



Excelsior Springs, Missouri

**Bid Package for
RTU Unit**

for the

Hall of Waters Courtroom

Part 1 - Request for Bids

Part 2 – Bid Schedule

Part 3 - General Specification

Part 4 - Bid Form

Part 1 - Request for Bids
HVAC Unit

The City of Excelsior Springs is seeking bids to provide and install a new **HVAC Unit (RTU Unit)** at the Hall of Waters, 201 East Broadway, Excelsior Springs, MO 64024. Winning bidder shall also be responsible for removal and disposal of the old HVAC unit.

Details on equipment to be bought and installed may be obtained by contacting Steve Marriott, Director of Administrative Services, 201 E. Broadway, Excelsior Springs, Missouri.

Sealed bids, SO MARKED "HVAC UNIT" must be received at the Office of the City Manager, 201 East Broadway Street, Excelsior Springs, Mo 64024, no later than **Friday, May 3, 2019 at noon.**

Done this **17th day of April 2019** at Excelsior Springs, Missouri.

Part 2 – Bid Schedule Fitness
Equipment

April 17, 2019	Request for Bids Approved/Advertised
May 3, 2019	Bids Due
May 21, 2019	Bid Award
June 3, 2019	Initial Delivery and Installation of Equipment

Part 3 – General Specifications HVAC Equipment

PART 1 – GENERAL

SUMMARY

These Specifications shall refer to the RTU Unit which the Owner, City of Excelsior Springs, is seeking to purchase. **Each Bidder shall submit two (2) complete copies of their bid.**

All bids to be awarded as noted within these specifications. As such all bids shall include freight, handling, delivery to job site, unloading, installation, commissioning, removal and disposal of the old unit, and warranty, at the location per City's instructions and any adjustments required in the proper setup of each piece of equipment.

Bidders shall refer to Equipment Specifications for equipment to be provided. Bidders shall use any drawings of the facilities for information and general reference only. Equipment shall be delivered and installed at the Hall of Waters.

Bidders must meet or exceed the minimum equipment and specifications as listed. See Exhibit 1 for unit specifications and drawings.

REGULATORY REQUIREMENTS

In submitting a Bid, Bidder hereby acknowledges that Contracts shall be awarded to the lowest and best bidder. The City reserves the right to reject any and all bids and to accept the bid deemed most advantageous, in the sole discretion of the Owner.

TAX

The Owner, a City of the third classification, is a political subdivision of the State of Missouri supported by public funds and covered by the sales tax exemption set forth at Section 144.062.R.S.Mo. Accordingly, **ALL BIDS SHALL BE MADE WITHOUT SALES AND USE TAX** and thereafter Contractor agrees to process orders for supplies, materials and equipment utilizing the procedures set forth in Section 144.062 and regulations promulgated there under. The Contractor shall be responsible for the return and/or exchange of any surplus materials and any taxes due thereon. There shall be no exception to this procedure except by express written authorization from the Owner. Use by the Contractor of any materials and equipment other than purchased as required by this procedure, unless specific written authorization has been granted by Owner, shall result in an adjustment to the Contract Sum.

PREVAILING WAGE

It is not anticipated that the replacement of this unit will exceed the dollar amount that requires payment of prevailing wage on the installation.

INSTALLATION CONDITIONS/COORDINATION

The Hall of Waters will be open and operational during installation of all equipment. The Bidder will not enter upon or place materials on any other premises except by written consent of the City and shall save the City harmless from all suits and actions of every kind and description that might result from their use of private property.

INSTALLER

Installation shall be performed by installer specialized and experienced in work similar to that required for this project. Bidder shall complete installation in a workman like manner and keep work area in a clean and safe condition at all times.

INTERPRETATIONS AND SUBSTITUTIONS

Bidders shall promptly notify the City of ambiguity, inconsistency or error which they may discover upon examination of the Bidding Documents or the site and local conditions. Bidders requiring clarification or interpretation of the Bidding Documents shall make a written request which must reach the City at least four (4) calendar days prior to the date for receipt of Bids. **Reference in this specification to any products, material, type or form of equipment shall establish a minimum standard of quality and shall not be limit competition from providers or manufacturers meeting all minimum equipment requirements.**

Proposed substitutions shall be submitted by the Bidder to the City at their own risk. No substitutions will be allowed after the Contract award unless specifically provided for in the Contract Documents. All interpretations, corrections, or changes of the Bidding Documents will be made by Addendum. Interpretations, corrections or changes made in any other manner will not be binding and Bidders shall not rely upon them.

Questions regarding this Request for Bids may be directed to:

Steve Marriott, Director of Administrative Services
201 East Broadway, Excelsior Springs, Missouri 64024
Telephone: (816) 630-0760
Email: SMarriott@ci.excelsior-springs.mo.us

To tour the facility please contact:

TR Kennedy, Building Superintendent
201 East Broadway, Excelsior Springs, Missouri 64024
Telephone: (816) 209-8932
Email: trkennedy@espolice.com

ADDENDA

Addenda will be mailed or electronically delivered to all who are known to have received a complete set of Bidding Documents. No Addenda will be issued later than two (2) calendar days prior to the due date for receipt of Bids except an Addendum withdrawing the request for Bids or one which includes postponement of the date for receipt of Bids. Each Bidder shall ascertain prior to submitting his Bid that has received all Addenda issued and shall acknowledge their receipt of the Bid Form. Copies of Addenda will be made available for inspection wherever Bidding Documents are on file for that purpose.

INSURANCE

All bidders for new equipment purchased by Owner must provide proof of insurance for the following coverage levels:

Comprehensive General Liability - minimum limit of \$1,000,000 combined single limit for bodily injury and property damage per occurrence.

Workers' Compensation - if applicable per statutory requirements.

Employers' Liability - \$500,000 each employee, \$500,000 each accident and \$500,000 policy limit.

DELIVERY, STORAGE, AND HANDLING

Bidders shall comply with manufacturer's ordering instructions and lead time requirements to avoid installation delays. Bidder shall deliver products in manufacturer's original, unopened, undamaged containers with identification labels intact for inspection by Owner. Equipment shall be installed immediately upon delivery. All products shall be handled in accordance with manufacturer's instructions. Damage to premises by installer shall be repaired at Bidders expense.

SERVICE AGREEMENT/WARRANTY

The Scope of Work base bid for new equipment shall require the Bidder to provide the following:

- Warranty: Manufacturer's standard form in which manufacturer agrees to replace components of RTUs that fail in materials or workmanship within specified warranty period.
- Warranty Period for Compressors: Manufacturer's standard, but not less than five years from date of final acceptance by Owner.
- Bidder shall stock routine wear/replacement parts to eliminate down time (less than 48 hrs.)
- City prefers that Bidder maintenance and warranty service personnel are direct employees of Bidder or subcontracted to another reputable firm approved by City prior to contract award.

Bidder agrees by submitting a bid that all warranty related service calls within warranty period shall be addressed, on-site, within 48 hours.

PART 2 – EXECUTION

EXAMINATION

Site Verification of Conditions: Bidders shall verify installation conditions are acceptable for product installation in accordance with manufacturer's instructions and notify City immediately of any unacceptable conditions.

All Bidders shall visit each site and be familiar with building design and configuration prior to bidding.

By submitting bid, Bidder accepts existing conditions, access, and schedule.

INSTALLATION

Bidder shall assemble and install product in accordance with manufacturer's written instructions. All equipment shall be assembled, tested, cleaned and verified to be in proper working order. Bidder shall have personnel available to assist with connection to utilities as needed by City.

City shall direct the exact delivery dates and location of each piece of equipment to be installed at each center.

END OF SECTION

Part 4 - Bid Form
RTU Unit Replacement

To: City of Excelsior Springs Missouri

The Undersigned, in compliance with the Request for Bid for the **RTU Unit Replacement** for the Hall of Waters, in accordance with the Request for Bids Package, entitled "**HVAC Unit**" and dated **April 17, 2019**, having examined these Documents and each site of the proposed Work, and being familiar with all of the conditions surrounding the proposed project, including the availability of materials and supplies, proposes to furnish labor, materials, and equipment necessary for the price stated below:

Bidder acknowledges this bid includes delivery, installation, commissioning, removal and disposal of the old unit, and warranty (Initial): _____

Proposed Unit Manufacturer and Model Number: _____

Total cost for removal and disposal of the old HVAC Unit and installation and commissioning of the new HVAC unit including crane rental, labor, warranty, etc. _____

Firm/Company Name: _____

Printed Name of Authorized Agent: _____

Address: _____

Telephone: _____

Email Address: _____

Each submittal **must** include the following:

- Unit specifications for the proposed unit.
- A copy of the unit warranty.
- A proposed contract for the removal and installation.

By signature below, we hereby respectfully submit our bid to provide the proposed equipment and to comply with all stated specifications, requirements, and applicable laws herein:

Signature of Authorized Representative

Date

SECTION 237413 - PACKAGED, OUTDOOR, CENTRAL-STATION AIR-HANDLING UNITS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes packaged, outdoor, central-station air-handling units (rooftop units) with the following components and accessories:
 - 1. Heat-pump refrigeration components.
 - 2. Hot-gas reheat on units 30 tons and above.
 - 3. Electric heating.
 - 4. Economizer outdoor- and return-air damper section. CO₂ sensor with economizer override shall be provided on all units. Integral, space temperature controls.
 - 5. Roof curbs.

1.3 SUBMITTALS

- A. Product Data: Include manufacturer's technical data for each RTU, including rated capacities, dimensions, required clearances, characteristics, furnished specialties, and accessories.
- B. Shop Drawings: Detail equipment assemblies and indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
 - 1. Wiring Diagrams: Power, signal, and control wiring.
- C. Coordination Drawings: Plans and other details, drawn to scale, on which the following items are shown and coordinated with each other, using input from installers of the items involved:
 - 1. Structural members to which RTUs will be attached.
 - 2. Roof openings
 - 3. Roof curbs and flashing.
- D. Field quality-control test reports.
- E. Operation and Maintenance Data: For RTUs to include in emergency, operation, and maintenance manuals.
- F. Warranty: Special warranty specified in this Section.

1.4 QUALITY ASSURANCE

- A. ARI Compliance:

Exhibit 1 - 2017.140 Hall of Waters Courts RTU

1. Comply with ARI 210/240 and ARI 340/360 for testing and rating energy efficiencies for RTUs.
 2. Comply with ARI 270 for testing and rating sound performance for RTUs.
- B. ASHRAE/IESNA 90.1-2007 Compliance: Applicable requirements in ASHRAE/IESNA 90.1-2007, Section 6 - "Heating, Ventilating, and Air-Conditioning."
- C. NFPA Compliance: Comply with NFPA 90A and NFPA 90B.
- D. UL Compliance: Comply with UL 1995.
- E. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

1.5 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to replace components of RTUs that fail in materials or workmanship within specified warranty period.
1. Warranty Period for Compressors: Manufacturer's standard, but not less than five years from date of final acceptance by Owner.

1.6 EXTRA MATERIALS

- A. Furnish extra materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
1. Fan Belts: One set for each belt-driven fan.
 2. Filters: One set of filters for each unit.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. AAON, Inc.
 2. Carrier Corporation.
 3. Engineered Air.
 4. McQuay International.
 5. Trane; American Standard Companies, Inc.
 6. YORK International Corporation.

2.2 GENERAL

- A. The units shall be convertible flow. The operating range shall be between 115 degrees F. and 0 degrees F. cooling as standard from the factory for units with microprocessor controls. Cooling performance shall be rated in accordance with ARI testing procedures. All units shall be factory

assembled, internally wired, fully charged with R-410A and 100 percent run tested to check cooling operation, fan and blower rotation and control sequence before leaving the factory. Wiring internal to the unit shall be colored and numbered for simplified identification. Units shall be UL listed and labeled, classified in accordance for Central Cooling Air Conditioners.

2.3 CASING

- A. Unit casing shall be constructed of zinc coated, heavy gauge and galvanized steel. Exterior surfaces shall be cleaned, phosphatized and finished with a weather-resistant baked enamel finish. Unit's surface shall be test 672 hours in a salt spray test in compliance with ASTM B117. Cabinet construction shall allow for all maintenance on one side of the unit. All exposed vertical panels and top covers in the indoor air section shall be insulated with a cleanable foil-faced, fire retardant, permanent, odorless glass fiber material. All insulation edges shall be either captured or sealed. The units base pan shall have no penetrations within the perimeter curb other than the raised 1-1/8" high downflow supply/return openings to provide an added water integrity precaution, if the condensate drain backs up. The base of the unit shall have provisions for forklift and crane lifting, with forklift capabilities on three sides of the unit. The top cover shall be one piece construction or where seams exist, it shall be double-hemmed and gasket-sealed. Access panels shall be hinged.

2.4 FILTERS

- A. 2" high efficiency, MERV 13 throwaway filters.

2.5 COMPRESSORS

- A. All units shall have direct-drive, hermetic, scroll type compressors with centrifugal type oil pumps. Motor shall be suction gas-cooled and shall have a voltage utilization range of plus or minus 10 percent of unit nameplate voltage. Internal overloads shall be provided with the scroll compressors. Centrifugal oil pump, scroll tips seals, internal heat shield, oil level sight glass and oil charge valve and crankcase heaters shall be provided. High pressure cutout controls shall be provided.

2.6 REFRIGERANT CIRCUITS

- A. Service pressure ports and refrigerant line filter driers are factory-installed as standard. An area shall be provided for replacement suction line driers. Each circuit shall have independent thermostatic expansion devices, service pressure ports and refrigerant line filter driers factory-installed. Discharge line thermostats shall be provided on all units 12.5 nominal tons and above.

2.7 EVAPORATOR AND CONDENSER COILS

- A. Internally finned, 5/16 inch copper tubes mechanically bonded to a configured aluminum plate shall be standard. Coils shall be leak tested at the factory to ensure pressure integrity. The evaporator coil and condenser coil shall be leak tested to 650 psig and pressure tested to 450 psig. Provide a removable, reversible, double sloped condensate drain pan with through the base condensate drain. Aluminum micro channel condenser coils shall be provided on a 4 – 8.5 and 12.5 ton and above units.

2.8 OUTDOOR FANS

- A. The outdoor fan shall be direct-drive, statically and dynamically balanced, draw-through in the vertical discharge position. The fan motor shall permanently lubricated and shall have built-in thermal overload protection.

2.9 INDOOR FAN

- A. All units shall be direct-drive plenum fans with backward curved fan wheel. All motors shall be thermally protected. All indoor fan motors meet the U.S. Energy Policy Act of 1992 (EPACT). Units 7.5 – 10 tons shall have backward inclined direct drive variable speed fans. Speed adjustment potentiometer shall be provided in control box. VFD motor control shall be provided.

2.10 SINGLE ZONE VAV CONTROL

- A. Furnish inverter duty fan motor and TR200 variable speed drive to provide single zone variable air volume control. Control modules, sensors and algorithm logic shall be provided to match fan speed with cooling and heating loads.

2.11 ELECTRIC HEATING SECTION

- A. The heating section shall be constructed of heavy-duty nickel chromium elements internally delta connected for 480V and 600V. Staging shall be via the ReliaTel controller. Heaters shall have automatic reset high limit control operating through heating element contactors. Heaters shall be individually fused from the factory and shall meet all NEC and CEC requirements. Power shall be through single point power connection for the RTU. Modules shall be cULus listed.

2.12 ECONOMIZER

- A. The assembly shall include fully modulating 0-100 percent motor and dampers, minimum position setting, preset linkage, wiring harness with plug, spring return actuator and dry bulb control. The barometric relief shall provide a pressure operated damper that shall be gravity closing and shall prohibit entrance of outside air during the equipment of cycle. Power exhaust fans shall be provided on all units 27.5 tons and above.

2.1 DEMAND CONTROL VENTILATION

Outdoor airflow shall be reset to based on measured CO2 concentration.

2.2 ELECTRICAL POWER CONNECTION

- A. Provide for single connection of power to unit with unit-mounted disconnect switch accessible from outside unit and control-circuit transformer with built-in overcurrent protection.

2.3 CONTROLS

- A. Units shall be completely factory wired with necessary controls and contactor pressure lugs or terminal block for power wiring. Microprocessor controls shall be provided with unit. The resident control algorithms shall make all heating, cooling and/or ventilating decisions in response to electronic signals from sensors measuring indoor and outdoor temperatures. The control algorithm maintains accurate temperature control, minimize drift from setpoint and provides better comfort control. A centralized microprocessor shall provide anti-short cycle timing and time delay between compressors to provide a higher level of machine protection. All sensors shall be provided with units. The controls package shall include the following:
1. Economizer with reference enthalpy control, 0-100% fully modulating dampers, minimum position setting preset linkage, wiring harness and reference enthalpy control.
 2. BACnet communications interface to allow unit to communicate directly with open protocol BACnet PS/TP network.
 3. Discharge air sensing.
 4. Programmable remote electronic thermostats with CO2 sensors thermostats shall be provided.

2.4 PHASE MONITOR

- A. Phase monitor shall provide 100% protection for motors and compressors against problems caused by phase loss, phase imbalance and phase reversal. Phase monitor shall be equipped with an LED that provides an ON or FAULT indicator. The module shall automatically rest from a fault condition.

2.5 ACCESSORIES

- A. Duplex, 115-V, ground-fault-interrupter outlet with 15-A overcurrent protection. Include transformer if required. Outlet shall be energized even if the unit main disconnect is open.
- B. Froststat shall be utilized as a safety device. The Froststat opens when temperatures on the evaporator coil fall below 10 degrees F. The temperature will need to rise to 50 degrees F. before closing.
- C. Coil guards of painted, galvanized-steel wire.
- D. Hail guards of galvanized steel, painted to match casing.

2.6 ROOF CURBS

- A. Materials: Galvanized steel with corrosion-protection coating, watertight gaskets, and factory-installed wood nailer; complying with NRCA standards.
1. Curb Insulation and Adhesive: Comply with NFPA 90A or NFPA 90B.
 - a. Materials: ASTM C 1071, Type I or II.
 - b. Thickness: 2 inches.
- B. Curb Height: 18 inches.

- C. Combination Curb: The curb shall be a single curb designed and built to support both the HVAC unit and the ERV. The transition of the air from the ERV to the rooftop unit shall be through internal transitions in the curb.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of RTUs.
- B. Examine roughing-in for RTUs to verify actual locations of piping and duct connections before equipment installation.
- C. Examine roofs for suitable conditions where RTUs will be installed.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Roof Curb: Install on roof structure, level and secure, according to NRCA's "Low-Slope Membrane Roofing Construction Details Manual," Illustration "Raised Curb Detail for Rooftop Air Handling Units and Ducts." Install RTUs on curbs and coordinate roof penetrations and flashing with roof construction specified in Division 07 Section "Roof Accessories." Secure RTUs to upper curb rail, and secure curb base to roof framing with anchor bolts.
- B. Unit Support: Install unit level on structural curbs. Coordinate wall penetrations and flashing with wall construction. Secure RTUs to structural support with anchor bolts.

3.3 CONNECTIONS

- A. Install condensate drain, minimum connection size, with trap and indirect connection to nearest roof drain or area drain.
- B. Duct installation requirements are specified in other Division 23 Sections. Drawings indicate the general arrangement of ducts. The following are specific connection requirements:
 - 1. Install ducts to termination at top of roof curb.
 - 2. Remove roof decking only as required for passage of ducts. Do not cut out decking under entire roof curb.
 - 3. Connect supply ducts to RTUs with flexible duct connectors specified in Division 23 Section "Air Duct Accessories."
 - 4. Install return-air duct continuously through roof structure.

3.4 STARTUP SERVICE

- A. Engage a factory-authorized service representative to perform startup service.
 - 1. After startup and performance testing and prior to Substantial Completion, replace existing filters with new filters.

Exhibit 1 - 2017.140 Hall of Waters Courts RTU

3.5 CLEANING AND ADJUSTING

- A. After completing system installation and testing, adjusting, and balancing RTU and air-distribution systems, clean filter housings and install new filters.

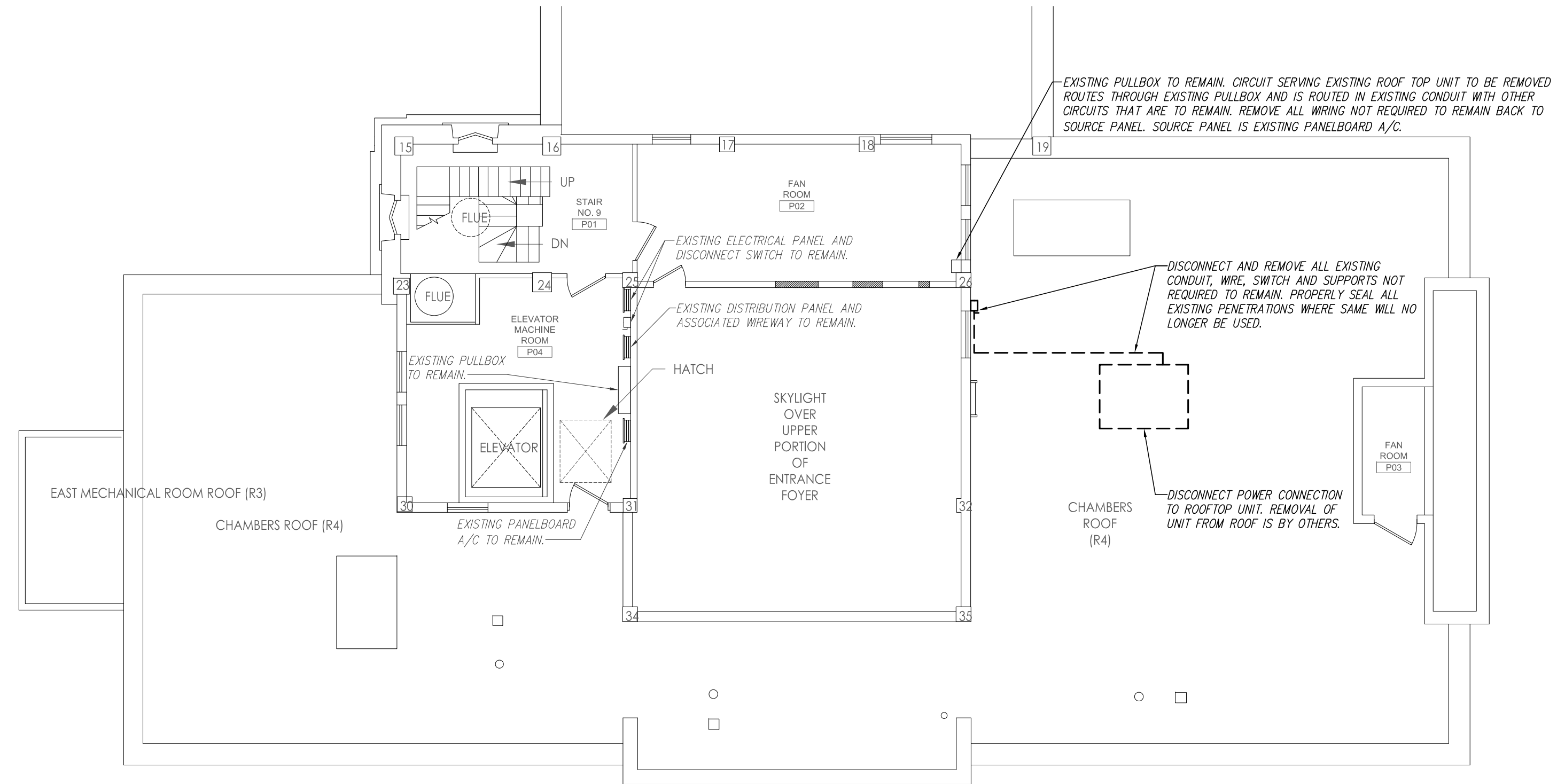
3.6 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain RTUs. Refer to Division 01 Section "Demonstration and Training."

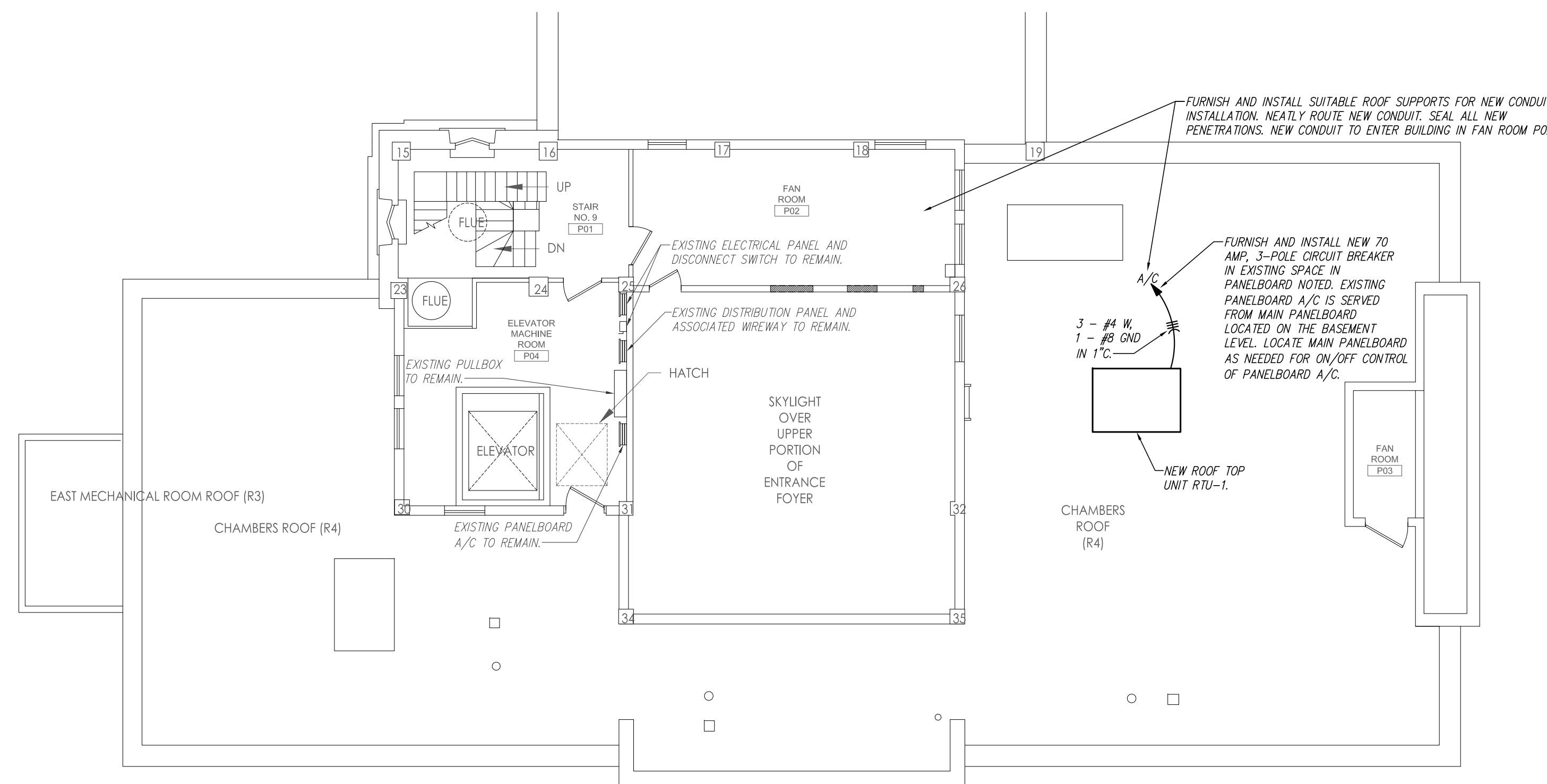
END OF SECTION 237413

ROOF TOP UNIT SCHEDULE																												
PLAN MARK	AREA SERVED	MANUFACTURER	MODEL NO.	TOTAL CFM	MIN. O.A. CFM	SUPPLY FAN				DX COOLING				ELECTRIC HEATING			FILTERS			COMPRESSOR DATA		CONDENSER FAN DATA			ELECTRICAL DATA			
						E.S.P. IN. W.G.	MIN. HP	RPM	ENT. AIR (CFM)	LG. AIR (CFM)	SENSE (HP)	TOTAL (ASH)	EER	EAT	LAT	KW	STAGES	TYPE	MAX. CY	EFF.	NO.	HP	TYPE	NO.	HP	RPM	VOLTS/PHASE	MCA
RTU-1	COURTS FACILITY	TRANE	THC102F3RGA	2720	275	1.5	2.75	1270	27.5/95.4	56.9/25.1	65.3	88.3	12.5	50	70.9	18	2	2" THROW AWAY	500	MERV 13	2	4.5/2.4	HERMETIC SCROLL	1	0.75	1100	208/3	65

- GENERAL NOTES:
1. UNITS SHALL HAVE ECONOMIZER WITH BAROMETRIC RELIEF & CONDENSER COIL HAIL GUARDS
 2. REFRIGERANT SHALL BE R-410A
 3. COOLING CAPACITIES BASED ON 105°F AMBIENT TEMPERATURE.
 4. UNIT SET UP AS SINGLE ZONE VAV.
 5. PROVIDE CO₂ MONITORING - MIN. OA OVERRIDDEN BY CO₂ SENSOR
 6. PROVIDE W/18" MIN. HIGH CURB SIZED FOR RTU AND TO ALLOW CONNECTIONS TO EXISTING DUCTWORK.



ELECTRICAL DEMOLITION PENTHOUSE/ROOF PLAN
SCALE: 1/8" = 1'-0"



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

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Mechanical and Electrical Engineers

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OF WATERS VISITOR CENTER**
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EXCELSIOR SPRINGS, MO 64024

JOB NO. 2017-140

DATE: 4-2-2019

REVISIONS

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