



GENERAL MECHANICAL SPECIFICATIONS:

1. PROVIDE ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY FOR THE COMPLETE INSTALLATION OF THE MECHANICAL SYSTEMS INDICATED.
2. OBTAIN ALL PERMITS, FEES, LICENSES, INSPECTIONS, AND CERTIFICATES OF COMPLIANCE OR APPROVAL AS REQUIRED BY THE LOCAL AUTHORITIES.
3. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE LAWS, CODES, AND REGULATIONS OF THE GOVERNMENTAL BODIES HAVING JURISDICTION OVER THE SITE.
4. COORDINATE ALL WORK WITH OTHER TRADES AND EXISTING CONDITIONS AS NECESSARY TO INSTALL ALL NEW MECHANICAL SYSTEMS WITHIN THE CONFINES OF THE SPACES AVAILABLE AND WITHOUT INTERFERENCE.
5. PLANS ARE INTENDED TO INDICATE THE GENERAL SCOPE OF WORK. DETAILS OF INSTALLATION COVERED BY CODE AND OTHER MINOR ITEMS NOT SHOWN SHALL BE INSTALLED IN ACCORDANCE WITH LOCAL CODES AND ACCEPTABLE INDUSTRY STANDARDS. ALL MECHANICAL EQUIPMENT AND MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH LOCAL CODES AND MANUFACTURER'S INSTRUCTIONS. CONTRACTOR SHALL SITE VERIFY EXISTING CONDITIONS.
6. DURING CONSTRUCTION, ALL FIXTURES, EQUIPMENT, PIPE, DUCT, ETC. SHALL BE COVERED, PLUGGED, OR CAPPED AS REQUIRED TO KEEP CLEAN AND UNDAMAGED. ALL DAMAGED ITEMS SHALL BE RESTORED TO ORIGINAL CONDITION OR REPLACED. ALL PROTECTIVE COVERINGS SHALL BE REMOVED BEFORE FINAL ACCEPTANCE.
7. PROVIDE ALL CUTTING AND PATCHING OF WALLS, FLOORS, CEILINGS, AND ROOFS AS NEEDED TO INSTALL MECHANICAL SYSTEMS. PATCHING WORK SHALL INCLUDE METHODS AND MATERIALS NEEDED FOR AFFECTED SURFACES TO MATCH ADJACENT AREAS. SEAL AROUND ALL EXTERIOR WALL PENETRATIONS WEATHERTIGHT.
8. COORDINATE ALL ROOFING WORK WITH OWNER OR RESPONSIBLE PARTY, SO THAT THE ROOF WARRANTY WILL BE MAINTAINED.
9. FIELD SUPPORT ALL MECHANICAL SYSTEM EQUIPMENT AND MATERIALS FROM STRUCTURE.
10. CONTRACTOR SHALL GUARANTEE ALL WORK AND MATERIALS AGAINST DEFECTS FOR A PERIOD OF ONE YEAR FROM FINAL ACCEPTANCE.

OPERATION AND MAINTENANCE MANUALS:

1. DURING THE COURSE OF CONSTRUCTION, COLLECT AND COMPILE OPERATING INSTRUCTIONS, WIRING DIAGRAMS, CATALOG CUTS, LUBRICATION AND PREVENTATIVE MAINTENANCE INSTRUCTIONS, PARTS LISTS, ETC. FOR ALL EQUIPMENT FURNISHED UNDER THIS CONTRACT.
2. ALL LITERATURE AND INSTRUCTIONS SHIPPED WITH THE EQUIPMENT SHALL BE SAVED FOR INCLUSION IN THE OPERATION AND MAINTENANCE MANUALS.
3. ALL LITERATURE LISTED ABOVE AND ALL PAPERS LISTING WARRANTIES, ETC. SHALL BE BOUND IN A 3-RING BINDER AND LABELED WITH THE PROJECT NAME, ADDRESS, ARCHITECT, ENGINEER, CONTRACTORS, ETC.

STANDARD OF QUALITY

1. MANUFACTURERS, MODEL NUMBERS, ETC. INDICATED OR SCHEDULED ON THE DRAWINGS SHALL BE INTERPRETED AS HAVING ESTABLISHED A STANDARD OF QUALITY AND SHALL NOT BE CONSTRUED AS LIMITING COMPETITION. ARTICLES, FIXTURES, ETC. OF EQUAL QUALITY BY MANUFACTURERS SHALL BE ACCEPTABLE, SUBJECT TO STRUCTURAL AND ELECTRICAL CONSTRAINTS OF THE PROJECT DESIGN, UNLESS NOTED OTHERWISE.

TESTING, BALANCING AND CLEANING:

1. DUCTWORK SHALL BE BALANCED BY QUALIFIED BALANCING PERSONNEL WHO HAVE PREVIOUS EXPERIENCE WITH BALANCING PROCEDURES AND ARE FAMILIAR WITH TESTING AND BALANCING PROCEDURES OF THE ASSOCIATED AIR BALANCE COUNCIL (AABC) OR NATIONAL ENVIRONMENTAL BALANCING BUREAU (NEBB).
2. BALANCING SHALL INCLUDE THE BALANCING OF THE EQUIPMENT AND AIR DISTRIBUTION SYSTEMS TO PROVIDE DESIGN QUANTITIES INDICATED AND VERIFICATIONS OF PERFORMANCE OF ALL EQUIPMENT AND AUTOMATIC CONTROLS.

CONTROL WIRING SPECIFICATIONS:

1. ELECTRICAL WIRING AND WIRING CONNECTIONS NEEDED FOR THE INSTALLATION OF MECHANICAL SYSTEMS SHALL BE PROVIDED BY MECHANICAL CONTRACTOR UNLESS OTHERWISE INDICATED.

2. INSTALL CONTROL WIRING, WITHOUT SPLICES BETWEEN TERMINAL POINTS, COLOR CODED. INSTALL IN NEAT, WORKMANLIKE MANNER, SECURELY FASTENED. INSTALL IN ACCORDANCE WITH APPLICABLE NATIONAL ELECTRICAL CODE EDITION. LOW VOLTAGE WIRING MAY BE IN APPROVED SIGNAL CABLE.

DUCT AND DUCT INSULATION SPECIFICATIONS:

1. ALL INSULATION, DUCT LINING AND ACCESSORIES SHALL HAVE A FIRE HAZARD CLASSIFICATION WITH A FLAME SPREAD RATING OF NOT OVER 25, A FUEL CONTRIBUTION RATING OF NOT OVER 50 AND A SMOKE DEVELOPED RATING OF NOT OVER 50, IN ACCORDANCE WITH NFPA STANDARDS.
2. RIGID DUCT AND DUCT FITTINGS:
 - A. FABRICATED FROM GALVANIZED SHEET STEEL IN ACCORDANCE WITH SMACNA STANDARDS, LATEST EDITION, FOR 2" WATER GAUGE STATIC PRESSURE.
 - B. SEAL ALL DUCTWORK JOINTS WITH NON-HARDENING, NON-MIGRATING MASTIC SEALANT, AS RECOMMENDED FOR SEALING SEAMS AND JOINTS IN DUCTWORK.
3. ALL DUCTWORK SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH SMACNA STANDARDS.
4. PROVIDE FLEXIBLE CONNECTION BETWEEN DUCTWORK AND MECHANICAL EQUIPMENT ITEMS.
5. RECTANGULAR DUCT SIZES SHOWN ARE ACTUAL SHEET METAL SIZES.

ROOF TOP HVAC SYSTEMS

1. RTU SYSTEM TO BE A PACKAGED R-410a CONDENSING HIGH EFFICIENCY DESIGN WITH A NOMINAL PERFORMANCE OF A MINIMUM 28,000 BTUH COOLING AT 7,000 FT. ALTITUDE. WITH A TWO-STAGE HEATING BURNER, HAVING A NOMINAL INPUT OF 56,250 BTUH ON 1ST STAGE AND 75,000 BTUH ON 2ND STAGE (NATURAL GAS. FURNACE). BURNER SHALL BE CONVERTED TO LPG USE, USING FACTORY SUPPLIED CONVERSION KIT.
2. RTU NET WEIGHT SHALL NOT EXCEED A NOMINAL 425 POUNDS EXCLUDING CURB AND ANY MINOR ACCESSORIES OR DUCTING. RTU SHALL INCLUDE A FACTORY MADE CURB SPECIFICALLY DESIGNED FOR THE UNIT WITH ALL REQUIRED FLASHING TO PROVIDE A WATERPROOF CONNECTION AT THE ROOF.
3. SUPPLY BLOWER SHALL INCLUDE A 1/2 HP, 3 PHASE, VARIABLE SPEED, MOTOR WITH FAN RATED AT 1356 CFM AT 0.60" WG ESP ON 450 CFM/TON SETTING.
4. RTU SHALL USE 120/208, 3 PHASE POWER WITH A SINGLE 30 AMPERE SOURCE.
5. CONDENSER SHALL BE RATED BY ARI METHODS AT 35,600 BTUH AND 3,000 CFM WITH A TWO-STAGE SCROLL COMPRESSOR HAVING AN SEER OF UP TO 16 WITH A 70DBA NOISE RATING.
6. PERFORMANCE EQUAL TO A TRANE NOMINAL 3 TON, 16 SEER, 4YCZ5036A SINGLE PACKAGED CONVERTIBLE GAS/ELECTRIC RTU.
7. RTU SHALL BE EQUIPPED WITH A FACTORY SUPPLIED 0-100% ECONOMIZER SECTION UNDER FULL AUTOMATIC CONTROL AND INTEGRATION WITH HEATING/COOLING FUNCTIONS.
8. RTU SHALL BE PROVIDED WITH A PROGRAMMABLE THERMOSTAT DESIGNED FOR TWO-STAGE HEATING, NIGHT SETBACK/SETUP, FRESH AIR CONTROL AND FULL ECONOMIZER OPERATION.
9. RTU FRESH AIR SETTING SHALL BE A NOMINAL 150 CFM PER UNIT FOR A TOTAL OF 450 CFM FOR THE BUILDING TO ADDRESS VENTILATION FOR THE SPACE AND 15 OCCUPANTS. FRESH AIR MUST BE ADJUSTABLE UP TO 25% OF TOTAL CFM FOR EACH UNIT THROUGH SOFTWARE SETPOINT WHICH IS A NOMINAL 850 CFM TOTAL.

AE LEUKEN, LLC
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MILE HIGH ROSE LLC 180 COUNTY RD 599 WALSENBURG, CO 81089		DESCRIPTION
		DATE
NO.		

DATE: XX/XX/XXXX

CHECKED BY: JJG

PROJECT NO: PROJECT#

SHEET: MECHANICAL NOTES

