

MECHANICAL SPECIFICATIONS

1.0 GENERAL REQUIREMENTS

1.01 SCOPE OF WORK

- A. THE GENERAL REQUIREMENTS OF THE ARCHITECTURAL SPECIFICATIONS ARE PART OF THESE SPECIFICATIONS. WHERE AN INCONSISTENCY EXISTS BETWEEN THE WORKING OR INTENT, THIS DIVISION SHALL TAKE PRECEDENCE.
- B. THE STANDARD FORM OF GENERAL CONDITIONS ISSUED BY THE AMERICAN INSTITUTE OF ARCHITECTS DOCUMENT A01, LATEST EDITION, SHALL FORM A PART OF THIS CONTRACT.
- C. ALL CONTRACTORS FOR THIS WORK SHALL VERIFY EQUIPMENT LOCATIONS, WEIGHTS, AND CLEARANCES IN THE FIELD, PRIOR TO SUBMITTING BIDS, TO VERIFY CONDITIONS, INTERFERENCES WITH OTHER TRADES, AND DIMENSIONS. NO ALLOWANCES WILL BE MADE AFTER ACCEPTANCE OF BIDS FOR FAILURE TO COMPLY.
- D. PROVIDE ALL LABOR AND MATERIALS, EQUIPMENT, FACILITIES, TRANSPORTATION, AND SERVICES NECESSARY TO FURNISH, INSTALL, AND COMPLETE THE HEATING, VENTILATING, AND AIR CONDITIONING WORK AS INDICATED ON THE DRAWINGS AND SPECIFIED HEREIN. THE WORKMANSHIP SHALL BE COMPLETE IN EVERY RESPECT, BE TESTED AND APPROVED, AND BE SATISFACTORY TO THE ARCHITECT/ENGINEER AND IN ACCORDANCE WITH THE LOCAL, COUNTY, AND STATE LAWS GOVERNING THIS INSTALLATION, INCLUDING THE FIRE MARSHAL.
- E. THE DRAWINGS INDICATE DIAGRAMMATICALLY THE EXTENT AND LOCATION OF THE WORK INCLUDED. WORK INDICATED, BUT HAVING MINOR DETAILS OBVIOUSLY OMITTED, SHALL BE PROVIDED, INCLUDING THESE DETAILS, WITHOUT EXTRA COST.
- F. IT IS DECLARED AND ACKNOWLEDGED INTENT OF THESE SPECIFICATIONS TO PROVIDE THE HEATING, VENTILATING, AND AIR CONDITIONING SYSTEMS, INCLUSIVE OF ALL REQUIRED PARTS, ACCESSORIES, AND CONTROLS COMPLETE AND READY FOR USE AS INDICATED ON THE ACCOMPANYING DRAWINGS. WORK INDICATED ON THE DRAWINGS, BUT NOT NECESSARILY INDICATED IN THESE SPECIFICATIONS, SHALL BE PROVIDED AS REQUIRED.

1.02 RELATED WORK

POWER WIRING (IE FEEDERS) TO MOTORS, INCLUDING FINAL CONNECTIONS TO EQUIPMENT, SHALL BE PROVIDED BY THE DIVISION 16 - ELECTRICAL CONTRACTOR.

1.03 VISITING THE SITE

THE CONTRACTOR SHALL PRIOR TO SUBMITTING HIS BID FOR DOING WORK AS DESCRIBED IN THIS SPECIFICATION AND ON THE ACCOMPANYING DRAWINGS, VISIT THE SITE AND COMPLETELY FAMILIARIZE HIMSELF WITH THE DIFFICULTIES AND FACILITIES THAT WILL BE INVOLVED FOR THE PROPER EXECUTION OF THE CONTRACT. NO EXTRA COMPENSATION SHALL BE ALLOWED FOR THE CONTRACTOR FAILING TO DO SO OR NOT FULLY APPRECIATING THE DIFFICULTIES AT HAND.

1.04 FEES AND INSPECTIONS

ALL OF THE CONTRACTORS SHALL APPLY, PROCURE, AND PAY FEES FOR ALL PERMITS AND INSPECTIONS OR OTHER OBLIGATIONS THAT THE CITY, COUNTY, STATE, OR UTILITIES MAY REQUIRE IN ORDER FOR HIM TO DO HIS WORK ACCORDING TO THE PLANS AND SPECIFICATIONS, UNLESS OTHERWISE NOTED.

1.05 LAWS AND ORDINANCES

THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, AND REGULATIONS BEARING ON THE CONDUCT OF WORK AS DRAWN AND SPECIFIED. IF THE CONTRACTOR OBSERVES THAT THE DRAWINGS AND SPECIFICATIONS ARE AT VARIANCE THEREWITH, HE SHALL PROMPTLY NOTIFY THE ENGINEER IN WRITING WHEN SUBMITTING HIS BID AND ANY NECESSARY CHANGES SHALL BE ADJUSTED AS PROVIDED IN THE CONTRACT FOR SUCH CHANGES IN WORK. IF THE CONTRACTOR PERFORMS ANY WORK CONTRARY TO SUCH LAWS, ORDINANCES, RULES, AND REGULATIONS, HE SHALL BEAR ALL COSTS FOR CORRECTING THE WORK.

1.06 TRADE JURISDICTION

WHEN IT BECOMES NECESSARY FOR THE COMPLETE FULFILLMENT OF THIS WORK FOR THE CONTRACTOR TO FURNISH LABOR OR MATERIALS OTHER THAN WHICH IS GENERALLY ACCEPTED BY HIS TRADE OR BRANCH OF WORK, THE CONTRACTOR SHALL SUBMIT SAME TO A CONTRACTOR NORMALLY ENGAGED IN THE TRADE OR BRANCH OF WORK, INVOLVED TO THE END, SO THAT THERE IS NO DELAY TO OR STOPPAGE OF WORK DUE TO THE INFREQUENT OR ALLEGED INFREQUENT TO TRADE AGREEMENTS AS TO THE JURISDICTION.

1.07 SUBMITTALS

THIS CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL, COMPLETE LISTS INCLUDING CATALOG CUTS, ETC., AND WHERE APPLICABLE DIMENSIONED SHOP DRAWINGS OF ALL MATERIALS, FIXTURES, AND EQUIPMENT TO BE FURNISHED AND INSTALLED UNDER THIS CONTRACT. INCLUDE SHEETMETAL DUCT LAYOUTS AND PIPING PLAN LAYOUTS. REFER TO THE ARCHITECT'S GENERAL CONDITIONS FOR NUMBER OF COPIES TO BE SUBMITTED. DO NOT ORDER EQUIPMENT, FABRICATE DUCTWORK, OR INSTALL EQUIPMENT, DUCTWORK, OR PIPING BEFORE RECEIVING SHOP DRAWINGS WHICH HAVE BEEN REVIEWED AND APPROVED BY THE ENGINEER.

REQUIRED ITEMS TO BE SUBMITTED SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING:

- DIFFUSERS, GRILLES, AND REGISTERS
- ACCESS PANELS
- LOUVERS
- MOTORIZED DAMPERS
- FIRE DAMPERS
- EQUIPMENT
- ROOF CURBS
- INSULATION
- CONTROLS
- SPECIALTIES
- PIPING AND VALVE MATERIALS
- INSTALLATION SECTIONS

1.08 RECORD DRAWING SUBMITTAL

AT PROJECT CLOSEOUT, THE CONTRACTOR SHALL SUBMIT RECORD "AS-BUILT" DRAWINGS OF INSTALLED DUCTWORK, PIPING, AND EQUIPMENT AS IT WAS ACTUALLY INSTALLED SO AS TO MAKE A PERMANENT RECORD. REFER TO THE ARCHITECT'S GENERAL CONDITIONS FOR NUMBER OF COPIES TO BE SUBMITTED.

1.09 WORKMANSHIP AND MATERIALS

ALL MATERIALS SHALL BE NEW AND OF FIRST QUALITY. ALL LABOR SHALL BE EXECUTED IN A NEAT WORKMANLIKE MANNER AND SHALL BE PERFORMED BY MECHANICS SKILLED IN THEIR RESPECTIVE TRADES. THE ENGINEER SHALL DECIDE ALL MATTERS PERTAINING TO THE QUALITY OF WORKMANSHIP AND MATERIALS.

ALL DUCTWORK BEING STORED ON SITE AWAITING INSTALLATION AND ALL INSTALLED DUCTWORK WITH OPEN ENDS SHALL BE COVERED TO REDUCE THE CLEANING EFFORT ONCE THE SYSTEM IS PUT INTO OPERATION.

1.10 SPECIFICATIONS AND DRAWINGS

SPECIFICATIONS AND DRAWINGS ARE INTENDED TO BE COOPERATIVE. WHAT IS CALLED FOR BY EITHER SHALL BE AS BINDING AS IF CALLED FOR BY BOTH. ANY WORK OR MATERIALS NOT SPECIFICALLY MENTIONED, THOUGH REQUIRED TO MAKE THE JOB COMPLETE, SHALL BE FURNISHED BY THE CONTRACTOR AT HIS EXPENSE.

1.11 OPERATING INSTRUCTIONS

THIS CONTRACTOR SHALL PREPARE A TYPED WRITTEN LIST OF OPERATING INSTRUCTIONS FOR ALL THE EQUIPMENT INSTALLED UNDER THIS CONTRACT AND SHALL INSTRUCT THE OWNER IN ITS OPERATION. INDIVIDUAL MANUALS PROVIDED BY THE EQUIPMENT MANUFACTURERS SHALL BE INCLUDED.

1.12 EQUIPMENT SCHEDULE

THIS CONTRACTOR SHALL PREPARE AND FURNISH TO THE OWNER TWO (2) BOUND BOOKLETS, EACH CONTAINING A COMPLETE LIST OF ALL EQUIPMENT AND VALVES INSTALLED UNDER THIS CONTRACT. EACH PIECE OF EQUIPMENT AND VALVE LISTED SHALL INCLUDE ITS TAG NUMBER, MANUFACTURER'S MODEL NUMBER, AND COMPONENTS THEREIN WHICH MAKE UP THE SPARE PARTS LIST.

1.13 GUARANTEE

THIS CONTRACTOR SHALL GUARANTEE HIS WORK TO BE FREE FROM DEFECTIVE WORKMANSHIP AND MATERIALS FOR A PERIOD OF ONE (1) YEAR FROM DATE OF FINAL CERTIFICATE. ANY REPAIRS OR REPLACEMENT DURING THE PERIOD SHALL BE MADE WITHOUT COST TO THE OWNER, UPON HIS OR HER REQUEST.

1.14 COORDINATION OF WORK

THE CONTRACTOR SHALL CONFER WITH OTHER TRADES WHOSE WORK MAY AFFECT HIS INSTALLATION TO AVOID INTERFERENCE BEFORE STARTING THE INSTALLATION. ALL CHANGES IN THE WORK OF THIS CONTRACTOR CAUSED BY HIS NEGLIGENCE TO COMPARE AND CONFER WITH OTHER TRADES SHALL BE MADE BY HIM AT HIS OWN EXPENSE.

1.15 CUTTING AND PATCHING

EACH CONTRACTOR SHALL DO HIS OWN CUTTING AND PATCHING. IF STRUCTURALLY REQUIRED, HE SHALL PROVIDE AND INSTALL THE NECESSARY STEEL WHEN GOING THROUGH A LOAD BEARING WALL. THIS CONTRACTOR SHALL NOT ENDANGER ANY WORK BY CUTTING, DRIVING, OR OTHERWISE AND SHALL NOT CUT OR ALTER THE WORK OF OTHER TRADES WITHOUT CONSENT OF THE ARCHITECT/ENGINEER.

1.16 DEMOLITION

- A. PIPING, VALVES, DUCTWORK, EQUIPMENT, ETC., WHICH IS REQUIRED TO BE REMOVED TO PERFORM WORK UNDER THIS SPECIFICATION WILL BE PERFORMED BY THIS CONTRACTOR AND TURNED OVER AND DELIVERED TO THE BUILDING MAINTENANCE DEPARTMENT OR DISPOSED OF AS DIRECTED.
- B. ANY HOLES OR OPENINGS LEFT IN WALLS, ROOFS, FLOORS, CEILINGS, ETC., AFTER REQUIRED DEMOLITION WORK, SHALL BE FILLED IN AND PATCHED BY THIS CONTRACTOR IN A MANNER APPROVED BY THE ARCHITECT AND ENGINEER. FAILURE ON THIS CONTRACTOR'S PART TO COMPLY WITH ABOVE SHALL MAKE HIM RESPONSIBLE FOR ANY EXTRA EXPENSE INVOLVED.
- C. ANY EQUIPMENT OR ARCHITECTURAL ELEMENTS DAMAGED OR DESTROYED IN THE DEMOLITION WORK SHALL BE REPAIRED, REPLACED, AND/OR BROUGHT BACK TO GOOD WORKING ORDER TO THE SATISFACTION OF THE ARCHITECT AND ENGINEER.

1.17 MECHANICAL IDENTIFICATION

- A. GENERAL: PROVIDE MECHANICAL IDENTIFICATION FOR ALL MECHANICAL EQUIPMENT, PIPING, AND DUCT SYSTEMS. COMPLY WITH ANSI A13.1 FOR LETTERING SIZE, LENGTH OF COLOR FIELD, COLORS, AND VIEWING ANGLES OF IDENTIFICATION DEVICES.
- B. EQUIPMENT: PROVIDE EQUIPMENT SYSTEM NUMBER, CAPACITY, FLOW RATE, STATIC PRESSURE, PUMP HEAD, HORSEPOWER, AND VOLTAGE. PROVIDE SETON MODEL "VENTIMARK" MARKERS.
- C. PIPING: PROVIDE SYSTEM DESIGNATION NAME AND DIRECTION OF FLOW. PROVIDE SETON MODEL "SETMARK" PIPE MARKERS.
- D. DUCTS: PROVIDE SYSTEM DESIGNATION NAME AND DIRECTION OF FLOW. PROVIDE SETON MODEL "VENTIMARK" MARKERS.
- E. VALVES: PROVIDE BRASS VALVE TAGS AND BRASS "S" HOOK FASTENERS WITH VALVE NUMBER AND TYPE OF SERVICE NOTED ON THE TAG. PROVIDE DUPLICATE VALVE CHARTS. THE CHART SHALL BE FOR ALL VALVES AND SHALL INDICATE VALVE IDENTIFICATION NUMBER, LOCATION, AND PURPOSE. PROVIDE SETON BRASS VALVE TAGS AND VALVE CHARTS.

1.18 NOISE AND VIBRATION CONTROL

THIS CONTRACTOR SHALL PROVIDE ACUSTICAL AND VIBRATION TREATMENT FOR ALL EQUIPMENT WITH MOVING PARTS TO MEET CODE AND MAINTAIN THE FOLLOWING NOISE CRITERIA:

LOBBIES, TOILETS AND CORRIDORS	NC 40
SPACE ADJACENT TO FAN ROOMS	NC 45
OFFICES, CONFERENCE ROOM, ETC.	NC 35

VIBRATION ISOLATORS AND FLEXIBLE CONNECTIONS SHALL BE USED AT EACH PIECE OF EQUIPMENT WITH MOVING PARTS.

1.19 BUILDING STANDARDS

IF BUILDING HAS STANDARDS FOR PIPING, DUCTWORK, DIFFUSERS, GRILLES, REGISTERS, TEMPERATURE CONTROLS, OTHER EQUIPMENT, ETC., PROVIDE SAME UNLESS OTHERWISE NOTED.

1.20 PRODUCTS, MATERIALS, AND CONTROLS

2.01 HANGERS AND SUPPORTS

A. PIPING HANGERS AND SUPPORTS SHALL COMPLY WITH MSS SP-58. PROVIDE ONLY ONE TYPE OF HANGER/SUPPORT, BY ONE MANUFACTURER, FOR EACH PIPING SERVICE.

B. DUCT HANGERS AND SUPPORTS SHALL BE IN ACCORDANCE WITH SMACNA DUCT CONSTRUCTION STANDARDS.

C. EQUIPMENT HANGERS AND SUPPORTS SHALL BE PROVIDED AND INSTALLED PER THE EQUIPMENT MANUFACTURER'S REQUIREMENTS.

2.02 ACCESS DOORS

ACCESS DOORS SHALL BE INSTALLED FOR ALL NON-ACCESSIBLE EQUIPMENT, VALVES, OPERATIONS, CONTROLS, OR OTHER WORKING PARTS REQUIRING MAINTENANCE OR ADJUSTMENT. THIS CONTRACTOR SHALL FURNISH ALL SUCH ACCESS DOORS AND ADVISE GENERAL CONTRACTOR OF THE LOCATION OF ALL ACCESS DOORS REQUIRED THROUGHOUT THE PROJECT. ACCESS DOOR MANUFACTURER'S DATA SHALL BE SUBMITTED FOR REVIEW AND APPROVAL BY THE ARCHITECT AND ENGINEER. COLOR OF ACCESS DOORS SHALL BE APPROVED BY THE ARCHITECT.

2.03 EQUIPMENT

A. PROVIDE AND INSTALL ALL EQUIPMENT AS SHOWN IN THE EQUIPMENT SCHEDULES.

B. ALL EQUIPMENT DATA SHALL BE SUBMITTED FOR REVIEW AND APPROVAL BY THE ARCHITECT AND ENGINEER.

C. COLOR OF ALL DIFFUSERS, GRILLES, AND REGISTERS SHALL BE APPROVED BY THE ARCHITECT.

D. COORDINATE FINAL LOCATION OF ALL THERMOSTATS, DIFFUSERS, GRILLES, AND REGISTERS WITH THE ARCHITECT'S REFLECTED CEILING PLAN.

2.04 DUCTWORK AND ACCESSORIES

A. ALL DUCTWORK SHALL BE PRIME GALVANIZED SHEET STEEL, LOCK FORMING, FIRST QUALITY, FABRICATED IN ACCORDANCE WITH THE LATEST EDITION OF THE ASHRAE GUIDE, EXCEPT AS NOTED OTHERWISE.

B. ROUND SPIRAL DUCTWORK SHALL BE LEAD-PAINTED GALVANIZED SPIRAL DUCTWORK TYPE DUCT FITTINGS, OR APPROVED EQUAL, INSTALLED AND SUSPENDED AS PER MANUFACTURER'S RECOMMENDATIONS.

C. ALL DUCTS ARE TO HAVE GALVANIZED STIFFENERS IN THE FORM OF SEAMS INVOLVING AT LEAST THREE FOLDS OF SHEET METAL ("POCKET LOCKS", STANDING SEAMS, STANDING S-SLIPS, ETC.).

D. VENTILATION CONSTRUCTION NOT COVERED BY THE ASHRAE GUIDE AND/OR GOVERNING AUTHORITIES SHALL BE IN ACCORDANCE WITH THE MAXIMUM STANDARDS AND TRADE PRACTICES AS SET FORTH BY THE SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION (SMACNA) INCLUDING THEIR MOST CURRENT DUCT MANUAL.

E. DUCT DIMENSIONS SHOWN ON THE DRAWINGS INDICATE INSIDE DIMENSIONS. INCREASE DUCT SIZE WHEN LINING IS UTILIZED.

F. LOW PRESSURE DUCTWORK SHALL BE CONSIDERED AS ALL DUCTWORK NOT DEFINED AS MEDIUM PRESSURE DUCTWORK, UNLESS NOTED OTHERWISE. PROVIDE 2" SP DUCT CONSTRUCTION FOR SUPPLY AIR DUCTS AND 1" SP CONSTRUCTION FOR RETURN AND EXHAUST AIR DUCTS, UNLESS OTHERWISE NOTED.

G. MEDIUM PRESSURE DUCTWORK SHALL BE CONSIDERED AS ALL DUCTWORK UPSTREAM OF VAV BOXES AND FAN-POWERED BOXES. PROVIDE 2" SP DUCT CONSTRUCTION UNLESS NOTED OTHERWISE. ROUND SINGLE WALL MEDIUM PRESSURE DUCTWORK IN ROUND LINED SYSTEMS WILL NOT BE PERMITTED IN LENGTHS GREATER THAN FIVE FEET.

H. ALL LOW AND MEDIUM PRESSURE DUCTWORK SHALL BE SEALED WITH AN APPROVED MASTIC.

I. ALL DUCT SYSTEMS ARE TO BE TESTED FOR LEAKAGE. MAXIMUM ALLOWABLE LEAKAGE FOR ANY SYSTEM WILL BE 5% OF TOTAL AIR QUANTITY. SUBMIT TEST DATA SHEET(S) TO ARCHITECT/ENGINEER FOR APPROVAL.

J. A 5'-0" MAXIMUM LENGTH OF INSULATED FLEXIBLE DUCT WILL BE PROVIDED TO EACH SUPPLY OUTLET AND RETURN INLET AS REQUIRED.

K. DIFFUSER TAKE-OFF WHERE DIFFUSER IS LOCATED BELOW THE MAIN TRUNK, AND WHERE INDICATED, DEVICE SHALL BE COMPLETE WITH WORKING MECHANISM FOR OPERATION OR ADJUSTMENTS THRU THE FACE OF THE DIFFUSER. IF TURNING DEVICE IS LOCATED REMOTELY FROM GRILLE, REGISTER, OR DIFFUSER, PROVIDE EXTENSION ROD ON ADJUSTING DEVICE. TITLE AND BAILEY, "VENTROL, NLC" OR APPROVED EQUAL.

L. PROVIDE FACTORY-FABRICATED TURNING VANES IN ALL SQUARE ELBOWS. VANES SHALL BE BARBER-COLEMAN "AIRTURN" OR APPROVED EQUAL.

M. TAPERED SPIN-IN FITTING, WITH LOCK-IN QUADRANT AND VOLUME DAMPER, SHALL BE PROVIDED FROM BRANCHES TO DIFFUSERS FOR LOW PRESSURE DUCTWORK.

N. ALL BRANCH DUCT TAKE-OFFS SHALL BE EQUIPPED WITH TAPERED FITTINGS.

O. ALL FULL RADIUS ELBOWS SHALL HAVE A CENTERLINE RADIUS OF 1.5 TIMES THE DUCT WIDTH. ELBOWS WITH A CENTERLINE RADIUS LESS THAN 1.5 TIMES THE DUCT WIDTH SHALL HAVE TURNING VANES.

P. VOLUME DAMPERS SHALL BE PROVIDED FOR AIR BALANCE PURPOSES. PROVIDE MANUAL VOLUME DAMPERS ON ALL LOW PRESSURE SUPPLY, RETURN, AND EXHAUST DUCT BRANCHES AND TO AIR DIFFUSERS, REGISTERS, AND GRILLES, UNLESS NOTED OTHERWISE. DAMPERS SHALL BE OPPOSED BLADE TYPE UNLESS NOTED OTHERWISE.

Q. FOR VOLUME DAMPERS ABOVE DRYWALL CEILINGS AND OTHER INACCESSIBLE LOCATIONS, PROVIDE LEVER, POSITION INDICATOR, AND LOCK NUT, ENCLOSED IN A DEEP DIE-CAST BOX WITH ADJUSTABLE 2-9/16" DIAMETER COVER. YOUNG REGULATOR SERIES 315 OR VENTLOCK SERIES 677 AND/OR PROVIDE ACCESS PANEL, SIZED AS REQUIRED (12" X 12" MINIMUM).

R. FOR VOLUME DAMPERS ABOVE ACCESSIBLE CEILINGS, PROVIDE LOCKING TYPE WITH LEVER HANDLE, POSITION INDICATOR AND LOCK NUT. YOUNG REGULATOR SERIES 400 OR VENTLOCK SERIES 600.

S. DYNAMIC RATED FIRE DAMPERS SHALL BE PROVIDED PER CODE REQUIREMENTS. PROVIDE TYPE "B" FIRE DAMPERS FOR LOW PRESSURE DUCTWORK AND TYPE "C" FIRE DAMPERS FOR MEDIUM PRESSURE DUCTWORK. PROVIDE A DUCT ACCESS DOOR FOR EACH FIRE DAMPER.

2.06 INSULATION

A. FURNISH AND INSTALL INSULATION AS SPECIFIED.

B. DUCT INSULATION

- ALL SUPPLY, RETURN, AND EXHAUST AIR DUCTWORK IN UNCONDITIONED SPACES, 1-1/2" FLEXIBLE GLASS FIBER WITH FACTORY APPLIED ALUMINUM FOL VAPOR BARRIER, 3/4 LBS. PER CUBIC FOOT DENSITY. FLAME SPREAD RATING OF NOT GREATER THAN 25 AND A SMOKE DEVELOPED RATING OF NOT GREATER THAN 50.

C. INSULATED FLEXIBLE DUCT

ALL SUPPLY AND RETURN/EXHAUST AIR CONNECTIONS TO EACH DIFFUSER, POLYETHYLENE CORE LAMINATED TO A GALVANIZED STEEL WIRE MESH, 1" THICK, 1 LB. PER CUBIC FOOT DENSITY GLASS FIBER INSULATION, FIBERGLASS REINFORCED, METALIZED, VAPOR BARRIER.

2.07 CONTROLS

A. THE NEW TEMPERATURE CONTROL SYSTEM SHALL BE INSTALLED AND CONTROLLED AS NOTED ON THE EQUIPMENT SCHEDULE.

B. TYPICAL EXHAUST FAN CONTROL: THE FANS SHALL BE CONTROLLED AS NOTED ON THE EQUIPMENT SCHEDULE.

2.08 EXECUTION

PRIOR TO BEGINNING ANY WORK, CAREFULLY COORDINATE WITH THE WORK OF OTHER TRADES AND AT TIMES CONFIRM THAT THE WORK OF OTHERS IS COMPLETE TO THE POINT WHERE THIS INSTALLATION CAN PROPERLY COMMENCE.

3.02 GENERAL INSTALLATION REQUIREMENTS

VERIFY QUANTITIES, CAPACITIES, PERFORMANCE CHARACTERISTICS, OPERATING REQUIREMENTS, AND CURRENT CHARACTERISTICS OF ALL EQUIPMENT PRIOR TO ITS INSTALLATION. VERIFY THAT SPACE ALLOTTED FOR EQUIPMENT IS SUFFICIENT FOR ENTRANCE AND INSTALLATION, MAINTENANCE AND SERVICE, AND REMOVAL AND REPLACEMENT.

3.03 COORDINATION OF INSTALLATION

C. INSTALL WORK IN SUCH A MANNER THAT IT WILL CONFORM TO THE STRUCTURE. AVOID OBSTRUCTIONS, MAINTAIN HEADROOM, AND KEEP OPENINGS AND PASSAGEWAYS CLEAR. GENERALLY, KEEP HORIZONTAL LINES AS HIGH AS POSSIBLE. MAKE LOCAL PROVISIONS FOR THE SERVICING AND REMOVAL OF EQUIPMENT.

D. ANY INTERFERENCE WITH WORK OF OTHER TRADES ARISING FROM FAILURE TO COORDINATE THE WORK AND LACK OF COOPERATION/REVISIONS, SHALL REQUIRE THE REMOVAL AND REINSTALLATION OF ALL INTERFERING WORK WITHOUT ADDITIONAL COST TO THE OWNER.

3.04 IDENTIFICATION OF EQUIPMENT

EACH PIECE OF EQUIPMENT SHALL DISPLAY A PERMANENT METAL OR PLASTIC NAMEPLATE WHICH SHALL BE LOCATED SO AS TO BE FULLY VISIBLE AFTER THE EQUIPMENT HAS BEEN INSTALLED. THE NAMEPLATE SHALL SHOW THE EQUIPMENT NUMBER AND OTHER PERTINENT INFORMATION.

3.05 CLEAN UP

A. UPON COMPLETION OF THE INSTALLATION OF DUCTWORK, CLEAN THE ENTIRE SYSTEM OF RUBBISH, PLASTER, DIRT, ETC., BEFORE INSTALLING THE DIFFUSERS, REGISTERS, AND GRILLES.

B. REMOVE TEMPORARY FIXTURES FROM RETURN INLETS.

C. OPERATE AND MAKE ANY REQUIRED ADJUSTMENT TO EQUIPMENT, DUCTWORK, PIPING, ETC., AS MAY BE NECESSARY TO PUT THE SYSTEMS IN PROPER OPERATING CONDITION.

D. REMOVE ALL LABELS, TAGS, ETC., FROM ANY SPECIALTIES, EQUIPMENT, ETC., AND REMOVE ALL GREASE OR OTHER PERSISTENT COATINGS FROM ALL EQUIPMENT, PIPING, ETC., AND LEAVE WORK IN A MANNER THAT IS ACCEPTABLE TO THE ARCHITECT/ENGINEER.

3.06 OPERATING AND MAINTENANCE INSTRUCTIONS

AFTER HAVING COMPLETELY INSTALLED ALL SYSTEMS AND ALL NECESSARY TESTS ARE COMPLETED, THIS CONTRACTOR SHALL MAKE ARRANGEMENTS TO OPERATE ALL THE SYSTEMS FOR A PERIOD OF NOT LESS THAN FIVE (5) DAYS AT NO EXPENSE TO THE OWNER. A WRITTEN NOTIFICATION OF THIS TRIAL OPERATING PERIOD SHALL BE PRESENTED TO THE ARCHITECT/ENGINEER, TEN (10) DAYS IN ADVANCE. FOR APPROVAL. DURING THIS TRIAL OPERATING PERIOD, THE CONTRACTOR MAY MAKE NECESSARY MINOR, BUT NON-INTERFERITIVE ADJUSTMENTS, AND ALSO SHALL GIVE INSTRUCTIONS TO THE OWNER'S OPERATING PERSONNEL OR REPRESENTATIVES, ON THE OPERATION AND MAINTENANCE OF THE VARIOUS ITEMS OF EQUIPMENT AND SYSTEMS.

3.07 INSPECTION

A. VISUALLY INSPECT ALL EQUIPMENT FOR COMPLETENESS AND FUNCTIONAL READINESS.

B. LUBRICATE ALL FAN AND MOTOR BEARINGS.

C. CHECK ALL FANS FOR DAMPER AND CLEARANCE.

D. INSPECT THE MOTOR CONTROL CENTERS, DISCONNECT SWITCHES, OVERLOAD PROTECTION, AND WIRING FOR THE HVAC CONTRACTOR PRIOR TO STARTUP OF THE EQUIPMENT.

E. CONFIRM THAT THE CONTROL SYSTEM HAS BEEN COMPLETED, CALIBRATED, AND IS IN OPERATION.

3.08 ELECTRICAL

A. INSPECT THE MOTOR CONTROL CENTERS, DISCONNECT SWITCHES, OVERLOAD PROTECTION, AND WIRING FOR THE HVAC CONTRACTOR PRIOR TO STARTUP OF THE EQUIPMENT.

B. COORDINATE THE STARTUP OF EQUIPMENT WITH THE ELECTRICAL CONTRACTOR.

3.09 CLOSING IN WORK

WORK SHALL BE INSPECTED AND THEN APPROVED BY THE ARCHITECT/ENGINEER AND/OR AUTHORITIES HAVING JURISDICTION. ANY WORK COVERED PRIOR TO SUCH INSPECTION, TEST, AND APPROVAL SHALL BE UNCOVERED, IF SO REQUESTED, AND AFTER APPROVAL, COVERED AGAIN WITHOUT COST TO THE OWNER.

3.10 TESTING, ADJUSTING, AND BALANCING

A. THE HVAC CONTRACTOR SHALL HIRE AN INDEPENDENT, QUALIFIED, AND CERTIFIED MEMBER OF NEBB OR AMBC TO COMPLETELY BALANCE THE AIR AND HYDRONIC SYSTEMS, AS REQUIRED. THE TEST AND BALANCE CONTRACTOR SHALL SUBMIT A PROJECT CERTIFICATION GUARANTEE AND CERTIFIED BALANCE REPORT TO THE ENGINEER FOR APPROVAL BEFORE FINAL ACCEPTANCE.

B. ADJUST ALL SUPPLY, RETURN, AND EXHAUST DEVICES TO PLUS OR MINUS 5 PERCENT OF THE DESIGN AIRFLOW QUANTITIES.

C. ADJUST HYDRONIC FLOW QUANTITIES TO PLUS OR MINUS 10 PERCENT OF INDICATED DESIGN FLOWS.

D. THE BALANCING CONTRACTOR SHALL REPORT ANY DEFICIENCIES TO THE ENGINEER AND MECHANICAL CONTRACTOR. THE BALANCING CONTRACTOR SHALL ALSO RECOMMEND POSSIBLE ACTIONS TO REMEDY THE DEFICIENCIES.

E. IN GENERAL, THE MECHANICAL CONTRACTOR SHALL CHANGE FAN SHEAVES, PUMP IMPELLERS, DRIVES, ETC., TO REMEDY THE DEFICIENCIES AT NO ADDITIONAL COST TO THE OWNER.

GENERAL NOTES

- MOTORIZED DAMPERS SHALL BE INSTALLED ON ALL INTAKES AND EXHAUST OPENINGS UNLESS NOTED OTHERWISE.
- MAXIMUM FAN NAMEPLATE HORSEPOWER SHALL NOT EXCEED 1.1 HP/1000CFM.
- LOAD CALCULATIONS WERE BASED ON ASHRAE 2012 FUNDAMENTALS
- ALL PROGRAMMABLE THERMOSTATS SHALL HAVE 5 DEGREE DEADBAND AND SHALL HAVE 7-DAY CLOCK, 2-HOUR MANUAL OVERRIDE, 10 HOUR BACKUP AND SETBACK CAPABLE OF 55 DEGREES HEATING AND 85 DEGREES COOLING. (EXCEPT CONTINUOUS OPERATING ZONES)
- DUCT INSULATION AS SPECIFIED WITH MINIMUM VALUES AS FOLLOWS:
 - R-8 SUPPLY AND RETURN DUCT INSULATION IN UNCONDITIONED SPACES.
 - R-12 SUPPLY AND RETURN DUCT INSULATION FOR EXTERIOR DUCTS.
 - R-3 SUPPLY AND RETURN DUCT INSULATION UNDERGROUND.
- ALL DUCTWORK SHALL BE SEALED PRESSURE SENSITIVE TAPE IS NOT USED AS THE PRIMARY SEALANT. LONGITUDINAL AND TRANSVERSE SEAMS FOR DUCTS IN UNCONDITIONED SPACES AND WALL PENETRATIONS, TRANSVERSE SEAMS ON BURIED DUCTS.

GENERAL NOTES

- ALL WORK SHALL BE IN ACCORDANCE WITH THE FOLLOWING: 2024 OHIO BUILDING CODE, 2024 OHIO MECHANICAL CODE AS WELL AS ALL STATE AND LOCAL APPLICABLE CODES.
- ALL EQUIPMENT SHALL BE U.L., ETL, AND/OR AGA LABELED AS REQUIRED.
- ALL DUCTWORK SHALL BE PRIME GRADE GALVANIZED SHEET METAL PER SMACNA STANDARDS.
- EQUIPMENT SHALL BE SUPPORTED WITH APPROVED HANGERS AT INTERVALS NOT EXCEEDING TEN (10) FEET OR BY OTHER APPROVED DUCT SUPPORT SYSTEMS DESIGNED IN ACCORDANCE WITH THE BUILDING CODE. FLEXIBLE AND OTHER FACTORY-MADE DUCTS SHALL BE SUPPORTED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- MECHANICAL CONTRACTOR SHALL PROVIDE SPIN-IN COLLARS WITH DAMPERS AT ALL ROUND BRANCH TAKEOFFS TO DIFFUSERS.
- DUCTWORK CONSTRUCTION MATERIALS, INCLUDING COVERINGS, LININGS, AND ADHESIVES, EXPOSED WITHIN PLENUMS SHALL BE NONCOMBUSTIBLE OR SHALL HAVE A FLAME SPREAD RATING OF NOT MORE THAN 25 AND A SMOKE-DEVELOPED RATING OF NOT MORE THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM E-84.
- PROVIDE FIRE DAMPERS BY "NAILOR" OR APPROVED EQUAL AT ALL PENETRATIONS THRU RATED ASSEMBLIES. REFER TO ARCHITECTURAL PLANS FOR ALL LOCATIONS AND RATINGS. ALL FIRE DAMPERS MAY NOT BE SHOWN ON THE PLANS. THIS CONTRACTOR SHALL VERIFY EXACT LOCATIONS AND QUANTITIES.
- MECHANICAL CONTRACTOR SHALL PROVIDE FLEXIBLE CANVAS CONNECTIONS AT ALL EQUIPMENT.
- MECHANICAL CONTRACTOR SHALL PROVIDE FLEXIBLE AIR CONNECTORS FOR ALL DIFFUSERS. FLEXIBLE CONNECTORS SHALL NOT EXCEED FIVE (5) FEET.
- FLEXIBLE AIR DUCTS AND FLEXIBLE AIR CONNECTORS, BOTH METALLIC AND NONMETALLIC, SHALL BE TESTED IN ACCORDANCE WITH UL 181. SUCH DUCTS SHALL BE LISTED AND LABELED AS CLASS 0 OR CLASS 1.
- OUTSIDE AIR INTAKES SHALL BE A MINIMUM OF TEN (10) FEET FROM ANY EXHAUST VENT, FLUE VENT OR ANY OTHER MECHANICAL SOURCE OF CONTAMINATION AND TWELVE (12) FEET FROM ANY PLUMBING VENT.
- MECHANICAL CONTRACTOR SHALL PROVIDE BALANCING REPORTS BY A CERTIFIED BALANCER UPON COMPLETION OF PROJECT. PROVIDE INSPECTOR REPORTS PRIOR TO FINAL INSPECTION.
- ALL THERMOSTATS SHALL BE MOUNTED IN ACCORDANCE WITH ACCESSIBLE REQUIREMENTS, WHERE THE THERMOSTAT IS ACCESSIBLE BY FRONTAL APPROACH ONLY, THEN THE MOUNTING HEIGHT OF THE THERMOSTAT SHALL BE 4'-0" A.F.F. WHERE THE THERMOSTAT IS ACCESSIBLE FROM A SIDE APPROACH, THEN THE MOUNTING HEIGHT OF THE THERMOSTAT SHALL BE 4'-6" A.F.F.
- ELECTRICAL CONTRACTOR SHALL WIRE ALL EQUIPMENT AND SHALL PROVIDE DISCONNECT SWITCHES, STARTERS AND/OR RELAYS AS REQUIRED.
- ELECTRICAL CONTRACTOR SHALL PROVIDE CONDUIT, UTILITY BOXES, AND WIRING FOR ALL THERMOSTATS. MECHANICAL CONTRACTOR SHALL FURNISH, MOUNT, AND TERMINATE THERMOSTATS ONLY.
- ELECTRICAL CONTRACTOR SHALL PROVIDE RETURN SMOKE DETECTORS IN SYSTEMS WITH A DESIGN CAPACITY OF GREATER THAN 2,000 CFM AND SUPPLY SMOKE DETECTORS IN SYSTEMS GREATER THAN 15,000 CFM. WIRE PER LOCAL CODE.
- ELECTRICAL CONTRACTOR SHALL PROVIDE A 120 VOLT, 15 OR 20 AMP GFCI CONVENIENCE OUTLET FOR ALL ROOFTOP, ATTIC SPACE, OR CRAWL SPACE HVAC EQUIPMENT. CONVENIENCE OUTLET SHALL BE ON THE SAME LEVEL AND WITHIN 25'-0" OF HVAC EQUIPMENT.
- EQUIPMENT AND APPLIANCES SHALL BE INSTALLED AS REQUIRED BY THE TERMS OF THEIR APPROVAL. IN ACCORDANCE WITH THE CONDITIONS OF THE LISTING, THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND THIS CODE, MANUFACTURER'S INSTALLATION INSTRUCTIONS SHALL BE AVAILABLE ON THE JOB SITE AT TIME OF INSPECTION, INCLUDING LISTING FOR OUTSIDE INSTALLATION WHEN APPLICABLE.
- SUBMIT UL LISTED FIRE STOPPING MATERIALS AND SYSTEMS WHERE FIRE RATED ASSEMBLIES ARE BREACHED.
- ALL MECHANICAL EQUIPMENT AND APPLIANCES SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- A COPY OF MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR ALL MECHANICAL EQUIPMENT AND APPLIANCES SHALL BE PROVIDED ON SITE.
- CERTIFIED TEST AND BALANCE CONTRACTOR TO PERFORM TEST AND BALANCE OF ALL COMMON AREAS. COPY OF TEST AND BALANCE REPORT SHALL SUBMITTED TO THE VILLAGE PRIOR TO FINAL INSPECTION.

DESIGN CRITERIA

BASED ON ASHRAE HANDBOOK - 2021 FUNDAMENTALS

WESTCHESTER, OH

OUTDOOR DESIGN CONDITION

1% COOLING: 90.1/73.9°F DBWB

99.6% HEATING: 3°F DB

INDOOR DESIGN CONDITION

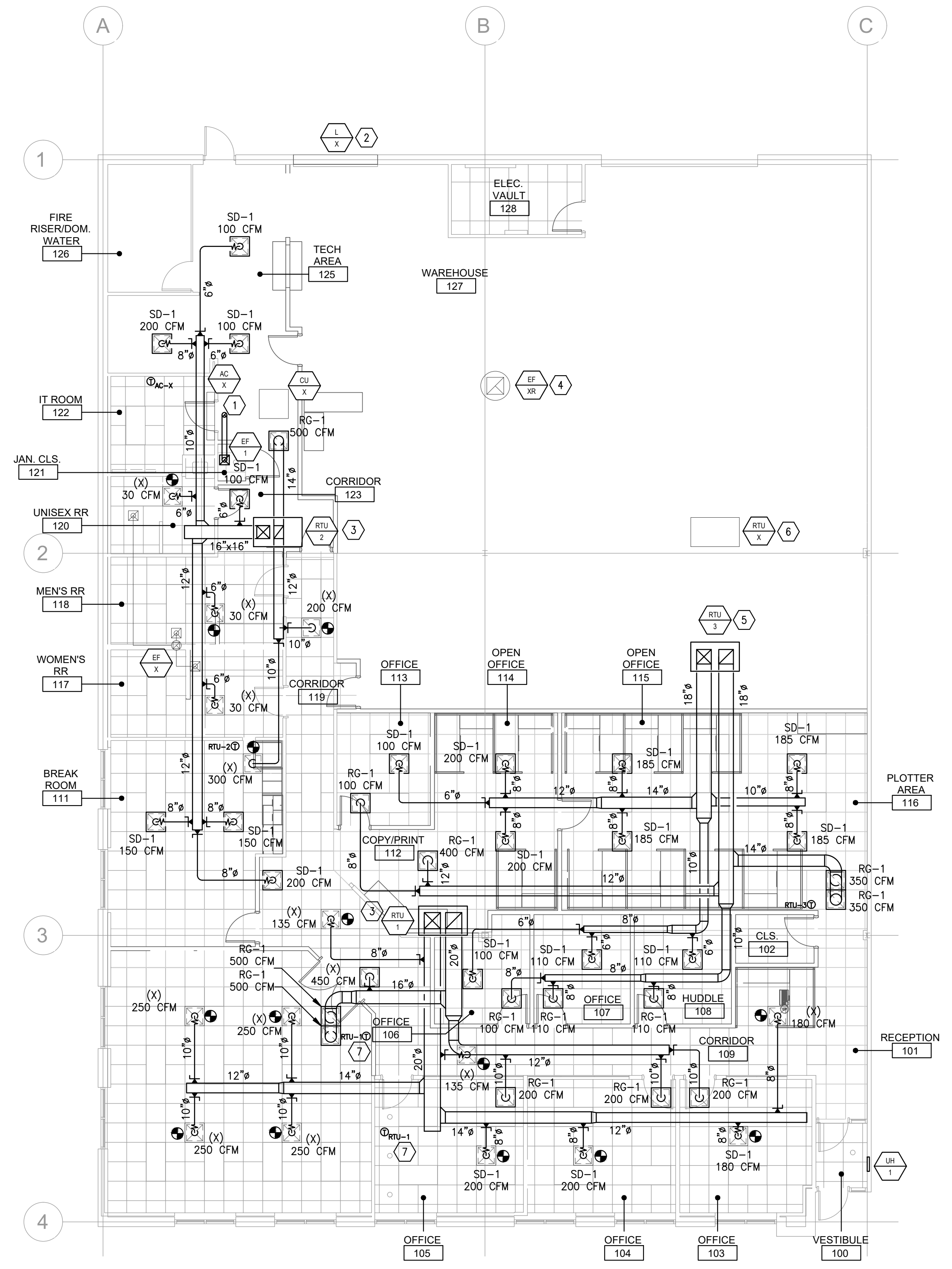
SUMMER: 75°F DB/50% RH

GENERAL NOTES

- REFER TO GENERAL NOTES ON SHEET M000.
- REFER TO SPECIFICATIONS ON SHEET M000.
- PROVIDE ALL NEW DUCTWORK AS SHOWN. DUCTWORK ABOVE CEILING TO BE INSULATED ACCORDING TO 2024 ENERGY CODE.
- MAXIMUM LENGTH OF FLEX DUCT SHALL NOT EXCEED 5'-0".
- TEST & BALANCE SYSTEM PRIOR TO CLOSEOUT OF PROJECT. PROVIDE A DETAILED REPORT TO OWNER, ARCHITECT, & ENGINEER.
- CONTRACTOR IS RESPONSIBLE FOR ADJUSTING DIFFUSER AIRFLOWS AS SHOWN ON PLAN. RETURN GRILLES NEED NOT BE BALANCED.
- EXISTING HVAC EQUIPMENT, ROUTING LOCATION AND QUANTITY IS BASED ON LIMITED SURVEY. CONTRACTOR SHALL VERIFY THE EXACT LOCATIONS AND QUANTITIES.
- DIFFUSER NECK SIZES SHALL BE THE SAME AS ROUND DUCT THAT CONNECTS TO IT.
- CONTRACTOR SHALL VERIFY FOR EXACT LOCATION OF EXISTING BEAMS AND COORDINATE NEW DUCT SIZES/ROUTING ACCORDINGLY.
- INSTALLATION OF THE MECHANICAL SYSTEM SHALL COMPLY WITH TENANT'S CONSTRUCTION DOCUMENTS.

KEY NOTES

- 6"Ø EXHAUST DUCT UP THROUGH ROOF. TERMINATE IN GOOSENECK WITH 3" BIRDSCREEN.
- EXISTING LOUVER TO REMAIN. INTERLOCK WITH RELOCATED EXISTING EXHAUST FAN.
- INSTALL NEW RTU UTILIZING EXISTING ROOF PENETRATION. INSTALL WITH NEW MANUFACTURER PROVIDED ROOF CURB.
- INSTALL RELOCATED EXHAUST FAN UTILIZING EXISTING ROOF PENETRATION. PATCH EXCESS OPENING PER ARCHITECTURAL SPECIFICATIONS.
- INSTALL NEW RTU ON ROOF, USING A NEW ROOFTOP PENETRATION. INSTALL WITH MANUFACTURER PROVIDED ROOF CURB.
- EXISTING RTU TO REMAIN. SUPPLY AND RETURN DUCTING SERVING WAREHOUSE AREA EXISTING TO REMAIN. EXISTING ZONE THERMOSTAT TO REMAIN.
- PROVIDE AVERAGING THERMOSTAT BETWEEN OFFICE AND CONFERENCE ROOM AND SET TO 72 DEGREES FOR RTU-1.

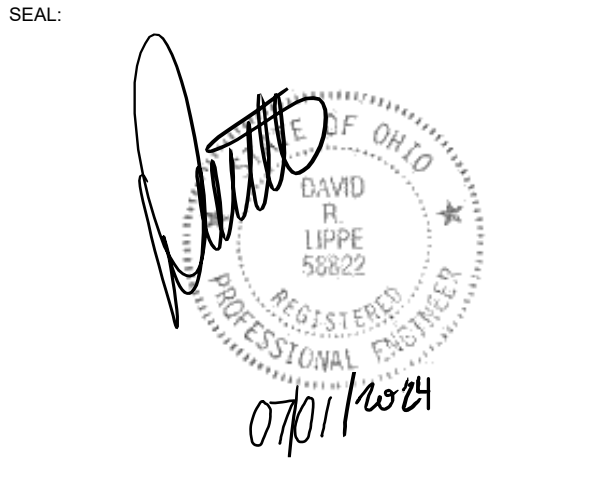


1 MECHANICAL PLAN
 1/8" = 1'-0"
 MECHANICAL



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#	DESCRIPTION	DATE
1	ISSUE FOR PERMIT	07/01/2024

DATE: 07.01.2024
 SCALE: AS NOTED
 PROJECT NUMBER: EVER903
 DRAWN BY: CL
 SHEET TITLE:

MECHANICAL PLAN

SHEET NUMBER:
 M100

EVERON WESTCHESTER VENTILATION SCHEDULE																		
ROOM NUMBER	ROOM NAME	OCCUPANCY CLASSIFICATION	ZONE FLOOR AREA (A _Z)	AREA OUTDOOR AIR RATE (Ra)	AREA OA REQUIRED (A _Z R _a)	OCCUPANT LOAD RATE	ZONE POPULATION (P _Z)	OCCUPANT OA RATE (Rp)	OCCUPANT OA REQUIRED (P _Z R _p)	BREATHING ZONE OA (V _{oz})	ZONE AIR DISTRIBUTION EFFECTIVENESS (E _Z)	ZONE OA (V _{oz})	EQUIPMENT		EQUIPMENT			
													SUPPLY AIR DESIGN (V _{sz})	OA FRACTION (Z _p)	E.A. CFM REQUIRED	EXHAUST CFM	SUPPLY FAN	EXHAUST FAN
100	VESTIBULE	CORRIDOR	SF	CFMSF	CFM	PPL/1000SF	PPL	CFMPERSON	CFM	CFM		CFM						
101	RECEPTION	RECEPTION AREAS	200	0.06	12	30	6	5	30	42	0.8	53	180	0.29	0		AHU-1	
102	CLS.	CORRIDOR	40	0.06	2	0	0	0	0	2	0.8	3	10	0.30	0		AHU-1	
103	OFFICE	OFFICE SPACES	180	0.06	11	5	1	5	5	15	0.8	19	180	0.11	0		AHU-1	
104	OFFICE	OFFICE SPACES	210	0.06	13	5	1	5	5	18	0.8	22	200	0.11	0		AHU-1	
105	OFFICE	OFFICE SPACES	210	0.06	13	5	1	5	5	18	0.8	22	200	0.11	0		AHU-1	
106	OFFICE	OFFICE SPACES	100	0.06	6	5	1	5	3	9	0.8	11	100	0.11	0		AHU-3	
107	OFFICE	OFFICE SPACES	110	0.06	7	5	1	5	3	9	0.8	12	110	0.11	0		AHU-3	
108	HUDDLE	OFFICE SPACES	110	0.06	7	5	1	5	3	9	0.8	12	110	0.11	0		AHU-3	
109	CORRIDOR	CORRIDOR	270	0.06	16	0	0	0	0	16	0.8	20	270	0.08	0		AHU-1	
110	CONFERENCE ROOM	CONFERENCE/MEETING	780	0.06	47	50	39	5	195	242	0.8	302	1000	0.30	0		AHU-1	
111	BREAK ROOM	BREAK ROOMS	290	0.06	17	25	7	5	36	54	0.8	67	300	0.22	0		AHU-2	
112	COPY/PRINT	OFFICE SPACES	110	0.06	7	5	1	5	3	9	0.8	12	100	0.12	0		AHU-3	
113	OFFICE	OFFICE SPACES	110	0.06	7	5	1	5	3	9	0.8	12	100	0.12	0		AHU-3	
114	OPEN OFFICE	OFFICE SPACES	230	0.06	14	5	1	5	6	20	0.8	24	300	0.08	0		AHU-3	
115	OPEN OFFICE	OFFICE SPACES	600	0.06	36	5	3	5	15	51	0.8	64	700	0.09	0		AHU-3	
116	PLOTTER AREA	OFFICE SPACES	40	0.06	2	5	0	5	1	3	0.8	4	40	0.11	0		AHU-3	
117	WOMENS RR	TOILET ROOMS	160	0	0	0	0	0	0	0	0.8	0	30	0.00	70	70	AHU-2	EF-X
118	MENS RR	TOILET ROOMS	160	0	0	0	0	0	0	0	0.8	0	30	0.00	70	70	AHU-2	EF-X
119	CORRIDOR	CORRIDOR	230	0.06	14	0	0	0	0	14	0.8	17	200	0.09	0		AHU-2	EF-X
120	UNISEX RR	TOILET ROOMS	90	0	0	0	0	0	0	0	0.8	0	30	0.00	70	70	AHU-2	EF-X
121	JAN. CLS.	JANITOR CLOSET	10	0	0	0	0	0	0	0	0.8	0	0	0.00	10	50	AHU-2	EF-1
122	IT ROOM	UTILITY	100	0	0	0	0	0	0	0	0.8	0	200	0.00	0		AC-1	
123	CORRIDOR	CORRIDOR	80	0.06	5	0	0	0	0	5	0.8	6	100	0.06	0		AHU-2	
125	TECH AREA	WAREHOUSES	370	0.06	22	0	0	10	0	22	0.8	28	400	0.07	0		AHU-2	
126	FIRE RISER/DOOR. WATER	UTILITY	120	0	0	0	0	0	0	0	0.8	0	0	0.00	0			
127	WAREHOUSE	WAREHOUSES	3100	0.06	186	0	0	10	0	186	0.8	233	233	1.00	0		OAF-1	
128	ELEC. VAULT	UTILITY	90	0	0	0	0	0	0	0	0.8	0	0	0.00	0			

DD PACKAGED ROOFTOP UNIT SCHEDULE																								
TAG	SERVES	SUPPLY FAN				TOTAL CAPACITY (MBH)	SENSIBLE CAPACITY (MBH)	DX COOLING COIL				GAS HEATING COIL				MCA	MOCP	V/PH/Hz	EER	SEER	WEIGHT	MANUFACTURER	MODEL NO.	REMARKS
		AIRFLOW (CFM)	OUTSIDE AIR (CFM)	HP	ESP			EAT		LAT		EAT		LAT										
								DB (DEG F)	WB (DEG F)	DB (DEG F)	WB (DEG F)	DB (DEG F)	WB (DEG F)	DB (DEG F)	WB (DEG F)									
RTU-1	PLAN SOUTH ZONE	2,100	630	1	1.2	56.0	48.7	80.2	66.5	59.8	58.3	50	85.9	100	81	13	15	460/360	12	14	800	TRANE	YSC080G4	1,3,4,5,6,7,8,9,10,11,12
RTU-2	PLAN WEST ZONE	1,100	330	0.75	1.2	34.3	26.5	80.1	66.6	58.6	57.0	50	104.6	80	64.8	10	15	460/360	12	14	747	TRANE	YSC080G4	1,2,4,5,6,7,8,9,10,11,12
RTU-3	INTERIOR ZONE	1,600	480	1	1.2	46.3	37.2	80.4	66.6	58.7	57.3	50	97	100	81	11	15	460/360	12	14	767	TRANE	YSC048G4	1,3,4,5,6,7,8,9,10,11,12

REMARKS:

- MIN 3-STAGE COOL OR VARIABLE SPEED COMPRESSORS
- 2-STAGE, LOW GAS HEAT
- 2-STAGE, MEDIUM GAS HEAT
- PROVIDE PROGRAMMABLE TOUCHSCREEN THERMOSTAT
- LOW LEAK ENTHALPY ECONOMIZER WITH BAROMETRIC RELIEF
- 2" MERV 8 PLEATED MEDIA FILTERS
- RETURN AIR SMOKE DETECTOR AND CO2 MONITOR
- HACR BREAKER
- 5-YEAR HEAT EXCHANGER AND COMPRESSOR PARTS WARRANTY
- PROVIDE OEM START-UP IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTALLATION AND OPERATION MANUAL
- OEM SHALL WARRANT LABOR AND MATERIALS FOR A PERIOD OF 2 YEARS FROM EQUIPMENT START-UP
- FACTORY PROVIDED PRE-WIRED LOCAL WATER PROOF DISCONNECT SWITCH AND WPIGFI RECEPTACLES

FAN SCHEDULE														MOTOR DATA			MANUFACTURER AND MODEL	UNIT WEIGHT (LBS)	REMARKS
TAG	TYPE	MOUNT	LOCATION	SERVICE	QTY	CFM	E.S.P. (IN. W.C.)	RPM	DRIVE	FLA	MCA	MOP	V/PH/Hz						
EF-1	EXHAUST	CEILING	JAN CLS	JAN CLS	1	50	0.5	800	DIRECT	0.29	0.40	15.00	115/160	GREENHECK SP-A50-90-VG	15	1.2			

REMARKS

- PROVIDE FAN WITH DISCONNECT SWITCH, BACKDRAFT DAMPER, AND BIRDSCREEN
- EF TO RUN CONTINUOUSLY

ELECTRIC WALL HEATER SCHEDULE											
PLAN MARK	MANUFACTURER	CFM	MODEL NO.	CAPACITY (BTU/H)	UNIT SIZE (H" X W" X D")	HEIGHT ABOVE FLR. (FT)	KW	V/PH/Hz	AMPS	INTEGRAL T'STAT	REMARKS
UH-1	Q-MARK	65	CWH1101DSF	341.3	13 X 11 X 4	3	1	120/1/60	8.4	YES	1,2

REMARKS

- PROVIDE RECESS MOUNTING FRAME
- THERMOSTAT TO BE SET TO 68°F

AIR DEVICE SCHEDULE						
TAG	MAKE/ MODEL	DESCRIPTION	SERVICE	SIZE	MAX N.C.	REMARKS
SD-1	#1105	24" SQ LAY IN SQUARE PERFORATED 4-WAY DIFFUSER W/ ROUND NECK	SUPPLY	24"x24"	30	1,2,4,5
SD-2	#5307	12" SPURST SPIRAL DUCT MOUNTED DOUBLE DEFLECTION SUPPLY GRILLE	SUPPLY	12"x6"	30	6
RG-1	#204	LAY IN SQUARE PERFORATED RETURN	RETURN	24"x24"	30	1,2,4,5
RG-2	#6061	WALL MOUNTED LOUVERED RETURN	RETURN	18"x10"	30	1,3,4,5

REMARKS:

- PROVIDE WITH WHITE FINISH
- PROVIDE WITH LAY-IN FRAME. PROVIDE WITH DUCT COLLAR
- PROVIDE WITH TAPE AND MID STYLE FRAME FOR SURFACE MOUNTING. PROVIDE WITH DUCT COLLAR
- PROVIDE SQUARE TO ROUND ADAPTER WHERE REQUIRED
- PROVIDE WITH REMOTE CABLE OPERATED BALANCING DAMPER FOR VOLUME ADJUSTMENT FOR DAMPERS ABOVE DRYWALL CEILINGS
- PROVIDE WITH TITUS H-1 HARD CEILING CLIPS

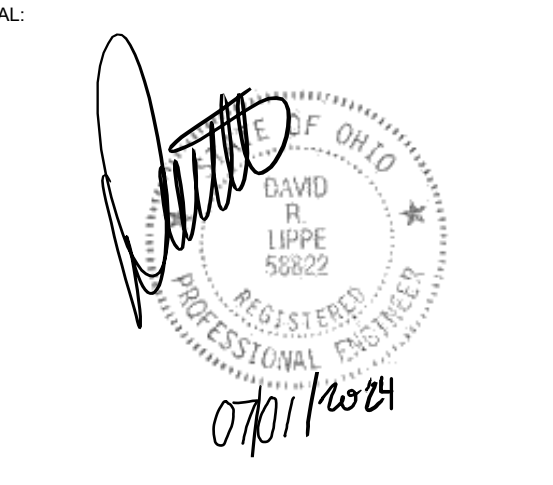
NOTE:
CONTRACTOR TO PROVIDE CORRECT FRAME FOR TYPE OF CEILING/SURFACE DIFFUSER/GRILLE IS MOUNTED IN.



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#	DESCRIPTION	DATE
1	ISSUE FOR PERMIT	07/01/2024

DATE: 07.01.2024
SCALE: AS NOTED
PROJECT NUMBER: EVER903
DRAWN BY: CL
SHEET TITLE: MECHANICAL-SCHEDULES

SHEET NUMBER: M200

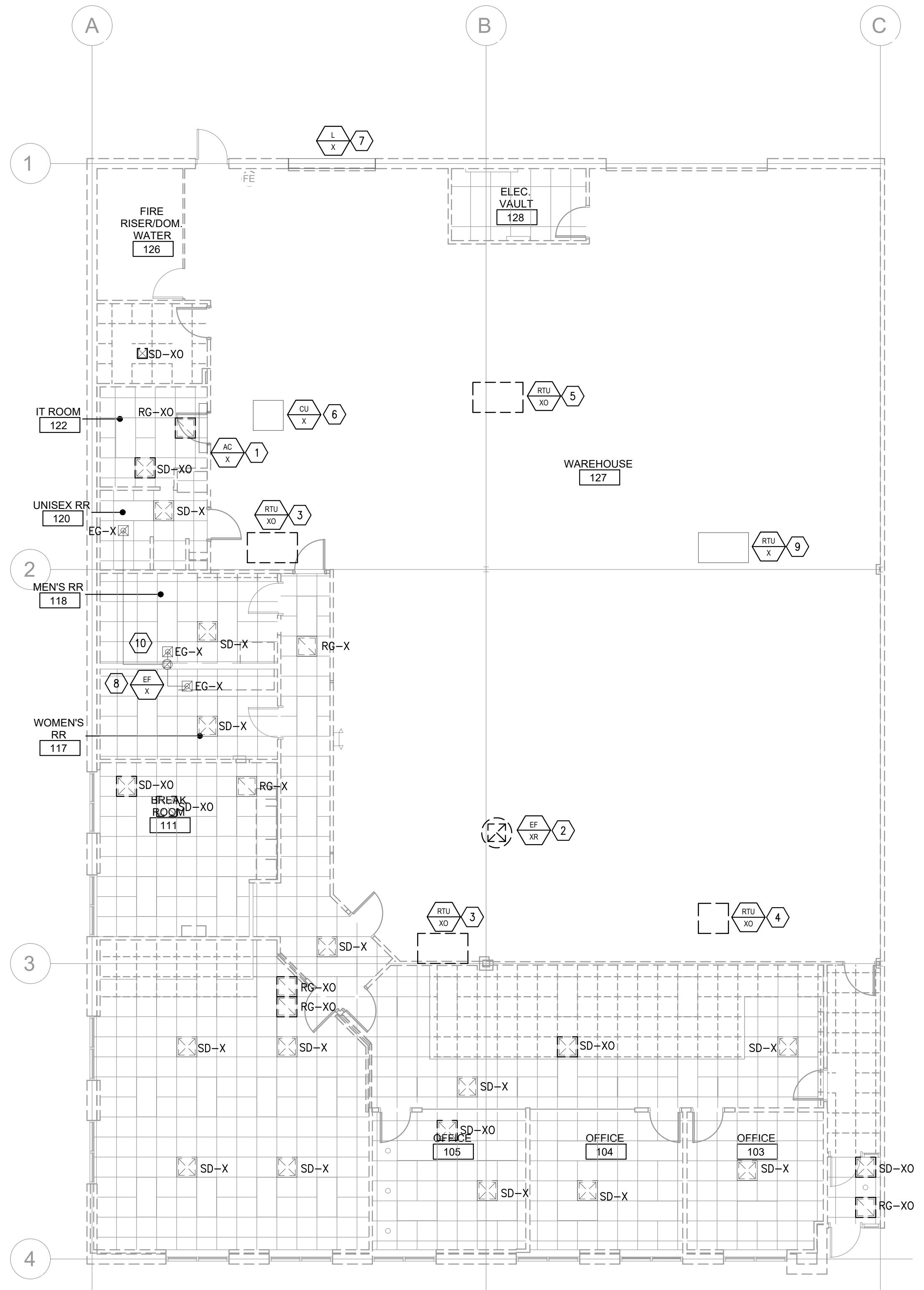
GENERAL NOTES

- REFER TO GENERAL NOTES ON SHEET M000.
- REFER TO SPECIFICATIONS ON SHEET M000.
- BECOME FAMILIAR WITH THE EXISTING CONDITIONS PRIOR TO SUBMITTING A COMPLETE BID WITHIN THE SCOPE OF THE PLANS AND SPECIFICATIONS. WHEN UNCLEAR, VERIFY THE EXTENT OF REMOVALS PRIOR TO BID. BRING TO THE ATTENTION OF THE ENGINEER ANY QUESTIONS IN REGARD TO THE EXTENT OF WORK OR ANY OTHER ISSUES RELATING TO THIS PROJECT.
- WHEN THE EXTENT OF REMOVALS IS UNCLEAR, REQUEST CLARIFICATION FROM THE ENGINEER PRIOR TO COMMENCING WORK.
- REPAIR ALL DAMAGE TO WALLS, CEILING, ETC. IN A WORKLIKE MANNER. SEAL ALL WALL AND CEILING OPENINGS WITH MATCHING MATERIAL.
- THE LOCATION OF EQUIPMENT SHOWN ON THE DRAWINGS IS BASED ON SITE OBSERVATIONS AND THE BEST AVAILABLE INFORMATION AT THE TIME OF DRAWING PREPARATION AND SOME DISCREPANCIES MAY EXIST. VERIFY EXACT LOCATIONS OF EQUIPMENT TO BE REMOVED IN THE FIELD AND REQUEST CLARIFICATION FROM THE ENGINEER WHEN LOCATION OR EXISTENCE DIFFERS FROM PLANS.
- COORDINATE WITH LANDLORD PRIOR TO REMOVING PIPING, DUCTWORK, EQUIPMENT, ETC., THAT MAY AFFECT OPERATIONS OUTSIDE OF TENANT SPACE.

LEGEND	
X	EXISTING TO REMAIN
N	NEW
XR	EXISTING RELOCATED
XRR	EXISTING TO BE RELOCATED
XO	EXISTING TO BE DEMOED
⊙	POINT OF DEMOLITION
⊕	POINT OF NEW CONNECTION

KEY NOTES

- EXISTING INDOOR AC UNIT TO BE RELOCATED TO NEW IT ROOM. REMOVE FROM WALL AND PREPARE TO INSTALL IN NEW LOCATION SHOWN ON M100. RELOCATE RESPECTIVE EXISTING THERMOSTAT INTO NEW IT ROOM.
- EXISTING ROOF MOUNTED EXHAUST FAN TO BE RELOCATED TO NEW LOCATION SHOWN ON M100.
- DEMOLISH EXISTING ROOFTOP UNIT AND PREPARE ROOF PENETRATION FOR NEW ROOFTOP UNIT INSTALLATION. DEMOLISH ALL EXISTING SUPPLY AND RETURN DUCTWORK ASSOCIATED WITH EXISTING RTU.
- DEMOLISH EXISTING ROOFTOP UNIT AND CAP ROOF PENETRATION PER ARCHITECTURAL SPECIFICATIONS. DEMOLISH ALL EXISTING SUPPLY AND RETURN DUCTWORK ASSOCIATED WITH EXISTING RTU.
- DEMOLISH EXISTING ROOFTOP UNIT AND PREPARE ROOF PENETRATION FOR EXISTING EXHAUST FAN TO BE RELOCATED. DEMOLISH ALL EXISTING SUPPLY AND RETURN DUCTWORK ASSOCIATED WITH EXISTING RTU.
- EXISTING CONDENSING UNIT TO REMAIN.
- EXISTING LOUVER TO REMAIN.
- EXISTING TOILET EXHAUST FAN, ALL RESPECTIVE DUCTING AND AIR TERMINALS TO REMAIN.
- EXISTING ROOFTOP UNIT TO REMAIN. CONFIRM THE UNIT TO REMAIN IS YORK M/N: ZE072H12B4A1AA1A1 AND S/N: NTK821696.
- EXISTING EXHAUST FAN, DUCTING, AND GRILLES TO REMAIN.

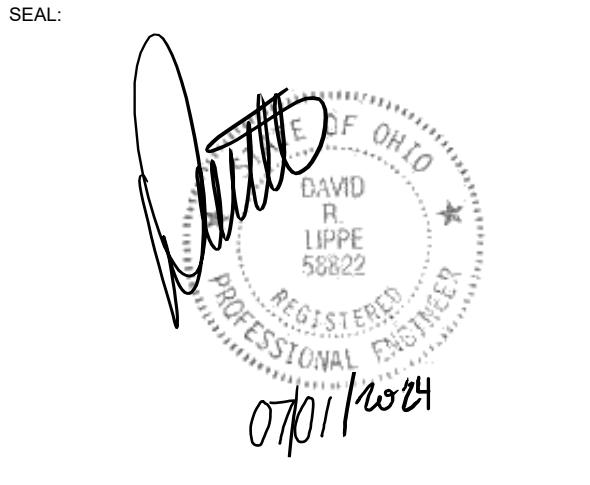


1 MECHANICAL DEMO PLAN
 1/8" = 1'-0"
 MECHANICAL



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 DRAWN BY: CL
 SHEET TITLE:

**MECHANICAL-
 DEMO PLAN**

SHEET NUMBER:

MD100