

# ROOFTOP HVAC REPLACEMENT COLE COUNTY LAW ENFORCEMENT CENTER 350 EAST HIGH ST. JEFFERSON CITY, MISSOURI

MECH / ELEC ENGINEER:



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The Engineer, whose signature appears on the mechanical, plumbing, & electrical drawings, assumes responsibility only for what appears on the drawings, and disclaims (pursuant to Section 327.11 RSMo) any responsibility for all other plans, specifications, estimates, reports, or other documents or instruments not sealed by the above Engineer relating to, or intended to be used for, any part or parts of the project to which these drawings refer.

## SCHEDULE OF MECHANICAL / ELECTRICAL DRAWINGS:

### COVERSHEET

ME1.0 MECH/ELECT SPECIFICATIONS  
ME1.1 MEP DEMOLITION SOUTH ROOF PLAN  
ME1.2 MEP DEMOLITION NORTH ROOF PLAN

M1.1 HVAC RENOVATION SOUTH ROOF PLAN  
M1.2 HVAC RENOVATION NORTH ROOF PLAN  
M2.1 MECHANICAL SCHEDULES

E1.1 POWER RENOVATION SOUTH ROOF PLAN  
E1.2 POWER RENOVATION NORTH ROOF PLAN



SITE MAP

DIVISION 22 & 23

SECTION 22000 & 23000: GENERAL MECHANICAL REQUIREMENTS

PART 1 - GENERAL

1. THE GENERAL CONDITIONS OF THE CONTRACTS, CURRENT EDITION PUBLISHED IN STANDARD FORM BY AMERICAN INSTITUTE OF ARCHITECTS, SHALL BE PART OF THIS CONTRACT.
2. THE ARTICLES CONTAINED IN THIS DIVISION AND THE ARCHITECTURAL SPECIFICATIONS MAY AMEND, MODIFY, SUPSEDE, VOID OR SUPPLEMENT THE ARTICLES OF THE GENERAL CONDITIONS NOTED IN PARAGRAPH (1) ABOVE, AND SHALL TAKE PRECEDENCE OVER THE PROVISIONS OF THE GENERAL CONDITIONS NOTED IN 3.
3. REFER TO THE ARCHITECTURAL, STRUCTURAL, MECHANICAL AND ELECTRICAL PLANS AND SPECIFICATIONS WHICH ARE HEREBY MADE PART OF THE CONTRACT.
4. PROVIDE ALL WORK AND MATERIALS AS REQUIRED HEREIN AND ON THE DRAWINGS IN FULL ACCORDANCE WITH NATIONAL, STATE, AND LOCAL CODES, ORDINANCES AND/OR REGULATIONS HAVING JURISDICTION OVER THIS WORK.
5. THE CONTRACTOR SHALL TAKE OUT ALL NECESSARY PERMITS, LICENSES AND CERTIFICATES AND PAY ALL FEES CONNECTED THEREWITH.
6. THE CONTRACTOR SHALL INCLUDE ALL TAP FEES AND OTHER UTILITY INSTALLATION COSTS REQUIRED TO BRING UTILITIES TO THE BUILDING.

7. BIDDER SHALL VISIT THE SITE AND FAMILIARIZE THEMSELVES WITH ALL CONDITIONS SURROUNDING THE WORK SO THAT ANY DISCREPANCIES BETWEEN THE PLANS AND THE SITE ARE INCLUDED IN THE BID. DRAWINGS ARE DIAGRAMMATIC AND INTENDED TO SHOW APPROXIMATE LOCATIONS UNLESS SPECIFICALLY DIMENSIONED. COORDINATE ALL PIPING RUNS WITH THE WORK OF OTHER CONTRACTORS.
8. ALL WORK SHALL BE COORDINATED WITH WORK OF OTHER TRADERS PRIOR TO INSTALLATION TO AVOID INTERFERENCES. SUBMISSION OF SHOP DRAWINGS WITH THE COMMENCEMENT OF THE INSTALLATION WORK IMPLIES THAT THIS SATISFACTORY COORDINATION HAS TAKEN PLACE. THEREAFTER, ANY COSTS FOR MODIFICATION DUE TO INTERFERENCES SHALL BE BORNE BY THE CONTRACTOR.
9. SUBMIT SHOP DRAWINGS FOR SUCH EQUIPMENT AND MATERIAL AS THE ENGINEER MAY REQUIRE FOR HIS REVIEW. ENGINEER'S REVIEW MUST TAKE PLACE BEFORE CONSTRUCTION BEGINS.
10. CONTRACTOR SHALL SUBMIT REQUESTS FOR SUBSTITUTIONS IN WRITING TO THE ENGINEER.
11. "RECORD" DRAWINGS SHALL BE PROVIDED BY THE CONTRACTOR IF INSTALLATION DEVIATES FROM THE ORIGINAL LAYOUT.
12. THE CONTRACTOR SHALL GUARANTEE ALL MATERIALS, EQUIPMENT, AND WORKMANSHIP FOR A PERIOD OF (1) YEAR AFTER THE FINAL ACCEPTANCE BY THE ARCHITECT, AND HE SHALL REPLACE AT HIS OWN COST ANY DEFECTIVE MATERIALS, EQUIPMENT OR WORKMANSHIP WHICH SHALL PROVE TO BE DEFECTIVE WITHIN THE GUARANTEED PERIOD.

13. THE CONTRACTOR SHALL MAINTAIN A CAREFUL AND COMPLETE RECORD OF ALL ITEMS INSTALLED INCLUDING EXACT SIZES AND LOCATIONS UPON COMPLETION OF HIS WORK TURN OVER TO THE OWNER, A COMPLETE SET OF "AS-BUILT" REPRODUCIBLE DRAWINGS OF HIS WORK.
14. THE CONTRACTOR SHALL DO ALL CUTTING AND PATCHING REQUIRED TO INSTALL ANY PORTION OF THIS WORK. PATCH WITH NEW MATERIALS OF THE SAME TYPE THAT WAS REMOVED. REFINISH PATCHED SURFACE TO MATCH EXISTING ADJACENT SURFACES.
15. THE ENTIRE INSTALLATION SHALL BE PERFORMED BY LICENSED CONTRACTORS.
16. VERIFY FINAL LOCATIONS FOR ROUGH-INS WITH FIELD MEASUREMENTS AND WITH THE REQUIREMENTS OF THE ACTUAL EQUIPMENT TO BE CONNECTED.
17. VERIFY FINAL LOCATIONS FOR ROUGH-INS WITH FIELD MEASUREMENTS AND WITH THE REQUIREMENTS OF THE ACTUAL EQUIPMENT TO BE CONNECTED.
18. COORDINATE MECHANICAL SYSTEMS, EQUIPMENT, AND MATERIALS INSTALLATION WITH OTHER BUILDING COMPONENTS.
19. VERIFY ALL DIMENSIONS BY FIELD MEASUREMENTS.
20. ARRANGE FOR CHASES, SLOTS, AND OPENINGS IN OTHER BUILDING COMPONENTS DURING PROCESS OF CONSTRUCTION, TO ALLOW FOR MECHANICAL INSTALLATIONS.
21. COORDINATE THE INSTALLATION OF REQUIRED SUPPORTING DEVICES AND SLEEVES TO BE SET IN POUR-IN-PLACE CONCRETE AND OTHER STRUCTURAL COMPONENTS, AS THEY ARE CONSTRUCTED.
22. SEQUENCE, COORDINATE, AND INTEGRATE INSTALLATIONS OF MECHANICAL MATERIALS AND EQUIPMENT FOR EFFICIENT FLOW OF THE WORK. GIVE PARTICULAR ATTENTION TO LARGE EQUIPMENT REQUIRING POSITIONING PRIOR TO CLOSING IN THE BUILDING.

PART II - MATERIALS - NOT APPLICABLE

PART III - EXECUTION

1. WHERE MOUNTING HEIGHTS ARE NOT DETAILED OR DIMENSIONED, INSTALL SYSTEMS, MATERIALS, AND EQUIPMENT TO PROVIDE THE MAXIMUM HEADROOM POSSIBLE.
2. INSTALL SYSTEMS, MATERIALS, AND EQUIPMENT LEVEL AND PLUMB, PARALLEL AND PERPENDICULAR TO OTHER BUILDING SYSTEMS AND COMPONENTS, WHERE INSTALLED EXPOSED IN FINISHED SPACES.
3. INSTALL MECHANICAL EQUIPMENT TO FACILITATE SERVICING, MAINTENANCE, AND REPAIR OR REPLACEMENT OF EQUIPMENT COMPONENTS AS MUCH AS PRACTICAL, CONNECT EQUIPMENT FOR EASE OF DISCONNECTING, WITH MINIMUM OF INTERFERENCE WITH OTHER INSTALLATIONS. EXTEND GREASE FITTINGS TO AN ACCESSIBLE LOCATION.
4. INSTALL ACCESS PANEL OR DOORS WHERE UNITS ARE CONCEALED BEHIND FINISHED SURFACES.
5. INSTALL SYSTEMS, MATERIALS, AND EQUIPMENT GIVING RIGHT-OF-WAY PRIORITY TO SYSTEMS REQUIRED TO BE INSTALLED AT A SPECIFIED SLOPE.
6. AT THE COMPLETION OF THE WORK, THIS CONTRACTOR SHALL REMOVE ALL RUBBISH, DIRT AND STAINS CAUSED BY HIS WORK AND SHALL THOROUGHLY CLEAN ALL EQUIPMENT, FIXTURES, PIPING, ETC.
7. TOUCH UP OR REFINISH THE FACTORY FINISH OR EQUIPMENT MARKED DURING SHIPMENT OR INSTALLATION.

SECTION 23100: PLUMBING

PART 1 - GENERAL

1. UNLESS NOTED OTHERWISE, THIS CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS AND EQUIPMENT FOR THE INSTALLATION OF A COMPLETE OPERATING PLUMBING SYSTEM INCLUDING: HOT AND COLD WATER SYSTEMS, CONNECTION TO SANITARY SEWER SYSTEMS, PLUMBING FIXTURES, MISCELLANEOUS PLUMBING AND INSULATION.
2. THIS CONTRACTOR SHALL DO ALL CUTTING AND PATCHING REQUIRED TO INSTALL ANY PORTION OF THIS WORK. PATCH NEW MATERIALS OF THE SAME TYPE THAT WAS REMOVED. REFINISH PATCHED SURFACE TO MATCH EXISTING ADJACENT SURFACES.
3. ALL EXISTING WASTE, VENT, AND WATER PIPING IN WALLS TO BE DEMOLISHED, AS SHOWN ON PLUMBING PLANS, SHALL BE REMOVED WHETHER OR NOT SPECIFICALLY SHOWN. PIPING SHALL BE REMOVED BACK TO THE NEAREST REMAINING MAIN OR VALVE AND CAPPED, UNLESS OTHERWISE NOTED ON DRAWINGS. WHERE PIPES TO BE REMOVED PENETRATE FLOORS, WALLS OR OTHER FINISHED SURFACES, THEY SHALL BE REMOVED PAST THE FINISHED SURFACES TO ALLOW FOR PATCHING THE SURFACE ON BOTH SIDES (IF APPLICABLE).

PART II - MATERIALS

1. UNDERGROUND SANITARY SEWER AND STORM DRAIN PIPING: PVC PLASTIC DWV PIPE, PVC SOCKET-TYPE DRAIN, WASTE AND VENT PIPE PATTERNS FITTINGS WITH SOLVENT-CEMENTED JOINTS.
2. ABOVE GROUND SANITARY SEWER, STORM DRAIN AND VENT PIPING: PVC PLASTIC DWV PIPE, PVC SOCKET-TYPE DRAIN, WASTE AND VENT PIPE PATTERNS FITTINGS WITH SOLVENT-CEMENTED JOINTS. INSULATE STORM DRAIN WITH 1" CELLULAR FOAM INSULATION.
3. UNDERGROUND WATER PIPING 2" AND LARGER: SCHEDULE 40 PVC PLASTIC WATER PIPE AND FITTINGS WITH SOLVENT-CEMENTED JOINTS.
4. UNDERGROUND WATER PIPING 2" AND SMALLER: TYPE "K" SOFT COPPER TUBE, CAST-COPPER ALLOY SOLDER-JOINT PRESSURE FITTINGS AND SOLDERED JOINTS WITH ALLOY 50/50 SOLDER.
5. ABOVE GROUND WATER PIPING 2" AND LARGER: FLANGED DUCTILE-IRON PIPE, FLANGED DUCTILE-IRON OR GRAY-IRON FITTINGS AND FLANGED JOINTS.
6. ABOVE GROUND WATER PIPING 2" AND SMALLER: TYPE "L" HARD COPPER TUBE WITH WROUGHT COPPER OR CAST-COPPER FITTINGS AND SOLDERED JOINTS WITH ALLOY 50/50 SOLDER.
7. GAS PIPING: ASTM A53, TYPE E, ELECTRIC RESISTANCE WELDED OR TYPE S, SEAMLESS, GRADE B, SCHEDULE 40 BLACK STEEL, ASME B16.3 CLASS 150 MALLEABLE IRON FITTINGS, STANDARD PATTERN WITH THREADS CONFORMING TO ASME B1.20.1.
8. INSULATE DOMESTIC HOT AND COLD WATER PIPING WITH 1" FIBERGLASS WITH ALL-PURPOSE JACKET, SEAL ALL JOINTS. INSULATE FITTINGS WITH METRETEG SEGMENTS AND VAPOR SEALS. INSULATE HOT AND COLD WATER AND DRAINAGE PIPES ON PLUMBING FIXTURES DESIGNATED AT HANDICAPPED WITH PRE-FORMED INSULATION KITS AS INDICATED.
9. PLUMBING FIXTURES: REFER TO PLUMBING FIXTURES SCHEDULE ON DRAWINGS FOR LIST OF PLUMBING FIXTURES.
10. MEDICAL GAS AND REFRIGERANT PIPING: ASTM88, "AC" HARD-DRAWN TEMPERED COPPER TUBE, CLEANED FOR MEDICAL GAS USE, PURGED, AND WITH ENDS SEALED. ASME B16.22, WROUGHT COPPER FITTINGS WITH BRAZED SOLDER JOINTS, AWS A5 COPPER-PHOSPHORUS BRAZING FILLER MATERIALS, INSULATE REFRIGERANT SECTION LINE WITH 1/2" THICK CELLULAR FOAM INSULATION.
11. SPRINKLER PIPING: ASTM A120 SEAMLESS BLACK STEEL PIPE, ANSI B16.4, CLASS 125 1/2" THROUGH CAST-IRON FITTINGS, PIPING AND INSTALLATION TO CONFORM WITH REQUIREMENTS OF NFPA11.

PART III - EXECUTION

1. TEST ALL PLUMBING PIPES AS REQUIRED BY STATE, CITY OF LOCAL CODES AND ORDINANCES.
2. DISCONNECT THE ENTIRE WATER SUPPLY SYSTEM, FILLING WITH A SOLUTION OF 50 PPM CHLORINE AND ALLOW TO STAND FOR A MINIMUM OF 4 HOURS BEFORE FLUSHING AND RETURNING TO SERVICE.

SECTION 23100: HVAC EQUIPMENT AND SYSTEMS

PART 1 - GENERAL

1. UNLESS NOTED OTHERWISE, THIS CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS AND EQUIPMENT FOR THE INSTALLATION OF A COMPLETE AND ACCEPTABLE OPERATING HEATING AND AIR CONDITIONING SYSTEM.
2. HVAC CONTRACTOR SHALL VISIT THE SITE PRIOR TO SUBMISSION OF BID AND FULLY ACQUAINT HIMSELF WITH ALL OF THE EXISTING CONDITIONS RELATED TO HIS WORK AND SHALL INCLUDE (UNLESS NOTED OTHERWISE) IN HIS BASE BID ALL WORK REQUIRED DUE TO CONFLICTS AND/OR DISCREPANCIES BETWEEN THE DRAWINGS AND THE FIELD CONDITIONS TO ACHIEVE INTENDED DESIGN.
3. THIS CONTRACTOR SHALL DO ALL CUTTING AND PATCHING REQUIRED TO INSTALL ANY PORTION OF THIS WORK. PATCH NEW MATERIALS OF THE SAME TYPE THAT WAS REMOVED. REFINISH PATCHED SURFACE TO MATCH EXISTING ADJACENT SURFACES.
4. DUCTWORK SHOWN ON PLANS TO BE DEMOLISHED SHALL BE REMOVED AND DISPOSED OF. DUCTWORK SHALL BE REMOVED BACK TO MAIN TRUNK, UNLESS OTHERWISE NOTED ON DRAWINGS. DUCT TAPS TO TRUNK DUCTS SHALL BE CAPPED WITH SHEET METAL CAPS AND SEALED. WHERE DUCTS TO BE REMOVED PENETRATE FLOORS, WALLS OR OTHER FINISHED SURFACES, THEY SHALL BE REMOVED PAST THE FINISHED SURFACES TO ALLOW FOR PATCHING THE SURFACE ON BOTH SIDES (IF APPLICABLE).
5. PROVIDE THE FOLLOWING EQUIPMENT WITH WARRANTIES IN ADDITION TO THE GENERAL ONE-YEAR WARRANTY PROVIDED IN SECTION 22000 & 23000.

- AIR CONDITIONING COMPRESSORS: 5 YEARS
- HEAT EXCHANGERS: 25 YEARS
- WATER HEATER TANKS: 10 YEARS

PART II - MATERIALS

1. DUCTWORK: CONSTRUCT ALL DUCTS OF THE GAUGE SHEET METAL FOR INDICATED SIZES IN ACCORDANCE WITH APPROPRIATE SMACNA STANDARDS. EXTEND DUCTWORK SUBSTANTIALLY AS SHOWN ON THESE DRAWINGS. PROVIDE TURNING VANES IN ALL ELBOWS. INSTALL ADJUSTABLE QUADRANT DAMPERS IN ALL BRANCH DUCTS. SEAL ALL DUCTWORK IN ACCORDANCE WITH SMACNA STANDARDS SHOWN IN "A" AND "B" (E.G., SEAL CLASS "B" - LESS THAN 1" - SEAL CLASS "C" - FLEXIBLE DUCTS USE FOR RUN-UPS TO DIFFUSER, WHERE INDICATED, SHALL NOT EXCEED 6'-0" IN LENGTH).
2. DUCTWORK INSULATION: SPLY, RETURN, OUTSIDE (FRESH) AND EXHAUST AIR DUCTWORK SHALL BE LINED WITH 2 PCF DENSITY, 1/2" GLASS FIBER FLEXIBLE DUCT LINER WITH BLACK MAT FACING, UNLESS OTHERWISE INDICATED. DUCT SIZES SHOWN ON THE DRAWINGS ARE SHEET METAL SIZES. AN ALLOWANCE HAS BEEN MADE FOR LINER THICKNESS.
3. PROVIDE AND INSTALL THE AIR OUTLET DEVICES INDICATED ON THE PLANS, DIFFUSER, REGISTER AND GRILLE COLOR TO MATCH THAT OF THE CEILING GRID. REFER TO DIFFUSER, REGISTER, AND GRILLE SCHEDULE AND PLANS FOR SIZES, MANUFACTURER, MODEL # AND CFM REQUIREMENTS.
4. FURNISH AND INSTALL EXHAUST FANS OF THE TYPE SCHEDULED AND WHERE INDICATED ON THE PLANS. REFER TO EXHAUST FAN SCHEDULE FOR SPECIFICATIONS.

PART III - EXECUTION

1. WHEN THE WORK HAS BEEN COMPLETED, BALANCE THE AIR DELIVERIES FROM EACH DIFFUSER AND REGISTER IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE DIFFUSER MANUFACTURER, SETTING DAMPERS, CONTROLS AND OTHER VOLUME CONTROL DEVICE IN SUCH A MANNER AS TO PROVIDE THE AIR VOLUME DELIVERIES SHOWN ON THE DRAWINGS.

SECTION 23200: CONTROLS

PART 1 - GENERAL

1. ALL EXISTING ELECTRICAL EQUIPMENT, DEVICES, WIRE AND/OR CONDUIT IN WALLS TO BE DEMOLISHED, AS SHOWN ON ARCHITECTURAL PLANS, SHALL BE REMOVED WHETHER OR NOT SPECIFICALLY SHOWN. CONDUIT AND WIRING SHALL BE REMOVED BACK TO THE NEAREST REMAINING JUNCTION BOX OR PANEL. KEEP EXISTING CIRCUITS IN OPERATION WHERE POSSIBLE.

1. ALL CONTROL AND INTERLOCK WIRING SHALL BE DONE BY RACKERS CONTROL COMPANY, CONTACT LOGAN RACKERS AT DEMAILL AT RACKERS@RACKERSCONTROL.CO.COM.

PART II - MATERIALS

1. CONTRACTOR SHALL PROVIDE AND INSTALL HONEYWELL SPYDER OR OPTIMIZER BUILDING AUTOMATION SYSTEM TO COMMUNICATE WITH ITC BACKUP CONTROLS.
2. WHERE INDICATED, PROVIDE SMOKE DETECTOR WIRE TO AUTOMATICALLY SHUT DOWN THE UNIT WHEN ACTIVATED. INSTALL THE RETURN AIR DUCT IN ACCORDANCE WITH LOCAL CODE.

PART III - EXECUTION

1. THE INSTALL COMMUNICATE WITH THE IRTUS TO PERFORM A STANDARD VAV SEQUENCE OF OPERATION.
2. AFTER COMPLETION OF THE CONTROL SYSTEM INSTALLATION, THE CONTRACTOR SHALL REGULATE AND ADJUST ALL THERMOSTATS, DAMPER MOTORS, ETC. AND PLACE IN COMPLETE OPERATING CONDITION. COMPLETE OPERATING INSTRUCTIONS SHALL BE GIVEN TO THE OWNER'S REPRESENTATIVE. THESE INSTRUCTIONS SHALL TAKE PLACE AFTER ALL SYSTEMS HAVE BEEN CHECKED OUT AND ARE PROPERLY OPERATING.

DIVISION 26

SECTION 26000: GENERAL ELECTRICAL REQUIREMENTS

PART 1 - GENERAL

1. THE GENERAL CONDITIONS OF THE CONTRACTS, CURRENT EDITION PUBLISHED IN STANDARD FORM BY AMERICAN INSTITUTE OF ARCHITECTS, SHALL BE PART OF THIS CONTRACT.
2. THE ARTICLES CONTAINED IN THIS DIVISION AND THE ARCHITECTURAL SPECIFICATIONS MAY AMEND, MODIFY, SUPSEDE, VOID OR SUPPLEMENT THE ARTICLES OF THE GENERAL CONDITIONS NOTED IN PARAGRAPH (1) ABOVE, AND SHALL TAKE PRECEDENCE OVER THE PROVISIONS OF THE GENERAL CONDITIONS NOTED IN 3.
3. REFER TO THE ARCHITECTURAL, STRUCTURAL, MECHANICAL AND ELECTRICAL PLANS AND SPECIFICATIONS WHICH ARE HEREBY MADE PART OF THE CONTRACT.
4. PROVIDE ALL WORK AND MATERIALS AS REQUIRED HEREIN AND ON THE DRAWINGS IN FULL ACCORDANCE WITH NATIONAL, STATE, AND LOCAL CODES, ORDINANCES AND/OR REGULATIONS HAVING JURISDICTION OVER THIS WORK.
5. THE CONTRACTOR SHALL TAKE OUT ALL NECESSARY PERMITS, LICENSES AND CERTIFICATES AND PAY ALL FEES CONNECTED THEREWITH.
6. THE CONTRACTOR SHALL INCLUDE ALL TAP FEES AND OTHER UTILITY INSTALLATION COSTS REQUIRED TO BRING UTILITIES TO THE BUILDING.
7. BIDDER SHALL VISIT THE SITE AND FAMILIARIZE THEMSELVES WITH ALL CONDITIONS SURROUNDING THE WORK SO THAT ANY DISCREPANCIES BETWEEN THE PLANS AND THE SITE ARE INCLUDED IN THE BID.
8. DRAWINGS ARE DIAGRAMMATIC AND INTENDED TO SHOW APPROXIMATE LOCATIONS UNLESS SPECIFICALLY DIMENSIONED. COORDINATE ALL PIPING RUNS WITH THE WORK OF OTHER CONTRACTORS.
9. ALL WORK SHALL BE COORDINATED WITH WORK OF OTHER TRADERS PRIOR TO INSTALLATION TO AVOID INTERFERENCES. SUBMISSION OF SHOP DRAWINGS WITH THE COMMENCEMENT OF THE INSTALLATION WORK IMPLIES THAT THIS SATISFACTORY COORDINATION HAS TAKEN PLACE. THEREAFTER, ANY COSTS FOR MODIFICATION DUE TO INTERFERENCES SHALL BE BORNE BY THE CONTRACTOR.
10. SUBMIT SHOP DRAWINGS FOR SUCH EQUIPMENT AND MATERIAL AS THE ENGINEER MAY REQUIRE FOR HIS REVIEW. ENGINEER'S REVIEW MUST TAKE PLACE BEFORE CONSTRUCTION BEGINS.
11. CONTRACTOR SHALL SUBMIT REQUESTS FOR SUBSTITUTIONS IN WRITING TO THE ENGINEER.
12. "RECORD" DRAWINGS SHALL BE PROVIDED BY THE CONTRACTOR IF INSTALLATION DEVIATES FROM THE ORIGINAL LAYOUT.
13. THE CONTRACTOR SHALL GUARANTEE ALL MATERIALS, EQUIPMENT, AND WORKMANSHIP FOR A PERIOD OF (1) YEAR AFTER THE FINAL ACCEPTANCE BY THE ARCHITECT, AND HE SHALL REPLACE AT HIS OWN COST ANY DEFECTIVE MATERIALS, EQUIPMENT OR WORKMANSHIP WHICH SHALL PROVE TO BE DEFECTIVE WITHIN THE GUARANTEED PERIOD.
14. THE CONTRACTOR SHALL MAINTAIN A CAREFUL AND COMPLETE RECORD OF ALL ITEMS INSTALLED INCLUDING EXACT SIZES AND LOCATIONS AND UPON COMPLETION OF HIS WORK TURN OVER TO THE OWNER, A COMPLETE SET OF "AS-BUILT" REPRODUCIBLE DRAWINGS ON MYLAR OF HIS WORK.
15. THIS CONTRACTOR SHALL DO ALL CUTTING AND PATCHING REQUIRED TO INSTALL ANY PORTION OF THIS WORK. PATCH WITH NEW MATERIALS OF THE SAME TYPE THAT WAS REMOVED. REFINISH PATCHED SURFACE TO MATCH EXISTING ADJACENT SURFACES.
16. THE ENTIRE INSTALLATION SHALL BE PERFORMED BY LICENSED CONTRACTORS.
17. NO INTERRUPTION OF BUILDING FUNCTIONS OR ELECTRIC SERVICE SHALL BE PERMITTED WITHOUT APPROVAL OF THE OWNER.
18. ELECTRICAL WORK SHALL NOT INTERFERE WITH CLEARANCES REQUIRED FOR GENERAL AND MECHANICAL CONSTRUCTION. SHOULD ELECTRICAL WORK BE INSTALLED AND THAT WORK INTERFERES WITH THE WORK OF THE OTHER CONTRACTORS, SUCH WORK SHALL BE CHANGED AT NO ADDITIONAL COST TO THE OWNER.
19. VERIFY FINAL LOCATIONS FOR ROUGH-INS WITH FIELD MEASUREMENTS AND WITH THE REQUIREMENTS OF THE ACTUAL EQUIPMENT TO BE CONNECTED.
20. REFER TO EQUIPMENT SPECIFICATIONS FOR ROUGH-IN REQUIREMENTS.
21. COORDINATE ELECTRICAL SYSTEMS, EQUIPMENT, AND MATERIALS INSTALLATION WITH OTHER BUILDING COMPONENTS.
22. VERIFY ALL DIMENSIONS BY FIELD MEASUREMENTS.
23. ARRANGE FOR CHASES, SLOTS, AND OPENINGS IN OTHER BUILDING COMPONENTS DURING PROGRESS OF CONSTRUCTION, TO ALLOW FOR ELECTRICAL INSTALLATIONS.
24. COORDINATE THE INSTALLATION OF REQUIRED SUPPORTING DEVICES AND SLEEVES TO BE SET IN POUR-IN-PLACE CONCRETE AND OTHER STRUCTURAL COMPONENTS, AS THEY ARE CONSTRUCTED.
25. SEQUENCE, COORDINATE, AND INTEGRATE INSTALLATIONS OF ELECTRICAL MATERIALS AND EQUIPMENT FOR EFFICIENT FLOW OF THE WORK. GIVE PARTICULAR ATTENTION TO LARGE EQUIPMENT REQUIRING POSITIONING PRIOR TO CLOSING IN THE BUILDING.
26. WHERE MOUNTING HEIGHTS ARE NOT DETAILED OR DIMENSIONED, INSTALL SYSTEMS, MATERIALS, AND EQUIPMENT TO PROVIDE THE MAXIMUM HEADROOM POSSIBLE.
27. COORDINATE CONNECTION OF ELECTRICAL SYSTEMS WITH EXTERIOR UNDERGROUND AND OVERHEAD UTILITIES AND SERVICES. COMPLY WITH REQUIREMENTS OF GOVERNING REGULATIONS, FRANCHISED SERVICE COMPANIES, AND CONTROLLING AGENCIES. PROVIDE REQUIRED CONNECTION FOR EACH SERVICE.
28. ALL EXISTING ELECTRICAL EQUIPMENT, DEVICES, WIRE AND/OR CONDUIT IN WALLS TO BE DEMOLISHED, AS SHOWN ON ARCHITECTURAL PLANS, SHALL BE REMOVED WHETHER OR NOT SPECIFICALLY SHOWN. CONDUIT AND WIRING SHALL BE REMOVED BACK TO THE NEAREST REMAINING JUNCTION BOX OR PANEL. KEEP EXISTING CIRCUITS IN OPERATION WHERE POSSIBLE.

PART II - MATERIALS - NOT APPLICABLE

1. INSTALL SYSTEMS, MATERIALS, AND EQUIPMENT TO CONFORM WITH APPROVED SUBMITTAL DATA, INCLUDING COORDINATION DRAWINGS, TO GREATEST EXTENT POSSIBLE, CONFORM TO ARRANGEMENTS INDICATED BY THE CONTRACT DOCUMENTS. RECOGNIZING THAT PORTIONS OF THE WORK ARE SHOWN ONLY IN DIAGRAMMATIC FORM, WHERE COORDINATION REQUIREMENTS CONFLICT WITH INDIVIDUAL SYSTEM REQUIREMENTS, REFER CONTACT TO THE ARCHITECT.
2. INSTALL SYSTEMS, MATERIALS AND EQUIPMENT LEVEL AND PLUMB, PARALLEL AND PERPENDICULAR TO OTHER BUILDING SYSTEMS AND COMPONENTS, WHERE INSTALLED EXPOSED IN FINISHED SPACES.
3. INSTALL ELECTRICAL EQUIPMENT TO FACILITATE SERVICING, MAINTENANCE, AND REPAIR OR REPLACEMENT OF EQUIPMENT COMPONENTS. AS MUCH AS PRACTICAL, CONNECT EQUIPMENT FOR EASE OF DISCONNECTING WITH MINIMUM OF INTERFERENCE WITH OTHER INSTALLATIONS.
4. INSTALL ACCESS PANEL OR DOORS WHERE UNITS ARE CONCEALED BEHIND FINISHED SURFACES.
5. INSTALL SYSTEMS, MATERIALS, AND EQUIPMENT GIVING RIGHT-OF-WAY PRIORITY TO SYSTEMS REQUIRED TO BE INSTALLED AT A SPECIFIED SLOPE.
6. AT THE COMPLETION OF THE WORK, THIS CONTRACTOR SHALL REMOVE ALL RUBBISH, DIRT AND STAINS CAUSED BY HIS WORK AND SHALL THOROUGHLY CLEAN ALL EQUIPMENT, FIXTURES, PIPING, ETC.
7. TOUCH UP OR REFINISH THE FACTORY FINISH OR EQUIPMENT MARKED DURING SHIPMENT OR INSTALLATION.

SECTION 26100: ELECTRICAL EQUIPMENT AND MATERIALS

PART 1 - GENERAL - NOT APPLICABLE

PART II - MATERIALS

1. ALL ELECTRICAL EQUIPMENT SHALL BE SPECIFICATION GRADE AND UL APPROVED UNLESS SPECIFIED OTHERWISE.
2. WIRING DEVICES SHALL MEET NEMA PERFORMANCE STANDARDS W2-2 AND W0-6, ANSI AND UL 499 AND COMPLY WITH FEDERAL SPECIFICATION W-596. MINIMUM SIZE OF OUTLET BOXES SHALL BE 4" TRADE.
3. ALL CONDUCTOR SHALL BE COPPER, 400 VOLT, THIN; 1/2" MINIMUM SIZE. ALUMINUM WIRE SHALL NOT BE PERMITTED.
4. CONDUIT AND TUBING: RIGID METAL CONDUIT: ANSI C80.1 ELECTRICAL METALLIC TUBING AND FITTINGS: ANSI C83 WITH SET-SCREW OR COMPRESSION-TYPE FITTINGS. FLEXIBLE METAL CONDUIT: ZINC-COATED STEEL. LIQUIDTIGHT FLEXIBLE METAL CONDUIT: FLEXIBLE STEEL CONDUIT WITH PVC JACKET. FITTINGS: NEMA FB 1, COMPATIBLE WITH CONDUIT/TUBING MATERIALS. ELECTRICAL NONMETALLIC TUBING (ENT): NEMA TC 13. RIGID NONMETALLIC CONDUIT (RNC): NEMA E121 AND 3-WAY SWITCHES SHALL BE E121. RECEPTACLES SHALL BE IVORY COLOR 20 AMP GROUNDING TYPE E532. WALL PLATES SHALL BE IVORY COLORED. (UNLESS OTHERWISE NOTED.)
5. FUSES SHALL BE BRISMAN "LOW PEAK" DUAL ELEMENT, CLASS RK1.
6. LIGHT FIXTURES: REFER TO LIGHT FIXTURE SCHEDULE FOR LIST OF LIGHT FIXTURES.

PART III - EXECUTION

1. GROUNDING SHALL COMPLY WITH THE CODE AND REQUIREMENTS OF THE POWER COMPANY SERVICING THE PROJECT.
2. ALL ITEMS OF ELECTRICAL EQUIPMENT ASSOCIATED WITH THE CONTROL OF ELECTRICAL APPARATUS SHALL BE IDENTIFIED WITH ENGRAVED PHENOLIC NAMEPLATES.
3. AT THE COMPLETION OF THE WORK, THIS CONTRACTOR SHALL REMOVE ALL RUBBISH, DIRT AND STAINS CAUSED BY HIS WORK AND SHALL THOROUGHLY CLEAN ALL EQUIPMENT, FIXTURES, PIPING, ETC.
4. ALL 120V 20A LIGHTING AND RECEPTACLE CIRCUITS REQUIRING MORE THAN 100' OF CONDUCTORS (ONE-WAY) SHALL BE #10 CONDUCTORS.
5. ALL ELECTRICAL WIRING MUST BE RUN IN CONDUIT APPLIED AS FOLLOWS:
  - A. MINIMUM CONDUIT SIZE: 1/2"
  - B. UNDERGROUND: RIGID NON-METALLIC CONDUIT AND FITTINGS.
  - C. EXTERIOR AND INTERIOR WHERE EXPOSED TO DAMAGE: RIGID METALLIC CONDUIT AND FITTINGS.
  - D. INTERIOR EXCEPT AS OTHERWISE NOTED: ELECTRICAL METALLIC TUBING AND FITTINGS.
  - E. EXTERIOR CONNECTION TO VIBRATING EQUIPMENT: LIQUIDTIGHT FLEXIBLE METAL CONDUIT AND FITTINGS.
  - F. INTERIOR CONNECTION TO VIBRATING EQUIPMENT AND LIGHT FIXTURES: FLEXIBLE METAL CONDUIT AND FITTINGS.
5. NO CONDUITS ARE TO BE RUN IN OR SUPPORTED BY DUCTWORK. A PULL WIRE SHALL BE INSTALLED IN ALL EMPTTY CONDUITS.
6. ALL CONDUITS THROUGH ROOF SHALL PENETRATE ROOF USING PROPER APPROVED ROOF FLASHING. FLEXIBLE CONDUIT CAN ONLY BE USED FOR SHORT FAN CONNECTIONS TO OTHER INTERIOR LIGHTING FIXTURES AND EQUIPMENT.
8. ALL ELECTRICAL EQUIPMENT AND CONDUIT EXPOSED TO WEATHER SHALL BE WEATHERPROOF.
9. PROVIDE TYPEWRITTEN IDENT CARDS FOR ALL PANELS.
10. PROVIDE ALL ELECTRICAL PANELS, DISCONNECT SWITCHES AND TIME CLOCKS WITH 1/2" LAMINATED PLASTIC NAMEPLATE.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPERLY BALANCING ALL BRANCH CIRCUITS AMONG THE PHASES OF THE SYSTEM.
12. TELEPHONE AND DATA OUTLETS SHALL INCLUDE SINGLE-GANG BOX WITH 3/4" EMPTTY CONDUIT ROUTED TO ABOVE ACCESSIBLE CEILING. FACE PLATES, WIRING AND CONNECTIONS BY OTHERS.
13. BEFORE COVERING OR FINISHING THE WORK, THE CONTRACTOR SHALL TEST HIS WIRING SYSTEMS AS REQUIRED BY APPLICABLE CODES OR REGULATIONS OR WHERE NONE SUCH EXIST, AS REQUIRED BY THE ARCHITECT.
14. INSTALL DEVICES AT THE FOLLOWING CENTER LINE HEIGHTS UNLESS OTHERWISE INDICATED:
  - RECEPTACLES - 18" A.F.F.
  - SWITCHES - 48" A.F.F.
  - WALL PHONES - 60" A.F.F.
  - PHONE/DATA - 18" A.F.F.
  - DEVICES ABOVE COUNTERTOPS - 6" ABOVE COUNTERTOP OR AS OTHERWISE INDICATED.



**MMEA**  
ENGINEERS

MID MO ENGINEERING  
ALLIANCE, INC  
203 EASTLAND DRIVE  
JEFFERSON CITY,  
MISSOURI 65001  
Phone: 673-636-2116

Design Firm Registration #020805002

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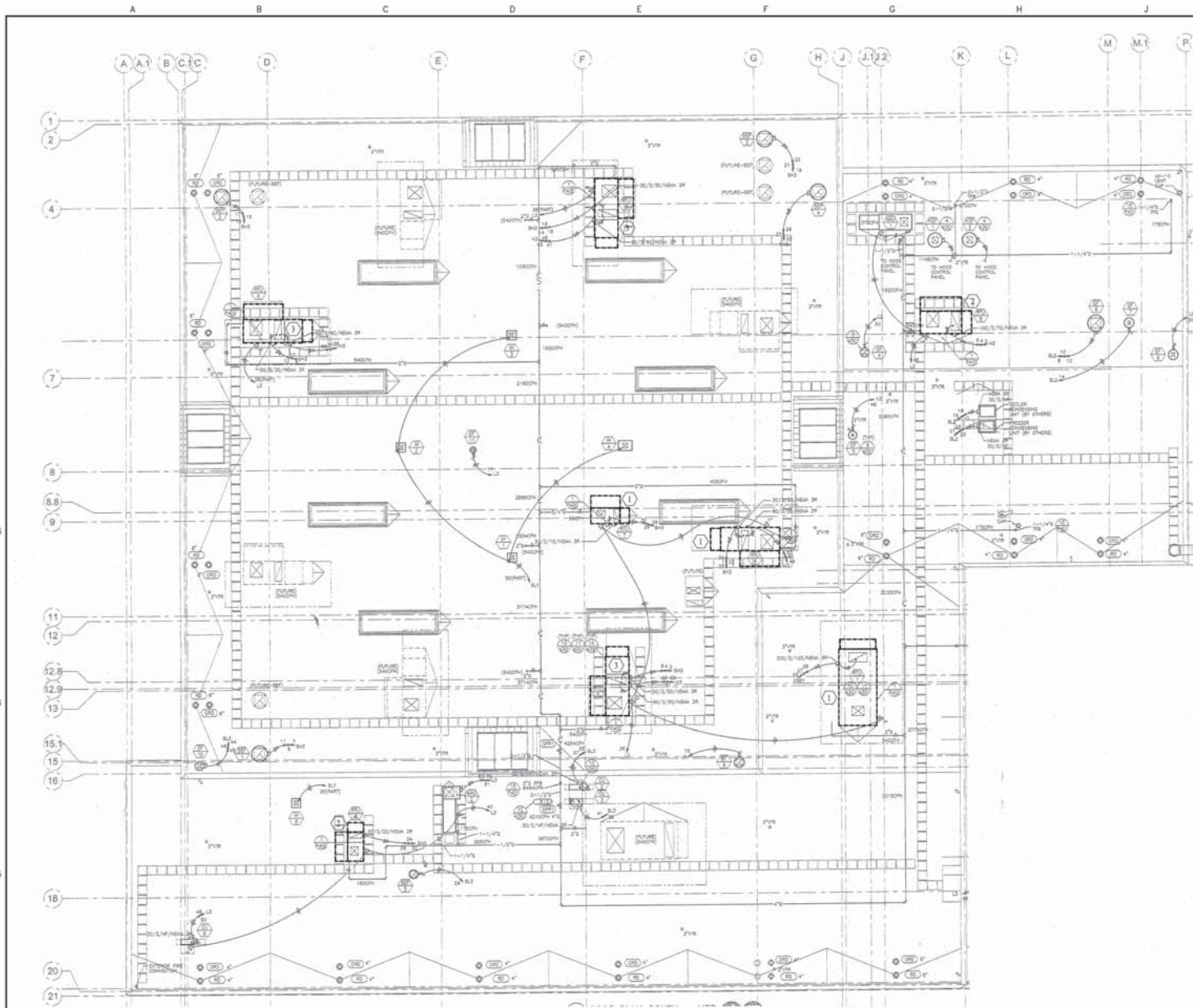
COLE COUNTY  
LAW ENFORCEMENT CENTER  
ROOFTOP HVAC REPLACEMENT  
350 EAST HIGH STREET  
JEFFERSON CITY, MISSOURI 65001

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project 13030



**GENERAL NOTES:**

1. DRAWINGS (PLANS, DETAILS AND SCHEMATICS ARE DIAGRAMMATIC IN NATURE AND INDICATE GENERAL LOCATION AND ARRANGEMENT OF NEW AND EXISTING MAJOR EQUIPMENT AND PIPING SYSTEMS. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING EXACT LOCATIONS AND DIMENSIONS OF ALL EQUIPMENT, PIPING AND PIPING COMPONENTS. CONTRACTOR IS ALSO RESPONSIBLE FOR FINAL TIE-IN POINT LOCATIONS BETWEEN NEW AND EXISTING PIPING SYSTEMS EQUIPMENT AND UTILITIES.
2. UNLESS OTHERWISE NOTED EXISTING SHOWN IN FADE-AWAY PEN, NEW, RELOCATED OR DEMOLITION ITEMS SHOWN IN DARK HEAVY PEN.
3. MATERIAL EXPOSED WITHIN THE RETURN AIR PLENUM SHALL BE NON-COMBUSTIBLE OR SHALL HAVE A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE DEVELOPMENT INDEX OF NOT MORE THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM E84.

**KEYED NOTES:**

- ① REMOVE EXISTING ROOF TOP UNIT, ASSOCIATED CONTROLS, AND WIRING. RETAIN EXISTING CONDUIT AND CONDUCTORS FOR REUSE WITH NEW ROOF TOP UNIT. EXISTING SUPPLY/RETURN DUCTWORK TO REMAIN. EXISTING GAS LINE FROM MAIN TO REMAIN FOR REUSE WITH NEW ROOF TOP UNIT. EXISTING CONDUIT, CONDUCTORS, AND WP OUTLET ON ROOF TOP UNIT TO REMAIN AND BE MOUNTED ON NEW ROOF TOP UNIT.
- ② REMOVE EXISTING ROOF TOP UNIT, ASSOCIATED CONTROLS, WIRING, CONDUIT AND CONDUCTORS BACK TO PANEL. EXISTING SUPPLY/RETURN DUCTWORK TO REMAIN. EXISTING GAS LINE FROM MAIN TO REMAIN FOR REUSE WITH NEW ROOF TOP UNIT. EXISTING CONDUIT, CONDUCTORS, AND WP OUTLET ON ROOF TOP UNIT TO REMAIN AND BE MOUNTED ON NEW ROOF TOP UNIT.
- ③ REMOVE EXISTING ROOF TOP UNIT, ASSOCIATED CONTROLS, EXISTING CONDUIT AND CONDUCTORS OF 30A & 40A CIRCUITS & EXISTING SUPPLY/RETURN DUCTWORK TO REMAIN. EXISTING GAS LINE FROM MAIN TO REMAIN FOR REUSE WITH NEW ROOF TOP UNIT. EXISTING CONDUIT, CONDUCTORS, AND WP OUTLET ON ROOF TOP UNIT TO REMAIN AND BE MOUNTED ON NEW ROOF TOP UNIT.



**MID MO ENGINEERING ALLIANCE, INC**  
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**COLE COUNTY  
 LAW ENFORCEMENT CENTER  
 ROOFTOP HVAC REPLACEMENT**  
 350 EAST HIGH STREET  
 JEFFERSON CITY, MISSOURI 65101

DATE 12-22-23  
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**ME1.1**

project 23030

**MEP DEMOLITION  
 SOUTH ROOF PLAN**  
 SCALE: 3/32"=1'-0"



01

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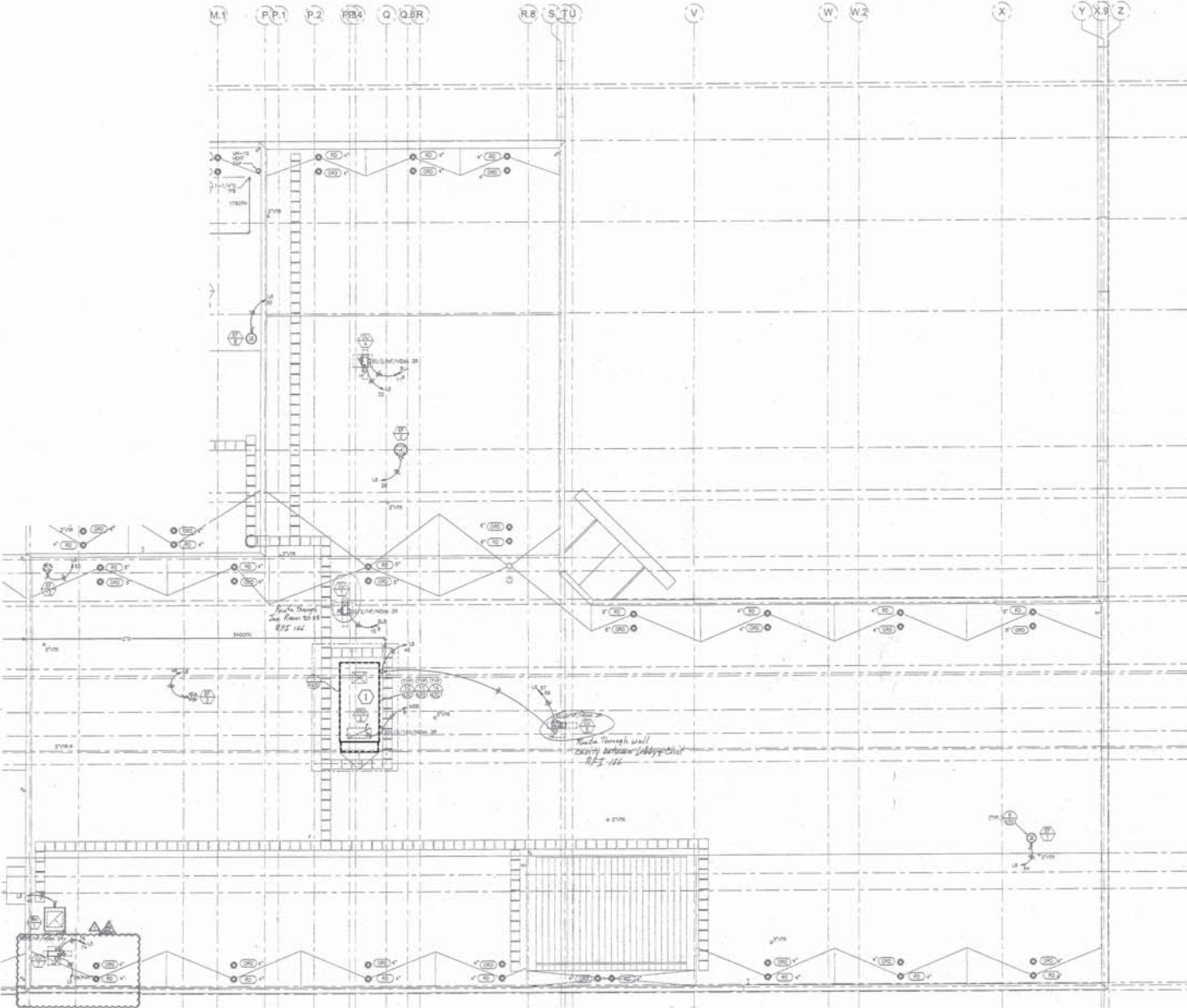
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**GENERAL NOTES:**

1. DRAWINGS (PLANS, DETAILS AND SCHEMATICS ARE DIAGRAMMATIC IN NATURE AND INDICATE GENERAL LOCATION AND ARRANGEMENT OF NEW AND EXISTING MAJOR EQUIPMENT AND PIPING SYSTEMS. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING EXACT LOCATIONS AND DIMENSIONS OF ALL EQUIPMENT, PIPING AND PIPING COMPONENTS. CONTRACTOR IS ALSO RESPONSIBLE FOR FINAL TIE-IN POINT LOCATIONS BETWEEN NEW AND EXISTING PIPING SYSTEMS EQUIPMENT AND UTILITIES.
2. UNLESS OTHERWISE NOTED EXISTING SHOWN IN FADE-AWAY PEN, NEW, RELOCATED OR DEMOLITION ITEMS SHOWN IN DARK HEAVY PEN.
3. MATERIAL EXPOSED WITHIN THE RETURN AIR PLENUM SHALL BE NONCOMBUSTIBLE OR SHALL HAVE A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE DEVELOPMENT INDEX OF NOT MORE THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM E84.

**KEYED NOTES:**

- ① REMOVE EXISTING ROOF TOP UNIT, ASSOCIATED CONTROLS AND WIRING. RETAIN EXISTING CONDUIT AND CONDUCTORS FOR REUSE WITH NEW ROOF TOP UNIT. EXISTING SUPPLY/RETURN DUCTWORK TO REMAIN. EXISTING GAS LINE FROM MAIN TO REMAIN FOR REUSE WITH NEW ROOF TOP UNIT. EXISTING CONDUIT, CONDUCTORS, AND WP OUTLET ON ROOF TOP UNIT TO REMAIN AND BE MOUNTED ON NEW ROOF TOP UNIT.



01 MEP DEMOLITION  
NORTH ROOF PLAN  
SCALE: 3/32"=1'-0"



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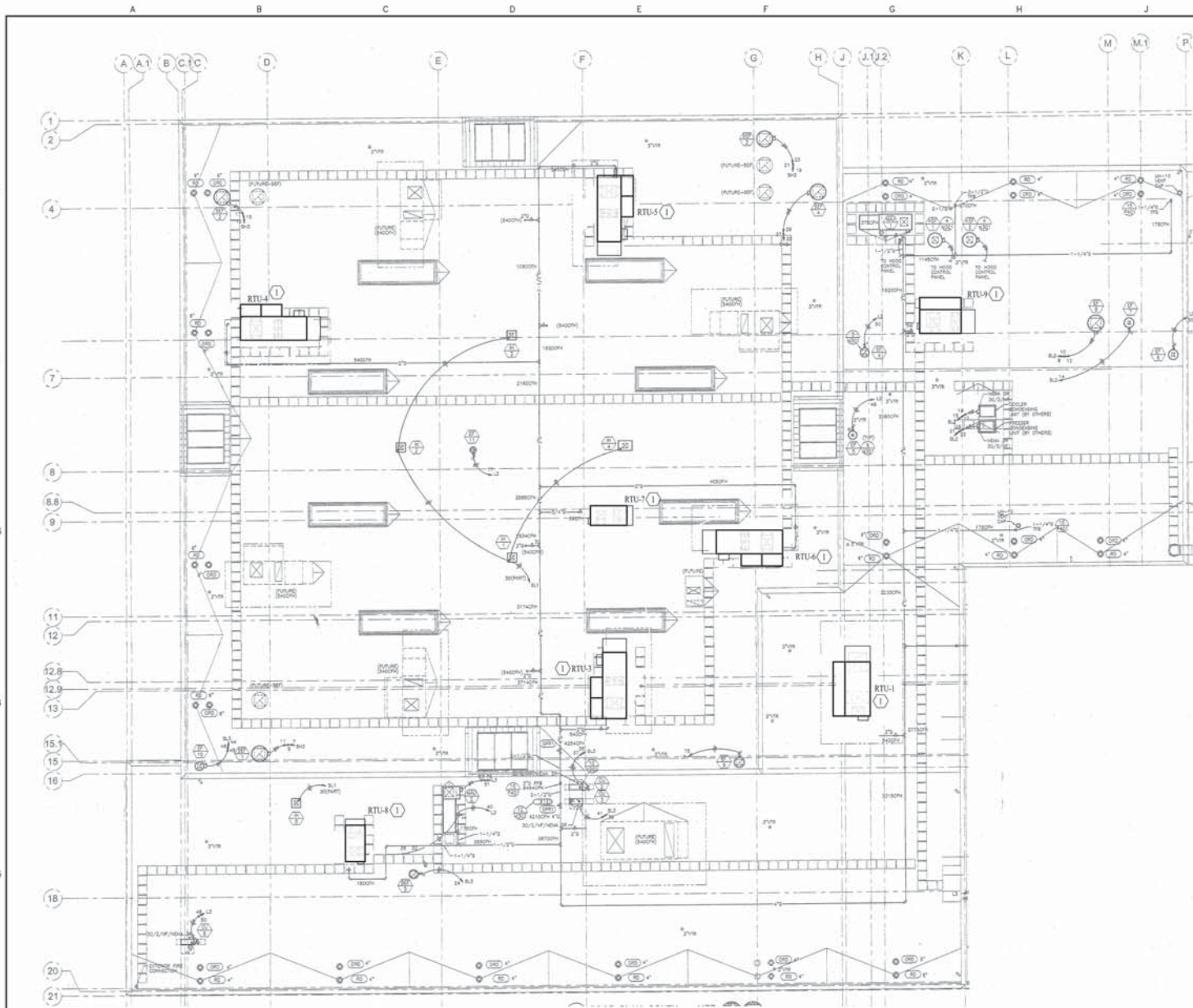
COLE COUNTY  
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ROOFTOP HVAC REPLACEMENT  
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**GENERAL NOTES:**

1. DRAWINGS (PLANS, DETAILS AND SCHEMATICS ARE DIAGRAMMATIC IN NATURE AND INDICATE GENERAL LOCATION AND ARRANGEMENT OF NEW AND EXISTING MAJOR EQUIPMENT AND PIPING SYSTEMS. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING EXACT LOCATIONS AND DIMENSIONS OF ALL EQUIPMENT, PIPING AND PIPING COMPONENTS. CONTRACTOR IS ALSO RESPONSIBLE FOR FINAL TIE-IN POINT LOCATIONS BETWEEN NEW AND EXISTING PIPING SYSTEMS EQUIPMENT AND UTILITIES.
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**KEYED NOTES:**

- ① CONNECT BACK INTO EXISTING SUPPLY AND RETURN DUCTWORK. PROVIDE NEW THERMOSTAT IN SPACE. CONNECT BACK TO EXISTING GAS LINE WITH LIKE SIZE.



**MID MO ENGINEERING ALLIANCE, INC**  
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**COLE COUNTY  
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 350 EAST HIGH STREET  
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**01 HVAC RENOVATION SOUTH ROOF PLAN**  
 SCALE: 3/32"=1'-0"

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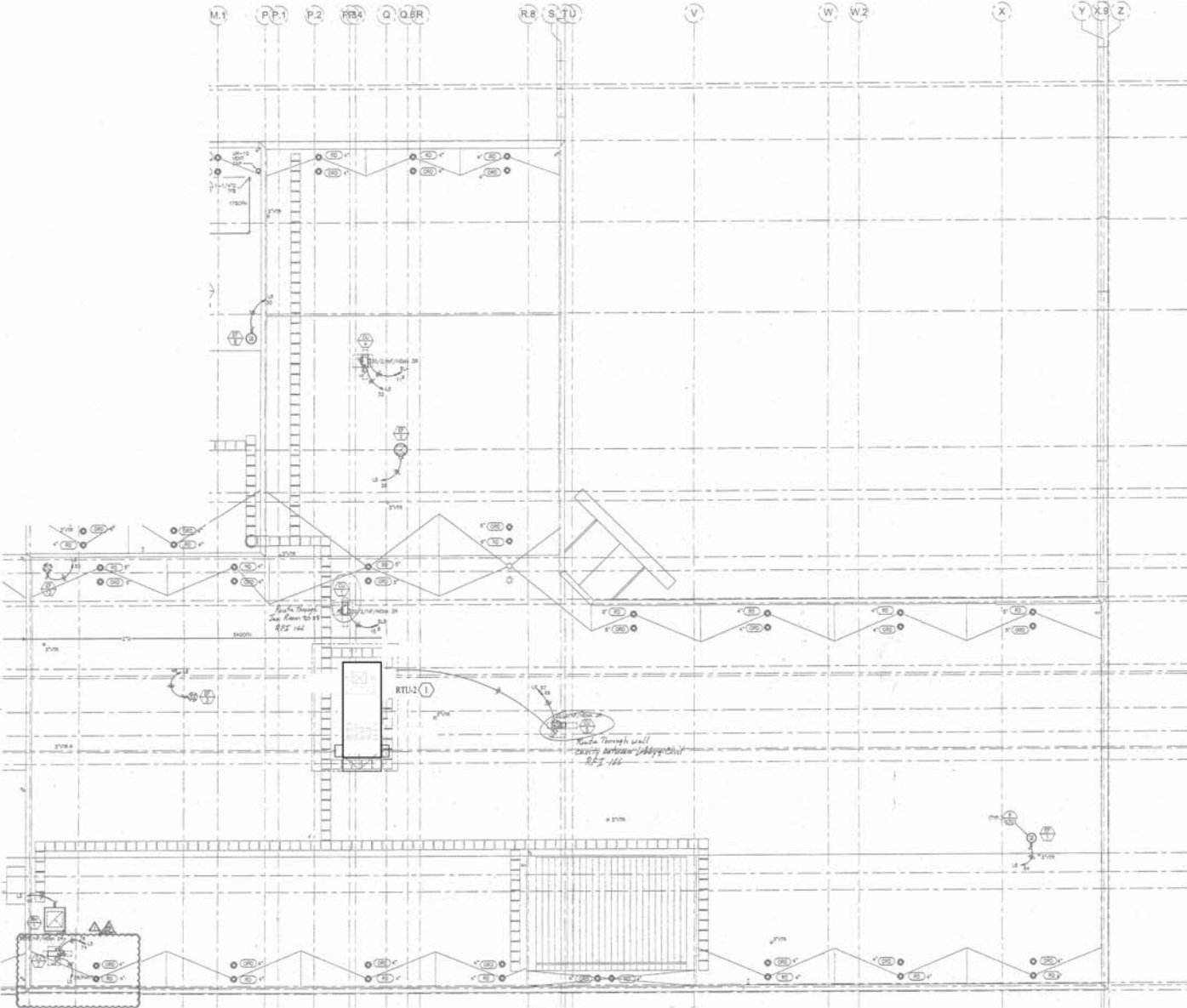
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**GENERAL NOTES:**

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**KEYED NOTES:**

- ① CONNECT BACK INTO EXISTING SUPPLY AND RETURN DUCTWORK. PROVIDE NEW THERMOSTAT IN SPACE. CONNECT BACK TO EXISTING GAS LINE WITH LIKE SIZE.



01 HVAC RENOVATION  
NORTH ROOF PLAN  
SCALE: 3/32"=1'-0"



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COLE COUNTY  
LAW ENFORCEMENT CENTER  
ROOFTOP HVAC REPLACEMENT  
350 EAST HIGH STREET  
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VARIABLE AIR VOLUME GAS-FIRED ROOFTOP UNIT SCHEDULE																								
MARK	MANUFACTURER	MODEL NUMBER	SUPPLY FAN			RETURN FAN			COOLING				HEATING				MIN OA CFM	ELECTRICAL				NOTES		
			CFM	ESP "H2O	HP	CFM	ESP "H2O	HP	CAPACITY(MBH) TOTAL	SENS.	DB/WB	EAT(°F) DB	LAT(°F) DB	EER	INPUT MBH	OUTPUT MBH		EFF. %	EAT(°F) DB	LAT(°F) DB	OA CFM		VOLTS	Ø
RTU-1	TRANE	HORIZON NS40	9,100	2.50	5	5,775	1.50	5	422.6	297.9	85.588	52.852	7.1	350.0	283.5	81	8.3	37.0	1950	460	3	103.4	125	1.2,3,4,5,6,7,8
RTU-2	TRANE	HORIZON N960	13,300	2.50	20	11,415	1.50	10	607.1	434.4	80.566	50.190	7.0	500.0	405.0	81	17.6	45.7	1850	460	3	145.5	150	1.2,3,4,5,6,7,8,9

- NOTES:
- EQUIPMENT SIZED FOR 110°F AMBIENT TEMPERATURE.
  - PROVIDE WITH ROOF CURB ADAPTER, FACTORY INSTALLED WEATHERPOOF GFCI OUTLET, FACTORY INSTALLED DISCONNECT SWITCH, MODULATING GAS BURNER, 2-STAGE COMPRESSOR, HOT GAS REHEAT, CONDENSER HAIL GUARD.
  - PROVIDE UNITS WITH MODULATING O/A/R/D DAMPERS W/ ECONOMIZER, GRAVITY DAMPER FOR EXHAUST
  - PROVIDE WITH FACTORY MOUNTED VFD'S
  - PROVIDE WITH MULTI-ZONE VAV CONTROL W/ BACNET CAPABILITY AND DISPLAY.
  - PROVIDE WITH DUCT MOUNTED SMOKE DETECTOR IN SUPPLY AND RETURN AIR DUCTS.
  - PROVIDE 2" MERV-4, PRE-AIR FILTERS AND 2" MERV-11, FINAL AIR FILTERS.
  - PROVIDE WITH AIR+ DM-1800 DUCT MOUNTED IONIZATION DEVICE.
  - R-454B LOW GWP REFRIGERANT.
  - TRANE IS BASIS OF DESIGN. REQUEST FOR SUBSTITUTIONS SHALL BE SUBMITTED TO AND APPROVED BY GREG CAMP VIA EMAIL: GCAMP@COLECOUNTY.ORG

GAS-FIRED ROOFTOP UNIT W/ HEAT RECOVERY WHEEL SCHEDULE

MARK	MANUFACTURER	MODEL NUMBER	ROOFTOP UNIT																		MIN OA CFM	ISMRE2 (NOTE 11)	ELECTRICAL					NOTES							
			SUPPLY FAN			COOLING			HEATING			EXHAUST FAN			SUMMER HEAT RECOVERY			WINTER HEAT RECOVERY					VOLTS	Ø	MCA(1) AMPS	MOCF(1) AMPS	MCA(2) AMPS		MOCF(2) AMPS						
			CFM	ESP "H2O	HP	CAPACITY(MBH) TOTAL	SENS.	EAT(°F) DB/WB	LAT(°F) DB/WB	EER	INPUT MBH	OUTPUT MBH	EFF. %	EAT(°F) DB	LAT(°F) DB	CFM	ESP "H2O	HP	CFM	OAT(°F) DB/WB										EXAT(°F) DB/WB	LAT(°F) DB/WB	CFM	OAT(°F) DB/WB	EXAT(°F) DB/WB	LAT(°F) DB/WB
RTU-3	TRANE	OADG025	5,820	1.00	5	275.3	201.0		85.568	53.152	14.3	600.0	486.0	81	43.7	129.7	5.620	1.0	5	5.820	105.0770	75.0620	85.568	5.820	2.00	70.0620	43.7435	2.910	460	3	18.7	25	50.6	70	1.2,3,4,5,6,7,8,9,10
RTU-4	TRANE	OADG025	5,820	1.00	5	275.3	201.0		85.568	53.152	14.3	600.0	486.0	81	43.7	129.7	5.620	1.0	5	5.820	105.0770	75.0620	85.568	5.820	2.00	70.0620	43.7435	2.910	460	3	18.7	25	50.6	70	1.2,3,4,5,6,7,8,9,10
RTU-5	TRANE	OADG025	5,820	1.00	5	275.3	201.0		85.568	53.152	14.3	600.0	486.0	81	43.7	129.7	5.620	1.0	5	5.820	105.0770	75.0620	85.568	5.820	2.00	70.0620	43.7435	2.910	460	3	18.7	25	50.6	70	1.2,3,4,5,6,7,8,9,10
RTU-6	TRANE	OADG030	4,700	0.50	5	209.2	158.1		84.2674	52.252	15.5	400.0	324.0	81	46.6	110.1	4.500	1.0	3	4.700	105.0770	75.0620	84.2674	4.700	2.00	70.0620	46.6458	2.350	460	3	16.4	20	34.6	45	1.2,3,4,5,6,7,8,9,10

- NOTES:
- EQUIPMENT SIZED FOR 110°F AMBIENT TEMPERATURE.
  - PROVIDE WITH ROOF CURB ADAPTER, FACTORY INSTALLED WEATHERPOOF GFCI OUTLET, FACTORY INSTALLED DISCONNECT SWITCH, MODULATING GAS BURNER, 2-STAGE COMPRESSOR, HOT GAS REHEAT, THERMOSTAT/HUMIDISTAT AND CO2 SENSOR SHIPPED LOOSE FOR FIELD INSTALLATION, AND CONDENSER HAIL GUARD.
  - PROVIDE WITH FACTORY MOUNTED VFD'S
  - ENERGY RECOVERY (ERC-S20C) SHALL HAVE FROST PROTECTION.
  - PROVIDE 100% 2-POSITION O/A DAMPER AND GRAVITY DAMPER FOR EXHAUST.
  - PROVIDE 2" MERV-4, AIR FILTERS.
  - PROVIDE WITH DUCT MOUNTED SMOKE DETECTOR IN SUPPLY AND RETURN AIR DUCTS.
  - PROVIDE WITH BAC-NET CONTROL INTERFACE AND DISPLAY FOR SINGLE ZONE VAV OPERATION.
  - PROVIDE WITH AIR+ FM-6000 IONIZATION DEVICE.
  - R-454B LOW GWP REFRIGERANT.
  - AHRI 920-200 INTEGRATED SEASONAL MOISTURE REMOVAL EFFICIENCY: ISMRE2@ AT THE SCHEDULED FULL LOAD SUPPLY-AIR DEW POINT. [ISMRE VALUE PER AHRI920 2015 IS NOT ACCEPTABLE]
  - TRANE IS BASIS OF DESIGN. REQUEST FOR SUBSTITUTIONS SHALL BE SUBMITTED TO AND APPROVED BY GREG CAMP VIA EMAIL: GCAMP@COLECOUNTY.ORG

GAS-FIRED ROOFTOP UNIT SCHEDULE

MARK	MANUFACTURER	MODEL NUMBER	SUPPLY FAN			RETURN FAN			COOLING				HEATING				MIN OA CFM	ELECTRICAL				NOTES		
			CFM	ESP "H2O	HP	CFM	ESP "H2O	HP	CAPACITY(MBH) TOTAL	SENS.	DB/WB	EAT(°F) DB	LAT(°F) DB	EER	INPUT MBH	OUTPUT MBH		EFF. %	EAT(°F) DB	LAT(°F) DB	OA CFM		VOLTS	Ø
RTU-7	TRANE	HORIZON D096	850	1.25	1	-	-	-	35.5	26.8	80.2853	51.7513	9.2	50.0	40.0	80	52.0	85.4	112	460	3	11.9	15	1.2,3,4,5,6,7,8,10
RTU-8	TRANE	HORIZON D072	1,510	1.25	1	-	-	-	65.1	46.5	82.8675	54.0510	9.7	150.0	120.0	80	43.4	116.6	295	460	3	15.9	20	1.2,3,4,5,6,7,8,10
RTU-9	TRANE	HORIZON D030	7,200	1.25	7.5	-	-	-	344.1	254.2	85.1878	51.9515	7.4	250.0	202.5	80	50.7	76.6	1,020	460	3	78.3	100	1.2,3,4,5,6,7,8,10

- NOTES:
- EQUIPMENT SIZED FOR 110°F AMBIENT TEMPERATURE.
  - PROVIDE WITH ROOF CURB ADAPTER, FACTORY INSTALLED WEATHERPOOF GFCI OUTLET, FACTORY INSTALLED DISCONNECT SWITCH, MODULATING GAS BURNER, 2-STAGE COMPRESSOR, HOT GAS REHEAT, CONDENSER HAIL GUARD, AND THERMOSTAT/HUMIDISTAT SHIPPED LOOSE FOR FIELD INSTALLATION.
  - PROVIDE UNITS WITH MODULATING O/A/R/D DAMPERS W/ ECONOMIZER.
  - PROVIDE WITH FACTORY MOUNTED VFD'S
  - PROVIDE WITH CONTROL W/ BACNET CAPABILITY AND DISPLAY FOR SINGLE ZONE VAV OPERATION.
  - PROVIDE WITH DUCT MOUNTED SMOKE DETECTOR IN SUPPLY AND RETURN AIR DUCTS.
  - PROVIDE 2" MERV-4 AIR FILTERS.
  - PROVIDE WITH AIR+ FM-6000 IONIZATION DEVICE.
  - PROVIDE WITH AIR+ DM-1800 DUCT MOUNTED IONIZATION DEVICE.
  - R-454B LOW GWP REFRIGERANT.
  - TRANE IS BASIS OF DESIGN. REQUEST FOR SUBSTITUTIONS SHALL BE SUBMITTED TO AND APPROVED BY GREG CAMP VIA EMAIL: GCAMP@COLECOUNTY.ORG



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Phone: 673-636-2116

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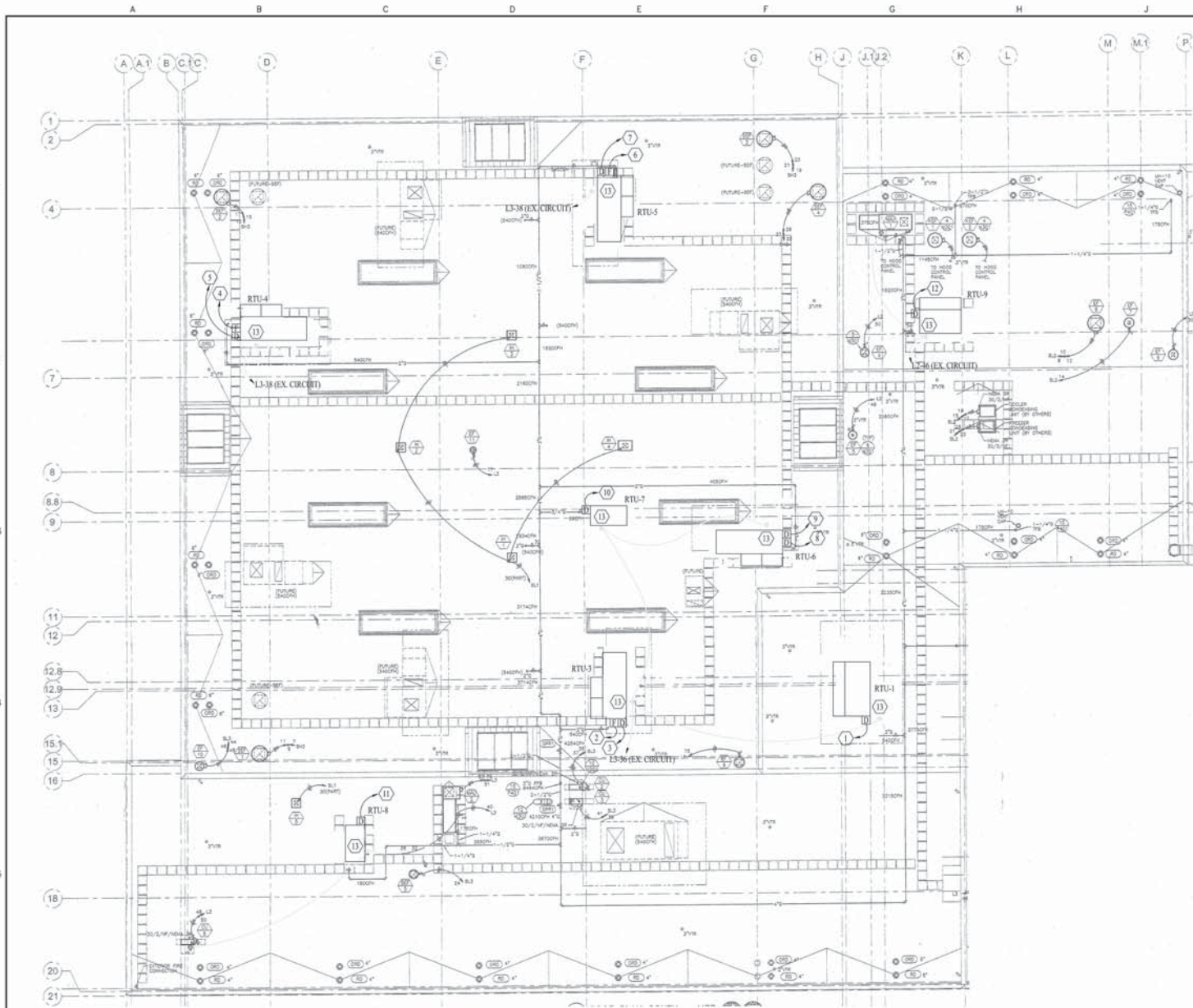
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COLE COUNTY  
LAW ENFORCEMENT CENTER  
ROOFTOP HVAC REPLACEMENT  
350 EAST HIGH STREET  
JEFFERSON CITY, MISSOURI 6501

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project 23030

REV. 202005, N. 10, 12/22/23



01 POWER RENOVATION  
SOUTH ROOF PLAN  
SCALE: 3/32"=1'-0"

**GENERAL NOTES:**

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3. MATERIAL EXPOSED WITHIN THE RETURN AIR PLENUM SHALL BE NONCOMBUSTIBLE OR SHALL HAVE A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE DEVELOPMENT INDEX OF NOT MORE THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM E84.

**KEYED NOTES:**

- 1 3 #1 THWN, #6 CU GRD, 1-1/2" C TIED BACK INTO RETAINED EXISTING CIRCUIT OF 125A, 3P, 460V BRKR FROM REMOVED RTU-1.
- 2 25A FUSED DISCONNECT, 3 #10 THWN, #10 CU GRD, 3/2" C BACK TO EXISTING 30A, 3P, 460V BRKR FROM REMOVED RTU-3.
- 3 3 #4 THWN, #10 CU GRD, 1" C TIED BACK INTO RETAINED EXISTING CIRCUIT OF 60A, 3P, 460V BRKR FROM REMOVED RTU-3.
- 4 25A FUSED DISCONNECT, 3 #10 THWN, #10 CU GRD, 3/2" C BACK TO EXISTING 30A, 3P, 460V BRKR FROM REMOVED RTU-4.
- 5 3 #4 THWN, #10 CU GRD, 1" C TIED BACK INTO RETAINED EXISTING CIRCUIT OF 60A, 3P, 460V BRKR FROM REMOVED RTU-4.
- 6 25A FUSED DISCONNECT, 3 #10 THWN, #10 CU GRD, 3/2" C BACK TO EXISTING 30A, 3P, 460V BRKR FROM REMOVED RTU-5.
- 7 3 #4 THWN, #10 CU GRD, 1" C TIED BACK INTO RETAINED EXISTING CIRCUIT OF 60A, 3P, 460V BRKR FROM REMOVED RTU-5.
- 8 3 #12 THWN, #12 CU GRD, 3/2" C TIED BACK INTO RETAINED EXISTING CIRCUIT OF 20A, 3P, 460V BRKR FROM REMOVED RTU-6.
- 9 3 #6 THWN, #10 CU GRD, 3/2" C TIED BACK INTO RETAINED EXISTING CIRCUIT OF 50A, 3P, 460V BRKR FROM REMOVED RTU-6.
- 10 3 #12 THWN, #12 CU GRD, 3/2" C TIED BACK INTO RETAINED EXISTING CIRCUIT OF 15A, 3P, 460V BRKR FROM REMOVED RTU-7.
- 11 3 #12 THWN, #12 CU GRD, 3/2" C TIED BACK INTO RETAINED EXISTING CIRCUIT OF 20A, 3P, 460V BRKR FROM REMOVED RTU-8.
- 12 3 #2 THWN, #8 CU GRD, 1-1/4" C BACK TO A NEW 100A, 3P, 460V BRKR IN VACATED SPACE FROM REMOVED 70A, 3P, 460V BRKR OF RTU-9.
- 13 MOUNT EXISTING GFI ON NEW ROOF TOP UNIT.



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Design Firm Registration #2019059632

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**COLE COUNTY  
LAW ENFORCEMENT CENTER  
ROOFTOP HVAC REPLACEMENT**  
350 EAST HIGH STREET  
JEFFERSON CITY, MISSOURI 65001

DATE 12-22-20  
DRAWN BY SLP  
CHECKED BY WAS  
REVISED

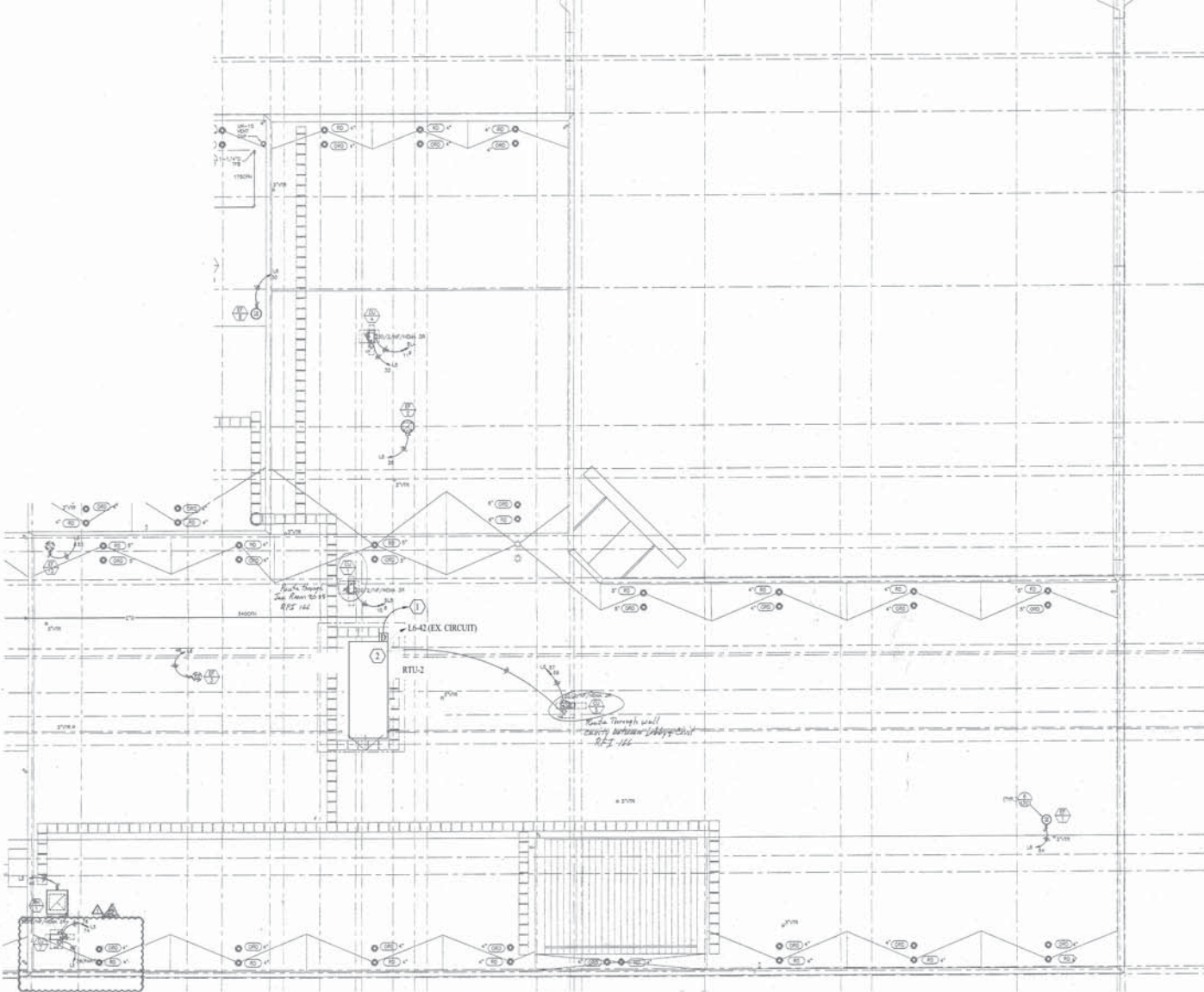
sheet

**E1.1**

project 23030

A B C D E F G H J K L

M.1 P.P.1 P.2 P.B.4 Q.Q.B.R. R.R. S.T.U. V. W. W.2 X. Y.X.S.Z.



- GENERAL NOTES:**
- DRAWINGS (PLANS, DETAILS AND SCHEMATICS ARE DIAGRAMMATIC IN NATURE AND INDICATE GENERAL LOCATION AND ARRANGEMENT OF NEW AND EXISTING MAJOR EQUIPMENT AND PIPING SYSTEMS. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING EXACT LOCATIONS AND DIMENSIONS OF ALL EQUIPMENT, PIPING AND PIPING COMPONENTS. CONTRACTOR IS ALSO RESPONSIBLE FOR FINAL TIE-IN POINT LOCATIONS BETWEEN NEW AND EXISTING PIPING SYSTEMS EQUIPMENT AND UTILITIES.
  - UNLESS OTHERWISE NOTED EXISTING SHOWN IN FADE-AWAY PEN, NEW, RELOCATED OR DEMOLITION ITEMS SHOWN IN DARK HEAVY PEN.
  - MATERIAL EXPOSED WITHIN THE RETURN AIR PLENUM SHALL BE NONCOMBUSTIBLE OR SHALL HAVE A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE DEVELOPMENT INDEX OF NOT MORE THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM E84.
- KEYED NOTES:**
- 3 #1/0 THWN, #6 CU GRD, 1-1/2" C TIED BACK INTO RETAINED EXISTING CIRCUIT OF 150A, 1P, 480V BRKR FROM REMOVED RTU-2
  - MOUNT EXISTING GH ON NEW ROOF TOP UNIT.

01 POWER RENOVATION  
NORTH ROOF PLAN  
SCALE: 3/32"=1'-0"



**MMEA**  
**ENGINEERS**  
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**COLE COUNTY  
LAW ENFORCEMENT CENTER  
ROOFTOP HVAC REPLACEMENT**  
350 EAST HIGH STREET  
JEFFERSON CITY, MISSOURI 65101

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sheet  
**E1.2**  
project 23030