 PROVIDE ALL TRANSITIONS AND FITTINGS REQUIRED TO CONNECT TO EXISTING DUCTWORK. COORDINATE ROUTING OF DUCTWORK TO ACCOMMODATE NEW STAIRS.
23.222 MOUNT VRV UNIT AT SAME ELEVATION AS OLD AIR HANDLING UNIT.
23.223 ALTERNATE NO. 1 - ALL WORK IDENTIFIED IN OUTLINED AREA ASSOCIATED WITH VARIABLE REFRIGERANT SYSTEM ABOVE PRO SHOP SHALL BE PART OF ALTERNATE NO. 1 WORK SCOPE.
23.224 ALTERNATE NO. 2 - PROVIDE NEW THERMOSTAT FOR AIR HANDLING UNIT.



ATTIC MECHANICAL PLAN 2 SCALE: 1/8" = 1'-0"

MECHANICAL GENERAL NOTES

- 1. REFER TO DRAWING G100 FOR PROJECT GENERAL NOTES.
2. ATTIC PLAN IS SHOWN OVER FIRST FLOOR FOR REFERENCE.
3. ALL PIPING AND DUCTWORK IS SHOWN DIAGRAMMATICALLY AND DOES NOT SHOW ALL REQUIRED FITTINGS, OFFSETS, DROPS AND RISERS. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL MATERIAL AND LABOR FOR A COMPLETE AND WORKING SYSTEM. COORDINATE WITH OTHER TRADES FOR SPACE AVAILABLE AND RELATIVE LOCATIONS OF EQUIPMENT, PIPING, DUCTWORK, ETC.
4. ALL TAPES AND MASTICS USED TO SEAL DUCTWORK LISTED AND LABELED IN ACCORDANCE WITH UL 181A SHALL BE MARKED ACCORDINGLY. ALL TAPES AND MASTICS USED TO SEAL FLEXIBLE DUCTS AND AIR CONNECTORS SHALL COMPLY WITH UL 181B AND MARKED ACCORDINGLY.
5. THERMOSTATIC CONTROLS OF EQUIPMENT SHALL HAVE A 5' F DEADBAND.
6. GENERALLY, SMALL DIAMETER PIPE RUNS FROM DRIPS, CONDENSATE PANS AND OTHER SERVICES ARE NOT SHOWN BUT MUST BE PROVIDED.
7. SPACE ALLOCATION, COORDINATION WITH ELECTRICAL, ARCHITECTURAL & OTHER MECHANICAL COMPONENTS HAVE BEEN MADE WITH RESPECT TO ALL EQUIPMENT SCHEDULED ON THESE DRAWINGS AND IN THE SPECIFICATIONS OF THE FIRST NAMED MANUFACTURER ONLY. OTHER MANUFACTURERS ARE ACCEPTABLE PROVIDED THEY MEET PERFORMANCE REQUIREMENTS AND AFOREMENTIONED COORDINATION.
8. DO NOT CUT THROUGH THE MASONRY BOND BEAMS OR OTHER STRUCTURAL ELEMENT WHEN INSTALLING OPENINGS REQUIRED FOR ALL DUCTWORK, PIPING, CONDUITS OR OTHER WORK. CONTRACTOR CUTTING THROUGH OR OTHERWISE DAMAGING THESE ELEMENTS WILL BE RESPONSIBLE FOR ALL ASSOCIATED ENGINEERING FEES AND SUBSEQUENT RETRO-FIT/REINFORCING DEEMED NECESSARY TO RESTORE THE CONTINUITY OF THE DISRUPTED ELEMENTS.
9. HEATING AND COOLING DESIGN LOADS FOR THE BUILDING HAVE BEEN CALCULATED WITH ELITE SOFTWARE. COMMERCIAL HVAC LOADS PROGRAM, VERSION 8.02.34, IN ACCORDANCE WITH ASHRAE STANDARDS. INTERIOR DESIGN TEMPERATURES ARE MAXIMUM 72 DEGREES F FOR HEATING AND A MINIMUM OF 75 DEGREES F FOR COOLING.
10. OBTAIN AND PAY ALL COSTS FOR PERMITS, LICENSES, CERTIFICATE FILING AND ALL INSPECTIONS BY AUTHORITIES HAVING JURISDICTION.
11. ALL VRV/VRP PIPING SHALL BE LOCATED ABOVE CEILINGS UNLESS OTHERWISE NOTED OR COORDINATED WITH ARCHITECT/ENGINEER AND OWNER.
12. THE VRV SYSTEM INDICATED ON THE DRAWINGS INCLUDES MAJOR EQUIPMENT ONLY. NONE OF THE INTERCONNECTING PIPING IS SHOWN. THE CONTRACTOR IS RESPONSIBLE TO INCLUDE ALL LABOR AND MATERIAL FOR A FULLY OPERATIONAL SYSTEM. ALL REFRIGERANT PIPING SHALL BE SIZED IN ACCORDANCE WITH THE EQUIPMENT MANUFACTURER'S REQUIREMENTS. ALL PIPING SHALL BE INSULATED THE ENTIRE LENGTH OF THE PIPING.



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

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Table with columns: ISSUED, DATE, BY, CHECKED, APPROVED, REVISION, DESCRIPTION. Contains revision details for the drawing.

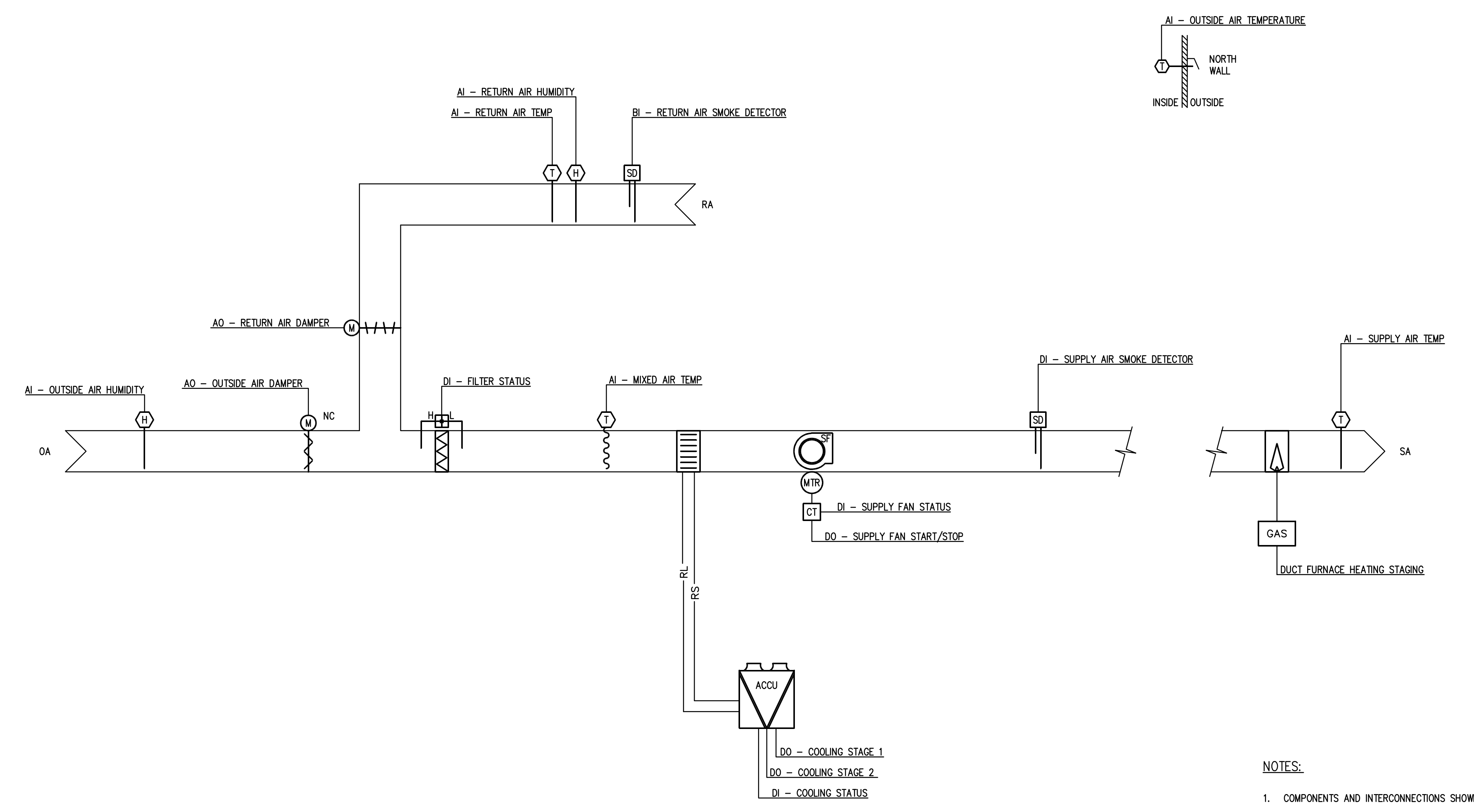
JOB NO. 17-253-1110
DRAWN BWG
CHECKED DW
APPROVED DDW

MECHANICAL FLOOR PLANS

SHEET NUMBER

M300

### AHU TEMPERATURE CONTROL SCHEMATIC



**AIR HANDLING UNIT (AHU-1):**

THE OCCUPIED/UNOCCUPIED MODE SCHEDULING SHALL BE MADE AT THE BUILDING AUTOMATION SYSTEM. PROVISIONS SHALL BE MADE FOR MANUAL SHUTDOWN OF EQUIPMENT. ALL SETPOINTS SHALL BE ADJUSTABLE. UNOCCUPIED SPACE TEMPERATURE SETPOINTS SHALL BE 80 DEGREES F COOLING AND 65 DEGREES F HEATING.

SUPPLY FAN - THE SUPPLY FAN SHALL RUN CONTINUOUSLY DURING OCCUPIED MODE AND INTERMITTENTLY DURING UNOCCUPIED MODE. IF AIRFLOW IS NOT DETECTED WITHIN TWO MINUTES AFTER A START COMMAND THE FAN MOTOR SHALL BE DE-ENERGIZED AND AN AUDIBLE ALARM SHALL BE ACTIVATED.

SMOKE DETECTORS - UPON DETECTION OF SMOKE THE FANS SHALL BE DE-ENERGIZED, CLOSE OUTSIDE AIR DAMPER, AND SIGNAL ALARM LOCALLY AND AT FIRE ALARM PANEL.

OA/RA DAMPERS - AN ECONOMIZER SHALL MODULATE THE DAMPERS BASED ON DIFFERENTIAL ENTHALPY OF THE RETURN AIR AND OUTSIDE AIR TO MAINTAIN A SUPPLY AIR TEMPERATURE OF 55 DEGREES F. IN UNOCCUPIED MODE THE OUTSIDE AIR DAMPER SHALL BE FULLY CLOSED.

COOLING MODE - THE AIR COOLED CONDENSING UNIT COMPRESSORS SHALL BE STAGED OR UNLOADED TO MAINTAIN A SUPPLY AIR TEMPERATURE OF 55 DEGREES F WHEN THE OUTSIDE AIR TEMPERATURE IS ABOVE 60 DEGREES F. THE AHU SHALL BEGIN A MORNING COOL-DOWN AT LEAST ONE HOUR BEFORE OCCUPIED MODE.

HEATING MODE - THE DUCT FURNACE SHALL BE ENABLED AS REQUIRED TO MAINTAIN THE SPACE TEMPERATURE SETPOINT.

AIR HANDLING UNIT (AHU-1)	HARDWARE				SOFTWARE			
	AI	AO	DI	DO	SCHED	TREND	ALARM	GRAPHIC
OCCUPIED/UNOCCUPIED MODE		X				X		X
SUPPLY FAN START/STOP				X	X			
SUPPLY FAN STATUS			X				X	X
OUTSIDE AIR TEMPERATURE	X					X		X
SUPPLY AIR TEMPERATURE	X					X		X
RETURN AIR TEMPERATURE	X					X		X
MIXED AIR TEMPERATURE	X					X		X
OUTSIDE AIR DAMPER		X				X		X
RETURN AIR DAMPER		X				X		X
OUTSIDE AIR HUMIDITY	X					X		X
RETURN AIR HUMIDITY	X					X		X
COOLING STATUS			X			X	X	X
COOLING STAGE 1				X		X		X
COOLING STAGE 2				X		X		X
DUCT FURNACE HEATING STAGING				X		X		X
FILTER STATUS			X				X	X
SUPPLY AIR SMOKE DETECTOR STATUS				X			X	X
RETURN AIR SMOKE DETECTOR STATUS				X			X	X

- NOTES:**
- COMPONENTS AND INTERCONNECTIONS SHOWN ARE SCHEMATIC ONLY.
  - CONTRACTOR IS RESPONSIBLE FOR PROVIDING COMPONENTS, SENSORS, RELAYS, ETC. TO ENSURE A COMPLETE OPERATING SYSTEM.
  - SMOKE DETECTORS SHALL BE PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR.
  - ALTERNATE NO. 2 - PROVIDE GRAPHICS OF SYSTEM IN BUILDING AUTOMATION SYSTEM.

### ALTERNATE NO. 2 - EXISTING DINING ROOM AHU AND LOWER LEVEL AHU

POINTS LISTED ON JCI DX9100

	AI	AO	DI	DO
ZAT1	X			
MAT	X			
DAT	X			
OAT	X			
ZNT2	X			
SMOKE			X	
FAN			X	
EXHAUST			X	
OAD		X		
HEAT 1		X		
HEAT 2		X		
FAN				X
DX 1				X
HEAT ENBL				X
DX 2				X

- NOTES:**
- UNITS SHALL HAVE OCCUPIED/UNOCCUPIED TEMPERATURE SETPOINTS.
  - PROVIDE GRAPHICS OF UNIT AND POINTS ON BUILDING AUTOMATION SYSTEM.

### VARIABLE VOLUME REFRIGERANT SYSTEM

ALTERNATE NO. 2 - PROVIDE GRAPHICS OF ALL VRV EQUIPMENT AND AVAILABLE POINTS SHALL BE CREATED/INTERFACED INTO THE BUILDING AUTOMATION SYSTEM.

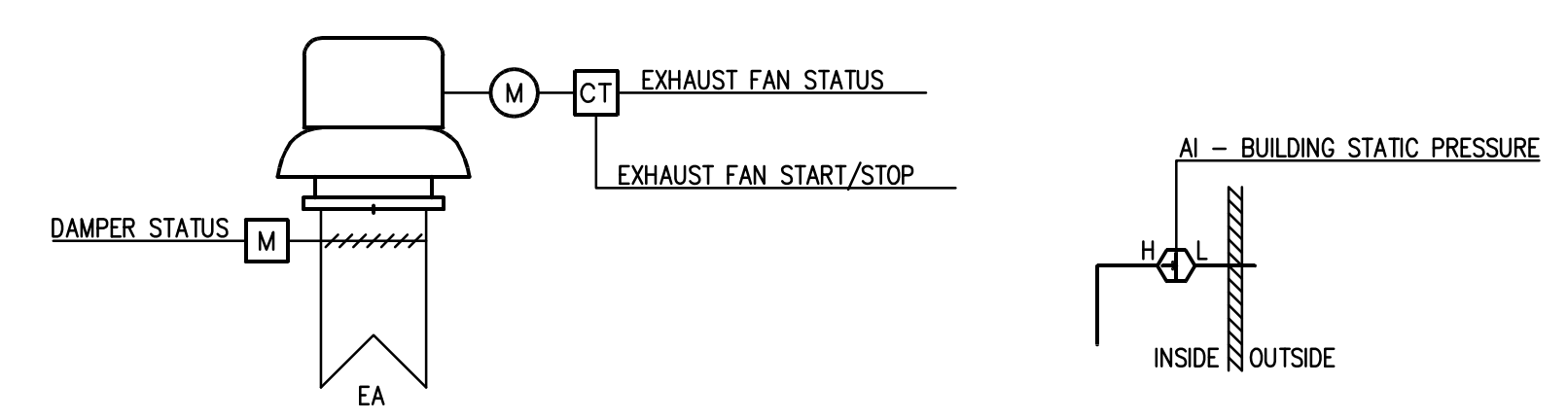
### ALTERNATE NO. 2 - EXISTING KITCHEN AHU

POINTS LISTED ON JCI DX9100

	AI	AO	DI	DO
ZN-T	X			
OAT-2	X			
CLG-DAT	X			
OAT-1	X			
W L A	X			
HGT-DAT	X			
FAN-S			X	
KFAN-S			X	
DF MOD		X		
FAN-C				X
DX1-C				X
DF-C				X
DX2-C				X

- NOTES:**
- UNITS SHALL HAVE OCCUPIED/UNOCCUPIED TEMPERATURE SETPOINTS.
  - PROVIDE GRAPHICS OF UNIT AND POINTS ON BUILDING AUTOMATION SYSTEM.

### EXHAUST FAN CONTROL SCHEMATIC



- NOTES:**
- ALTERNATE NO. 2 - PROVIDE GRAPHICS OF SYSTEM IN BUILDING AUTOMATION SYSTEM.

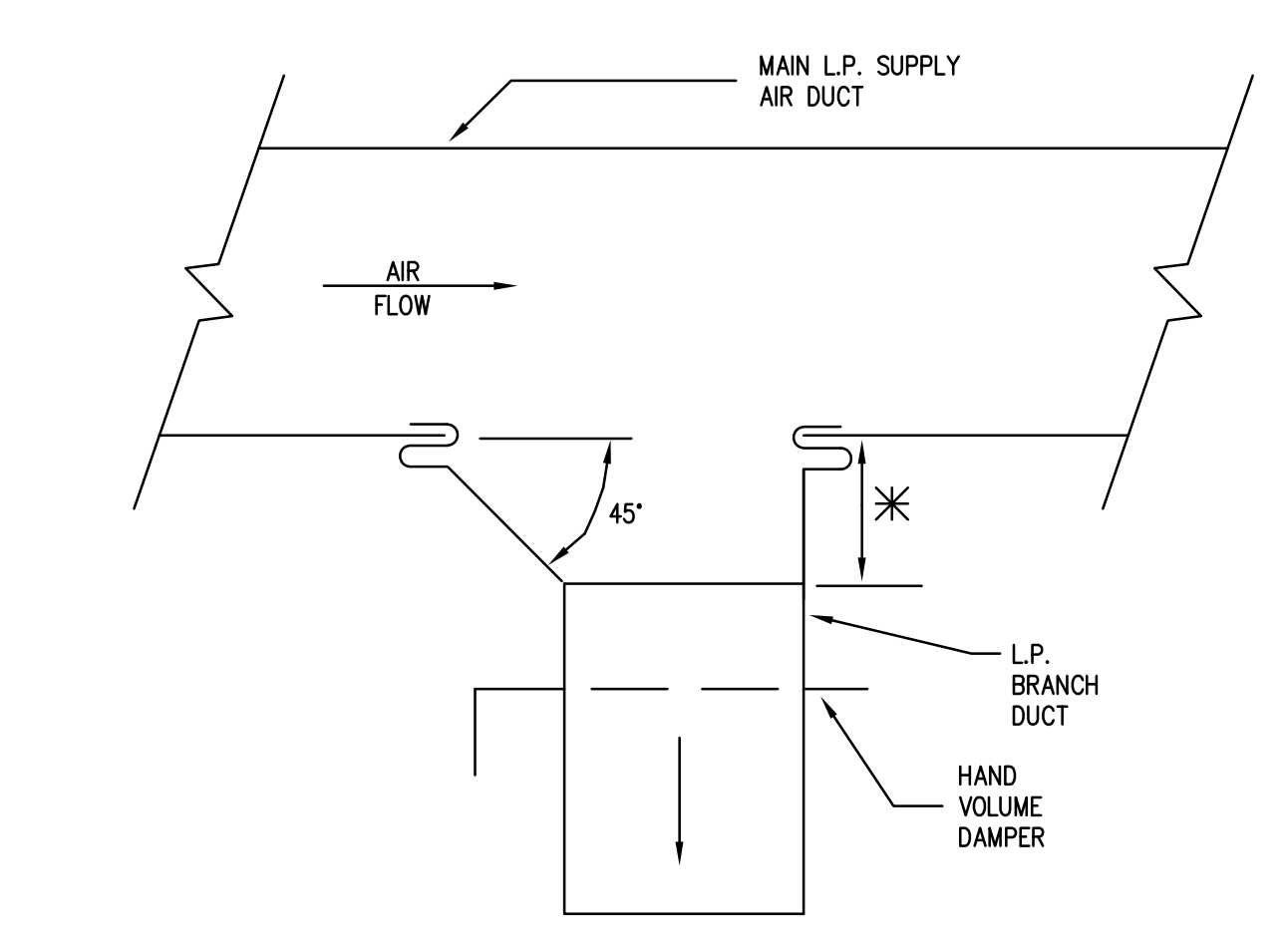
### SEQUENCE OF OPERATIONS

EF-1: THE EXHAUST FAN SHALL BE ENERGIZED VIA BUILDING PRESSURE CONTROL SWITCH AND SHALL MODULATE TO KEEP BUILDING PRESSURE NEUTRAL.

### POINTS LIST

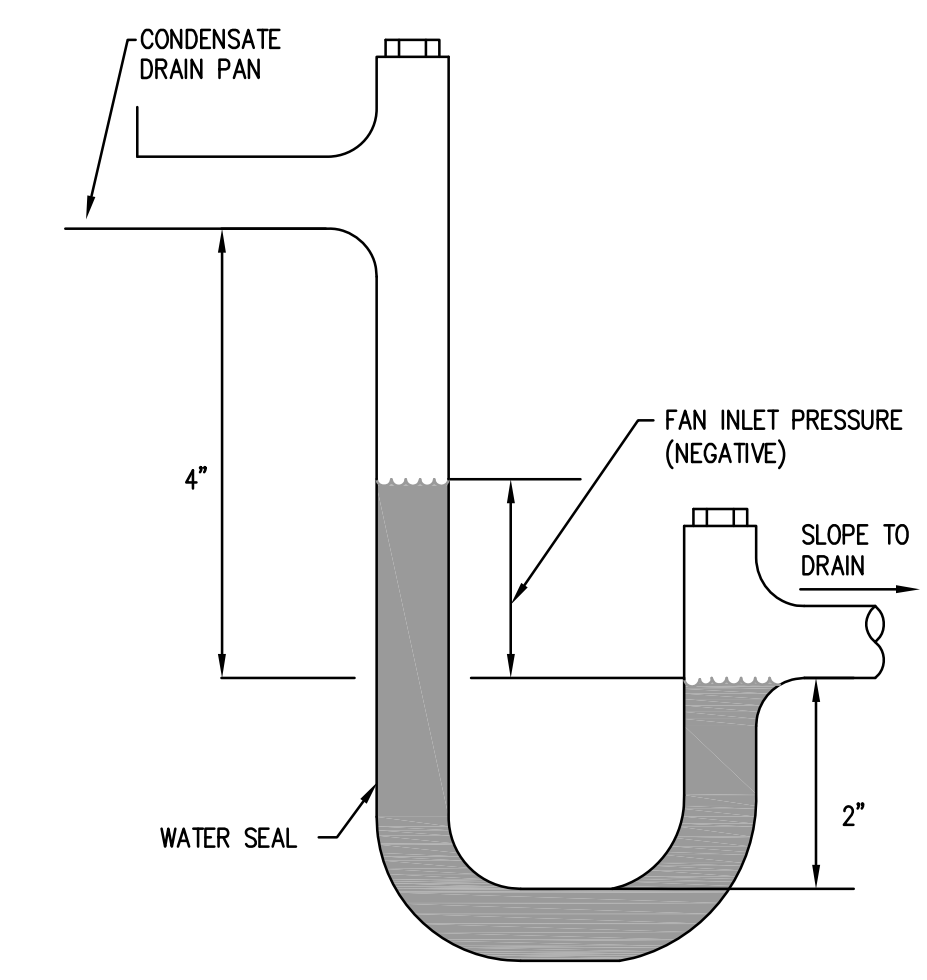
EXHAUST FAN	HARDWARE				SOFTWARE		
	AI	AO	DI	DO	SCHED	TREND	ALARM
FAN START/STOP				X	X		X
FAN STATUS			X				X
BUILDING STATIC PRESSURE	X						X

- NOTES:**
- LOCATE PRESSURE SENSOR IN MAIN CORRIDOR.



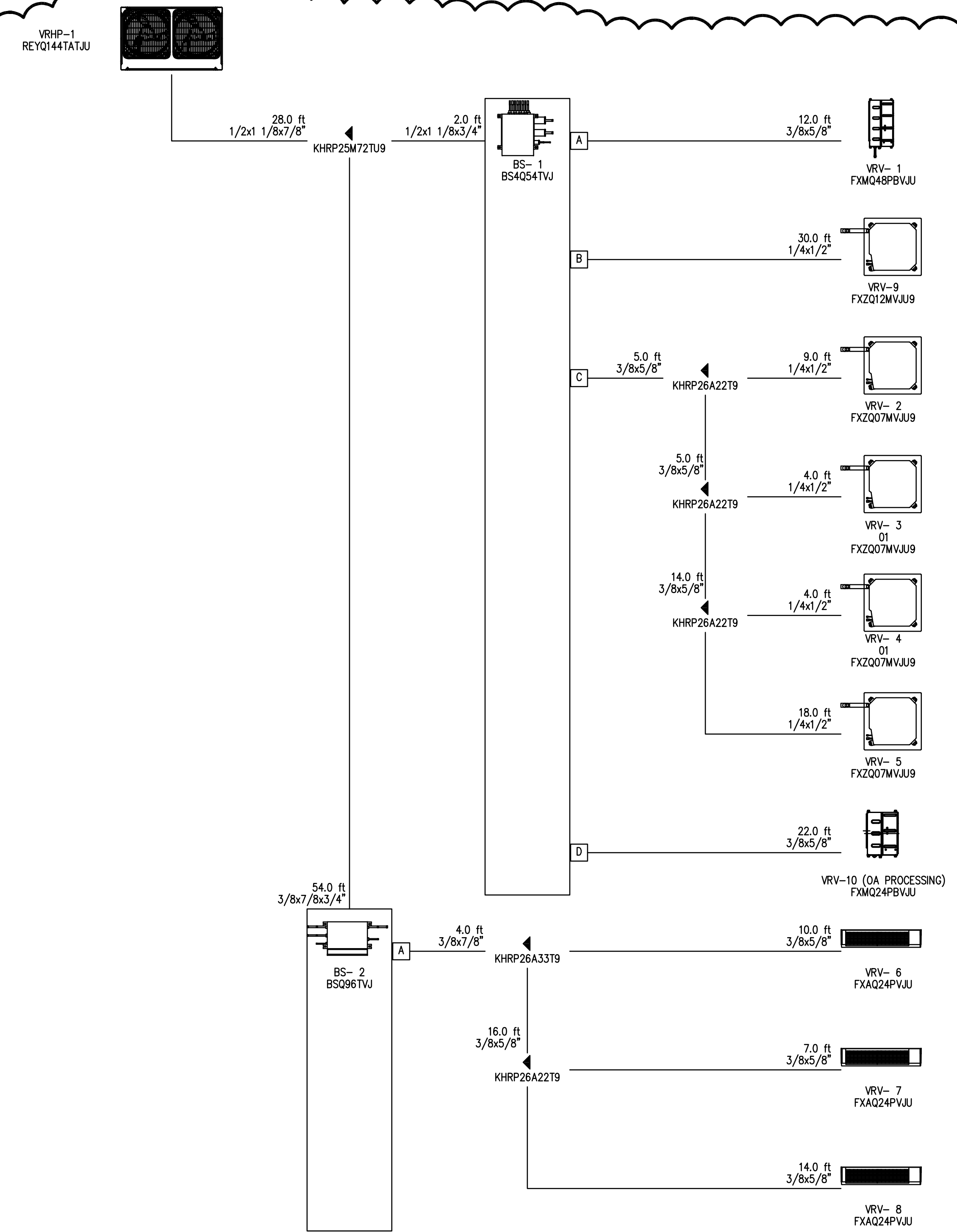
**LOW-PRESSURE BRANCH DUCT TAKE-OFF**  
SCALE: NTS 2

\*-EQUALS WIDTH OF BRANCH DUCT UP TO 12"  
12" FOR ALL BRANCH DUCTS LARGER THAN 12".

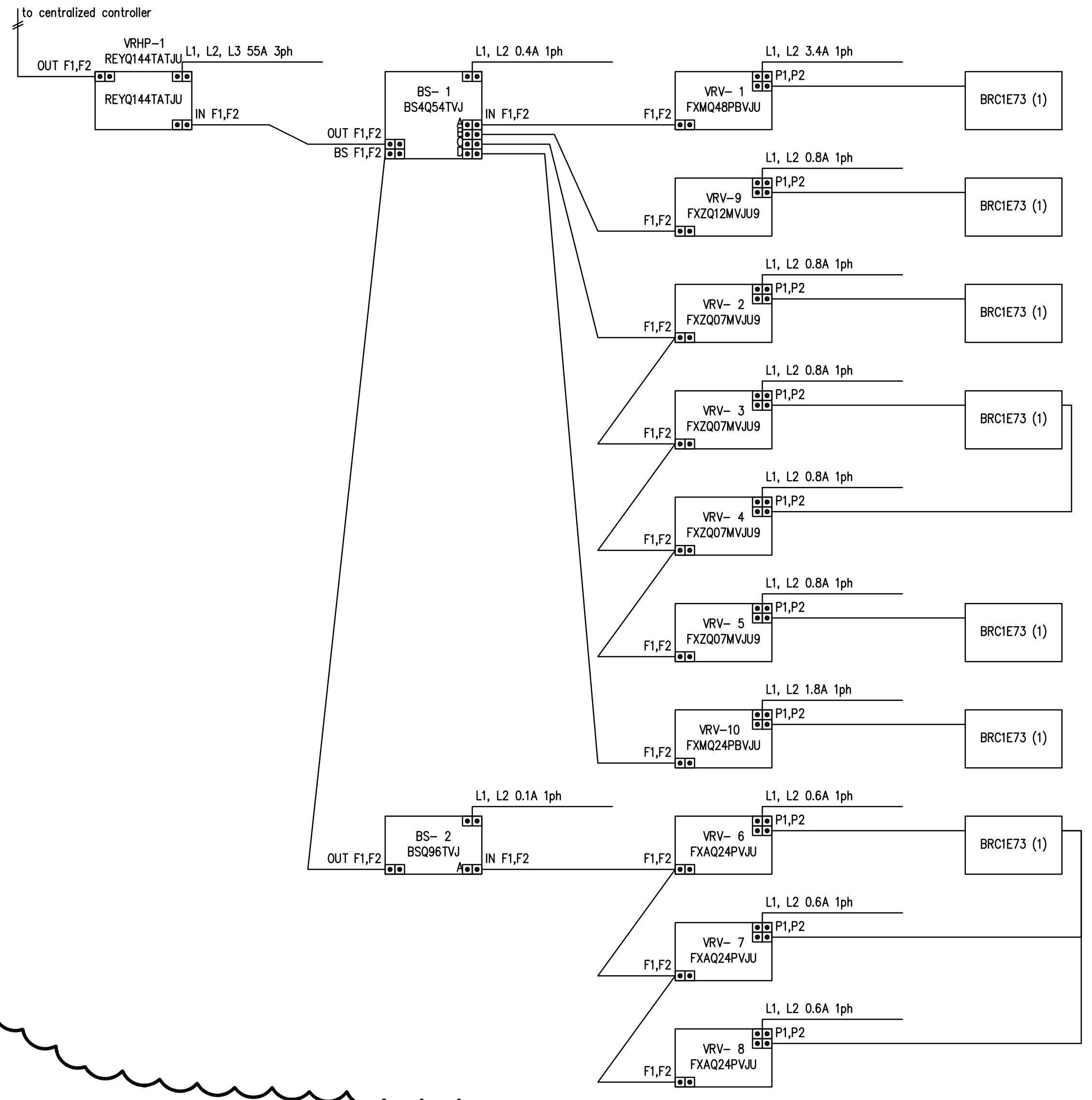


**COOLING COIL CONDENSATE TRAP DETAILS**  
SCALE: NTS 1

H = FAN INLET PRESSURE (N. W.C.) + 1 IN.



**ALTERNATE NO. 1 - VRV PIPING DIAGRAM** ③  
SCALE: 1/8" = 1'-0"



**ALTERNATE NO. 1 - VRV WIRING DIAGRAM** ④  
SCALE: 1/8" = 1'-0"

**ALTERNATE NO. 1 - VARIABLE REFRIGERANT VOLUME - OUTDOOR UNIT**

MARK	COOLING MODE			HEATING MODE		COP @ 17°F	TYPE	QUANTITY	REFRIGERANT	ELECTRICAL	MCA	MODEL	NOTES
	AMBIENT OAT (°F)	CAPACITY (MBH)	MINIMUM IEEER	AMBIENT OAT (°F)	CAPACITY (MBH)								
VRHP-1	95	145.6	23.7	-10	86	2.57	SCROLL	2	R410A	208/3/60	55.0	REYQ144TATJU	1

NOTES  
1. MODEL BASED ON DAIKIN.

**ALTERNATE NO. 1 - VARIABLE REFRIGERANT VOLUME - INDOOR UNIT**

MARK	AIR FLOW (CFM)	EXTERNAL S.P. (IN WG)	COOLING MODE (OAT 95°F)			HEATING MODE (OAT -4°F)		ELECTRICAL	AREA SERVED	TYPE	MODEL	NOTES	
			ENT AIR TEMP (db/wb)	SENS CAP (MBH)	TOTAL CAP (MBH)	ENT AIR TEMP (db)	MINIMUM (MBH)						
VRV-1	1,377	0.54	75 / 63	30.5	41.3	70	54.0	208/1/60	3.4	PRO SHOP	CONCEALED, DUCTED	FXM048PBVJU	1, 2
VRV-2	320	-	75 / 63	4.9	6.4	70	8.5	208/1/60	0.8	-	2 X 2 CEILING CASSETTE	FXZ007MVJU9	1, 2
VRV-3	320	-	75 / 63	4.9	6.4	70	8.5	208/1/60	0.8	-	2 X 2 CEILING CASSETTE	FXZ007MVJU9	1, 2
VRV-4	320	-	75 / 63	4.9	6.4	70	8.5	208/1/60	0.8	-	2 X 2 CEILING CASSETTE	FXZ007MVJU9	1, 2
VRV-5	320	-	75 / 63	4.9	6.4	70	8.5	208/1/60	0.8	-	2 X 2 CEILING CASSETTE	FXZ007MVJU9	1, 2
VRV-6	635	-	80 / 67	17.1	24.0	70	26.5	208/1/60	0.6	-	WALL MOUNTED	FXA024PVJU	1, 2
VRV-7	635	-	80 / 67	17.1	24.0	70	26.5	208/1/60	0.6	-	WALL MOUNTED	FXA024PVJU	1, 2
VRV-8	635	-	80 / 67	17.1	24.0	70	26.5	208/1/60	0.6	-	WALL MOUNTED	FXA024PVJU	1, 2
VRV-9	335	-	75 / 63	6.9	10.3	70	13.5	208/1/60	0.8	-	2 X 2 CEILING CASSETTE	FXZ012MVJU9	1, 2
VRV-10	688	0.54	75 / 63	16.0	20.6	70	27.0	208/1/60	1.8	-	CONCEALED, DUCTED	FXM024PBVJU	1, 2

NOTES  
1. MODEL BASED ON DAIKIN.  
2. PROVIDE WITH UNIT MOUNTED CONDENSATE PUMP.

**AIR HANDLING UNIT SCHEDULE**

MARK	AIR FLOW (CFM)	MINIMUM OA (CFM)	COOLING			SUPPLY FAN (HP)	EXTERNAL STATIC PRESS (IN WG)	ELECTRICAL	MCA	MODEL	NOTES	
			ENT AIR TEMP (db / wb °F)	LVG AIR TEMP (db / wb °F)	SENS CAP (MBH)							TOTAL CAP (MBH)
AHU-1	3650	370	76.9 / 64.5	55.4 / 54.6	86.0	108.8	3	1.0	208/3/60	10.8	39L	1

NOTES  
1. MODEL BASED ON CARRIER.

**AIR-COOLED CONDENSING UNIT SCHEDULE**

MARK	NOMINAL CAP (MBH)	AMBIENT OAT (°F)	COMPRESSOR TYPE	COMPRESSOR (NO.)	REFRIGERANT TYPE	MINIMUM EER	ELECTRICAL	MODEL	UNIT SERVED	NOTES	
											V/PHHZ
ACCU-1	111.8	95	SCROLL	2	R410A	11.2	208/3/60	39	38AUD	AHU-1	1

NOTES  
1. MODEL BASED ON CARRIER.

**GAS FIRED DUCT FURNACE SCHEDULE**

MARK	AIR FLOW RATE (CFM)	GAS INPUT (MBH)	GAS OUTPUT (MBH)	MIN THERMAL EFFICIENCY (%)	ELECTRICAL (V/PHHZ)	MODEL	AREA SERVED	NOTES
DF-1	3650	200	160	80	115/1/60	QVSD	BAR	1, 2, 3

NOTES  
1. MODEL BASED ON STERLING.  
2. TYPE - SEPARATED COMBUSTION.  
3. PROVIDE WITH DRAIN PAN UNDER UNIT.

**DIFFUSERS, REGISTERS AND GRILLES SCHEDULE**

MARK	MODEL	SIZE	NECK	DAMPER	MATERIAL	REMARKS
S-1	300RL	6 / 6	-	OBD	ST	1
R-1	350RL	24 / 24	-	-	ST	1

1. MODEL BASED ON TITUS.

**ALTERNATE NO. 1 - BRANCH SELECTOR BOX SCHEDULE**

MARK	VRHP SERVED	NO. OF PORTS	ELECTRICAL (V/PHHZ)	MCA	LOCATION	MODEL	NOTES
BS-1	VRHP-1	4	208/1/60	0.4	SEE DWGS	BS4254TVJ	1
BS-2	VRHP-1	1	208/1/60	0.1	SEE DWGS	BS096TVJ	1

NOTES  
1. MODEL BASED ON DAIKIN.

**FAN SCHEDULE**

MARK	AIR FLOW RATE (CFM)	EXTERNAL S.P. (IN WG)	TYPE	MOTOR (HP)	ELECTRICAL (V/PHHZ)	AREA SERVED	LOCATION	MODEL	NOTES
EF-1	3700	1.0	CENTRIFUGAL	2	208/3/60	BAR	ATTIC	SON-D VF	1, 2

NOTES  
1. MODEL BASED ON COOK.  
2. PROVIDE WITH SPACE STATIC PRESSURE SPEED CONTROL.

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ISSUED	DATE	BY	REVISION
1	08/07/17	BS	ADDENDUM NO. 1
2	09/07/17	BS	ADDENDUM NO. 5

JOB NO.	17-253-1110
DRAWN	BWG
CHECKED	DDW
APPROVED	DDW
SHEET TITLE	
MECHANICAL SCHEDULES AND DETAILS	
SHEET NUMBER	

**M411**

KEYNOTES

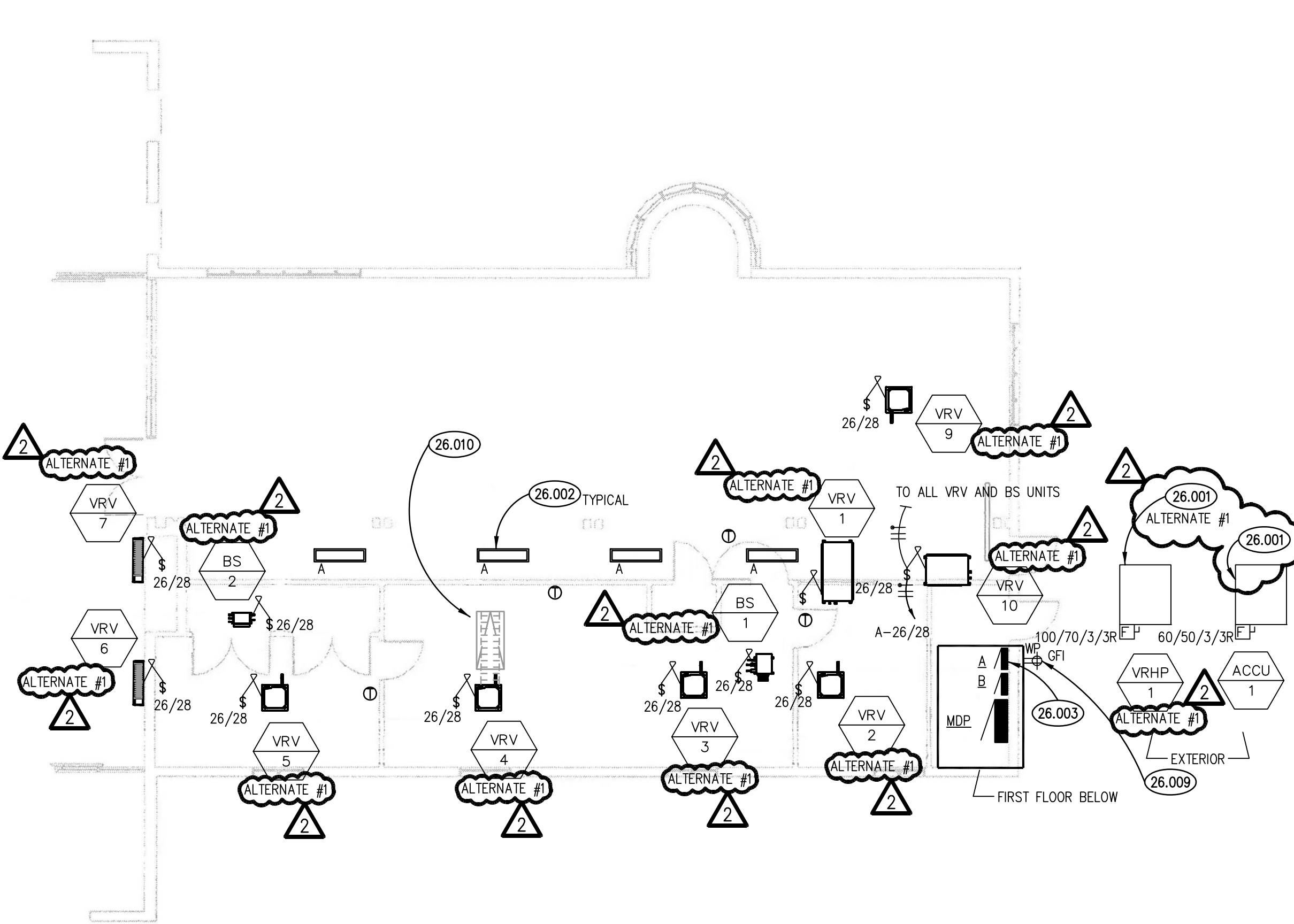
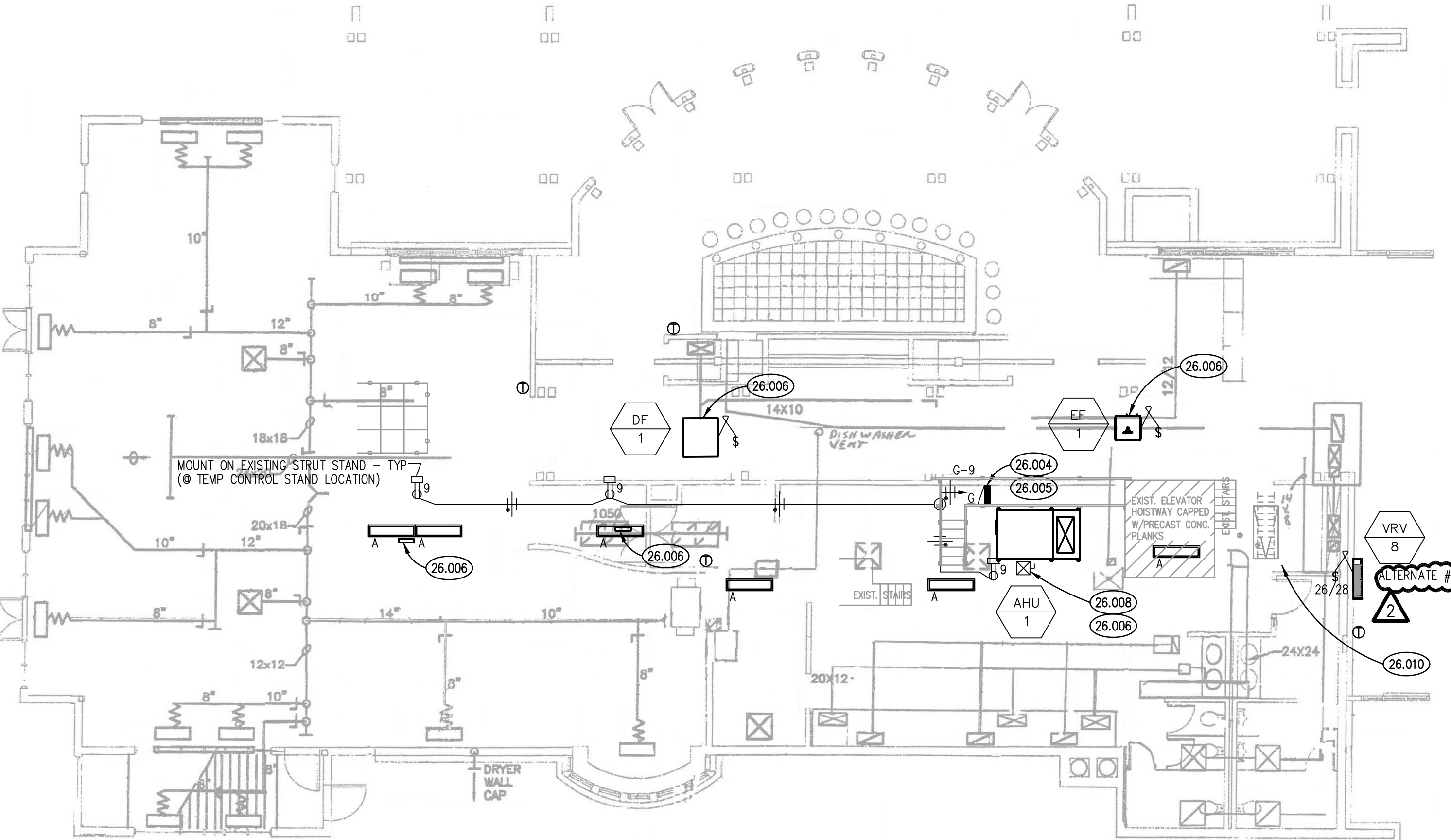
- KEYNOTES ARE TYPICALLY NOT DUPLICATED WITHIN A GIVEN DETAIL. AN UN-KEYNOTED ITEM IN A DETAIL IS THE SAME AS A KEYNOTED ITEM HAVING THE SAME APPEARANCE WITHIN THE SAME DETAIL.
- 26.001 DISCONNECT AND PROTECT FEEDER AT CONDENSING UNIT INDICATED TO BE REMOVED.
  - 26.002 PROVIDE NEW LED RETROFIT AT 2 LAMP (T12) FLOURESCENT STRIP FIXTURE. DEMOLISH LAMPS AND BALLASTS.
  - 26.003 PROVIDE NEW 20/2 BREAKER FOR NEW BRANCH CIRCUIT (MFR: GENERAL ELECTRIC, 10000 AIC).
  - 26.004 PROVIDE NEW 20/1 BREAKER FOR NEW BRANCH CIRCUIT (MFR: SQUARE D, 10000 AIC).
  - 26.005 TEMPORARILY SUPPORT PANEL FOR AHU DEMOLITION AND REPLACEMENT. MODIFY WOOD 2X4 STUDS TO ACCOMMODATE NEW EQUIPMENT.
  - 26.006 DISCONNECT, PROTECT AND RECONNECT BRANCH CIRCUIT TO MECHANICAL EQUIPMENT INDICATED TO BE REPLACED.
  - 26.008 PROVIDE NEW MOTOR STARTER: FVNR, NEMA SIZE 1, NEMA 1 ENCLOSURE, 208/3 VOLT, 3 PHASE. H-O-A SELECTOR SWITCH WITH 120 VOLT CONTROL VOLTAGE. RECONNECT CONTROL CIRCUIT.
  - 26.009 PROVIDE NEW GF1 WEATHERPROOF RECEPTACLE: CORE WALL AND MOUNT ABOVE CONDUIT BODIES. EXTEND ELECTRICAL ROOM RECEPTACLE CIRCUIT.
  - 26.010 RELOCATE EXISTING ATTIC GENERAL LIGHTING SWITCH CLOSER TO ATTIC ACCESS LADDER OPENING; PROVIDE STRUT OR 2X4 STUD TO MOUNT LIGHT SWITCH BACK BOX, NEAR LEFT SIDE OF OPENING AS ONE ASCENDS LADDER.

ROOM SCHEDULE

RM. NO.	ROOM NAME	RM. NO.	ROOM NAME

ELECTRICAL SYMBOLS LIST

- MANUAL SWITCH, POLES AS INDICATED (SINGLE POLE OTHERWISE).
- DUPLEX RECEPTACLE. 20A 125V 2P 3W GRD. NEMA5-20R. @18" AFF. D=DEDICATED CIRCUIT. T=MTD. @48" AFF. OR @6" ABOVE COUNTER.
- MOTOR. HP= HORSE-POWER RATING.
- SAFETY SWITCH. N=NON-FUSED (AMPS/POLES/ENCLOSURE). F=FUSED (AMPS/FUSE/POLES/ENCLOSURE).
- PANEL 240V & BELOW.
- PANEL ABOVE 240V.
- TRANSFORMER. TYPE AND RATINGS ARE AS SHOWN.
- JUNCTION BOX.
- FLEXIBLE CONDUIT CONNECTION.
- WRING IN CONDUIT CONCEALED ABOVE CEILING, IN WALL AND UNDER FLOOR OR UNDERGROUND.
- WRING IN CONDUIT EXPOSED ON CEILING OR WALL.
- BRANCH CIRCUIT WRING IN CONDUIT HOMERUN TO PANEL. ONE ARROW PER HOMERUN. SLASHES INDICATE NUMBER OF CONDUCTORS.
- INDICATES GROUND CONDUCTOR.
- KEYNOTE IDENTIFICATION.
- FIRE ALARM CONTROL PANEL.
- FIRE ALARM SYSTEM DUCT DETECTOR.
- FIRE ALARM SYSTEM AREA SMOKE DETECTOR.
- EQUIPMENT CONNECTION. SEE EQUIPMENT CONNECTION SCHEDULE FOR DETAILS.
- STRIP FIXTURE - FLOURESCENT TO LED CONVERSION KIT.
- MOTOR STARTER WITH NON-FUSED DISCONNECT, TYPE, NEMA SIZE AND ENCLOSURE AS INDICATED.



REFER TO DRAWING M200 FOR ADDITIONAL ELECTRICAL DEMOLITION WORK.

ATTIC ELECTRICAL PLAN 1 SCALE: 1/8" = 1'-0"

MECHANICAL EQUIPMENT ELECTRICAL CONNECTION SCHEDULE

TAG	DESCRIPTION	FLA	VOLT	PH	FEEDER	DISC. FURN BY	OVERCURRENT DEVICE			FIRE ALARM		NOTE
							TRIP	FRAME	STARTER	FSCF	SLC	
VRHP-1	VRV - CONDENSING UNIT	55	208	3	3/4,#6G, 1 1/4"C(EXIST)	EC	70/3	100/3				1
ACCU-1	AIR COOLED REFRIGERANT CONDENSER	39	208	3	3/4,#6G, 1 1/4"C(EXIST)	EC	80/3	100/3				2
VRV1-10	VRV - INDOOR EVAPORATOR UNIT	8-3.4	208	1	2#12,#12G, 1/2"C.	MC	35/3	100/3				3
BS-1	VRV BRANCH SELECTOR UNIT	.4	208	1	2#12,#12G, 1/2"C.	MC	30/3	100/3				3
BS-2	VRV - BRANCH SELECTOR UNIT	.1	208	1	2#12,#12G, 1/2"C.	MC	60/3	100/3				3
AHU-1	PACKAGED AIR HANDLING UNIT	10.8	208	3	3#12,#12G, 1/2"C.	EC	30/3	100/3	FVNR, SIZE 1	FAN SHUT DOWN	DUCT DETECTION	4
DF-1	GAS FIRED DUCT FURNACE	.4	120	1	2#12,#12G, 1/2"C.	MC	110/3	200/3				5
EF-1	INLINE CENTRIFUGAL FAN	.4	120	1	2#12,#12G, 1/2"C.	MC	110/3	200/3				5

- NOTES:
- DISCONNECT AND PROTECT FEEDER AT CONDENSING UNIT. RECONNECT FEEDER TO NEW VRHP-1 EQUIPMENT. PROVIDE NEW FUSED DISCONNECT AND LIQUID-TIGHT FLEXIBLE CONNECTION.
  - DISCONNECT AND PROTECT FEEDER AT CONDENSING UNIT. RECONNECT FEEDER TO NEW ACCU-1 EQUIPMENT. PROVIDE NEW FUSED DISCONNECT AND LIQUID-TIGHT FLEXIBLE CONNECTION.
  - PROVIDE NEW BRANCH CIRCUIT TO MECHANICAL EQUIPMENT AS INDICATED.
  - DISCONNECT AND PROTECT FEEDER AND CONTROL POWER AT AHU. RECONNECT FEEDER AND CONTROL POWER TO NEW AHU-1 STARTER.
  - DISCONNECT AND PROTECT FEEDER CIRCUIT TO MECHANICAL EQUIPMENT. RECONNECT BRANCH CIRCUIT TO NEW EQUIPMENT AND FLEXIBLE CONNECTION.
  - ALTERNATE #1 PROVIDE ELECTRICAL CONNECTION FOR VRV SYSTEM COMPONENTS AS GENERALLY NOTED. PROVIDE DEMOLITION OF AFFECTED CONDENSING UNIT CONNECTION AS NOTED.

ISSUED	DATE	BY	REVISION
1	08/27/17	ADDITIONAL NO. 1	
2	09/07/17	ADDITIONAL NO. 5	

JOB NO.	17-253-1110
DRAWN	MTK
CHECKED	MTK
APPROVED	MTK

SHEET TITLE

ELECTRICAL FLOOR PLANS

SHEET NUMBER

E300

NOT USED 2 SCALE: 1/8" = 1'-0"