

## HVAC NOTES

### SCOPE

1. PROVIDE ALL MATERIALS AND EQUIPMENT INDICATED ON THESE DRAWINGS. THE CONTRACTOR IS RESPONSIBLE FOR ALL MATERIALS AND LABOR TO SATISFY A COMPLETE AND WORKING SYSTEM WHETHER SPECIFIED OR IMPLIED
2. WORK TO BE PERFORMED UNDER THE MECHANICAL SPECIFICATIONS AND DRAWINGS CONSISTS OF FURNISHINGS ALL LABOR AND MATERIAL FOR THE INDICATED SPACE INCLUDING BUT NOT LIMITED TO: A. FURNACES AND CONDENSING UNITS B. DUCTWORK, DIFFUSERS, AND ACCESSORIES
3. CONTRACTOR SHALL COORDINATE ALL WORK WITH OTHER TRADES TO AVOID CONFLICT AND TO FACILITATE THE WORK WITHOUT CAUSING UNNECESSARY DELAYS. IMMEDIATELY REPORT ANY DISCREPANCIES, IN WRITING, TO THE ENGINEER ALL CHANGES AND/OR ALTERATIONS REQUIRE REVIEW AND APPROVAL BY THE ENGINEER.

### GENERAL

1. ALL EQUIPMENT SHALL BE INSTALLED IN A WORKMAN LIKE MANNER MEETING THE ACCEPTED STANDARDS OF THE HVAC INDUSTRY. WORK SHALL BE PERFORMED BY FIRMS AND CRAFTSMAN REGULARLY ENGAGING IN WORK OF THIS NATURE.
2. ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND SHALL BE OF THE TYPE AND CAPACITIES INDICATED ON THE DRAWINGS, OR APPROVED EQUAL AND/OR SUBSTITUTIONS.
3. ALL EQUIPMENT AND MATERIALS PROVIDED UNDER THESE SPECIFICATIONS SHALL BE LIMITED TO PRODUCTS REGULARLY PRODUCED AND RECOMMENDED FOR THE PROPOSED SERVICE.
4. SUBSTITUTIONS AND/OR EQUAL PRODUCTS MUST BE APPROVED IN WRITING BY THE ENGINEER PRIOR TO INSTALLATION.
5. GUARANTEE IN WRITING ALL MATERIALS, EQUIPMENT, AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM THE DATE OF THE OWNERS ACCEPTANCE. GUARANTEE SHALL BE UNCONDITIONAL.
6. DO NOT SCALE THIS DRAWING FOR EXACT DIMENSIONS. VERIFY ALL FIGURES, CONDITIONS, DIMENSIONS, ETC. AT THE JOB SITE.
7. ALL EXTERIOR WALL OPENINGS TO BE PROPERLY CAULKED AND SEALED WITH LOW VOLATILE ORGANIC COMPOUND SEALANT TO PREVENT INFILTRATION OF OUTSIDE AIR INTO ROOMS.
8. CONTRACTOR SHALL INSTALL FURNACES, INCLUDING CONNECTION TO EXISTING DUCTWORK, A/C CONDENSING UNITS, REFRIGERANT LINE SETS, THERMOSTATS, AND RELATED HARDWARE.
9. LOCATIONS OF EXISTING EQUIPMENT, INCLUDING PIPING, DUCTWORK, DIFFUSERS, AND REGISTERS, HAVE BEEN TAKEN FROM THE BEST AVAILABLE INFORMATION. THE DRAWINGS ARE INTENDED TO BE USED FOR INFORMATIONAL PURPOSES ONLY. THE CONTRACTOR IS NOT TO SCALE DRAWINGS OR ASSUME THAT ALL EQUIPMENT IS SHOWN. THE CONTRACTOR SHALL VISIT THE SITE TO DETERMINE THE TOTAL EXTENT OF REMOVALS AND NEW WORK AS DIAGRAMED ON THE PLANS. EXTRA COMPENSATION FOR FAILURE TO COMPLY WITH THE ABOVE STATEMENTS WILL NOT BE CONSIDERED.
10. CONTRACTORS SHALL VISIT THE PROJECT PRIOR TO SUBMITTAL OF PROPOSAL AND THOROUGHLY FAMILIARIZE THEMSELVES WITH EXISTING CONDITIONS AND CONDITIONS THAT WILL AFFECT THE PERFORMANCE OF THEIR WORK. FAILURE TO DO SO WILL NOT ENTITLE THEM TO ANY ADDITIONAL COMPENSATION FOR PROVIDING A COMPLETE AND APPROVED SYSTEM.
11. CONTRACTOR SHALL REFER TO ALL DRAWINGS FOR INFORMATION, SPECIFICATIONS, AND/OR INSTRUCTIONS RELATIVE TO THE PROJECT SCOPE OF WORK AND PROVIDE WORK/COORDINATION REQUIRED TO FACILITATE OTHER CONTRACTORS.
12. THERMOSTATS SHALL BE MOUNTED SO THAT OPERABLE PARTS ARE LOCATED NO HIGHER THAN 48" ABOVE FINISHED FLOOR. IF THE REACH IS OVER AN OBSTRUCTION BETWEEN 20" AND 25" IN DEPTH THE MAXIMUM HEIGHT SHALL BE 46"
13. CONTRACTOR SHALL PROVIDE LOCKABLE METAL, VENTED, THERMOSTAT COVERS FOR ALL THERMOSTATS.

14. MECHANICAL CONTRACTOR SHALL PROVIDE CERTIFIED CHECK, TEST , AND START UP SERVICES. TO PROVIDE DRAWINGS OF THE INSTALLED SYSTEM, OWNER TRAINING OF THE CONTROL SYSTEM OPERATION AND EQUIPMENT WARRANTIES.

15. MAINTAIN 10 FT SEPARATION BETWEEN AIR INTAKES AND EXHAUST AIR OR PLUMBING VENTS. FRESH AIR INTAKES TO BE A MIN 3 FT ABOVE ROOF

#### DEMOLITION

1. CONTRACTOR IS RESPONSIBLE FOR SELECTIVE DEMOLITION IN ALL AREAS AS REQUIRED TO ACCOMMODATE THE PROJECT SCOPE OF WORK. ALL SYSTEMS AND ANCILLARY COMPONENTS MADE OBSOLETE SHALL BE COMPLETELY REMOVED AND DISPOSED. INSTALL BY-PASS WHERE REQUIRED TO MAINTAIN THE INTEGRITY OF OVERALL SYSTEMS REMAINING AND SERVING AREAS OUTSIDE THE SCOPE OF WORK AREA.

2. CONTRACTOR SHALL PERFORM A SITE INSPECTION TO ESTABLISH EXTENT OF DEMOLITION PRIOR TO BID.

#### CODES AND STANDARDS

1. ALL WORK SHALL BE PERFORMED IN STRICT COMPLIANCE WITH THE LATEST EDITION OF INTERNATIONAL MECHANICAL CODE, MICHIGAN MECHANICAL CODE-2021, MICHIGAN ENERGY CODE ASHRA 90.1 2015, NFPA, SMACNA, LOCAL CODES, AND REGULATIONS GOVERNING WORK OF THIS NATURE.

2. CONTRACTOR SHALL SECURE ALL PERMITS OR APPLICATIONS, AND PAY ANY AND ALL FEES AS REQUIRED.

#### COORDINATION

1. THIS CONTRACTOR SHALL COORDINATE ALL WORK WITH A COMPLETE SET OF M/P/E AND ARCHITECTURAL DESIGN DRAWINGS. IMMEDIATELY REPORT ANY DISCREPANCIES TO THE ENGINEERS OFFICE.

2. CONTRACTOR IS TO COORDINATE WITH ELECTRICAL CONTRACTOR FOR LOCATIONS OF WIRING FOR EACH FURNACE AND CONDENSING UNITS.

3. CONTRACTOR TO SUPPLY AND INSTALL ALL CONTROL WIRING AND THERMOSTATS AS REQUIRED.

#### MAINTENANCE

1. CONTRACTOR SHALL SERVICE EXISTING HVAC EQUIPMENT TO ASSURE OPERATIONS IS IN COMPLIANCE WITH MANUFACTURERS SPECIFICATIONS. CLEAN UNIT, REPLACE FILTERS, AND RECHARGE REFRIGERANT AS NEEDED.

#### DUCTWORK

1. SMOOTH TURN RADIUS DUCTWORK OF DOUBLE THICKNESS TURNING VANES SHALL BE USED THROUGHOUT WHERE FLOW EXCEEDS 500 CFM.

2. ALL JOINTS TO BE SEALED WITH DUCT MASTIC AND TAPE IN ACCORDANCE WITH SMACNA STANDARDS CLASS 'C'

3. ALL BRANCH AND COMBUSTION AIR DUCTS SHALL HAVE A VOLUME DAMPER.

4. ALL DUCTWORK GALVANIZED SHEETMETAL SUPPLY AND RETURN AIR DUCT 2" WG EXHAUST DUCT 1" WG SMACNA CONSTRUCTION STANDARDS

#### TESTING AND BALANCING AIR SYSTEMS

1. CONTRACTOR SHALL PROVIDE FOR BALANCING OF AIR SYSTEMS TO ACHIEVE VALUES SHOWN ON THE DRAWINGS.

2. PROVIDE DOCUMENTATION TO ENGINEERS OFFICE BY AN INDEPENDENT NEBB OR AABC CERTIFIED TESTAND BALANCE AGENCY FOR REVIEW AND APPROVAL, INDICATING RESULTING AIR FLOWS FROM

PERFORMANCE OF BALANCING. RE-BALANCE SYSTEM AS REQUIRED TO SATISFY SYSTEM REQUIREMENTS.

FIRESTOP

1. PENETRATIONS FOR CABLES, CABLETRAYS, CONDUITS, PIPES, TUBES, COMBUSTION VENTS, AND EXHAUST VENTS, WIRES, AND SIMILAR ITEMS TO ACCOMMODATE ELECTRICAL, MECHANICAL, PLUMBING, AND COMMUNICATIONS SYSTEMS THAT PASS THROUGH A WALL, FLOOR, OR FLOOR/CEILING ASSEMBLY CONSTRUCTED AS A FIRE BARRIER SHALL BE PROTECTED BY A FIRESTOP SYSTEM OR DEVICE. THE FIRESTOP SYSTEM OR DEVICE SHALL BE TESTING IN ACCORDANCE WITH ASTM E 814 OR ANSI / UL 1479.