



# Rhode Island Airport Corporation

April 11, 2016

**ADDENDUM NO. 001**  
**Invitation for Bid No. 26298 – Sound Mitigation Program – Phase 4**  
**Group C**  
**T. F. Green Airport**  
**Warwick, Rhode Island**

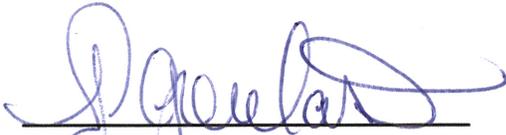
Prospective Bidders and all concerned are hereby notified of the following changes in the Request for Bids document for the Sound Mitigation Program Phase 4 – Group C, at T. F. Green Airport, IFB No. 26298. These changes shall be incorporated in and shall become an integral part of the contract documents.

**Questions & Responses**

No questions submitted to RIAC's procurement department.

**Addendum Item No. 001**

Please see attached addendum consisting of **ninety nine (99) pages**.

  
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Jeffrey P. Goulart  
Purchasing Agent

### **Item No. 1**

Volume 1, Specifications: Revisions have been made to the following sections, see attached changes.

1. Division 04 2113 - Brick Masonry
2. Division 09 2900 - Gypsum Board
3. Division 10 7450 - Polymer Riser Assembly
4. Division 23 0593 - Testing Adjusting and Balancing for HVAC
5. Division 23 3100 - HVAC Ducts and Casings
6. Division 23 3423 - HVAC Power Ventilators
7. Division 23 3700 - Air Outlets and Inlets

### **Item No. 2**

Volume 2, Plans and Details: Replace entire set of Lockwood Condos plans with attached sheets.

### **Item No. 3**

Volume 2, Plans and Details: The following list identifies all addendum changes to the mechanical and electrical scope of work.

1. L2 HVAC LEGEND, NOTES AND SCHEDULES
  - Added Sequence of Operation
  - Revised Ventilator Fan Schedule
2. D1 HVAC DETAILS
  - Revised Detail 3 – Outside air intake Installation Detail (Loft)
3. D2 HVAC DETAILS
  - Revised Detail 1 – Ventilator Fan Installation Detail (Lower Level)
4. M-1.01 (Bldg. A- Lower Level)
  - Added Electrical notes
  - Updated HVAC and Electrical Notes
  - Revised duct sizes, and added temperature sensor and controller, backdraft damper
5. M1.02 (Bldg. A- First Floor Level)
  - Added Electrical notes
  - Updated HVAC and Electrical Notes
  - Added temperature sensor and controller, backdraft damper
  - Revised fan size, and duct sizes for the additional ventilation for Loft units.
6. M1.03 (Bldg. A- Second Floor Level)
  - Added Electrical notes
  - Updated HVAC and Electrical Notes
  - Added temperature sensor and controller, backdraft damper
7. M1.04 (Bldg. B- First Floor)
  - Added Electrical notes
  - Updated HVAC and Electrical Notes

- Added temperature sensor and controller, backdraft damper
8. M1.05 (Bldg. B- Second Floor)
    - Added Electrical notes
    - Updated HVAC and Electrical Notes
    - Added temperature sensor and controller, backdraft damper
    - Relocated (2)fans from corridor ceiling to stairway ceiling (due to lowering of ceiling)
  9. M1.06 (Bldg. C- First Floor)
    - Added Electrical notes
    - Updated HVAC and Electrical Notes
    - Added temperature sensor and controller, backdraft damper
    - Redone duct layout to fit HVAC equipments and ductwork
  10. M1.07 (Bldg. C- Second Floor)
    - Added Electrical notes
    - Updated HVAC and Electrical Notes
    - Added temperature sensor and controller, backdraft damper
    - Redone duct layout to fit ventilator fans and ductwork
    - Relocated Ventilator fans
  11. M1.08 (Bldg. C- Third Floor)
    - Added Electrical notes
    - Updated HVAC and Electrical Notes
    - Added temperature sensor and controller, backdraft damper
  12. M1.09 (Bldg. C- First Floor)
    - Added Electrical notes
    - Updated HVAC and Electrical Notes
    - Added temperature sensor and controller, backdraft damper
    - Redone duct layout to fit HVAC equipments and ductwork
  13. M1.10 (Bldg. C- Second Floor)
    - Added Electrical notes
    - Updated HVAC and Electrical Notes
    - Added temperature sensor and controller, backdraft damper
    - Redone duct layout to fit ventilator fans and ductwork
    - Relocated Ventilator fans
  14. M1.11 (Bldg. C- Third Floor)
    - Added Electrical notes
    - Updated HVAC and Electrical Notes
    - Added temperature sensor and controller, backdraft damper
  15. M-2.06
    - Redone duct layout for Loft units
  16. M-2.07
    - Redone duct layout for Loft units
  17. M-2.08
    - Redone duct layout for Loft units

End of Addendum

## SECTION 04 2113 - BRICK MASONRY

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section Includes:
  - 1. Face Brick.
  - 2. Mortar Materials
  - 3. Masonry Cleaners
  - 4. Mortar Mixes
  - 5. Loose Lintels
- B. Related Sections:
  - 1. 07 6600 Flashing and Sheet Metal
  - 2. 07 9200 Joint Sealants
  - 3. 17 0000 Procedures for Handling Lead Based Coatings
  - 4. 18 0000 Procedures for Handling Asbestos Based Coatings

#### 1.2 SUBMITTALS

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

#### 1.3 QUALITY ASSURANCE

- A. Masonry Standard: Comply with ACI 530.1/ASCE 6/TMS 602 unless modified by requirements in the Contract Documents.
- B. Repair and restoration of existing stone and unit masonry work shall achieve security, strength, and weather protection, as applicable and required.
- C. Repair and restoration of existing masonry work shall successfully duplicate undisturbed adjacent finishes, and profiles.

#### 1.4 PROJECT CONDITIONS

- A. General Contractor must verify existing masonry wall construction/conditions prior to commencement of any work or ordering of materials.
- ~~A.~~B. Cold-Weather Requirements: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen substrates. Remove and replace unit masonry damaged by frost or by freezing conditions. Comply with cold-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602.

1. Cold-Weather Cleaning: Use liquid cleaning methods only when air temperature is 40 degrees F and higher and will remain so until masonry has dried, but not less than seven days after completing cleaning.

**B.C.** Hot-Weather Requirements: Comply with hot-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602.

## PART 2 - PRODUCTS

### 2.1 FACE BRICK

A. General: Provide shapes indicated and as follows.

1. For ends of sills and caps and for similar applications that would otherwise expose unfinished brick surfaces, provide units without cores or frogs and with exposed surfaces finished.
2. Provide special shapes for applications where shapes produced by sawing would result in sawed surfaces being exposed to view.

B. Restoration of Work: Provide all materials, equipment, tools, appurtenances, facilities, and services as required for performing and completing all repair and restoration of existing brick as indicated.

C. Face Brick: Facing brick complying with ASTM C 216; See Division 01 6000 Section "Product Requirements."

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
  - a. Hanson; Face brick.
  - b. Boral Bricks; Face brick.
  - c. Belden Brick; Face brick
  - d. Approved Equal.
2. Grade: SW
3. Type: Match existing
4. Initial Rate of Absorption: Less than 30 g/30 sq. in. per minute when tested per ASTM C 67.
5. Efflorescence: Provide brick that has been tested according to ASTM C 67 and is rated "not effloresced."
6. Surface Coating: Brick with colors or textures produced by application of coatings shall withstand 50 cycles of freezing and thawing per ASTM C 67 with no observable difference in the applied finish when viewed from 10 feet.
7. Size (match existing):

## 2.2 LOOSE STEEL LINTELS

- A. Fabricate loose steel lintels from steel angles and shapes of size indicated for openings and recesses in masonry walls and partitions at locations indicated. Fabricate in single lengths for each opening unless otherwise indicated. Weld adjoining members together to form a single unit where indicated.
  - 1. Prefabricate steel lintel dimensions: 3 1/2" x 3 1/2" x 3/8"
- ~~A.~~
- B. Size loose lintels to provide bearing length at each side of openings equal to 1/12 of clear span but not less than **6-8 inches** unless otherwise indicated.
- C. Galvanize loose steel lintels located in exterior walls.
- D. Prime loose steel lintels located in exterior walls with **zinc-rich primer**.

## PART 3 - EXECUTION

### 3.1 INSTALLATION, GENERAL

- A. Use full-size units without cutting if possible. If cutting is required to provide a continuous pattern or to fit adjoining construction, cut units with motor-driven saws; provide clean, sharp, un-chipped edges. Allow units to dry before laying unless wetting of units is specified. Install cut units with cut surfaces and, where possible, cut edges concealed.
- B. Select and arrange units for exposed unit masonry to produce a uniform blend of colors and textures.
- C. Wetting of Brick: Wet brick before laying if initial rate of absorption exceeds 30 g/30 sq. in. per minute when tested per ASTM C 67. Allow units to absorb water so they are damp but not wet at time of laying.

### 3.2 TOLERANCES

- A. Dimensions and Locations of Elements:
  - 1. For dimensions in cross section or elevation do not vary by more than plus 1/2 inch or minus 1/4 inch.
  - 2. For location of elements in plan do not vary from that indicated by more than plus or minus 1/2 inch.
  - 3. For location of elements in elevation do not vary from that indicated by more than plus or minus 1/4 inch in a story height or 1/2 inch total.
- B. Lines and Levels:

1. For conspicuous horizontal lines, such as lintels, sills, parapets, and reveals, do not vary from level by more than 1/8 inch in 10 feet, 1/4 inch in 20 feet, or 1/2 inch maximum.
2. For vertical lines and surfaces do not vary from plumb by more than 1/4 inch in 10 feet, 3/8 inch in 20 feet, or 1/2 inch maximum.
3. For conspicuous vertical lines, such as external corners, door jambs, reveals, and expansion and control joints, do not vary from plumb by more than 1/8 inch in 10 feet, 1/4 inch in 20 feet, or 1/2 inch maximum.
4. For lines and surfaces do not vary from straight by more than 1/4 inch in 10 feet, 3/8 inch in 20 feet, or 1/2 inch maximum.

C. Joints:

1. For bed joints, do not vary from thickness indicated by more than plus or minus 1/8 inch, with a maximum thickness limited to 1/2 inch; do not vary from bed-joint thickness of adjacent courses by more than 1/8 inch.
2. For exposed head joints, do not vary from thickness indicated by more than plus or minus 1/8 inch. Do not vary from adjacent bed-joint and head-joint thicknesses by more than 1/8 inch.

### 3.3 MORTAR BEDDING AND JOINTING

- A. Lay solid masonry units with completely filled bed and head joints; butter ends with sufficient mortar to fill head joints and shove into place. Do not deeply furrow bed joints or slush head joints.
- B. Tool exposed joints slightly concave when thumbprint hard, using a jointer larger than joint thickness unless otherwise indicated.

### 3.4 FIELD QUALITY CONTROL

- A. Testing and Inspecting: Owner and building department will engage special inspectors to perform tests and inspections and prepare reports. Allow inspectors access to scaffolding and work areas, as needed to perform tests and inspections. Retesting of materials that fail to meet specified requirements shall be done at Contractor's expense.
- B. Mortar Aggregate Ratio Test (Proportion Specification): For each mix provided, according to ASTM C 780.

### 3.5 CLEANING

- A. In-Progress Cleaning: Clean unit masonry as work progresses by dry brushing to remove mortar fins and smears before tooling joints.
- B. Final Cleaning: After mortar is thoroughly set and cured, clean exposed masonry as follows:
  1. Test cleaning methods on sample wall panel; leave one-half of panel un-cleaned for comparison purposes

2. Protect adjacent surfaces from contact with cleaner.
3. Wet wall surfaces with water before applying cleaners; remove cleaners promptly by rinsing surfaces thoroughly with clear water.
4. Clean brick by bucket-and-brush hand-cleaning method described in "BIA Technical Notes 20."
5. Clean concrete masonry by cleaning method indicated in NCMA TEK 8-2A applicable to type of stain on exposed surfaces.

### 3.6 MASONRY WASTE DISPOSAL

- A. Excess Masonry Waste: Remove excess clean masonry waste and other masonry waste, and legally dispose of off Owner's property.

END OF SECTION 04 2113

## SECTION 09 2900 – GYPSUM BOARD

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. This Section includes the following:
  - 1. Interior gypsum wallboard.
  - 2. Accessories
  - 3. Texture Finishes
  
- B. Related Sections:
  - 1. 01 7300 Execution
  - 2. 06 1053 Miscellaneous Rough Carpentry
  - 3. 06 2000 Finish Carpentry
  - 4. 07 2110 Insulation
  - 5. 07 9200 Joint Sealants
  - 6. 09 9100 Painting
  - 7. 17 0000 Procedures for Handling Lead Based Coatings

#### 1.2 SUBMITTALS

- A. Prepare submittals as required by Section 013300 – Submittal Procedures.
- B. Product Data: For each type of product indicated.
- C. Samples for Textured Finishes: Manufacturer's standard size for each textured finish indicated and on same backing indicated for Work.

#### 1.3 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials in original packages, containers, or bundles bearing brand name and identification of manufacturer or supplier.
- B. Store materials inside under cover and keep them dry and protected against damage from weather, direct sunlight, surface contamination, corrosion, construction traffic, and other causes. Stack gypsum panels flat to prevent sagging.

#### 1.4 PROJECT CONDITIONS

- A. Do not install panels that are wet, those that are moisture damaged, and those that are mold damaged.
  - 1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
  - 2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
1. American Gypsum Co.
  2. Lafarge North America Inc.
  3. National Gypsum Company.
  4. USG Corporation.

### 2.2 INTERIOR GYPSUM WALLBOARD

- A. Panel Size: Provide in maximum lengths and widths available that will minimize joints in each area and correspond with support system indicated.
- B. General: Comply with ASTM C 1396.
- C. Ceiling and Wall Type: Manufactured to have more sag resistance than regular-type gypsum board, 5/8 inch thick with tapered edges.
- D. Gypsum Wallboard for use at all mechanical duct chases and soffits: Regular type with tapered edges; thickness as indicated on drawings, or if not indicated, 1/2 inch thick.

### 2.3 ACCESSORIES

- A. Interior Trim: ASTM C 1047. Galvanized or aluminum-coated steel sheet, rolled zinc, plastic, or paper-faced galvanized steel sheet.
1. Cornerbead: Use at outside corners.
  2. LC-Bead: J-shaped; exposed long flange receives joint compound. Use at exposed panel edges, and where gypsum board abuts other materials.
- B. Joint Treatment Materials: Comply with ASTM C 475.
1. Joint Tape: Paper unless otherwise recommended by panel manufacturer.
  2. Joint Compound for Interior Gypsum Wallboard at soffits and duct chases: For each coat use formulation that is compatible with other compounds applied on previous or for successive coats.
  3. Skim Coat at wall and ceiling treatments: For final coat of Level 5 finish, use setting-type, sandable topping compound.
  4. Plaster bonding agent: for non-blueboard application of skim coat plaster, prepare surfaces with plaster bonding agent to insure proper adhesion of plaster.
  5. Prefilling: At open joints and damaged surface areas, use setting-type taping compound.
  6. Embedding and First Coat: For embedding tape and first coat on joints, fasteners, and trim flanges, use setting-type taping compound.
  7. Remaining Two Coats: Use drying-type, all-purpose compound.
- C. Steel Drill Screws: ASTM C 1002.

## 2.4 TEXTURE FINISHES

- A. Where indicated or scheduled, provide texture finish to match existing surfaces, or as selected by the Homeowner.
- B. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to:
  - 1. Polystyrene Aggregate Ceiling Finish:
    - a. G-P Gypsum; Georgia-Pacific Regency Ceiling Textures/Polystyrene.
    - b. National Gypsum Company; Perfect Spray.
    - c. USG Corporation; SHEETROCK Ceiling Spray Texture, QT.
  - 2. Aggregate Finish:
    - a. G-P Gypsum Corp.; GyProc Vermiculite Ceiling Texture.
    - b. United States Gypsum Co.; SHEETROCK Wall and Ceiling Spray Texture (Aggregated).
- C. Primer: Zinsser Gardz problem Surface Sealer or as recommended by textured finish manufacturer.
- D. Polystyrene Aggregate Ceiling Finish: Water-based, job-mixed, polystyrene aggregate finish with flame-spread and smoke-developed indices of not more than 25 when tested according to ASTM E 84.
- E. Aggregate Finish: Water-based, job-mixed, aggregated, drying-type texture finish for spray application.

## PART 3 - EXECUTION

### 3.1 APPLYING AND FINISHING PANELS

- A. Examine panels before installation. Reject panels that are wet, moisture damaged or mold damaged.
- B. Gypsum Board Application and Finishing Standards: ASTM C 840.
- C. Install gypsum panels with floating internal corner construction.
- D. Install gypsum panels with face side out, vertically. Butt panels together for a light contact at edges and ends with not more than 1/16 inch of open space between panels. Do not force into place. Stagger abutting end joints not less than one framing member in alternate courses of board. Locate edge and end joints over supports. Do not place tapered edges against cut edges or ends.
  - 1. Fasten gypsum panels to supports with manufacturer's recommended fasteners.
- E. Ceilings: Install ceiling board panels across framing to minimize the number of abutting end joints and to avoid abutting end joints in the central area of each ceiling. Stagger abutting end joints of adjacent panels not less than one framing member. Apply at right angles to framing.
  - 1. Apply gypsum panels before wall/partition board application to greatest extent possible.

- F. Attach gypsum panels to framing provided at openings and cutouts. Fit around ducts, pipes, and conduits.
- G. Space fasteners in gypsum panels a maximum of 12 inches o.c., and according to referenced gypsum board application and finishing standard and manufacturer's written recommendations.
- H. Installing Trim Accessories: 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.

### 3.2 FINISHING GYPSUM BOARD ASSEMBLIES

- A. General: Treat gypsum board joints, interior angles, edge trim, control joints, penetrations, fastener heads, surface defects, and elsewhere as required to prepare gypsum board surfaces for decoration. Promptly remove residual joint compound from adjacent surfaces.
- B. Prefill open joints and damaged surface areas. Apply joint tape over gypsum board joints.
- C. Gypsum Board Finish Levels: Finish panels to levels indicated below, according to ASTM C 840, for locations indicated:
  - 1. Level 1: Embed tape at joints in ceiling plenum areas, concealed areas, and where indicated.
  - 2. Level 4: Embed tape and apply separate first, fill, and finish coats of joint compound to tape, fasteners, and trim flanges at panel surfaces that will be exposed to view, unless otherwise indicated.

### 3.3 APPLYING TEXTURE FINISHES

- A. Surface Preparation and Primer: Prepare and apply primer to gypsum panels and other surfaces receiving texture finishes. Apply primer to surfaces that are clean, dry, and smooth.
- B. Texture Finish Application: Mix and apply finish using powered spray equipment, to produce a uniform texture matching existing texture and free of starved spots or other evidence of thin application or of application patterns.
- C. Prevent texture finishes from coming into contact with surfaces not indicated to receive texture finish by covering them with masking agents, polyethylene film, or other means. If, despite these precautions, texture finishes contact these surfaces, immediately remove droppings and overspray to prevent damage according to texture finish manufacturer's written recommendations.
- D. Where new wall or ceiling finishes, or other modifications, interfere with existing shelving, casework, or other finished items, remove items during work and reinstall in their original location unless otherwise noted. Provide new parts or trim to match existing where required for a complete, safe, and secure reinstallation.

END OF SECTION 09 2900

## SECTION 10 7450 – POLYMER RISER ASSEMBLY

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section includes:
  - 1. Polymer riser.
  - 2. Polymer riser lid.
- B. Related Sections:
  - 1. 01 7300 Execution

#### 1.2 PERFORMANCE REQUIREMENTS

- A. Provide high density shatterproof polyethylene.

#### 1.3 SUBMITTALS

- A. Prepare submittals as required by Section 01 3300 – Submittal Procedures.
- B. Product Data: For each riser assembly component.
- C. Samples for Initial Selection: Manufacturer's assembly drawings.

#### 1.4 PROJECT CONDITIONS

- A. Coordinate installation of mechanical venting.

### PART 2 - PRODUCTS

#### 2.1 MATERIALS, GENERAL

- A. Compatibility: Provide polymer based riser sections with mechanical fasteners.

#### 2.2 POLYMER – RISER

- A. 24” diameter 12” riser sections with stainless steel fasteners.
- B. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to:

1. Tuf-Tite Round riser
2. Polylok Riser

### 2.3 POLYMER - LID

- A. 24” diameter Flat top riser lid with stainless steel bolt fasteners
- B. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to:
  1. Tuf-Tite Septic Tank Riser Lid
  2. Polylok Heavy Duty Cover

### 2.4 MISCELLANEOUS MATERIALS

- A. Stainless steel assembly bolts
- B. Polymer adhesive

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine installation detail.
- B. Proceed with installation only after coordinating with foundation hole boring and assembly of PVC vent piping.

### 3.2 PREPARATION

- A. Excavate work area to allow for adjusting and addition of crushed stone:
  1. Remove foreign material that could interfere with leveling and placement to coordinate lid with PVC vent pipe.
  2. Cut side of riser section to allow PVC vent pipe into riser.

### 3.3 INSTALLATION OF RISER AND LID

- A. General: Comply with polymer riser manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.
- B. Bottom of riser is to remain open and have a minimum of 12” of crushed stone below the riser to allow for water drainage and prevent frost heaving.
- C. Add crushed stone to inside of riser to stabilize PVC vent pipe.

- D. Backfill with crushed stone to allow for drainage.

#### 3.4 CLEANING

- A. Clean off loose earth materials and contour finished grade to prevent pooling of water around riser.

END OF SECTION 10 7450

SECTION 23 0593 - TESTING, ADJUSTING, AND BALANCING FOR HVAC

PART 1 PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Testing, adjustment, and balancing of air systems.
- B. Measurement of final operating condition of HVAC systems.
- C. Sound measurement of equipment operating conditions.

1.2 REFERENCE STANDARDS

- A. AABC MN-1 - AABC National Standards for Total System Balance; Associated Air Balance Council; 2002.
- B. ASHRAE Std 111 - Practices for Measurement, Testing, Adjusting and Balancing of Building Heating, Ventilation, Air-Conditioning, and Refrigeration Systems; American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.
- C. NEBB (TAB) - Procedural Standards for Testing Adjusting Balancing of Environmental Systems; National Environmental Balancing Bureau; 2005, Seventh Edition.
- D. SMACNA (TAB) - HVAC Systems Testing, Adjusting, and Balancing; Sheet Metal and Air Conditioning Contractors' National Association; 2002.

1.3 SUBMITTALS

- A. See 0.010 NTC FDALL020 for submittal requirements and procedures.
- B. Qualifications: Submit name of adjusting and balancing agency and TAB supervisor for approval within 30 days after award of Contract. This must be done by Independent Certified Balancing and Testing Contractor who specializes in the balancing and testing of heating, ventilating and air conditioning systems.
- C. TAB Plan: Submit a written plan indicating the testing, adjusting, and balancing standard to be followed and the specific approach for each system and component.
  - 1. Submit to The Jones Payne Group.
  - 2. Submit six weeks prior to starting the testing, adjusting, and balancing work.
  - 3. Include certification that the plan developer has reviewed the contract documents, the equipment and systems, and the control system with the The Jones Payne Group and other installers to sufficiently understand the design intent for each system.
  - 4. Include at least the following in the plan:

- a. List of all air flow, water flow, sound level, system capacity and efficiency measurements to be performed and a description of specific test procedures, parameters, formulas to be used.
  - b. Copy of field checkout sheets and logs to be used, listing each piece of equipment to be tested, adjusted and balanced with the data cells to be gathered for each.
  - c. Identification and types of measurement instruments to be used and their most recent calibration date.
  - d. Discussion of what notations and markings will be made on the duct and piping drawings during the process.
  - e. Final test report forms to be used.
  - f. Detailed step-by-step procedures for TAB work for each system and issue, including:
    - i. Terminal flow calibration (for each terminal type).
    - ii. Diffuser proportioning.
    - iii. Branch/submain proportioning.
    - iv. Total flow calculations.
    - v. Rechecking.
    - vi. Diversity issues.
  - g. Expected problems and solutions, etc.
  - h. Criteria for using air flow straighteners or relocating flow stations and sensors; analogous explanations for the water side.
  - i. Details of how TOTAL flow will be determined; for example:
    - i. Air: Sum of terminal flows via control system calibrated readings or via hood readings of all terminals, supply (SA) and return air (RA) pitot traverse, SA or RA flow stations.
    - ii. Water: Pump curves, circuit setter, flow station, ultrasonic, etc.
  - j. Confirmation of understanding of the outside air ventilation criteria under all conditions.
  - k. Method of verifying and setting minimum outside air flow rate will be verified and set and for what level (total building, zone, etc.).
  - l. Procedures for formal deficiency reports, including scope, frequency and distribution.
- D. Final Report: Indicate deficiencies in systems that would prevent proper testing, adjusting, and balancing of systems and equipment to achieve specified performance.
1. Submit under provisions of Section 0.010 NTC FDALL020.
  2. Revise TAB plan to reflect actual procedures and submit as part of final report.
  3. Submit draft copies of report for review prior to final acceptance of Project. Provide final copies for The Jones Payne Group and for inclusion in operating and maintenance manuals.
  4. Provide reports in soft cover, letter size, 3-ring binder manuals, complete with index page and indexing tabs, with cover identification at front and side. Include set of reduced drawings with air outlets and equipment identified to correspond with data

- sheets, and indicating thermostat locations.
5. Include actual instrument list, with manufacturer name, serial number, and date of calibration.
  6. Form of Test Reports: Where the TAB standard being followed recommends a report format use that; otherwise, follow ASHRAE Std 111.
  7. Units of Measure: Report data in both I-P (inch-pound) and SI (metric) units.
  8. Include the following on the title page of each report:
    - a. Name of Testing, Adjusting, and Balancing Agency.
    - b. Address of Testing, Adjusting, and Balancing Agency.
    - c. Project name.
    - d. Project location.
    - e. Project Engineer.
    - f. Project Contractor.
    - g. Project altitude.
    - h. Report date.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

- A. Perform total system balance in accordance with one of the following:
  - 1. AABC MN-1, AABC National Standards for Total System Balance.
  - 2. ASHRAE Std 111, Practices for Measurement, Testing, Adjusting and Balancing of Building Heating, Ventilation, Air-Conditioning, and Refrigeration Systems.
  - 3. NEBB Procedural Standards for Testing Adjusting Balancing of Environmental Systems.
  - 4. SMACNA HVAC Systems Testing, Adjusting, and Balancing.
  - 5. Maintain at least one copy of the standard to be used at project site at all times.
- B. Begin work after completion of systems to be tested, adjusted, or balanced and complete work prior to Substantial Completion of the project.
- C. Where HVAC systems and/or components interface with life safety systems, including fire and smoke detection, alarm, and control, coordinate scheduling and testing and inspection procedures with the authorities having jurisdiction.
- D. TAB Agency Qualifications:
  - 1. Company specializing in the testing, adjusting, and balancing of systems specified in this section.
  - 2. Having minimum of three years documented experience.
  - 3. Certified by one of the following:
    - a. AABC, Associated Air Balance Council: [www.aabchq.com](http://www.aabchq.com); upon completion submit AABC National Performance Guaranty.
    - b. NEBB, National Environmental Balancing Bureau: [www.nebb.org](http://www.nebb.org).
    - c. TABB, The Testing, Adjusting, and Balancing Bureau of National Energy Management Institute: [www.tabbcertified.org](http://www.tabbcertified.org).
- E. TAB Supervisor Qualifications: Certified by same organization as TAB agency.

3.2 EXAMINATION

- A. Verify that systems are complete and operable before commencing work. Ensure the following conditions:
  - 1. Systems are started and operating in a safe and normal condition.
  - 2. Temperature control systems are installed complete and operable.
  - 3. Proper thermal overload protection is in place for electrical equipment.
  - 4. Final filters are clean and in place. If required, install temporary media in addition to final filters.
  - 5. Duct systems are clean of debris.
  - 6. Fans are rotating correctly.
  - 7. Fire and volume dampers are in place and open.

8. Air coil fins are cleaned and combed.
  9. Access doors are closed and duct end caps are in place.
  10. Air outlets are installed and connected.
  11. Duct system leakage is minimized.
- B. Submit field reports. Report defects and deficiencies that will or could prevent proper system balance.
- C. Beginning of work means acceptance of existing conditions.

### 3.3 ADJUSTMENT TOLERANCES

- A. Air Handling Systems: Adjust to within plus or minus 5 percent of design for supply systems and plus or minus 10 percent of design for return and exhaust systems.
- B. Air Outlets and Inlets: Adjust total to within plus 10 percent and minus 5 percent of design to space. Adjust outlets and inlets in space to within plus or minus 10 percent of design.

### 3.4 RECORDING AND ADJUSTING

- A. Ensure recorded data represents actual measured or observed conditions.
- B. Permanently mark settings of valves, dampers, and other adjustment devices allowing settings to be restored. Set and lock memory stops.
- C. Mark on the drawings the locations where traverse and other critical measurements were taken and cross reference the location in the final report.
- D. After adjustment, take measurements to verify balance has not been disrupted or that such disruption has been rectified.
- E. Leave systems in proper working order, replacing belt guards, closing access doors, closing doors to electrical switch boxes, and restoring thermostats to specified settings.
- F. At final inspection, recheck random selections of data recorded in report. Recheck points or areas as selected and witnessed by the Engineer.
- G. Check and adjust systems approximately six months after final acceptance and submit report.

### 3.5 AIR SYSTEM PROCEDURE

- A. Adjust air handling and distribution systems to provide required or design supply, return, and exhaust air quantities at site altitude.
- B. Make air quantity measurements in ducts by Pitot tube traverse of entire cross sectional area of duct.
- C. Measure air quantities at air inlets and outlets.
- D. Adjust distribution system to obtain uniform space temperatures free from objectionable drafts and noise.
- E. Use volume control devices to regulate air quantities only to extend that adjustments do not create objectionable air motion or sound levels. Effect volume control by duct internal devices such as dampers and splitters.
- F. Vary total system air quantities by adjustment of fan speeds. Provide drive changes required. Vary branch air quantities by damper regulation.
- G. Provide system schematic with required and actual air quantities recorded at each outlet or

- inlet.
- H. Measure static air pressure conditions on air supply units, including filter and coil pressure drops, and total pressure across the fan. Make allowances for 50 percent loading of filters.
  - I. Adjust outside air automatic dampers, outside air, return air, and exhaust dampers for design conditions.
  - J. Measure temperature conditions across outside air, return air, and exhaust dampers to check leakage.
  - K. Where modulating dampers are provided, take measurements and balance at extreme conditions.

### 3.6 SCOPE

- A. Test, adjust, and balance the following:
  - 1. Air Handling Units
  - 2. Fans
  - 3. Air Filters
  - 4. Air Inlets and Outlets

### 3.7 MINIMUM DATA TO BE REPORTED

- A. Electric Motors:
  - 1. Manufacturer
  - 2. Model/Frame
  - 3. HP/BHP
  - 4. Phase, voltage, amperage; nameplate, actual, no load
  - 5. RPM
  - 6. Service factor
  - 7. Starter size, rating, heater elements
  - 8. Sheave Make/Size/Bore
- B. Air Moving Equipment:
  - 1. Location
  - 2. Manufacturer
  - 3. Model number
  - 4. Serial number
  - 5. Arrangement/Class/Discharge
  - 6. Air flow, specified and actual
  - 7. Return air flow, specified and actual
  - 8. Outside air flow, specified and actual
  - 9. Total static pressure (total external), specified and actual
  - 10. Inlet pressure
  - 11. Discharge pressure
  - 12. Sheave Make/Size/Bore
  - 13. Number of Belts/Make/Size
  - 14. Fan RPM
- C. Exhaust Fans:
  - 1. Location

2. Manufacturer
  3. Model number
  4. Serial number
  5. Air flow, specified and actual
  6. Total static pressure (total external), specified and actual
  7. Inlet pressure
  8. Discharge pressure
  9. Sheave Make/Size/Bore
  10. Number of Belts/Make/Size
  11. Fan RPM
- D. Air Distribution Tests:
1. Room number/location
  2. Terminal type
  3. Terminal size
  4. Design air flow
  5. Test (final) velocity
  6. Test (final) air flow

END OF SECTION

SECTION 23 3100 - HVAC DUCTS AND CASINGS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Metal ductwork.
- B. Nonmetal ductwork.
- C. Casing and plenums.
- D. Duct cleaning.

1.2 RELATED REQUIREMENTS

- A. Section 23 0713 - Duct Insulation: External insulation and duct liner.
- B. Section 23 3300 - Air Duct Accessories.
- C. Section 23 3700 - Air Outlets and Inlets.
- D. Section 23 0593 - Testing, Adjusting, and Balancing for HVAC.

1.3 REFERENCE STANDARDS

- A. ASHRAE (FUND) - ASHRAE Handbook - Fundamentals; 2013.
- B. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2011.
- C.
- D. ASTM A1008/A1008M - Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength, Low Alloy, and High-Strength Low-Alloy with Improved Formability, Solution Hardened, and Bake Hardenable; 2012
- E. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2012.
- F. NFPA 90A - Standard for the Installation of Air-Conditioning and Ventilating Systems; National Fire Protection Association; 2012.
- G. NFPA 90B - Standard for the Installation of Warm Air Heating and Air Conditioning Systems; National Fire Protection Association; 2012.
- H. NFPA 96 - Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations; National Fire Protection Association; 2011.
- I. SMACNA (LEAK) - HVAC Air Duct Leakage Test Manual; Sheet Metal and Air Conditioning Contractors' National Association; 2012, 2nd Edition.
- J. SMACNA (DCS) - HVAC Duct Construction Standards; 2005.

1.4 SUBMITTALS

- A. See 0.010 NTC FDALL020 for submittal requirements and procedures.

- B. Product Data: Provide data for duct materials.
- C. Shop Drawings: Indicate duct fittings, particulars such as gages, sizes, welds, and configuration prior to start of work for low pressure class and higher systems.
- D. Test Reports: Indicate pressure tests performed. Include date, section tested, test pressure, and leakage rate, following SMACNA (LEAK) - HVAC Air Duct Leakage Test Manual.
- E. Manufacturer's Installation Instructions: Indicate special procedures for glass fiber ducts.
- F. Project Record Documents: Record actual locations of ducts and duct fittings. Record changes in fitting location and type. Show additional fittings used.

## 1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the type of products specified in this section, with minimum three years of documented experience.
- B. Installer Qualifications: Company specializing in performing the type of work specified in this section, with minimum three years of documented experience.

## 1.6 REGULATORY REQUIREMENTS

- A. Construct ductwork to NFPA 90A standards.

## 1.7 FIELD CONDITIONS

- A. Do not install duct sealants when temperatures are less than those recommended by sealant manufacturers.
- B. Maintain temperatures within acceptable range during and after installation of duct sealants.

## PART 2 PRODUCTS

### 2.1 DUCT ASSEMBLIES

- A. T's, bends, and elbows: Construct according to SMACNA (DCS).
- B. All Ducts: Galvanized steel, unless otherwise indicated.
- C. Low Pressure Supply (Heating Systems): 1/2 inch w.g. pressure class, galvanized steel.
- D. Low Pressure Supply (System with Cooling Coils): 1/2 inch w.g. pressure class, galvanized steel.
- E. Return and Relief: 1/2 inch w.g. pressure class, galvanized steel.
- F. General Exhaust: 1/2 inch w.g. pressure class, galvanized steel.
- G. Outside Air Intake: 1/2 inch w.g. pressure class, galvanized steel.
- H. Combustion Air: 1/2 inch w.g. pressure class, galvanized steel.

### 2.2 MATERIALS

- A. Galvanized Steel for Ducts: Hot-dipped galvanized steel sheet, ASTM A653/A653M FS Type B, with G60/Z180 coating.
- B. Un-Galvanized Steel for Ducts: ASTM A 1008/A 1008M, Designation CS, cold-rolled commercial steel.
- C. Joint Sealers and Sealants: Non-hardening, water resistant, mildew and mold resistant.
  - 1. Type: Heavy mastic or liquid used alone or with tape, suitable for joint configuration and compatible with substrates, and recommended by manufacturer for pressure class of ducts.
  - 2. VOC Content: Not more than 250 g/L, excluding water.
  - 3. Surface Burning Characteristics: Flame spread of zero, smoke developed of zero, when tested in accordance with ASTM E84.
  - 4. For Use With Flexible Ducts: UL labeled.
- D. Hanger Rod: ASTM A36/A36M; steel, galvanized; threaded both ends, threaded one end, or continuously threaded.

### 2.3 DUCTWORK FABRICATION

- A. Fabricate of galvanized sheet metal steel in accordance with “HVAC Duct Construction Standards Metal and Flexible” published by SMACNA. Pressure class of ductwork shall be 1” w.g.
- B. Flexible connections shall be installed at intake and discharge of fan units with ductwork as shown on the drawings. Flexible connections shall be neoprene with galvanized sheet metal edge strips for attachment. Width of neoprene shall be not less than 6” and shall be installed to allow ½” slack in connection.
- C. Furnish and install butterfly or splitter dampers and opposed blade volume control dampers as shown and as required to balance system. Dampers with shaft length of 12” or less shall be equipped with ¼” dial regulators and with shaft lengths of 12” to 20”, the damper shall be equipped with 3/8” dial regulators and end bearings. Larger dampers shall be controlled with self locking regulators in 3/8” or ½” size and shall be installed with end bearings.
- D. Provide duct material, gages, reinforcing, and sealing for operating pressures indicated.
- E. Increase duct sizes gradually, not exceeding 15 degrees divergence wherever possible; maximum 30 degrees divergence upstream of equipment and 45 degrees convergence downstream.
- F. Fabricate continuously welded round and oval duct fittings in accordance with SMACNA HVAC Duct Construction Standards.
- G. Where ducts are connected to exterior wall louvers and duct outlet is smaller than louver frame, provide blank-out panels sealing louver area around duct. Use same material as duct, painted black on exterior side; seal to louver frame and duct.

### 2.4 MANUFACTURED DUCTWORK AND FITTINGS

- A. Flexible Ducts: Two ply vinyl film supported by helically wound spring steel wire.
  - 1. Pressure Rating: 10 inches WG positive and 1.0 inches WG negative.
  - 2. Maximum Velocity: 4000 fpm.
  - 3. Temperature Range: -10 degrees F to 160 degrees F.

## 2.5 CASINGS

- A. Fabricate casings in accordance with SMACNA HVAC Duct Construction Standards and construct for operating pressures indicated.
- B. Mount floor mounted casings on 4 inch high concrete curbs. At floor, rivet panels on 8 inch centers to angles. Where floors are acoustically insulated, provide liner of 18 gage galvanized expanded metal mesh supported at 12 inch centers, turned up 12 inches at sides with sheet metal shields.
- C. Reinforce door frames with steel angles tied to horizontal and vertical plenum supporting angles. Install hinged access doors where indicated or required for access to equipment for cleaning and inspection.

## PART 3 EXECUTION

### 3.1 INSTALLATION

- A. Install, support, and seal ducts in accordance with SMACNA HVAC Duct Construction Standards.
- B. Install in accordance with manufacturer's instructions.
- C. During construction provide temporary closures of metal or taped polyethylene on open ductwork to prevent construction dust from entering ductwork system.
- D. Flexible Ducts: Connect to metal ducts with adhesive.
- E. Duct sizes indicated are inside clear dimensions. For lined ducts, maintain sizes inside lining.
- F. Provide openings in ductwork where required to accommodate thermometers and controllers. Provide pilot tube openings where required for testing of systems, complete with metal can with spring device or screw to ensure against air leakage. Where openings are provided in insulated ductwork, install insulation material inside a metal ring.
- G. Locate ducts with sufficient space around equipment to allow normal operating and maintenance activities.
- H. Use crimp joints with or without bead for joining round duct sizes 8 inch and smaller with crimp in direction of air flow.
- I. Use double nuts and lock washers on threaded rod supports.
- J. Connect terminal units to supply ducts directly or with one foot maximum length of flexible duct. Do not use flexible duct to change direction.
- K. Connect diffusers or light troffer boots to low pressure ducts directly or with 5 feet maximum length of flexible duct held in place with strap or clamp.
- L. At exterior wall louvers, seal duct to louver frame and install blank-out panels.

### 3.2 CLEANING

- A. Clean duct systems with high power vacuum machines. Protect equipment that could be harmed by excessive dirt with filters, or bypass during cleaning. Provide adequate access into ductwork for cleaning purposes.

END OF SECTION

## SECTION 23 3423 - HVAC POWER VENTILATORS

### PART 1 GENERAL

#### 1.1 SECTION INCLUDES

- A. Ventilator fans.

#### 1.2 RELATED REQUIREMENTS

- A. Section 23 3300 - Air Duct Accessories: Backdraft dampers.
- B. Section 26 2717 - Equipment Wiring: Electrical characteristics and wiring connections.

#### 1.3 REFERENCE STANDARDS

- A. AMCA 99 - Standards Handbook; Air Movement and Control Association International, Inc.; 2010.
- B. AMCA 204 - Balance Quality and Vibration Levels for Fans; 2005.
- C. AMCA 210 - Laboratory Methods of Testing Fans for Aerodynamic Performance Rating; Air Movement and Control Association International, Inc.; 2007 (ANSI/AMCA 210, same as ANSI/ASHRAE 51).
- D. AMCA (DIR) - [Directory of] Products Licensed Under AMCA International Certified Ratings Program; Air Movement and Control Association International, Inc.; <http://www.amca.org/certified/search/company.aspx>.
- E. AMCA 300 - Reverberant Room Method for Sound Testing of Fans; Air Movement and Control Association International, Inc.; 2008.
- F. AMCA 301 - Methods for Calculating Fan Sound Ratings from Laboratory Test Data; Air Movement and Control Association International, Inc.; 1990.
- G. NEMA MG 1 - Motors and Generators; National Electrical Manufacturers Association; 2011.
- H. UL 705 - Power Ventilators; Underwriters Laboratories Inc.; Current Edition, Including All Revisions.

#### 1.4 SUBMITTALS

- A. See 0.010 NTC FDALL020 for submittal requirements and procedures.
- B. Product Data: Provide data on fans and accessories including fan curves with specified operating point clearly plotted, power, RPM, sound power levels at rated capacity, and electrical characteristics and connection requirements.
- C. Manufacturer's Instructions: Indicate installation instructions.
- D. Maintenance Data: Include instructions for lubrication, motor and drive replacement, spare parts list, and wiring diagrams.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the type of products specified in this section, with minimum three years of documented experience.

1.6 FIELD CONDITIONS

- A. Permanent ventilators may not be used for ventilation during construction.

## PART 2 PRODUCTS

### 2.1 MANUFACTURERS

- A. Nutone, Inc.: [www.nutone.com](http://www.nutone.com)
- B. Broan-Nutone, LLC: [www.broan.com](http://www.broan.com)
- C. Greenheck: [www.greenheck.com](http://www.greenheck.com).
- D. Substitutions: Refer to 0.010 NTC FDALL032 Product Requirements

### 2.2 POWER VENTILATORS - GENERAL

- A. Static and Dynamically Balanced: AMCA 204 - Balance Quality and Vibration Levels for Fans.
- B. Performance Ratings: Determined in accordance with AMCA 210 and bearing the AMCA Certified Rating Seal.
- C. Sound Ratings: AMCA 301, tested to AMCA 300, and bearing AMCA Certified Sound Rating Seal.
- D. Fabrication: Conform to AMCA 99.
- E. Electrical Components: Listed and classified by Underwriters Laboratories Inc. as suitable for the purpose specified and indicated.

### 2.3 CABINET AND CEILING EXHAUST FANS

- A. Centrifugal Fan Unit: V-belt or direct driven with galvanized steel housing lined with acoustic insulation, resilient mounted motor, gravity backdraft damper in discharge.
- B. Disconnect Switch: Cord and plug in housing for thermal overload protected motor and wall mounted switch.
- C. Grille: Molded white plastic.
- D. Sheaves: Cast iron or steel, dynamically balanced, bored to fit shafts and keyed; variable and adjustable pitch motor sheaves selected so required rpm is obtained with sheaves set at mid-position; fan shaft with self-aligning pre-lubricated ball bearings.

## PART 3 EXECUTION

### 3.1 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Provide sheaves required for final air balance.
- C. Install backdraft dampers on inlet to roof and wall exhausters.
- D. Provide backdraft dampers on outlet from cabinet and ceiling exhausters and as indicated.

- E. Provide an outdoor air temperature sensor, indoor temperature controller, motorized dampers, disconnect safety switch, and backdraft dampers (for every condo units it serves).
- F. Provide exterior intake louvered ventilator.

END OF SECTION

## SECTION 23 3700 - AIR OUTLETS AND INLETS

### PART 1 GENERAL

#### 1.1 SECTION INCLUDES

- A. Diffusers.
- B. Registers/grilles.
- C. Louvers.
- D. Wall Caps.

#### 1.2 RELATED REQUIREMENTS

- A. 23 0593 Testing Adjusting and Balancing for HVAC
- B. 23 3100 HVAC Ducts and Casings
- C. 23 3300 Air Ducts and Casings

#### 1.3 REFERENCE STANDARDS

- A. AMCA 500-L - Laboratory Methods of Testing Louvers for Rating; Air Movement and Control Association International, Inc.; 2012.
- B. ARI 890 - Standard for Air Diffusers and Air Diffuser Assemblies; Air-Conditioning and Refrigeration Institute; 2001.
- C. ASHRAE Std 70 - Method of Testing for Rating the Performance of Air Outlets and Inlets; American Society of Heating, Refrigerating and Air Conditioning Engineers, Inc.; 2006.
- D. SMACNA (DCS) - HVAC Duct Construction Standards; 2005.

#### 1.4 SUBMITTALS

- A. See 0.010 NTC FDALL020 for submittal requirements and procedures.
- B. Product Data: Provide data for equipment required for this project. Review outlets and inlets as to size, finish, and type of mounting prior to submission. Submit schedule of outlets and inlets showing type, size, location, application, and noise level.
- C. Project Record Documents: Record actual locations of air outlets and inlets.

#### 1.5 QUALITY ASSURANCE

- A. Test and rate air outlet and inlet performance in accordance with ASHRAE Std 70.
- B. Test and rate louver performance in accordance with AMCA 500-L.

## 1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the type of products specified in this section, with minimum three years of documented experience.

## PART 2 PRODUCTS

### 2.1 MANUFACTURERS

- A. Titus: [www.titus-hvac.com](http://www.titus-hvac.com) - Basis of Design
- B. Krueger: [www.krueger-hvac.com](http://www.krueger-hvac.com)
- C. Price Industries: [www.price-hvac.com](http://www.price-hvac.com)
- D. Substitutions: Refer to 0.010 NTC FDALL032 Product Requirements
- E. Greenheck: [www.greenheck.com](http://www.greenheck.com)
- F. Johnson Controls: [www.johnsoncontrols.com](http://www.johnsoncontrols.com)

### 2.2 RECTANGULAR CEILING DIFFUSERS

- A. Type: Square, stamped, multi-core diffuser to discharge air in 360 degree pattern with sectorizing baffles where indicated.
- B. Frame: Surface mount type. In plaster ceilings, provide plaster frame and ceiling frame.
- C. Fabrication: Steel with baked enamel finish.
- D. Color: As selected by The Jones Payne Group from manufacturer's standard range.

### 2.3 CEILING SUPPLY REGISTERS/GRILLES

- A. Type: Streamlined and individually adjustable curved blades to discharge air along face of grille, one-way deflection.
- B. Frame: 1-1/4 inch margin with countersunk screw mounting and gasket.
- C. Fabrication: Aluminum extrusions with factory enamel finish.
- D. Color: As selected by The Jones Payne Group from manufacturer's standard range.

### 2.4 CEILING EXHAUST AND RETURN REGISTERS/GRILLES

- A. Type: Streamlined blades, 3/4 inch minimum depth, 3/4 inch maximum spacing, with blades set at 45 degrees, vertical face.
- B. Frame: 1-1/4 inch margin with countersunk screw mounting.
- C. Fabrication: Steel with 20 gage minimum frames and 22 gage minimum blades, steel and aluminum with 20 gage minimum frame, or aluminum extrusions, with factory baked enamel finish.
- D. Color: To be selected by The Jones Payne Group from manufacturer's standard range.

## 2.5 WALL SUPPLY REGISTERS/GRILLES

- A. Type: Streamlined and individually adjustable curved blades to discharge air along face of grille with one-way deflection.
- B. Frame: 1-1/4 inch margin with countersunk screw mounting and gasket.
- C. Fabrication: Aluminum extrusions with factory clear lacquer finish.
- D. Color: To be selected by The Jones Payne Group from manufacturer's standard range.

## 2.6 WALL EXHAUST AND RETURN REGISTERS/GRILLES

- A. Type: Streamlined blades, 3/4 inch minimum depth, 3/4 inch maximum spacing, with spring or other device to set blades, vertical face.
- B. Frame: 1-1/4 inch margin with countersunk screw mounting.
- C. Fabrication: Steel frames and blades, with factory baked enamel finish.
- D. Color: To be selected by The Jones Payne Group from manufacturer's standard range.

## 2.7 FLOOR SUPPLY REGISTERS/GRILLES

- A. Individually adjustable blades, wide stamped border, single or double blade damper with set screw adjustment.
- B. Fabricate of steel, welded construction, with factory baked enamel finish.

## 2.8 LOUVERS

- A. Type: 4 inch deep with blades on 45 degree slope with center baffle and return bend, heavy channel frame, 1/2 inch square mesh screen over exhaust and 1/2 inch square mesh screen over intake.
- B. Fabrication: 16 gage thick galvanized steel welded assembly, with factory prime coat finish.
- C. Color: To be selected by The Jones Payne Group from manufacturer's standard range.

## 2.9 EXTERIOR WALL EXHAUST AND OUTDOOR AIR INTAKE HOODS

- A. Fabricate air inlet or exhaust hoods in accordance with SMACNA HVAC Duct Construction Standards - Metal and Flexible.
- B. Fabricate of galvanized steel, minimum 26 gage; suitably reinforced; with removable hood; birdscreen with 1/2 inch square mesh for exhaust and intake, and factory prime coat finish.

## 2.10 ALUMINUM ARCHITECTURAL TIERED GRAVITY HOOD

- A. Curb caps and risers shall be formed of heavy gauge aluminum and the entire assembly braced by heavy interior aluminum upright angles at the corners and along the sides. Louver houses shall be shipped in pre-assembled sections.

B. Requirements:

1. Insect Screen: Framed insect screens .011” mesh aluminum.
2. Bird Screen: 3/4” expanded aluminum bird screen.
3. Insulation: 1” rigid insulation affixed to underside of roof.
4. Louvers: Extruded aluminum 0.080” thick, step blade louvers. Weather resistant.
5. Corners: Mitered
6. Finish: Powder Coat Enamel
7. Color: Bronze
8. Manufacturers
  - a. York by Johnson Controls: Roof mounted air intake/exhaust housing Model GHT
  - b. Greenheck louvered penthouse ventilator Model:WIH

PART 3 EXECUTION

3.1 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Check location of outlets and inlets and make necessary adjustments in position to conform with architectural features, symmetry, and lighting arrangement.
- C. Install diffusers to ductwork with air tight connection.
- D. Provide balancing dampers on duct take-off to diffusers, and grilles and registers, despite whether dampers are specified as part of the diffuser, or grille and register assembly.

END OF SECTION

# RIAC Sound Mitigation Program

## Phase 4 Group C - Lockwood - Mech Scope

**Codes Used:**

2012 IBC with 2013 RI Amendments  
2014 NEC with RI Amendments  
2012 NFPA

Project No.:

**Contract/IFB No. 26298**  
**AIP# 3-44-0003-XXX-2016**

Rhode Island Airport Corporation  
Theodore Francis Green Airport  
Warwick, Rhode Island



### **Bid documents**

#### **Vol. 3 – Plans & Details:**

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### **Lockwood Condos Positive Ventilation Treatment**

**PREPARED BY:**



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RIAC PHASE 4C  
LOCKWOOD CONDOS

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Project No. 201300.07 Contract No. 26298



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The Jones Payne Group, Inc.

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Sheet Title:  
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M-2.08	UNIT HVAC PLANS: BLDG A	UNITS: 214, 215
M-2.09	UNIT HVAC PLANS: BLDG A	UNITS: 216, 217, 218
M-2.10	UNIT HVAC PLANS: BLDG A	UNITS: 219, 220, 221, 222
M-2.11	UNIT HVAC PLANS: BLDG A	UNITS: 301, 302, 303, 304
M-2.12	UNIT HVAC PLANS: BLDG A	UNITS: 305, 306
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M-2.14	UNIT HVAC PLANS: BLDG A & B	UNITS: 310, 311, 312, 401
M-2.15	UNIT HVAC PLANS: BLDG B	UNITS: 402, 404, 405, 501
M-2.16	UNIT HVAC PLANS: BLDG B	UNITS: 502, 505, 506
M-2.17	UNIT HVAC PLANS: BLDG B	UNITS: 507, 509, 510
M-2.18	UNIT HVAC PLANS: BLDG C	UNITS: 601, 602, 603, 604
M-2.19	UNIT HVAC PLANS: BLDG C	UNITS: 605, 606, 607, 608
M-2.20	UNIT HVAC PLANS: BLDG C	UNITS: 609, 610, 611, 701
M-2.21	UNIT HVAC PLANS: BLDG C	UNITS: 702, 704, 705, 706
M-2.22	UNIT HVAC PLANS: BLDG C	UNITS: 707, 708, 709, 710
M-2.23	UNIT HVAC PLANS: BLDG C	UNITS: 711, 803, 804, 806
M-2.24	UNIT HVAC PLANS: BLDG C & D	UNITS: 807, 808, 809, 901
M-2.25	UNIT HVAC PLANS: BLDG D	UNITS: 902, 904, 905, 906
M-2.26	UNIT HVAC PLANS: BLDG D	UNITS: 907, 908, 909, 910
M-2.27	UNIT HVAC PLANS: BLDG D	UNITS: 911, 1001
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M-2.30	UNIT HVAC PLANS: BLDG D	UNITS: 1011, 1103, 1104, 1105
M-2.31	UNIT HVAC PLANS: BLDG D	UNITS: 1106, 1107, 1108

RIAC PHASE 4C  
LOCKWOOD CONDOS

1445 Warwick Ave.  
Warwick, RI 02886

Project No.201300.07 Contract No.26298

**jp** 123 Washington Street, Third Floor  
Boston Massachusetts 02114  
Tel: 617.790.3747 Fax: 617.790.3748  
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The Jones Payne Group, Inc.

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3	4/11/16	Addendum No. 001	SKC	MKP

Dwg. Scale: N/A

Sheet Title:  
**TABLE OF  
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**TOC-2**

WEST SHORE ROAD

PARKING LOT

BUILDING A (SCHOOL)

BUILDING B (GYM)

PARKING LOT

PARKING LOT

BUILDING C

COURTYARD

BUILDING D

PARKING LOT

OAK TREE AVENUE

LONG STREET

### RIAC PHASE 4C LOCKWOOD CONDOS

3518 W Shore Rd  
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Sheet Title:  
SITE PLAN

DWG No. C1



**GENERAL NOTES:**

THE FOLLOWING GENERAL NOTES CONSTITUTE A PORTION OF THE SCOPE OF WORK INCLUDED IN THE DRAWINGS FOR EACH RESIDENCE. REFER TO THE DRAWING FOR EACH RESIDENCE FOR SPECIAL REQUIREMENTS.

- A. INSTALL AND MAINTAIN, FOR THE DURATION OF THE WORK, TEMPORARY DUST-PROOF COVERINGS AND OTHER PROTECTION FOR EXISTING INTERIOR AND EXTERIOR SURFACES TO REMAIN
- B. THE CONTRACTOR IS TO PROVIDE IN EACH RESIDENCE A "ROOM OF REFUGE" FOR THE DURATION OF THE CONSTRUCTION PERIOD.
- C. DIMENSIONS PROVIDED IN THE PLANS AND SCHEDULE ARE FOR BIDDING PURPOSES ONLY. THE CONTRACTOR IS RESPONSIBLE FOR MEASURING ALL PRODUCTS FOR ORDERING.
- D. AT ALL LOCATIONS WHERE NEW CEILINGS ARE INDICATED, REMOVE EXISTING CEILING AND DISPOSE OF. COORDINATE EXTENT OF REMOVAL WITH THE REFLECTED CEILING PLAN AND THE CEILING FINISH SCHEDULE
- E. WHERE REMOVAL OR MODIFICATION OF EXISTING GYPSUM CEILING IS NECESSARY TO ACCOMMODATE NEW DUCTWORK INSTALLATION, PROVIDE AND INSTALL NEW CEILING TO MATCH COLOR AND FINISH, UNLESS OTHERWISE NOTED ON THE DRAWINGS. SEE KEY NOTES ON THE REFLECTED CEILING PLANS AND CEILING FINISH SCHEDULE FOR MORE DETAIL.
- F. WHERE REMOVAL AND REPLACEMENT OF EXISTING SUSPENDED CEILING GRID AND OR TILES IS IDENTIFIED, PROVIDE AND INSTALL NEW SUSPENDED CEILING GRID AND TILES TO MATCH EXISTING GRID SPACING, STYLE, COLOR AND FINISH. CAREFULLY DETACH RECESSED CAN LIGHTS, EXIT SIGNS AND SMOKE DETECTORS FROM EXISTING CEILING TILES AND REATTACH TO NEW CEILING TILES. SEE KEY NOTES ON REFLECTED CEILING PLANS AND CEILING FINISH SCHEDULE FOR MORE DETAIL.
- G. WHERE EXISTING SUSPENDED CEILINGS ARE TO REMAIN IN PLACE DURING INSTALLATION OF NEW DUCT WORK, CAREFULLY WORK AROUND THE EXISTING SUSPENDED CEILING HANGERS, T-GRID RUNNERS, LIGHT FIXTURES, SMOKE DETECTORS AND EXIT SIGNS TO PREVENT FROM DAMAGING. SEE NOTES ON REFLECTED CEILING PLANS AND CEILING SCHEDULE FOR MORE DETAIL.
- H. EXISTING CEILING STRUCTURE INSPECTION HOLES:
  - a. PROVIDE A MINIMUM 16"x16" INSPECTION HOLE IN EXISTING HALLWAY CEILING OF BUILDING A, 3RD FLOOR ATTIC PANEL AS INDICATED IN THE CONSTRUCTION DOCUMENTS TO ALLOW INSPECTION AND VERIFICATION OF EXISTING INSULATION BY ABATEMENT CONTRACTOR.
  - b. PROVIDE A MINIMUM 16"x16" INSPECTION HOLE IN EXISTING HALLWAY CEILING OF BUILDING A, 3RD FLOOR ATTIC ACCESS PANEL AS INDICATED IN THE CONSTRUCTION DOCUMENTS TO ALLOW INSPECTION AND VERIFICATION OF EXISTING STRUCTURE BY ARCHITECT.
  - c. CUTTING OF INSPECTION HOLE TO BE SCHEDULED SO THAT ARCHITECT CAN BE PRESENT.
- I. WHERE NEW GWB CEILINGS ARE TO BE INSTALLED, FINISH CEILINGS TO MATCH EXISTING CEILING FROM CORNER TO CORNER OR TO THE LIMITS OF THE WALLS PER THE CEILING FINISH SCHEDULE AND REFLECTED CEILING PLANS.
- J. WHERE ATTIC ACCESS PANEL (AAP) AND PULL-DOWN STAIR (PDS) LOCATIONS DIFFER FROM THE MECHANICAL PLANS, THE ARCHITECTURAL PLAN LOCATIONS SHALL GOVERN.

CEILING SCHEDULE				
BUILDING	UNIT	Cut & Patch Gyp. Ceiling Linear feet 2' wide for duct routing above existing ceiling	Spray on textured coating at gypsum ceilings	2x2 Ceiling Tile Square Feet
<b>Building A</b>				
<b>Lower Level</b>				
A	Lower Level Corridor	-	-	2440
A	101	40	156	
A	102	3	48	
A	104	24	840	
A	105	40	1100	
A	106	8	48	
A	107	16	200	
A	108	16	200	
A	109	16	200	
A	110	40	1100	
A	111	24	840	
A	114	3	48	
A	115	8	48	
<b>First Floor</b>				
A	First Floor Corridor	-	-	2740
A	201	40	930	
A	203	4	54	
A	204	24	620	
A	205	40	1100	
A	217	38	650	
A	218	36	1000	
A	219	24	620	
A	220	8	540	
A	221	8	480	
A	222	42	930	
<b>Building B</b>				
<b>First Floor</b>				
B	First Floor Corridor	-	-	700
B	North Stairwell	16	-	
B	401	20	1180	
B	404	20	1180	
<b>Second Floor</b>				
B	Second Floor Corridor	-	-	700
B	North Stairwell	16	-	
B	501	12	-	
B	502	12	-	
B	505	20	650	
B	506	12	-	
B	507	12	-	
B	510	20	650	
<b>Building C</b>				
<b>First Floor</b>				
C	First Floor Corridor	-	-	2500
C	602	18	625	
C	601	10	62	
C	603	4	12	
C	604	6	24	
C	605	6	16	
C	606	6	16	
C	607	6	16	
C	608	6	24	
C	609	4	12	
C	611	10	62	
C	610	18	625	
<b>Second Floor</b>				
C	Second Floor Corridor	-	-	2500
C	702	18	625	
C	701	10	62	
C	703	4	12	
C	704	6	24	
C	705	6	16	
C	706	6	16	
C	707	6	16	
C	708	6	24	
C	709	4	12	
C	711	10	62	
C	710	18	625	
<b>Third Floor</b>				
C	Third Floor Corridor	-	-	670
C	803	4	12	
C	804	6	24	
C	806	6	16	
C	807	6	16	
C	808	6	24	
C	809	4	12	

CEILING SCHEDULE				
BUILDING	UNIT	Cut & Patch Gyp. Ceiling Linear feet 2' wide for duct routing above existing ceiling	Spray on textured coating at gypsum ceilings	2x2 Ceiling Tile Square Feet
<b>Building D</b>				
<b>First Floor</b>				
D	First Floor Corridor	-	-	2500
D	902	18	625	
D	901	10	62	
D	904	6	24	
D	905	6	16	
D	906	6	16	
D	907	6	16	
D	908	6	24	
D	909	4	12	
D	911	10	62	
D	910	18	625	
<b>Second Floor</b>				
D	Second Floor Corridor	-	-	2500
D	1002	18	625	
D	1001	10	62	
D	1003	4	12	
D	1004	6	24	
D	1005	6	16	
D	1006	6	16	
D	1007	6	16	
D	1009	4	12	
D	1011	10	62	
D	1010	18	625	
<b>Third Floor</b>				
D	Third Floor Corridor	-	-	670
D	1103	4	12	
D	1104	6	24	
D	1105	6	16	
D	1106	6	16	
D	1107	6	16	
D	1108	18	625	

WALL PAINT SCHEDULE			
Building	Location	Wall	Quantity
B	North stair well	East	180 Sq. Ft.
		South	120 Sq. Ft.
		West	200 Sq. Ft.

**RIAC PHASE 4C  
LOCKWOOD CONDOS**

3518 W Shore Rd  
Warwick, RI 02886

Project No. 201300.07 Contract No. 26298



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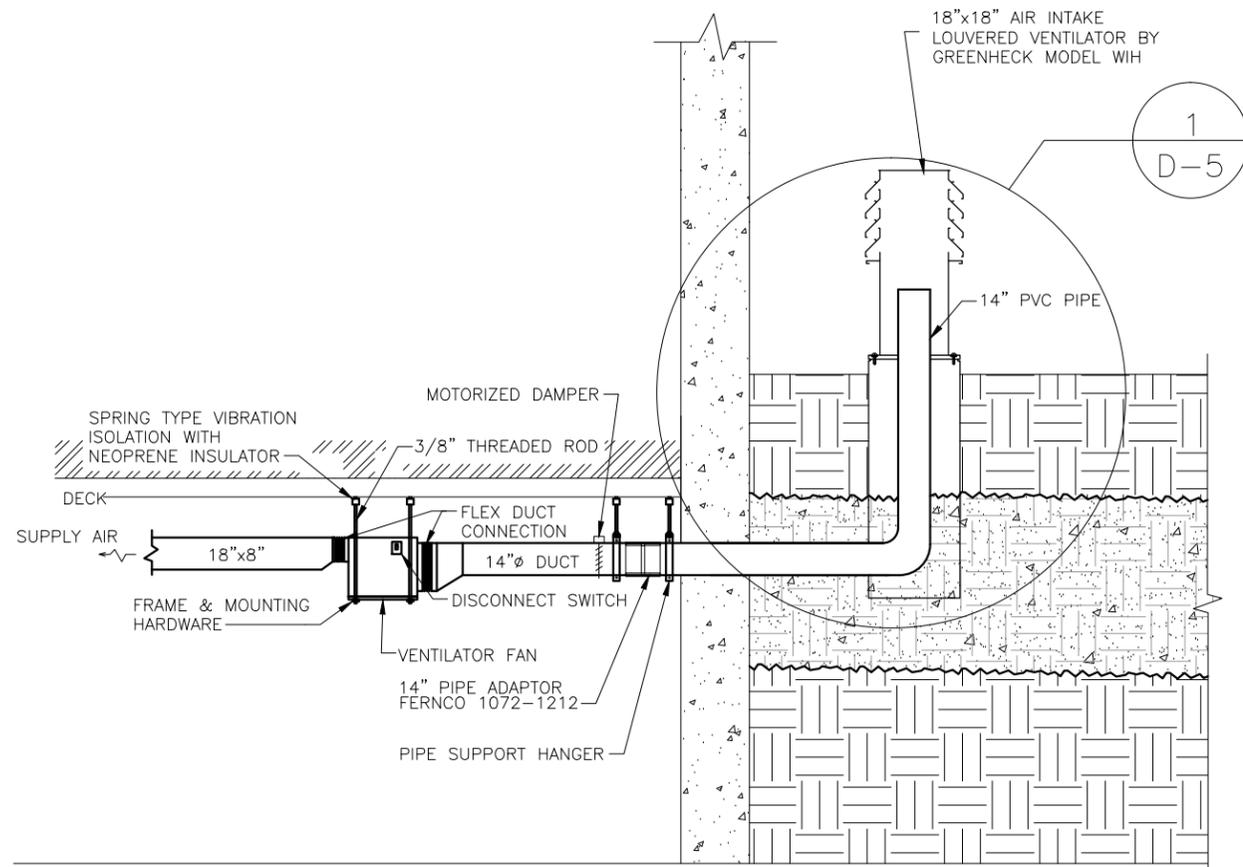
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**ARCHITECTURAL LEGEND,  
NOTES AND SCHEDULES**

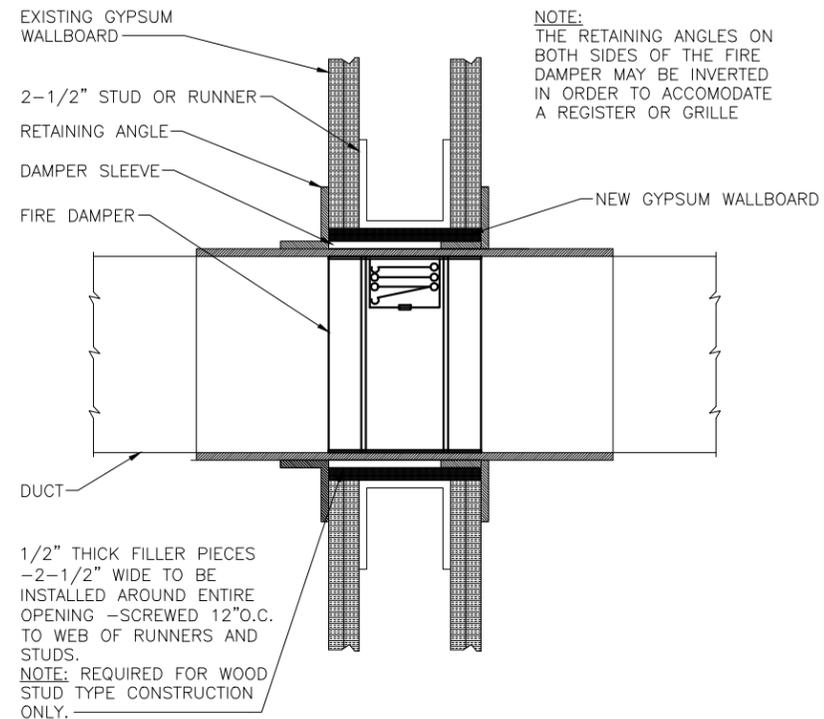
**L - 1**







1  
D-2 NTS **VENTILATOR FAN INSTALLATION DETAIL (LOWER LEVEL)**



2  
D-2 NTS **FIRE DAMPER INSTALLATION DETAIL**  
(WALL RATING- 2 HOUR)

**RIAC PHASE 4C  
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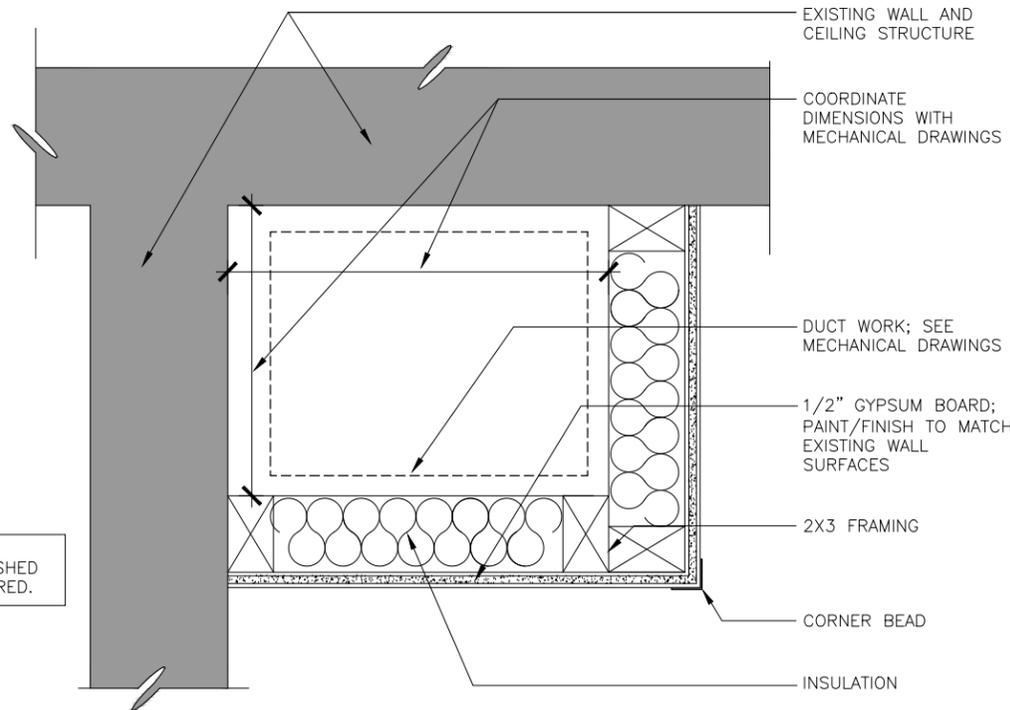
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Sheet Title:  
**HVAC DETAILS**

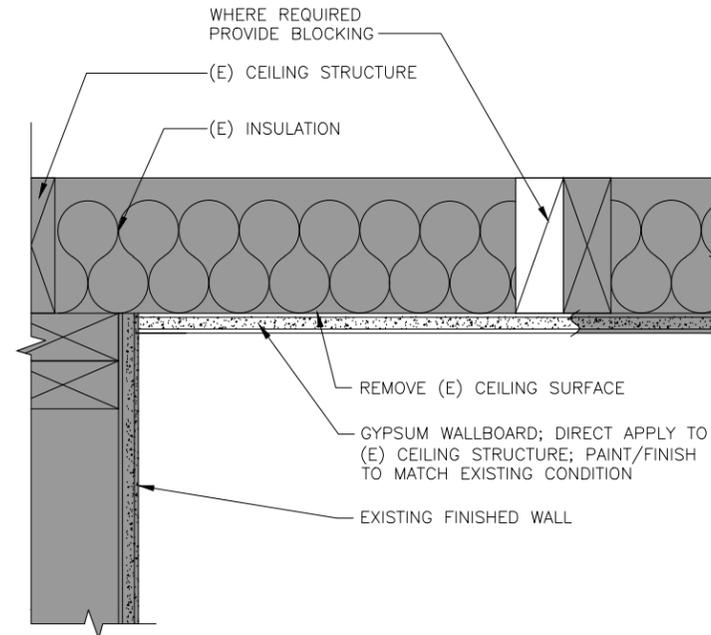
**D-2**



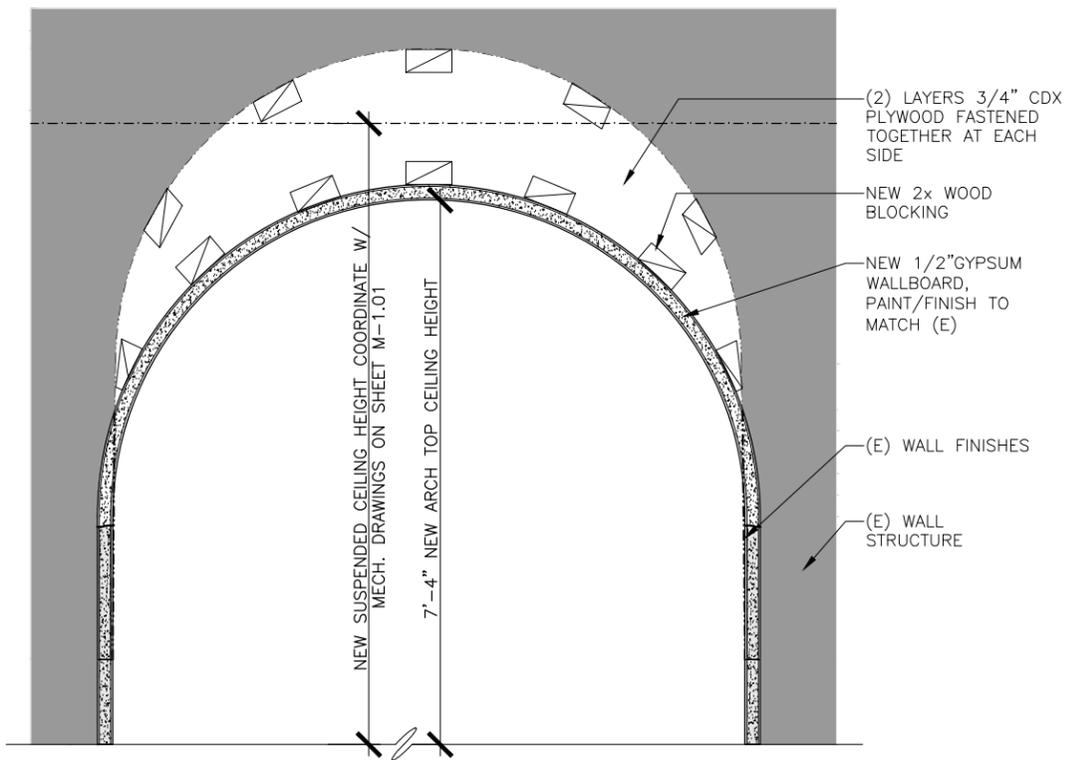


NOTES:  
1. CUT BACK FINISHED CEILING AS REQUIRED.

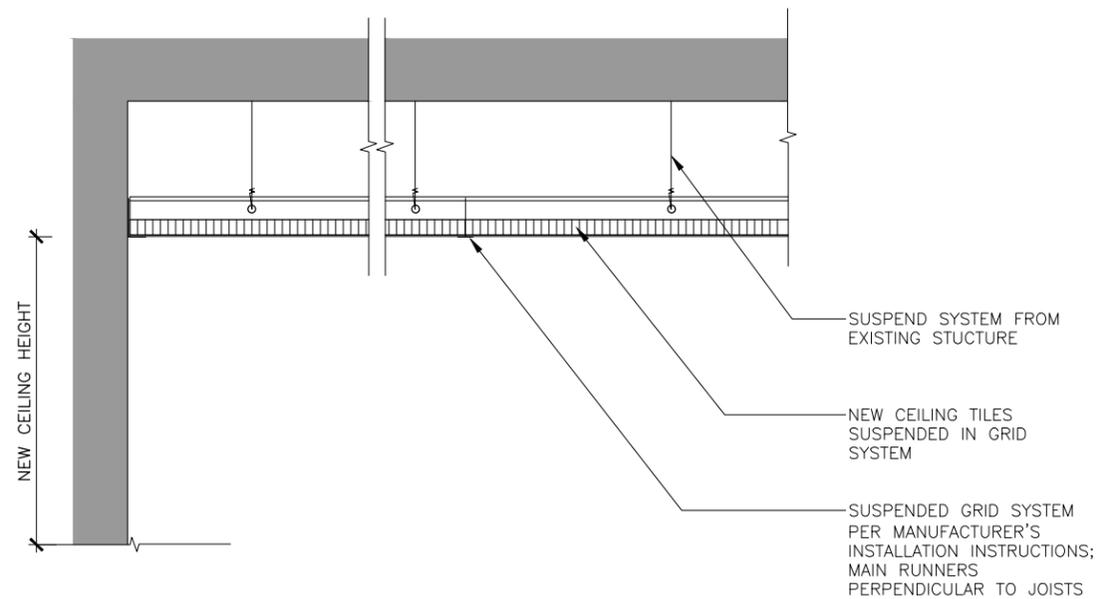
5  
D-4 NTS  
**NEW GYPSUM DUCT SOFFIT AT INTERIOR (TYP.)**



6  
D-4 NTS  
**CUT, PATCH & FINISH CEILING TO MATCH EXISTING**



7  
D-4 NTS  
**NEW ARCHTOP DOORWAY**



8  
D-4 NTS  
**NEW SUSPENDED CEILING SYSTEM**

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Dwg. Scale: NTS

Sheet Title:  
**ARCHITECTURAL DETAILS**

**D-4**

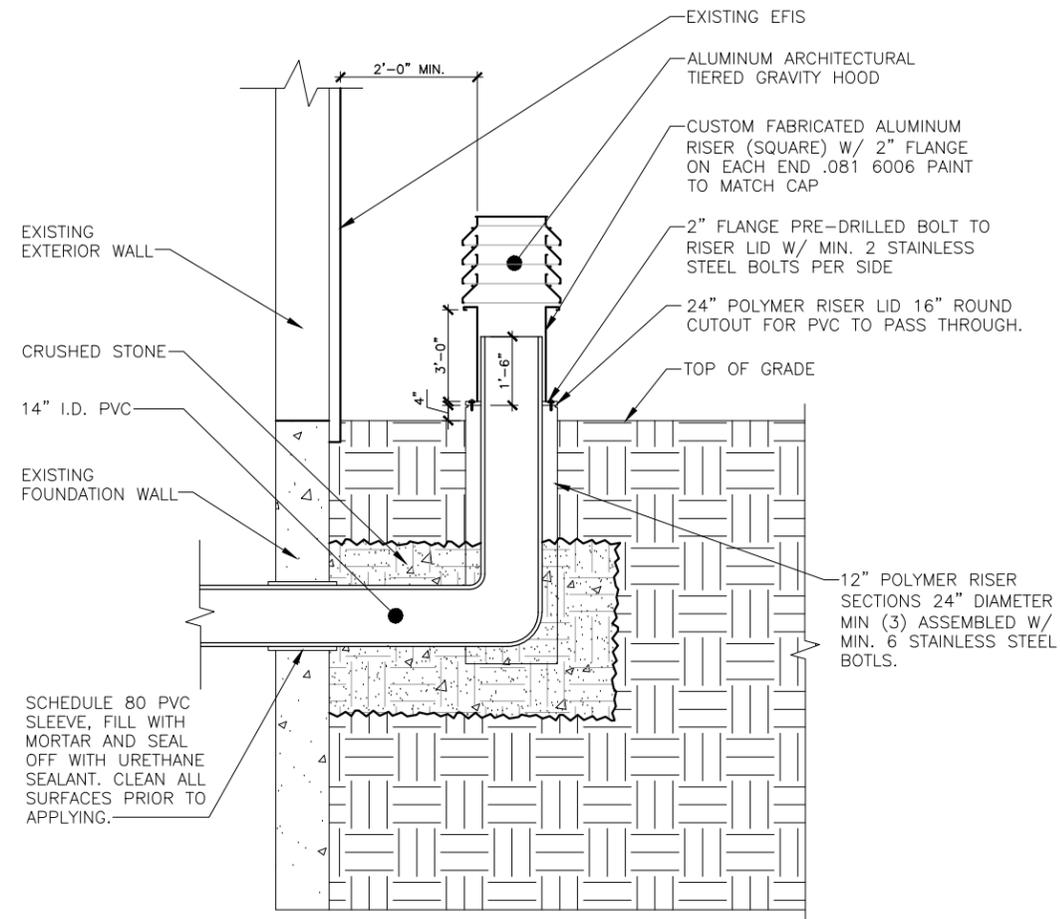
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1  
D-5 NTS  
**HOOD AT AIR INTAKE**

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3	4/11/16	Addendum No. 001	SKC	MKP

Dwg. Scale: NTS

Sheet Title:  
**ARCHITECTURAL DETAILS**

**D-5**

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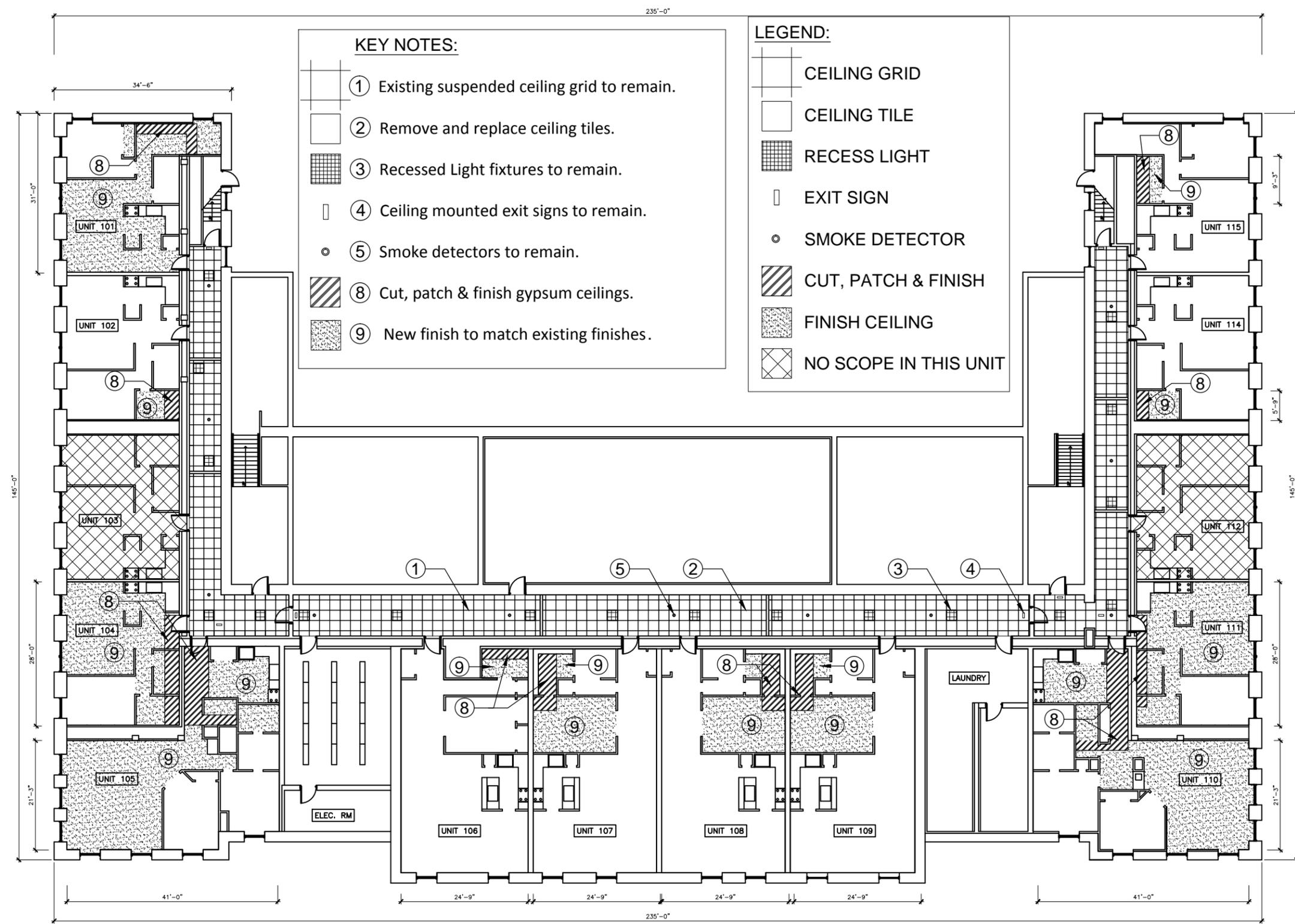
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3	4/11/16	Addendum No. 001	SKC	MKP

Dwg. Scale: 3/64" = 1'-0"

**Sheet Title:**  
REFLECTED CEILING PLAN  
BUILDING A  
LOWER LEVEL

**A-1**



**RIAC PHASE 4C  
LOCKWOOD CONDOS**

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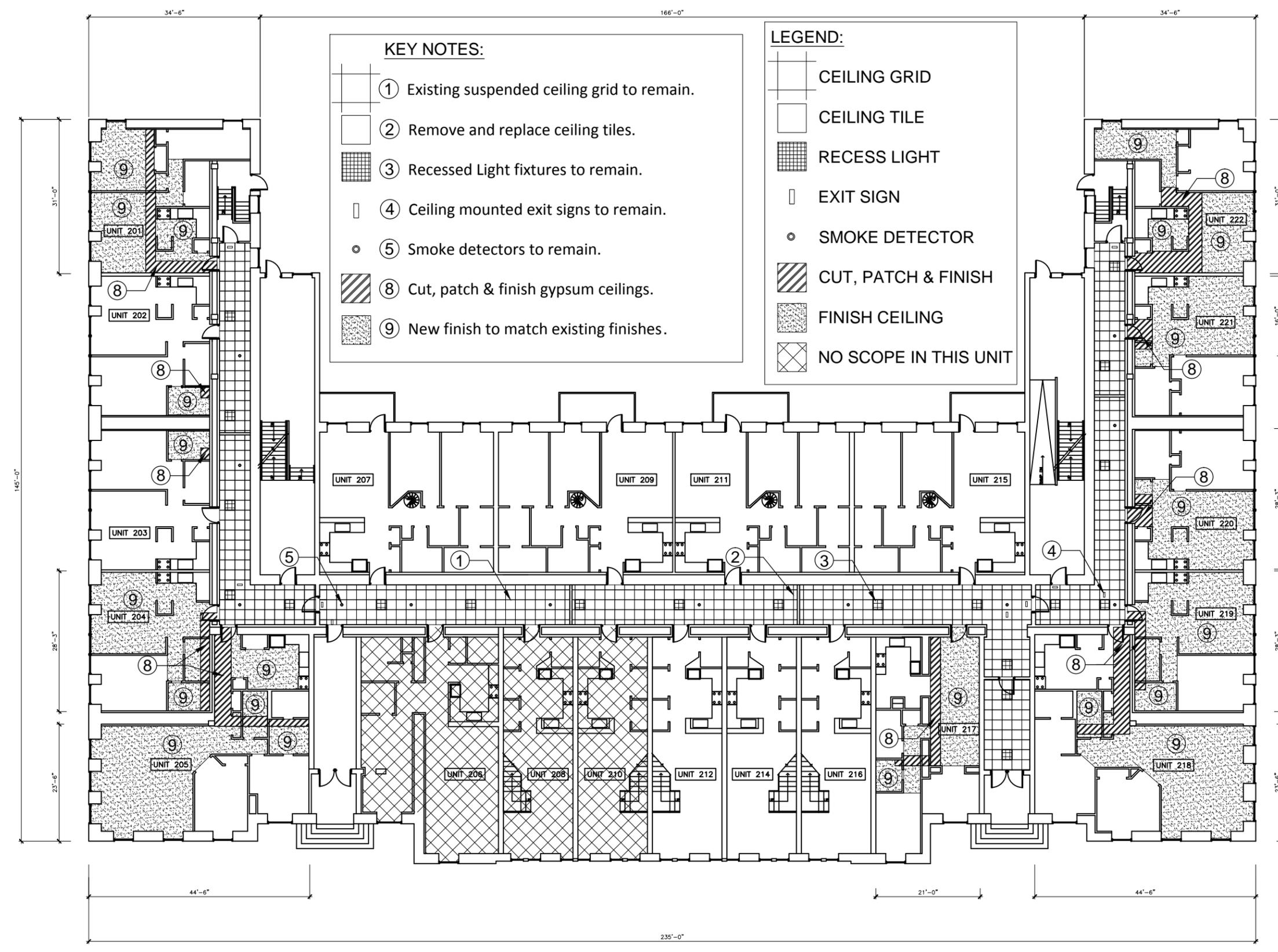
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3	4/11/16	Addendum No. 001	SKC	MKP

Dwg. Scale: 3/64 = 1'

**Sheet Title:**  
REFLECTED CEILING PLAN  
BUILDING A (SCHOOL)  
FIRST FLOOR

**A-2**



**RIAC PHASE 4C  
LOCKWOOD CONDOS**

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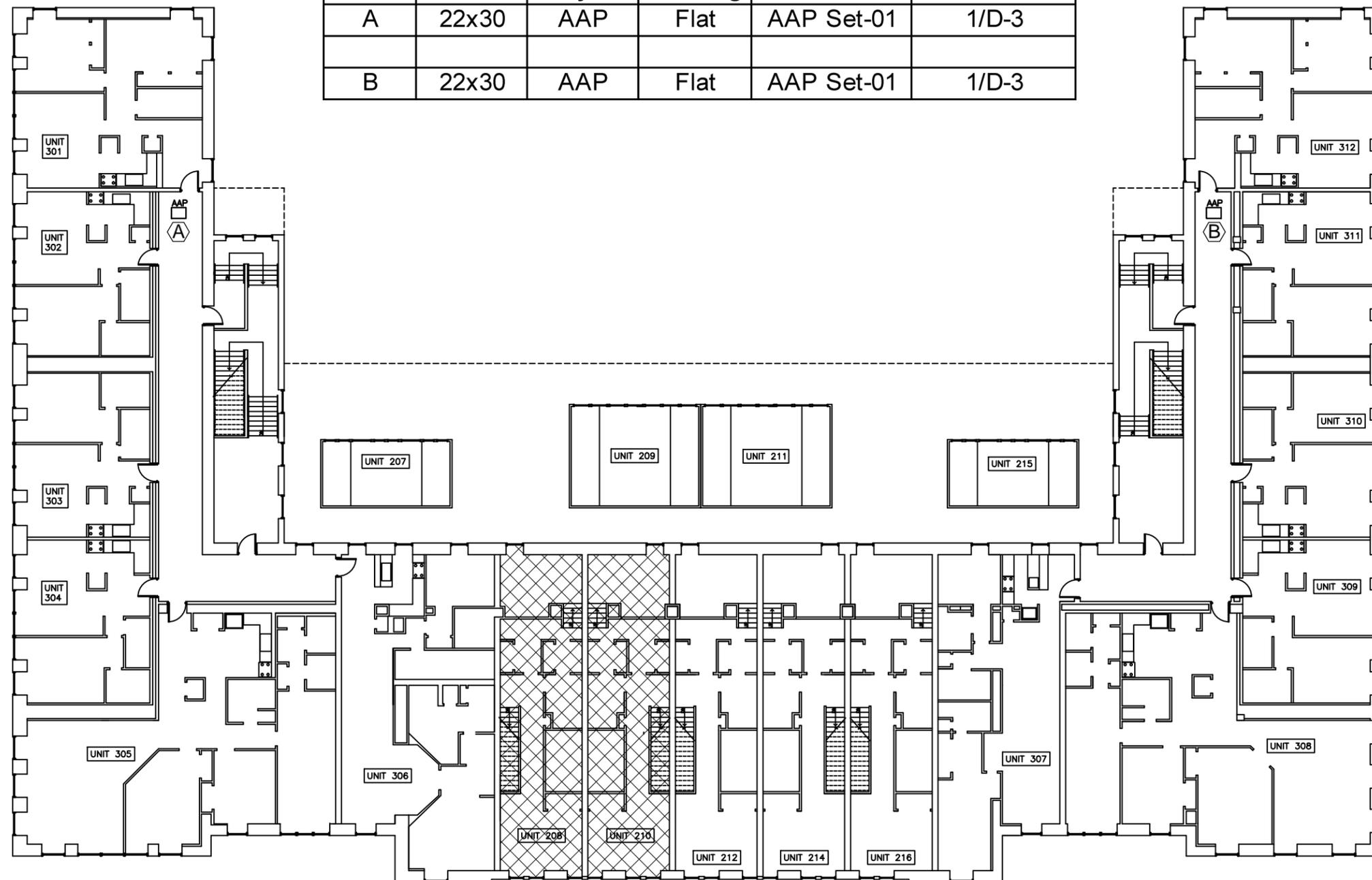
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**LEGEND:**

-  AAP NEW ATTIC ACCESS PANEL
-  NO SCOPE IN THIS UNIT

DOOR SCHEDULE					
Door	Size	Style	Caseing	Hardware	Detail
A	22x30	AAP	Flat	AAP Set-01	1/D-3
B	22x30	AAP	Flat	AAP Set-01	1/D-3



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Dwg. Scale: 3/64" = 1'-0"

**Sheet Title:**  
REFLECTED CEILING PLAN  
BUILDING A  
SECOND FLOOR

**A-3**

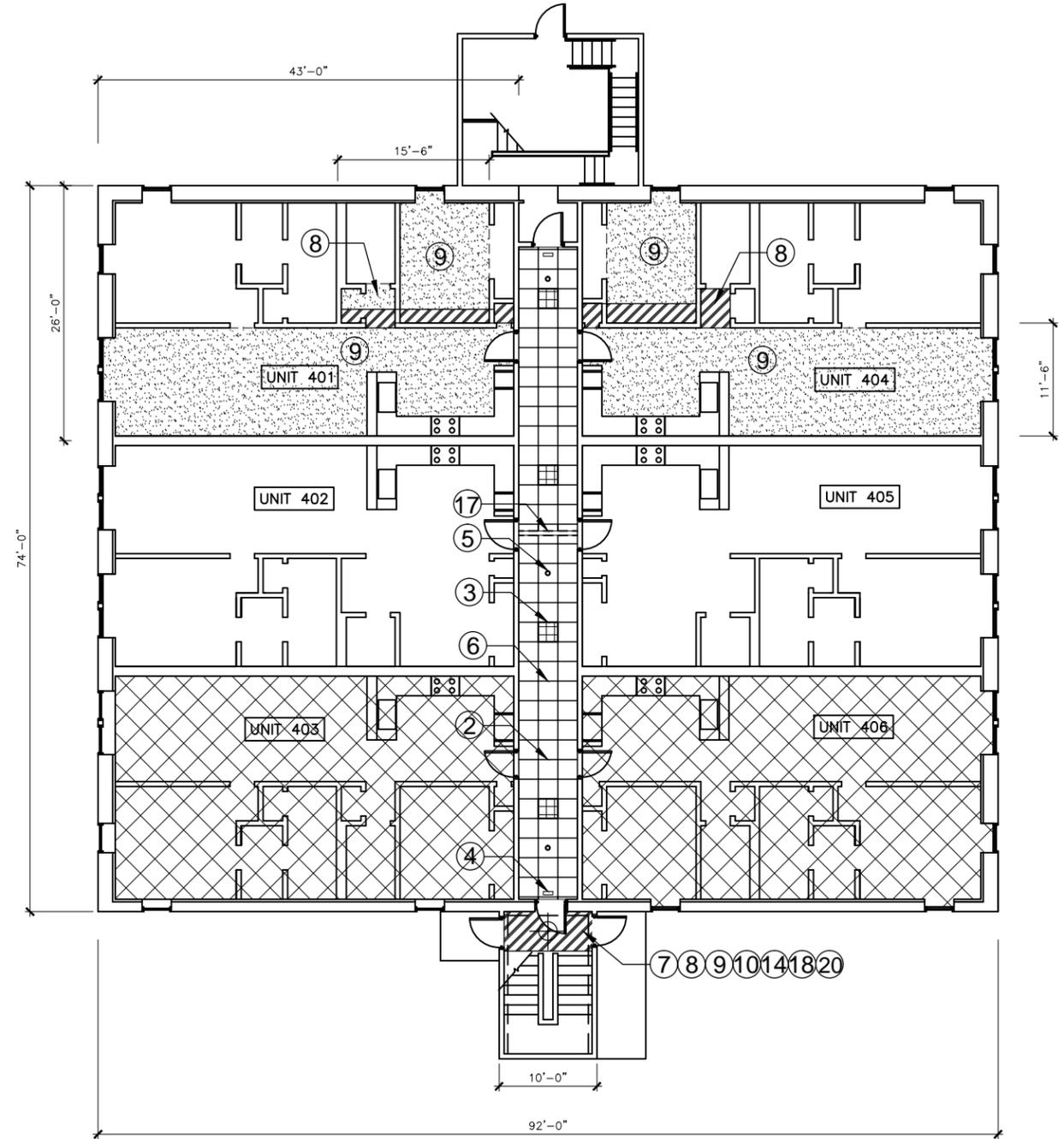
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**LEGEND:**

- CEILING GRID
- CEILING TILE
- RECESS LIGHT
- EXIT SIGN
- SMOKE DETECTOR
- CUT, PATCH & FINISH
- FINISH CEILING
- NO SCOPE IN THIS UNIT
- GYP. BOARD ARCHWAY
- SURFACE MOUNTED LIGHT
- REFINISH AND PAINT WALL (MATCH EXISTING)

**KEY NOTES:**

- ② Remove and replace ceiling tiles.
- ③ Recessed Light fixtures to remain.
- ④ Ceiling mounted exit signs to remain.
- ⑤ Smoke detectors to remain.
- ⑥ New ceiling grid to be installed at same height.
- ⑦ Provide new gypsum board duct soffit. (See detail 5 of sheet D-4)
- ⑧ Cut, patch & finish gypsum ceilings. (See detail 6 of sheet D-4)
- ⑨ New finish to match existing finishes.
- ⑩ New gypsum ceiling height to accommodate new mechanical ductwork. Coordinate with mechanical plans.
- ⑭ Remove and reinstall smoke detector.
- ⑰ Existing gyp. board archway to remain.
- ⑱ New recessed light fixture.
- ⑳ Angle ceiling at stair treads to maintain minimum ceiling height to meet code requirements.

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Dwg. Scale: 1/16" = 1'-0"

**Sheet Title:**  
REFLECTED CEILING PLAN  
BUILDING B  
FIRST FLOOR

**A-4**

**RIAC PHASE 4C  
LOCKWOOD CONDOS**

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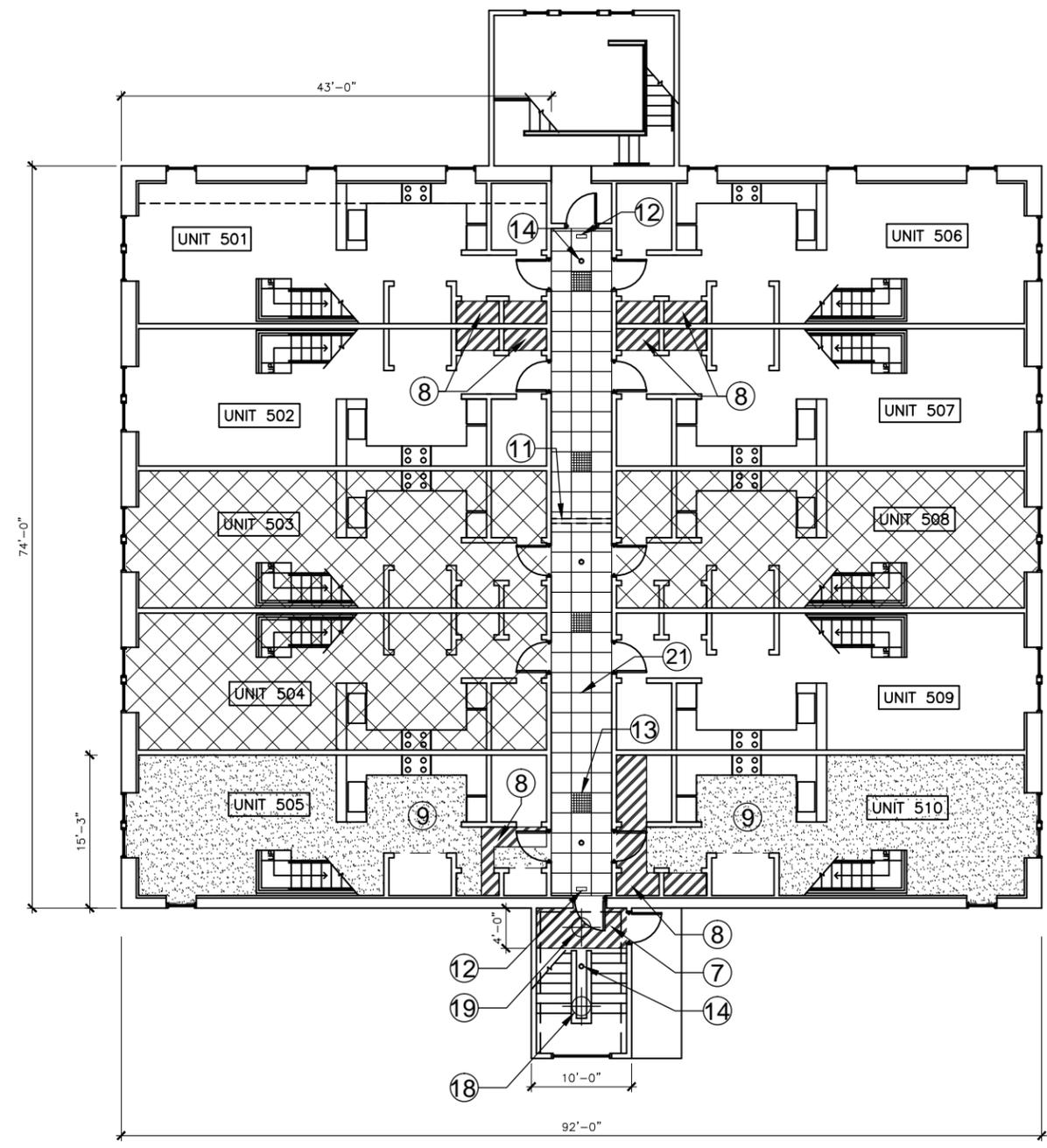
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**LEGEND:**

-  CEILING GRID
-  CEILING TILE
-  RECESS LIGHT
-  EXIT SIGN
-  SMOKE DETECTOR
-  CUT, PATCH & FINISH
-  FINISH CEILING
-  NO SCOPE IN THIS UNIT
-  GYP. BOARD ARCHWAY
-  SURFACE MOUNTED LIGHT
-  REFINISH AND PAINT WALL (MATCH EXISTING)



**KEY NOTES:**

-  ⑦ Provide new gypum board duct soffit. (see detail 5 of sheet D-4)
-  ⑧ Cut, patch & finish gypsum ceilings. (See detail 6 of sheet D-4)
-  ⑨ New finish to match existing finishes.
-  ⑪ Rebuild/modify existing gypsum board archtop doorway. (See detail 7 of sheet D-4)
-  ⑫ Remove and reinstall ceiling mounted exit sign.
-  ⑬ Remove and reinstall light fixtures.
-  ⑭ Relocate existing smoke detector.
-  ⑮ Relocate existing light fixture.
-  ⑯ New recessed light fixture on existing switch.
-  ⑰ New ceiling grid. New ceiling height to accommodate new mechanical ductwork. Coordinate with mechanical plans.

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Dwg. Scale: 1/16" = 1'-0"

Sheet Title:  
**REFLECTED CEILING PLAN  
BUILDING B  
SECOND FLOOR**

**A-5**



**RIAC PHASE 4C  
LOCKWOOD CONDOS**

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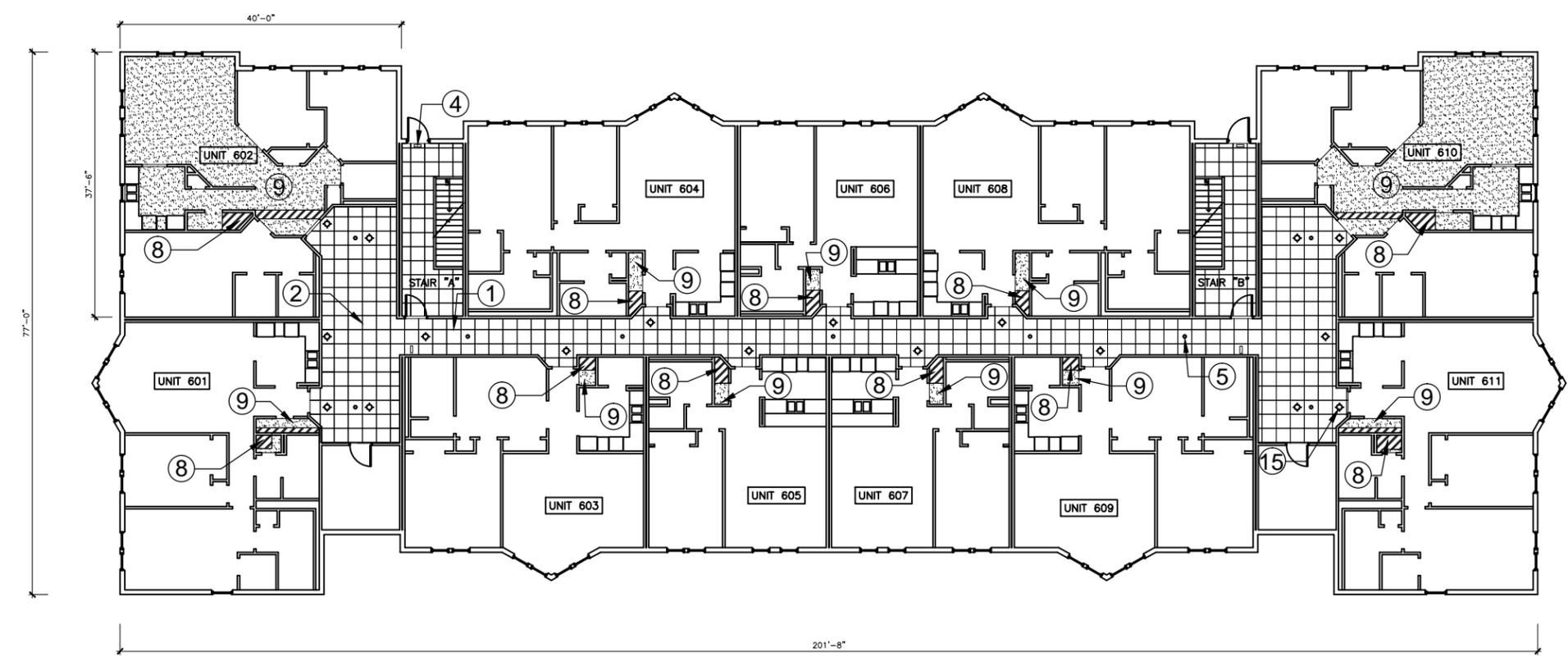
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**KEY NOTES:**

-  ① Existing suspended ceiling grid to remain.
-  ② Remove and replace ceiling tiles.
-  ④ Ceiling mounted exit signs to remain.
-  ⑤ Smoke detectors to remain.
-  ⑧ Cut, patch & paint gypsum ceilings.
-  ⑨ Paint to match existing finishes.
-  ⑮ Existing recessed "can" lights to remain.

**LEGEND:**

-  CEILING GRID
-  CEILING TILE
-  RECESS LIGHT
-  EXIT SIGN
-  SMOKE DETECTOR
-  CUT & PATCH
-  PAINT CEILING



**Submission/Revisions:**

#	date	description	by	chk
1	3/1/16	90% Submittal	JDT	SKC
2	3/28/16	100% Submittal	JDT	SKC
3	4/11/16	Addendum No. 001	SKC	MKP

Dwg. Scale: 3/64" = 1'-0"

**Sheet Title:**  
REFLECTED CEILING PLAN  
BUILDING C  
FIRST FLOOR

**A-6**

**RIAC PHASE 4C  
LOCKWOOD CONDOS**

3518 W Shore Rd  
Warwick, RI 02886

Project No. 201300.07 Contract No. 26298

**jp** 123 Washington Street, Third Floor  
Boston Massachusetts 02114  
Tel: 617.790.3747 Fax: 617.790.3748  
Email: postoffice@jonespayne.com

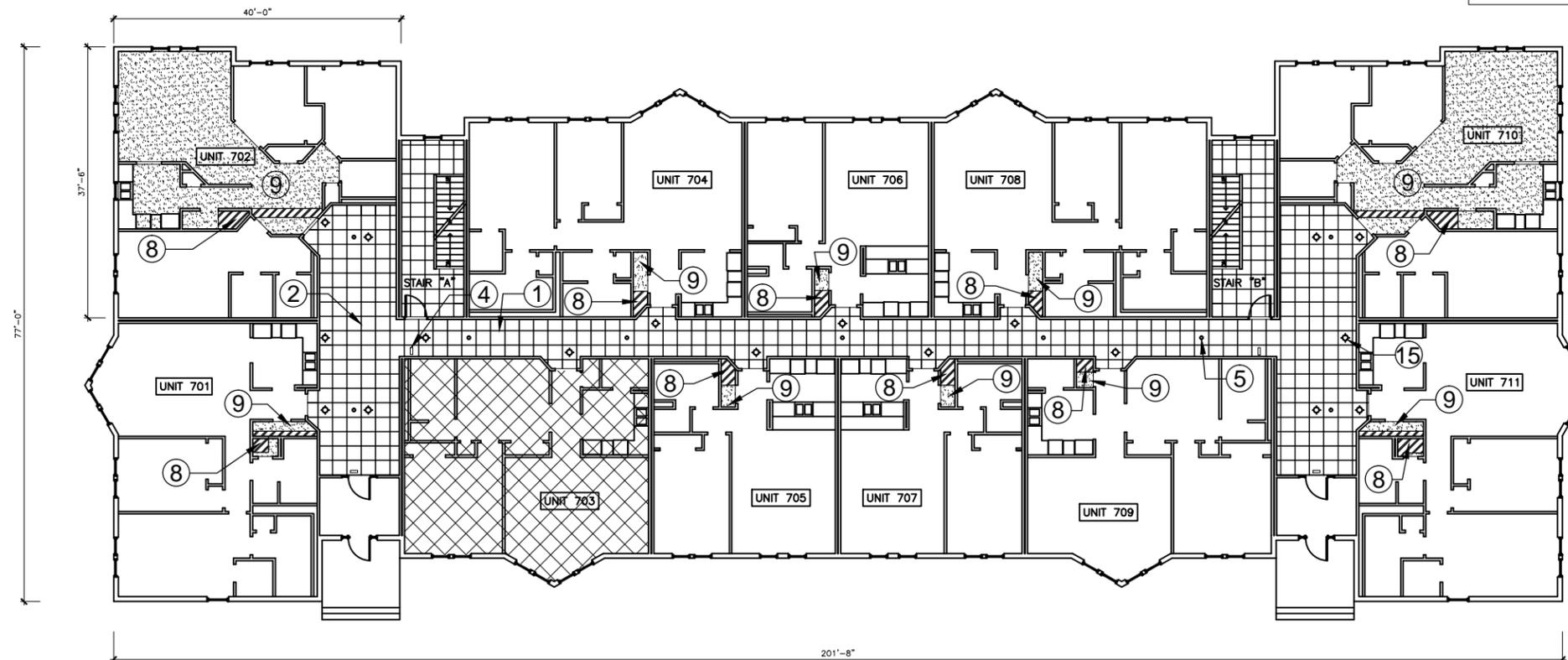
The Jones Payne Group, Inc.

**KEY NOTES:**

-  ① Existing suspended ceiling grid to remain.
-  ② Remove and replace ceiling tiles.
-  ④ Ceiling mounted exit signs to remain.
-  ⑤ Smoke detectors to remain.
-  ⑧ Cut, patch & paint gypsum ceilings.
-  ⑨ Paint to match existing finishes.
-  ⑮ Existing recessed "can" lights to remain.

**LEGEND:**

-  CEILING GRID
-  CEILING TILE
-  RECESS LIGHT
-  EXIT SIGN
-  SMOKE DETECTOR
-  CUT & PATCH
-  PAINT CEILING
-  NO SCOPE IN THIS UNIT



**Submission/Revisions:**

#	date	description	by	chk
1	3/1/16	90% Submittal	JDT	SKC
2	3/28/16	100% Submittal	JDT	SKC
3	4/11/16	Addendum No. 001	SKC	MKP

Dwg. Scale: 3/64" = 1'-0"

**Sheet Title:**  
REFLECTED CEILING PLAN  
BUILDING C  
SECOND FLOOR

**A-7**

**RIAC PHASE 4C  
LOCKWOOD CONDOS**

3518 W Shore Rd  
Warwick, RI 02886

Project No. 201300.07 Contract No. 26298

**jp** 123 Washington Street, Third Floor  
Boston Massachusetts 02114  
Tel: 617.790.3747 Fax: 617.790.3748  
Email: postoffice@jonespayne.com

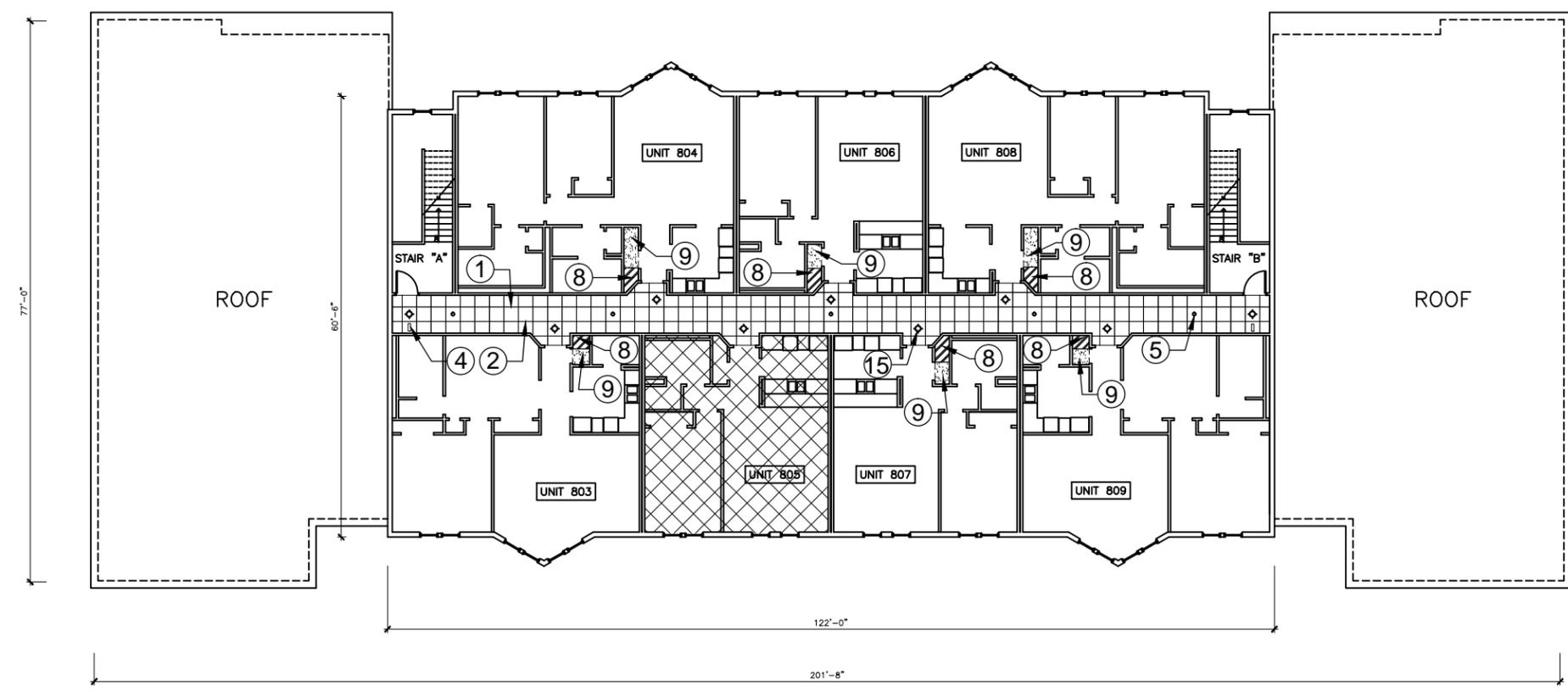
The Jones Payne Group, Inc.

**KEY NOTES:**

-  ① Existing suspended ceiling grid to remain.
-  ② Remove and replace ceiling tiles.
-  ④ Ceiling mounted exit signs to remain.
-  ⑤ Smoke detectors to remain.
-  ⑧ Cut, patch & paint gypsum ceilings.
-  ⑨ Paint to match existing finishes.
-  ⑮ Existing recessed "can" lights to remain.

**LEGEND:**

-  CEILING GRID
-  CEILING TILE
-  RECESS LIGHT
-  EXIT SIGN
-  SMOKE DETECTOR
-  CUT & PATCH
-  PAINT CEILING
-  NO SCOPE IN THIS UNIT



**Submission/Revisions:**

#	date	description	by	chk
1	3/1/16	90% Submittal	JDT	SKC
2	3/28/16	100% Submittal	JDT	SKC
3	4/11/16	Addendum No. 001	SKC	MKP

Dwg. Scale: 3/64" = 1'-0"

**Sheet Title:**  
REFLECTED CEILING PLAN  
BUILDING C  
THIRD FLOOR

**A-8**

**RIAC PHASE 4C  
LOCKWOOD CONDOS**

3518 W Shore Rd  
Warwick, RI 02886

Project No. 201300.07 Contract No. 26298

**jp** 123 Washington Street, Third Floor  
Boston Massachusetts 02114  
Tel: 617.790.3747 Fax: 617.790.3748  
Email: postoffice@jonespayne.com

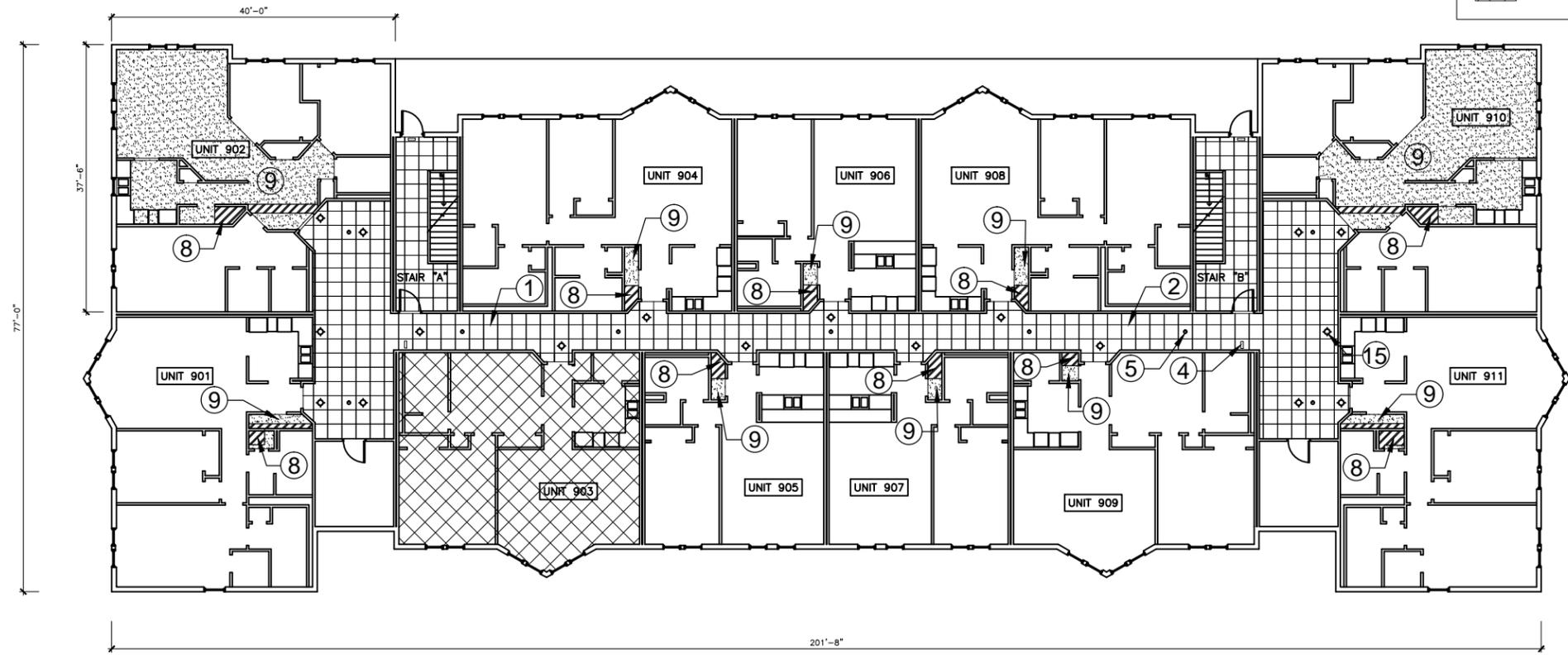
The Jones Payne Group, Inc.

**KEY NOTES:**

-  ① Existing suspended ceiling grid to remain.
-  ② Remove and replace ceiling tiles.
-  ④ Ceiling mounted exit signs to remain.
-  ⑤ Smoke detectors to remain.
-  ⑧ Cut, patch & paint gypsum ceilings.
-  ⑨ Paint to match existing finishes.
-  ⑮ Existing recessed "can" lights to remain.

**LEGEND:**

-  CEILING GRID
-  CEILING TILE
-  RECESS LIGHT
-  EXIT SIGN
-  SMOKE DETECTOR
-  CUT & PATCH
-  PAINT CEILING
-  NO SCOPE IN THIS UNIT



**Submission/Revisions:**

#	date	description	by	chk
1	3/1/16	90% Submittal	JDT	SKC
2	3/28/16	100% Submittal	JDT	SKC
3	4/11/16	Addendum No. 001	SKC	MKP

Dwg. Scale: 3/64" = 1'-0"

**Sheet Title:**  
REFLECTED CEILING PLAN  
BUILDING D  
FIRST FLOOR

**A-9**

**RIAC PHASE 4C  
LOCKWOOD CONDOS**

3518 W Shore Rd  
Warwick, RI 02886

Project No. 201300.07 Contract No. 26298

**jp** 123 Washington Street, Third Floor  
Boston Massachusetts 02114  
Tel: 617.790.3747 Fax: 617.790.3748  
Email: postoffice@jonespayne.com

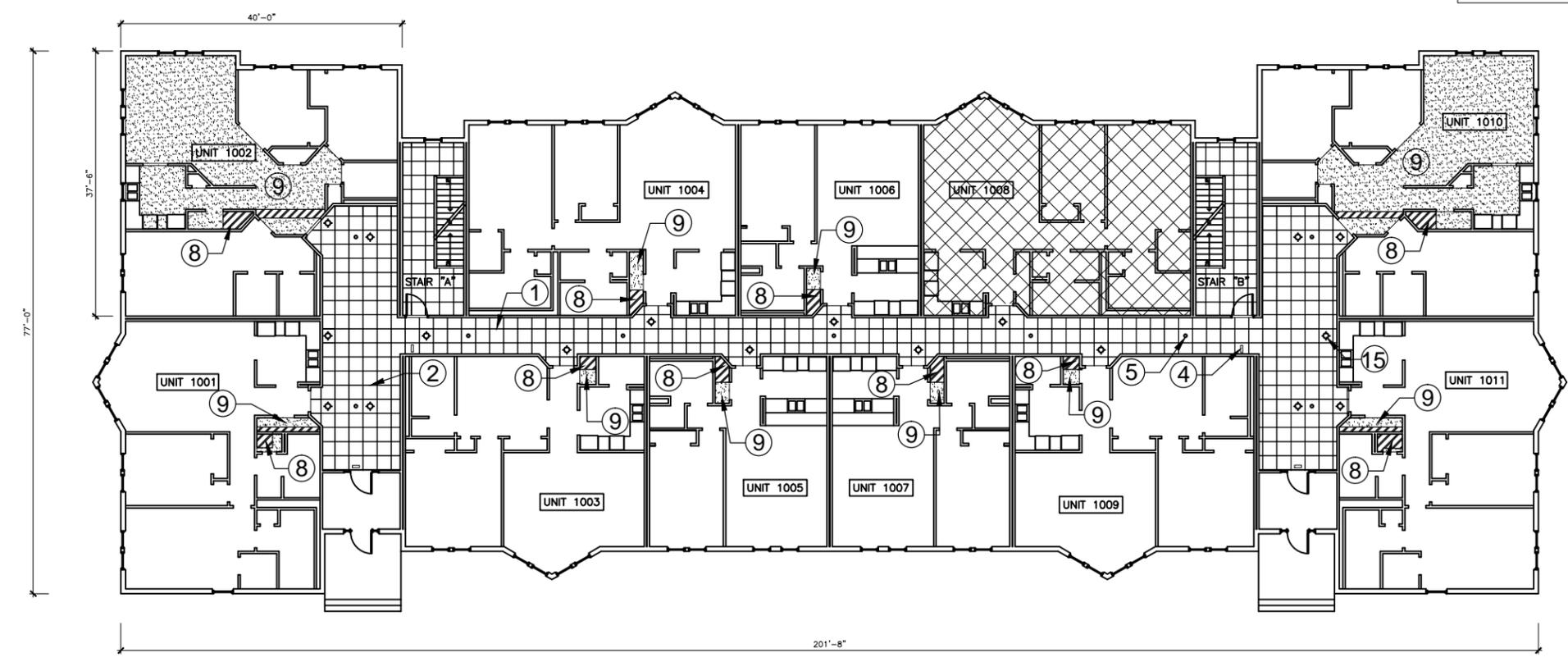
The Jones Payne Group, Inc.

**KEY NOTES:**

- ① Existing suspended ceiling grid to remain.
- ② Remove and replace ceiling tiles.
- ④ Ceiling mounted exit signs to remain.
- ⑤ Smoke detectors to remain.
- ⑧ Cut, patch & paint gypsum ceilings.
- ⑨ Paint to match existing finishes.
- ⑮ Existing recessed "can" lights to remain.

**LEGEND:**

- CEILING GRID
- CEILING TILE
- RECESS LIGHT
- EXIT SIGN
- SMOKE DETECTOR
- CUT & PATCH
- PAINT CEILING
- NO SCOPE IN THIS UNIT



**Submission/Revisions:**

#	date	description	by	chk
1	3/1/16	90% Submittal	JDT	SKC
2	3/28/16	100% Submittal	JDT	SKC
3	4/11/16	Addendum No. 001	SKC	MKP

Dwg. Scale: 3/64" = 1'-0"

**Sheet Title:**  
REFLECTED CEILING PLAN  
BUILDING D  
SECOND FLOOR

**A-10**

**RIAC PHASE 4C  
LOCKWOOD CONDOS**

3518 W Shore Rd  
Warwick, RI 02886

Project No. 201300.07 Contract No. 26298

**jp** 123 Washington Street, Third Floor  
Boston Massachusetts 02114  
Tel: 617.790.3747 Fax: 617.790.3748  
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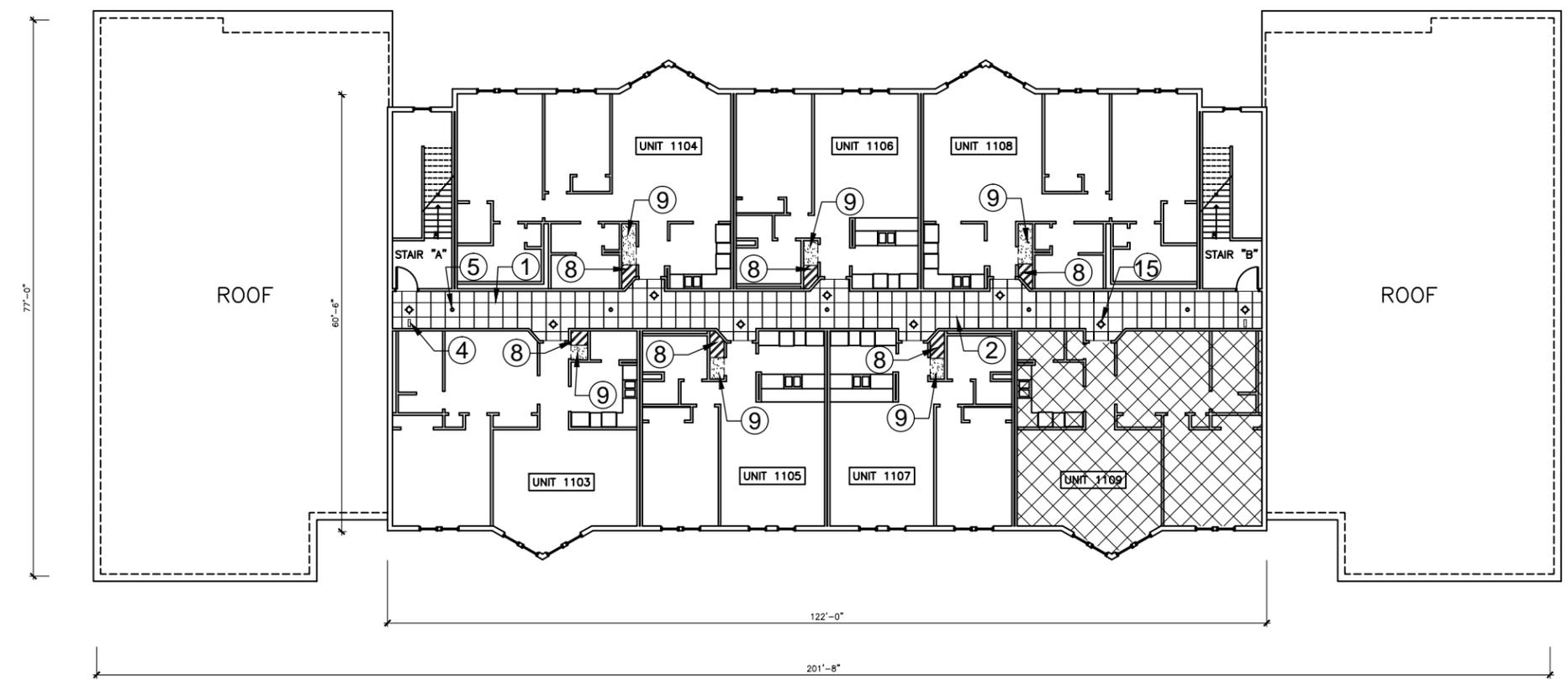
The Jones Payne Group, Inc.

**KEY NOTES:**

-  ① Existing suspended ceiling grid to remain.
-  ② Remove and replace ceiling tiles.
-  ④ Ceiling mounted exit signs to remain.
-  ⑤ Smoke detectors to remain.
-  ⑧ Cut, patch & paint gypsum ceilings.
-  ⑨ Paint to match existing finishes.
-  ⑮ Existing recessed "can" lights to remain.

**LEGEND:**

-  CEILING GRID
-  CEILING TILE
-  RECESS LIGHT
-  EXIT SIGN
-  SMOKE DETECTOR
-  CUT & PATCH
-  PAINT CEILING
-  NO SCOPE IN THIS UNIT



**Submission/Revisions:**

#	date	description	by	chk
1	3/1/16	90% Submittal	JDT	SKC
2	3/28/16	100% Submittal	JDT	SKC
3	4/11/16	Addendum No. 001	SKC	MKP

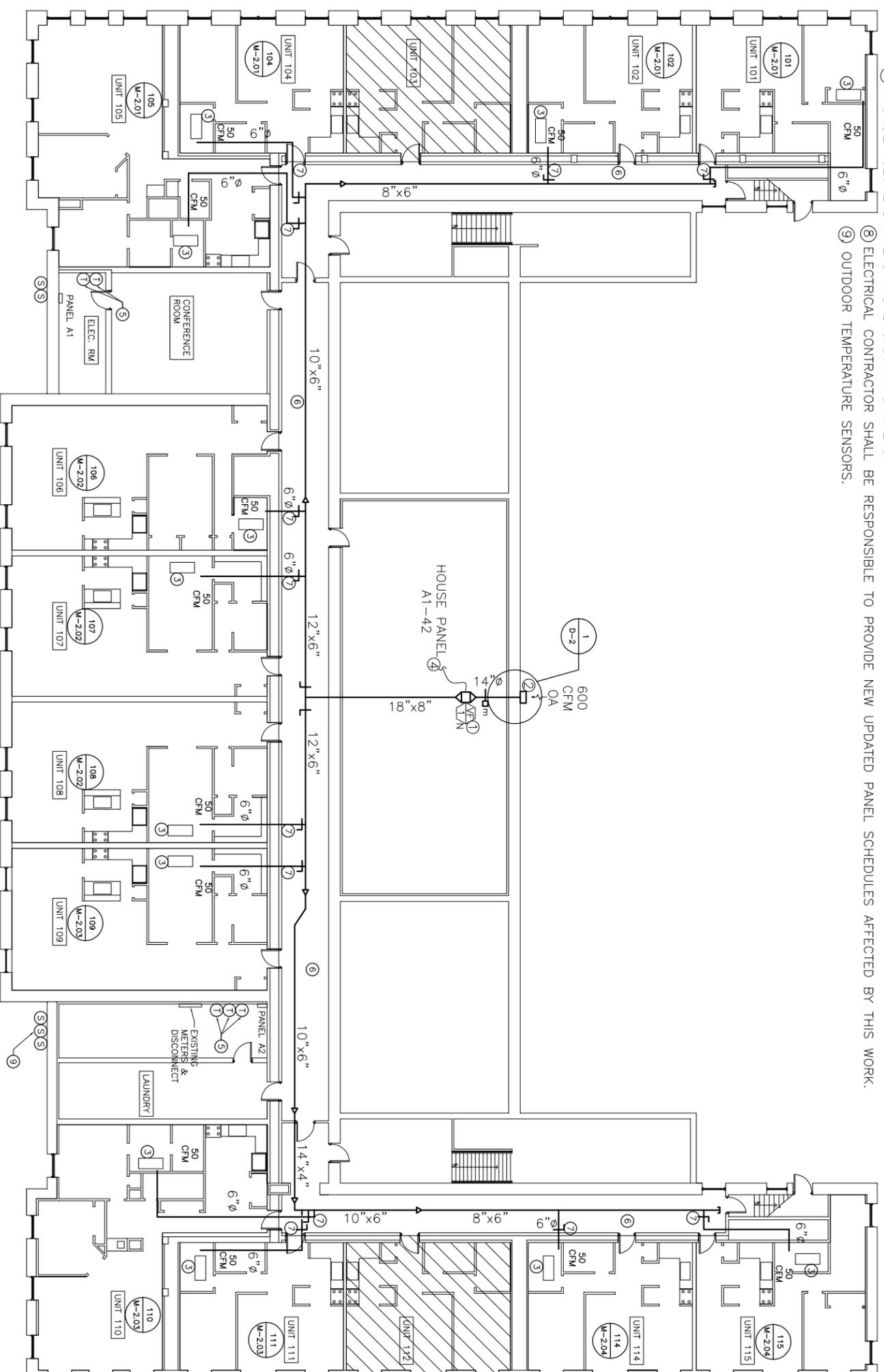
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**Sheet Title:**  
REFLECTED CEILING PLAN  
BUILDING D  
THIRD FLOOR

**A-11**

HVAC AND ELECTRICAL NOTES:

- ① NEW VF-1 SHALL BE PROVIDED WITH MOTORIZED DAMPER, DISCONNECT SAFETY SWITCH, OUTDOOR TEMPERATURE SENSOR, AND STAND-ALONE CONTROLLER AND RELAYS (MOUNTED IN THE ELECTRICAL ROOM).
- ② SEE DETAIL 1 OF D-2 FOR EXTERIOR LOUVER INSTALLATION DETAIL.
- ③ EXISTING AIR HANDLING UNITS LOCATED ABOVE CEILING.
- ④ CONNECT TO STAND-ALONE CONTROLLER AND RELAYS LOCATED IN THE ELECTRICAL ROOM. CONTROLLERS SHALL BE LABELED FOR FAN DESIGNATION.
- ⑤ STAND-ALONE CONTROLLER AND RELAYS IN THE ELECTRICAL ROOM.
- ⑥ ELECTRICAL CONTRACTOR SHALL DISCONNECT AND RECONNECT LIGHT FIXTURES, EXIT SIGNS AND FIRE ALARM DEVICES IN CORRIDOR TO GAIN AN EASY ACCESS FOR THE INSTALLATION OF HVAC EQUIPMENTS AND DUCTWORKS.
- ⑦ PROVIDE VOLUME DAMPERS AND BACKDRAFT DAMPERS.
- ⑧ ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE NEW UPDATED PANEL SCHEDULES AFFECTED BY THIS WORK.
- ⑨ OUTDOOR TEMPERATURE SENSORS.



LEGEND:

 NO SCOPE IN THIS UNIT

**RIAC PHASE 4C  
LOCKWOOD CONDOS**  
3518 W Shore Rd  
Warwick, RI 02886

Project No. 201300.07 Contract No. 26298

  
123 Washington Street, Third Floor  
Boston Massachusetts 02114  
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Email: postoffice@jonespayne.com

The Jones Payne Group, Inc.

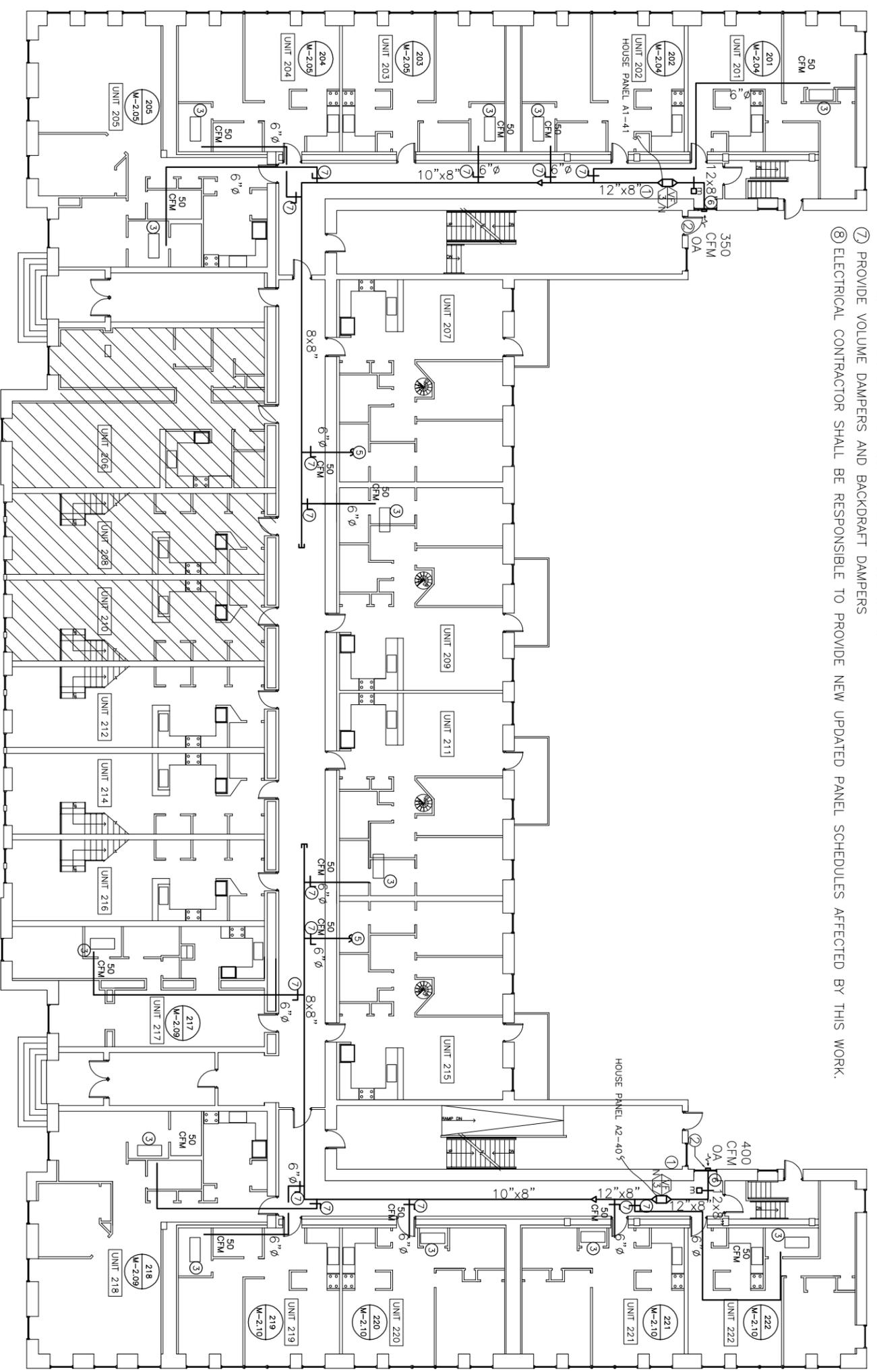
Submission/Revisions:

#	date	description	by	chk
1	3/1/16	90% Submittal	JDT	SKC
2	3/28/16	100% Submittal	JDT	SKC
3	4/11/16	Addendum No. 001	JDT	SKC

Dwg. Scale: 3/64" = 1'-0"

Sheet Title:  
HVAC PLAN  
BUILDING A  
LOWER LEVEL

M-1.01



**HVAC AND ELECTRICAL NOTES:**

- ① NEW VF-3'S SHALL BE PROVIDED WITH MOTORIZED DAMPER, DISCONNECT SAFETY SWITCH, OUTDOOR TEMPERATURE SENSORS AND CONTROLLERS.
- ② 18"x18" EXTERIOR LOUVER BY GREENHECK MODEL ESD202 WITH BIRDSCREEN. (SEE DETAIL 4 OF SHEET D-3)
- ③ EXISTING AIR HANDLING UNITS LOCATED ABOVE CEILING.
- ④ CONNECT TO STAND ALONE CONTROLLER AND RELAYS LOCATED IN THE ELECTRICAL ROOM. CONTROLLERS SHALL BE LABELED FOR FAN DESIGNATION.
- ⑤ TO EXISTING AHU ON LOFT UNITS FOR VENTILATION.
- ⑥ ELECTRICAL CONTRACTOR SHALL DISCONNECT AND RECONNECT LIGHT FIXTURES, EXIT SIGNS AND FIRE ALARM DEVICES IN CORRIDOR TO GAIN EASY ACCESS FOR THE INSTALLATION OF HVAC EQUIPMENTS AND DUCTWORK.
- ⑦ PROVIDE VOLUME DAMPERS AND BACKDRAFT DAMPERS
- ⑧ ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE NEW UPDATED PANEL SCHEDULES AFFECTED BY THIS WORK.

**LEGEND:**

 NO SCOPE IN THIS UNIT

**RIAC PHASE 4C  
LOCKWOOD CONDOS**  
3518 W Shore Rd  
Warwick, RI 02886

Project No. 201300.07 Contract No. 26298



The Jones Payne Group, Inc.

123 Washington Street, Third Floor  
Boston Massachusetts 02114  
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**Submission/Revisions:**

#	date	description	by	chk
1	3/1/16	90% Submittal	JDT	SKC
2	3/28/16	100% Submittal	JDT	SKC
3	4/11/16	Addendum No. 001	JDT	SKC

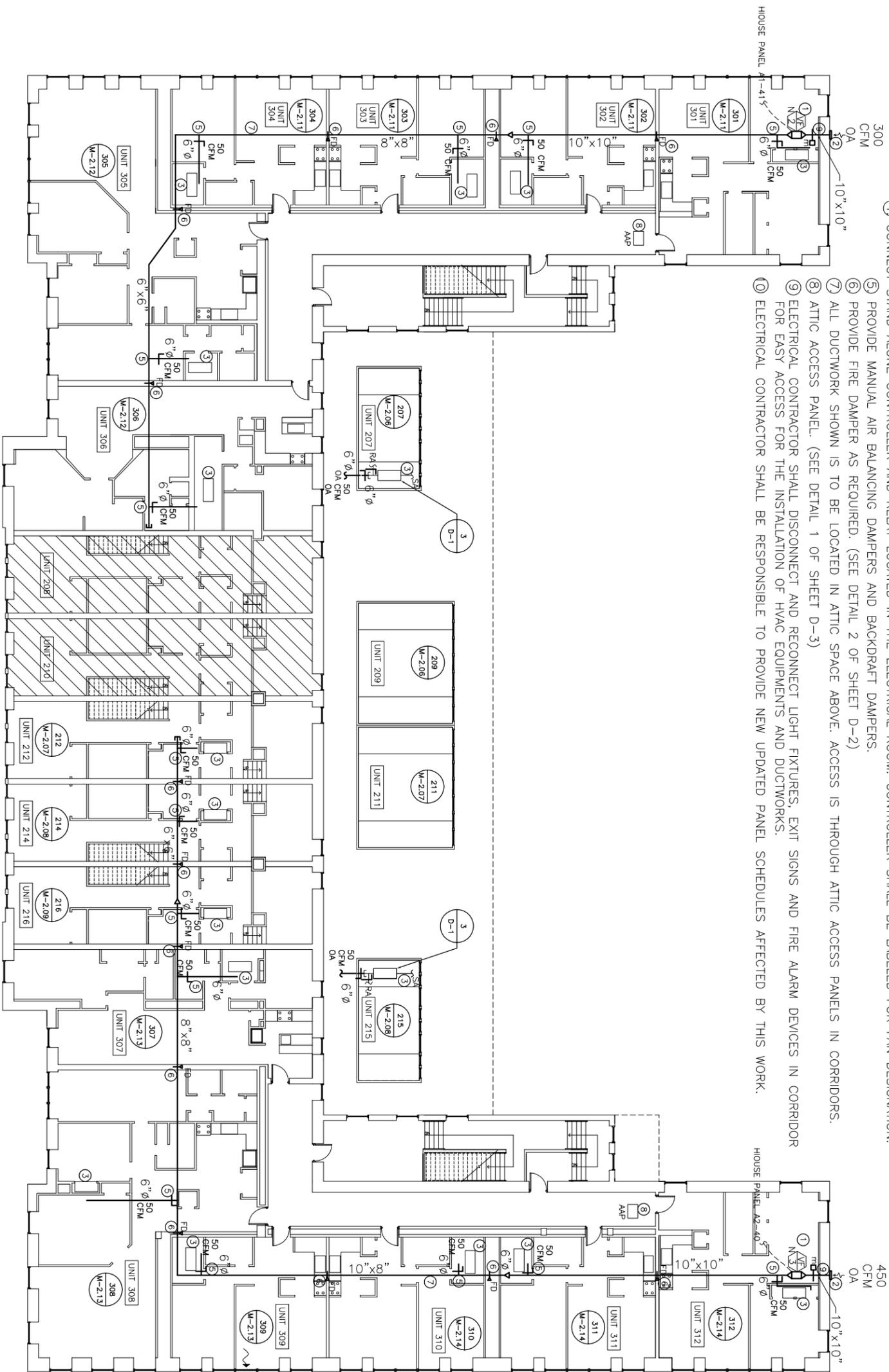
Dwg. Scale: 3/64" = 1'-0"

Sheet Title:  
HVAC PLAN  
BUILDING A  
FIRST FLOOR

**M-1.02**

**HVAC AND ELECTRICAL NOTES:**

- ① NEW VF-2 & 3 SHALL BE PROVIDED WITH MOTORIZED DAMPER, DISCONNECT SAFETY SWITCH, OUTDOOR TEMPERATURE SENSOR, STAND ALONE CONTROLLER AND RELAYS (IN THE ELECTRICAL ROOM).
- ② 18"x18" EXTERIOR LOUVER BY GREENHECK MODEL ESD-202 WITH DRAINABLE BLADE AND BIRDSCREEN. (SEE DETAIL 4 OF SHEET D-3)
- ③ EXISTING AIR HANDLING UNITS LOCATED ABOVE CEILING.
- ④ CONNECT STAND ALONE CONTROLLER AND RELAY LOCATED IN THE ELECTRICAL ROOM. CONTROLLER SHALL BE LABELED FOR FAN DESIGNATION.
- ⑤ PROVIDE MANUAL AIR BALANCING DAMPERS AND BACKDRAFT DAMPERS.
- ⑥ PROVIDE FIRE DAMPER AS REQUIRED. (SEE DETAIL 2 OF SHEET D-2)
- ⑦ ALL DUCTWORK SHOWN IS TO BE LOCATED IN ATTIC SPACE ABOVE. ACCESS IS THROUGH ATTIC ACCESS PANELS IN CORRIDORS.
- ⑧ ATTIC ACCESS PANEL. (SEE DETAIL 1 OF SHEET D-3)
- ⑨ ELECTRICAL CONTRACTOR SHALL DISCONNECT AND RECONNECT LIGHT FIXTURES, EXIT SIGNS AND FIRE ALARM DEVICES IN CORRIDOR FOR EASY ACCESS FOR THE INSTALLATION OF HVAC EQUIPMENTS AND DUCTWORKS.
- ⑩ ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE NEW UPDATED PANEL SCHEDULES AFFECTED BY THIS WORK.



**LEGEND:**

NO SCOPE IN THIS UNIT

**RIAC PHASE 4C  
LOCKWOOD CONDOS**  
3518 W Shore Rd  
Warwick, RI 02886

Project No. 201300.07 Contract No. 26298

123 Washington Street, Third Floor  
Boston Massachusetts 02114  
Tel: 617.790.3747 Fax: 617.790.3748  
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The Jones Payne Group, Inc.

**Submission/Revisions:**

#	date	description	by	chk
1	3/1/16	90% Submittal	JDT	SKC
2	3/28/16	100% Submittal	JDT	SKC
3	4/11/16	Addendum No. 001	JDT	SKC

Dwg. Scale: 3/64" = 1'-0"

Sheet Title:  
HVAC PLAN  
BUILDING A  
SECOND FLOOR

**M-1.03**

**RIAC PHASE 4C  
LOCKWOOD CONDOS**

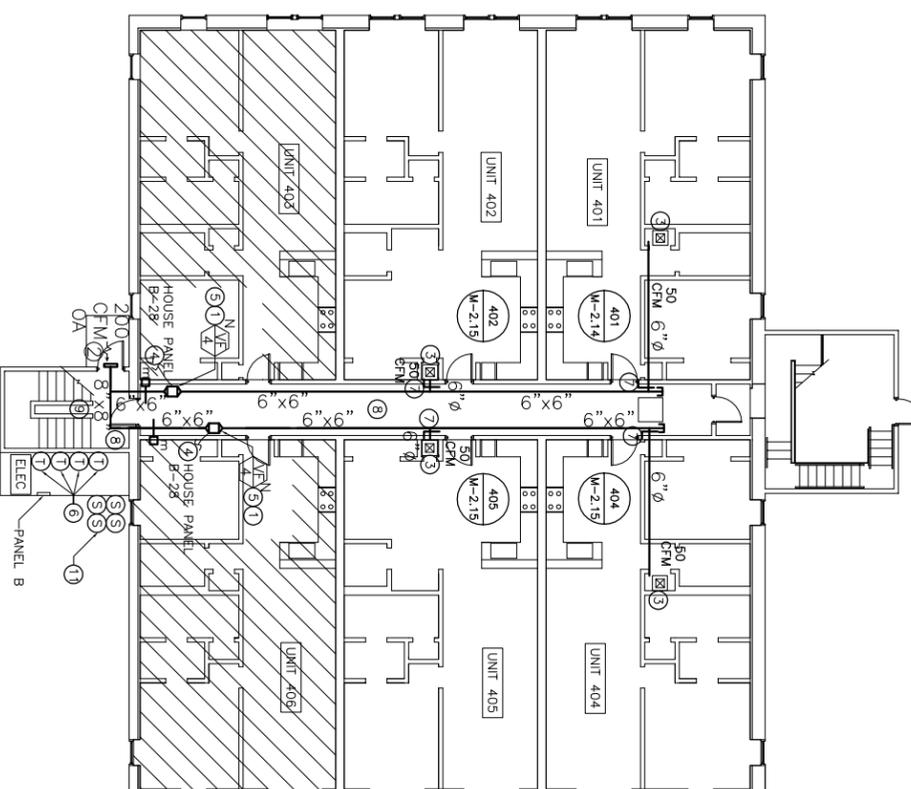
3518 W Shore Rd  
Warwick, RI 02886

Project No. 201300.07 Contract No. 26298



The Jones Payne Group, Inc.

- HVAC AND ELECTRICAL NOTES:**
- ① NEW VF-4 SHALL BE PROVIDED WITH MOTORIZED DAMPER, DISCONNECT SAFETY SWITCH, OUTDOOR TEMPERATURE SENSOR, AND STAND ALONE CONTROLLER AND RELAY (MOUNTED IN THE ELECTRICAL ROOM).
  - ② 18x12 EXTERIOR LOUVER BY GREENHECK MODEL ESD 202 WITH BIRDSCREEN. (SEE DETAIL 3 OF SHEET D-3)
  - ③ EXISTING AIR HANDLING UNIT.
  - ④ CONNECT TO STAND ALONE CONTROLLER AND RELAYS LOCATED IN THE ELECTRICAL ROOM. CONTROLLER SHALL BE LABELED FOR FAN DESIGNATION.
  - ⑤ VENTILATOR FANS (VF-4) SHALL BE REBALANCED TO 100 CFM EACH.
  - ⑥ STAND ALONE CONTROLLER AND RELAY IN THE ELECTRICAL ROOM.
  - ⑦ PROVIDE AIR BALANCING DAMPER AND BACKDRAFT DAMPER.
  - ⑧ ELECTRICAL CONTRACTOR (EC) SHALL DISCONNECT AND RECONNECT LIGHT FIXTURES, EXIT SIGNS AND FIRE ALARM DEVICES IN CORRIDOR FOR EASY ACCESS TO THE INSTALLATION OF HVAC EQUIPMENTS AND DUCTWORKS.
  - ⑨ EC SHALL RELOCATE THE EXISTING PENDANT LIGHT AND INSTALL NEW RECESS LIGHT IN THE STAIRWAY.
  - ⑩ ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE NEW UPDATED PANEL SCHEDULES AFFECTED BY THIS WORK.
  - ⑪ OUTDOOR TEMPERATURE SENSORS.



**LEGEND:**



NO SCOPE IN THIS UNIT

**Submission/Revisions:**

#	date	description	by	chk
1	3/1/16	90% Submittal	JDT	SKC
2	3/28/16	100% Submittal	JDT	SKC
3	4/11/16	Addendum No. 001	JDT	SKC

Dwg. Scale: 3/64" = 1'-0"

Sheet Title:  
HVAC PLAN  
BUILDING B  
FIRST FLOOR

**M-1.04**

**RIAC PHASE 4C  
LOCKWOOD CONDOS**

3518 W Shore Rd  
Warwick, RI 02886

Project No. 201300.07 Contract No. 26298

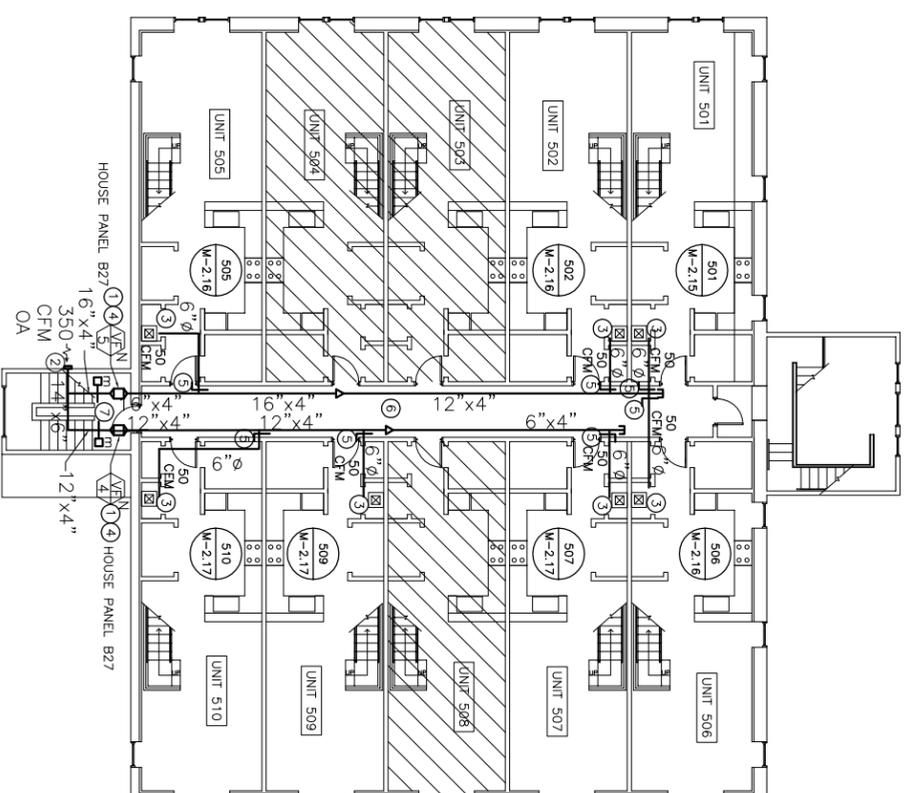


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Boston, Massachusetts 02114  
Tel: 617.790.3747 Fax: 617.790.3748  
Email: postoffice@jonespayne.com

The Jones Payne Group, Inc.

HVAC AND ELECTRICAL NOTES:

- ① NEW VF-4 & 5 SHALL BE PROVIDED WITH MOTORIZED DAMPER, DISCONNECT SAFETY SWITCH, OUTDOOR TEMPERATURE SENSOR, STAND ALONE CONTROLLER AND RELAYS (MOUNTED IN THE ELECTRICAL ROOM).
- ② 18"x12" EXTERIOR LOUVER BY GREENHECK MODEL ESP202 WITH BIRDSCREEN. (SEE DETAIL 3 OF SHEET D-3)
- ③ EXISTING AIR HANDLING UNIT.
- ④ CONNECT TO STAND ALONE CONTROLLER AND RELAYS LOCATED IN THE ELECTRICAL CLOSET. TC SHALL BE LABELED FOR FAN DESIGNATION.
- ⑤ PROVIDE AIR BALANCING DAMPERS AND BACKDRAFT DAMPERS.
- ⑥ ELECTRICAL CONTRACTOR SHALL DISCONNECT AND RECONNECT LIGHT FIXTURES, EXIT SIGNS AND FIRE ALARM DEVICES IN CORRIDOR FOR EASY ACCESS TO THE INSTALLATION OF HVAC EQUIPMENTS AND DUCTWORKS. PROVIDE ADDITIONAL WIRING AS NECESSARY DUE TO LOWERING OF CORRIDOR CEILING. EXISTING EXIT SIGN LOCATED ABOVE DOOR TO BE RELOCATED AT THE SIDE OF CORRIDOR DOOR.
- ⑦ EC SHALL RELOCATE EXISTING PENDANT LIGHT AND INSTALL NEW RECESS LIGHT IN THE STAIRWAY.
- ⑧ ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE NEW UPDATED PANEL SCHEDULES AFFECTED BY THIS WORK.



**LEGEND:**



NO SCOPE IN THIS UNIT

Submission/Revisions:			by	chk
#	date	description		
1	3/1/16	90% Submittal	JDT	SKG
2	3/28/16	100% Submittal	JDT	SKG
3	4/1/16	Addendum No. 001	JDT	SKG

Dwg. Scale: 3/64" = 1'-0"

Sheet Title:  
HVAC PLAN  
BUILDING B  
SECOND FLOOR

**M1.05**

**RIAC PHASE 4C  
LOCKWOOD CONDOS**

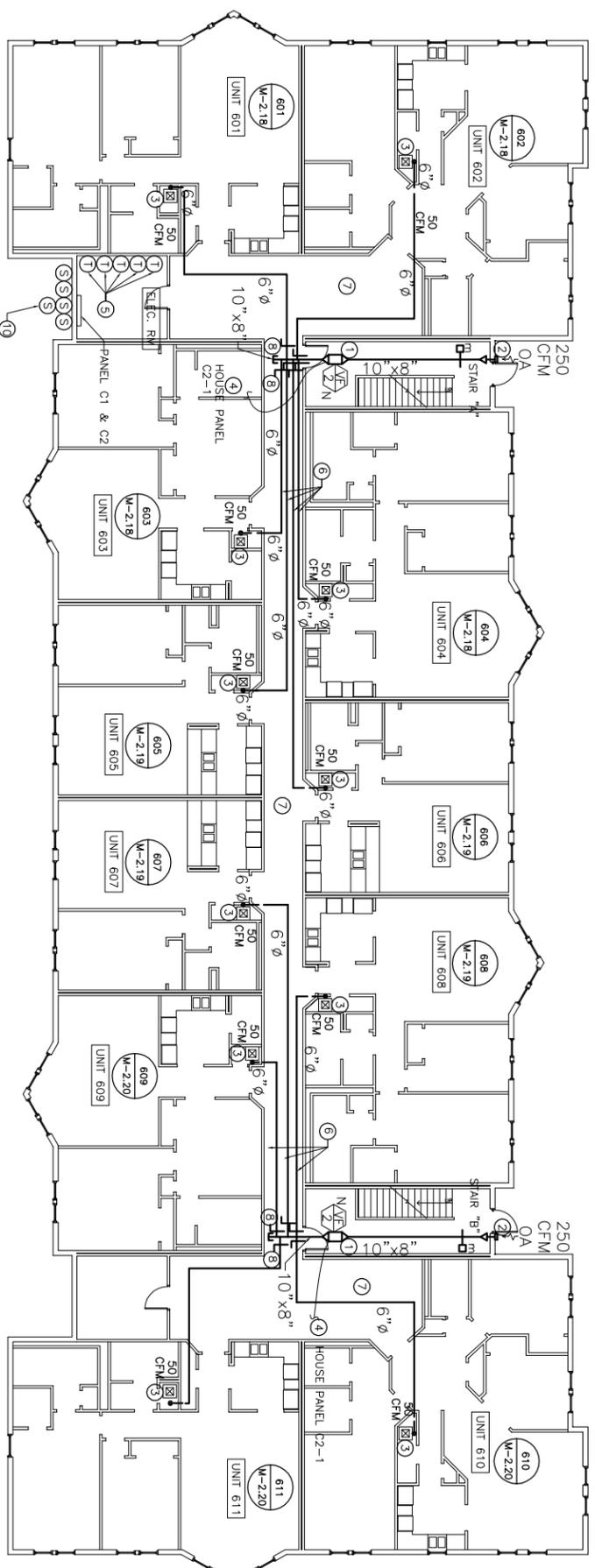
3518 W Shore Rd  
Warwick, RI 02886

Project No. 201300.07 Contract No. 26296



The Jones Payne Group, Inc.

- HVAC AND ELECTRICAL NOTES:
- ① NEW VF-2 SHALL BE PROVIDED WITH MOTORIZED DAMPER, DISCONNECT SAFETY SWITCH, OUTDOOR TEMPERATURE SENSOR, STAND ALONE CONTROLLER AND RELAYS (MOUNTED IN THE ELECTRICAL ROOM).
  - ② 18"x12" EXTERIOR LOUVER BY GREENHECK MODEL ESD-202 WITH BIRDSCREEN. (SEE DETAIL 3 OF SHEET D-3)
  - ③ EXISTING AIR HANDLING UNIT.
  - ④ CONNECT TO STAND ALONE CONTROLLER AND RELAYS LOCATED IN THE ELECTRICAL ROOM. CONTROLLER SHALL BE LABELED FOR FAN DESIGNATION.
  - ⑤ STAND ALONE CONTROLLER AND RELAYS IN THE ELECTRICAL ROOM.
  - ⑥ 6"Ø SHALL BE RUN BETWEEN WOODEN TRUSSES AND SHOULD BE COORDINATED IN FIELD.
  - ⑦ ELECTRICAL CONTRACTOR SHALL DISCONNECT AND RECONNECT LIGHT FIXTURES, EXIT SIGNS AND FIRE ALARM DEVICES IN CORRIDOR FOR EASY ACCESS TO THE INSTALLATION OF HVAC EQUIPMENTS AND DUCTWORKS.
  - ⑧ PROVIDE AIR BALANCING DAMPERS AND BACKDRAFT DAMPERS.
  - ⑨ ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE NEW UPDATED PANEL SCHEDULES AFFECTED BY THIS WORK.
  - ⑩ OUTDOOR TEMPERATURE SENSORS.



**LEGEND:**



NO SCOPE IN THIS UNIT

Submission/Revisions:				
#	date	description	by	chk
1	3/1/16	90% Submittal	JDT	SKC
2	3/28/16	100% Submittal	JDT	SKC
3	4/11/16	Addendum No. 001	JDT	SKC

Dwg. Scale: 3/64" = 1'-0"

Sheet Title:  
HVAC PLAN  
BUILDING C  
FIRST FLOOR

M-1.06

**RIAC PHASE 4C  
LOCKWOOD CONDOS**

3518 W Shore Rd  
Warwick, RI 02886

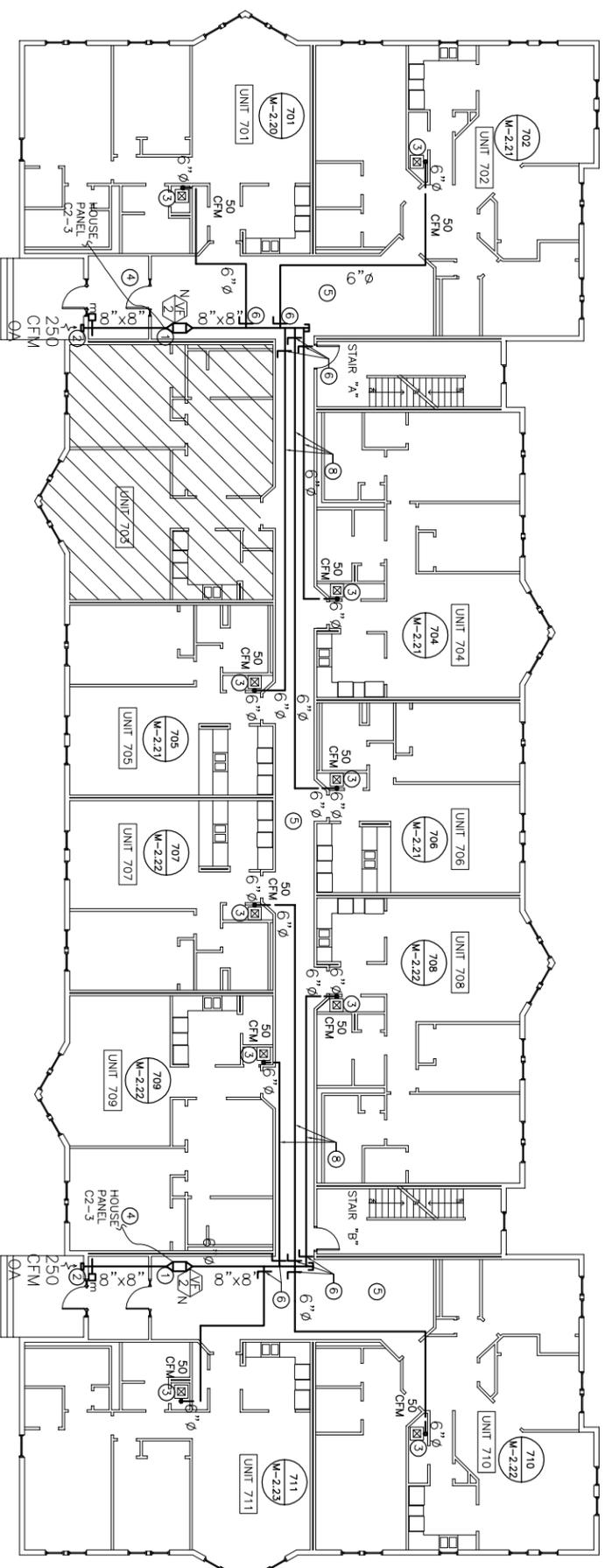
Project No. 201300.07 Contract No. 26298



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Tel: 617.790.3747 Fax: 617.790.3748  
Email: postoffice@jonespayne.com

The Jones Payne Group, Inc.

- HVAC AND ELECTRICAL NOTES:**
- ① NEW VF-2 SHALL BE PROVIDED WITH MOTORIZED DAMPER, DISCONNECT SAFETY SWITCH, OUTDOOR TEMPERATURE SENSOR, STAND ALONE CONTROLLER AND RELAYS (MOUNTED IN THE ELECTRICAL ROOM).
  - ② 18"x18" EXTERIOR LOUVER BY GREENHECK MODEL ESD-202 WITH BIRDSCREEN. (SEE DETAIL 3 OF SHEET D-3)
  - ③ EXISTING AIR HANDLING UNIT.
  - ④ CONNECT TO STAND ALONE CONTROLLER AND RELAYS LOCATED IN THE ELECTRICAL CLOSET. CONTROLLERS SHALL BE LABELED FOR FAN DESIGNATION.
  - ⑤ ELECTRICAL CONTRACTOR SHALL DISCONNECT AND RECONNECT LIGHT FIXTURES, EXIT SIGNS AND FIRE ALARM DEVICES IN CORRIDOR TO GAIN EASY ACCESS FOR THE INSTALLATION OF HVAC EQUIPMENTS AND DUCTWORKS.
  - ⑥ PROVIDE AIR BALANCING DAMPERS AND BACKDRAFT DAMPERS.
  - ⑦ ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE NEW UPDATED PANEL SCHEDULES AFFECTED BY THIS WORK.
  - ⑧ OUTDOOR TEMPERATURE SENSORS.



**LEGEND:**



NO SCOPE IN THIS UNIT

Submission/Revisions:				
#	date	description	by	chk
1	3/1/16	90% Submittal	JDT	SKC
2	3/28/16	100% Submittal	JDT	SKC
3	4/11/16	Addendum No. 001	JDT	SKC

Dwg. Scale: 3/64" = 1'-0"

Sheet Title:  
HVAC PLAN  
BUILDING C  
SECOND FLOOR

**M1.07**

**RIAC PHASE 4C  
LOCKWOOD CONDOS**

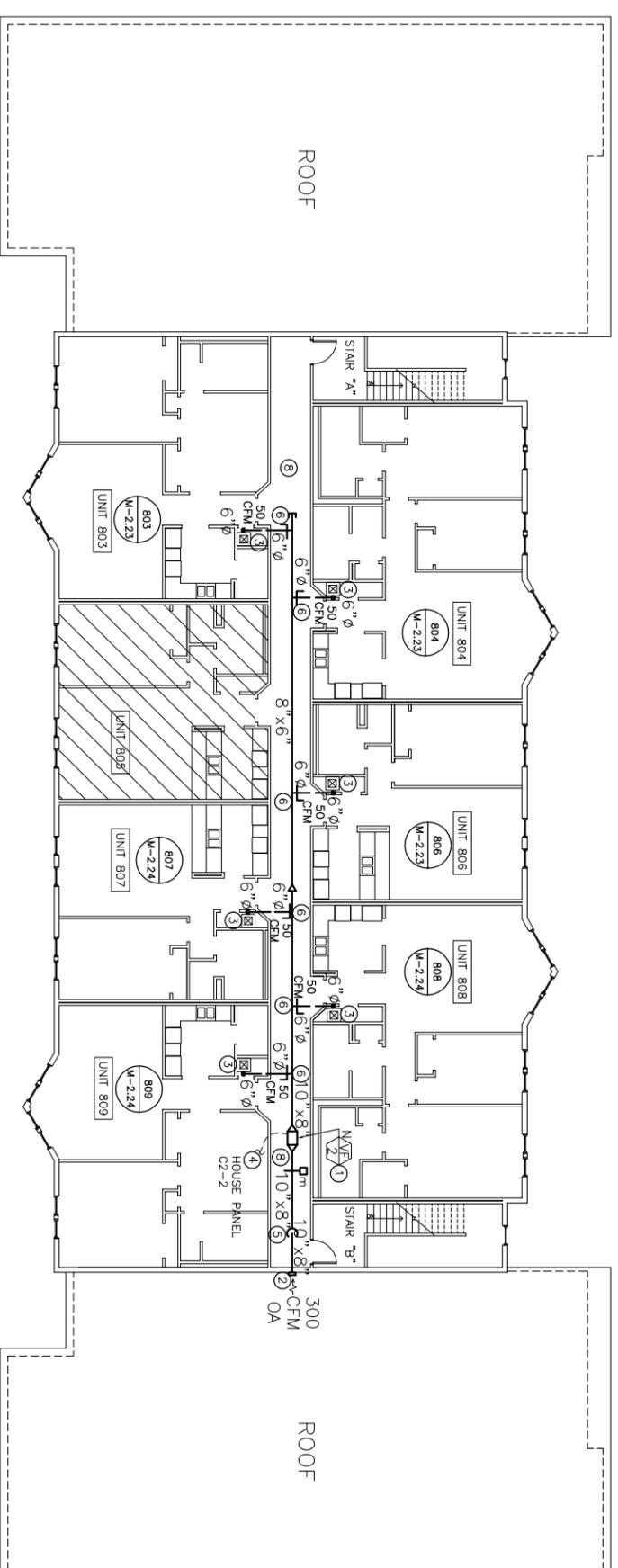
3518 W Shore Rd  
Warwick, RI 02886

Project No. 201300.07 Contract No. 26298



The Jones Payne Group, Inc.

- HVAC AND ELECTRICAL NOTES:
- ① NEW VF-2 SHALL BE PROVIDED WITH MOTORIZED DAMPER, DISCONNECT SAFETY SWITCH, OUTDOOR TEMPERATURE SENSOR, AND TEMPERATURE CONTROLLER(MOUNTED IN THE ELECTRICAL ROOM).
  - ② 18"x18" EXTERIOR LOUVER BY GREENHECK MODEL ESD-202 WITH BIRDSCREEN. (SEE DETAIL 3 OF SHEET D-3)
  - ③ EXISTING AIR HANDLING UNIT.
  - ④ CONNECT TO STAND ALONE CONTROLLER AND RELAY LOCATED IN THE ELECTRICAL ROOM. CONTROLLER SHALL BE LABELED FOR FAN DESIGNATION.
  - ⑤ RISER TO FRESH AIR INTAKE THROUGH ATTIC SPACE ABOVE.
  - ⑥ PROVIDE AIR BALANCING DAMPERS AND BACKDRAFT DAMPERS.
  - ⑦ ELECTRICAL CONTRACTOR SHALL DISCONNECT AND RECONNECT LIGHT FIXTURES, EXIT SIGNS AND FIRE ALARM DEVICES IN CORRIDOR TO GAIN EASY ACCESS FOR THE INSTALLATION OF HVAC EQUIPMENTS AND DUCTWORK.
  - ⑧ ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE NEW UPDATED PANEL SCHEDULES AFFECTED BY THIS WORK.



**LEGEND:**



NO SCOPE IN THIS UNIT

**Submission/Revisions:**

#	date	description	by	chk
1	3/1/16	90% Submittal	JDT	SKC
2	3/28/16	100% Submittal	JDT	SKC
3	4/11/16	Addendum No. 001	JDT	SKC

Dwg. Scale: 3/64" = 1'-0"

Sheet Title:

HVAC PLAN  
BUILDING C  
THIRD FLOOR

**M-1.08**

**RIAC PHASE 4C  
LOCKWOOD CONDOS**

3518 W Shore Rd  
Warwick, RI 02886

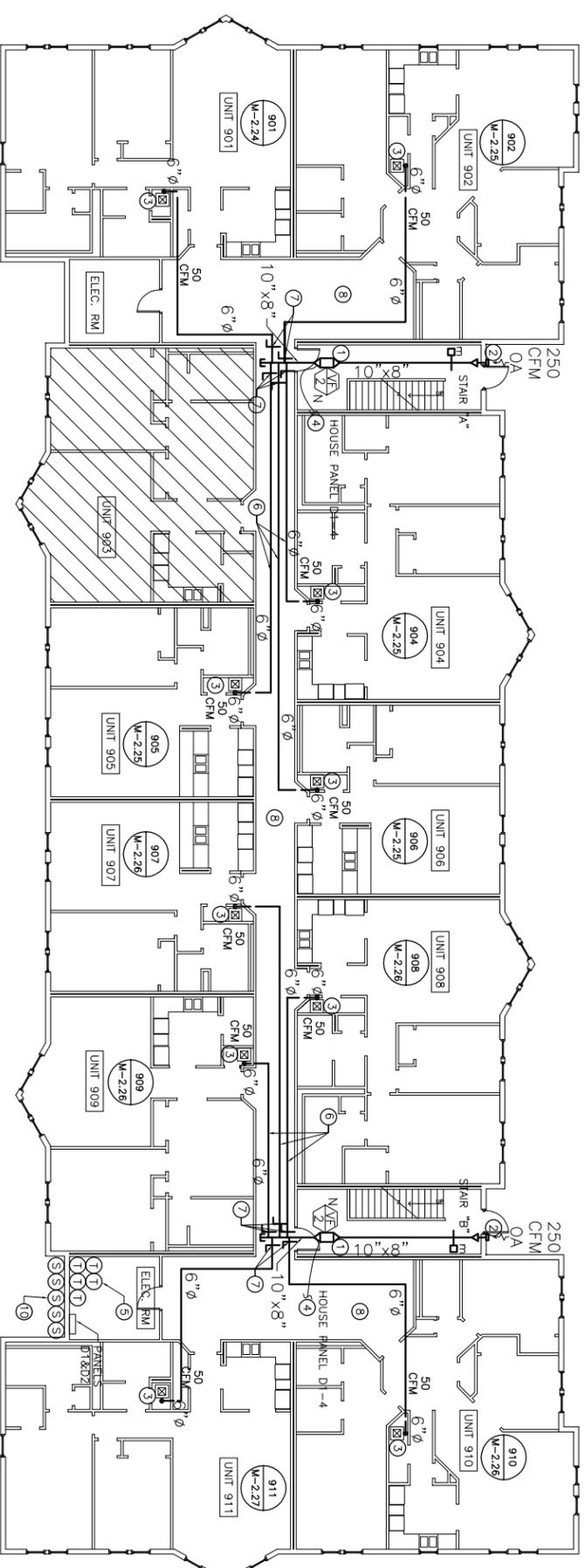
Project No. 201300.07 Contract No. 26298



123 Washington Street, Third Floor  
Boston Massachusetts 02114  
Tel: 617.790.3747 Fax: 617.790.3748  
Email: postoffice@jonespayne.com

The Jones Payne Group, Inc.

- HVAC AND ELECTRICAL NOTES:**
- ① NEW VF-2 SHALL BE PROVIDED WITH MOTORIZED DAMPER, DISCONNECT SAFETY SWITCH AND STAND ALONE CONTROLLER AND RELAYS (MOUNTED IN THE ELECTRICAL ROOM).
  - ② 18"x12" EXTERIOR LOUVER BY GREENHECK MODEL ESD-202 WITH BIRDSCREEN. (SEE DETAIL 3 OF SHEET D-3)
  - ③ EXISTING AIR HANDLING UNIT.
  - ④ CONNECT TO STAND ALONE CONTROLLER AND RELAYS LOCATED IN THE ELECTRICAL ROOM. CONTROLLERS SHALL BE LABELED FOR FAN DESIGNATION.
  - ⑤ STAND ALONE CONTROLLER AND RELAYS IN THE ELECTRICAL ROOM.
  - ⑥ 6"Ø SHALL BE RUN BETWEEN WOODEN TRUSSES AND SHOULD BE COORDINATED IN FIELD.
  - ⑦ PROVIDE AIR BALANCING DAMPER AND BACKDRAFT DAMPER.
  - ⑧ ELECTRICAL CONTRACTOR SHALL DISCONNECT AND RECONNECT LIGHT FIXTURES, EXIT SIGNS AND FIRE ALARM DEVICES IN CORRIDOR FOR EASY ACCESS TO THE INSTALLATION OF HVAC EQUIPMENTS AND DUCTWORKS.
  - ⑨ ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE NEW UPDATED PANEL SCHEDULES AFFECTED BY THIS WORK.
  - ⑩ OUTDOOR TEMPERATURE SENSORS.



**LEGEND:**

NO SCOPE IN THIS UNIT

Submission/Revisions:				
#	date	description	by	chk
1	3/1/16	90% Submittal	JDT	SKC
2	3/28/16	100% Submittal	JDT	SKC
3	4/11/16	Addendum No. 001	JDT	SKC

Dwg. Scale: 3/64" = 1'-0"

Sheet Title:  
HVAC PLAN  
BUILDING D  
FIRST FLOOR

**M-1.09**

**RIAC PHASE 4C  
LOCKWOOD CONDOS**

3518 W Shore Rd  
Warwick, RI 02886

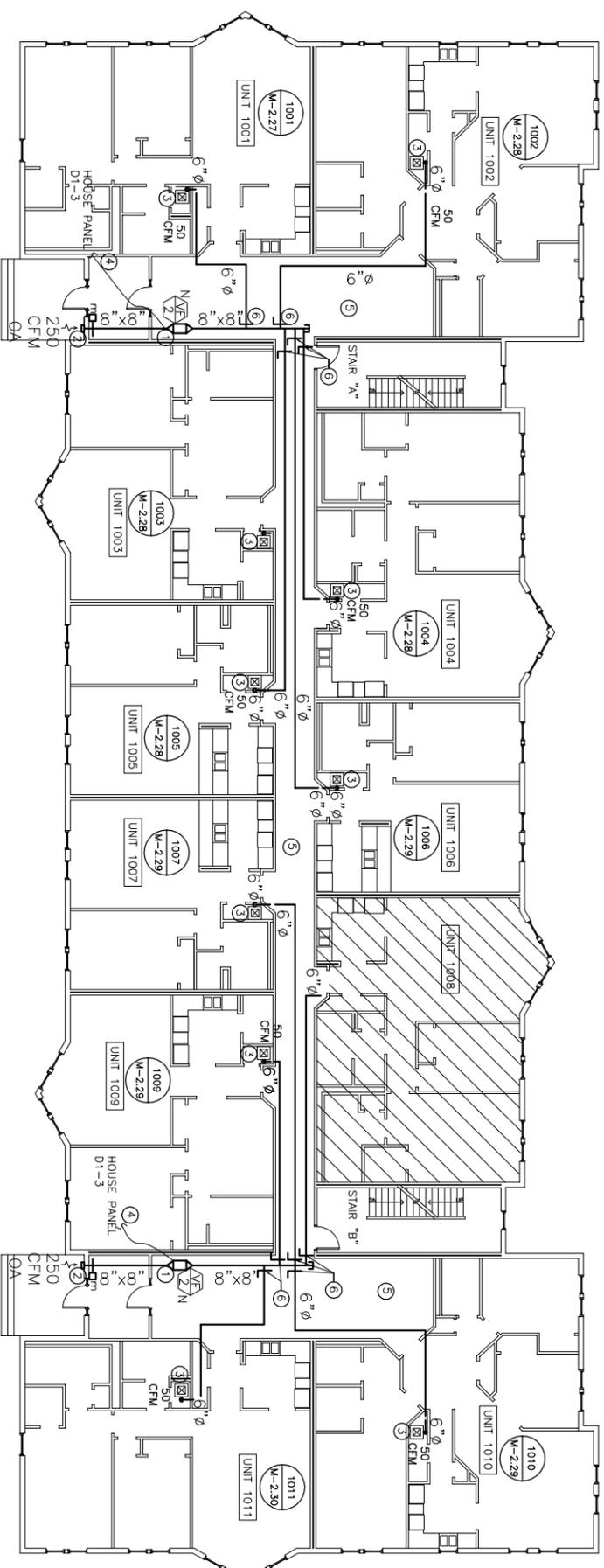
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Tel: 617.790.3747 Fax: 617.790.3748  
Email: postoffice@jonespayne.com

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- HVAC AND ELECTRICAL NOTES:**
- ① NEW VF-2 SHALL BE PROVIDED WITH MOTORIZED DAMPER, DISCONNECT SAFETY SWITCH AND STAND ALONE CONTROLLER AND RELAYS (MOUNTED IN THE ELECTRICAL ROOM).
  - ② 18"x18" EXTERIOR LOUVER BY GREENHECK MODEL ESD-202 WITH BIRDSCREEN. (SEE DETAIL 3 OF SHEET D-3)
  - ③ EXISTING AIR HANDLING UNIT.
  - ④ CONNECT TO STAND ALONE CONTROLLERS AND RELAYS LOCATED IN THE ELECTRICAL CLOSET. CONTROLLERS SHALL BE LABELED FOR FAN DESIGNATION.
  - ⑤ ELECTRICAL CONTRACTOR SHALL DISCONNECT AND RECONNECT LIGHT FIXTURES, EXIT SIGNS AND FIRE ALARM DEVICES IN CORRIDOR TO GAIN EASY ACCESS FOR THE INSTALLATION OF HVAC EQUIPMENTS AND DUCTWORKS.
  - ⑥ PROVIDE AIR BALANCING DAMPERS AND BACKDRAFT DAMPERS.
  - ⑦ ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE NEW UPDATED PANEL SCHEDULES AFFECTED BY THIS WORK.



**LEGEND:**



NO SCOPE IN THIS UNIT

Submission/Revisions:			by	chk
#	date	description		
1	3/1/16	90% Submittal	JDT	SKC
2	3/28/16	100% Submittal	JDT	SKC
3	4/11/16	Addendum No. 001	JDT	SKC

Dwg. Scale: 3/64" = 1'-0"

Sheet Title:  
HVAC PLAN  
BUILDING D  
SECOND FLOOR

M-1.10

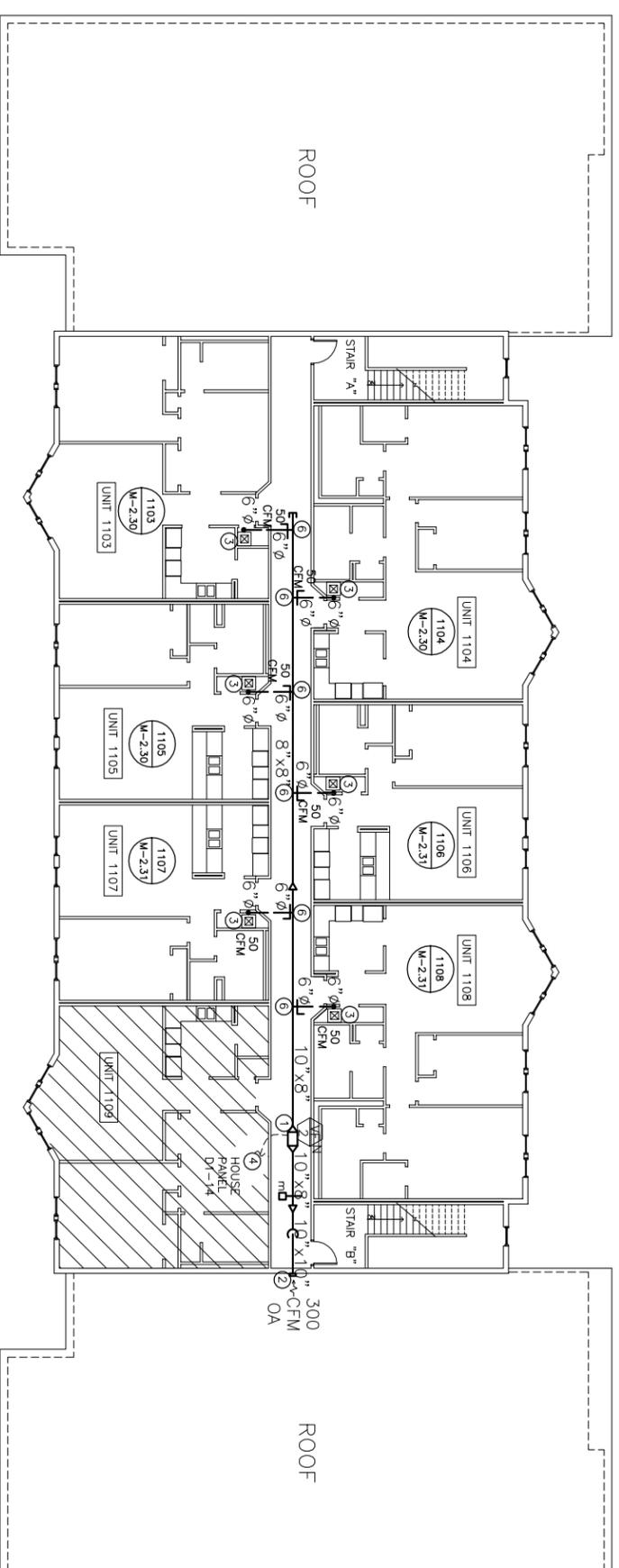
**RIAC PHASE 4C  
LOCKWOOD CONDOS**  
3518 W Shore Rd  
Warwick, RI 02886

Project No. 201300.07 Contract No. 26298

**JP**  
123 Washington Street, Third Floor  
Boston Massachusetts 02114  
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Email: postoffice@jonespayne.com

The Jones Payne Group, Inc.

- HVAC AND ELECTRICAL NOTES:**
- ① NEW VF-2 SHALL BE PROVIDED WITH MOTORIZED DAMPER, TEMPERATURE SENSOR, DISCONNECT SAFETY SWITCH AND STAND ALONE CONTROLLER AND RELAYS (MOUNTED IN THE ELECTRICAL ROOM).
  - ② 18"x18" EXTERIOR LOUVER BY GREENHECK MODEL ESD-202 WITH BIRDSCREEN. (SEE DETAIL 3 OF SHEET D-3)
  - ③ EXISTING AIR HANDLING UNIT.
  - ④ CONNECT TO STAND ALONE CONTROLLER AND RELAYS LOCATED IN THE ELECTRICAL CLOSET. CONTROLLERS SHALL BE LABELED FOR FAN DESIGNATION.
  - ⑤ RISER TO FRESH AIR INTAKE THROUGH ATTIC SPACE ABOVE.
  - ⑥ PROVIDE AIR BALANCING DAMPERS AND BACKDRAFT DAMPERS.
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  - ⑧ ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE NEW UPDATED PANEL SCHEDULES AFFECTED BY THIS WORK.



**LEGEND:**



NO SCOPE IN THIS UNIT

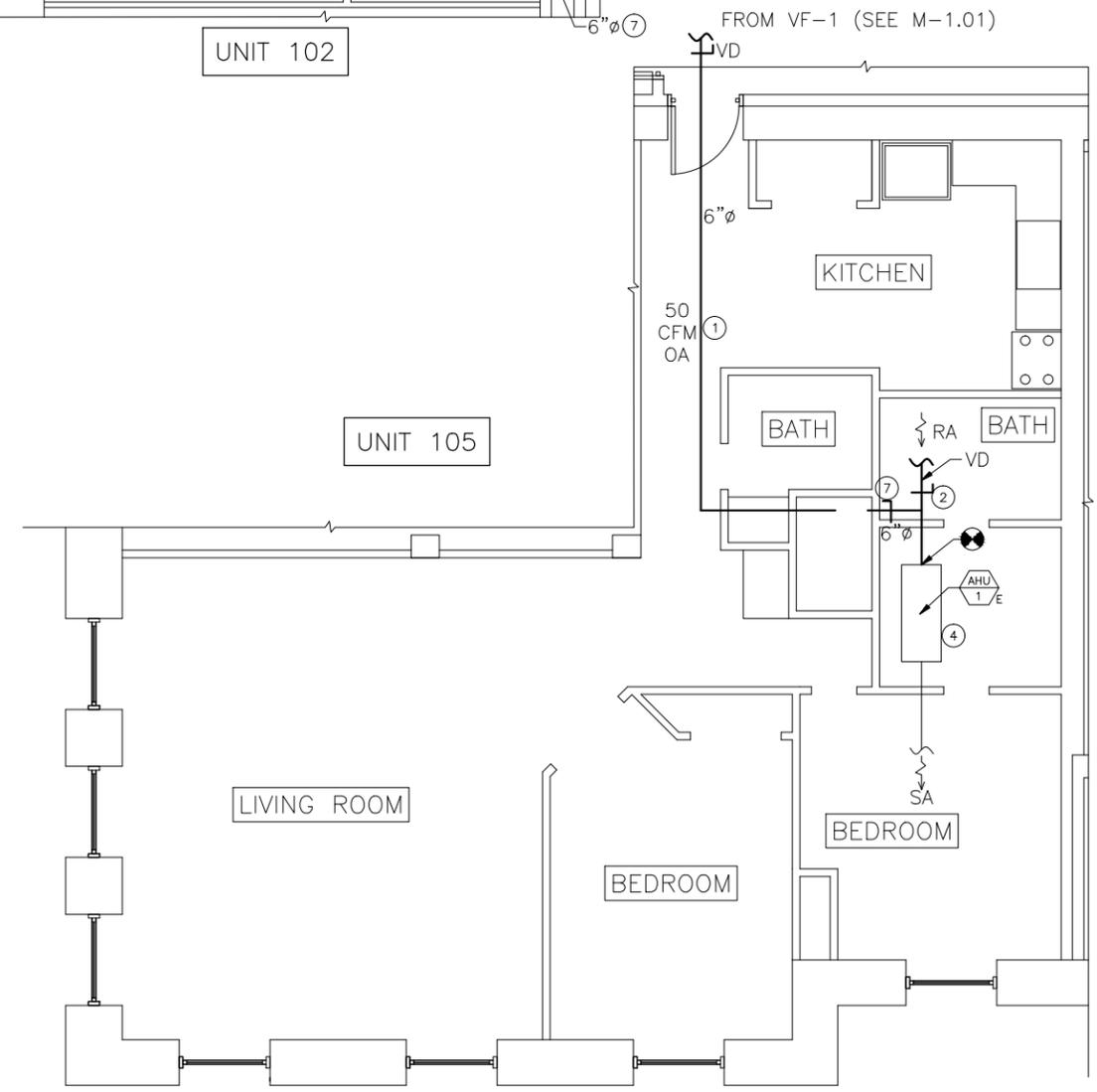
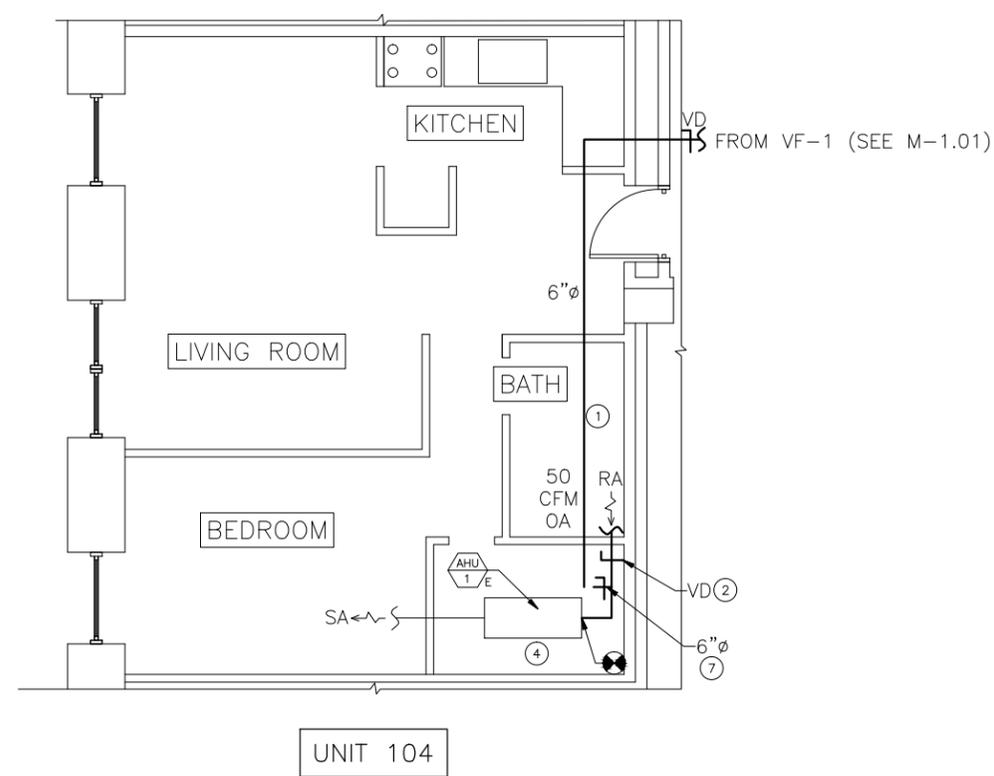
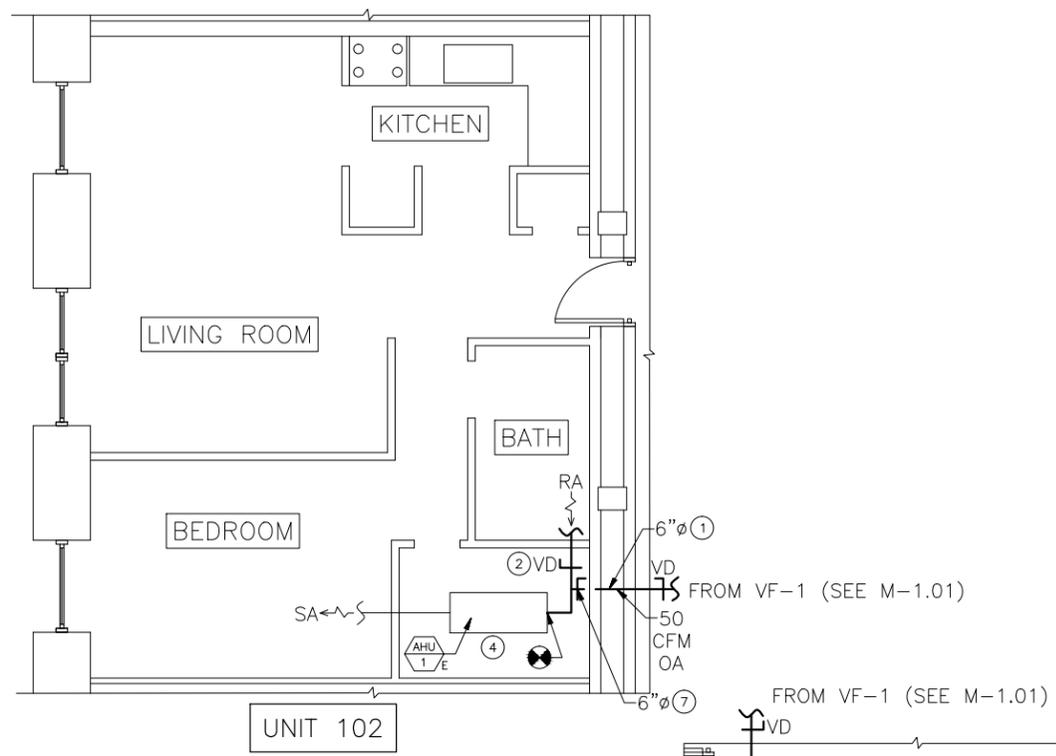
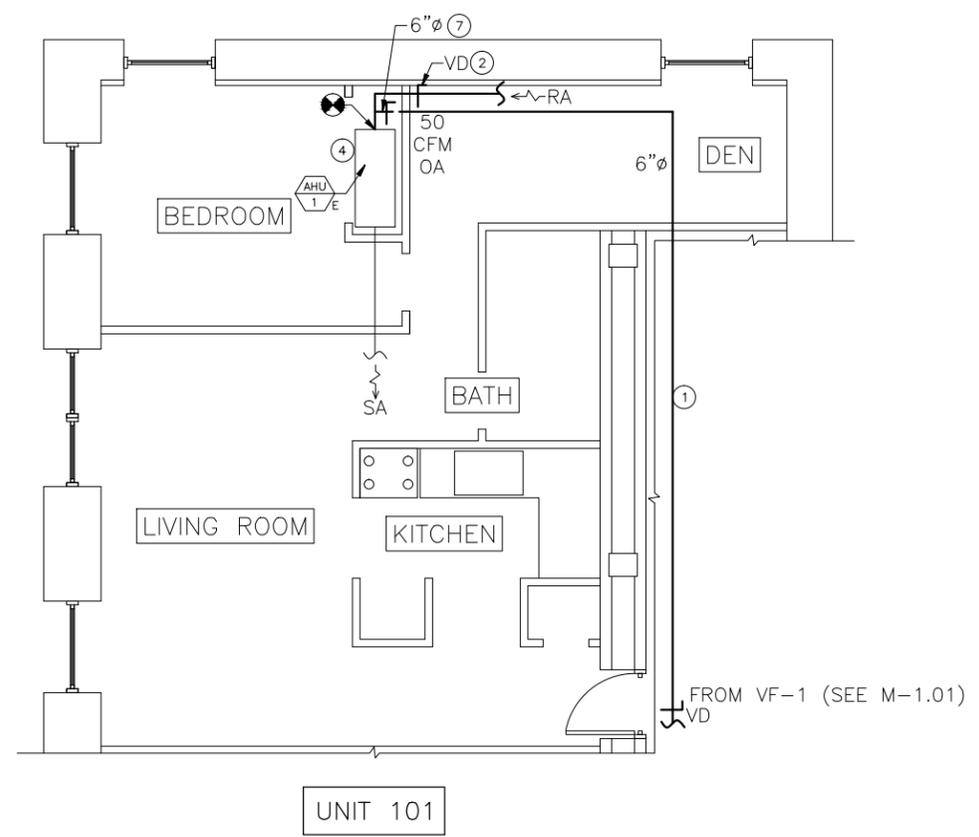
**Submission/Revisions:**

#	date	description	by	chk
1	3/1/16	90% Submittal	JDT	SKC
2	3/28/16	100% Submittal	JDT	SKC
3	4/1/16	Addendum No. 001	JDT	SKC

Dwg. Scale: 3/64" = 1'

Sheet Title:  
HVAC PLAN  
BUILDING D  
THIRD FLOOR

M-1.11



**RIAC PHASE 4C  
LOCKWOOD CONDOS**

3518 W Shore Rd  
Warwick, RI 02886

Project No. 201300.07 Contract No. 26298



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Boston Massachusetts 02114  
Tel: 617.790.3747 Fax: 617.790.3748  
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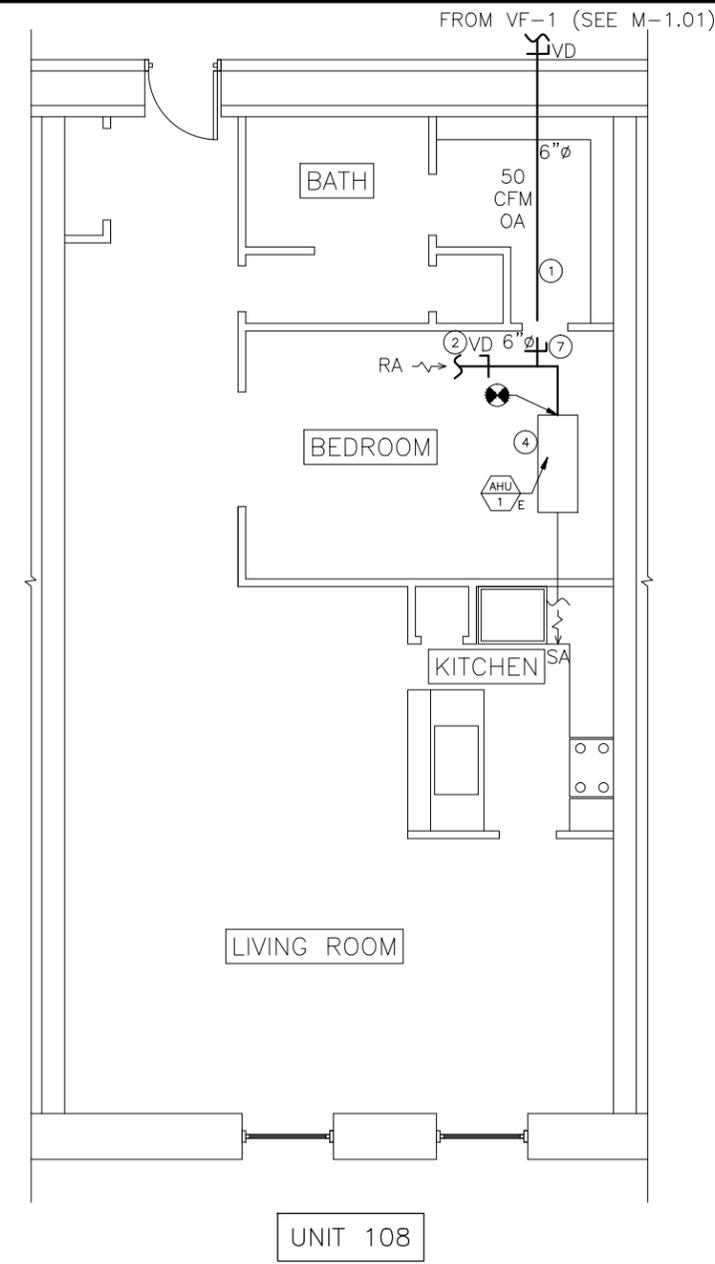
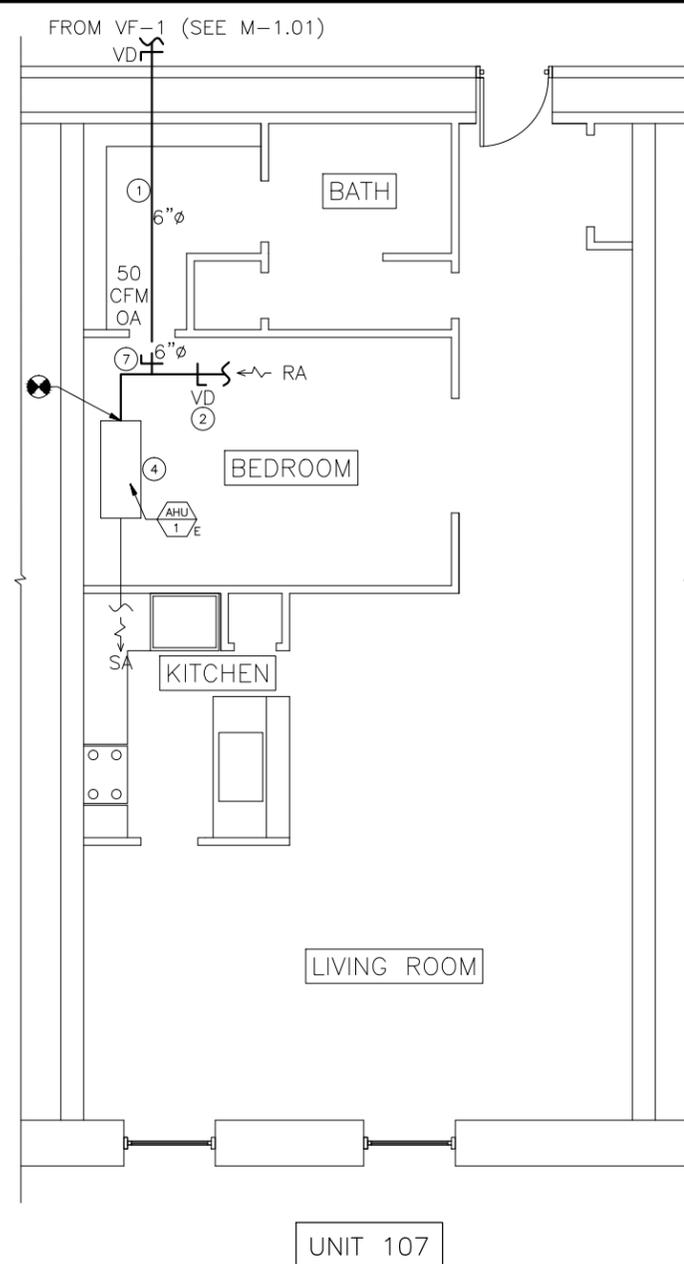
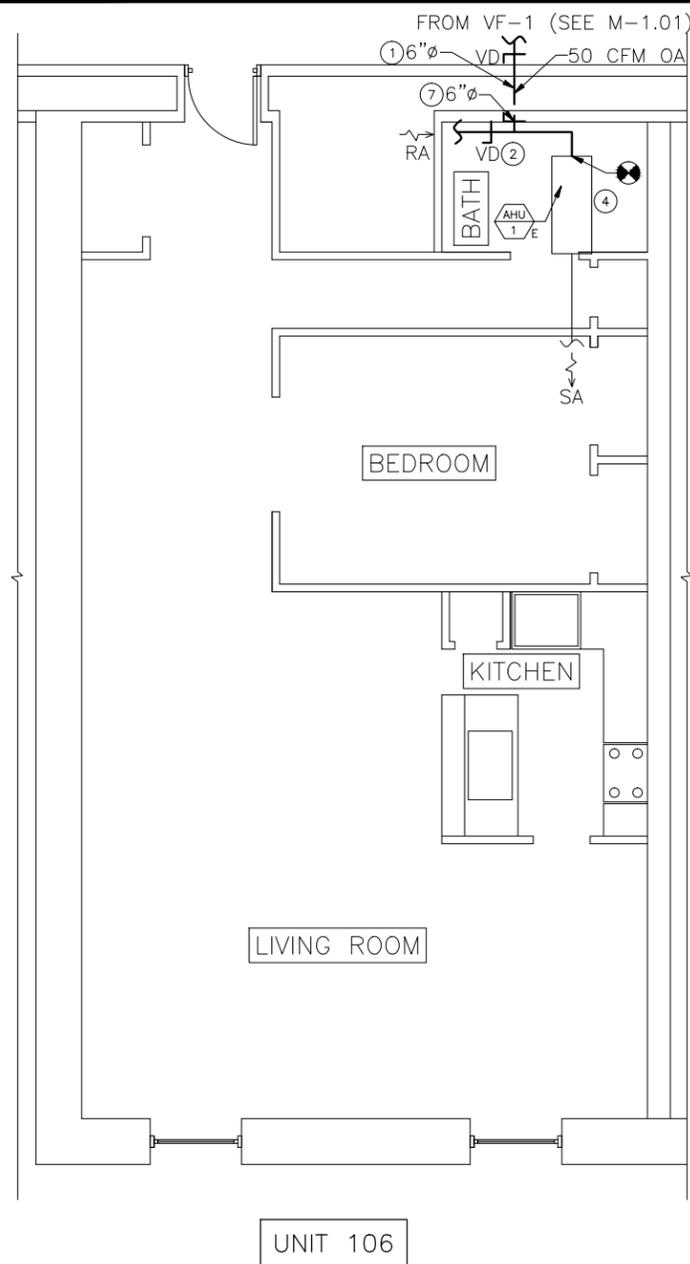
**Submission/Revisions:**

#	date	description	by	chk
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2	3/28/16	100% Submittal	JDT	SKC
3	4/11/16	Addendum No. 001	SKC	MKP

Dwg. Scale: 1/8" = 1'-0"

**Sheet Title:**  
UNIT HVAC PLANS  
BUILDING A  
UNITS 101, 102, 104, 105

**M - 2.01**



**RIAC PHASE 4C  
LOCKWOOD CONDOS**

3518 W Shore Rd  
Warwick, RI 02886

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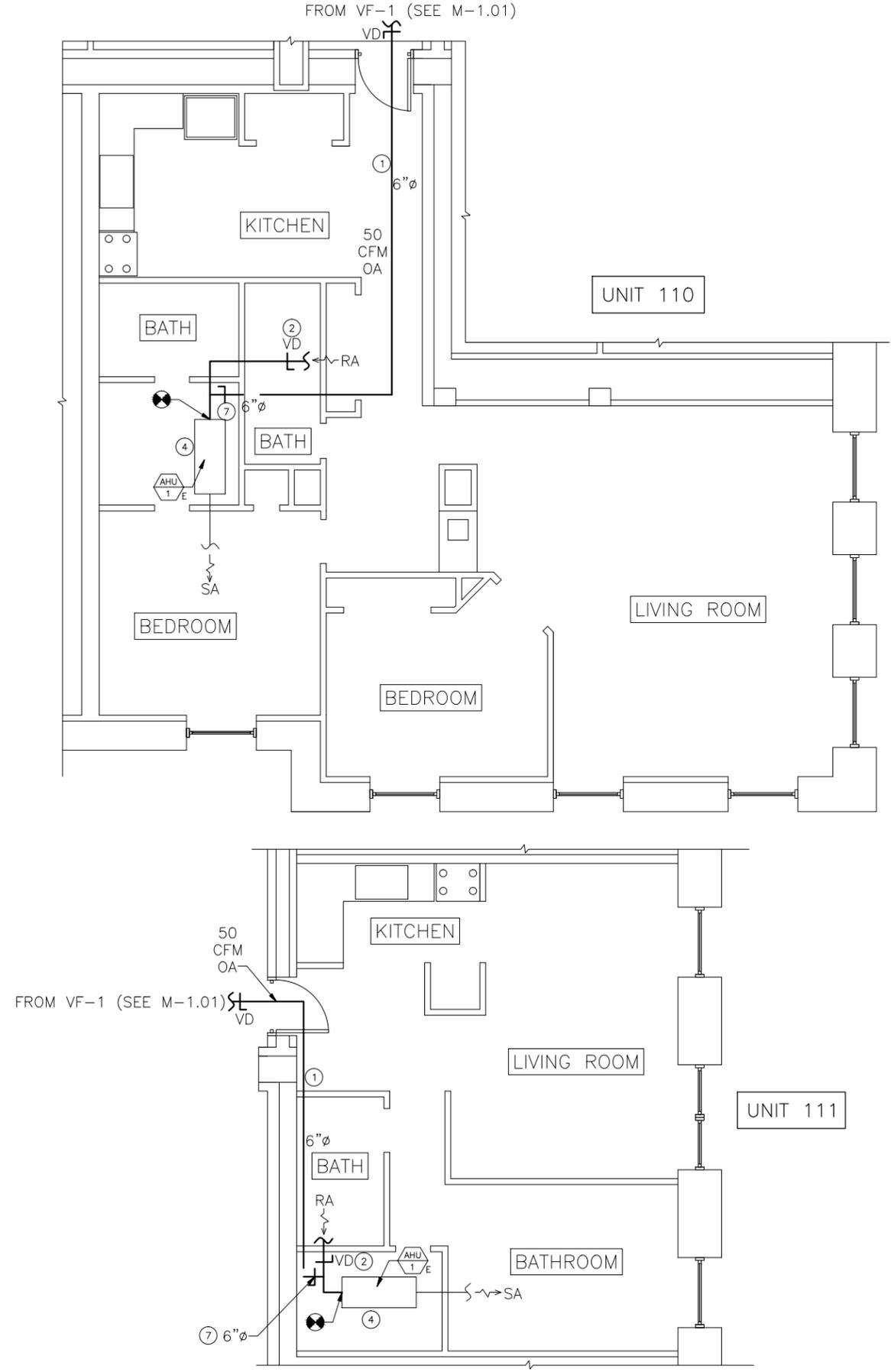
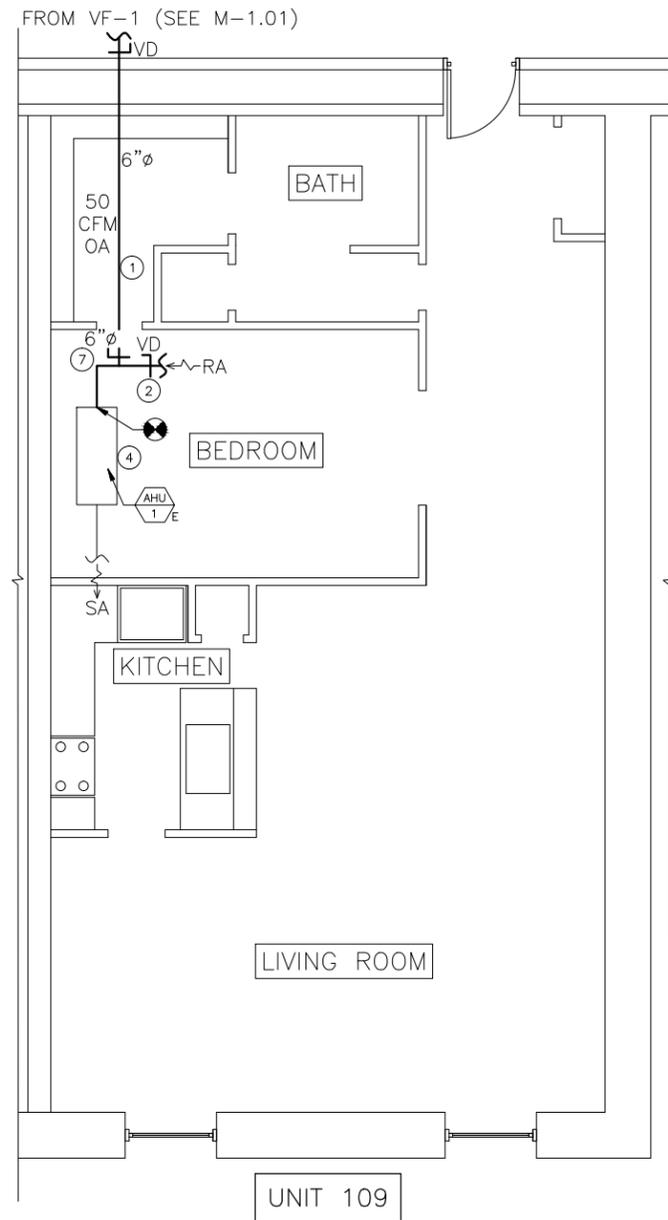
**Submission/Revisions:**

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2	3/28/16	100% Submittal	JDT	SKC
3	4/11/16	Addendum No. 001	SKC	MKP

Dwg. Scale: 1/8" = 1'-0"

Sheet Title:  
**UNIT HVAC PLANS  
BUILDING A  
UNITS 106, 107, 108**

**M - 2.02**



**RIAC PHASE 4C  
LOCKWOOD CONDOS**

3518 W Shore Rd  
Warwick, RI 02886

Project No. 201300.07 Contract No. 26298

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**Submission/Revisions:**

#	date	description	by	chk
1	3/1/16	90% Submittal	JDT	SKC
2	3/28/16	100% Submittal	JDT	SKC
3	4/11/16	Addendum No. 001	SKC	MKP

Dwg. Scale: 1/8" = 1'-0"

**Sheet Title:**  
UNIT HVAC PLANS  
BUILDING A  
UNITS 109, 110, 111

**M - 2.03**

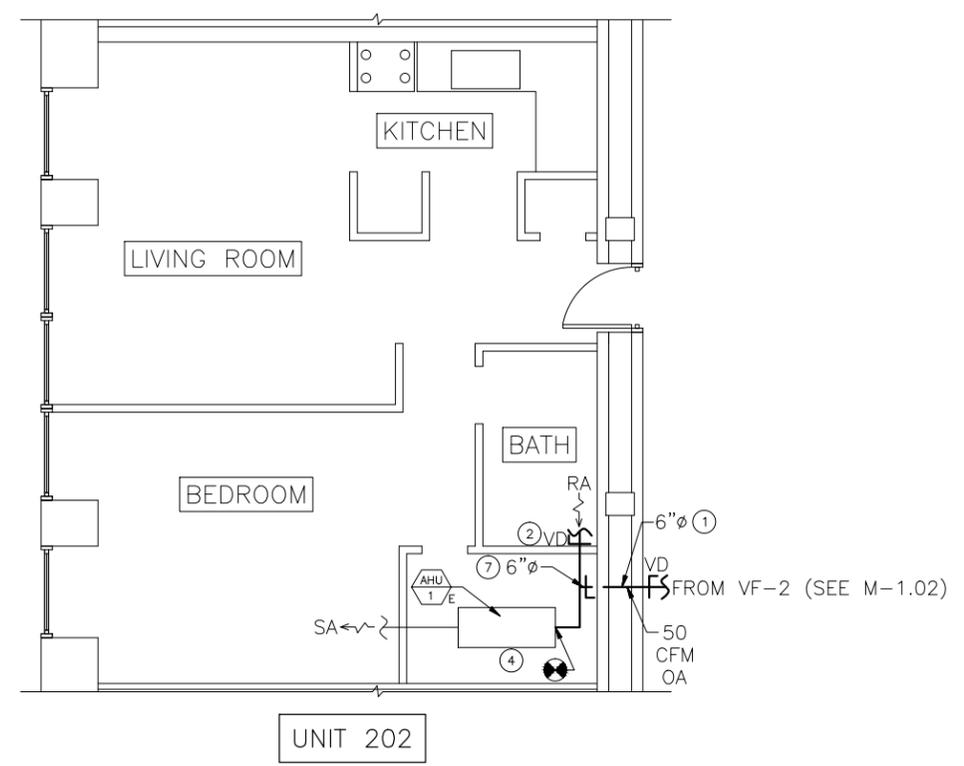
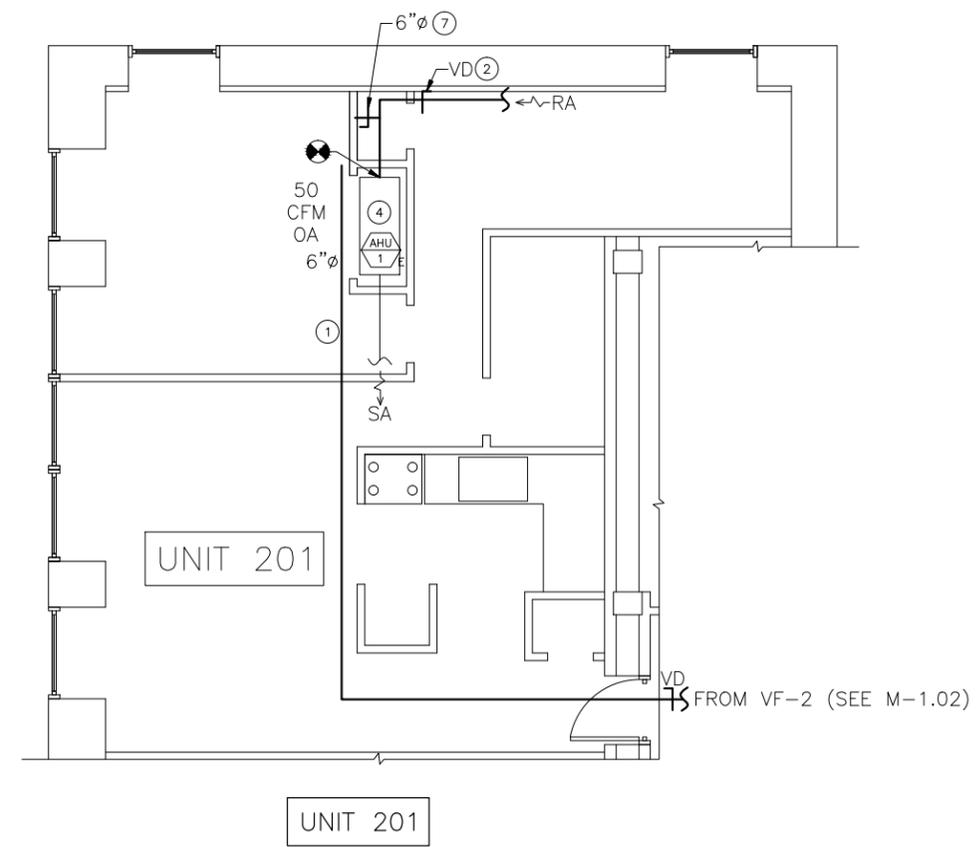
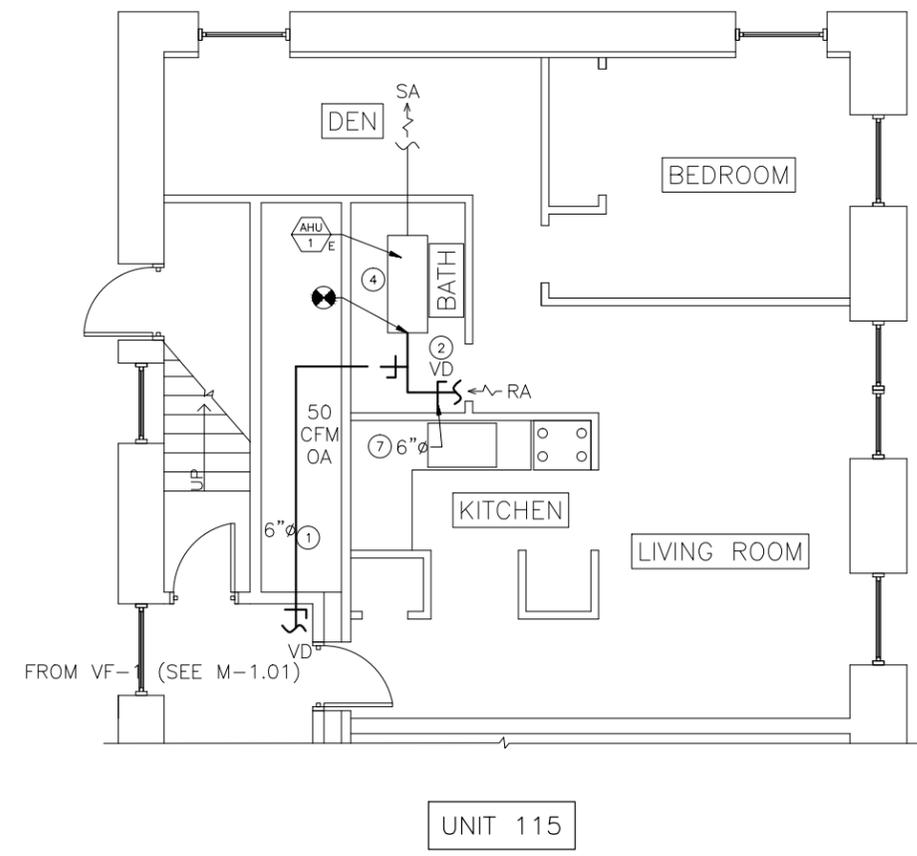
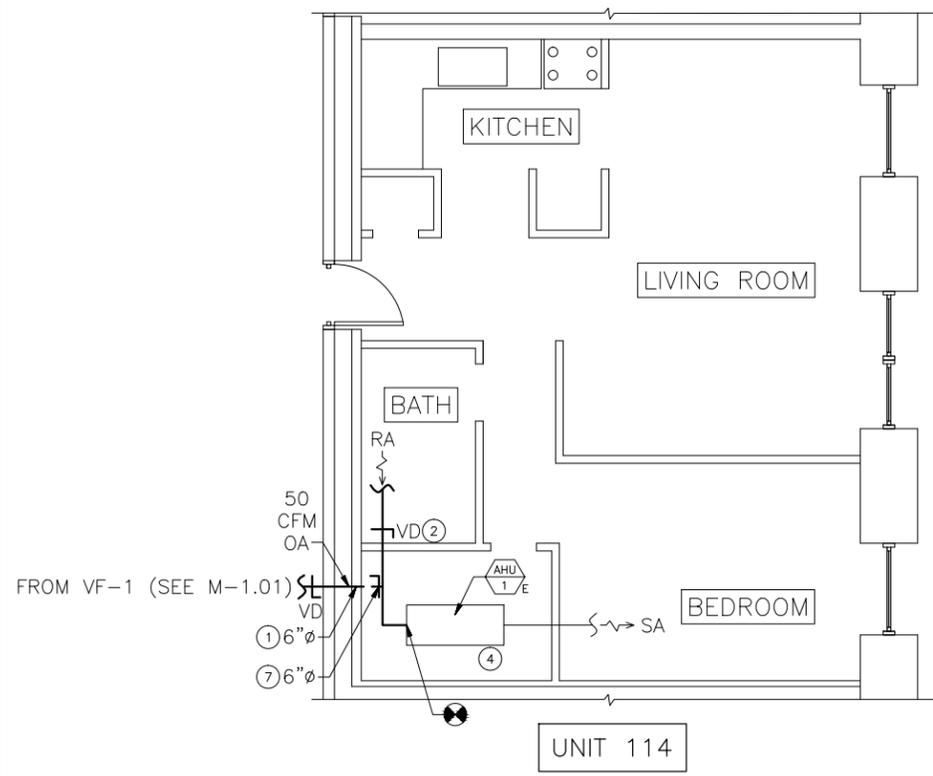
**RIAC PHASE 4C  
LOCKWOOD CONDOS**

3518 W Shore Rd  
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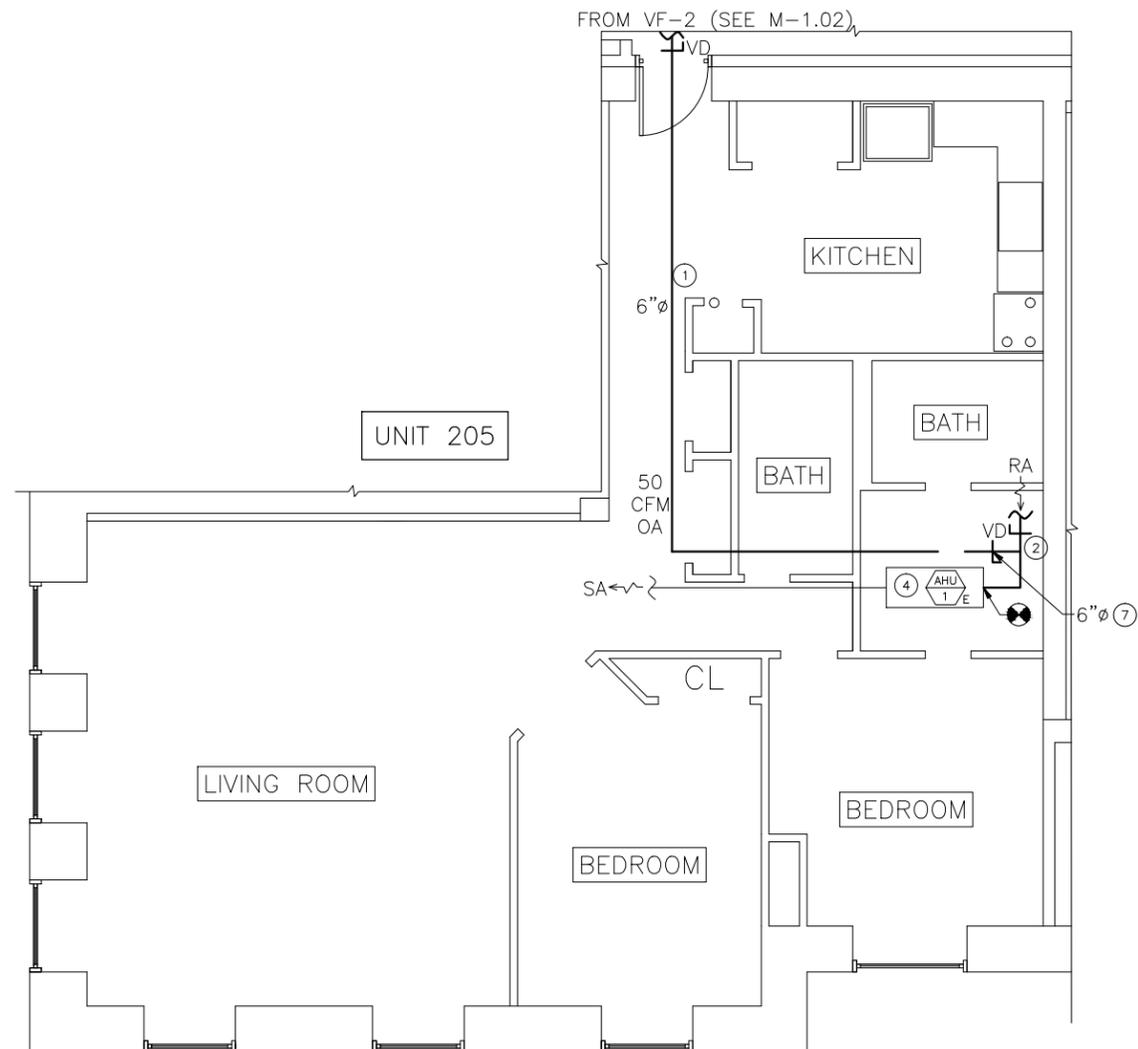
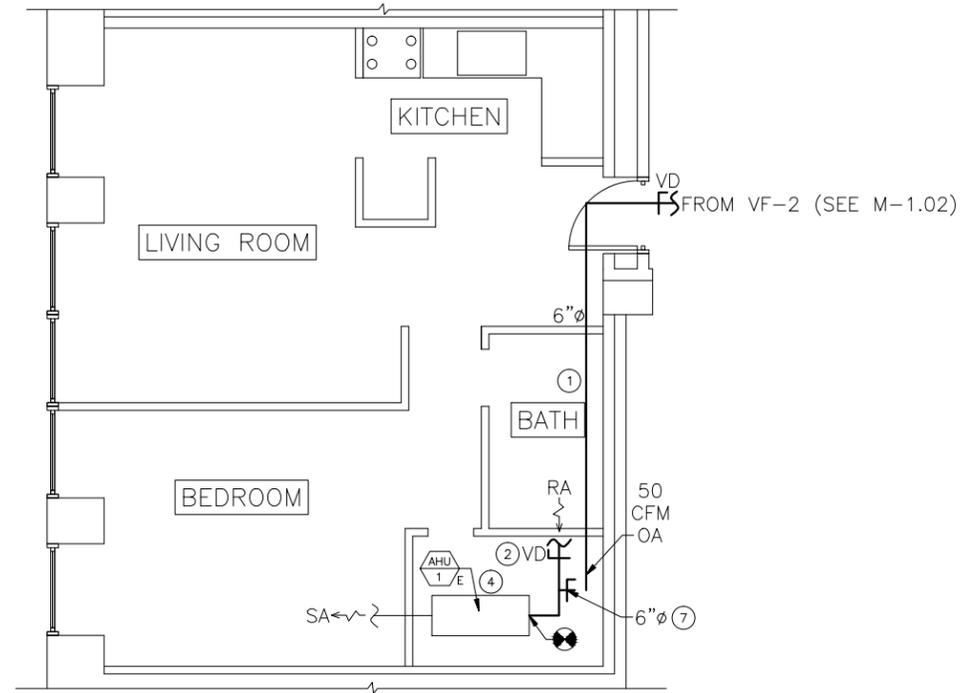
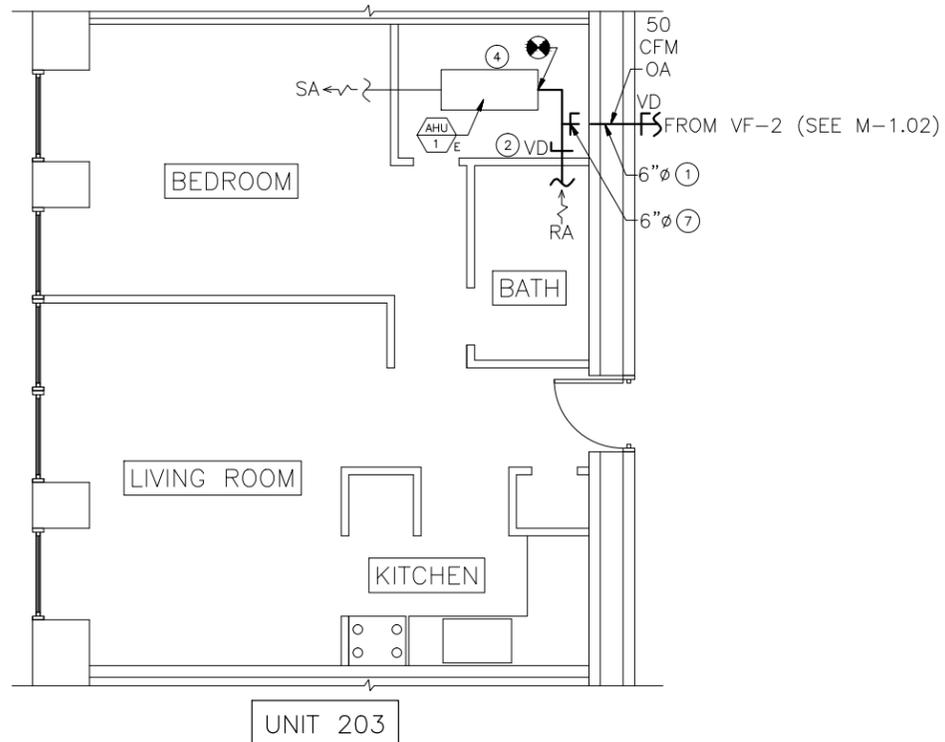
**Submission/Revisions:**

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2	3/28/16	100% Submittal	JDT	SKC
3	4/11/16	Addendum No. 001	SKC	MKP

Dwg. Scale: 1/8" = 1'-0"

**Sheet Title:**  
UNIT HVAC PLANS  
BUILDING A  
UNITS 114, 115, 201, 202

**M - 2.04**



**RIAC PHASE 4C  
LOCKWOOD CONDOS**

3518 W Shore Rd  
Warwick, RI 02886

Project No. 201300.07 Contract No. 26298

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**Submission/Revisions:**

#	date	description	by	chk
1	3/1/16	90% Submittal	JDT	SKC
2	3/28/16	100% Submittal	JDT	SKC
3	4/11/16	Addendum No. 001	SKC	MKP

Dwg. Scale: 1/8" = 1'-0"

Sheet Title:  
**UNIT HVAC PLANS  
BUILDING A  
UNITS 203, 204, 205**

**M - 2.05**

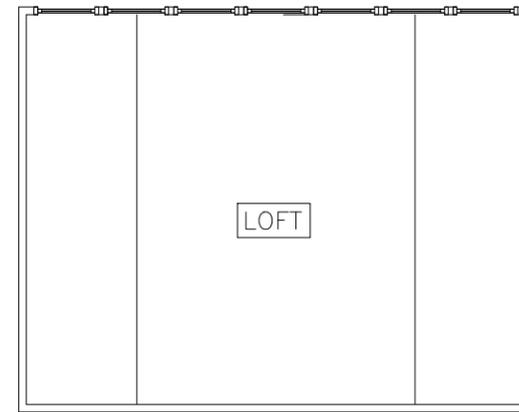
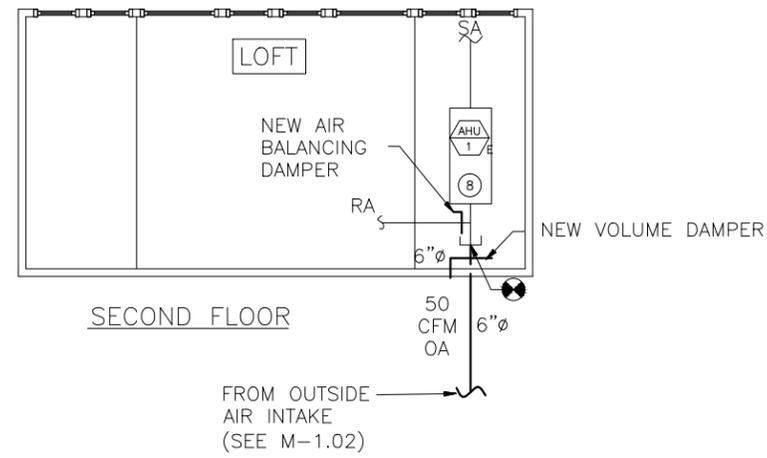
**RIAC PHASE 4C  
LOCKWOOD CONDOS**

3518 W Shore Rd  
Warwick, RI 02886

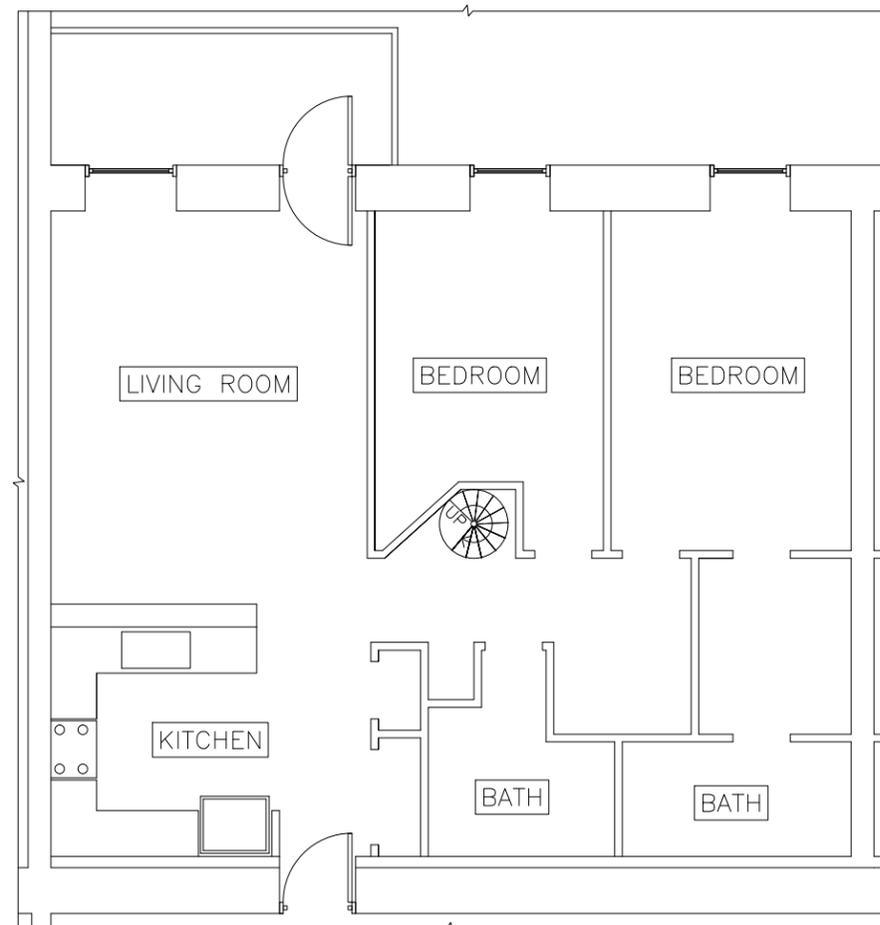
Project No. 201300.07 Contract No. 26298

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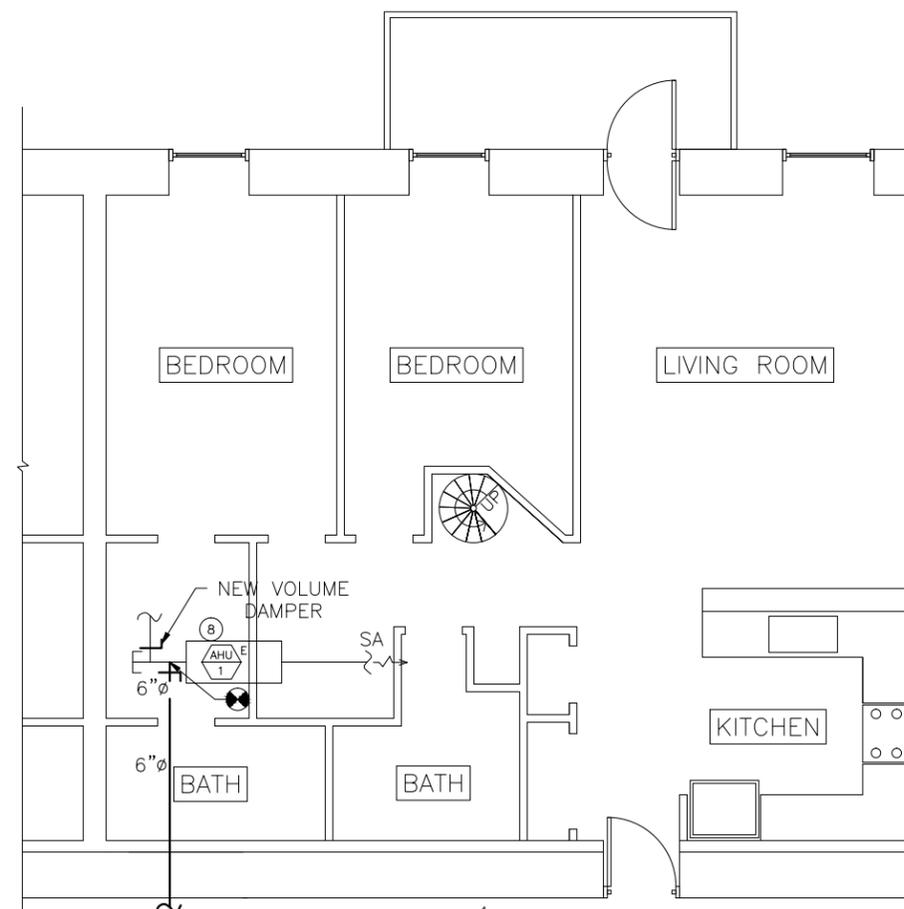


SECOND FLOOR



FIRST FLOOR

UNIT 207



FIRST FLOOR

UNIT 209

**Submission/Revisions:**

#	date	description	by	chk
1	3/1/16	90% Submittal	JDT	SKC
2	3/28/16	100% Submittal	JDT	SKC
3	4/11/16	Addendum No. 001	SKC	MKP

Dwg. Scale: 1/8" = 1'-0"

Sheet Title:  
**UNIT HVAC PLANS  
BUILDING A  
UNIT 207, 209**

**M - 2.06**

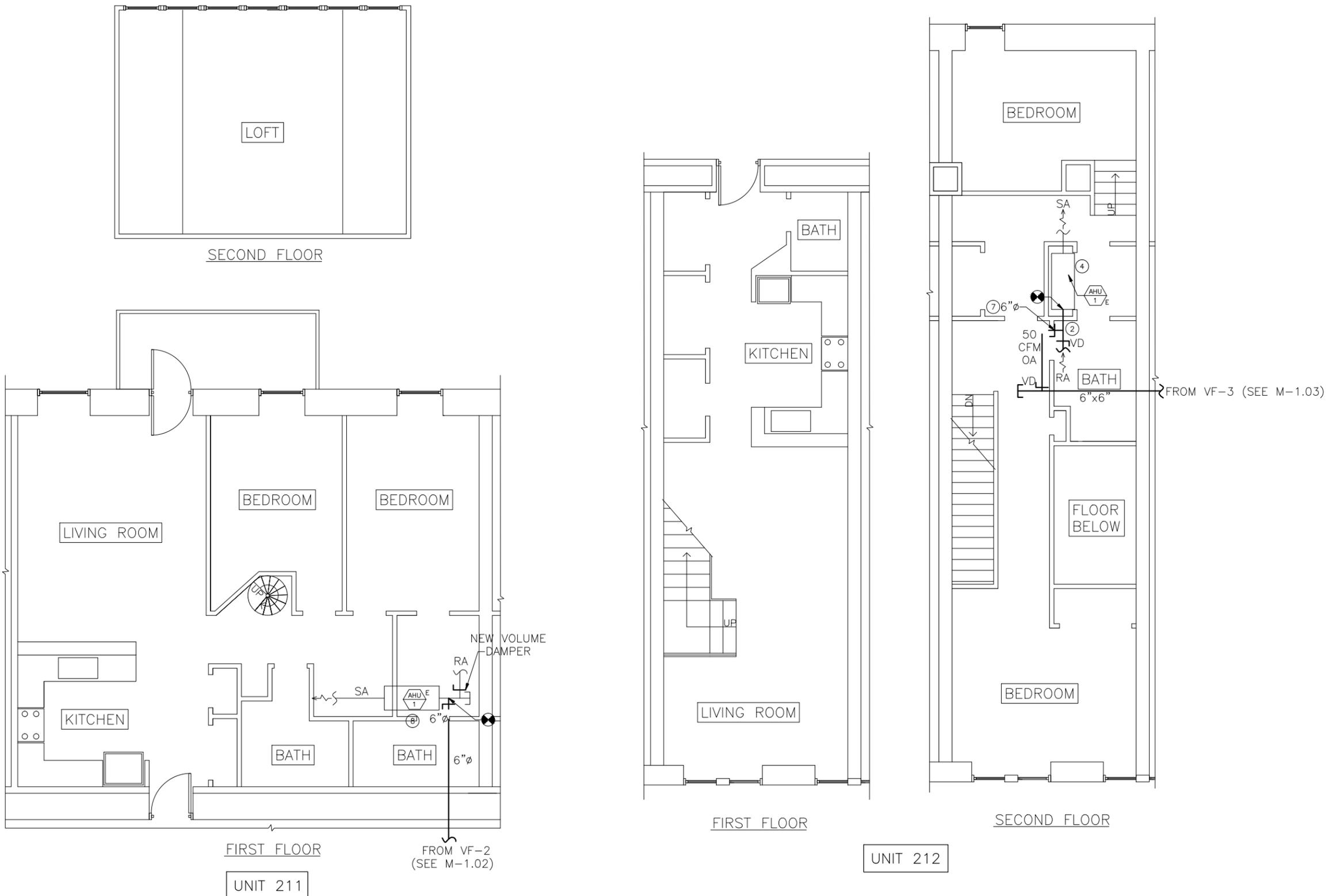
RIAC PHASE 4C  
LOCKWOOD CONDOS

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Submission/Revisions:

#	date	description	by	chk
1	3/1/16	90% Submittal	JDT	SKC
2	3/28/16	100% Submittal	JDT	SKC
3	4/11/16	Addendum No. 001	SKC	MKP

Dwg. Scale: 1/8" = 1'-0"

Sheet Title:  
UNIT HVAC PLANS  
BUILDING A  
UNITS 211, 212

M - 2.07

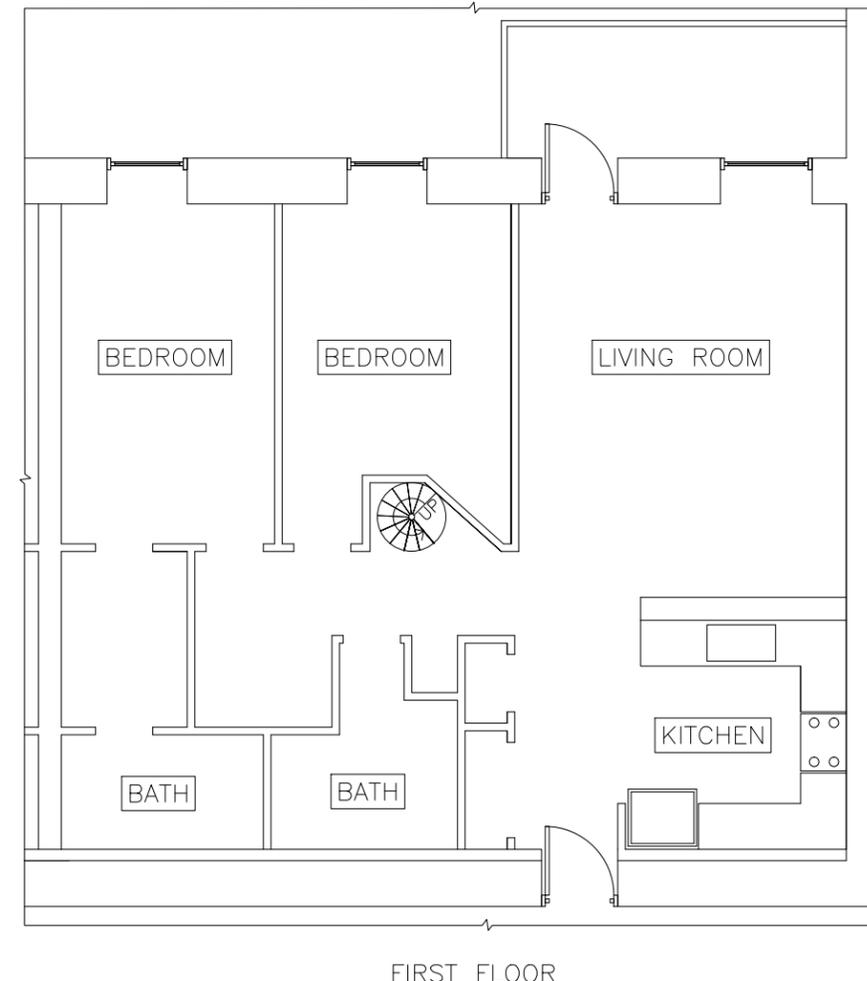
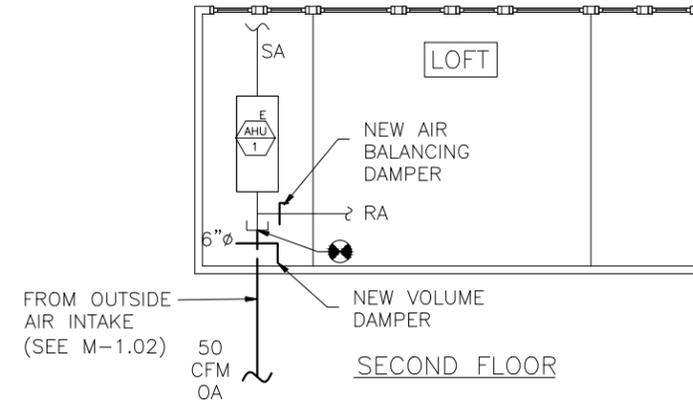
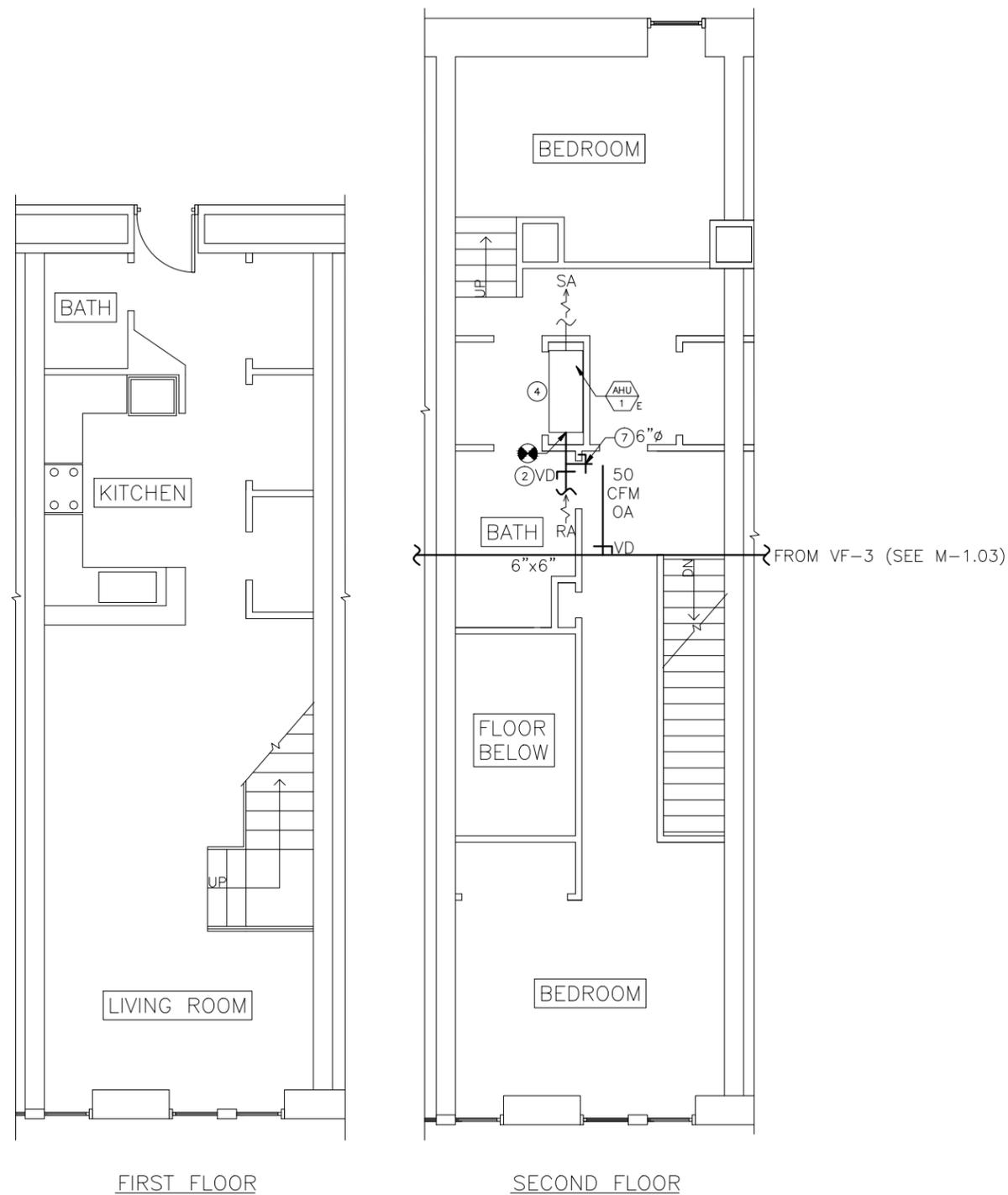
RIAC PHASE 4C  
LOCKWOOD CONDOS

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3	4/11/16	Addendum No. 001	SKC	MKP

Dwg. Scale: 1/8" = 1'-0"

Sheet Title:  
UNIT HVAC PLANS  
BUILDING A  
UNITS 214, 215

M - 2.08

**RIAC PHASE 4C  
LOCKWOOD CONDOS**

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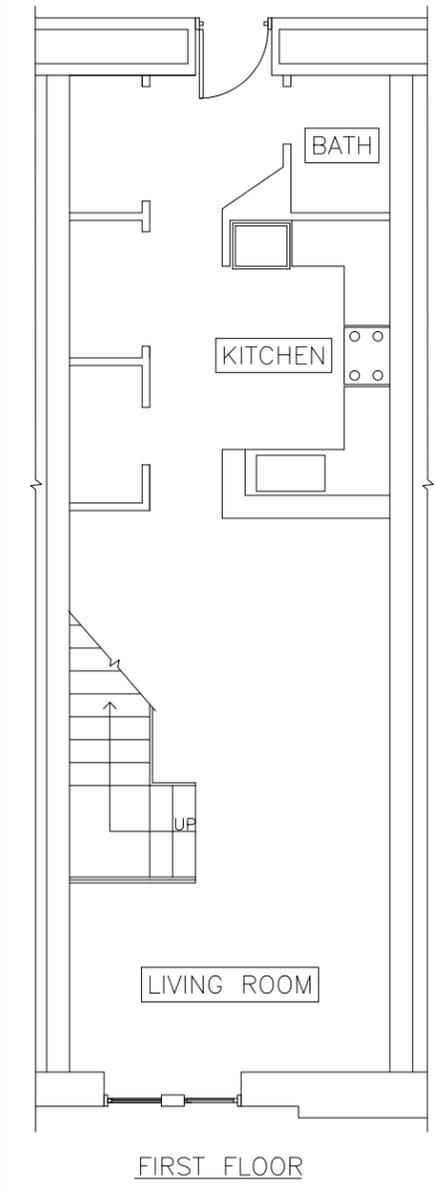
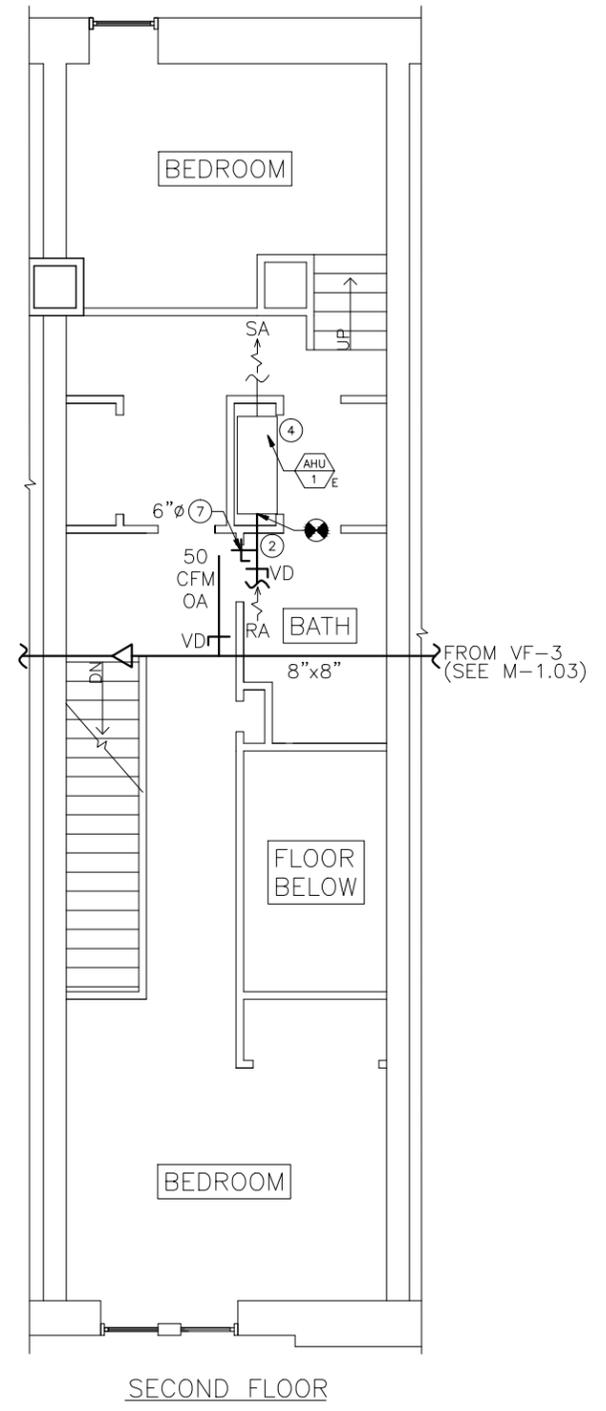
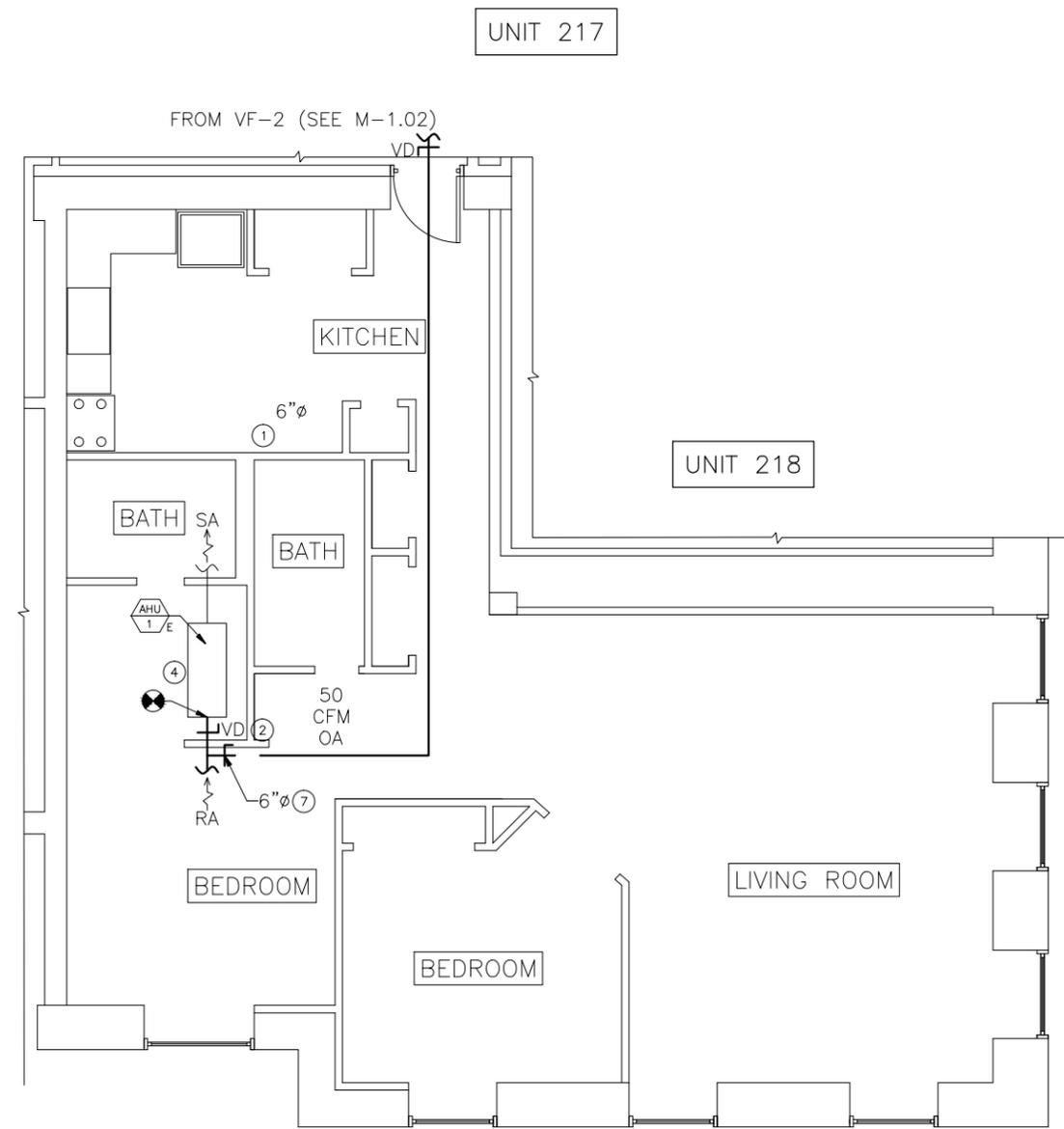
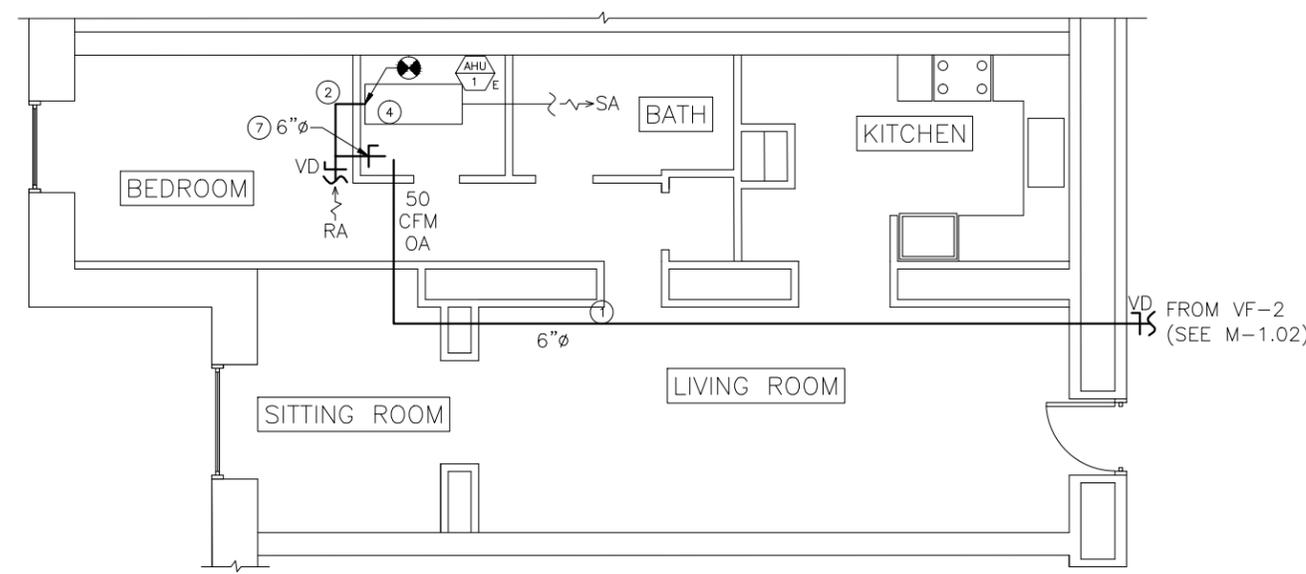
**Submission/Revisions:**

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2	3/28/16	100% Submittal	JDT	SKC
3	4/11/16	Addendum No. 001	SKC	MKP

Dwg. Scale: 1/8" = 1'-0"

**Sheet Title:**  
UNIT HVAC PLANS  
BUILDING A  
UNITS 216, 217, 218

**M - 2.09**



**RIAC PHASE 4C  
LOCKWOOD CONDOS**

3518 W Shore Rd  
Warwick, RI 02886

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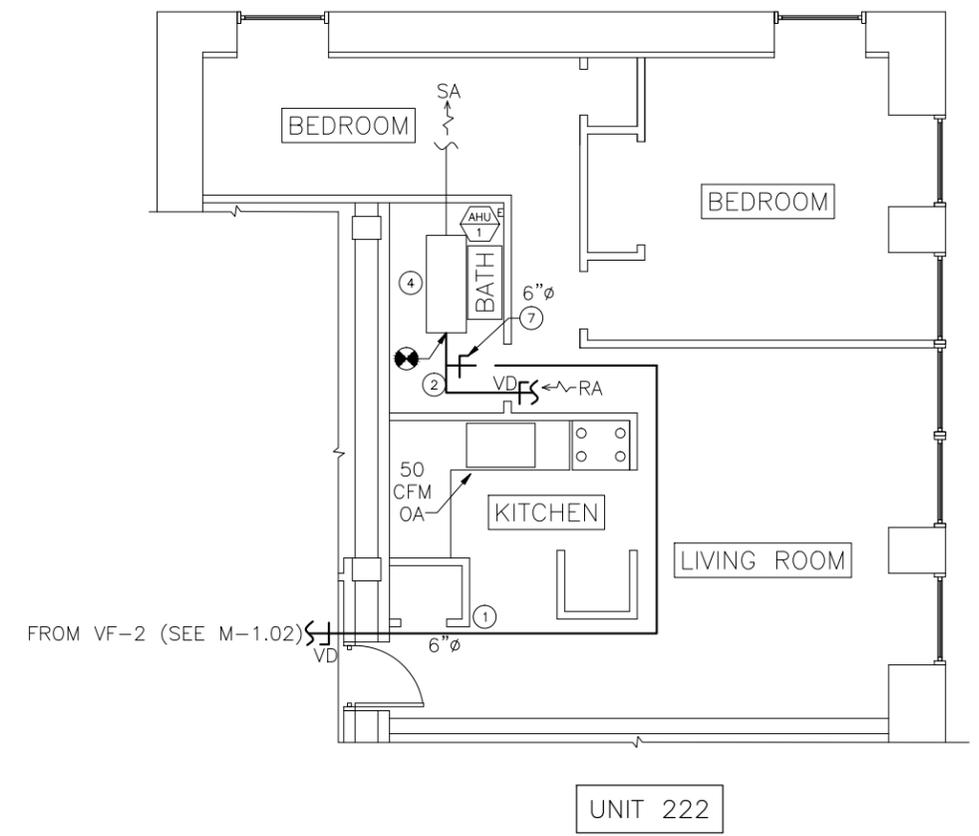
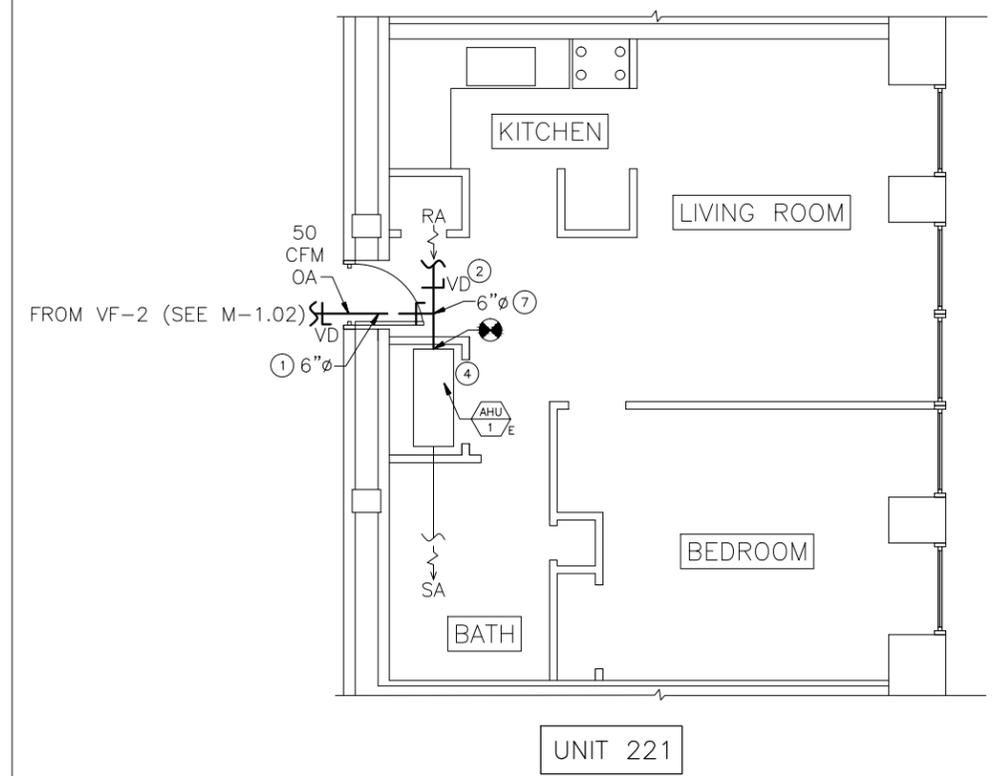
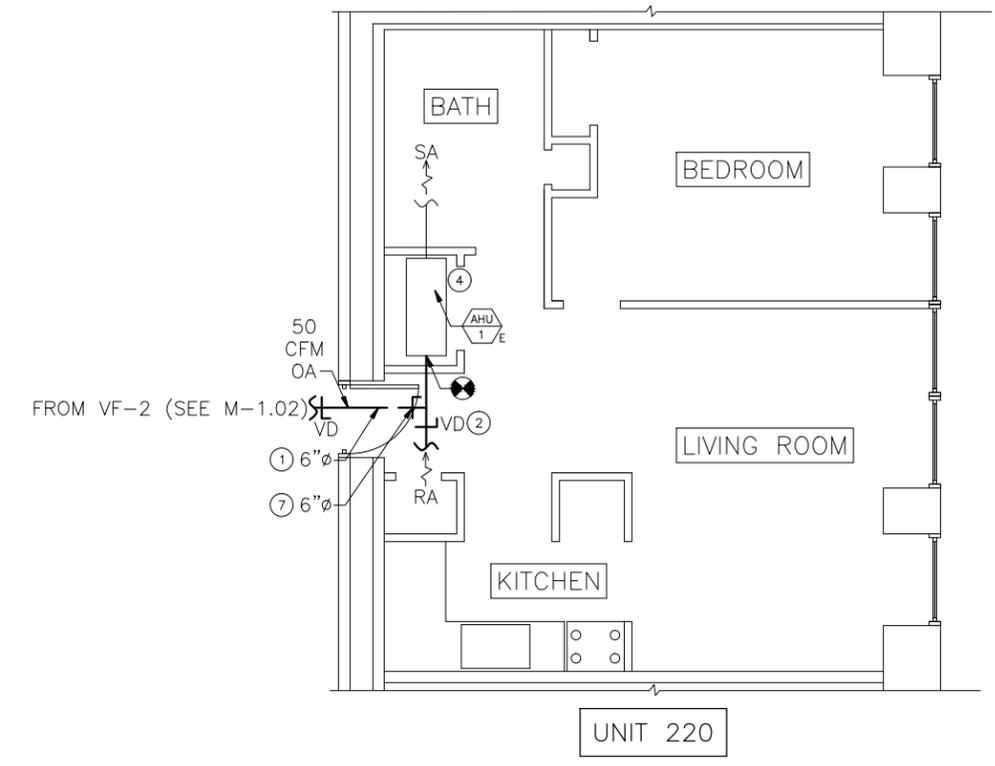
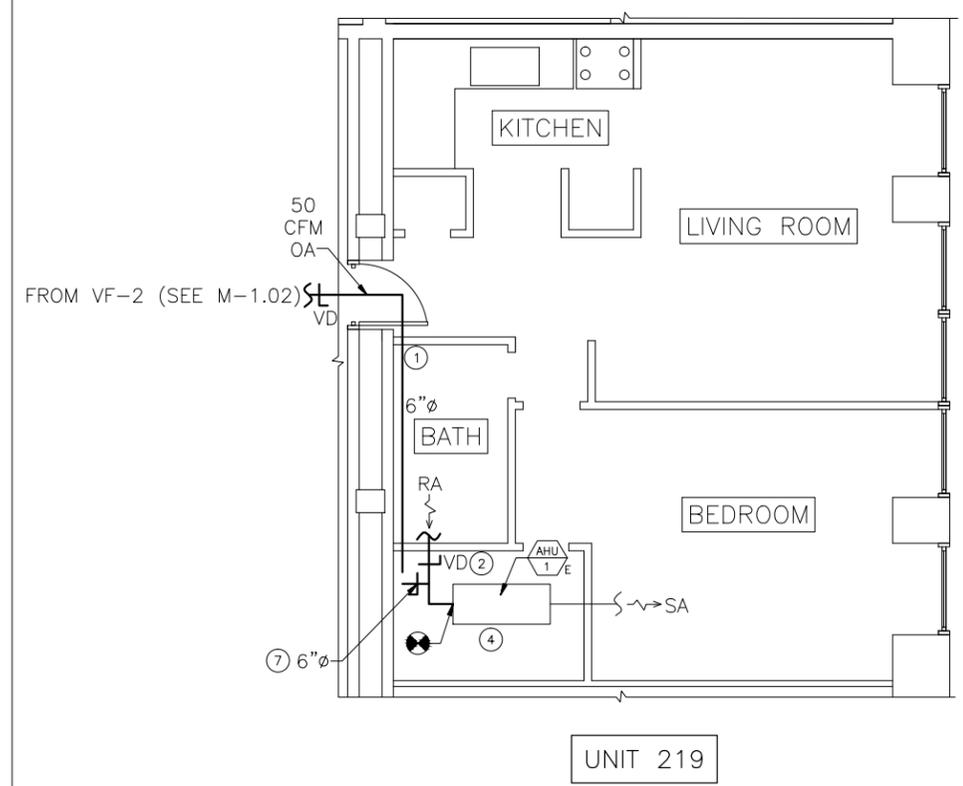
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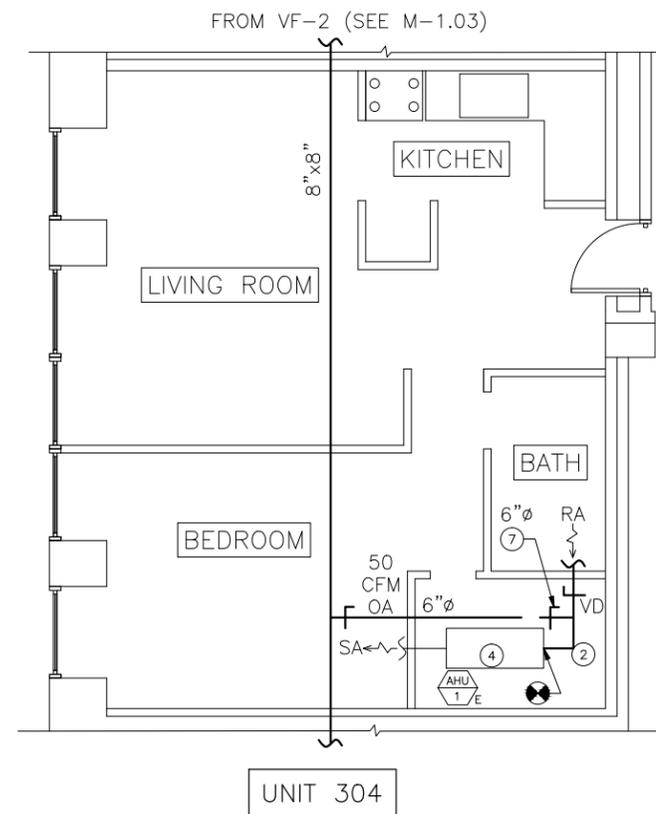
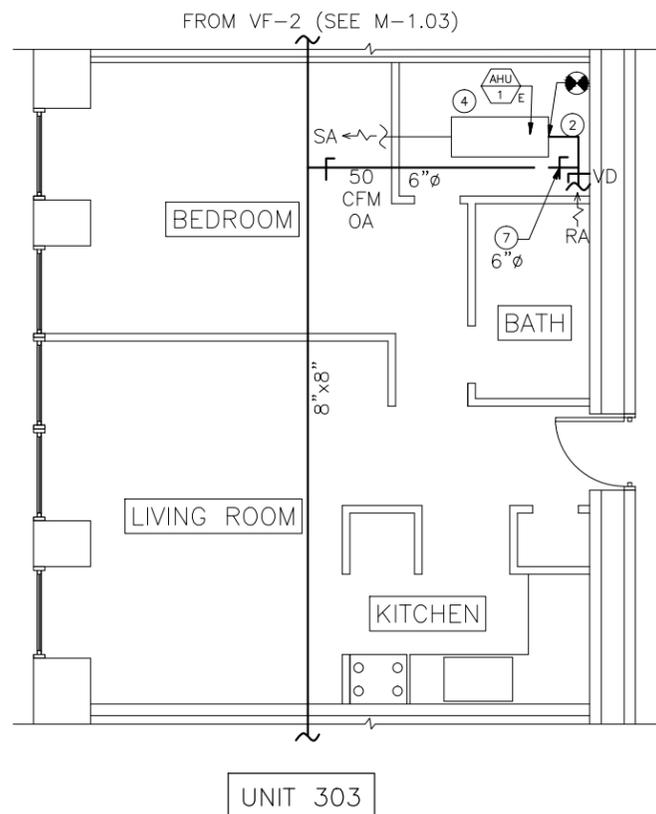
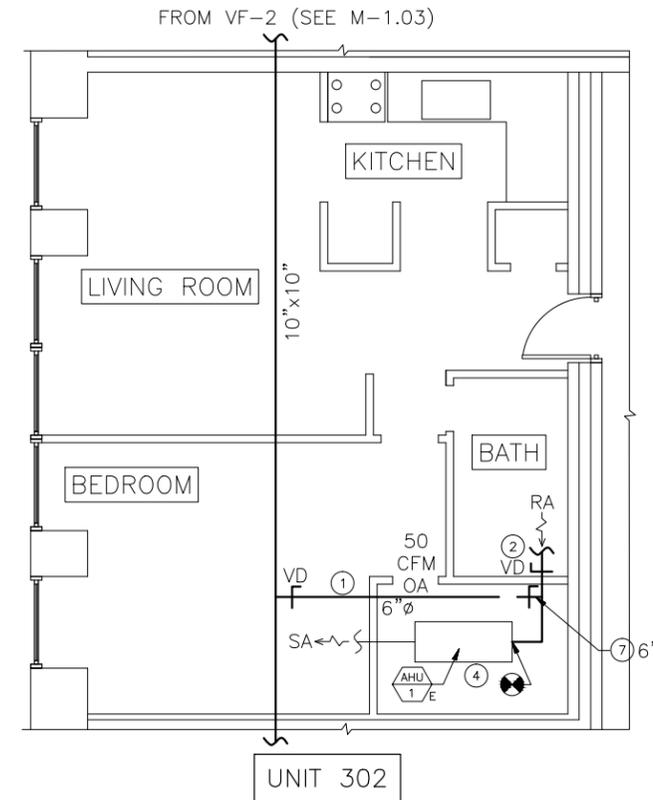
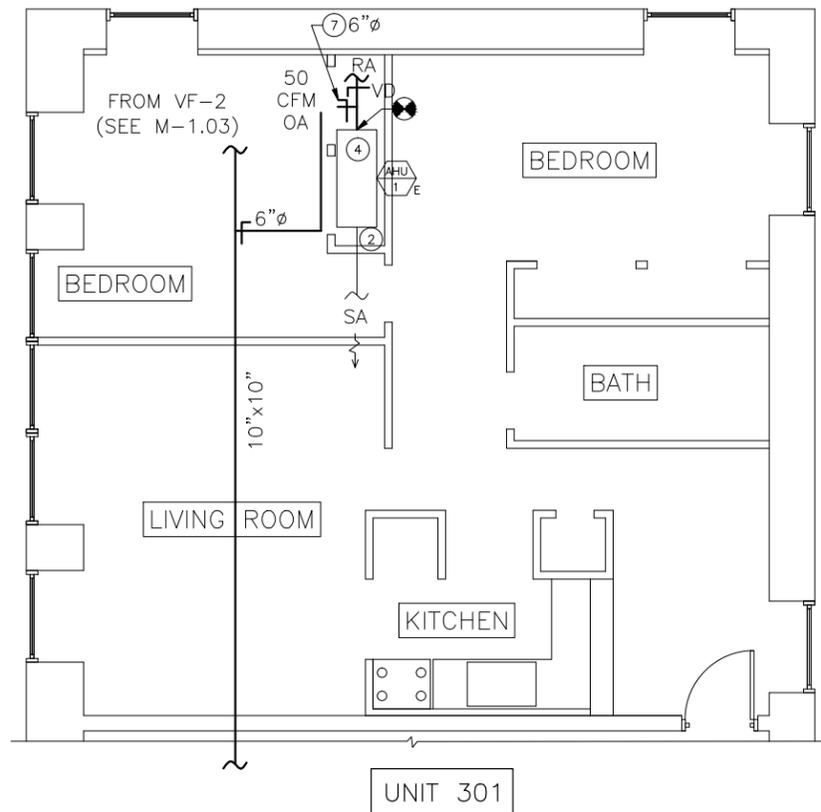
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2	3/28/16	100% Submittal	JDT	SKC
3	4/11/16	Addendum No. 001	SKC	MKP

Dwg. Scale: 1/8" = 1'-0"

**Sheet Title:**  
UNIT HVAC PLANS  
BUILDING A  
UNITS 219, 220, 221, 222

**M - 2.10**





**RIAC PHASE 4C  
LOCKWOOD CONDOS**

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Warwick, RI 02886

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#	date	description	by	chk
1	3/1/16	90% Submittal	JDT	SKC
2	3/28/16	100% Submittal	JDT	SKC
3	4/11/16	Addendum No. 001	SKC	MKP

Dwg. Scale: 1/8" = 1'-0"

**Sheet Title:**  
UNIT HVAC PLANS  
BUILDING A  
UNITS 301, 302, 303, 304

**M - 2.11**

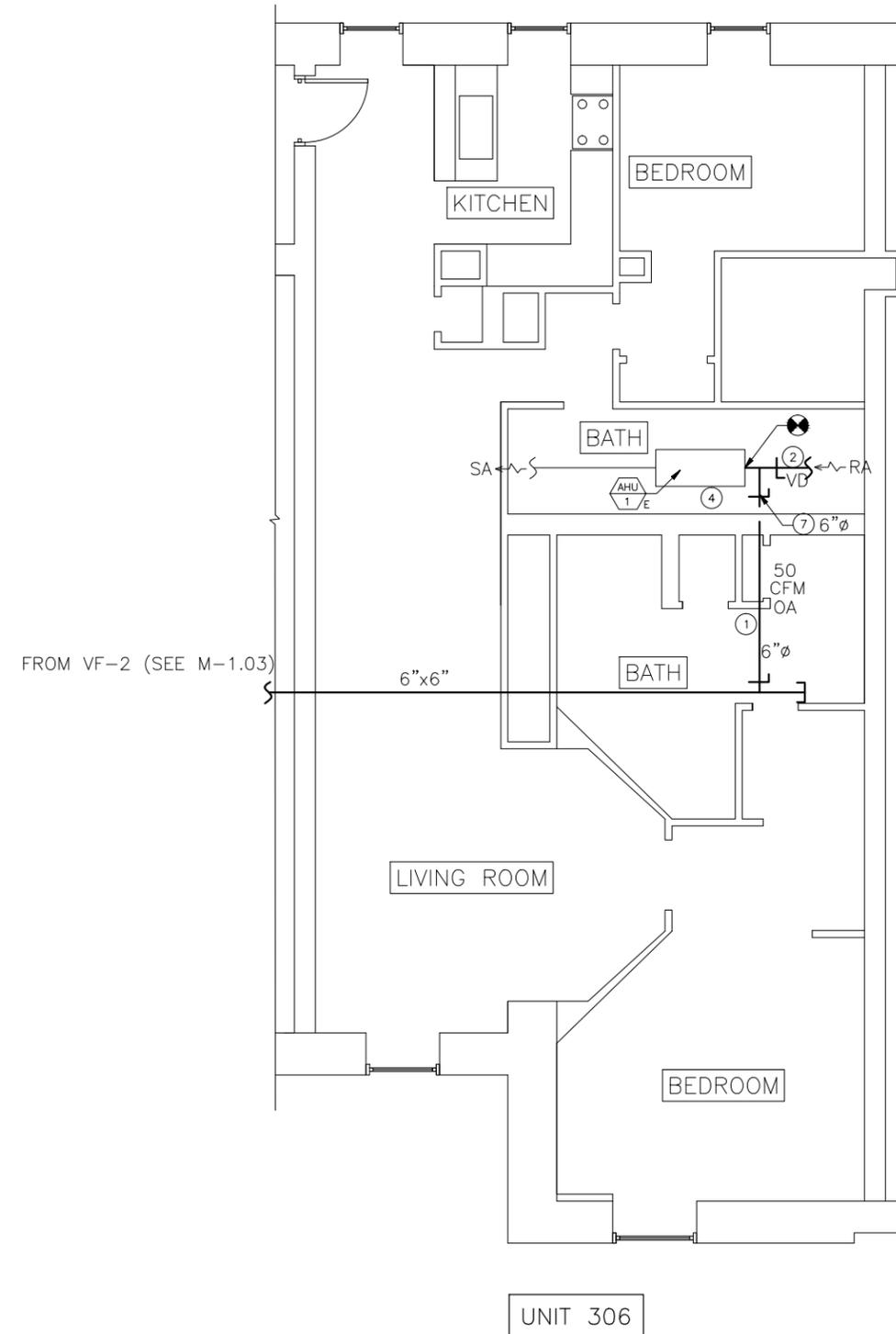
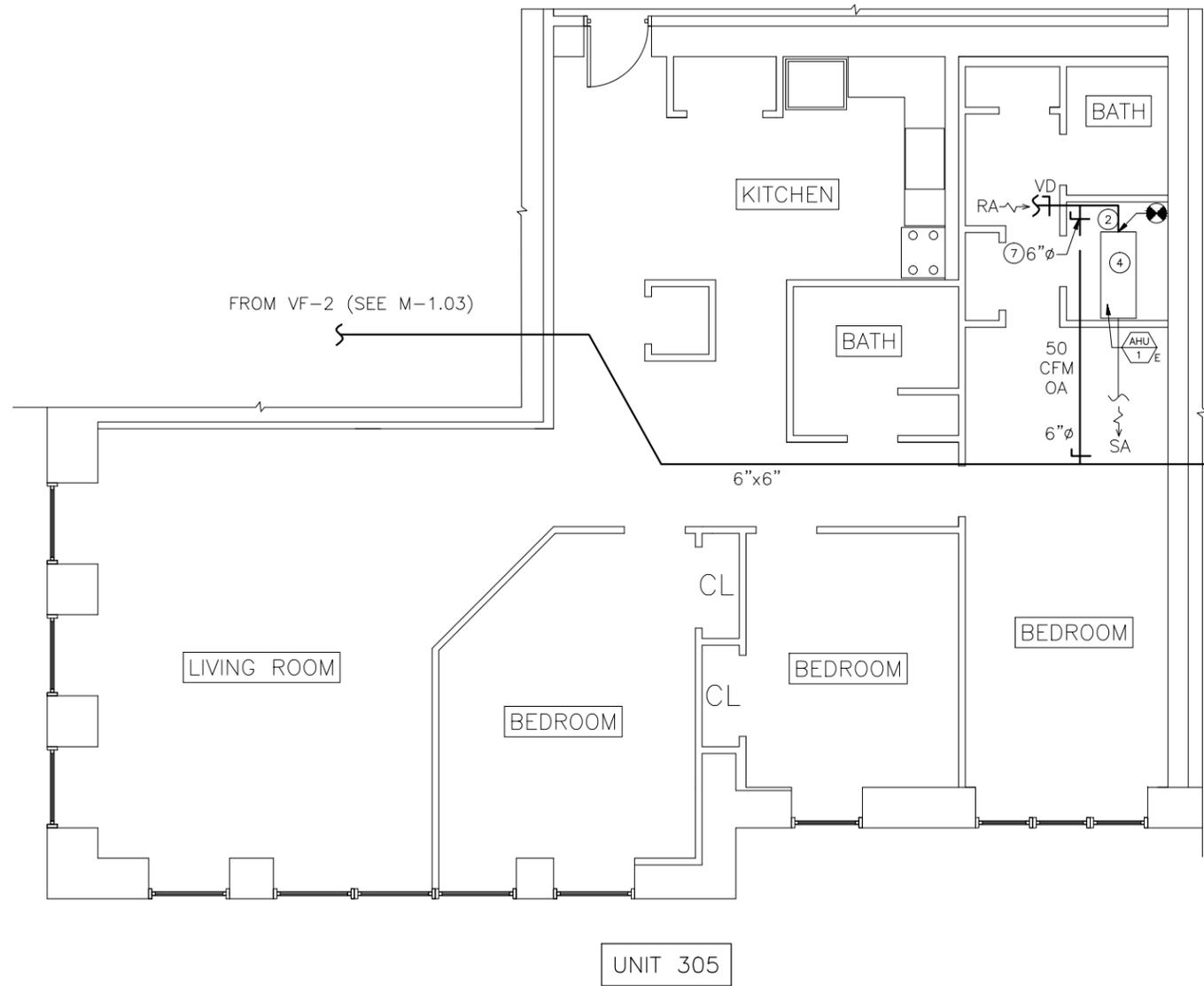
**RIAC PHASE 4C  
LOCKWOOD CONDOS**

3518 W Shore Rd  
Warwick, RI 02886

Project No. 201300.07 Contract No. 26298

**jp** 123 Washington Street, Third Floor  
Boston Massachusetts 02114  
Tel: 617.790.3747 Fax: 617.790.3748  
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**Submission/Revisions:**

#	date	description	by	chk
1	3/1/16	90% Submittal	JDT	SKC
2	3/28/16	100% Submittal	JDT	SKC
3	4/11/16	Addendum No. 001	SKC	MKP

Dwg. Scale: 1/8" = 1'-0"

**Sheet Title:**  
UNIT HVAC PLANS  
BUILDING A  
UNITS 305, 306

**M - 2.12**

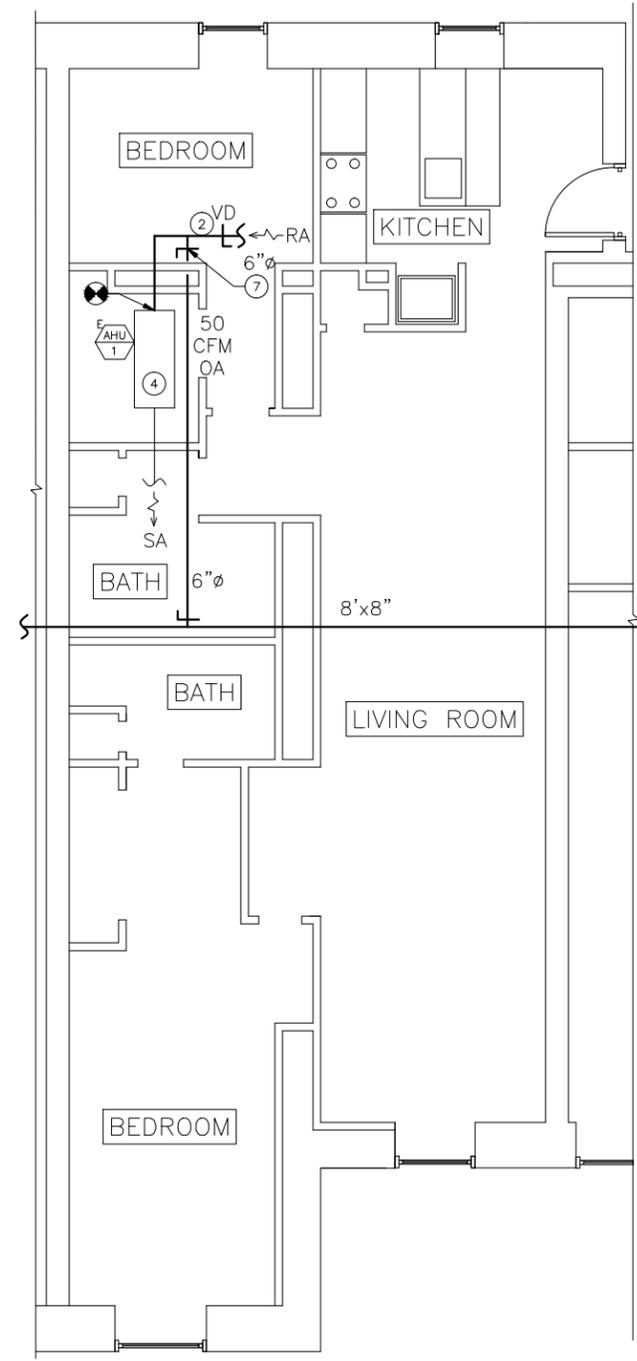
**RIAC PHASE 4C  
LOCKWOOD CONDOS**

3518 W Shore Rd  
Warwick, RI 02886

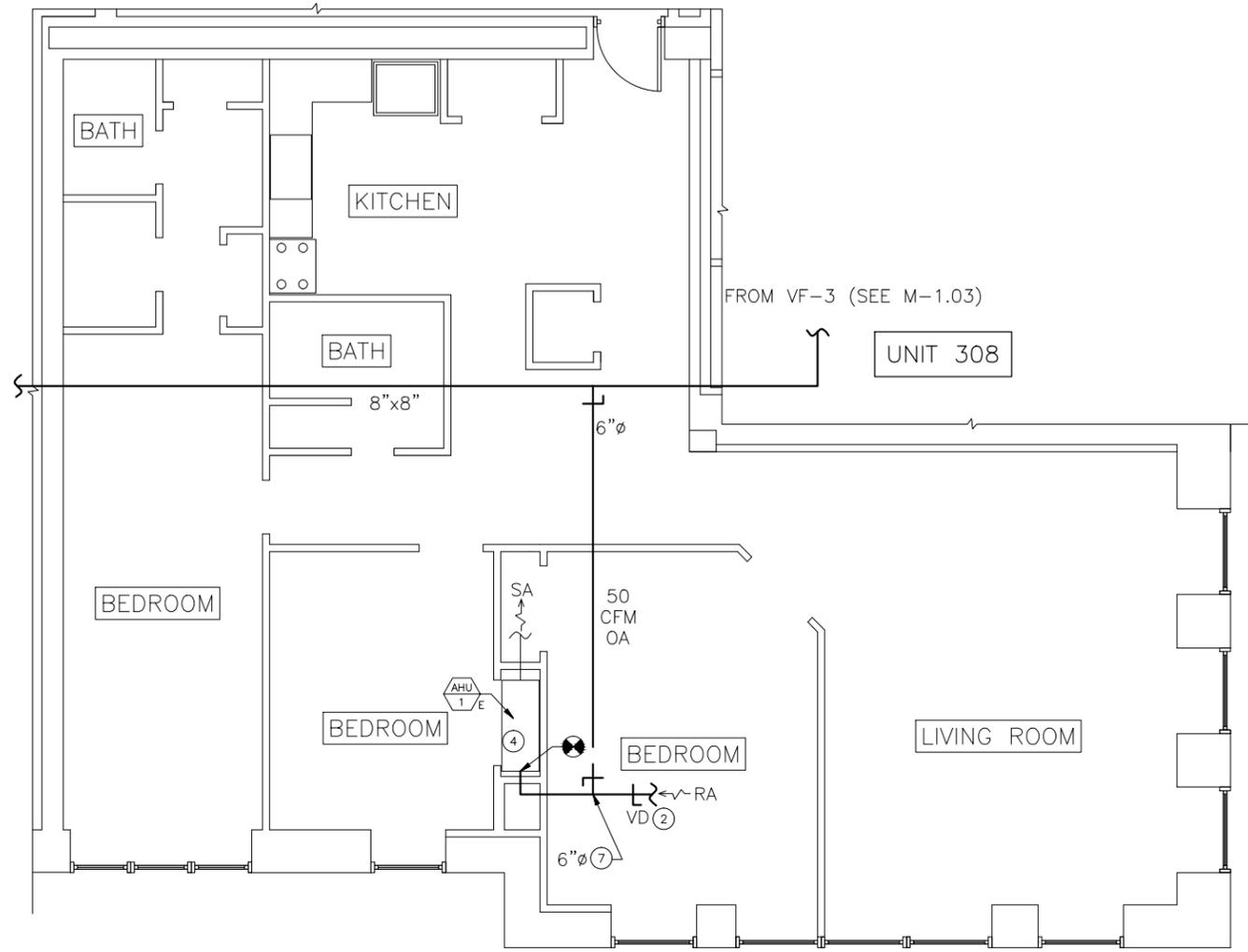
Project No. 201300.07 Contract No. 26298

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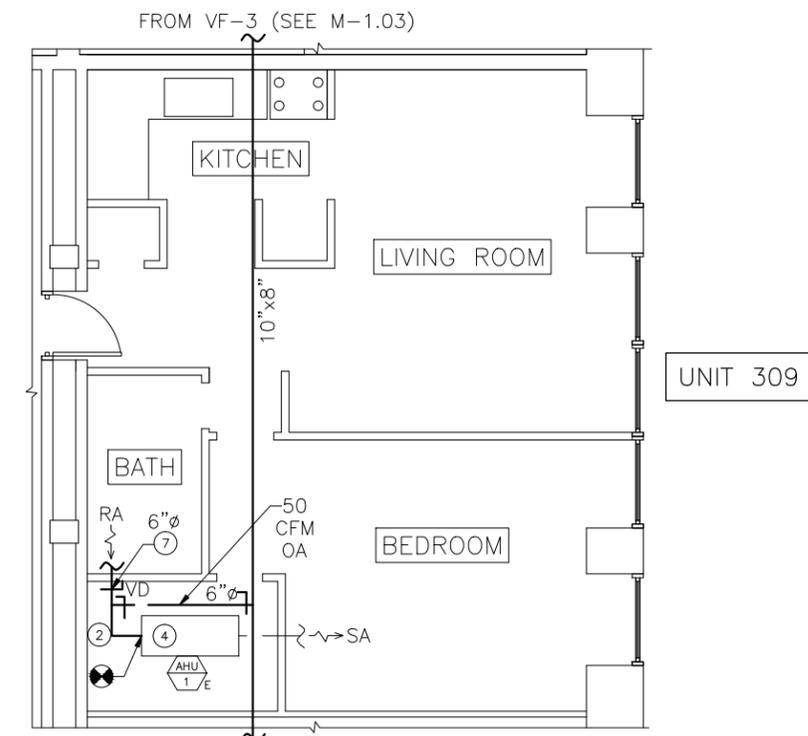
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UNIT 307



UNIT 308



UNIT 309

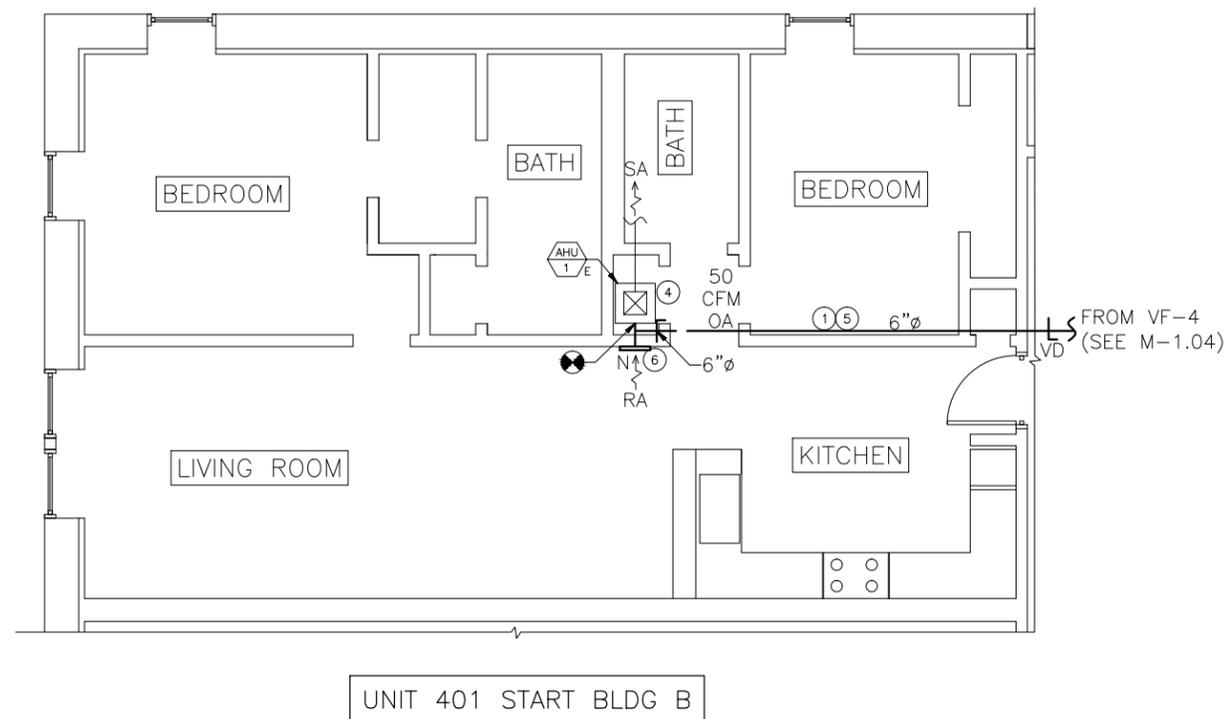
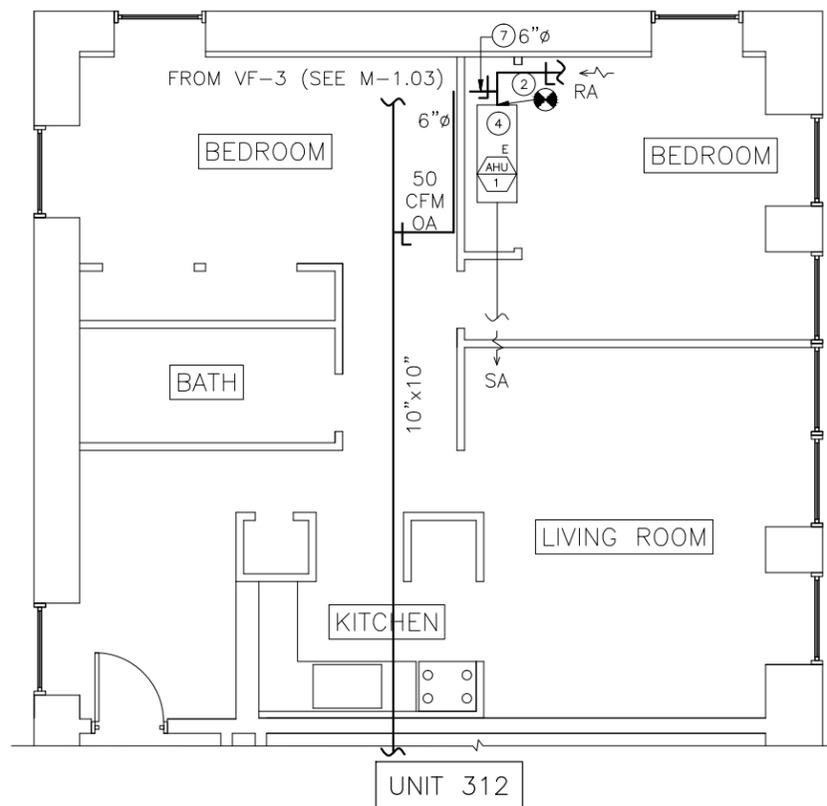
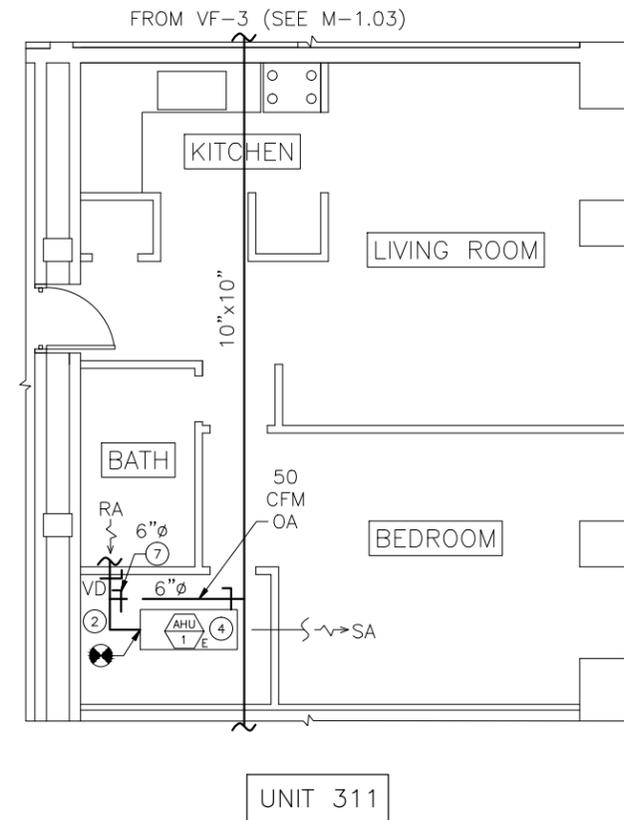
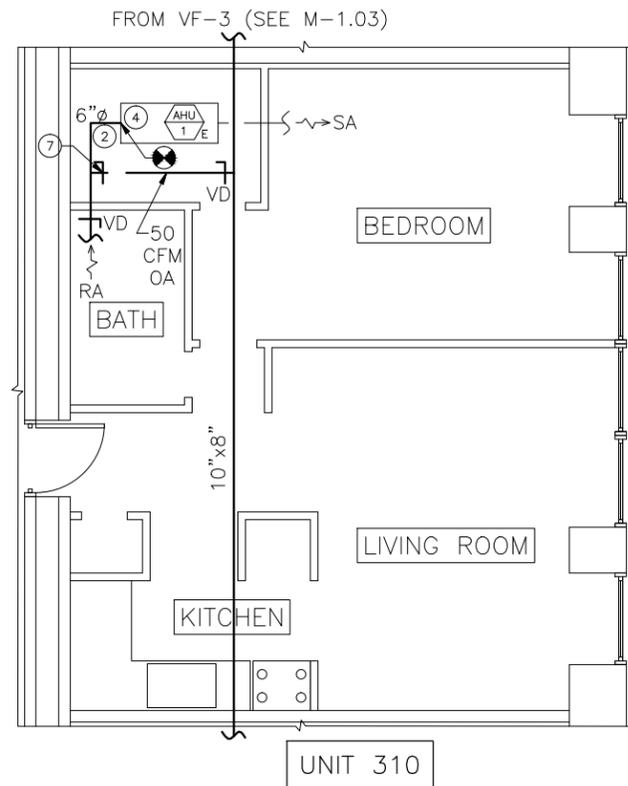
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2	3/28/16	100% Submittal	JDT	SKC
3	4/11/16	Addendum No. 001	SKC	MKP

Dwg. Scale: 1/8" = 1'-0"

**Sheet Title:**  
UNIT HVAC PLANS  
BUILDING A  
UNITS 307, 308, 309

**M - 2.13**



**RIAC PHASE 4C  
LOCKWOOD CONDOS**

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#	date	description	by	chk
1	3/1/16	90% Submittal	JDT	SKC
2	3/28/16	100% Submittal	JDT	SKC
3	4/11/16	Addendum No. 001	SKC	MKP

Dwg. Scale: 1/8" = 1'-0"

**Sheet Title:**  
UNIT HVAC PLANS  
BUILDING A & B  
UNITS 310, 311, 312, 401

**M - 2.14**



**RIAC PHASE 4C  
LOCKWOOD CONDOS**

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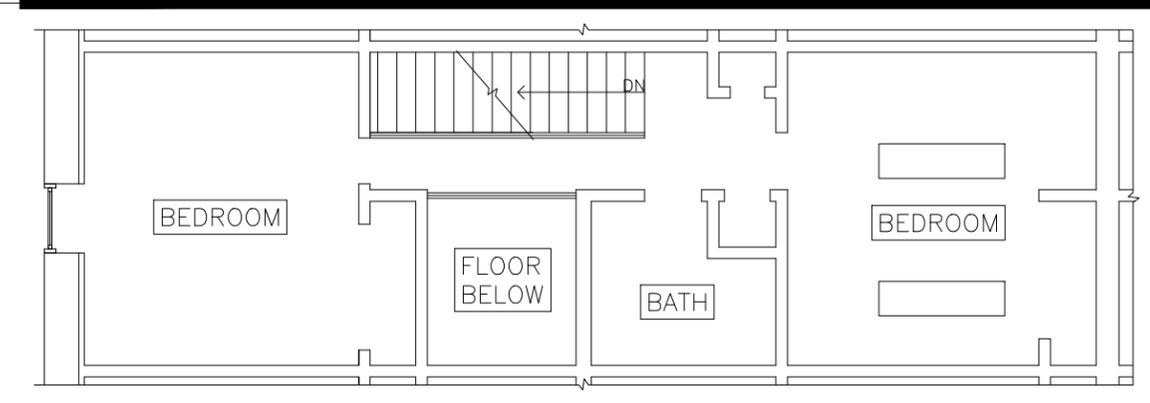
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3	4/11/16	Addendum No. 001	SKC	MKP

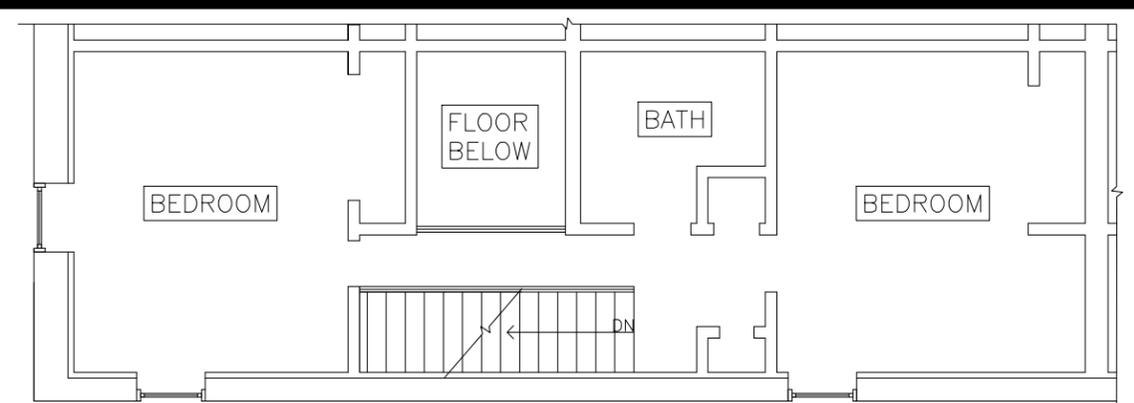
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UNIT HVAC PLANS  
BUILDING B  
UNITS 502, 505, 506

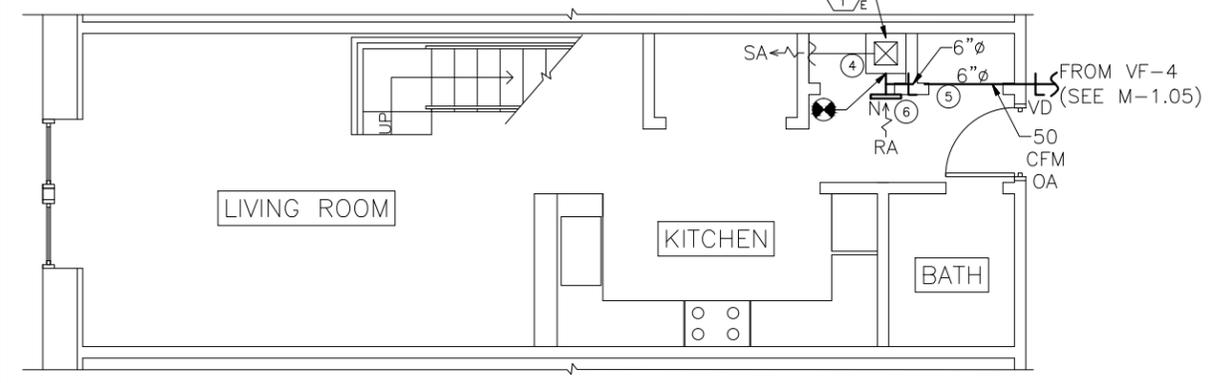
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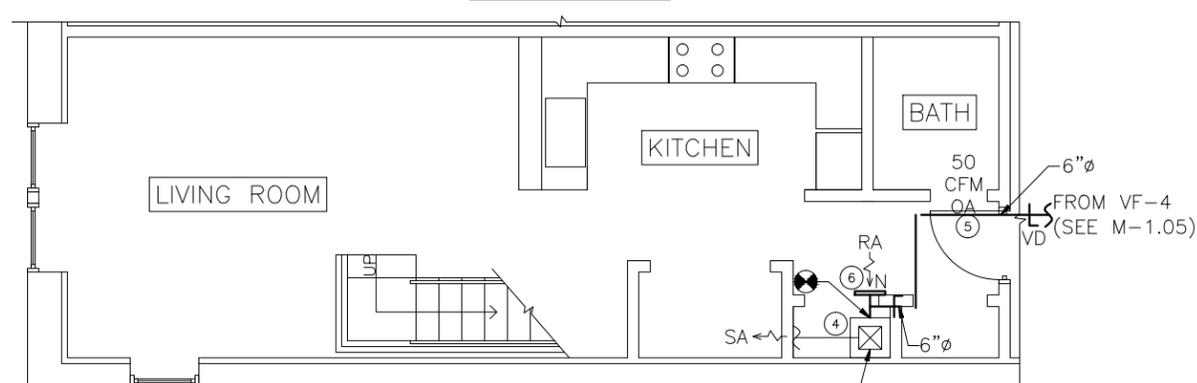


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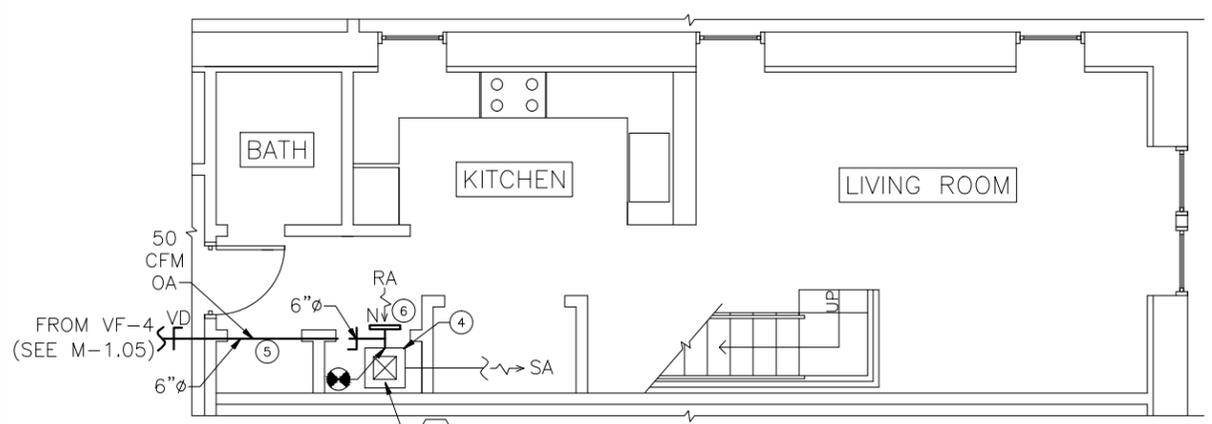
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UNIT 502



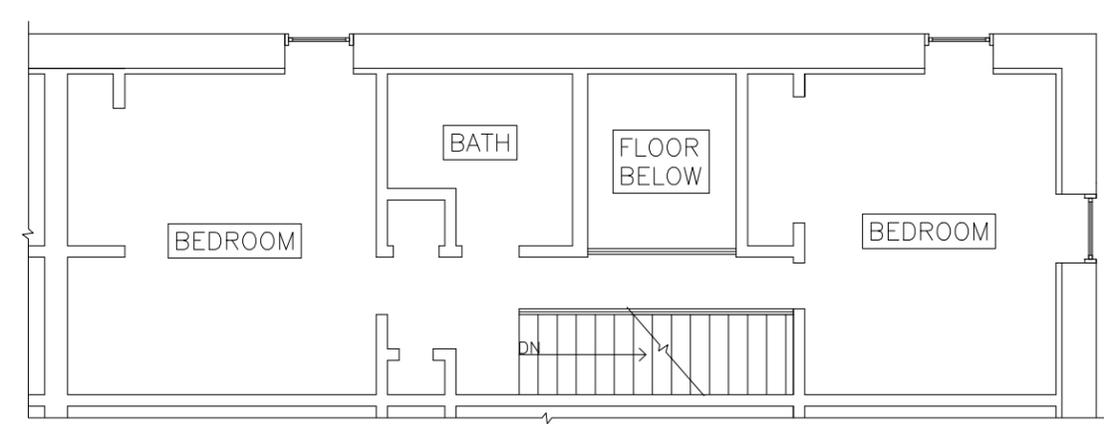
FIRST FLOOR

UNIT 505



FIRST FLOOR

UNIT 506



SECOND FLOOR

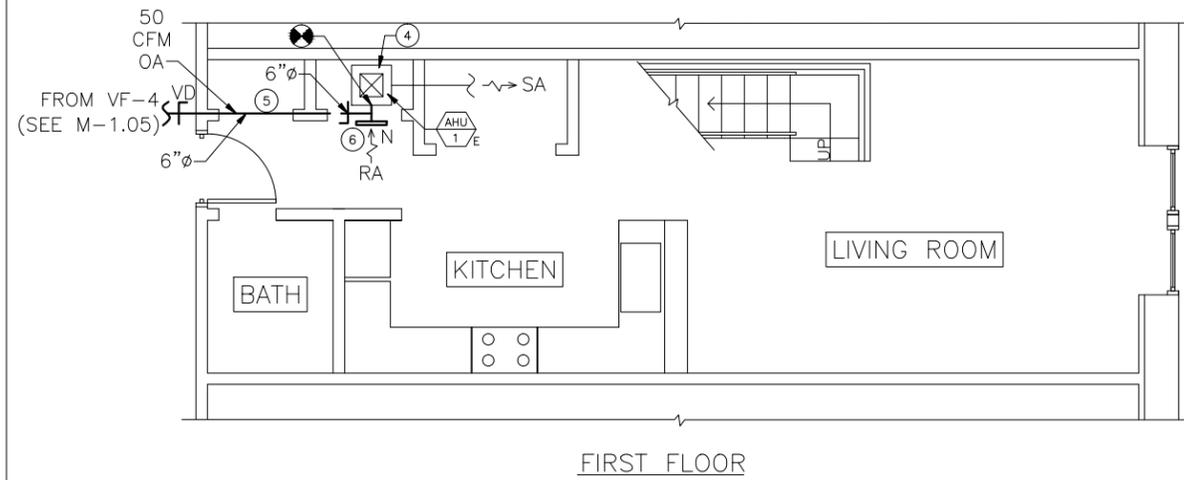
RIAC PHASE 4C  
LOCKWOOD CONDOS

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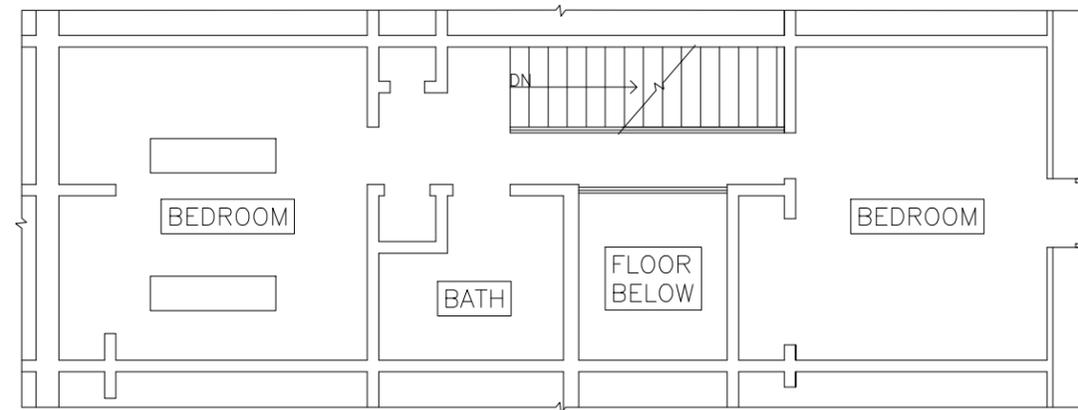
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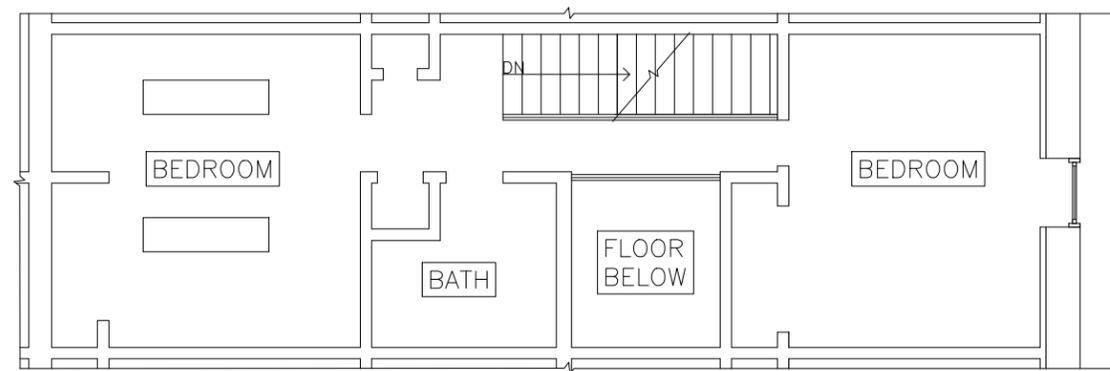


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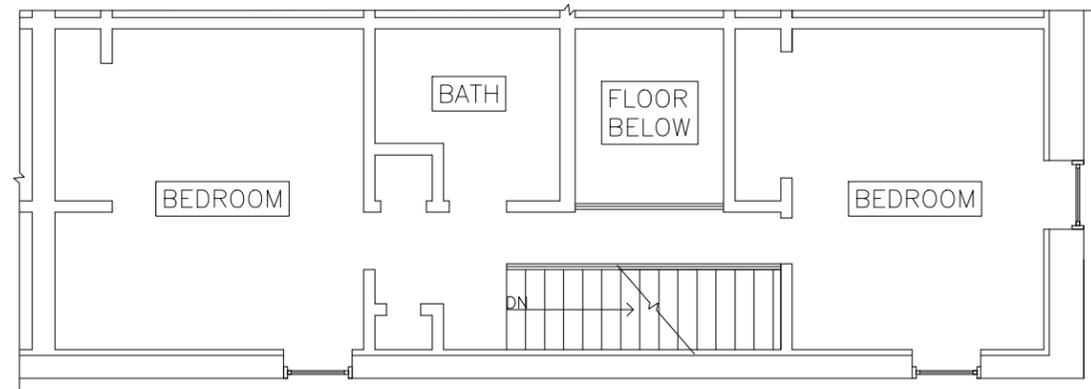


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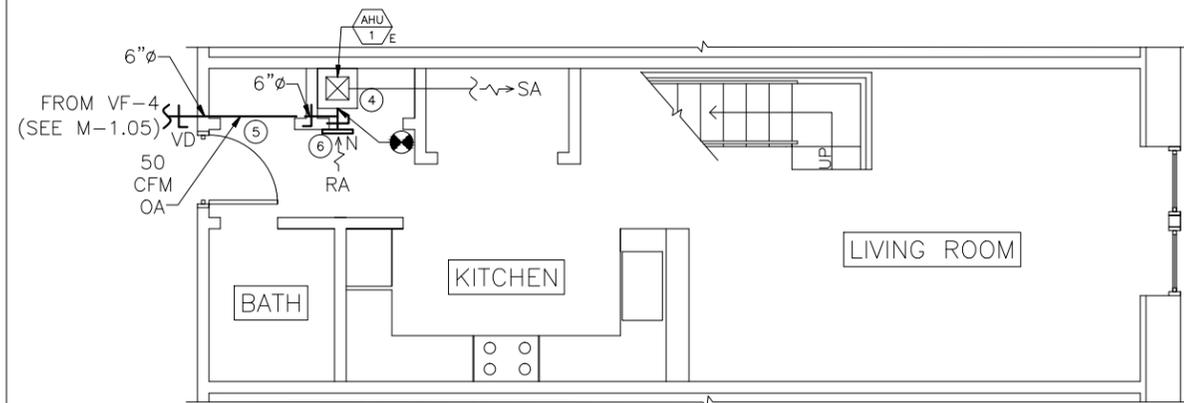
UNIT 507



SECOND FLOOR

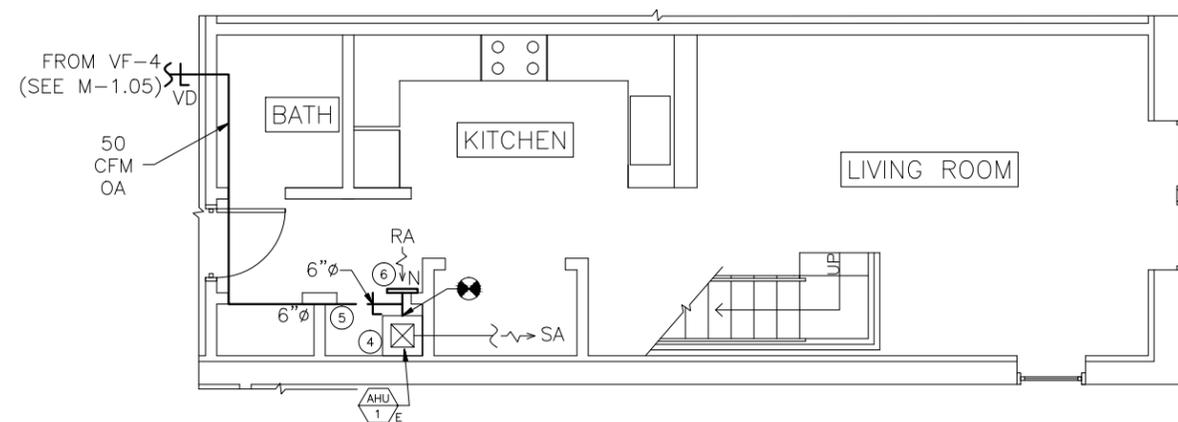


SECOND FLOOR



FIRST FLOOR

UNIT 509



FIRST FLOOR

UNIT 510

Submission/Revisions:

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2	3/28/16	100% Submittal	JDT	SKC
3	4/11/16	Addendum No. 001	SKC	MKP

Dwg. Scale: 1/8" = 1'-0"

Sheet Title:  
UNIT HVAC PLANS  
BUILDING B  
UNITS 507, 509, 510

M - 2.17

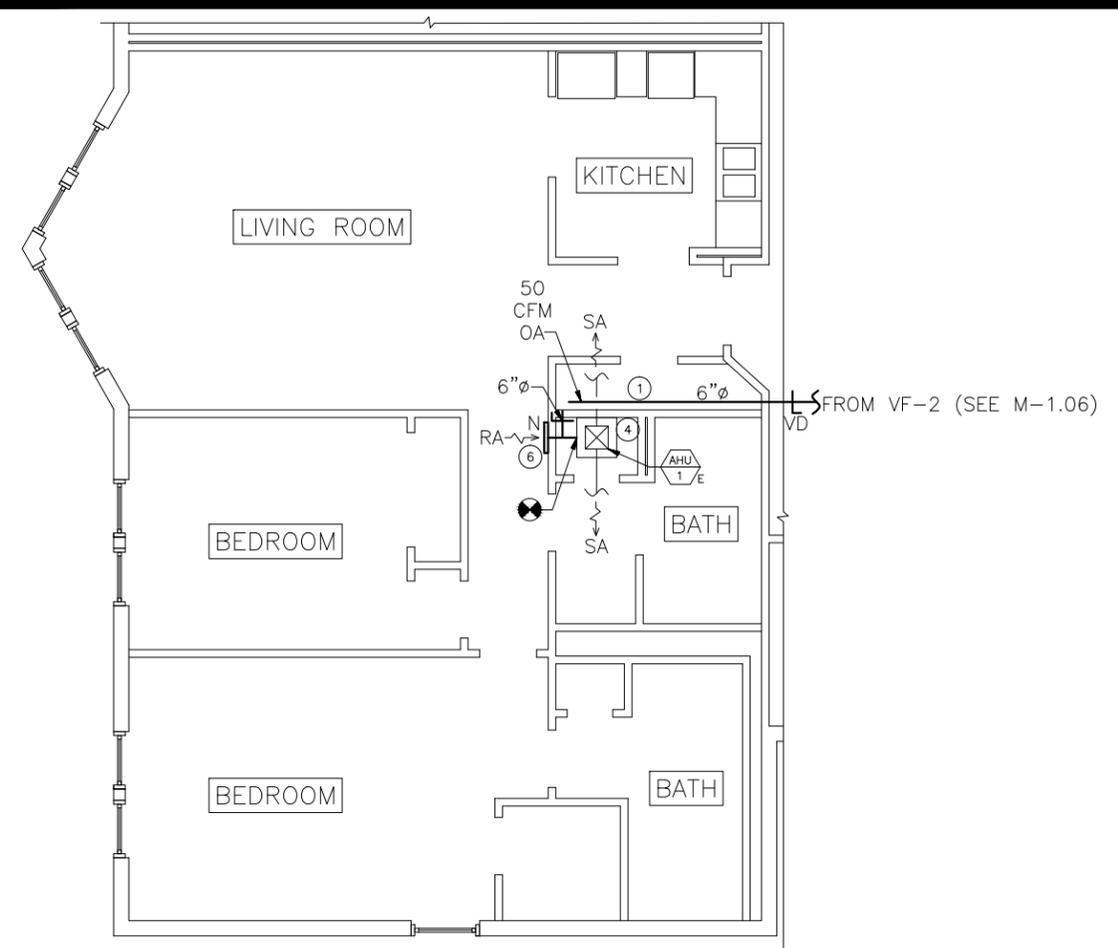
**RIAC PHASE 4C  
LOCKWOOD CONDOS**

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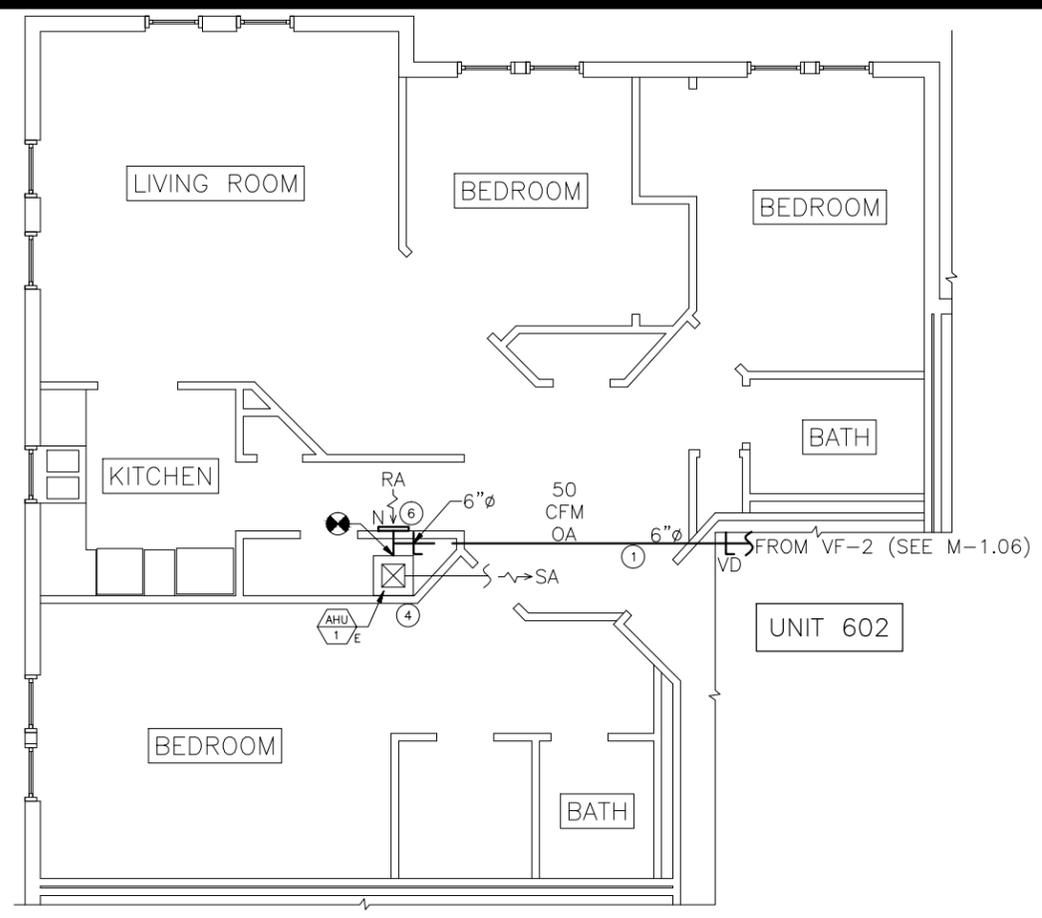
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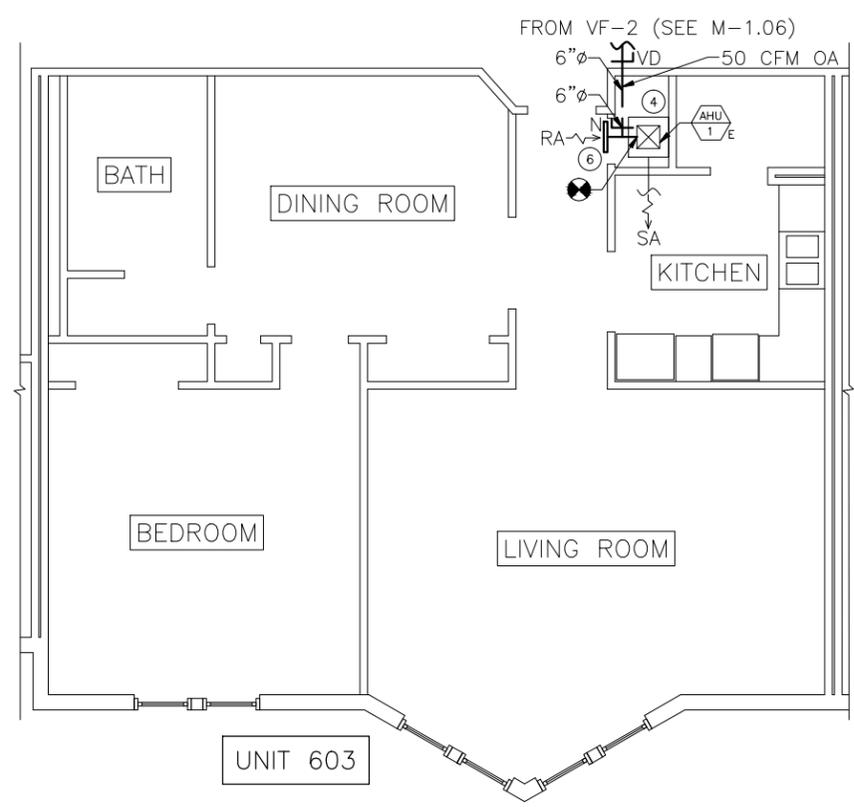
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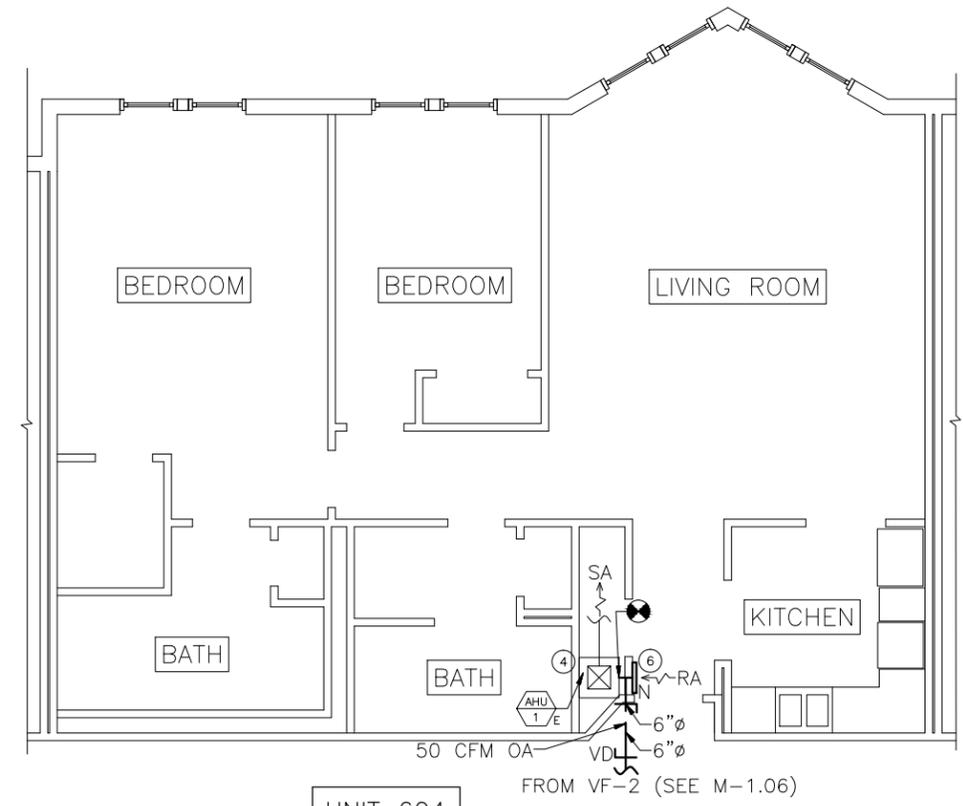
UNIT 601 START BLDG C



UNIT 602



UNIT 603



UNIT 604

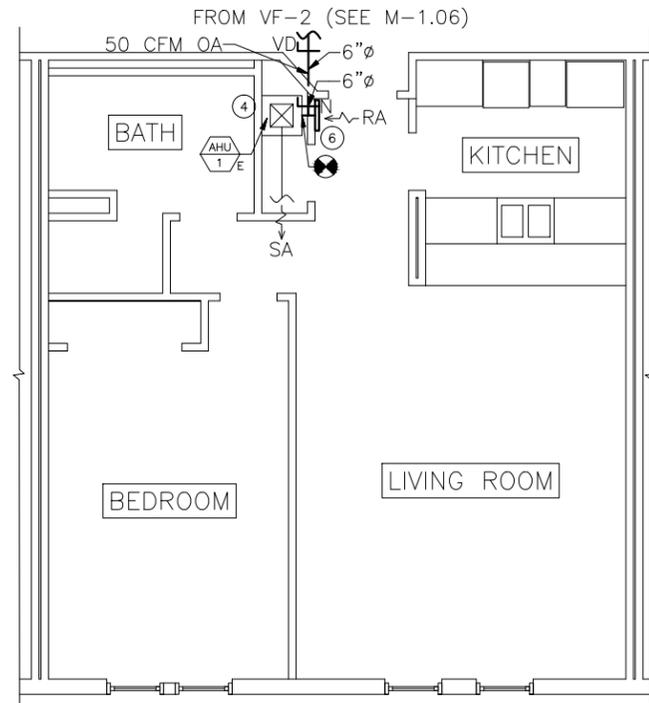
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3	4/11/16	Addendum No. 001	SKC	MKP

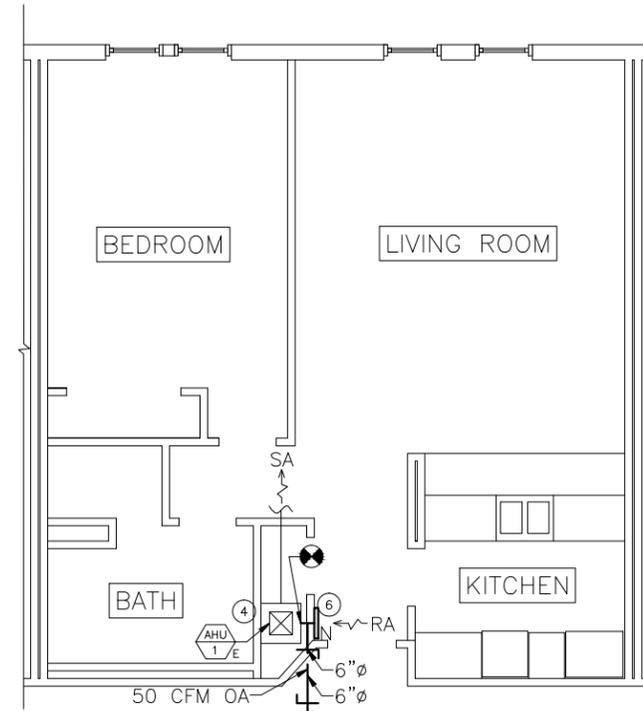
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BUILDING C  
UNITS 601, 602, 603, 604

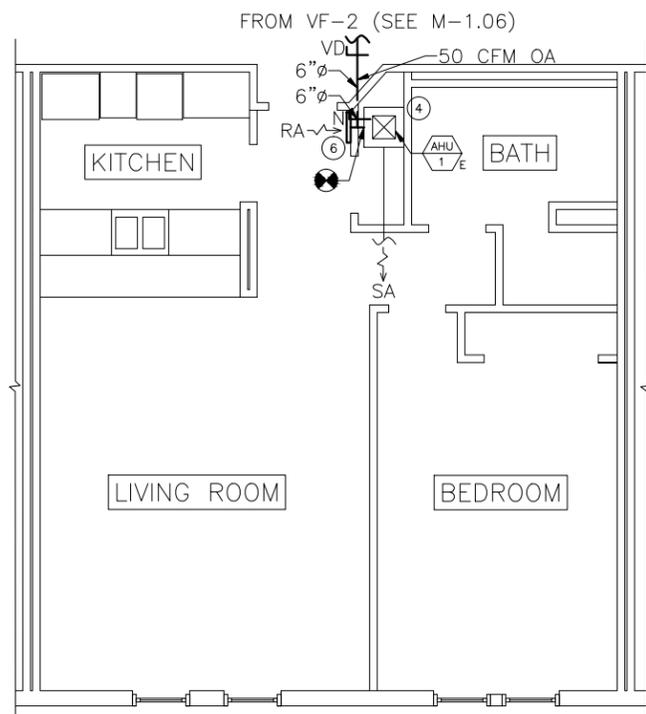
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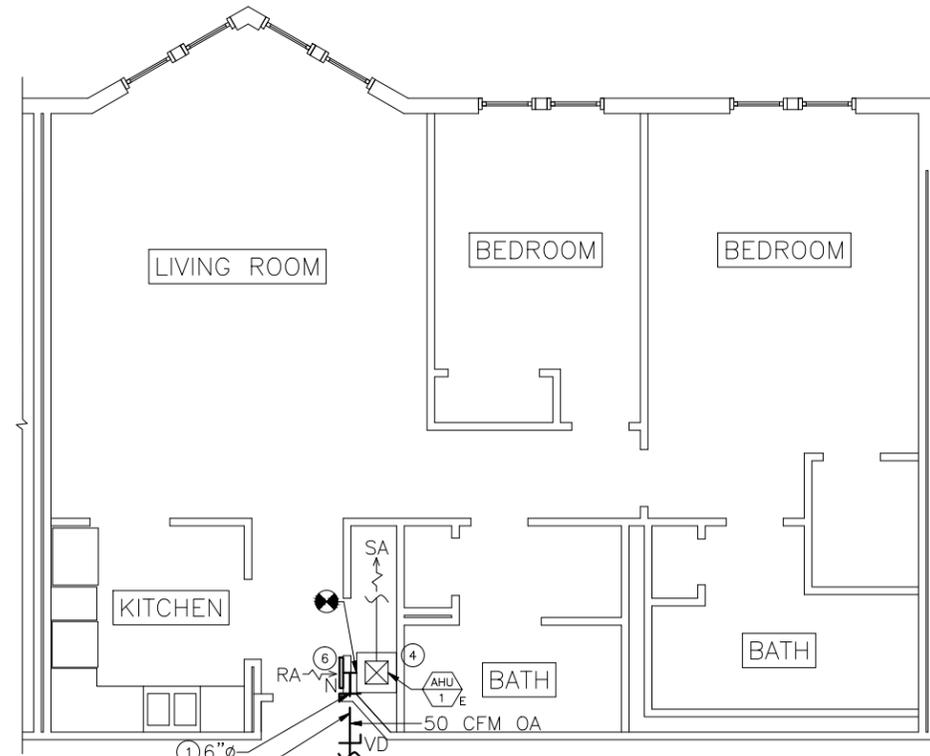
UNIT 605



UNIT 606



UNIT 607



UNIT 608

**RIAC PHASE 4C  
LOCKWOOD CONDOS**

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#	date	description	by	chk
1	3/1/16	90% Submittal	JDT	SKC
2	3/28/16	100% Submittal	JDT	SKC
3	4/11/16	Addendum No. 001	SKC	MKP

Dwg. Scale: 1/8" = 1'-0"

**Sheet Title:**  
UNIT HVAC PLANS  
BUILDING C  
UNITS 605, 606, 607, 608

**M - 2.19**

**RIAC PHASE 4C  
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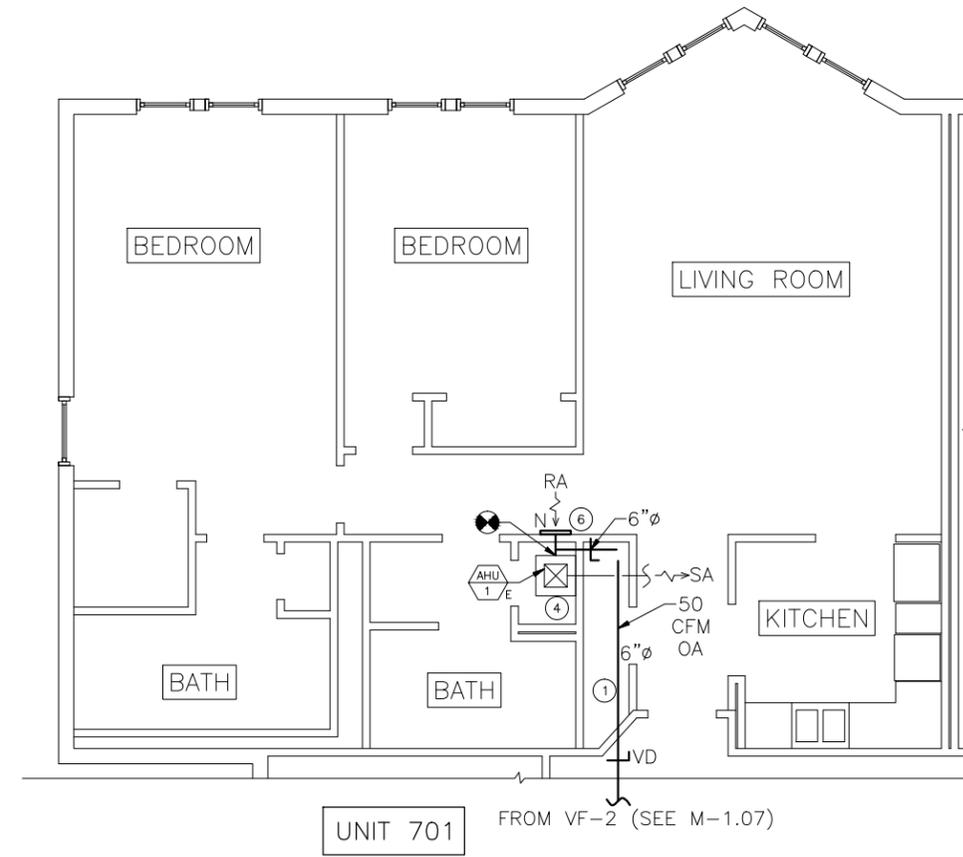
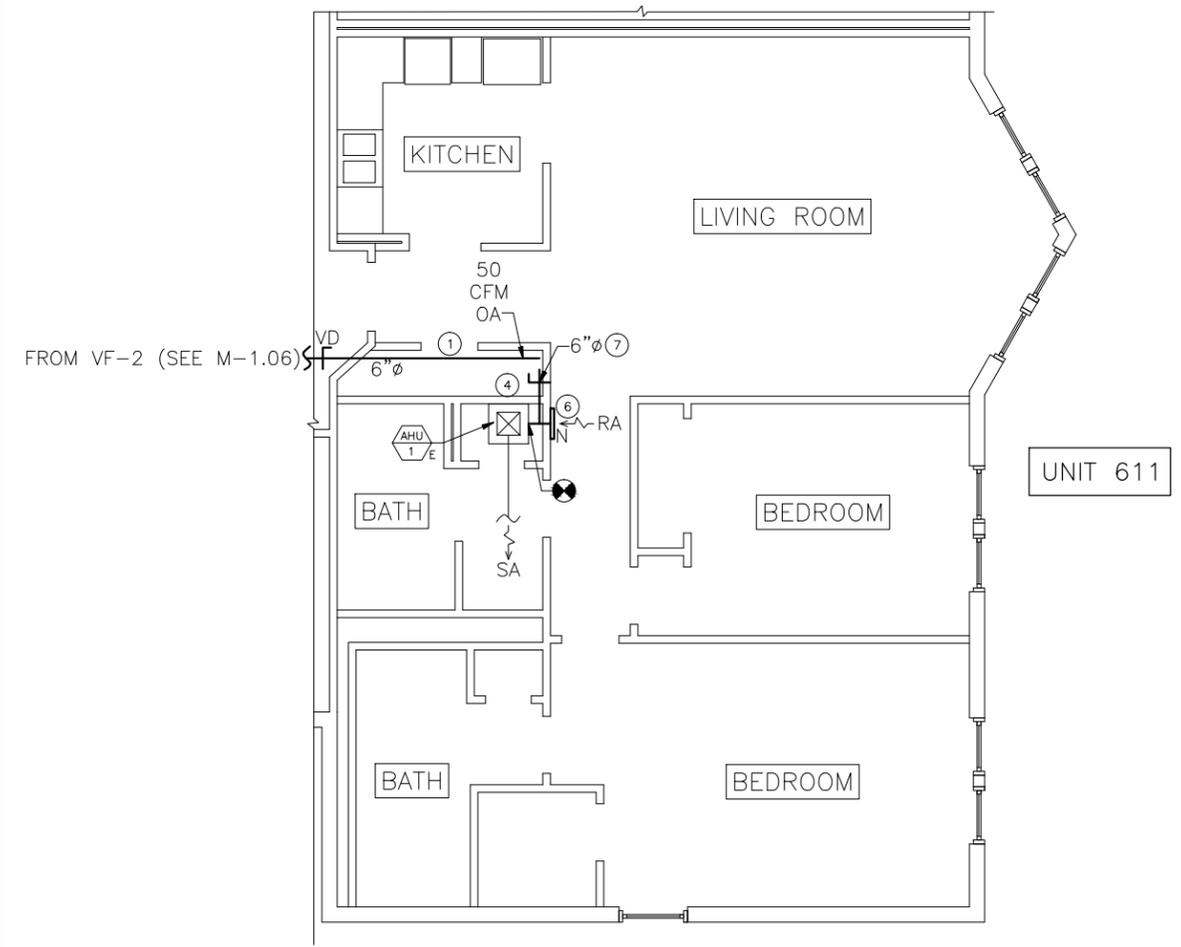
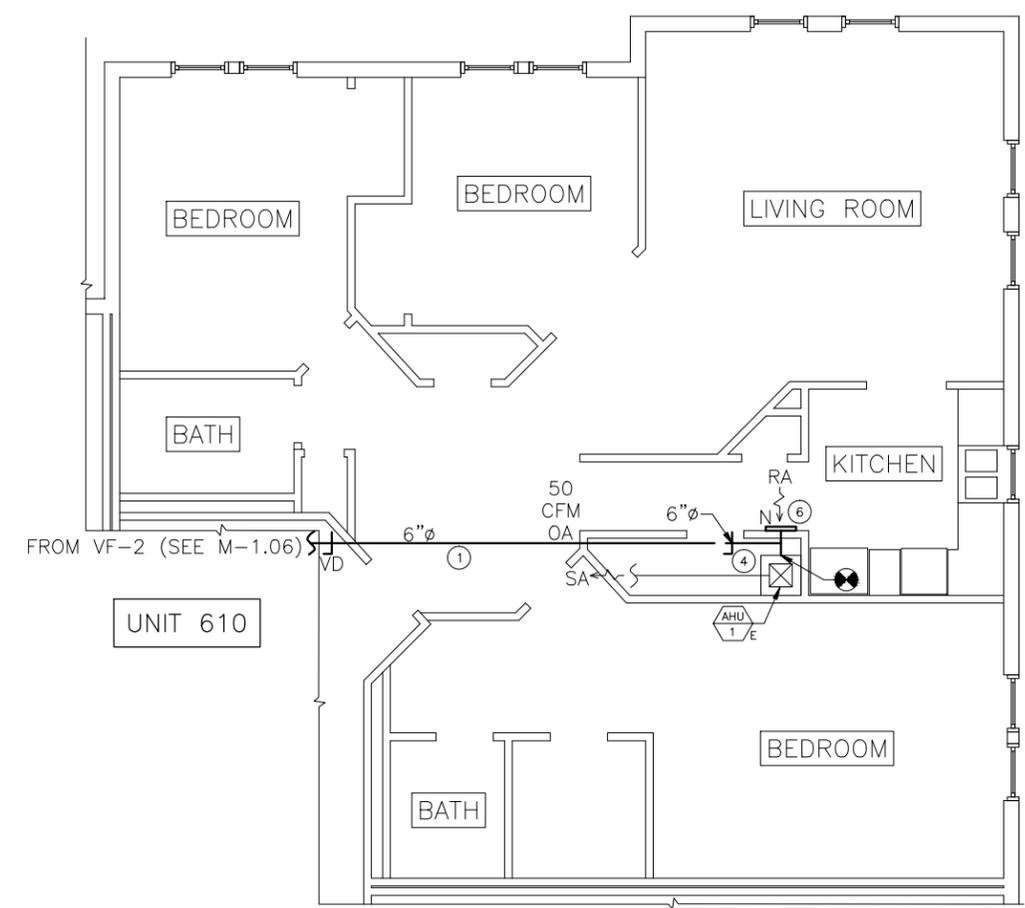
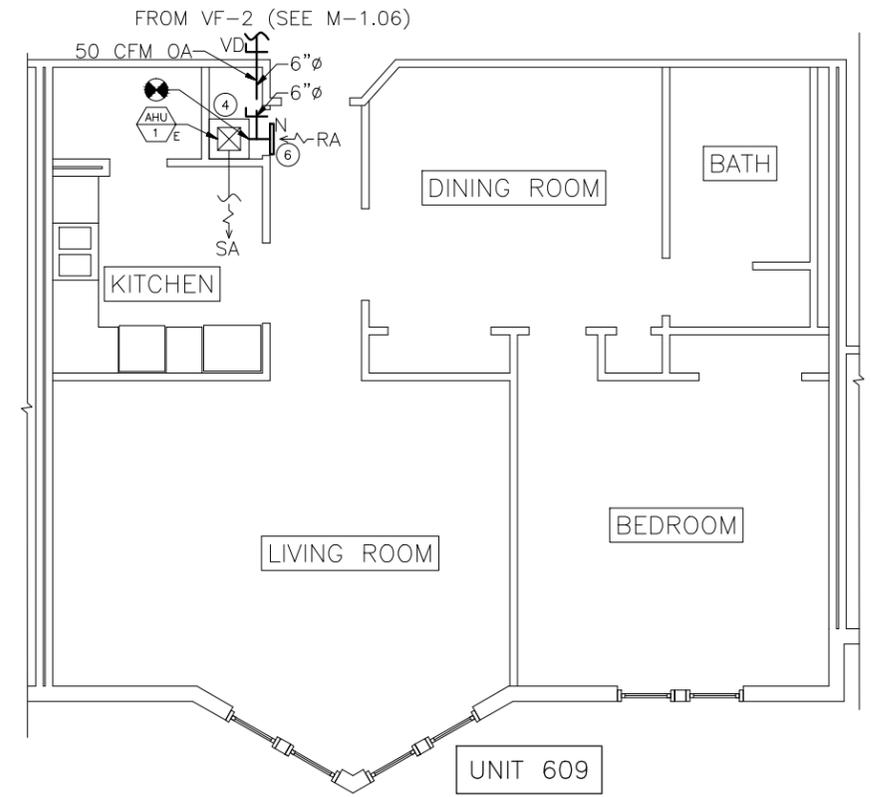
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3	4/11/16	Addendum No. 001	SKC	MKP

Dwg. Scale: 1/8" = 1'-0"

**Sheet Title:**  
UNIT HVAC PLANS  
BUILDING C  
UNITS 609, 610, 611, 701

**M - 2.20**



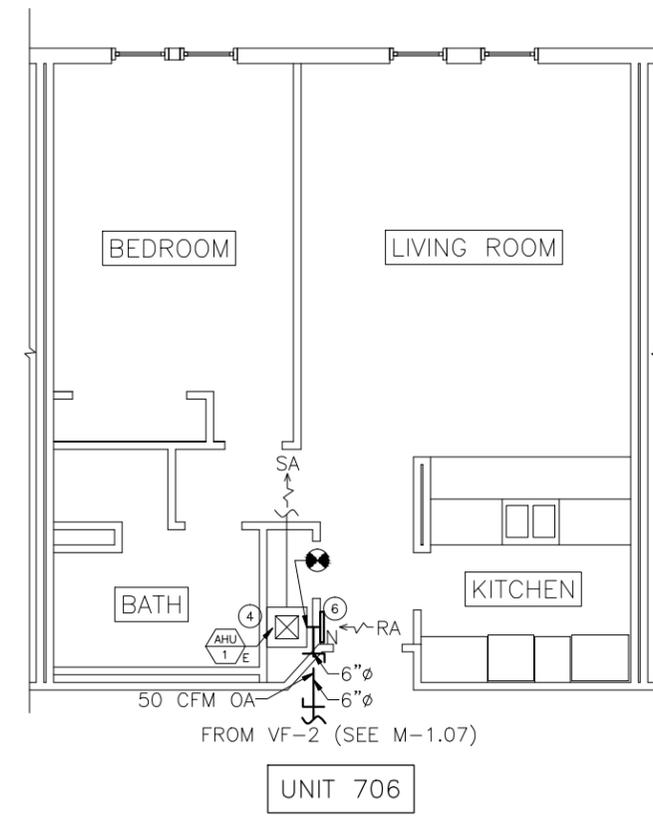
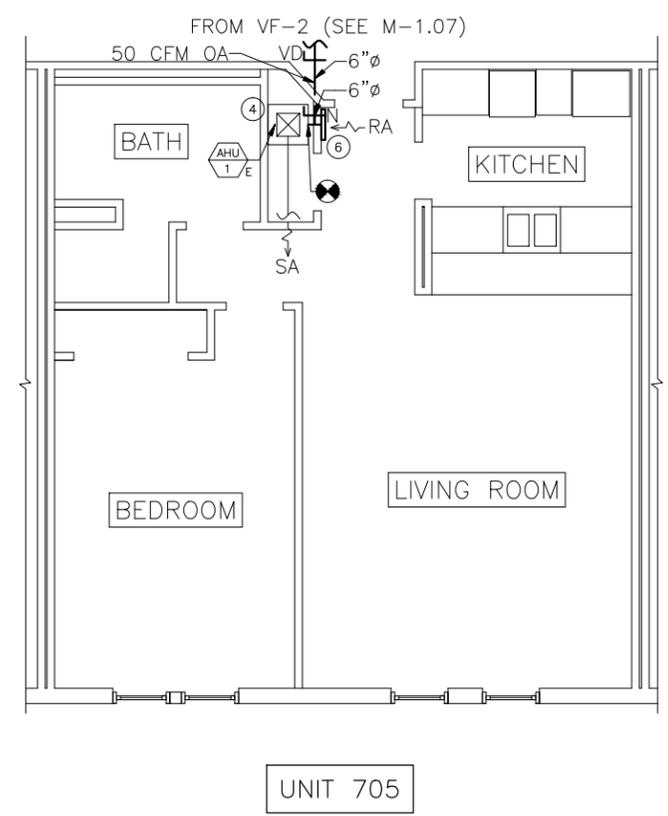
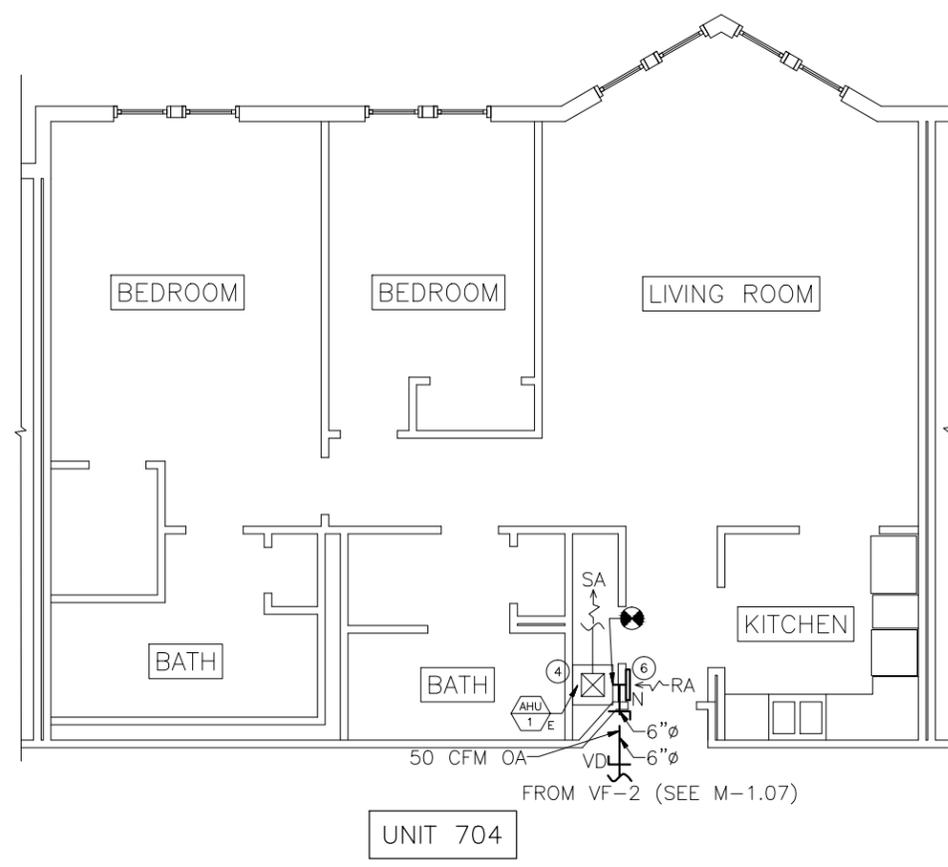
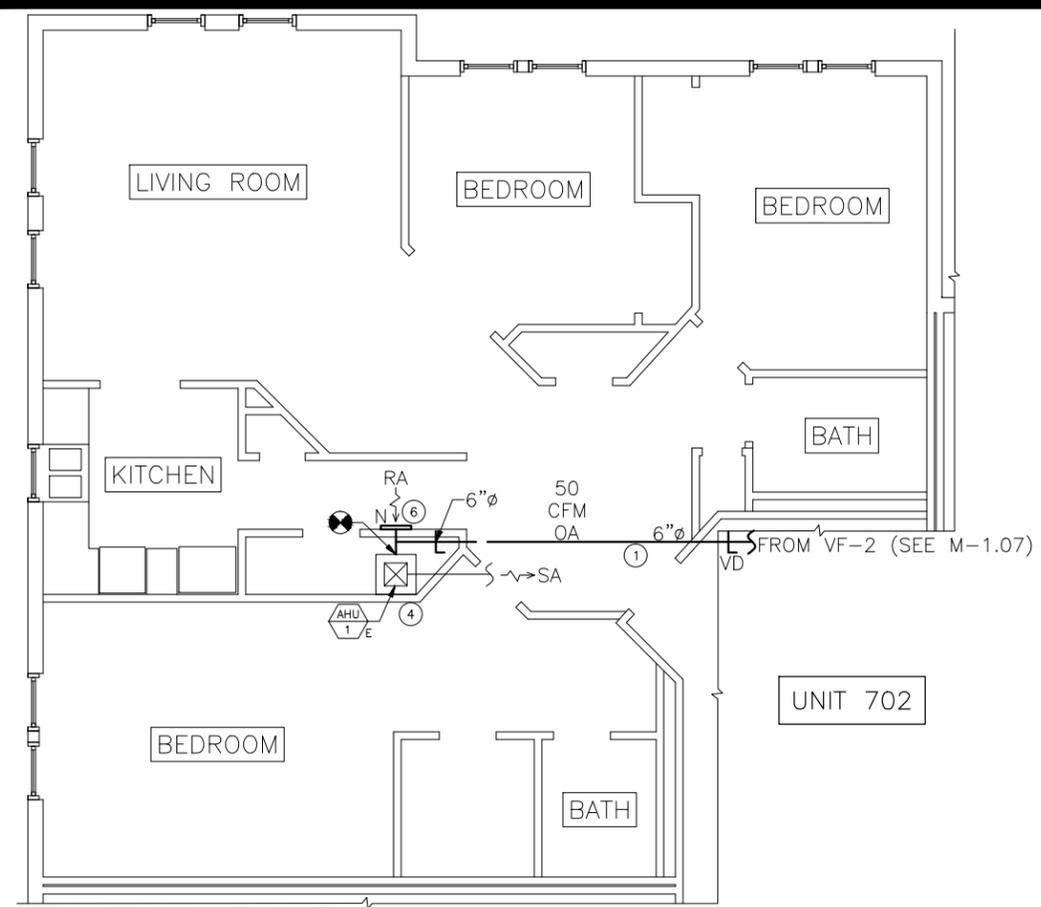
**RIAC PHASE 4C  
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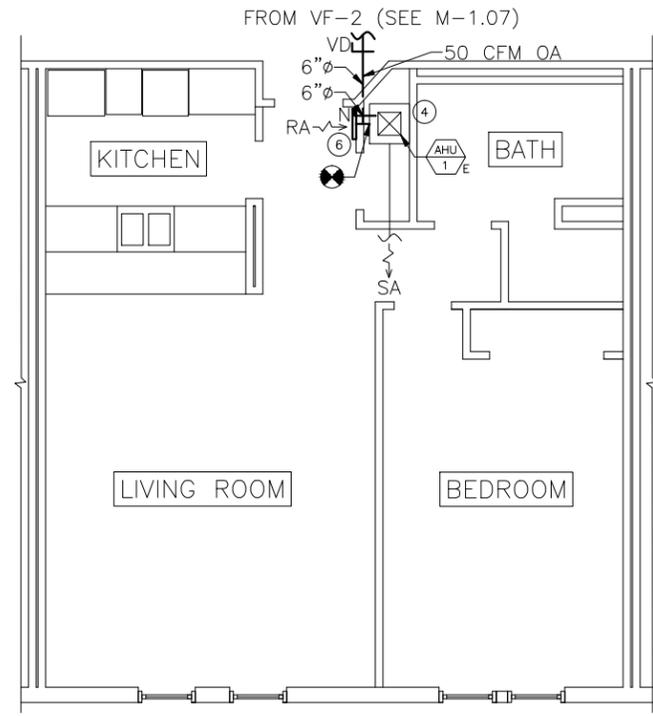
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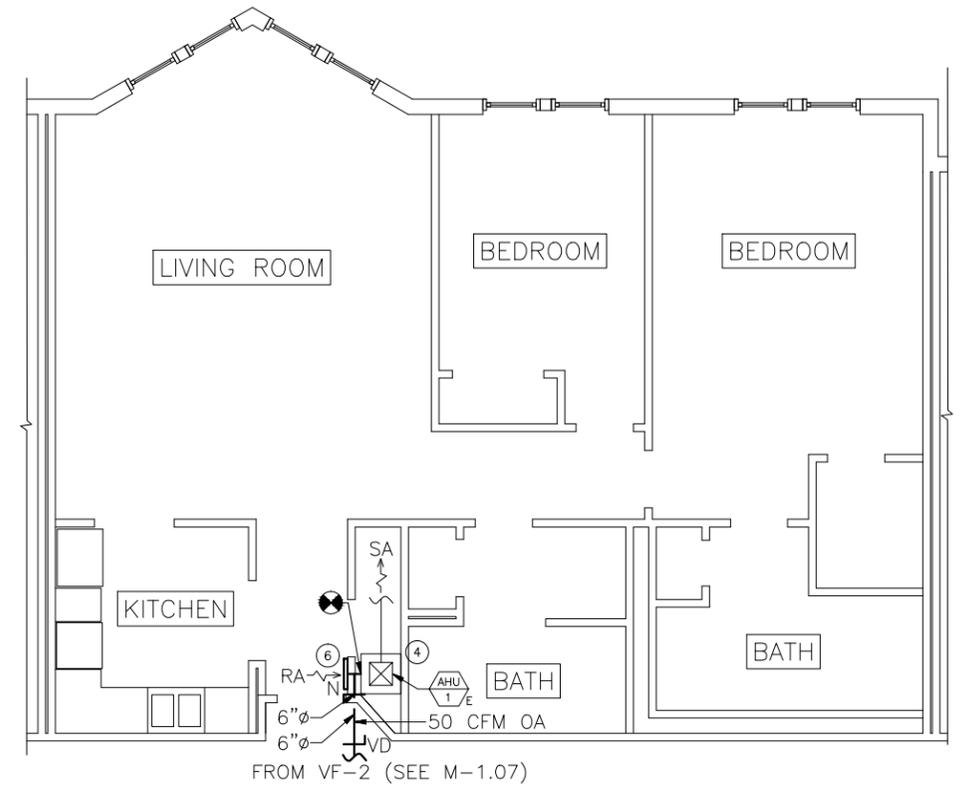
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**Sheet Title:**  
UNIT HVAC PLAN  
BUILDING C  
UNITS 702, 704, 705, 706

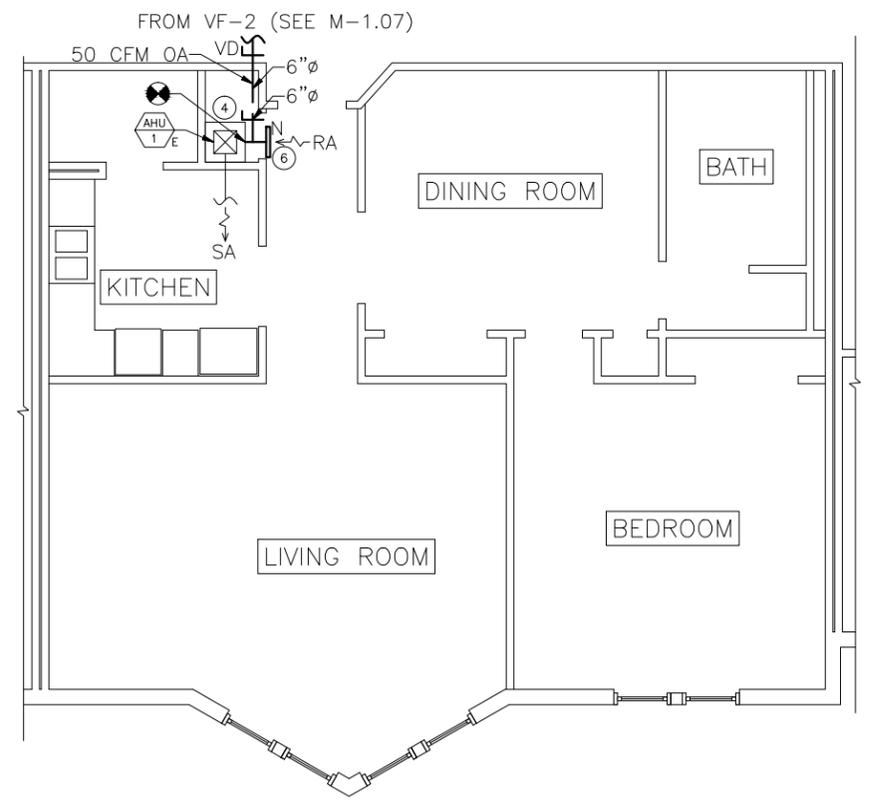
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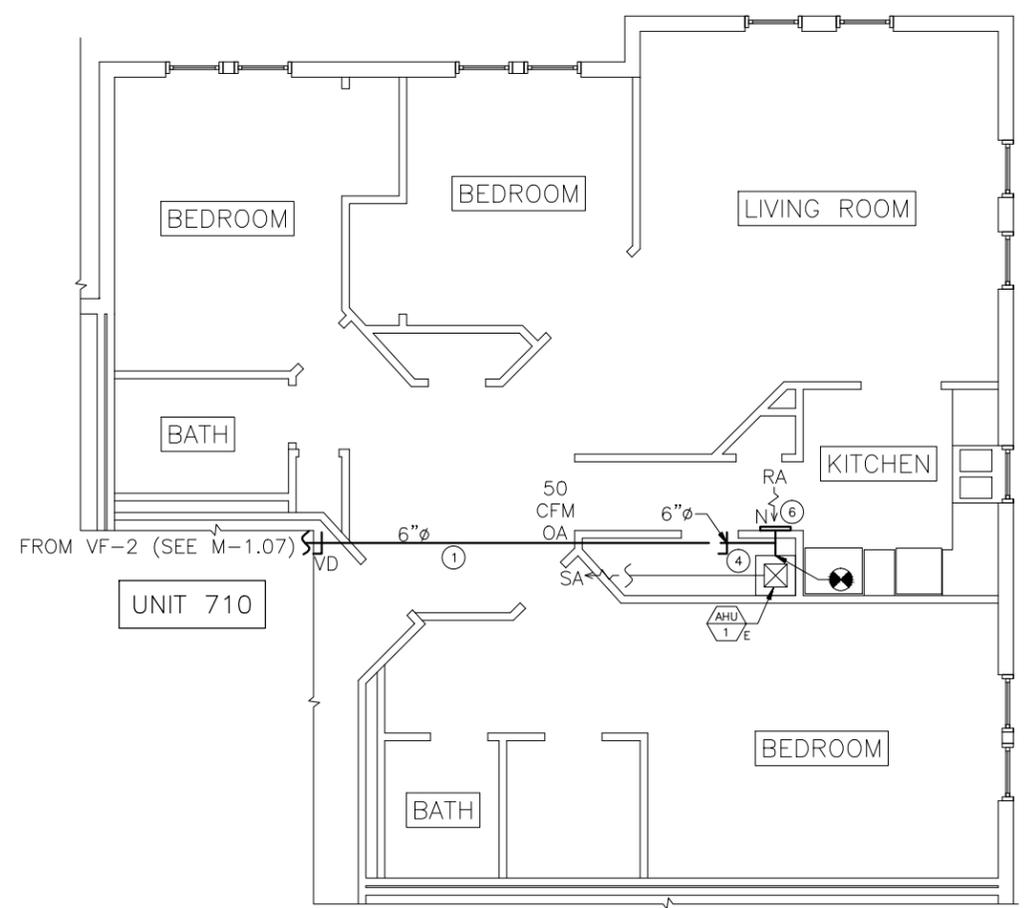
UNIT 707



UNIT 708



UNIT 709



UNIT 710

**RIAC PHASE 4C  
LOCKWOOD CONDOS**

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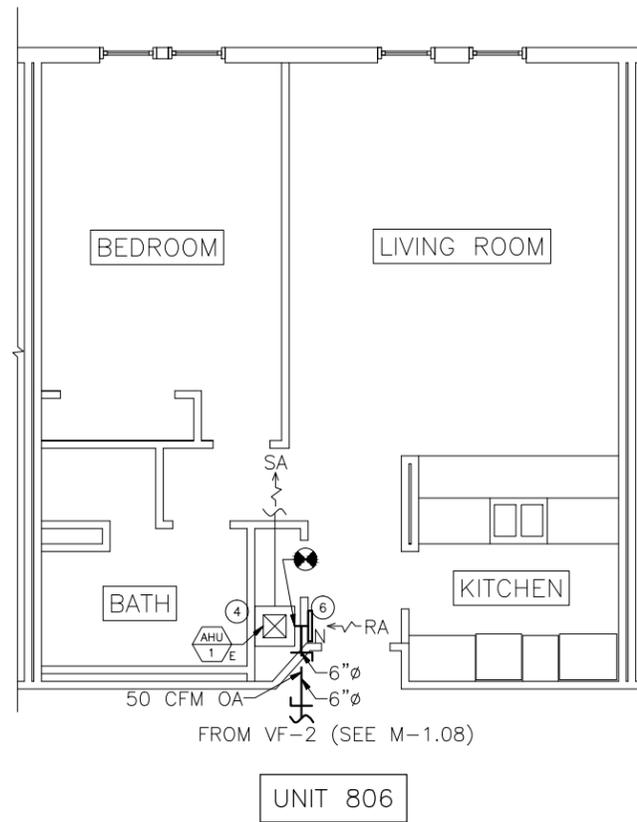
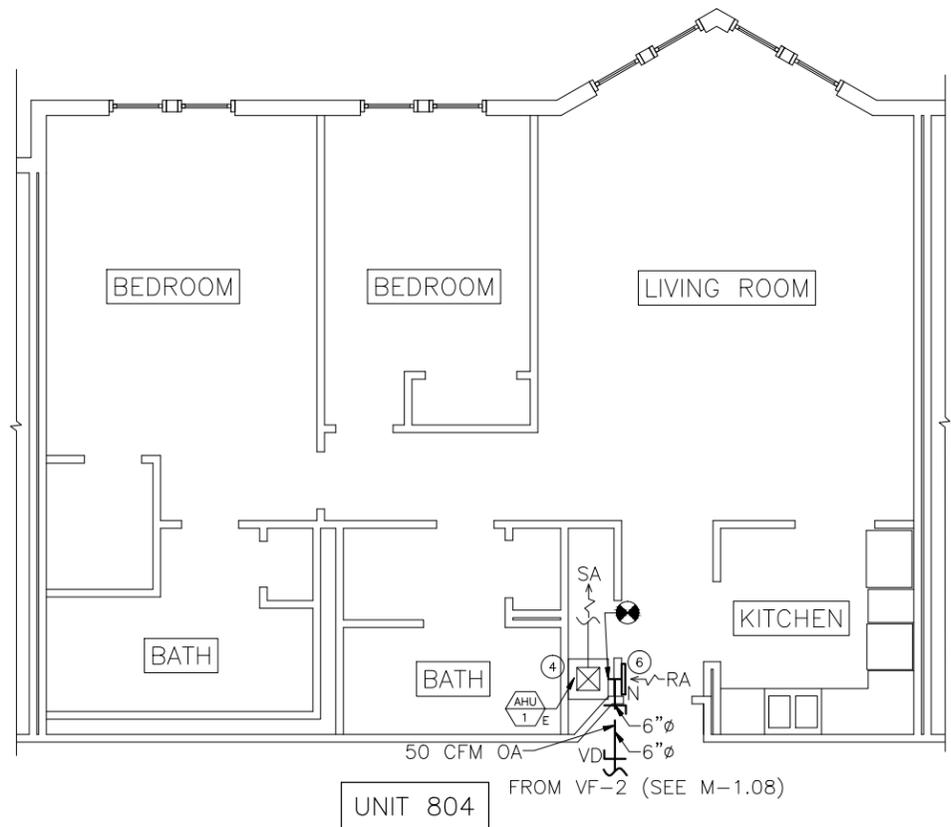
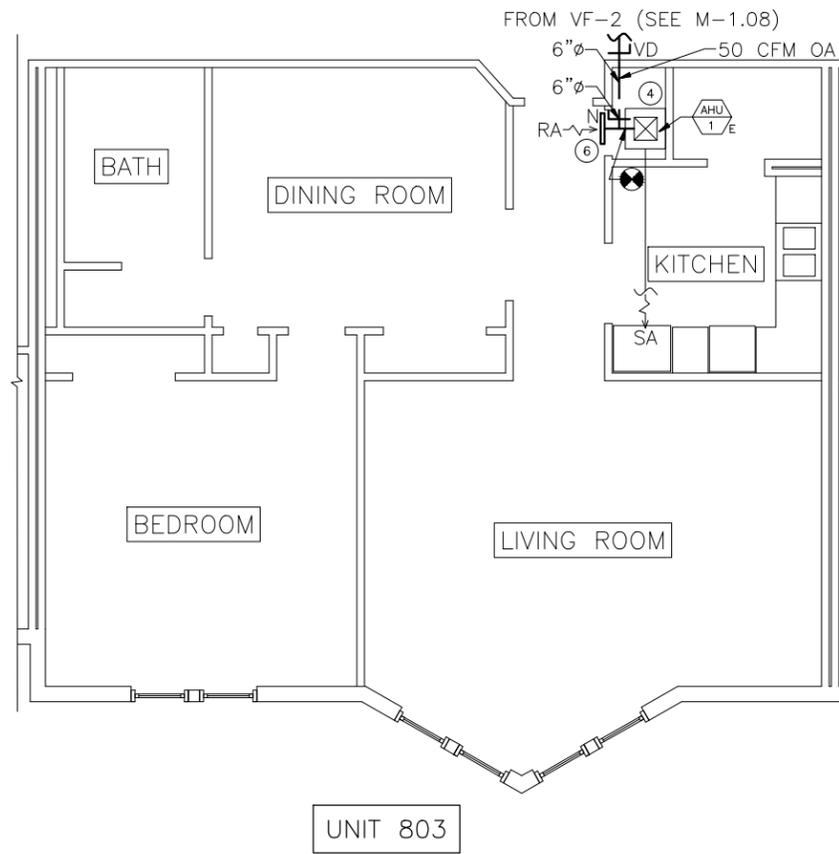
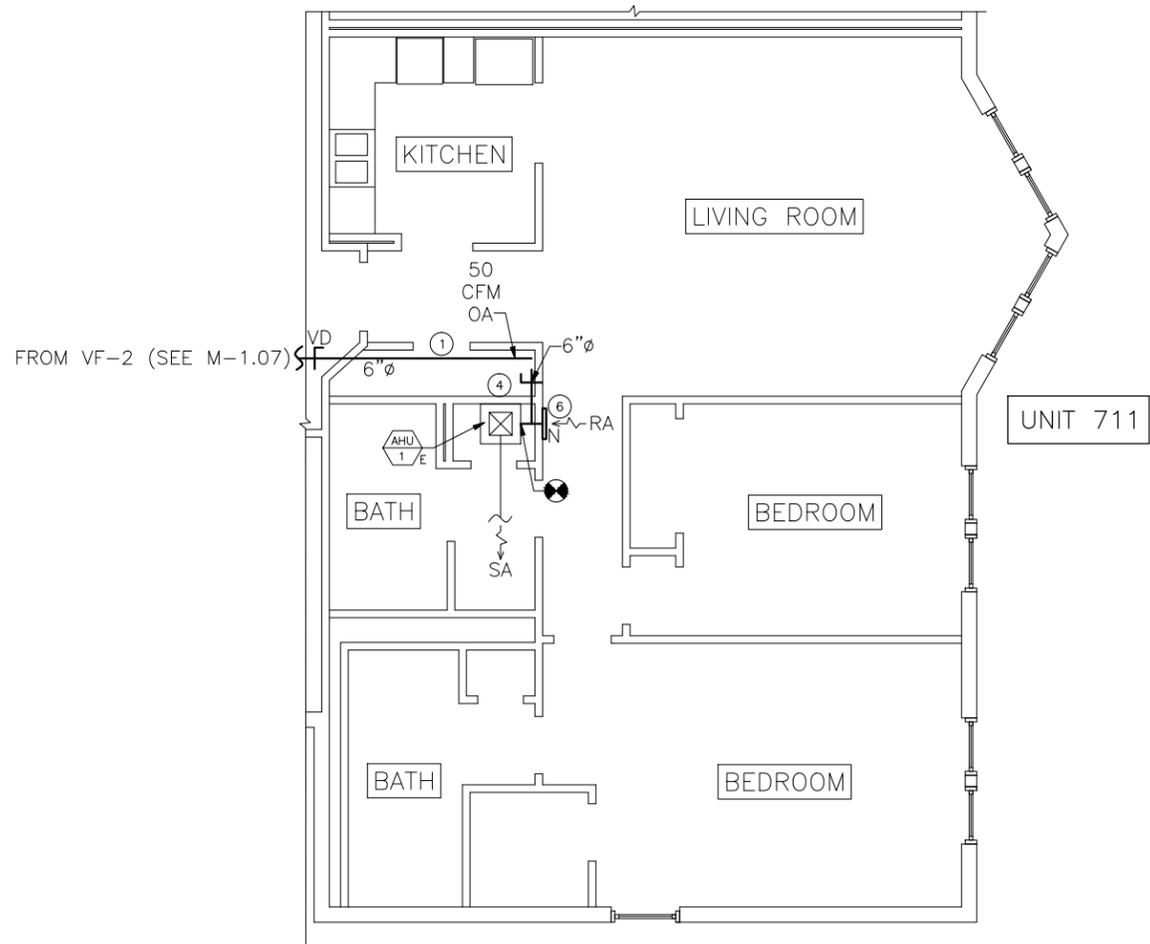
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3	4/11/16	Addendum No. 001	SKC	MKP

Dwg. Scale: 1/8" = 1'-0"

**Sheet Title:**  
UNIT HVAC PLANS  
BUILDING C  
UNITS 707, 708, 709, 710

**M - 2.22**



**RIAC PHASE 4C  
LOCKWOOD CONDOS**

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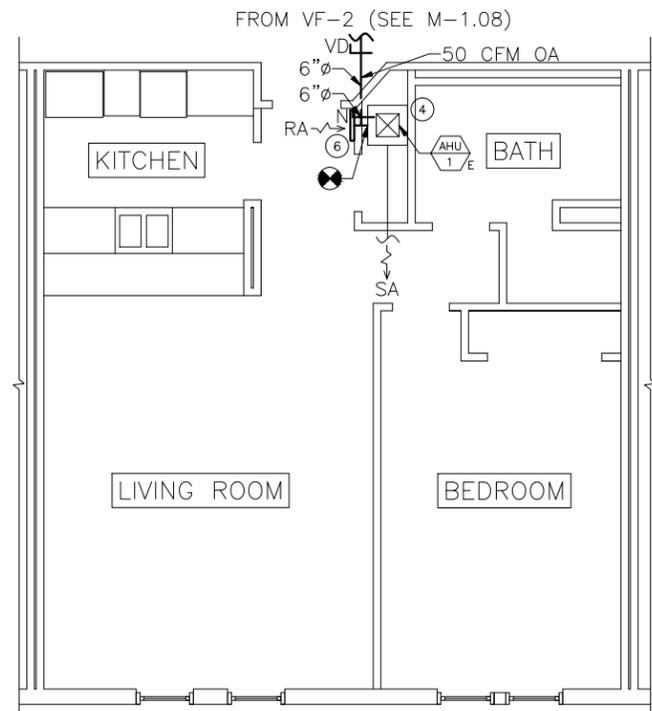
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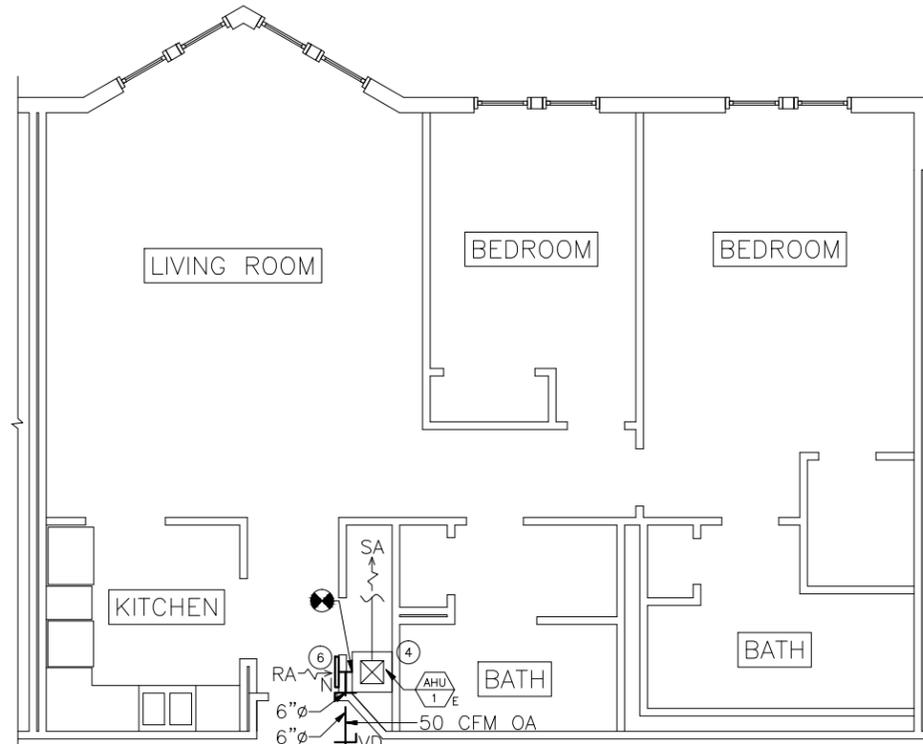
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**Sheet Title:**  
UNIT HVAC PLANS  
BUILDING C  
UNITS 711, 803, 804, 806

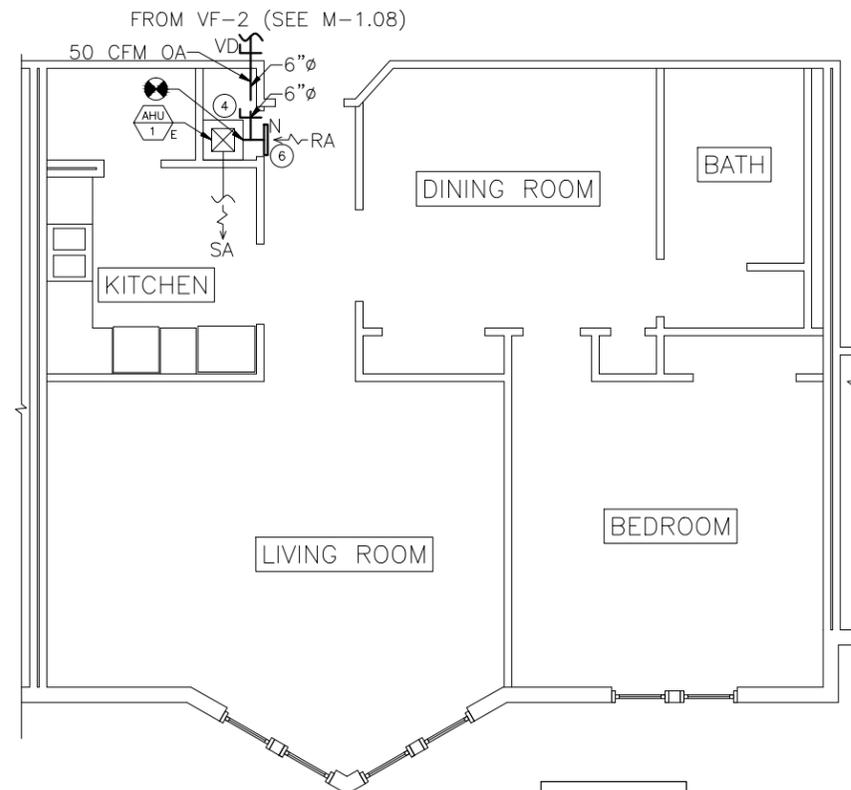
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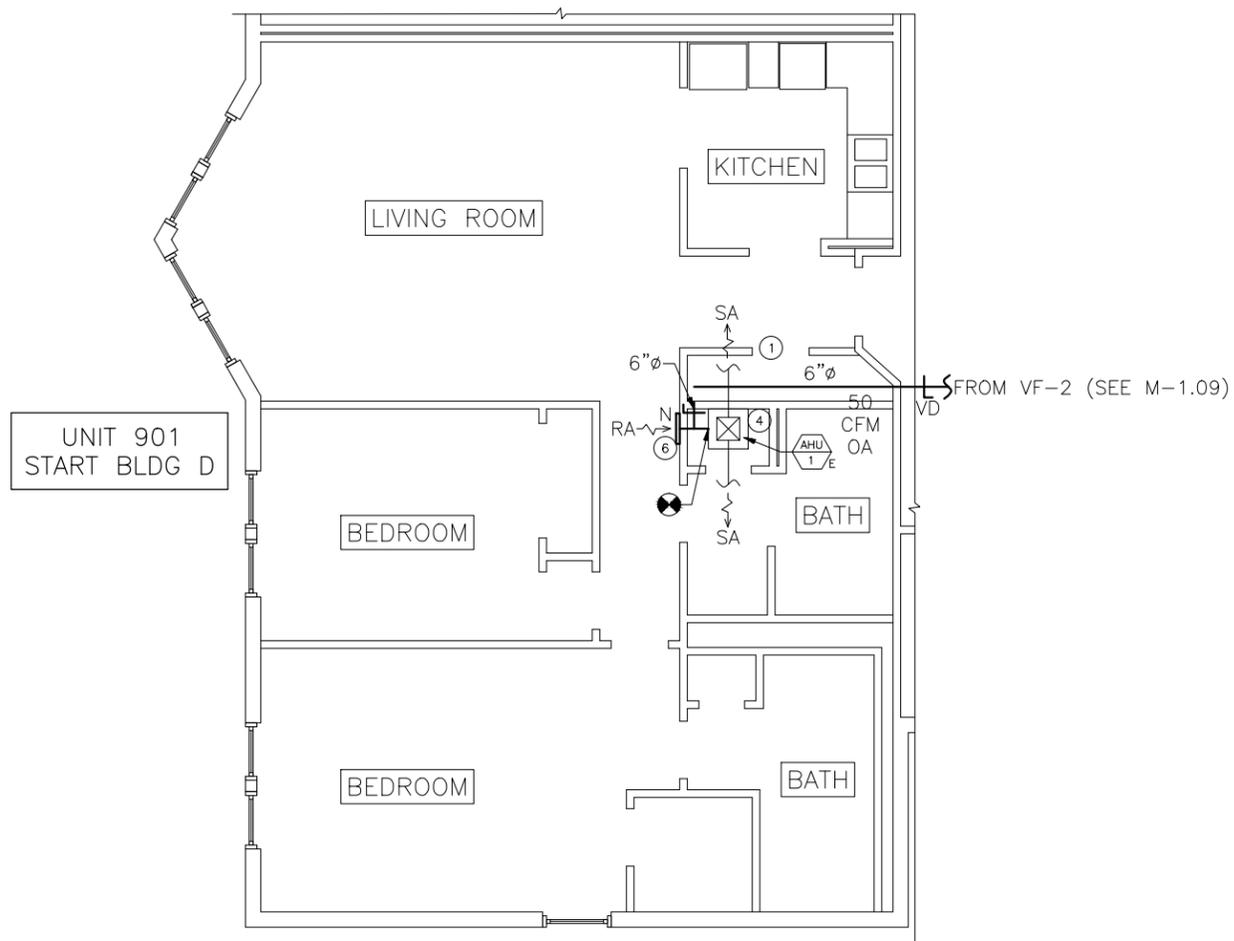
UNIT 807



UNIT 808



UNIT 809



RIAC PHASE 4C  
LOCKWOOD CONDOS

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Warwick, RI 02886

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#	date	description	by	chk
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2	3/28/16	100% Submittal	JDT	SKC
3	4/11/16	Addendum No. 001	SKC	MKP

Dwg. Scale: 1/8" = 1'-0"

Sheet Title:  
UNIT HVAC PLANS  
BUILDINGS C & D  
UNITS 807, 808, 809, 901

M - 2.24

**RIAC PHASE 4C  
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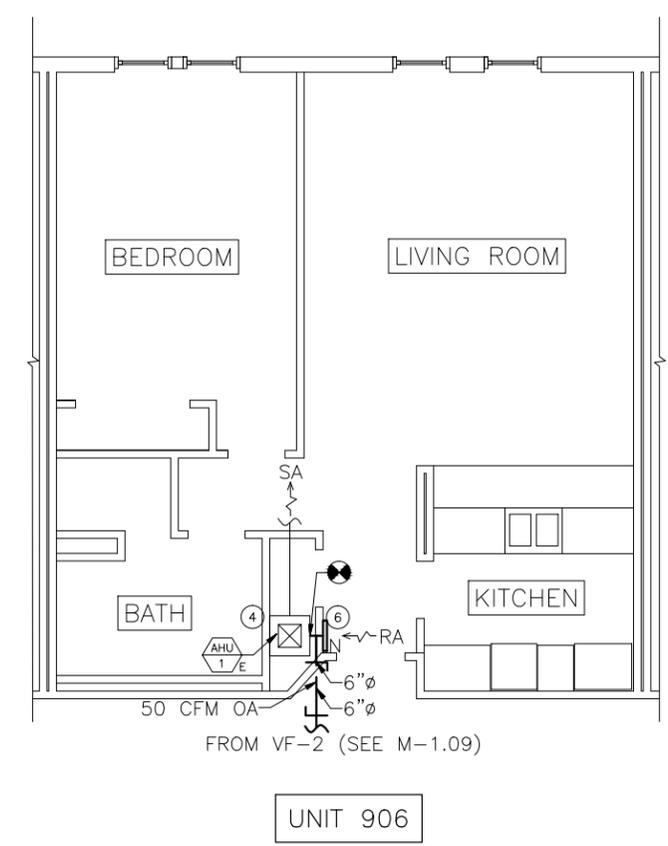
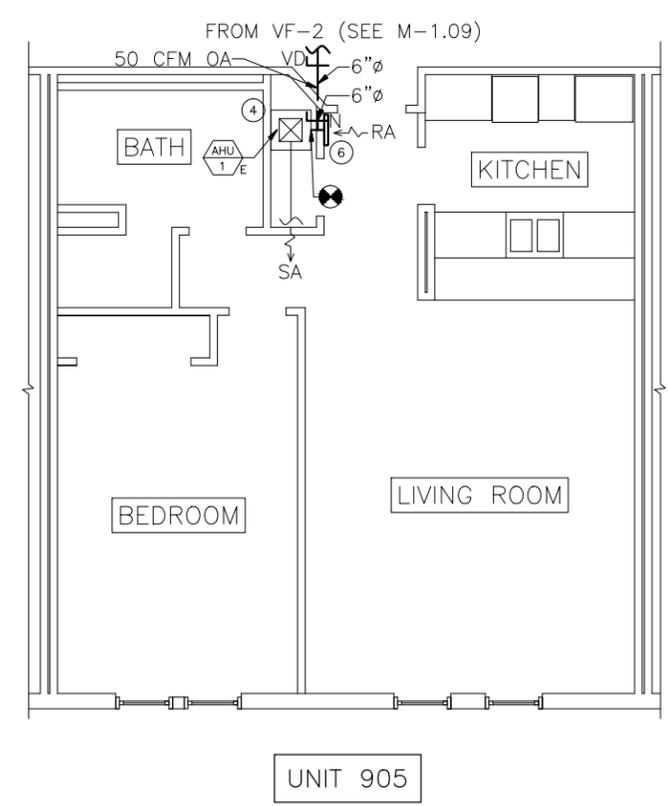
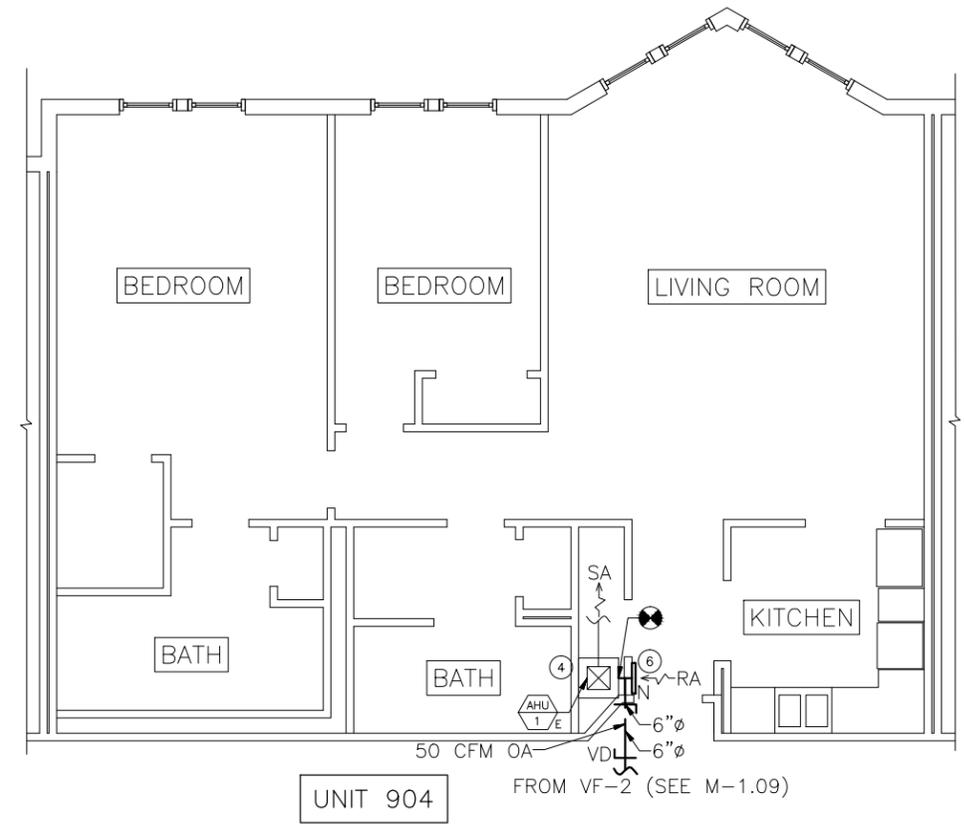
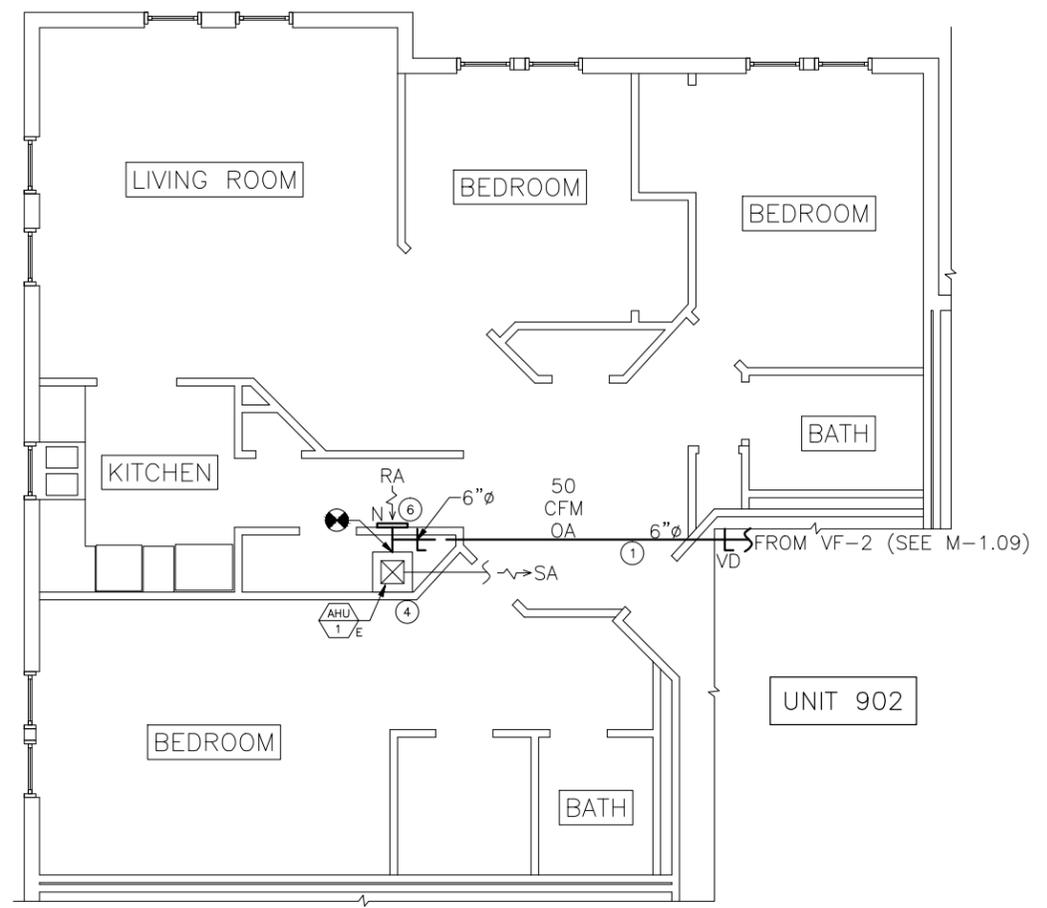
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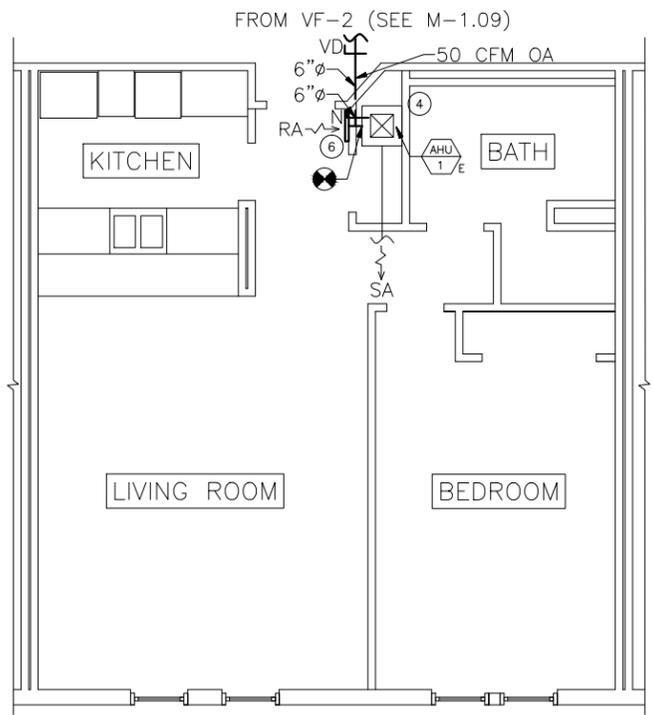
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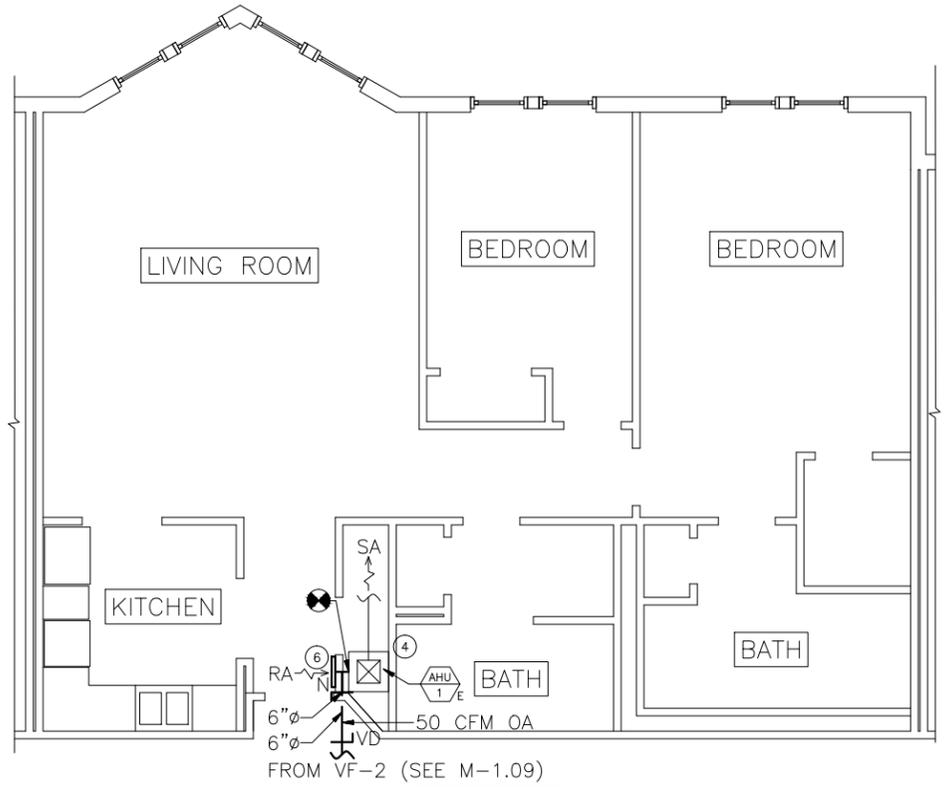
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UNIT HVAC PLANS  
BUILDING D  
UNITS 902, 904, 905, 906

**M - 2.25**

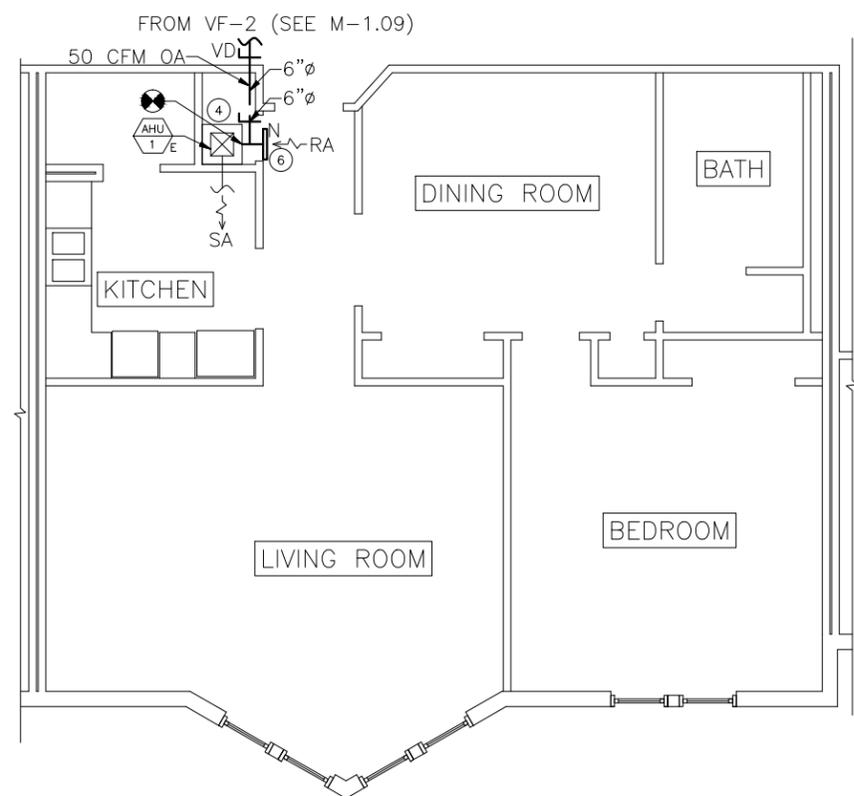




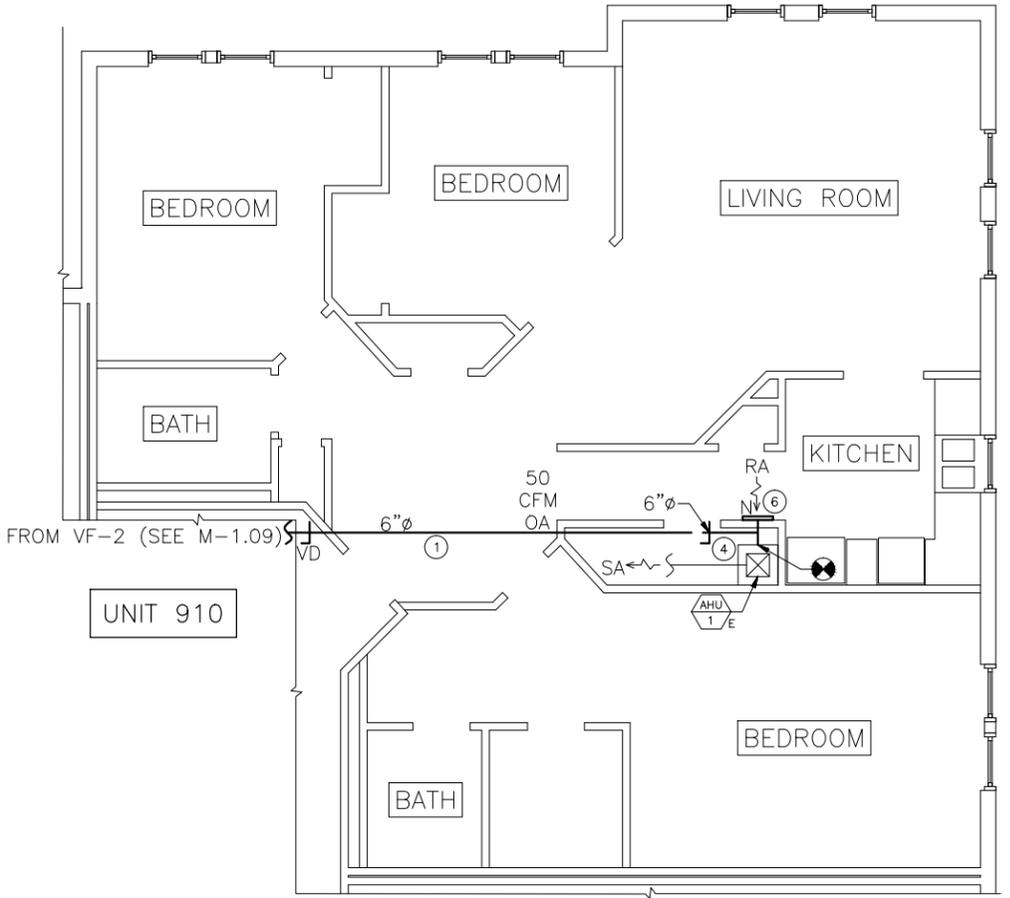
UNIT 907



UNIT 908



UNIT 909



UNIT 910

**RIAC PHASE 4C  
LOCKWOOD CONDOS**

3518 W Shore Rd  
Warwick, RI 02886

Project No.201300.07 Contract No.26298



123 Washington Street, Third Floor  
Boston Massachusetts 02114  
Tel: 617.790.3747 Fax: 617.790.3748  
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The Jones Payne Group, Inc.

**Submission/Revisions:**

#	date	description	by	chk
1	3/1/16	90% Submittal	JDT	SKC
2	3/28/16	100% Submittal	JDT	SKC
3	4/11/16	Addendum No. 001	SKC	MKP

Dwg. Scale: 1/8" = 1'-0"

**Sheet Title:**  
UNIT HVAC PLANS  
BUILDING D  
UNITS 907, 908, 909, 910

**M - 2.26**

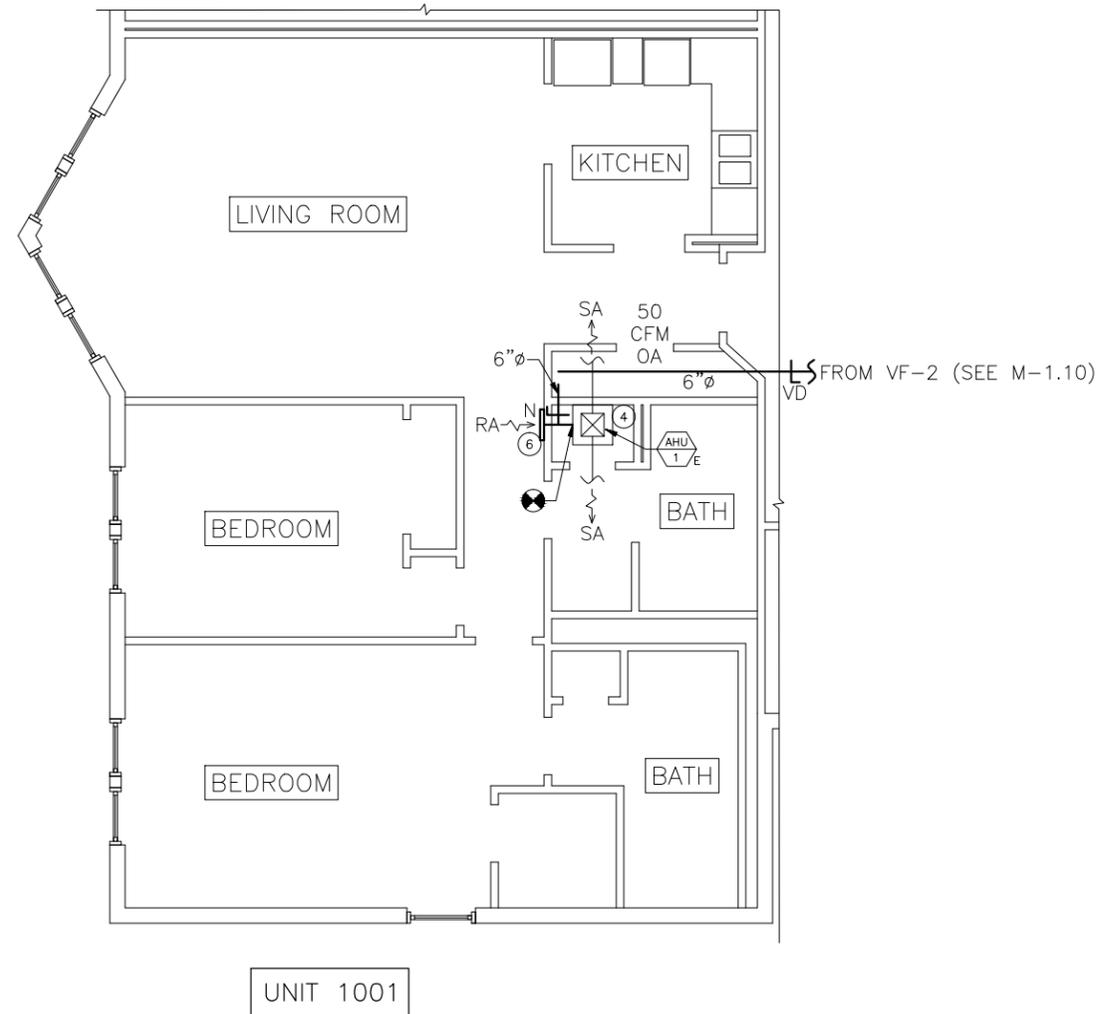
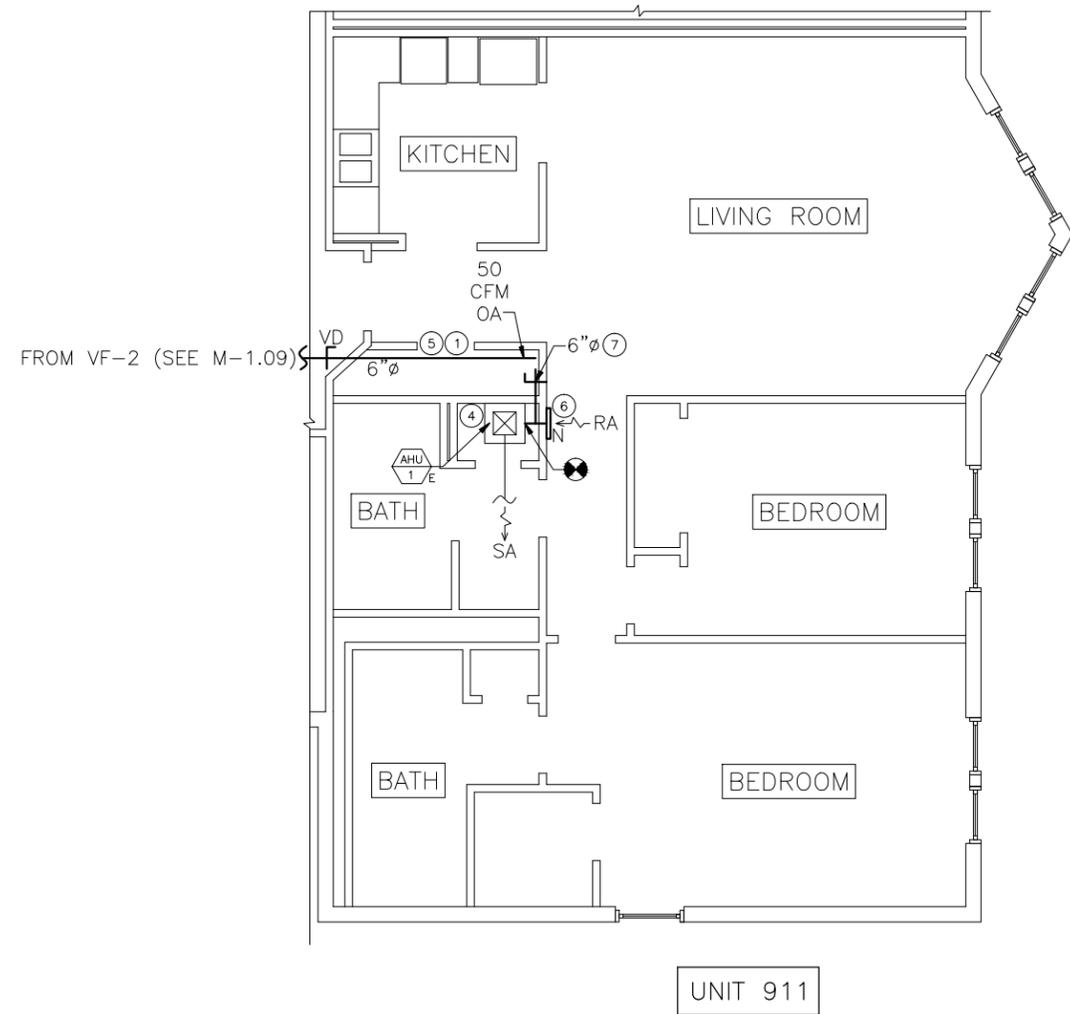
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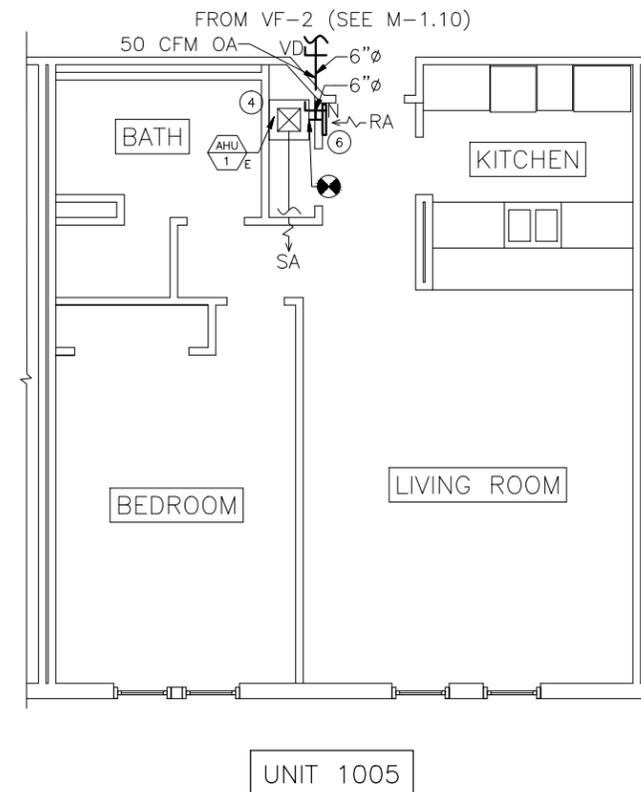
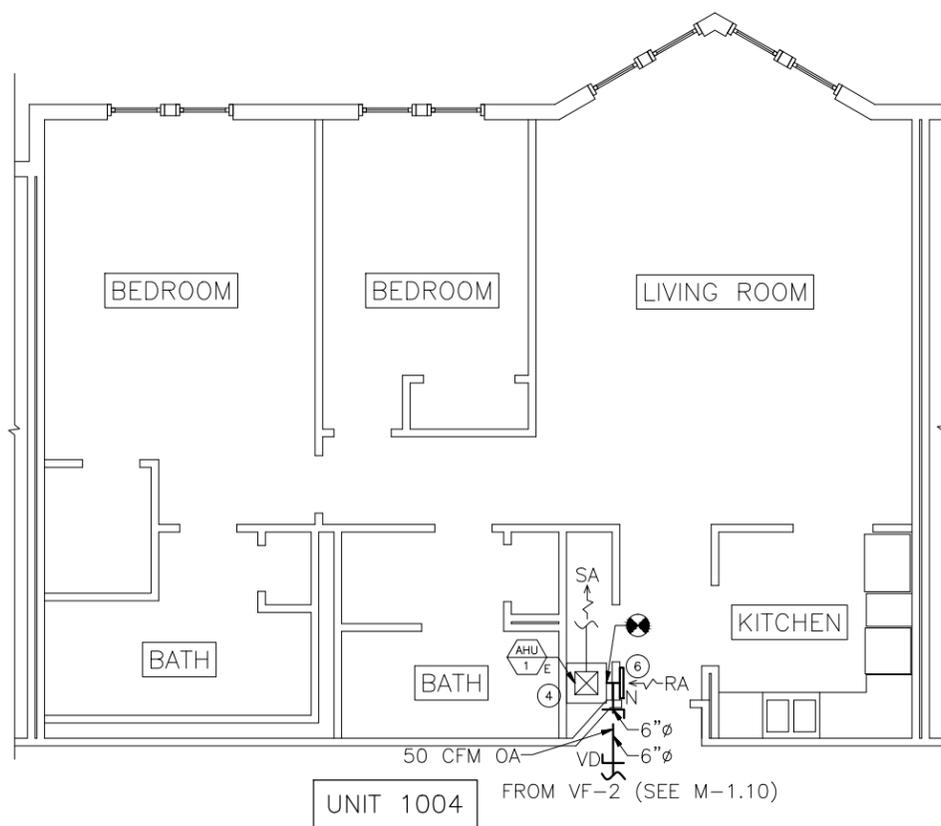
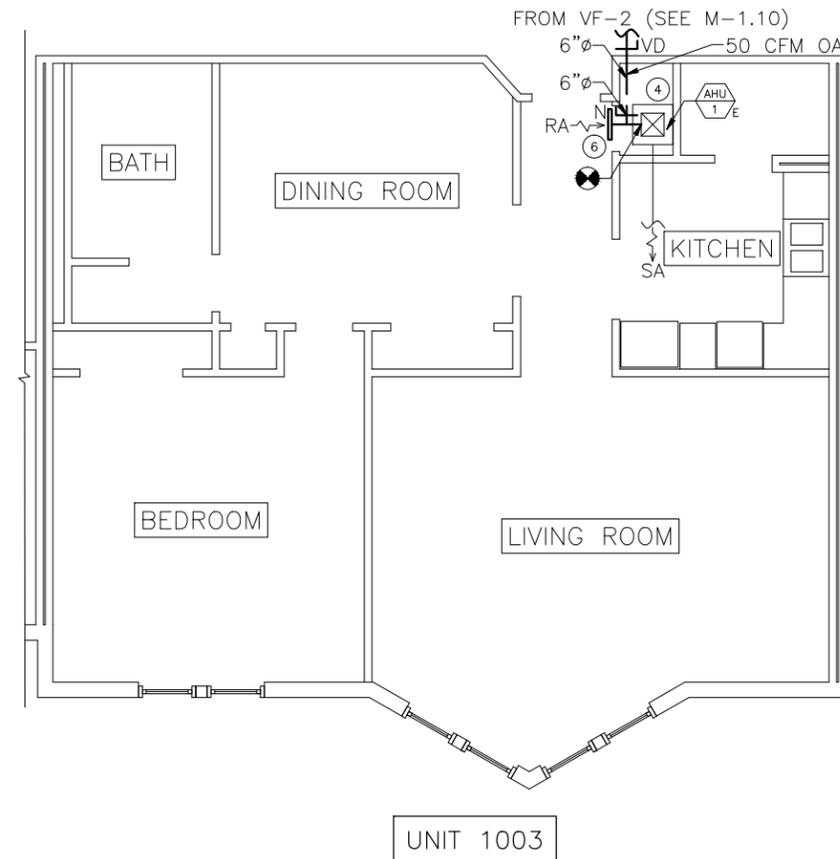
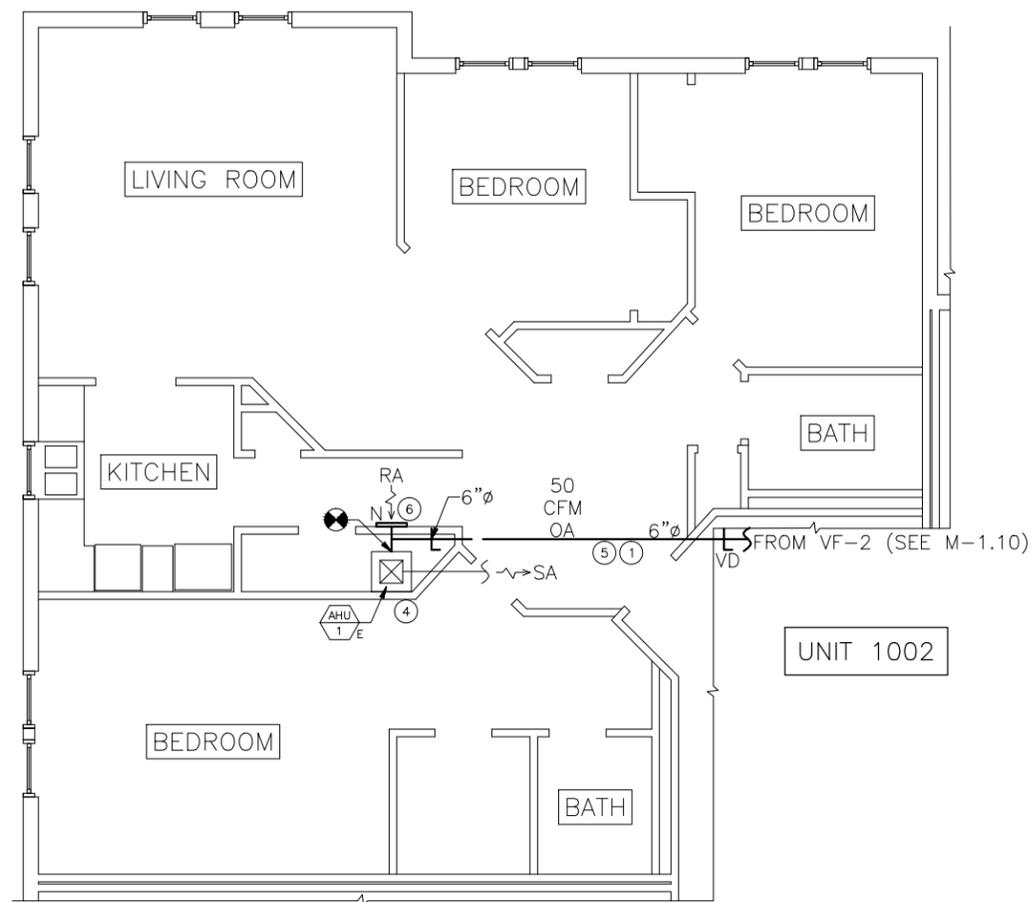
**Submission/Revisions:**

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2	3/28/16	100% Submittal	JDT	SKC
3	4/11/16	Addendum No. 001	SKC	MKP

Dwg. Scale: 1/8" = 1'-0"

**Sheet Title:**  
UNIT HVAC PLANS  
BUILDING D  
UNITS 911, 1001

**M - 2.27**



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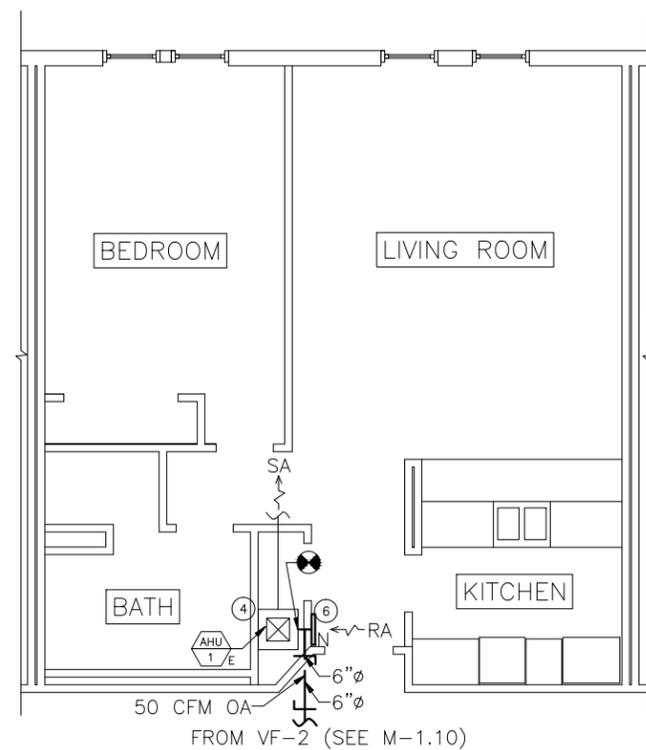
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2	3/28/16	100% Submittal	JDT	SKC
3	4/11/16	Addendum No. 001	SKC	MKP

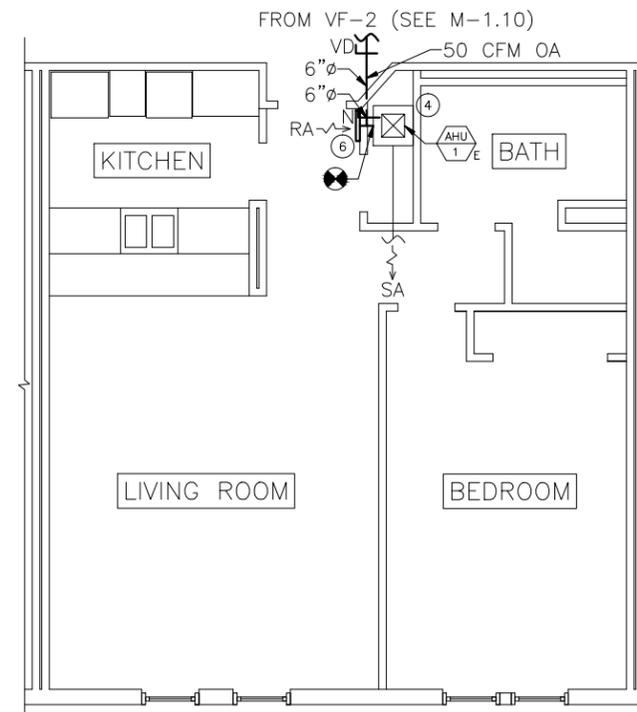
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Sheet Title:  
**UNIT HVAC PLANS  
BUILDING D  
UNITS 1002, 1003, 1004, 1005**

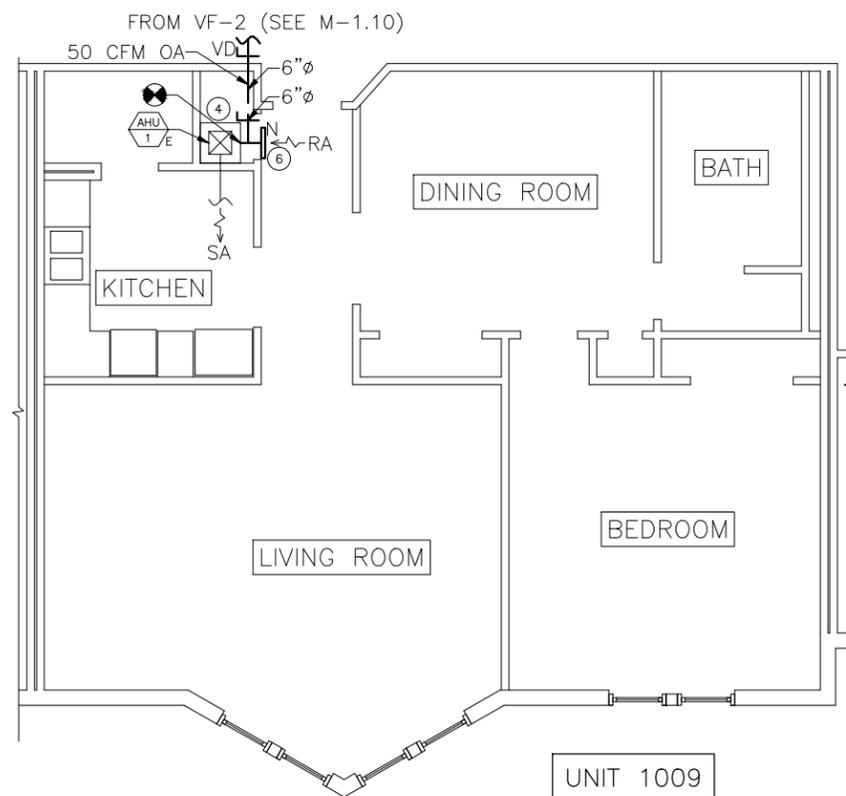
**M - 2.28**



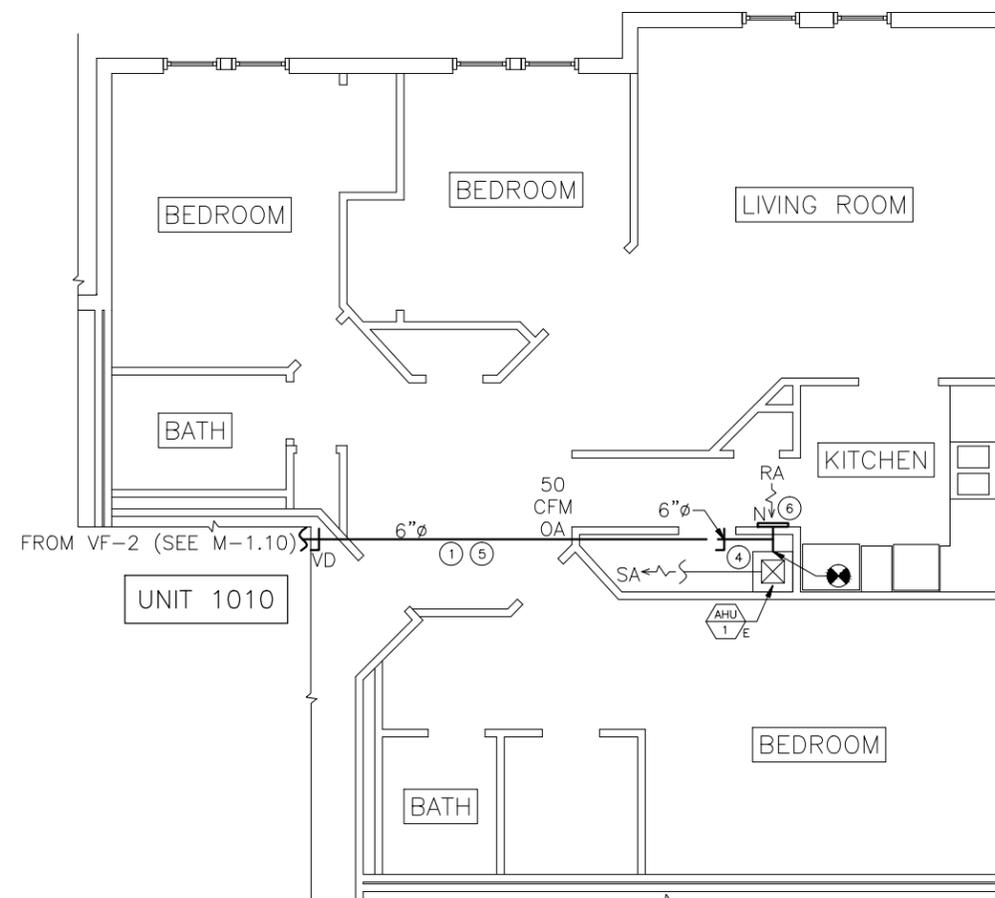
UNIT 1006



UNIT 1007



UNIT 1009



UNIT 1010

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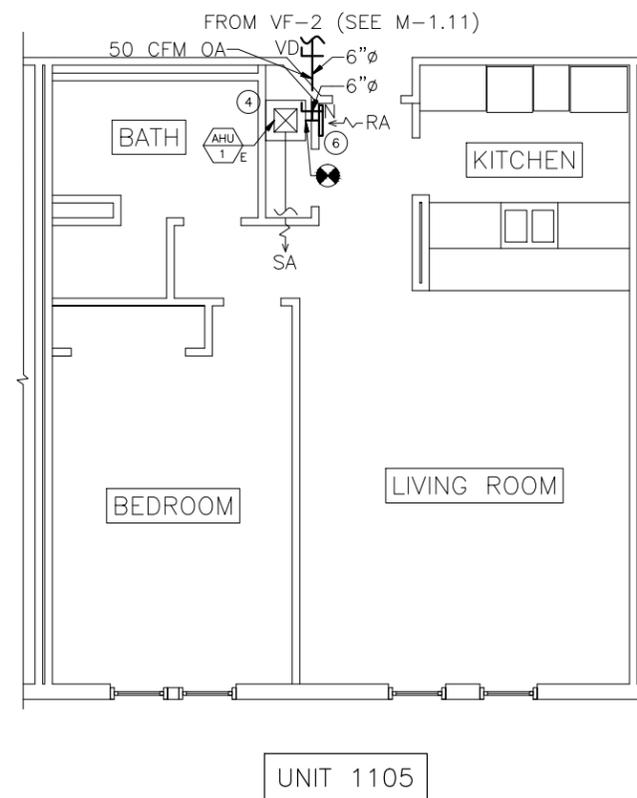
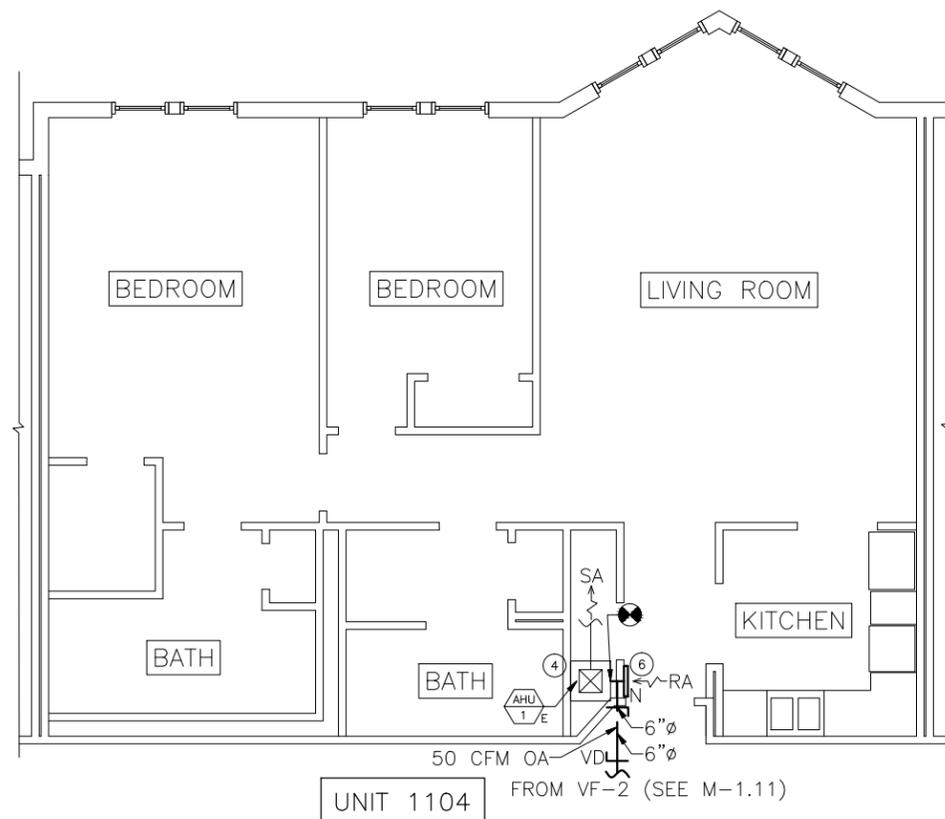
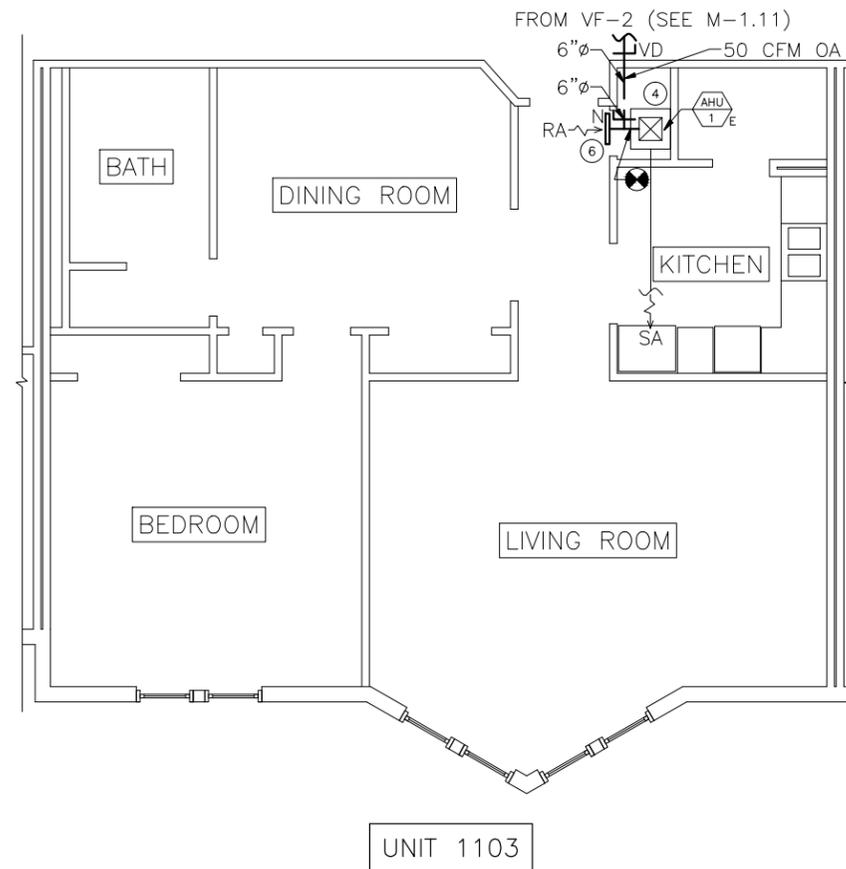
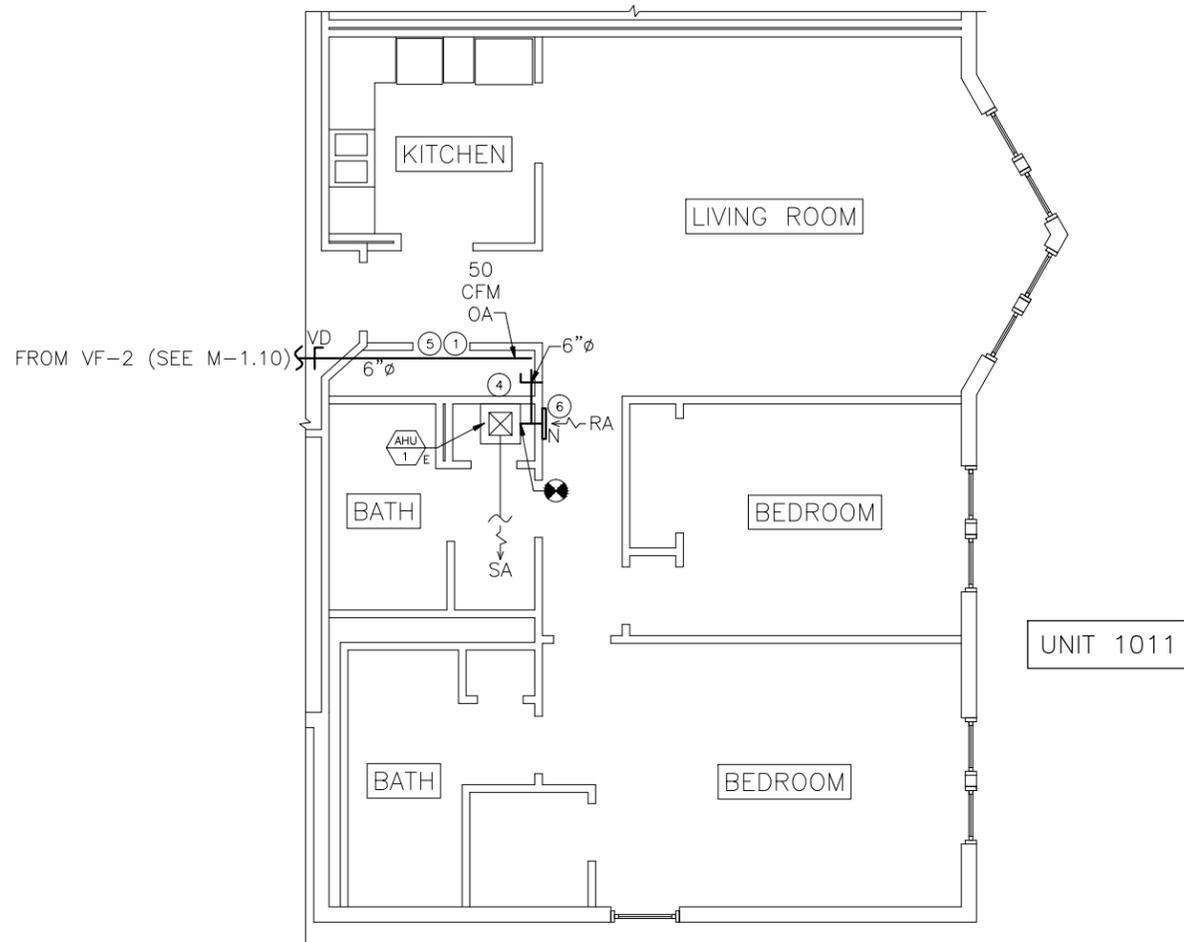
**Submission/Revisions:**

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1	3/1/16	90% Submittal	JDT	SKC
2	3/28/16	100% Submittal	JDT	SKC
3	4/11/16	Addendum No. 001	SKC	MKP

Dwg. Scale: 1/8" = 1'-0"

**Sheet Title:**  
UNIT HVAC PLANS  
BUILDING D  
UNITS 1006, 1007, 1009, 1010

**M - 2.29**



**RIAC PHASE 4C  
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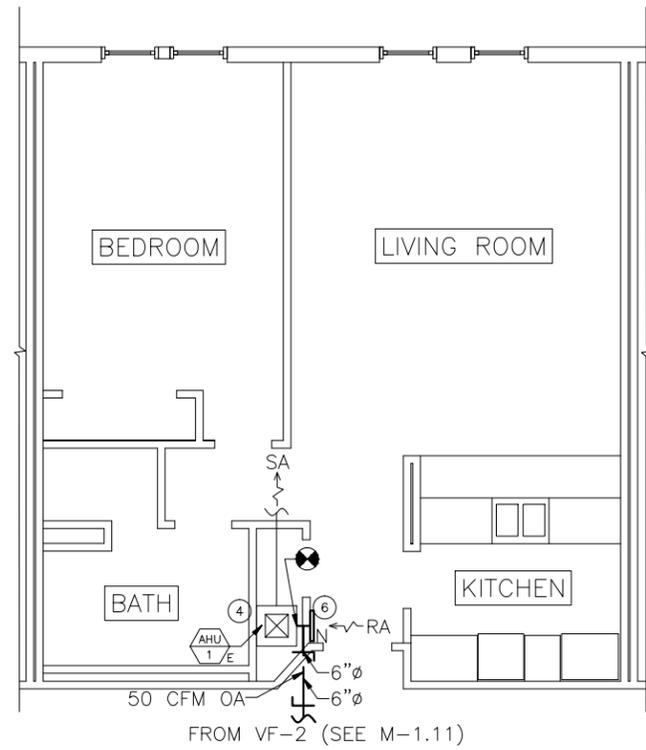
**Submission/Revisions:**

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2	3/28/16	100% Submittal	JDT	SKC
3	4/11/16	Addendum No. 001	SKC	MKP

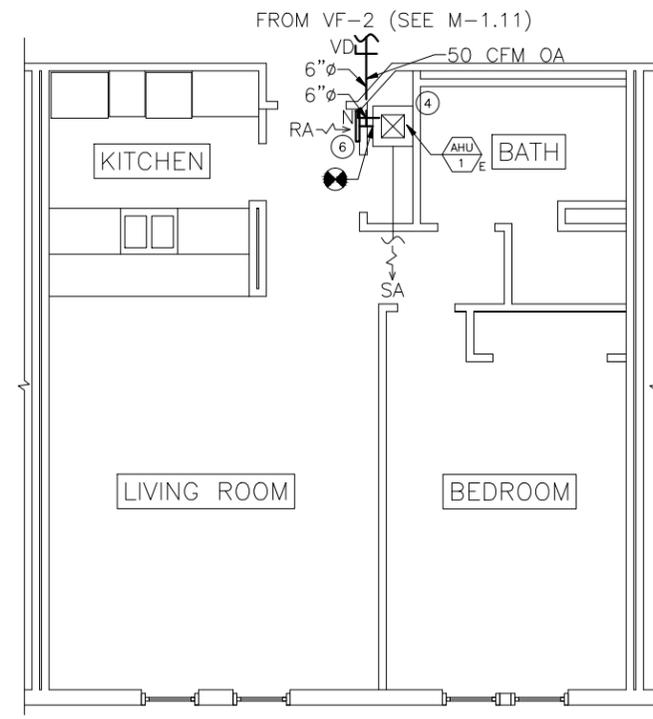
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Sheet Title:  
**UNIT HVAC PLANS  
BUILDING D  
UNITS 1011, 1103, 1104, 1105**

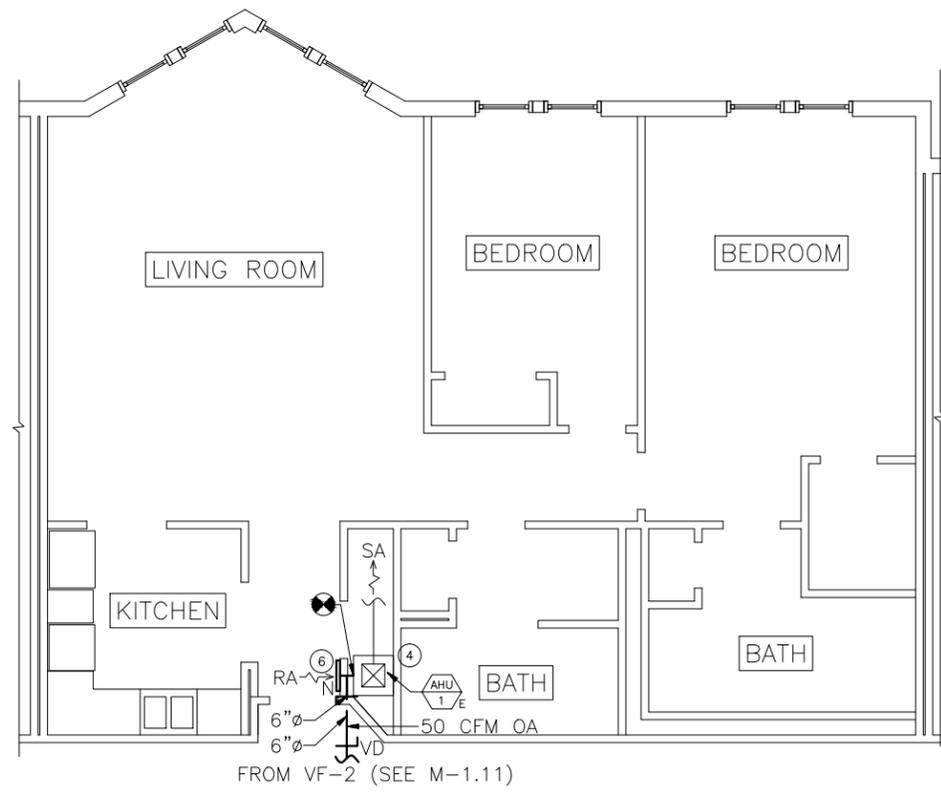
**M - 2.30**



UNIT 1106



UNIT 1107



UNIT 1108

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3	4/11/16	Addendum No. 001	SKC	MKP

Dwg. Scale: 1/8" = 1'-0"

**Sheet Title:**  
UNIT HVAC PLANS  
BUILDING D  
UNITS 1106, 1107, 1108

**M - 2.31**