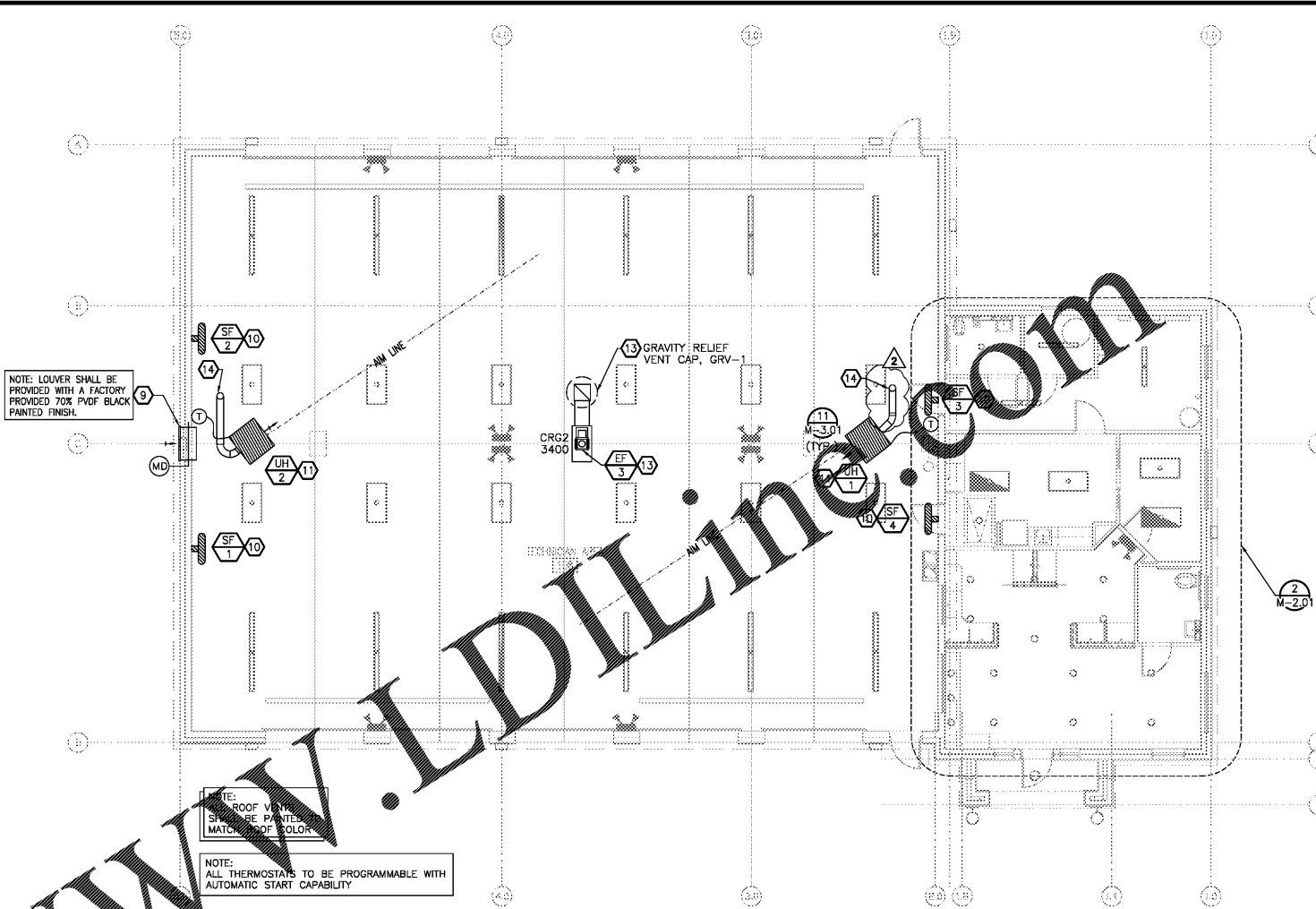
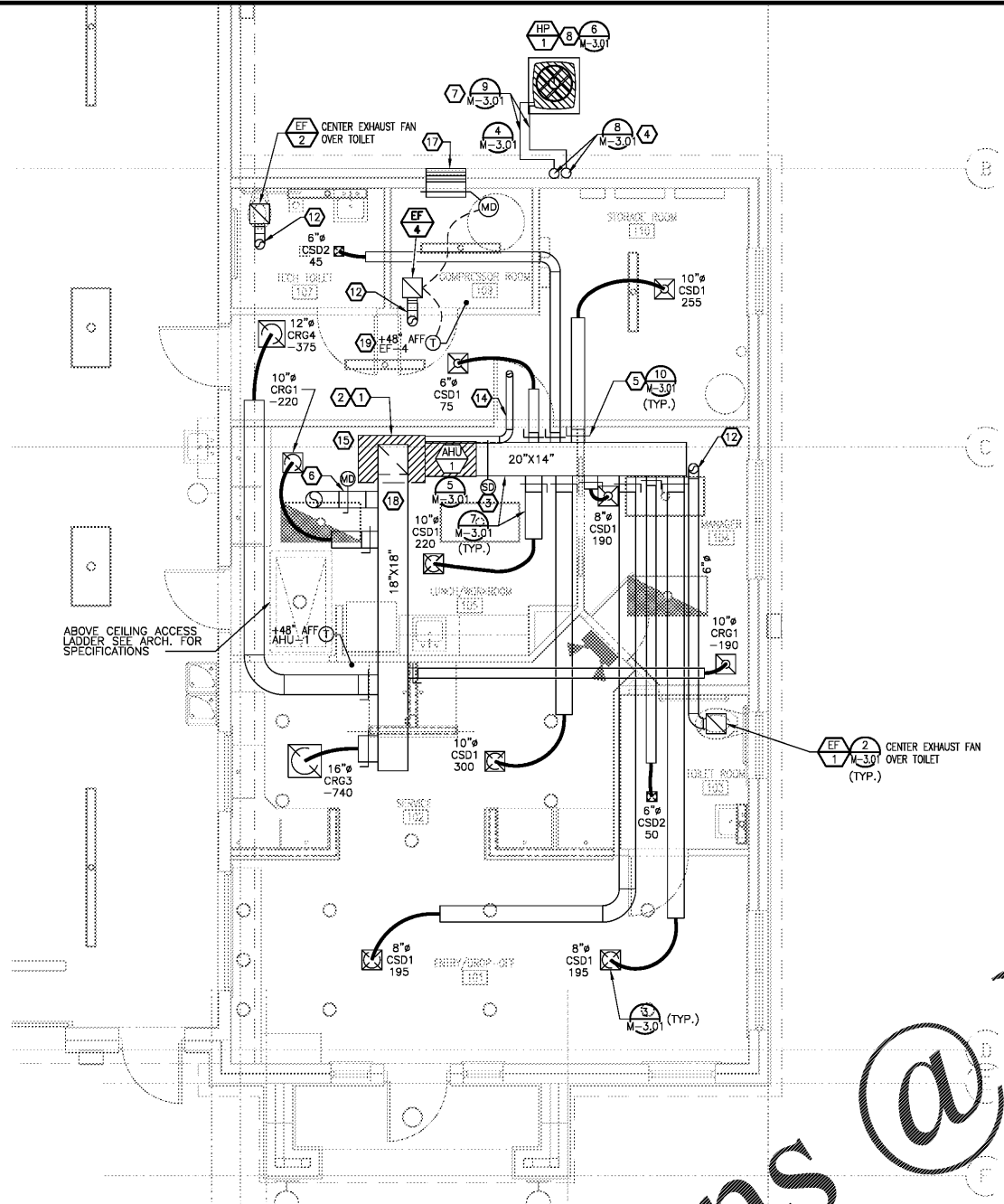


Revisions	
1/23/20 - Prototype Update	
4/1/20 - City Comments	
4/9/20 - T2 Client Rev.	

Project No. 19-097  
Drawn By: CLK  
Date: 03/06/20  
Sheet Title:

**MECHANICAL**  
**FLOOR PLAN**

Drawing No. **M-2.01**  
10RHS-11-2019



NOTE: LOUVER SHALL BE PROVIDED WITH A FACTORY PROVIDED 70% PVDF BLACK PAINTED FINISH.

NOTE: ALL THERMOSTATS TO BE PROGRAMMABLE WITH AUTOMATIC START CAPABILITY

**MECHANICAL GENERAL NOTES:**

- A. PRIOR TO SUBMITTING BID, THE CONTRACTOR AND SUBCONTRACTORS SHALL VISIT THE JOB SITE AND BECOME FULLY ACQUAINTED WITH THE EXISTING CONDITIONS OF THE PROJECT. THE CONTRACTOR AND SUBCONTRACTORS SHALL BE RESPONSIBLE FOR REVIEW OF THE GENERAL NOTES, SPECIFICATIONS AND ALL OTHER DRAWINGS FOR ADDITIONAL REQUIREMENTS WHICH MAY NOT BE SPECIFICALLY CALLED OUT IN THIS PORTION OF THE CONSTRUCTION DOCUMENTS. NOTIFY OWNER OF ANY CONFLICTS OR DISCREPANCIES PRIOR TO SUBMISSION OF BID.
- B. COORDINATE THE INSTALLATION OF THE MECHANICAL SYSTEMS WITH OTHER TRADES TO ENSURE A NEAT AND ORDERLY INSTALLATION. DUCTWORK AND PIPING SHALL BE ROUTED TO AVOID CONFLICTS WITH ELECTRICAL PANELS, LIGHTING FIXTURES, ETC.
- C. TAKE NECESSARY PRECAUTIONS TO AVOID DAMAGE TO EXISTING SURFACES. EQUIPMENT DURING WORK. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE CAUSED DURING CONSTRUCTION. NO EXTRA CHARGE TO THE OWNER.
- D. PROVIDE ALL MECHANICAL EQUIPMENT SHOWN ON THE MECHANICAL PLANS UNLESS OTHERWISE NOTED.
- E. NEW MECHANICAL EQUIPMENT, DUCTWORK AND PIPING IS SHOWN AT APPROXIMATE LOCATIONS. FIELD VERIFY EXACT DUCTWORK AND PIPING LOCATIONS PRIOR TO FABRICATION AND MAKE ADJUSTMENTS AS REQUIRED TO FIT THE DUCTWORK AND PIPING WITHIN THE AVAILABLE SPACE. FIELD VERIFY FINAL EQUIPMENT LOCATIONS TO INSTALL EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS REGARDING SERVICE CLEARANCE AND PROPER AIRFLOW CLEARANCE AROUND EQUIPMENT.
- F. REFER TO ARCHITECTURAL DRAWINGS FOR ALL RELATED CONSTRUCTION DETAILS AS APPLICABLE TO THE HVAC SYSTEM. CHASES AND PENETRATIONS INTENDED FOR DUCTWORK AND PIPING ROUTINGS SHALL BE VERIFIED WITH ARCHITECT.
- G. INSTALL ALL DUCTWORK AND PIPING PARALLEL TO BUILDING COLUMN LINES UNLESS OTHERWISE SHOWN OR NOTED.
- H. SEAL ALL PENETRATIONS THROUGH THE BUILDING COMPONENTS IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS. FIREPROOF ALL PENETRATIONS THROUGH FIRE RATED COMPONENTS IN ACCORDANCE WITH U.L. REQUIREMENTS.
- I. COORDINATE REFRIGERANT AND GRILLES WITH THE SUPPLIER TO MEET THE CEILING, WALL AND DUCT INSTALLATION REQUIREMENTS.
- J. ALL AIR DEVICES THAT ARE LOCATED CLOSE TO WALL SHALL BE PLACED TO AS TO CLEAR CROWN MOULDING.
- K. LOCATE, WIRE AND SET THERMOSTATS/TEMPERATURE SENSORS. VERIFY EXACT LOCATIONS WITH OWNER PRIOR TO INSTALLATION. MOUNTING HEIGHTS SHALL BE 48" AFF TO MEET ADA REQUIREMENTS UNLESS NOTED OTHERWISE ON PLANS.
- L. RIGID DUCTWORK INSULATION: PROVIDE 2" THICK, 3/4 LB DENSITY INSULATION WRAP ON ALL RIGID ROUND AND RECTANGULAR CONCEALED SUPPLY AIR DUCTS AND ON ALL OUTSIDE AIR DUCTS (ALL THAT ARE NOT LINED). PROVIDE 1-1/2" THICK, 3 LB DENSITY INTERNAL DUCT LINER ON THE FIRST 15 FEET OF RECTANGULAR SUPPLY AND RETURN AIR DUCTS FROM THE CONNECTION TO THE EQUIPMENT. ALSO PROVIDE INTERNAL DUCT LINER ON ALL EXPOSED DUCTWORK. SIZES ON MECHANICAL PLANS INDICATE CLEAR INSIDE AIRFLOW DIMENSIONS; INCREASE SHEETMETAL SIZES ACCORDINGLY.
- M. FLEXIBLE DUCTWORK SHALL BE THERMAFLEX TYPE MKE, FLEXMASTER TYPE SM, OR APPROVED EQUAL. SHALL BE LISTED UNDER U.L. 181 AS CLASS I AIR DUCT AND SHALL BE PROVIDED WITH INTEGRAL 2" THICK, 3/4 LB DENSITY FIBERGLASS INSULATION. FLEXIBLE DUCTWORK NOT TO EXCEED 5'-0" IN LENGTH. INSTALL AND SUPPORT TO AVOID SHARP BENDS AND SAGGING.
- N. PROVIDE A NEW SET OF AIR FILTERS IN ALL UNITS JUST BEFORE TURNING SYSTEMS OVER TO OWNER.
- O. MOTORIZED DAMPERS SHALL BE DRIVEN BY TWO-POSITION, 120-VOLT ACTUATORS. PROVIDE 24-VOLT RELAY AND CONNECT TO FAN WIRING FROM THERMOSTAT. REFER TO ELECTRICAL PLANS FOR 120-VOLT WIRING.
- P. INSTALL ALL DUCTWORK TIGHT TO STRUCTURE.
- Q. ALL WORK SHALL BE DONE IN STRICT COMPLIANCE WITH THE 2017 FLORIDA MECHANICAL CODE, THE 2017 FLORIDA PLUMBING CODE, THE 2017 FLORIDA ENERGY CONSERVATION CODE, ALL STATE REQUIREMENTS, AND LOCAL REQUIREMENTS.

**MECHANICAL KEYED NOTES:**

- 1. LOCATE NEW AIR HANDLING UNIT AS INDICATED. UNIT SHALL BE ACCESSIBLE FOR SERVICE FROM PLATFORM ABOVE CEILING. SUSPEND UNIT FROM TOP CHORD OF STRUCTURE PER MANUFACTURER'S RECOMMENDATIONS. COORDINATE MOUNTING HEIGHT/LOCATION WITH OTHER BUILDING SYSTEMS TO ALLOW WORKING CLEARANCES AS REQUIRED BY CODE AND UNIT MANUFACTURER. RE: 4.5/M-3.01. AIR HANDLING UNIT FILTER SECTION TO BE ACCESSIBLE ABOVE CEILING SPACE. COORDINATE INSTALLATION OF UNIT SUPPORTS AND PIPING TO MAINTAIN ACCESS AND CLEARANCE FOR FILTER REPLACEMENT.
- 2. REFER TO PLUMBING DRAWINGS FOR CONDENSATE DRAIN LINES.
- 3. MECHANICAL CONTRACTOR SHALL PROVIDE SMOKE DETECTOR IN THE SUPPLY DUCTWORK OF THE AIR HANDLING UNIT UPSTREAM OF ANY BRANCH DUCTWORK. SMOKE DETECTOR SHALL BE COMPLIANT WITH NFPA 90A 6.4.4.2. SMOKE DETECTOR SHALL BE ACCESSIBLE ABOVE CEILING SPACE. RE: 8.5/M-3.01.
- 4. ROUTE REFRIGERANT PIPING ABOVE CEILING FROM THE AIR HANDLER UNIT OVER TO, DOWN THRU THE WALL, AND OVER TO THE GROUND-MOUNTED HEAT PUMP CONDENSING UNIT. RE: 4.8.9/M-3.01.
- 5. PROVIDE SPIN-IN CONNECTION WITH LOCKING QUADRANT DAMPER. TYPICAL ON ALL ROUND DUCTS TAPPED FROM RECTANGULAR BRANCH DUCTWORK ABOVE GYP. BD. CEILING, UNLESS OTHERWISE NOTED. RE: 4.10/M-3.01.
- 6. 10" Ø OUTSIDE AIR DUCT. PROVIDE MOTORIZED DAMPER IN DUCTWORK AND BALANCE TO CFM AS SCHEDULED IN AIR HANDLER UNIT SCHEDULE.
- 7. ALL HORIZONTAL EXTERIOR REFRIGERANT PIPING RUNS SHALL BE SUPPORTED FROM WALLS OR SET ON WOOD BLOCKS TO BE KEPT OFF THE GROUND. RE: 6.9/M-3.01. PIPING SHALL BE INSTALLED PERPENDICULAR TO BUILDING LINES IN AN ORDERLY MANNER.
- 8. LOCATE NEW HEAT PUMP CONDENSING UNIT AS INDICATED. MOUNT UNIT ON EQUIPMENT PAD PER MANUFACTURER'S RECOMMENDATIONS WHILE MAINTAINING WORKING CLEARANCES AS REQUIRED BY CODE AND UNIT MANUFACTURER. RE: 6.6/M-3.01.
- 9. 40"x40" RUSKIN INTAKE AIR LOUVER (MODEL ELF375X) WITH MOTORIZED DAMPER EQUAL TO GREENHECK VCB-23-40X40 AND ACTUATOR EQUAL HONEYWELL MSB11041206. CENTER LOUVER ON WALL BELOW PEAK OF ROOF. INTERLOCK MOTORIZED DAMPER WITH EF-3. NOTE: LOUVER SHALL BE PROVIDED WITH A FACTORY PROVIDED 70% PVDF BLACK PAINT FINISH.
- 10. WALL-MOUNTED SUPPLY FAN. MOUNT FAN AT 6'-6" AFF. COORDINATE WITH ELECTRICAL. PROVIDE WALL SWITCH AT EACH FAN TOGETHER WITH DUPLEX AT 48" AFF.
- 11. SUSPEND UNIT HEATER FROM BUILDING STRUCTURE PER MFG'S RECOMMENDATIONS WITH BOTTOM AT 11'-0" AFF AND TOP AT 12' OFF OF CEILING. FIELD ROUTE TYPE "B" VENT FLUE UP THROUGH ROOF TO ROOF CAP WITH INSECT SCREEN. MOUNT THERMOSTAT 48" AFF. SEE 11/M-3.01.
- 12. 6" Ø EXHAUST DUCT UP THROUGH REAR OF ROOF SO AS NOT TO BE SEEN FROM FRONT OF BLDG. PROVIDE WEATHER-PROOF ROOF CAP.

- 13. COORDINATE LOCATION OF INLINE EXHAUST FAN WITH STRUCTURAL SPACING OF 22" FOR FAN. LOCATE FAN ABOVE TOP OF TRUSS CHORD AND EXTEND EXHAUST DUCT DOWN TO 44"x24" LOUVERED EXHAUST GRILLE IN SHOP CEILING AS SCHEDULED IN GRILLE SCHEDULE ON M-1.01. ROUTE 20"x20" DUCT FROM EXHAUST FAN UP TO GREENHECK GRSR-30 GRAVITY RELIEF VENT CAP, GRV-1, WITH SLOPED ROOF CURB, BACKDRAFT DAMPER AND BIOSCREEN. EF-3 SHALL DISCHARGE THROUGH REAR OF ROOF SO AS NOT TO BE SEEN FROM FRONT OF BLDG.
- 14. ROUTE FULL SIZE TYPE B FLUE UP THROUGH ROOF AND PROVIDE TYPE B ROOF CAP WITH INSECT SCREEN. TERMINATIONS MUST PENETRATE ROOF AT REAR OF BUILDING SO AS NOT TO BE SEEN FROM FRONT OF THE BUILDING.
- 15. FULL SIZED RETURN AIR DUCT, MINIMUM 14" DEEP.
- 16. INTEGRAL 28"x28" DOOR LOUVER. REFERENCE ARCHITECTURAL DOOR SCHEDULE ON SHEET A-2.1.
- 17. 28"x16" RUSKIN INTAKE AIR LOUVER (MODEL ELF375X) IN WALL WITH BIOSCREEN. INSTALL BOTTOM OF LOUVER AT 18" AFF. COORDINATE EXACT HEIGHT AND LOCATION WITH ARCHITECTURAL PLANS. PROVIDE WITH MOTORIZED DAMPER AND ACTUATOR. INTERLOCK DAMPER TO OPEN WHEN EF-4 IS ON AND CLOSE WHEN EF-4 IS OFF.
- 18. ROUTE RETURN AIR DUCT UP TO UNDERSIDE OF STRUCTURE. PROVIDE MANUFACTURER'S MINIMUM MAINTENANCE CLEARANCE REQUIREMENTS AT AIR HANDLING UNIT.
- 19. PROVIDE LINE VOLTAGE THERMOSTAT. INTERLOCK WITH EXHAUST FAN TO ENERGIZE FAN AND OPEN DAMPER WHEN TEMPERATURE IS ABOVE 80F AND DE-ENERGIZE FAN WHEN TEMPERATURE IS BELOW 80F.

THIS SHEET IS PART OF THE CONSTRUCTION DOCUMENTS. OTHER SHEETS INCLUDING SPECIFICATIONS APPLY. THAT SHOWN HEREON IS SCHEMATIC IN NATURE AND NOT TO BE USED AS A SHOP DRAWING. THEREFORE, INCLUDE ALL MODIFICATIONS REQUIRED TO CONFORM TO SITE CONDITIONS AND THE EQUIPMENT AND MATERIAL USED. VERIFY LOCATIONS AND DIMENSIONS OF ALL ARCHITECTURAL AND STRUCTURAL ELEMENTS AS SHOWN ON THEIR RESPECTIVE DOCUMENTS. THESE ELEMENTS ARE SHOWN FOR REFERENCE AND SHALL BE VERIFIED PRIOR TO CONSTRUCTION AND THE ENGINEER ASSUMES NO LIABILITY FOR THE ACCURACY OF THESE ELEMENTS. NO DESIGN RESPONSIBILITY IS ASSUMED FOR ANY PORTION OF THE WORK THAT THE PROFESSIONAL ENGINEER HAS NOT SIGNED AND SEALED PER STATE/PROVINCE REQUIREMENTS.

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