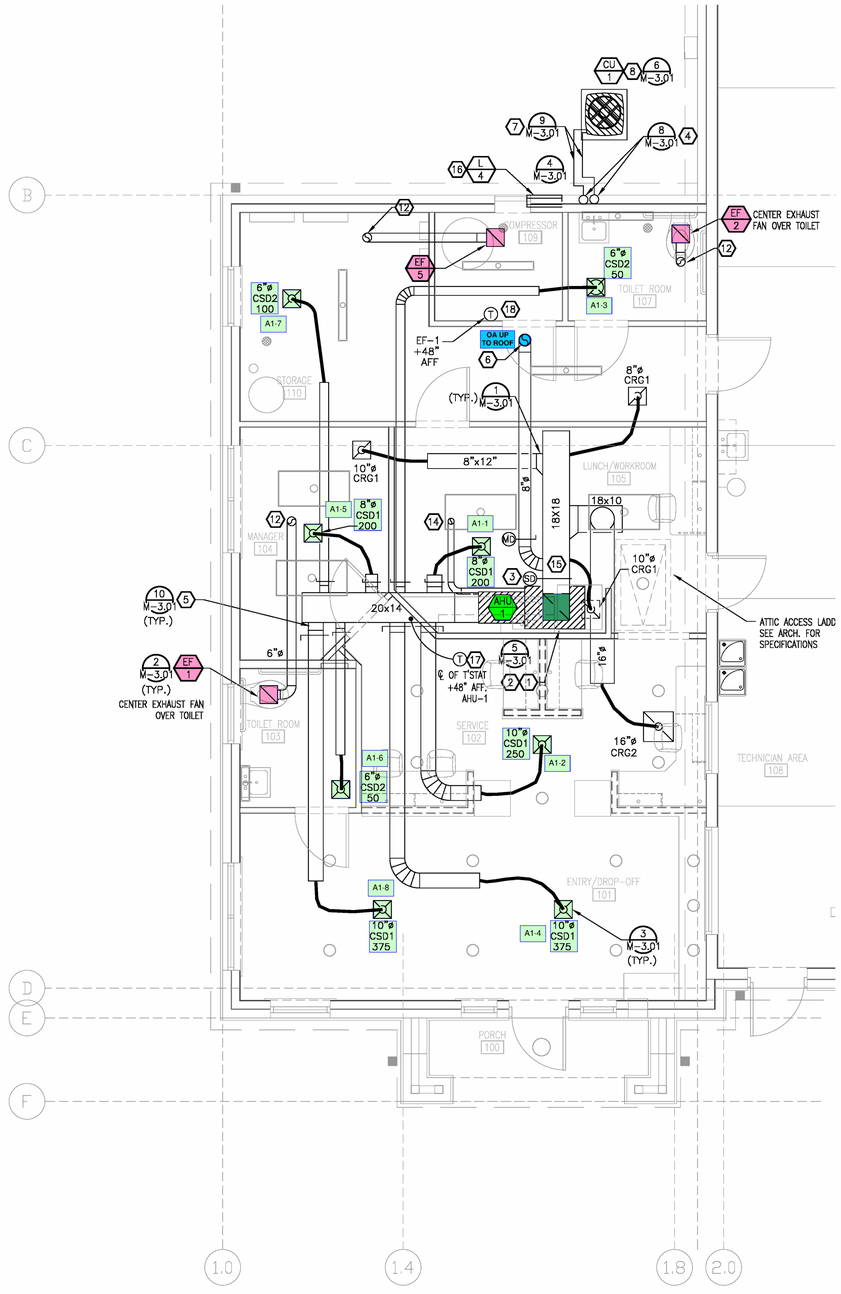
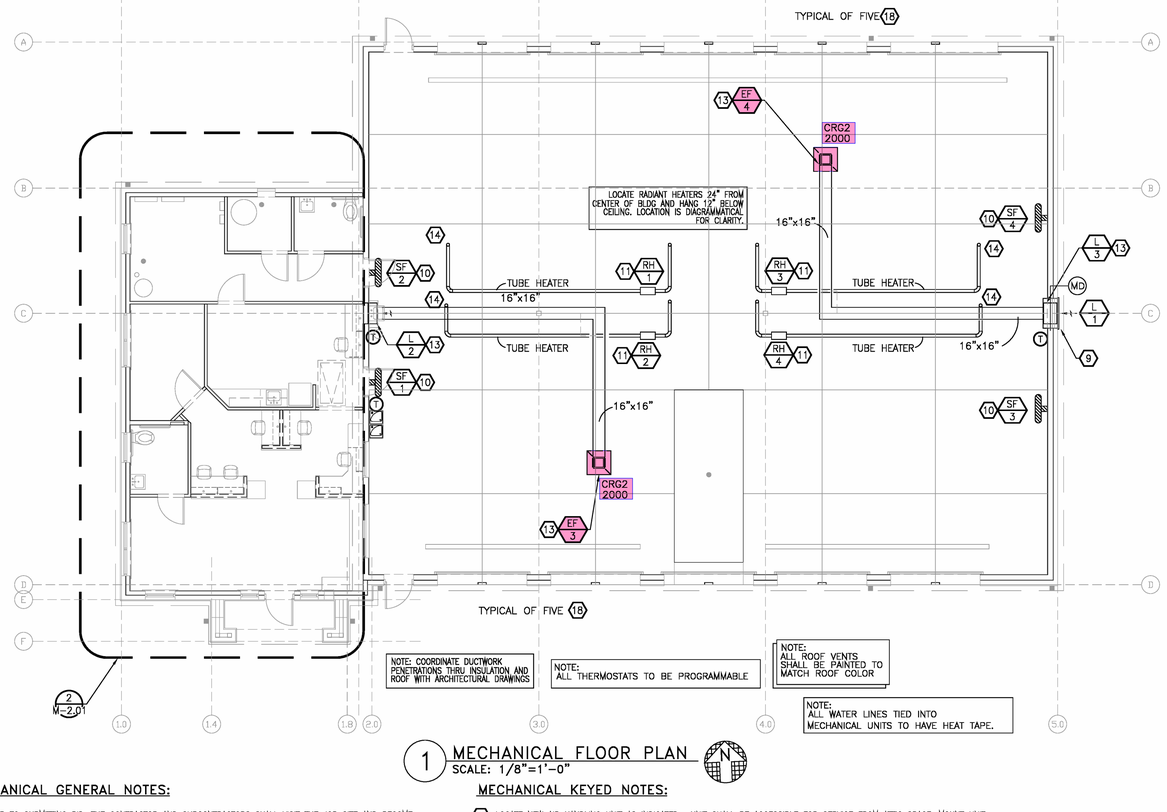


2 ENLARGED OFFICE MECHANICAL FLOOR PLAN
SCALE: 1/4"=1'-0"



1 MECHANICAL FLOOR PLAN
SCALE: 1/8"=1'-0"

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 ARCHITECT, ENGINEER AND/OR 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 DAMAGING EXISTING SURFACES AND EQUIPMENT DURING WORK. CONTRACTOR SHALL REPAIR ANY DAMAGE CAUSED DURING CONSTRUCTION AT NO EXTRA COST 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 MEASURE FINAL 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 REGISTERS 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 ARCHITECT PRIOR TO INSTALLATION. MOUNTING HEIGHTS SHALL BE 54" 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 M-KE, FLEXMASTER TYPE 8M, OR APPROVED EQUAL, SHALL BE LISTED UNDER U.L. 181 AS CLASS 1 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 CITY'S ADOPTED INTERNATIONAL MECHANICAL CODE, INTERNATIONAL PLUMBING CODE, INTERNATIONAL 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 ATTIC SPACE. MOUNT UNIT TIGHT TO STRUCTURE. SUSPEND UNIT FROM STRUCTURE PER MANUFACTURER'S RECOMMENDATIONS. COORDINATE MOUNTING HEIGHT/LOCATION OF THE UNIT 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 IN ATTIC 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 RETURN DUCTWORK OF THE AIR HANDLING UNIT UPSTREAM OF OUTSIDE AIR CONNECTION POINT. SMOKE DETECTOR SHALL BE ACCESSIBLE IN ATTIC SPACE. RE:#5/M-3.01.
4. ROUTE REFRIGERANT PIPING IN THE ATTIC SPACE FROM THE AIR HANDLER UNIT OVER TO, DOWN THRU THE WALL, AND OVER TO THE GROUND-MOUNTED 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. CEILINGS, UNLESS OTHERWISE NOTED. RE:#10/M-3.01.
6. CONNECT 8"ø OUTSIDE AIR DUCT TO TOP OF RETURN AIR DUCT AND ROUTE UP. EXTEND DUCT AS SHOWN. 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: #8,9/M-3.01. PIPING SHALL BE INSTALLED PERPENDICULAR TO BUILDING LINES IN AN ORDERLY MANNER.
8. LOCATE NEW CONDENSING UNIT AS INDICATED. MOUNT UNIT ON EQUIPMENT PAD PER MANUFACTURER'S RECOMMENDATIONS WHILE MAINTAINING WORKING CLEARANCES AS REQUIRED BY CODE AND UNIT MANUFACTURER. PAD SHALL BE A MINIMUM OF 3" ABOVE FINISHED GRADE AND SET LEVEL. RE: #6/M-3.01.
9. 40"x40" RUSKIN INTAKE AIR LOUVER (MODEL ELF375X) WITH MOTORIZED DAMPER EQUAL TO GREENHECK VCD-23-40X40 AND ACTUATOR EQUAL TO HONEYWELL MS8110A1206. CENTER ON WALL. COORDINATE ELEVATION WITH ARCHITECT. INTERLOCK MOTORIZED DAMPER WITH EF-3 AND EF-4. NOTE: LOUVER SHALL BE PROVIDED WITH A FACTORY PROVIDED 70% PVDF BLACK PAINT FINISH.
10. WALL-MOUNTED SUPPLY FAN. MOUNT FAN AT 8'-6" AFF. COORDINATE WITH ELECTRICAL. PROVIDE WALL SWITCH AT EACH FAN TOGETHER WITH DUPLEX AT 54" AFF.
11. SUSPEND RADIANT TUBE HEATER FROM CEILING AT 45 DEGREE ANGLE PER MANUFACTURER'S RECOMMENDATIONS. MOUNT THERMOSTAT AT LOCATION SHOWN ON PLAN 54" AFF.
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 FANS EF-3 AND EF-4, WITH STRUCTURAL TRUSS SPACING OF 24" FOR EACH FAN. LOCATE FAN ABOVE TOP OF TRUSS CORD. EXTEND 16"x16" EXHAUST DUCT FROM FAN AND CONNECT EXHAUST DUCT TO A 12" DEEP PLENUM AT BACK OF 28"x24" EXHAUST WALL LOUVER WITH BIROSCREEN NEAR TOP OF GABLE. REFER TO ARCHITECTURAL SHEET A-4, FOR EXACT LOCATION OF LOUVER. PROVIDE 1-1/2" THICK, 3/4 LB DENSITY WRAP AROUND PLENUM. PROVIDE LOUVERED EXHAUST GRILLE IN CEILING AS SCHEDULED IN GRILLE SCHEDULE ON M-1.01 AND COONNECT 20"x20" DUCT FROM EXHAUST FAN DOWN TO GRILLE. PROVIDE GRAVITY BACKDRAFT DAMPER AT FAN. PROVIDE ON/OFF WALL SWITCH FOR EF-3 AND EF-4 AT THE ENTRANCE TO THE SHOP TO ENERGIZE AND DE-ENERGIZE BOTH FANS AT THE SAME TIME.
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. AS NOT TO BE SEEN FROM FRONT OF THE BUILDING. SEE SCHEDULE ON SHEET M-1.01.
15. FULL SIZED RETURN AIR DUCT. ROUTE DUCT UP TO UNDERSIDE OF STRUCTURE.
16. 16"x16" RUSKIN INTAKE AIR WALL LOUVER (MODEL ELF375X) WITH BIRDSCREEN SCREEN. REFER TO ARCHITECTURAL DRAWINGS FOR ELEVATION. NOTE: LOUVER SHALL BE PROVIDED WITH A FACTORY PROVIDED 70% PVDF BLACK PAINT FINISH.
17. PROVIDE LINE VOLTAGE HONEYWELL THERMOSTAT MODEL T4054B. INTERLOCK FAN'S OPERATION WITH ADJUSTABLE TEMPERATURE SET POINT. SET INITIAL SET POINT AT 80° F (ADJUSTABLE).
18. REFER TO ARCHITECTURAL SHEET, A-4, FOR CRUSHPROOF EXHAUST PORT PROVIDED AT CENTER OF EACH BOTTOM PANEL OF EACH BAY DOOR. CHRUSHPROOF ADF40 EXHAUST PORT PROVIDED AND INSTALLED BY DOOR MANUFACTURER.

idstudio
6201 CAMPUS CIRCLE DRIVE EAST
IRVING, TEXAS 75063
TEL: 972.870.1288
WWW.IDSTUDIO4.COM

Christian Brothers Automotive
State Route 48
Maineville, OH 45039 (Warren County)

Christian Brothers Automotive
17725 Katy Freeway, St. 200
Houston, TX 77094

STATE OF OHIO
BRIAN CHANDLER
E-73333
REGISTERED PROFESSIONAL ENGINEER
Brian Chandler

05.19.2023

Revisions

Project No. CBA22009
Drawn By:
Date: 05/19/23

Sheet Title:
MECHANICAL FLOOR PLAN

Drawing No.
M-2.01
10LH-1-2022