SEDGWICK MIDDLE SCHOOL
AIR HANDLING UNIT REPLACEMENT

WEST HARTFORD, CONNECTICUT

M/E/P ENGINEER

BEMIS ASSOCIATES LLC

185 MAIN ST.
FARMINGTON CONNECTICUT

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LIST OF DRAWINGS

06/12/2020

GENERAL NOTES:

STRUCTURAL STEEL:

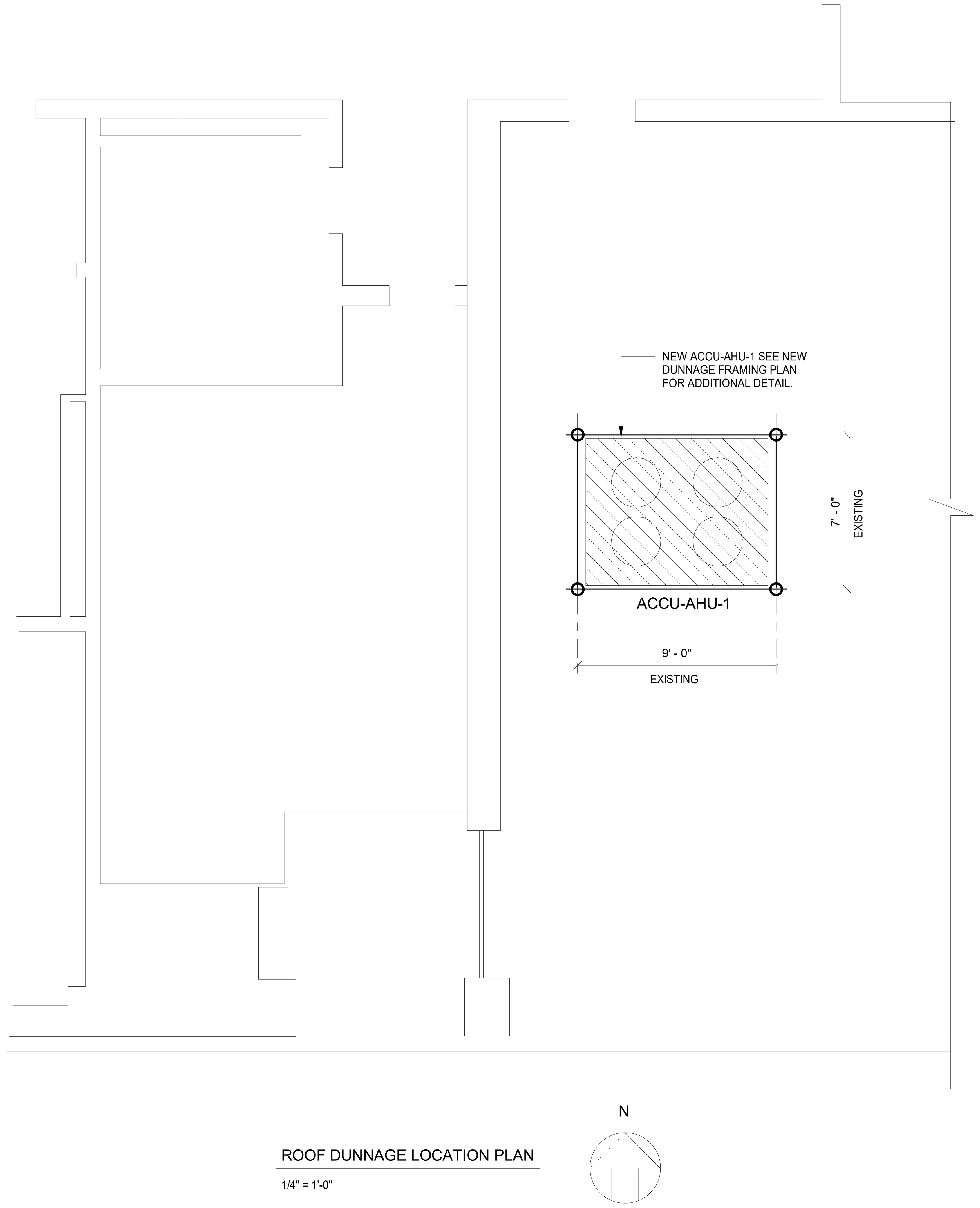
1. ALL WELDING TO BE PERFORMED BY AWS CERTIFIED WELDERS AND IN ACCORDANCE WITH ALL AWS STANDARDS.
2. ALL WELDING TO BE PERFORMED USING E70-XX ELECTRODES.
3. ALL EXISTING AND NEW STEEL SHALL BE PRIMED AND PAINTED (MINIMUMM 2-COATS) WITH DPG-ALKYD INDUSTRIAL ENAMAL OR EQUAL. PAINT INSTALLER SHALL BE IN STRICT CONFORMANCE WITH MANUFACTURERS REQUIREMENTS.
4. ALL WELDS SHALL BE FIELD TOUCHED UP.

DESIGN DATA:

CODES AND STANDARDS USED:

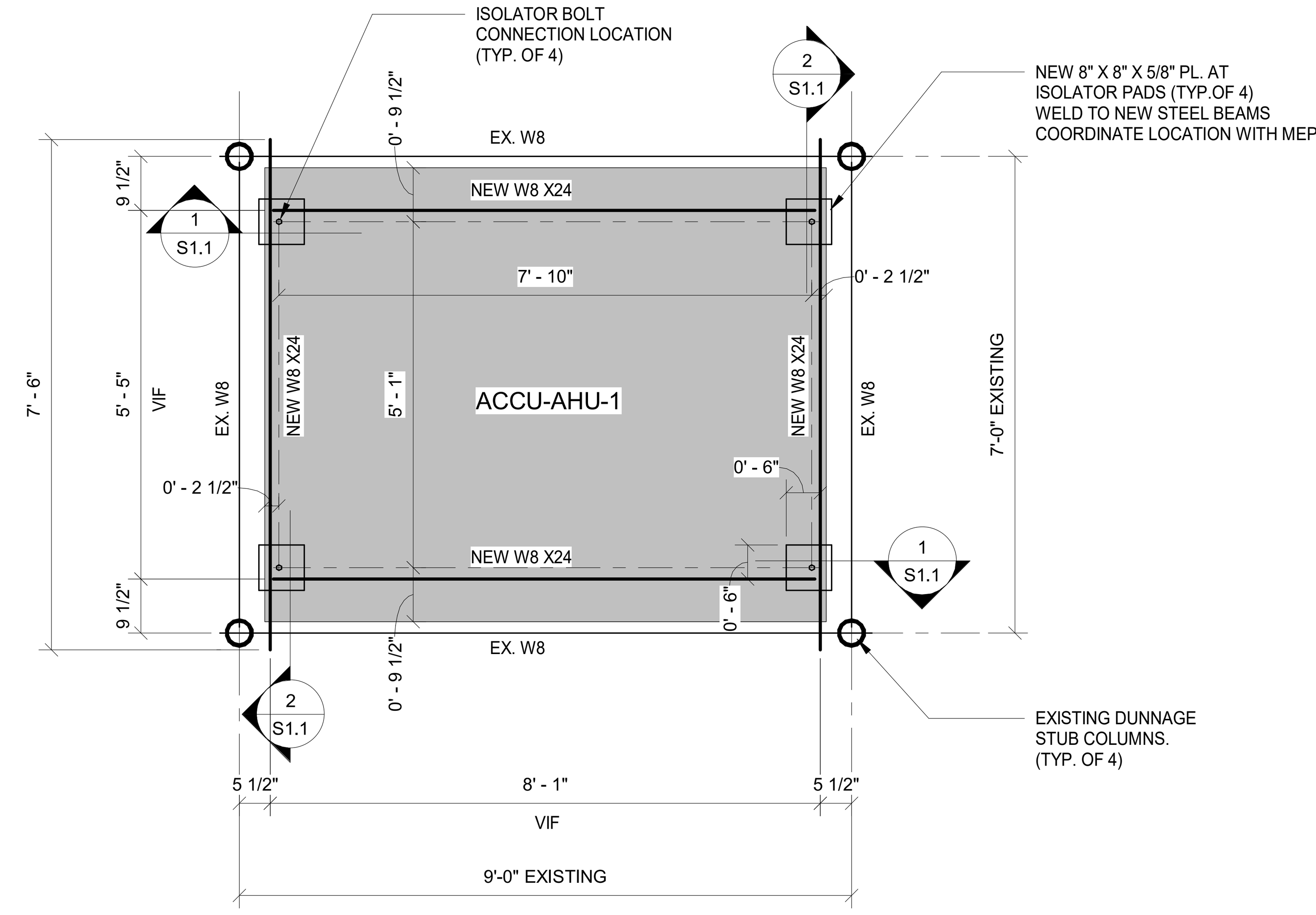
2018 CONNECTICUT BUILDING CODE

AMERICAN INSTITUTE OF STEEL CONSTRUCTION (ALLOWABLE STRESS DESIGN) (AISC-14TH EDITION, ANSI/AISC 360-10)



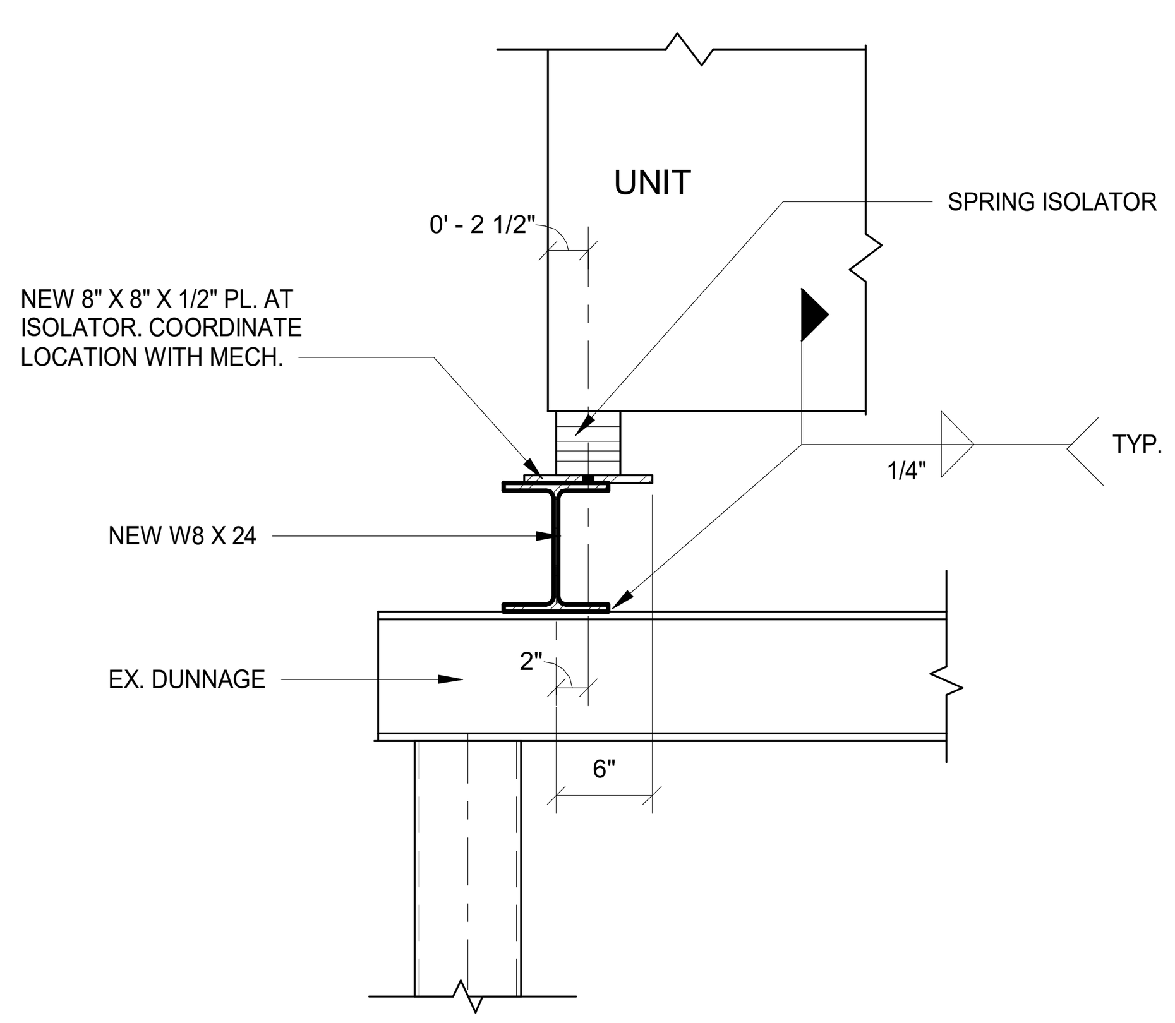
ROOF DUNNAGE LOCATION PLAN

1/4" = 1'-0"

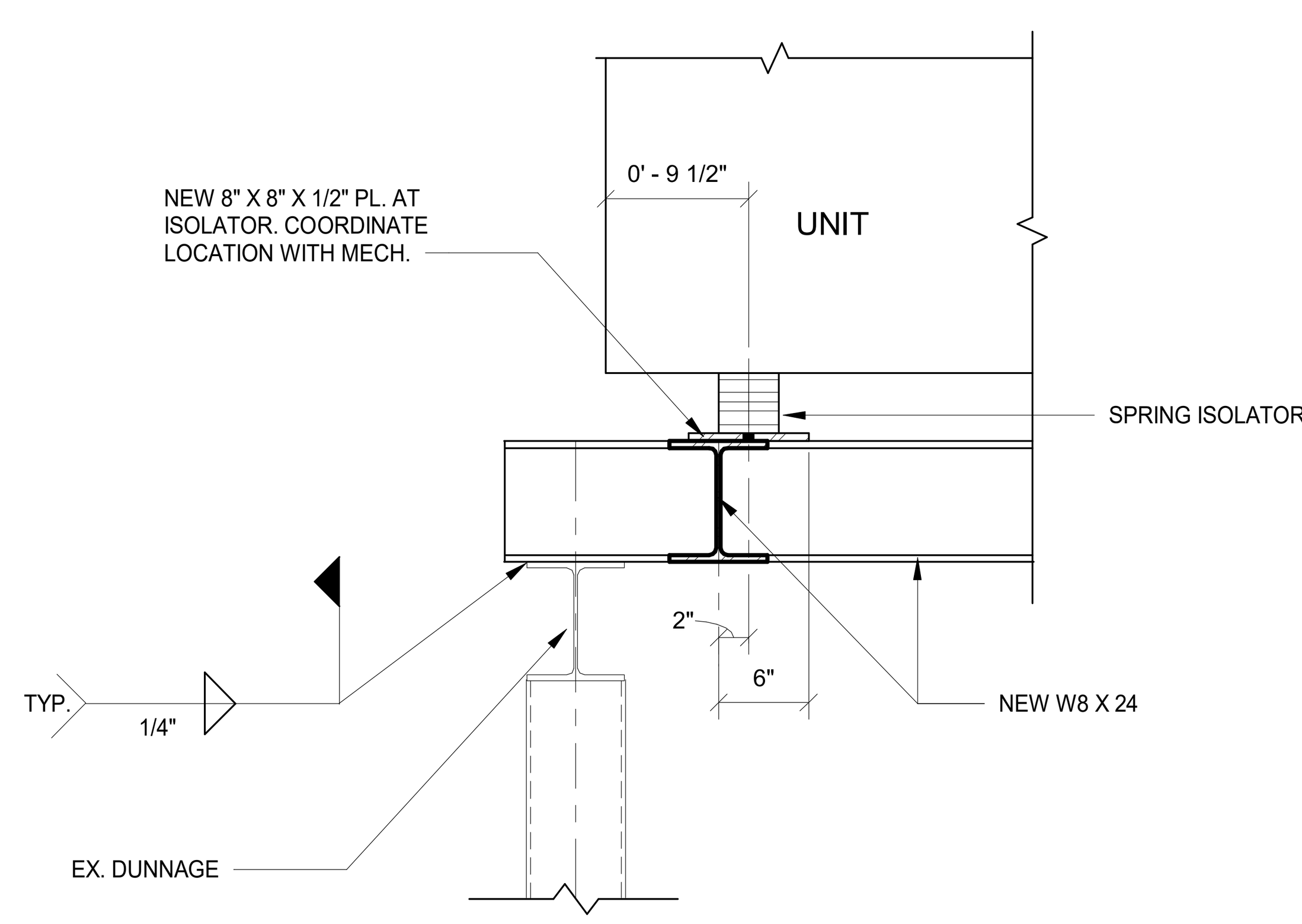


NEW DUNNAGE FRAMING PLAN

NOTE: ALL DIMENSIONS AND DETAILS INDICATED ABOVE ARE TO BE COORDINATED WITH APPROVED EQUIPMENT ABOVE.



1 S1.1 SECTION
1" = 1'-0"



2 S1.1 SECTION
1" = 1'-0"

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TITLE

DUNNAGE FRAMING PLAN AND DETAILS

DATE 06/16/2020

DWG. NO.

S1.1

PIPING GENERAL NOTES

1. INSTALL PIPES IN SUCH A WAY THAT WILL ALLOW EASY ACCESS TO VALVES. IN GENERAL, PIPES SHALL RUN BELOW DUCTS.
2. PROVIDE AIR VENTS AT ALL HIGH POINTS.
3. INSTALL DRAIN VALVES WITH HOSE CONNECTION AT ALL LOW POINTS.
4. PROVIDE HOSE END CAPS WITH CHAIN ON ALL DRAIN VALVES AND AIR VENTS.
5. DRAWINGS ARE DIAGRAMMATIC AND SHOW GENERAL INTENT OF WORK. CONTRACTOR SHALL COORDINATE WITH OTHER TRADES BEFORE WORK BEGINS.
6. ALL TESTS SHALL BE COMPLETED BEFOR ANY MECHANICAL EQUIPMENT OR PIPING INSULATION IS APPLIED
7. LOCATE ALL TEMPERATURE, PRESSURE, AND FLOW MEASURING DEVICES IN ACCESSIBLE LOCATIONS WITH THE STRAIGHT SECTION OF PIPE AND DOWNSTREAM AS RECOMMENDED BY MANUFACTURER FOR GOOD ACCURACY.
8. ALL BALANCING VALVES AND BUTTERFLY VALVES SHALL BE PROVIDED WITH POSITION INDICATORS AND MAXIMUM ADJUSTABLE STOPS (MEMORY STOP)
9. INSTALL ALL PIPING WITHOUT FORCING OR SPRINGING.
10. ALL PIPING WORK SHALL BE COORDINATED WITH ALL TRADES. OFFSETS IN PIPING AROUND OBSTRUCTIONS SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.
11. PROVIDE FLEXIBLE CONNECTIONS IN ALL PIPING SYSTEMS CONNECTED TO PUMPS, CHILLERS, COOLING TOWERS, AND OTHER EQUIPMENT WHICH REQUIRE VIBRATION ISOLATION. FLEXIBLE CONNECTIONS SHALL BE PROVIDED AS CLOSE TO THE EQUIPMENT AS POSSIBLE, OR AS INDICATED ON THE DRAWINGS.
13. CONNECTION TO MAIN SHALL BE FROM THE BOTTOM OF SIDE OF THE MAINS
14. AFTER INSTALLING ALL THE UNITS. THIS CONTRACTOR SHALL PERFORM HYDRONIC BALANCE FOR THE WHOLE HYDRONIC SYSTEM TO PROVIDE THE DESIGNED HOT WATER FLOW FOR EACH UNIT.

MECHANICAL GENERAL NOTES

1. CONTRACTORS SHALL BE RESPONSIBLE TO VERIFY AND FAMILIARIZE THEMSELVES WITH ACTUAL FIELD CONDITIONS ASSOCIATED WITH WORK UNDER THIS CONTRACT. A VISIT TO THE SITE AND EXAMINATION OF THE OTHER MECHANICAL TRADES SHOWING ALL DETAILS OF CONSTRUCTION IS REQUIREMENT PRIOR TO SUBMITTING THEIR BID.
2. IT IS THE INTENT THAT ALL WORK SHALL BE COMPLETED IN EVERY RESPECT AND THAT MATERIAL OR WORK SPECIFICALLY NOT INDICATED ON THE DRAWINGS, BUT NECESSARY TO COMPLETE THE WORK SHALL BE PROVIDED.
3. THE DRAWING ARE DIAGRAMMATIC AND SHOW GENERAL INTENT OF WORK, NOT EXACT EQUIPMENT AND PIPING LOCATIONS, ALL OFFSETS, FITTINGS, TRANSITIONS AND ACCESSORIES ARE NOT NECESSARY SHOWN. COORDINATE THE INSTALLATION OF ALL PIPING, EQUIPMENT AND OTHER WORK WITH ALL TRADES IN ORDER TO AVOID CONFLICT.
4. MAINTAIN MINIMUM 60" CLEARANCE HEIGHT UNDER ALL THE EQUIPMENTS, PIPING AND DUCTWORK (EXCEPT TUNNELS
5. CONTRACTOR SHALL RE-BALANCE AIRFLOW AND WATER FLOW RELATED TO ALL THE UNITS ASSOCIATED WITH AHU-1 SYSTEM. CONTRACTOR SHALL RE-BALANCE AIRFLOW FOR ALL SUPPLY, RETURN, EXHAUST OUTLET ASSOCIATED WITH AHU-1 SYSTEM.

MECHANICAL DEMOLITION WORK - GENERAL NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL EXISTING UTILITY LINES INCLUDING ELECTRICAL, SEWER, WATER, GAS, TELEPHONE, ETC.
2. THE DRAWINGS SHOW DIAGRAMMATICALLY THE APPROXIMATE LOCATION OF UTILITIES WHERE INFORMATION IS AVAILABLE, BUT THE DRAWINGS ARE NOT EXACT AS TO THE QUANTITY, EXTENT OR LOCATION. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION DURING ALL PHASES OF THE WORK TO LOCATE, IDENTIFY, AND PROTECT EXISTING UTILITIES. THE CONTRACTOR SHALL RECORD LOCATION OF AND REPAIR DAMAGE TO EXISTING UTILITIES WHICH ARE ENCOUNTERED AS A RESULT OF WORK UNDER THIS CONTRACT.
3. ANY EQUIPMENT REMOVED DURING DEMOLITION WORK MAY BE RETAINED BY THE OWNER AT HIS OPTION. ANY SUCH MATERIAL SHALL BE STORED IN THE BUILDING AT A LOCATION DESIGNATED BY THE OWNER. REMOVAL OF SUCH MATERIAL FROM THE JOB SITE SHALL BE THE OWNER'S RESPONSIBILITY.
4. COORDINATE ALL DEMOLITION WORK WITH THE REQUIREMENTS OF THE NEW SCOPE OF WORK.
5. PRIOR TO SUBMITTING HIS BID, CONTRACTOR SHALL VISIT THE SITE AND IDENTIFY EXISTING CONDITIONS AND DIFFICULTIES THAT WILL AFFECT WORK TO BE PERFORMED. CONTRACTOR SHALL MEASURE, RECORD AND SUBMIT EXISTING AHU'S AIR AND EXISTING PUMPS WATER FLOWS PRIOR TO COMMENCING ANY DEMOLITION WORK. NO COMPENSATION WILL BE GRANTED FOR ADDITIONAL WORK CAUSED BY UNFAMILIARITY WITH SITE CONDITIONS THAT ARE VISIBLE OR READILY CONSTRUED BY EXPERIENCED OBSERVERS. INCLUDE IN THE BID ALL DEMOLITION WORK REQUIRED.
6. THE DEMOLITION DRAWINGS ARE INTENDED ONLY TO DEFINE THE GENERAL SCOPE OF DEMOLITION WORK AND TO ASSIST THE CONTRACTOR DURING BIDDING. THE DEMOLITION DRAWINGS MAY NOT SHOW EVERY ITEM WHICH MUST BE DISCONNECTED, REMOVED, OR RELOCATED IN ORDER TO FACILITATE NEW WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEMOLITION WORK REQUIRED WHETHER OR NOT SHOWN ON THE PLANS.
7. COORDINATE AND SCHEDULE ALL WORK WITH THE OWNER TO MINIMIZE INCONVENIENCE TO THE BUILDING OCCUPANTS. ALL SERVICES AND SYSTEMS SERVING OCCUPIED AREAS OF THE BUILDING SHALL BE MAINTAINED IN OPERATION DURING WORKING SHIFTS.
8. CONTRACTOR IS RESPONSIBLE FOR ANY TEMPORARY WORK REQUIRED TO KEEP THE BUILDING OCCUPIED DURING CONSTRUCTION.
9. REMOVE AND/OR RELOCATE ALL EXISTING MECHANICAL EQUIP. AS NECESSARY FOR THE PERFORMANCE OF THE WORK OF THIS CONTRACT.
10. REMOVE ALL DEMOLITION MATERIAL FROM THE JOB SITE UNLESS NOTED DIFFERENTLY.
11. CONTRACTOR SHALL FIELD VERIFY LOCATION AND SIZE OF EXISTING MECHANICAL EQUIPMENT.
12. REFER TO SPECIFICATIONS FOR ADDITIONAL DEMOLITION NOTES.
13. CONTRACTOR SHALL MEASURE AND RECORD WATER AND AIR FLOWS FOR ALL AIR HANDLING EQUIPMENT AND PUMPS PRIOR TO DEMOLITION
14. THIS CONTRACTOR IS RESPONSIBLE FOR PROTECTION EXISTING FINISHES, FURNITURE AND EQUIPMENT DURING CONSTRUCTION.
15. THIS CONTRACTOR IS RESPONSIBLE FOR REMOVAL AND REINSTALLATION OF EXISTING CEILING TILES TO PERFORM WORK UNDER THIS CONTRACT. THIS CONTRACTOR SHALL REPLACE ANY TILES DAMAGED AS A RESULT OF WORK UNDER THIS CONTRACT. CONTRACTOR SHALL RECORD AND GIVE NOTICE OF ANY DAMAGED CEILING TILES PRIOR TO STARTING THE DEMOLITION.
16. PRIOR TO START DEMOLISHING WORK, CONTRACTOR SHALL MEASURE WATER AND AIRFLOW FOR ALL THE UNITS, DIFFUSERS, REGISTERS AND LOUVERS RELATED TO AHU-1 SYSTEM. REPORT RESULTS TO THE OWNER.

MECHANICAL - CONTROL - GENERAL NOTES

1. ALL ELECTRIC WIRING, CONNECTIONS, DEVICES, RACEWAY AND HARDWARE REQUIRED FOR THE INSTALLATION OF THE TEMPERATURE CONTROL SYSTEM AS SPECIFIED AND SHOWN ON THE DRAWINGS SHALL BE PROVIDED BY THE TEMPERATURE CONTROLS CONTRACTOR (TCC).
2. ALL CONTROL WIRING SHALL BE INSTALLED IN ACCORDANCE WITH THE CONTROL SYSTEM MANUFACTURER'S REQUIREMENTS AND CURRENT CODE.
3. ALL LOW VOLTAGE CONTROL WIRING SHALL BE PLENUM RATED CABLE OF TYPES AND SIZES REQUIRED BY THE CONTROL SYSTEM MANUFACTURER.
4. PROVIDE MINIMUM OF 3/4" EMT CONDUIT FOR ALL WIRING EXPOSED TO VIEW AND FOR WIRING DROPS AND RUNS WITHIN NEW WALLS.ALL CONDUITS SHALL TERMINATE WITH JUNCTION BOXES OR OUTLET BOXES. PROVIDE BUSHINGS FOR ALL WIRING ENTERIES INTO THE CONDUIT SYSTEM.
5. ALL CONTROL WIRING SHALL BE NEATLY INSTALLED WITH CABLE RUNS INSTALLED PARALLEL TO OR AT RIGHT ANGLES TO THE LINES OF THE BUILDING. ALL WIRING IN NORMALLY OCCUPIED AREAS OF THE BUILDING SHALL BE CONCEALED FROM VIEW. OPEN CABLE RUNS ABOVE CEILINGS SHALL BE BUNDLE TIED WITH PLASTIC CABLE TIES AND SHALL BE SUPPORTED FREE FROM THE CEILING AND MECHANICAL/ELECTRICAL EQUIPMENT USING APPROVED CABLE HANGERS AND CABLE CLIPS.
6. THE CONTROL CONTRACTOR SHALL COORDINATE POWER SUPPLY REQUIREMENTS OF THE CONTROL SYSTEM WITH DIVISION 26.
7. REFER TO SPECIFICATION FOR ADDITIONAL CONTROLS REQUIREMENTS.
8. ALL CONTROLS DEVICES AND ELECTRONICS SHALL BE INSTALLED WITHIN A NEMA-1 ENCLOSURE LOCATED WITHIN PROXIMITY TO THE EQUIPMENT SERVED.

MECHANICAL - DUCTWORK - GENERAL NOTES

1. ALL DUCT CONNECTION TO EQUIPMENT SHALL BE FLEX CONNECTION TYPE.
2. INSTALL UNIT WITH CLEARANCE FOR SERVICE
3. DRAWINGS ARE DIAGRAMMATIC AND SHOW GENERAL INTENT OF WORK NOT EXACT EQUIPMENT LOCATION. ALL CONTRACTORS SHALL COORDINATE EQUIPMENT LOCATIONS WITH OTHER TRADES BEFORE WORK BEGINS.
4. ALL DUCTWORK ELBOWS ARE TO BE FULL RADIUS OR SQUARED WITH DOUBLE THICKNESS TURNING VANES.
5. ALL MATERIAL ABOVE CEILING SHALL BE PLENUM RATED.

MECHANICAL SYMBOLS

- STRAINER
- NORMALLY OPEN BALL VALVE
- NORMALLY CLOSE BALL VALVE
- GAS SHUT-OFF VALVE
- CHECK VALVE
- END CAP OR CAPPED END OF PIPE
- FLOW DIRECTION
- NORMALLY OPEN BUTTERFLY VALVE
- NORMALLY CLOSE BUTTERFLY VALVE
- BALANCE VALVE
- TRIPLE DUTY VALVE
- PIPE ELBOW UP
- PIPE ELBOW DOWN
- PIPE UP
- THERMOSTAT
- PIPE ANCHOR
- PIPE GUIDE
- PIPING UNION
- PRESSURE GAUGE
- THERMOMETER WITH SEPARABLE SOCKET IN IMMERSIBLE WELL
- MOTORIZED 3-WAY VALVE
- MOTORIZED VALVE.
- PRESSURE REDUCER VALVE
- PRESSURE TRANSDUCER
- TEMPERATURE TRANSDUCER
- FLOW SWITCH.
- PUMP

NOTE: NOT ALL SYMBOLS MAYBE USED

GENERAL SYMBOLS

THICK, DARK SOLID LINES INDICATE NEW OR RELOCATED ITEMS.	———
THIN, LIGHT SOLID LINES INDICATE EXISTING ITEMS	———
POINT OF NEW TO EXISTING CONNECTION, INCLUDE TRANSITION.	
SUB LETTER 'EX' INDICATES EXISTING EQUIPMENT.	EX

ELECTRICAL LEGEND

SYMBOL/ ABBREVIATION	DESCRIPTION
	SPECIAL EQUIPMENT POWER CONNECTION. EQUIPMENT AS DESIGNATED.
J	JUNCTION BOX.
	NON-FUSED DISCONNECT SWITCH (BY MECHANICAL CONTRACTOR).
	STARTER / DISCONNECT SWITCH
	CONDUCTORS IN CONDUIT. CROSS LINES INDICATE NUMBER OF CONDUCTORS.
	BRANCH CIRCUIT HOMERUN IN CONDUIT. CROSS LINES INDICATE NUMBER OF CONDUCTORS.
GFCI WP	GFCI DUPLEX RECEPTACLE WITH CAST WEATHERPROOF OUTLET BOX AND METAL IN-USE COVER.
S D	DUCT SMOKE DETECTOR
	120/208V-3Ø-4W PANELBOARD.
A	AMPS.
AHU	AIR HANDLING UNIT.
AFF	ABOVE FINISHED FLOOR.
AWG	AMERICAN WIRE GAUGE.
C	CONDUIT.
C/B	CIRCUIT BREAKER.
CU	CONDENSING UNIT.
EX	EXISTING.
FAPS	FIRE ALARM POWER SUPPLY.
GND.	GROUND.
P	POLE.
VAV	VARIABLE AIR VOLUME BOX.
VFD	VARIABLE FREQUENCY DRIVE.
WP	WEATHERPROOF.

ELECTRICAL DEMOLITION WORK NOTES

1- PRIOR TO SUBMITTING BID, VISIT THE SITE AND IDENTIFY EXISTING CONDITIONS AND DIFFICULTIES THAT WILL AFFECT WORK TO BE PERFORMED. NO COMPENSATION WILL BE GRANTED FOR ADDITIONAL WORK CAUSED BY UNFAMILIARITY WITH SITE CONDITIONS THAT ARE VISIBLE OR READILY CONSTRUED BY EXPERIENCED OBSERVERS. INCLUDE IN THE BID ALL DEMOLITION WORK REQUIRED.

2- THE DEMOLITION DRAWINGS ARE INTENDED ONLY TO DEFINE THE GENERAL SCOPE OF DEMOLITION WORK. AND TO ASSIST THE CONTRACTOR DURING BIDDING. THE DEMOLITION DRAWINGS MAY NOT SHOW EVERY ITEM WHICH MUST BE DISCONNECTED, REMOVED, OR RELOCATED IN ORDER TO FACILITATE NEW WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEMOLITION WORK REQUIRED WHETHER OR NOT SHOWN ON THE PLANS.

3- REMOVE AND/OR RELOCATE ALL EXISTING ELECTRICAL WORK AS NECESSARY FOR THE PERFORMANCE OF THE WORK OF THIS CONTRACT.

4- EXISTING ELECTRICAL EQUIPMENT, WIRING, AND RACEWAYS SHALL NOT BE REUSED UNLESS SPECIFICALLY NOTED OTHERWISE.

5- REMOVE ALL DEMOLITION MATERIAL FROM THE JOB SITE UNLESS NOTED DIFFERENTLY. MATERIAL REQUESTED BY THE OWNER FOR SALVAGE SHALL BE DELIVERED TO THE OWNER'S DESIGNATED MATERIAL STORAGE AREA.

6- PROVIDE WIRING AS REQUIRED AND RECONNECT EXISTING FIXTURES, DEVICES, OR EQUIPMENT THAT ARE TO REMAIN ACTIVE, BUT HAVE BEEN DISCONNECTED DURING DEMOLITION OF OTHER FIXTURES, DEVICES, OR EQUIPMENT.

GENERAL SPECIFICATION NOTES - POWER

1- THE CONTRACTOR SHALL VERIFY AND OBTAIN ALL NECESSARY DIMENSIONS AT THE BUILDING.

2- FINISHED WORK: THE INTENT OF THE SPECIFICATIONS AND DRAWINGS IS TO CALL FOR FINISHED WORK, COMPLETED, TESTED AND READY FOR OPERATION.

3- GOOD PRACTICE: IT IS NOT INTENDED THAT THE DRAWINGS SHOW EVERY CONDUIT, JUNCTION BOX, FITTING OR MINOR DETAIL AND IT IS UNDERSTOOD THAT WHILE THE DRAWINGS MUST BE FOLLOWED AS CLOSELY AS CIRCUMSTANCES WILL PERMIT, THE SYSTEMS SHALL BE INSTALLED ACCORDING TO THE INTENT AND MEANING OF THE CONTRACT DOCUMENTS AND IN ACCORDANCE WITH GOOD PRACTICE.

4- ANY APPARATUS, APPLIANCE, MATERIAL OR WORK NOT SHOWN ON DRAWINGS BUT MENTIONED IN SPECIFICATIONS OR VICE VERSA, OR ANY INCIDENTAL ACCESSORIES NECESSARY TO MAKE THE WORK COMPLETE AND PERFECT IN ALL RESPECTS AND READY FOR OPERATION, EVEN IF NOT PARTICULARLY SPECIFIED, SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR AT NO ADDITIONAL COST TO OWNER.

5- CODES AND STANDARDS - COMPLY WITH ALL FEDERAL, STATE AND LOCAL CODES AND STANDARDS WHEREVER APPLICABLE INCLUDING THE FOLLOWING: 2018 CONNECTICUT STATE BUILDING CODE, 2015 INTERNATIONAL BUILDING CODE, 2018 CONNECTICUT FIRE SAFETY CODE, 2015 INTERNATIONAL FIRE CODE, 2013 NFPA 72 NATIONAL FIRE ALARM CODE, 2017 NFPA 70 NATIONAL ELECTRICAL CODE, 2010 NFPA 110 STANDARD FOR EMERGENCY AND STANDBY POWER SYSTEMS, 2015 INTERNATIONAL ENERGY CONSERVATION CODE, ICC/ANSI A117.1-2009 ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES, ADA, NFPA, UNDERWRITERS LABORATORIES, FACTORY MUTUAL INSURANCE COMPANY, NEMA STANDARDS.

6- NOTE THAT THE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENT OF THE ELECTRICAL EQUIPMENT AND SYSTEMS, WITHOUT SHOWING EVERY DETAIL AND FITTING.

7- RACEWAYS: PROVIDE EMT CONDUIT FOR ALL WIRING. EMT CONNECTORS AND COUPLINGS SHALL BE GALVANIZED STEEL SET-SCREW TYPE. PROVIDE GLAND COMPRESSION CONNECTORS AND COUPLINGS WHERE LOCATED IN DAMP AND WET LOCATIONS. PROVIDE FLEXIBLE STEEL CONDUIT FOR FINAL CONNECTIONS TO MOTOR DRIVEN EQUIPMENT. PROVIDE LIQUID TIGHT FLEXIBLE STEEL CONDUIT FOR FINAL CONNECTIONS TO MOTOR DRIVEN EQUIPMENT LOCATED OUTDOORS.

8- BRANCH CIRCUIT CONDUCTORS SHALL BE COPPER, RATED 600 VOLTS, 90 DEG.C., COLOR CODED, TYPE THWN-2.

9- WIRE SIZE #8 AWG AND LARGER SHALL BE STRANDED. WIRE OF SIZE SMALLER THAN #8 AWG SHALL BE SOLID.

10- MINIMUM SIZE CONDUCTORS FOR POWER AND LIGHTING SHALL BE #12 AWG. PROVIDE MINIMUM #10 AWG SIZE FOR RUNS EXCEEDING 75' IN CONDUCTOR LENGTH, AND #8 AWG SIZE FOR RUNS EXCEEDING 150' IN CONDUCTOR LENGTH. PROVIDE LARGER SIZE CONDUCTORS AS SCHEDULED OR AS NOTED ON THE DRAWINGS.

11- THE NUMBER OF WIRES IN A CONDUIT RUN IS INDICATED ON THE DRAWINGS BY CROSS LINES ON THE CONDUIT RUNS. PROVIDE CODE-SIZED CONDUIT FOR THE NUMBER AND SIZE OF WIRES UNLESS A LARGER SIZE IS SHOWN ON THE DRAWINGS. MINIMUM CONDUIT SIZE SHALL BE 3/4".

12- RACEWAYS SHALL BE CONCEALED WHEREVER POSSIBLE IN ALL FINISHED AREAS.

13- RACEWAYS SHALL BE RUN PARALLEL TO OR AT RIGHT ANGLES TO WALL LINES.

14- RACEWAYS SHALL BE SUPPORTED FROM THE STRUCTURE BY STRAP HANGERS, ROD HANGERS, OR RACK MOUNTED, OR OTHER APPROVED ELECTRICAL MOUNTING.

15- PROVIDE FIRE STOPPING AT ALL FIRE AND/OR SMOKE RATED WALL OR CEILING PENETRATIONS IN ORDER TO MAINTAIN ITS ORIGINAL INTEGRITY.

16- OUTLET JUNCTION, AND PULL BOXES SHALL BE CODE GAUGE GALVANIZED STEEL AND SHALL BE OF SHAPES AND SIZES TO SUIT THEIR RESPECTIVE LOCATIONS AND INSTALLATIONS, AND SHALL BE PROVIDED WITH COVERS TO SUIT THEIR FUNCTION AND INSTALLATION. PROVIDE CAST BOXES FOR OUTDOOR WORK.

17- THE CONTRACTOR SHALL ASSUME THAT THE EXISTING BUILDING WIRING SYSTEM UTILIZES A CONDUIT GROUND. THE CONTRACTOR SHALL MAINTAIN ADEQUATE GROUND CONTINUITY FOR ALL NEW WORK.

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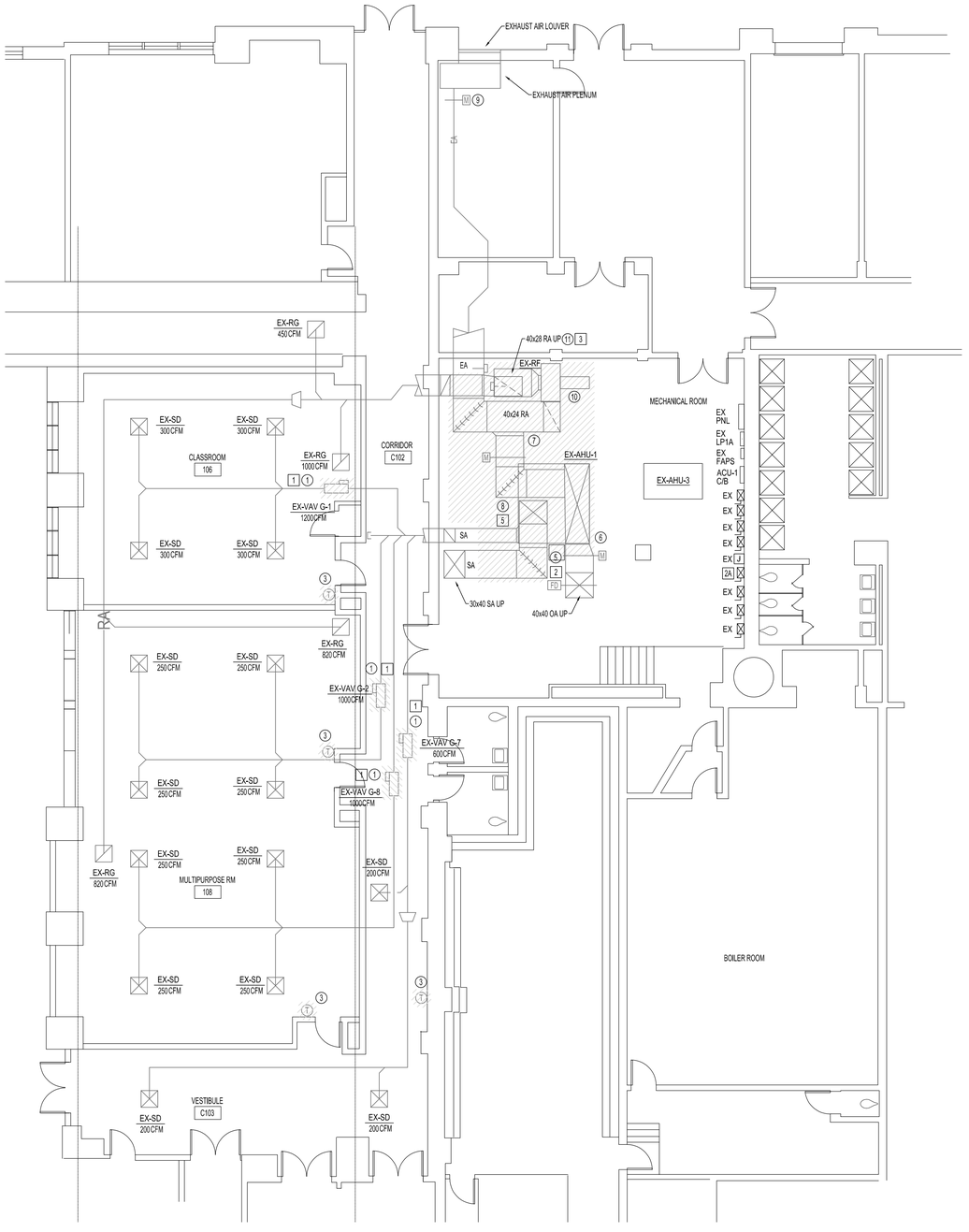
TITLE
MECHANICAL / ELECTRICAL GENERAL NOTES, AND SYMBOLS

DATE 06/12/2020

DWG. NO.
ME0.1



MECHANICAL DEMOLITION WORK – GROUND FLOOR PLAN

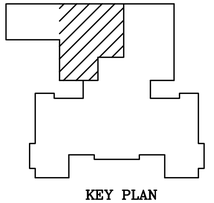
1/8" = 1'-0"

MECHANICAL DEMOLITION WORK - KEYED NOTES

1. REMOVE EXISTING VAV BOX AND ALL ASSOCIATED SUPPORTS AND HANGERS, DISCONNECT DUCTWORK AND PROVIDE DUCTWORK CAP DURING CONSTRUCTION. DISCONNECT HOT WATER PIPING, REMOVE HOT WATER PIPING AND CONTROL VALVE BACK TO VAV BOX ISOLATION VALVES, PROVIDE PIPING CAP DURING CONSTRUCTION. DISCONNECT CONTROL WIRING AND KEEP SAFE DURING CONSTRUCTION.
2. REMOVE EXISTING VAV BOX AND ALL ASSOCIATED SUPPORTS AND HANGERS, DISCONNECT DUCTWORK AND PROVIDE DUCTWORK CAP DURING CONSTRUCTION. DISCONNECT PNEUMATIC CONTROL TUBING, REMOVE PNEUMATIC CONTROL TUBING BACK TO MAIN TUBING AND PROVIDE TUBING CAP.
3. REMOVE EXISTING THERMOSTAT, DISCONNECT CONTROL WIRING AND KEEP SAFE DURING CONSTRUCTION. BATCH THE WALL TO MATCH EXISTING.
4. REMOVE EXISTING THERMOSTAT. DISCONNECT PNEUMATIC CONTROL TUBING. REMOVE PNEUMATIC CONTROL TUBING BACK TO MAIN TUBING AND PROVIDE TUBING CAP. BATCH WALL TO MATCH EXISTING.
5. REMOVE EXISTING AIR CONDITIONING UNIT (EX-AHU-1) AND ALL ASSOCIATED RAILS AND SUPPORTS. REMOVE ASSOCIATED SUPPLY FAN VFD. DISCONNECT DUCTWORK, DISCONNECT CONTROL WIRING AND KEEP SAFE. LEGALLY DISPOSE OF REFRIGERANT, REMOVE REFRIGERANT PIPING AND ALL ASSOCIATED FITTINGS, ACCESSORIES, HANGERS, SUPPORTS UP TO UNDER DECK PROVIDE PERMANENT REFRIGERANT PIPING CAPS, PATCH THE CEILING TO MATCH EXISTING. DISCONNECT HOT WATER PIPING, REMOVE HOT WATER PIPING AND CONTROL VALVE BACK TO UNDER CEILING, PROVIDE INSULATED PIPING CAPS DURING CONSTRUCTION. DISCONNECT PNEUMATIC CONTROL TUBING, REMOVE PNEUMATIC CONTROL TUBING BACK TO MAIN TUBING AND PROVIDE TUBING CAP.
6. REMOVE EXISTING OA DUCTWORK AS INDICATED, REMOVE ALL ASSOCIATED SUPPORTS AND HANGERS, PROVIDE DUCTWORK CAP DURING CONSTRUCTION. REMOVE OA MOTORIZED DAMPER, REMOVE DUCT MOUNTED SENSORS. DISCONNECT CONTROL WIRING AND KEEP SAFE.
7. REMOVE EXISTING RA/EA DUCTWORK AND ALL ASSOCIATED SUPPORTS AND HANGERS, PROVIDE DUCTWORK CAPS DURING CONSTRUCTION. REMOVE RA MOTORIZED DAMPER AND DUCT MOUNTED SENSORS. DISCONNECT CONTROL WIRING AND KEEP SAFE.
8. REMOVE EXISTING SA DUCTWORK AND ALL ASSOCIATED SUPPORTS AND HANGERS, PROVIDE DUCTWORK CAP DURING CONSTRUCTION. REMOVE SA MOTORIZED DAMPER AND DUCT MOUNTED SENSORS, DISCONNECT CONTROL WIRING AND KEEP SAFE.
9. EXISTING MOTORIZED DAMPER AND EXHAUST PLENUM TO REMAIN.
10. REMOVE EXISTING RETURN FAN (EX-RF) AND ALL ASSOCIATED VFD, RAILS, SUPPORTS AND HANGERS, DISCONNECT DUCTWORK. DISCONNECT CONTROL WIRING AND KEEP SAFE. REMOVE EXISTING DUCTWORK AND ALL ASSOCIATED SUPPORTS AND HANGERS AS SHOWN, PROVIDE DUCTWORK CAPS DURING CONSTRUCTION.
11. REMOVE EXISTING RETURN DUCTWORK AS INDICATED. REMOVE DUCTWORK RISER UP TO UNDER THE CEILING, PROVIDE DUCTWORK CAP DURING CONSTRUCTION. REMOVE MOTORIZED DAMPERS AND DUCT MOUNTED SENSORS. DISCONNECT CONTROL WIRING AND KEEP SAFE.
12. REMOVE EXISTING AIR COOLED CONDENSING UNIT AND ALL ASSOCIATED REFRIGERANT PIPING. REMOVE EXISTING REFRIGERANT PIPING ON ROOF. PROVIDE REFRIGERANT PIPING CAPS. PROVIDE PIPING INSULATION WITH WEATHERPROOF ALUMINUM JACKET FOR THE EXPOSED PIPING BACK TO THE WALL PENETRATION. FLASH WEATHERPROOF JACKET TO THE WALL, SEAL EXISTING PIPING PENETRATION. DISCONNECT CONTROL WIRING AND KEEP SAFE. EXISTING RAILS TO REMAIN. CLEAN AND PAINT EXISTING RAILS.

ELECTRICAL DEMOLITION WORK - KEYED NOTES

1. DISCONNECT EXISTING VAV BOX BRANCH CIRCUIT POWER FEED. RETAIN EXISTING WIRING/CONDUIT AND PREP FOR EXTENSION AND RECONNECT TO NEW VAV BOX.
2. REMOVE EXISTING AIR CONDITIONING UNIT (EX-AHU-1) ELECTRICAL AND ALL ASSOCIATED OBSOLETE WIRING BACK TO STARTER / DISCONNECT (COMPLETE), MAKE SAFE.
2A. REMOVE EXISTING AIR CONDITION UNIT (EX-AHU-1) STARTER / DISCONNECT (CUTLER HAMMER HV 9000) AND ALL ASSOCIATED OBSOLETE WIRING TO UPSTREAM PANEL (COMPLETE), MAKE SAFE.
3. DISCONNECT EXISTING RETURN FAN (EX-RF) ELECTRICAL, VFD AND ALL ASSOCIATED OBSOLETE WIRING TO UPSTREAM PANEL , MAKE SAFE.
4. REMOVE EXISTING CONDENSING UNIT (EX-ACCU-1) ELECTRICAL AND ALL ASSOCIATED OBSOLETE WIRING BACK TO UPSTREAM PANEL (COMPLETE), MAKE SAFE.
5. DISCONNECT AND REMOVE EXISTING DUCT SMOKE DETECTOR ASSOCIATED WITH AHU BEING REPLACED. RETAIN EXISTING WIRING AND PREP FOR EXTENSION AND RECONNECTION TO NEW DUCT SMOKE DETECTOR, BLANK OFF ANY OPENING LEFT IN EXISTING DUCTWORK FROM REMOVAL OF DUCT SMOKE DETECTOR.



KEY PLAN

NORTH

SEDGWICK MIDDLE SCHOOL
AHU REPLACEMENT
WET HARTFORD, CONNECTICUT

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www.bemisassociates.com

TITLE
MECHANICAL / ELECTRICAL DEMOLITION WORK – GROUND FLOOR PLAN

DATE 06/12/2020

DWG. NO.
MED1.1

MECHANICAL DEMOLITION WORK – FIRST FLOOR PLAN

1/8" = 1'-0"

MECHANICAL DEMOLITION WORK - KEYED NOTES

(1) REMOVE EXISTING VAV BOX AND ALL ASSOCIATED SUPPORTS AND HANGERS, DISCONNECT DUCTWORK AND PROVIDE DUCTWORK CAP DURING CONSTRUCTION. DISCONNECT HOT WATER PIPING, REMOVE HOT WATER PIPING AND CONTROL VALVE BACK TO VAV BOX ISOLATION VALVES, PROVIDE PIPING CAP DURING CONSTRUCTION. DISCONNECT CONTROL WIRING AND KEEP SAFE DURING CONSTRUCTION.

(2) REMOVE EXISTING VAV BOX AND ALL ASSOCIATED SUPPORTS AND HANGERS, DISCONNECT DUCTWORK AND PROVIDE DUCTWORK CAP DURING CONSTRUCTION. DISCONNECT PNEUMATIC CONTROL TUBING, REMOVE PNEUMATIC CONTROL TUBING BACK TO MAIN TUBING AND PROVIDE TUBING CAP.

(3) REMOVE EXISTING THERMOSTAT, DISCONNECT CONTROL WIRING AND KEEP SAFE DURING CONSTRUCTION. BATCH THE WALL TO MATCH EXISTING.

(4) REMOVE EXISTING THERMOSTAT, DISCONNECT PNEUMATIC CONTROL TUBING, REMOVE PNEUMATIC CONTROL TUBING BACK TO MAIN TUBING AND PROVIDE TUBING CAP. BATCH WALL TO MATCH EXISTING.

(5) REMOVE EXISTING AIR CONDITIONING UNIT (EX-AHU-1) AND ALL ASSOCIATED RAILS AND SUPPORTS. REMOVE ASSOCIATED SUPPLY FAN VFD. DISCONNECT DUCTWORK, DISCONNECT CONTROL WIRING AND KEEP SAFE. LEGALLY DISPOSE OF REFRIGERANT, REMOVE REFRIGERANT PIPING AND ALL ASSOCIATED FITTINGS, ACCESSORIES, HANGERS, SUPPORTS UP TO UNDER DECK PROVIDE PERMANENT REFRIGERANT PIPING CAPS. PATCH THE CEILING TO MATCH EXISTING. DISCONNECT HOT WATER PIPING, REMOVE HOT WATER PIPING AND CONTROL VALVE BACK TO UNDER CEILING, PROVIDE INSULATED PIPING CAPS DURING CONSTRUCTION. DISCONNECT PNEUMATIC CONTROL TUBING, REMOVE PNEUMATIC CONTROL TUBING BACK TO MAIN TUBING AND PROVIDE TUBING CAP.

(6) REMOVE EXISTING OA DUCTWORK AS INDICATED. REMOVE ALL ASSOCIATED SUPPORTS AND HANGERS, PROVIDE DUCTWORK CAP DURING CONSTRUCTION. REMOVE OA MOTORIZED DAMPER, REMOVE DUCT MOUNTED SENSORS. DISCONNECT CONTROL WIRING AND KEEP SAFE.

(7) REMOVE EXISTING RA/EA DUCTWORK AND ALL ASSOCIATED SUPPORTS AND HANGERS, PROVIDE DUCTWORK CAPS DURING CONSTRUCTION. REMOVE RA MOTORIZED DAMPER AND DUCT MOUNTED SENSORS. DISCONNECT CONTROL WIRING AND KEEP SAFE.

(8) REMOVE EXISTING SA DUCTWORK AND ALL ASSOCIATED SUPPORTS AND HANGERS, PROVIDE DUCTWORK CAP DURING CONSTRUCTION. REMOVE SA MOTORIZED DAMPER AND DUCT MOUNTED SENSORS, DISCONNECT CONTROL WIRING AND KEEP SAFE.

(9) EXISTING MOTORIZED DAMPER AND EXHAUST PLENUM TO REMAIN.

(10) REMOVE EXISTING RETURN FAN (EX-RF) AND ALL ASSOCIATED VFD, RAILS, SUPPORTS AND HANGERS, DISCONNECT DUCTWORK. DISCONNECT CONTROL WIRING AND KEEP SAFE. REMOVE EXISTING DUCTWORK AND ALL ASSOCIATED SUPPORTS AND HANGERS AS SHOWN, PROVIDE DUCTWORK CAPS DURING CONSTRUCTION.

(11) REMOVE EXISTING RETURN DUCTWORK AS INDICATED, REMOVE DUCTWORK RISER UP TO UNDER THE CEILING, PROVIDE DUCTWORK CAP DURING CONSTRUCTION. REMOVE MOTORIZED DAMPERS AND DUCT MOUNTED SENSORS. DISCONNECT CONTROL WIRING AND KEEP SAFE.

(12) REMOVE EXISTING AIR COOLED CONDENSING UNIT AND ALL ASSOCIATED REFRIGERANT PIPING. REMOVE EXISTING REFRIGERANT PIPING ON ROOF, PROVIDE REFRIGERANT PIPING CAPS, PROVIDE PIPING INSULATION WITH WEATHERPROOF ALUMINUM JACKET FOR THE EXPOSED PIPING BACK TO THE WALL PENETRATION. FLASH WEATHERPROOF JACKET TO THE WALL, SEAL EXISTING PIPING PENETRATION. DISCONNECT CONTROL WIRING AND KEEP SAFE. EXISTING RAILS TO REMAIN, CLEAN AND PAINT EXISTING RAILS.

ELECTRICAL DEMOLITION WORK - KEYED NOTES

[1] DISCONNECT EXISTING VAV BOX BRANCH CIRCUIT POWER FEED. RETAIN EXISTING WIRING/CONDUIT AND PREP FOR EXTENSION AND RECONNECT TO NEW VAV BOX.

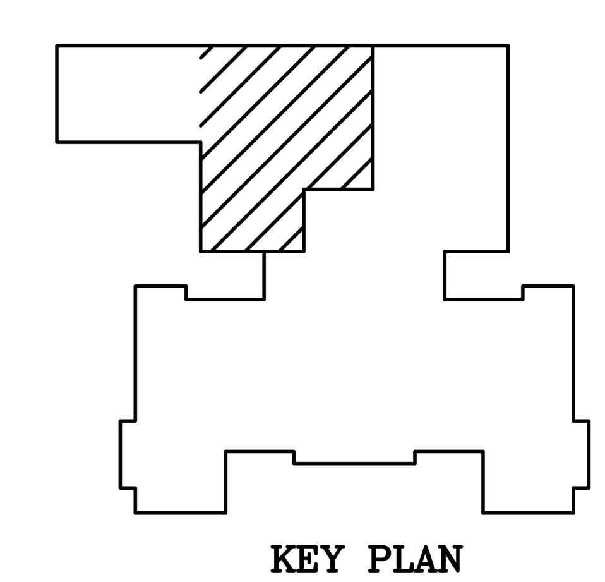
[2] REMOVE EXISTING AIR CONDITIONING UNIT (EX-AHU-1) ELECTRICAL AND ALL ASSOCIATED OBSOLETE WIRING BACK TO STARTER / DISCONNECT (COMPLETE), MAKE SAFE.

[2A] REMOVE EXISTING AIR CONDITION UNIT (EX-AHU-1) STARTER / DISCONNECT (CUTLER HAMMER HV 9000) AND ALL ASSOCIATED OBSOLETE WIRING TO UPSTREAM PANEL (COMPLETE), MAKE SAFE.

[3] DISCONNECT EXISTING RETURN FAN (EX-RF) ELECTRICAL, VFD AND ALL ASSOCIATED OBSOLETE WIRING TO UPSTREAM PANEL , MAKE SAFE.

[4] REMOVE EXISTING CONDENSING UNIT (EX-ACCU-1) ELECTRICAL AND ALL ASSOCIATED OBSOLETE WIRING BACK TO UPSTREAM PANEL (COMPLETE), MAKE SAFE.

[5] DISCONNECT AND REMOVE EXISTING DUCT SMOKE DETECTOR ASSOCIATED WITH AHU BEING REPLACED. RETAIN EXISTING WIRING AND PREP FOR EXTENSION AND RECONNECTION TO NEW DUCT SMOKE DETECTOR. BLANK OFF ANY OPENING LEFT IN EXISTING DUCTWORK FROM REMOVAL OF DUCT SMOKE DETECTOR.



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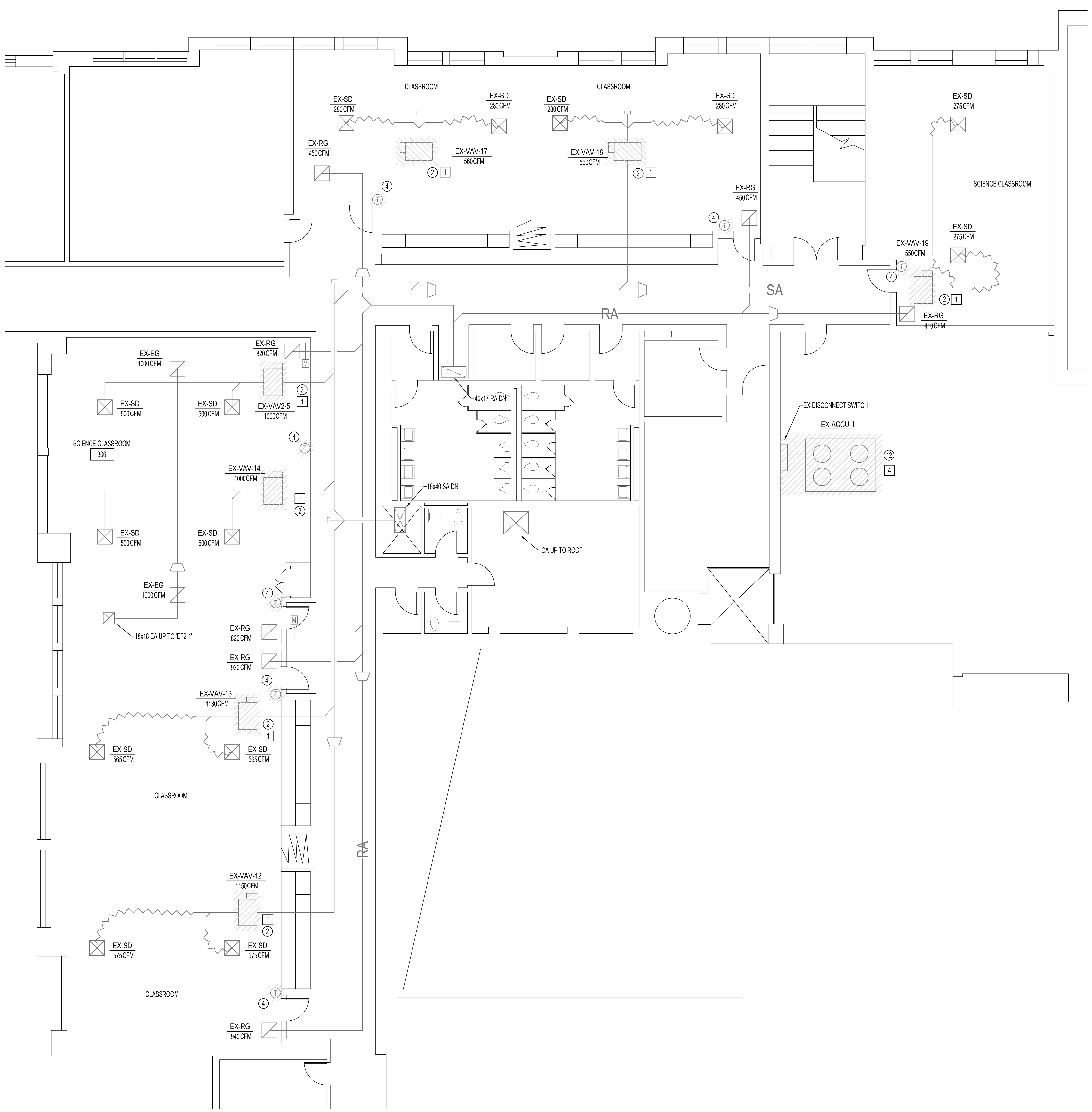
TITLE
MECHANICAL / ELECTRICAL DEMOLITION WORK – FIRST FLOOR PLAN

DATE 06/12/2020

DWG. NO.
MED1.2



MECHANICAL DEMOLITION WORK – SECOND FLOOR PLAN

1/8" = 1'-0"

MECHANICAL DEMOLITION WORK - KEYED NOTES

1. REMOVE EXISTING VAV BOX AND ALL ASSOCIATED SUPPORTS AND HANGERS, DISCONNECT DUCTWORK AND PROVIDE DUCTWORK CAP DURING CONSTRUCTION. DISCONNECT HOT WATER PIPING, REMOVE HOT WATER PIPING AND CONTROL VALVE BACK TO VAV BOX ISOLATION VALVES, PROVIDE PIPING CAP DURING CONSTRUCTION. DISCONNECT CONTROL WIRING AND KEEP SAFE DURING CONSTRUCTION.
2. REMOVE EXISTING VAV BOX AND ALL ASSOCIATED SUPPORTS AND HANGERS, DISCONNECT DUCTWORK AND PROVIDE DUCTWORK CAP DURING CONSTRUCTION. DISCONNECT PNEUMATIC CONTROL TUBING, REMOVE PNEUMATIC CONTROL TUBING BACK TO MAIN TUBING AND PROVIDE TUBING CAP.
3. REMOVE EXISTING THERMOSTAT, DISCONNECT CONTROL WIRING AND KEEP SAFE DURING CONSTRUCTION. BATCH THE WALL TO MATCH EXISTING.
4. REMOVE EXISTING THERMOSTAT, DISCONNECT PNEUMATIC CONTROL TUBING, REMOVE PNEUMATIC CONTROL TUBING BACK TO MAIN TUBING AND PROVIDE TUBING CAP. BATCH WALL TO MATCH EXISTING.
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6. REMOVE EXISTING OA DUCTWORK AS INDICATED. REMOVE ALL ASSOCIATED SUPPORTS AND HANGERS, PROVIDE DUCTWORK CAP DURING CONSTRUCTION. REMOVE OA MOTORIZED DAMPER, REMOVE DUCT MOUNTED SENSORS. DISCONNECT CONTROL WIRING AND KEEP SAFE.
7. REMOVE EXISTING RA/EA DUCTWORK AND ALL ASSOCIATED SUPPORTS AND HANGERS, PROVIDE DUCTWORK CAPS DURING CONSTRUCTION. REMOVE RA MOTORIZED DAMPER AND DUCT MOUNTED SENSORS. DISCONNECT CONTROL WIRING AND KEEP SAFE.
8. REMOVE EXISTING SA DUCTWORK AND ALL ASSOCIATED SUPPORTS AND HANGERS, PROVIDE DUCTWORK CAP DURING CONSTRUCTION. REMOVE SA MOTORIZED DAMPER AND DUCT MOUNTED SENSORS, DISCONNECT CONTROL WIRING AND KEEP SAFE.
9. EXISTING MOTORIZED DAMPER AND EXHAUST PLENUM TO REMAIN.
10. REMOVE EXISTING RETURN FAN (EX-RF) AND ALL ASSOCIATED VFD, RAILS, SUPPORTS AND HANGERS, DISCONNECT DUCTWORK. DISCONNECT CONTROL WIRING AND KEEP SAFE. REMOVE EXISTING DUCTWORK AND ALL ASSOCIATED SUPPORTS AND HANGERS AS SHOWN, PROVIDE DUCTWORK CAPS DURING CONSTRUCTION.
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12. REMOVE EXISTING AIR COOLED CONDENSING UNIT AND ALL ASSOCIATED REFRIGERANT PIPING. REMOVE EXISTING REFRIGERANT PIPING ON ROOF, PROVIDE REFRIGERANT PIPING CAPS, PROVIDE PIPING INSULATION WITH WEATHERPROOF ALUMINUM JACKET FOR THE EXPOSED PIPING BACK TO THE WALL PENETRATION. FLASH WEATHERPROOF JACKET TO THE WALL, SEAL EXISTING PIPING PENETRATION. DISCONNECT CONTROL WIRING AND KEEP SAFE. EXISTING RAILS TO REMAIN, CLEAN AND PAINT EXISTING RAILS.

ELECTRICAL DEMOLITION WORK - KEYED NOTES

[1] DISCONNECT EXISTING VAV BOX BRANCH CIRCUIT POWER FEED. RETAIN EXISTING WIRING/CONDUIT AND PREP FOR EXTENSION AND RECONNECT TO NEW VAV BOX.

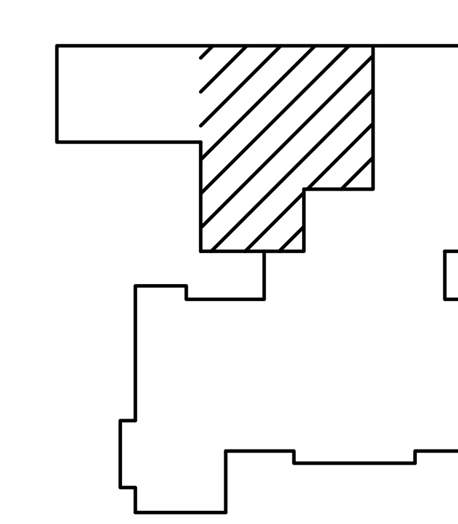
[2] REMOVE EXISTING AIR CONDITIONING UNIT (EX-AHU-1) ELECTRICAL AND ALL ASSOCIATED OBSOLETE WIRING BACK TO STARTER / DISCONNECT (COMPLETE), MAKE SAFE.

[2A] REMOVE EXISTING AIR CONDITION UNIT (EX-AHU-1) STARTER / DISCONNECT (CUTLER HAMMER HV 9000) AND ALL ASSOCIATED OBSOLETE WIRING TO UPSTREAM PANEL (COMPLETE), MAKE SAFE.

[3] DISCONNECT EXISTING RETURN FAN (EX-RF) ELECTRICAL, VFD AND ALL ASSOCIATED OBSOLETE WIRING TO UPSTREAM PANEL , MAKE SAFE.

[4] REMOVE EXISTING CONDENSING UNIT (EX-ACCU-1) ELECTRICAL AND ALL ASSOCIATED OBSOLETE WIRING BACK TO UPSTREAM PANEL (COMPLETE), MAKE SAFE.

[5] DISCONNECT AND REMOVE EXISTING DUCT SMOKE DETECTOR ASSOCIATED WITH AHU BEING REPLACED. RETAIN EXISTING WIRING AND PREP FOR EXTENSION AND RECONNECTION TO NEW DUCT SMOKE DETECTOR. BLANK OFF ANY OPENING LEFT IN EXISTING DUCTWORK FROM REMOVAL OF DUCT SMOKE DETECTOR.



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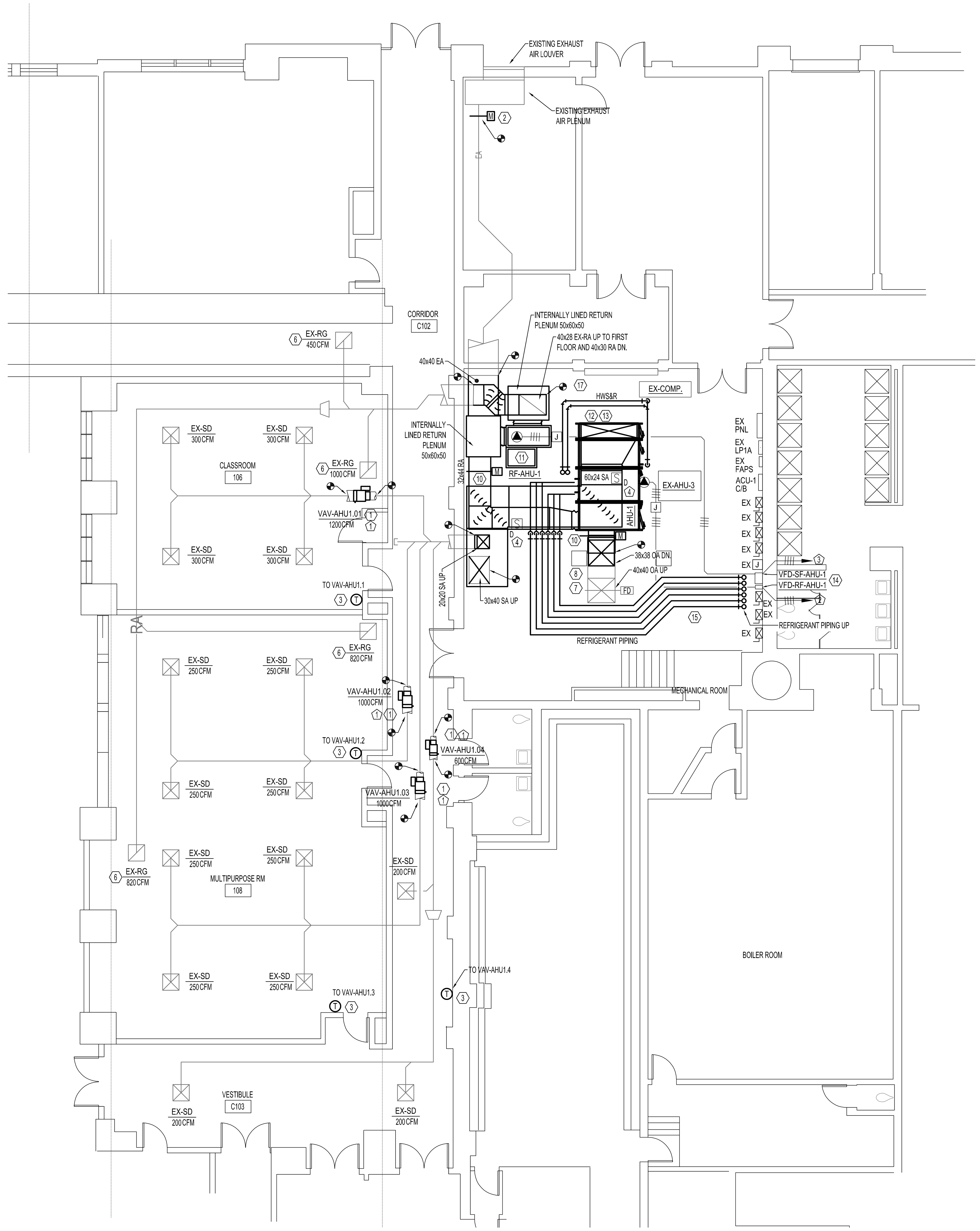
TITLE
MECHANICAL / ELECTRICAL DEMOLITION WORK – SECOND FLOOR PLAN

DATE 06/12/2020

DWG. NO.
MED1.3



MECHANICAL NEW WORK - GROUND FLOOR PLAN

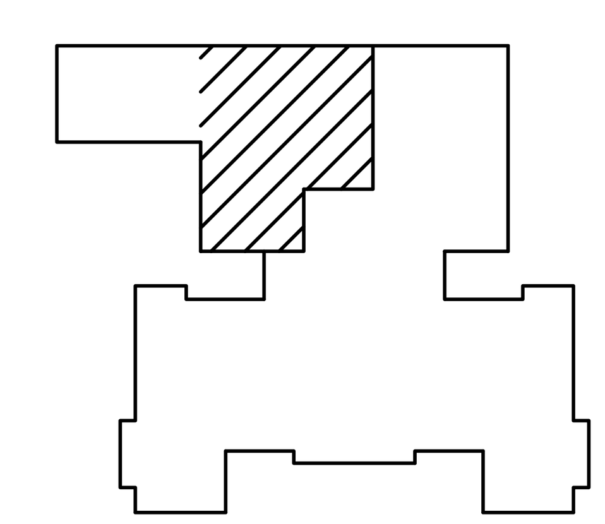
1/8" = 1'-0"

MECHANICAL NEW WORK - KEYED NOTES

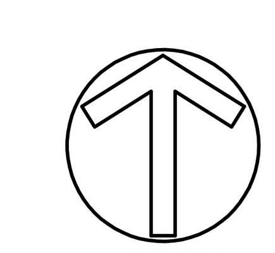
1. PROVIDE NEW VAV BOX WITH HOT WATER COIL AND:
   - A. CLEAN EXISTING SUPPLY DUCTWORK FROM VAV TO EVERY ASSOCIATED SUPPLY DIFFUSER.
   - B. CLEAN ALL ASSOCIATED EXISTING SUPPLY DIFFUSERS (EX-SD).
   - C. EXTEND EXISTING 3/4" HOT WATER SUPPLY AND RETURN AND PROVIDE THE FINAL PIPING CONNECTIONS TO VAV BOX HOT WATER COIL. FOR PIPING ARRANGEMENT REFER TO TYPICAL DETAILS.
   - D. EXTEND DUCTWORK TO THE VAV BOX INLET AND OUTLET AND PROVIDE FINAL CONNECTIONS TO VAV BOX. FOR DUCT WORK ARRANGEMENT REFER TO TYPICAL DETAILS.
   - E. BALANCE EXISTING DUCTWORK AIR FLOW TO PROVIDE FLOW (CFM) SHOWN ON THE DRAWINGS FOR THE ASSOCIATED DIFFUSERS.
2. EXISTING EXHAUST AIR MOTORIZED DAMPER SHALL REMAIN. CLEAN:
   - A. EXISTING EXHAUST AIR LOUVER
   - B. EXISTING EXHAUST AIR PLENUM
   - C. EXISTING EXHAUST DUCTWORK BACK TO RF-AHU-1
   - D. PROVIDE NEW ALUMINUM BIRD SCREEN MESH.
   - E. CLEAN, TEST AND MAINTAIN THE BACKDRAFT DAMPER.
3. PROVIDE NEW THERMOSTAT, RECONNECT CONTROL WIRING.
4. PROVIDE NEW THERMOSTAT AND CONTROL WIRING.
5. PROVIDE NEW VAV BOX AND:
   - A. CLEAN EXISTING SUPPLY DUCTWORK FROM VAV TO EVERY ASSOCIATED SUPPLY DIFFUSER.
   - B. CLEAN ALL ASSOCIATED EXISTING SUPPLY DIFFUSERS(EX-SD).
   - C. EXTEND DUCTWORK TO THE VAV BOX INLET AND OUTLET AND PROVIDE FINAL CONNECTIONS TO VAV BOX. FOR DUCT WORK ARRANGEMENT REFER TO TYPICAL DETAILS.
   - D. BALANCE EXISTING DUCTWORK AIR FLOW TO PROVIDE FLOW (CFM) SHOWN ON THE DRAWINGS FOR THE ASSOCIATED DIFFUSERS.
6. CLEAN EXISTING RETRUN REGISTER (EX-RG) AND ASSOCIATED DUCTWORK BACK TO RF-AHU-1
7. CLEAN, TEST AND MAINTAIN EXISTING FIRE DAMPER.
8. CLEAN EXISTING OUTSIDE AIR (OA) DUCTWORK UP TO OUTSIDE AIR HOOD ON ROOF.
9. CLEAN EXISTING OUTSIDE AIR HOOD ON ROOF, PROVIDE NEW ALUMINUM BIRD SCREEN MESH.
10. PROVIDE NEW MOTORIZED DAMPER COORDINATE EXACT LOCATION ON SITE.
11. PROVIDE NEW RETURN FAN, COORDINATE EXACT LOCATION ON SITE.
12. PROVIDE NEW AHU COORDINATE EXACT LOCATION OF THE UNIT ON SITE. IT'S CONTRACTOR RESPONSIBILITY TO FIELD VERIFY AND MAKE SURE TO GET THE UNIT IN THE MECHANICAL ROOM. EXTEND EXISTING HOT WATER PIPING AND PROVIDE FINAL PIPING CONNECTION TO THE UNIT, FOR PIPING ARRANGEMENT SEE TYPICAL DETAIL ON SHEET#M3.0. PIPE NEW REFRIGERANT PIPING AND PROVIDE FINAL CONNECTION, REFER TO TYPICAL DETAIL ON SHEET#M3.0. PIPE CONDENSATE DRAIN TO EXISTING FLOOR DRAIN REFER TO TYPICAL DETAIL ON SHEET#M3.0
13. POUR NEW CONCRETE PAD, CONCRETE PAD SHALL BE 6" LARGER THAN THE AHU FOOTPRINT ON EACH SIDE.FOR MORE INFORMATION SEE TYPICAL DETAILS.
14. PROVIDE NEW VFD, COORDINATE EXACT LOCATION ON SITE.
15. PROVIDE REFRIGERANT PIPING, COORDINATE EXACT ROUTING ON SITE. THIS CONTRACTOR SHALL SUBMIT PIPING LAYOUT AND SIZING. PROVIDE INTERMEDIATE TRAPS ON THE GAS PIPING IN THE MIDDEL RUN OF THE RISERS. OPEN THE CEILING TO INSTALL REFRIGERANT PIPING AND PATCH TO MATCH EXISTING.
16. PROVIDE NEW ACCU-AHU-1, COORDINATE EXACT LOCATION ON SITE. COORDINATE WITH THE STRUCTURAL ENGINEER.
17. RE-LOCATE SPRINKLER HEADS AS REQUIRED, COUNT OF 6.
18. PIPE NEW REFRIGERANT PIPING AND PROVIDE FINAL CONNECTION, REFER TO TYPICAL DETAIL ON SHEET#M3.0. PROVIDE ROOF PIPING SUPPORT.

ELECTRICAL NEW WORK - KEYED NOTES

1. PROVIDE WIRING/CONDUIT AS REQUIRED AND EXTEND AND RECONNECT EXISTING BRANCH CIRCUIT POWER FEED TO NEW VAV BOX. ANY NEW WIRING SHALL BE #12 AWG CONDUCTORS INSTALLED IN 3/4"C. MAKE FINAL CONNECTION WITH LIQUID-TIGHT FLEXIBLE METAL CONDUIT.
2. NEW RETURN AIR FAN BY MECHANICAL CONTRACTOR, WIRED BY ELECTRICAL CONTRACTOR:
   EXTEND 3#6 XHHW-2, 1#10 XHHW-2 GROUND IN 1"EMT CONDUIT FROM NEW VFD TO NEW 3P-50A CIRCUIT BREAKER IN EXISTING LOCAL PANEL AND CONNECT. EXTEND 3#6 XHHW-2, 1#10 XHHW-2 GROUND IN 1"C TO JUNCTION BOX LOCATED ON CEILING ABOVE EQUIPMENT TO VFD AND CONNECT. EXTEND 3#6 XHHW-2, 1#10 XHHW-2 GROUND IN LIQUID-TIGHT FLEXIBLE METAL CONDUIT FROM JUNCTION BOX TO NEW RETURN AIR FAN AND CONNECT AS REQUIRED (COMPLETE). VERIFY FINAL ELECTRICAL REQUIREMENTS WITH EQUIPMENT SUPPLIER.
3. NEW AHU BY MECHANICAL CONTRACTOR, WIRED BY ELECTRICAL CONTRACTOR:
   EXTEND 3#6 XHHW-2, 1#10 XHHW-2 GROUND IN 1"EMT CONDUIT FROM NEW VFD TO NEW 3P-50A CIRCUIT BREAKER IN EXISTING LOCAL PANEL AND CONNECT. EXTEND 3#6 XHHW-2, 1#10 XHHW-2 GROUND IN 1"C TO JUNCTION BOX LOCATED ON CEILING ABOVE EQUIPMENT TO VFD AND CONNECT. EXTEND 3#6 XHHW-2, 1#10 XHHW-2 GROUND IN LIQUID-TIGHT FLEXIBLE METAL CONDUIT FROM JUNCTION BOX TO NEW RETURN AIR FAN AND CONNECT AS REQUIRED (COMPLETE). VERIFY FINAL ELECTRICAL REQUIREMENTS WITH EQUIPMENT SUPPLIER.
4. PROVIDE NEW DUCT SMOKE DETECTOR IN THE AHU SUPPLY/RETURN AIR DUCT. LOCATE DUCT SMOKE DETECTOR AHEAD OF ANY SUPPLY AIR DUCT BRANCH TAKE-OFFS. THE NEW DUCT SMOKE DETECTOR SHALL MATCH THE EXISTING BUILDING STANDARD AND SHALL BE COMPATIBLE WITH THE EXISTING BUILDING FIRE ALARM SYSTEM. PROVIDE WIRING AS REQUIRED AND RECONNECT TO EXISTING FIRE ALARM INITIATION CIRCUIT. PROVIDE A REMOTE TEST STATION AND ASSOCIATED WIRING FOR THE DUCT SMOKE DETECTOR AND FLUSH MOUNT IN THE WALL ADJACENT TO THE AHU.
5. NEW CU BY MECHANICAL CONTRACTOR, WIRED BY ELECTRICAL CONTRACTOR:
   EXTEND 3#250 KCMIL XHHW-2, 1#4 AWG XHHW2 GROUND IN 3"C FROM NEW CU WEATHERPROOF DISCONNECT SWITCH TO NEW 3P-250A CIRCUIT BREAKER IN EXISTING PANEL (IN SPACE MADE AVAILABLE BY REMOVAL OF EXISTING) AND CONNECT.



KEY PLAN



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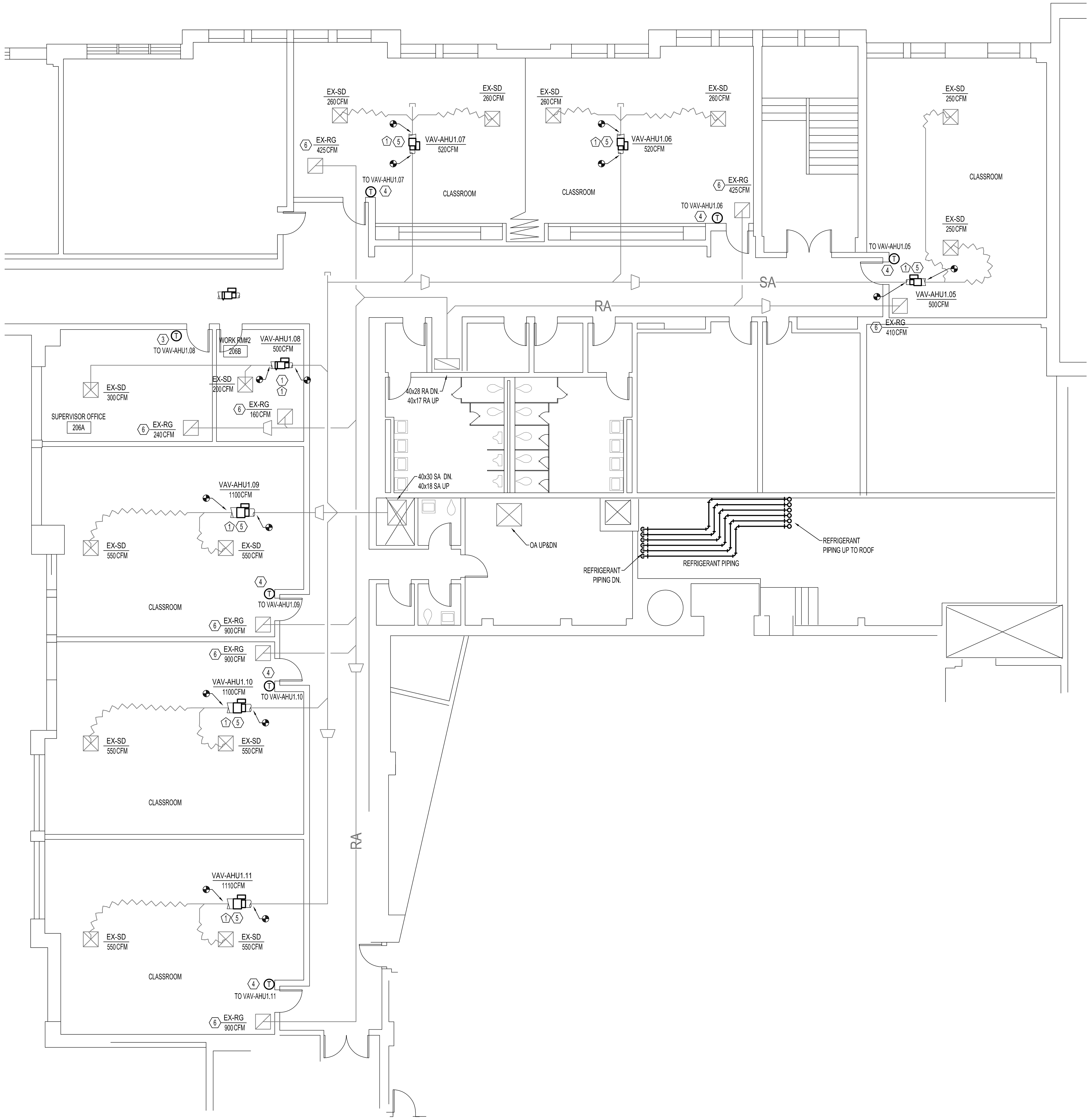
TITLE
MECHANICAL / ELECTRICAL NEW WORK - GROUND FLOOR PLAN

DATE 06/12/2020

DWG. NO.
ME1.1



MECHANICAL NEW WORK - FIRST FLOOR PLAN

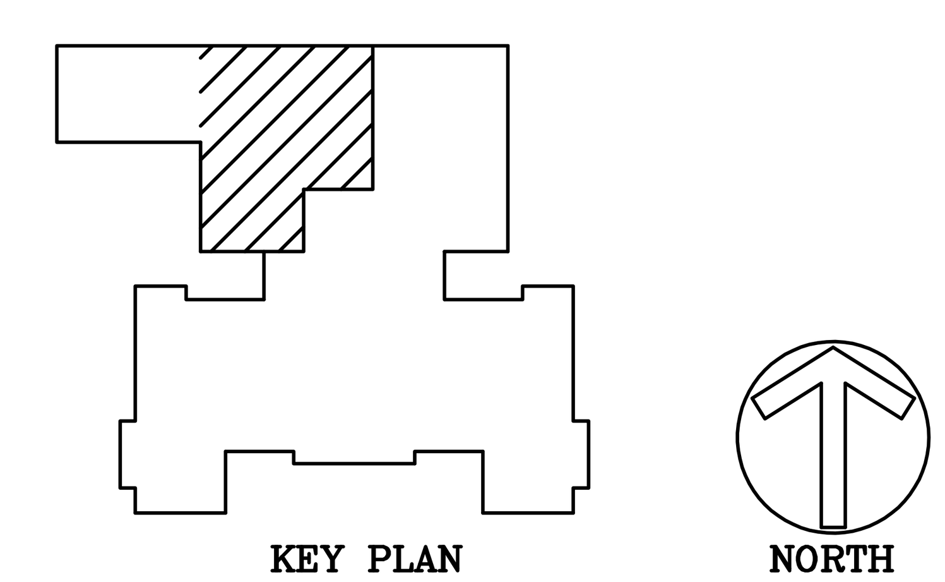
1/8" = 1'-0"

MECHANICAL NEW WORK - KEYED NOTES

1. PROVIDE NEW VAV BOX WITH HOT WATER COIL AND:
   A. CLEAN EXISTING SUPPLY DUCTWORK FROM VAV TO EVERY ASSOCIATED SUPPLY DIFFUSER.
   B. CLEAN ALL ASSOCIATED EXISTING SUPPLY DIFFUSERS (EX-SD).
   C. EXTEND EXISTING 3/4" HOT WATER SUPPLY AND RETURN AND PROVIDE THE FINAL PIPING CONNECTIONS TO VAV BOX HOT WATER COIL. FOR PIPING ARRANGEMENT REFER TO TYPICAL DETAILS.
   D. EXTEND DUCTWORK TO THE VAV BOX INLET AND OUTLET AND PROVIDE FINAL CONNECTIONS TO VAV BOX. FOR DUCT WORK ARRANGEMENT REFER TO TYPICAL DETAILS.
   E. BALANCE EXISTING DUCTWORK AIR FLOW TO PROVIDE FLOW (CFM) SHOWN ON THE DRAWINGS FOR THE ASSOCIATED DIFFUSERS.
2. EXISTING EXHAUST AIR MOTORIZED DAMPER SHALL REMAIN. CLEAN:
   A. EXISTING EXHAUST AIR LOUVER
   B. EXISTING EXHAUST AIR PLENUM
   C. EXISTING EXHAUST DUCTWORK BACK TO RF-AHU-1
   D. PROVIDE NEW ALUMINUM BIRD SCREEN MESH.
   E. CLEAN, TEST AND MAINTAIN THE BACKDRAFT DAMPER.
3. PROVIDE NEW THERMOSTAT, RECONNECT CONTROL WIRING.
4. PROVIDE NEW THERMOSTAT AND CONTROL WIRING.
5. PROVIDE NEW VAV BOX AND:
   A. CLEAN EXISTING SUPPLY DUCTWORK FROM VAV TO EVERY ASSOCIATED SUPPLY DIFFUSER.
   B. CLEAN ALL ASSOCIATED EXISTING SUPPLY DIFFUSERS(EX-SD).
   C. EXTEND DUCTWORK TO THE VAV BOX INLET AND OUTLET AND PROVIDE FINAL CONNECTIONS TO VAV BOX. FOR DUCT WORK ARRANGEMENT REFER TO TYPICAL DETAILS.
   D. BALANCE EXISTING DUCTWORK AIR FLOW TO PROVIDE FLOW (CFM) SHOWN ON THE DRAWINGS FOR THE ASSOCIATED DIFFUSERS.
6. CLEAN EXISTING RETRUN REGISTER (EX-RG) AND ASSOCIATED DUCTWORK BACK TO RF-AHU-1
7. CLEAN, TEST AND MAINTAIN EXISTING FIRE DAMPER.
8. CLEAN EXISTING OUTSIDE AIR (OA) DUCTWORK UP TO OUTSIDE AIR HOOD ON ROOF.
9. CLEAN EXISTING OUTSIDE AIR HOOD ON ROOF, PROVIDE NEW ALUMINUM BIRD SCREEN MESH.
10. PROVIDE NEW MOTORIZED DAMPER COORDINATE EXACT LOCATION ON SITE.
11. PROVIDE NEW RETURN FAN, COORDINATE EXACT LOCATION ON SITE.
12. PROVIDE NEW AHU COORDINATE EXACT LOCATION OF THE UNIT ON SITE. IT'S CONTRACTOR RESPONSIBILITY TO FIELD VERIFY AND MAKE SURE TO GET THE UNIT IN THE MECHANICAL ROOM. EXTEND EXISTING HOT WATER PIPING AND PROVIDE FINAL PIPING CONNECTION TO THE UNIT, FOR PIPING ARRANGEMENT SEE TYPICAL DETAIL ON SHEET#M3.0. PIPE NEW REFRIGERANT PIPING AND PROVIDE FINAL CONNECTION, REFER TO TYPICAL DETAIL ON SHEET#M3.0. PIPE CONDENSATE DRAIN TO EXISTING FLOOR DRAIN REFER TO TYPICAL DETAIL ON SHEET#M3.0
13. POUR NEW CONCRETE PAD, CONCRETE PAD SHALL BE 6" LARGER THAN THE AHU FOOTPRINT ON EACH SIDE.FOR MORE INFORMATION SEE TYPICAL DETAILS.
14. PROVIDE NEW VFD, COORDINATE EXACT LOCATION ON SITE.
15. PROVIDE REFRIGERANT PIPING, COORDINATE EXACT ROUTING ON SITE. THIS CONTRACTOR SHALL SUBMIT PIPING LAYOUT AND SIZING. PROVIDE INTERMEDIATE TRAPS ON THE GAS PIPING IN THE MIDDEL RUN OF THE RISERS. OPEN THE CEILING TO INSTALL REFRIGERANT PIPING AND PATCH TO MATCH EXISTING.
16. PROVIDE NEW ACCU-AHU-1, COORDINATE EXACT LOCATION ON SITE. COORDINATE WITH THE STRUCTURAL ENGINEER.
17. RE-LOCATE SPRINKLER HEADS AS REQUIRED, COUNT OF 6.
18. PIPE NEW REFRIGERANT PIPING AND PROVIDE FINAL CONNECTION, REFER TO TYPICAL DETAIL ON SHEET#M3.0. PROVIDE ROOF PIPING SUPPORT.

ELECTRICAL NEW WORK - KEYED NOTES

1. PROVIDE WIRING/CONDUIT AS REQUIRED AND EXTEND AND RECONNECT EXISTING BRANCH CIRCUIT POWER FEED TO NEW VAV BOX. ANY NEW WIRING SHALL BE #12 AWG CONDUCTORS INSTALLED IN 3/4"C. MAKE FINAL CONNECTION WITH LIQUID-TIGHT FLEXIBLE METAL CONDUIT.
2. NEW RETURN AIR FAN BY MECHANICAL CONTRACTOR, WIRED BY ELECTRICAL CONTRACTOR: EXTEND 3#6 XHHW-2, 1#10 XHHW-2 GROUND IN 1"EMT CONDUIT FROM NEW VFD TO NEW 3P-50A CIRCUIT BREAKER IN EXISTING LOCAL PANEL AND CONNECT. EXTEND 3#6 XHHW-2, 1#10 XHHW-2 GROUND IN 1"C TO JUNCTION BOX LOCATED ON CEILING ABOVE EQUIPMENT TO VFD AND CONNECT. EXTEND 3#6 XHHW-2, 1#10 XHHW-2 GROUND IN LIQUID-TIGHT FLEXIBLE METAL CONDUIT FROM JUNCTION BOX TO NEW RETURN AIR FAN AND CONNECT AS REQUIRED (COMPLETE). VERIFY FINAL ELECTRICAL REQUIREMENTS WITH EQUIPMENT SUPPLIER.
3. NEW AHU BY MECHANICAL CONTRACTOR, WIRED BY ELECTRICAL CONTRACTOR: EXTEND 3#6 XHHW-2, 1#10 XHHW-2 GROUND IN 1"EMT CONDUIT FROM NEW VFD TO NEW 3P-50A CIRCUIT BREAKER IN EXISTING LOCAL PANEL AND CONNECT. EXTEND 3#6 XHHW-2, 1#10 XHHW-2 GROUND IN 1"C TO JUNCTION BOX LOCATED ON CEILING ABOVE EQUIPMENT TO VFD AND CONNECT. EXTEND 3#6 XHHW-2, 1#10 XHHW-2 GROUND IN LIQUID-TIGHT FLEXIBLE METAL CONDUIT FROM JUNCTION BOX TO NEW RETURN AIR FAN AND CONNECT AS REQUIRED (COMPLETE). VERIFY FINAL ELECTRICAL REQUIREMENTS WITH EQUIPMENT SUPPLIER.
4. PROVIDE NEW DUCT SMOKE DETECTOR IN THE AHU SUPPLY/RETURN AIR DUCT. LOCATE DUCT SMOKE DETECTOR AHEAD OF ANY SUPPLY AIR DUCT BRANCH TAKE-OFFS. THE NEW DUCT SMOKE DETECTOR SHALL MATCH THE EXISTING BUILDING STANDARD AND SHALL BE COMPATIBLE WITH THE EXISTING BUILDING FIRE ALARM SYSTEM. PROVIDE WIRING AS REQUIRED AND RECONNECT TO EXISTING FIRE ALARM INITIATION CIRCUIT. PROVIDE A REMOTE TEST STATION AND ASSOCIATED WIRING FOR THE DUCT SMOKE DETECTOR AND FLUSH MOUNT IN THE WALL ADJACENT TO THE AHU.
5. NEW CU BY MECHANICAL CONTRACTOR, WIRED BY ELECTRICAL CONTRACTOR: EXTEND 3#250 KCMIL XHHW-2, 1#4 AWG XHHW2 GROUND IN 3"C FROM NEW CU WEATHERPROOF



KEY PLAN

NORTH

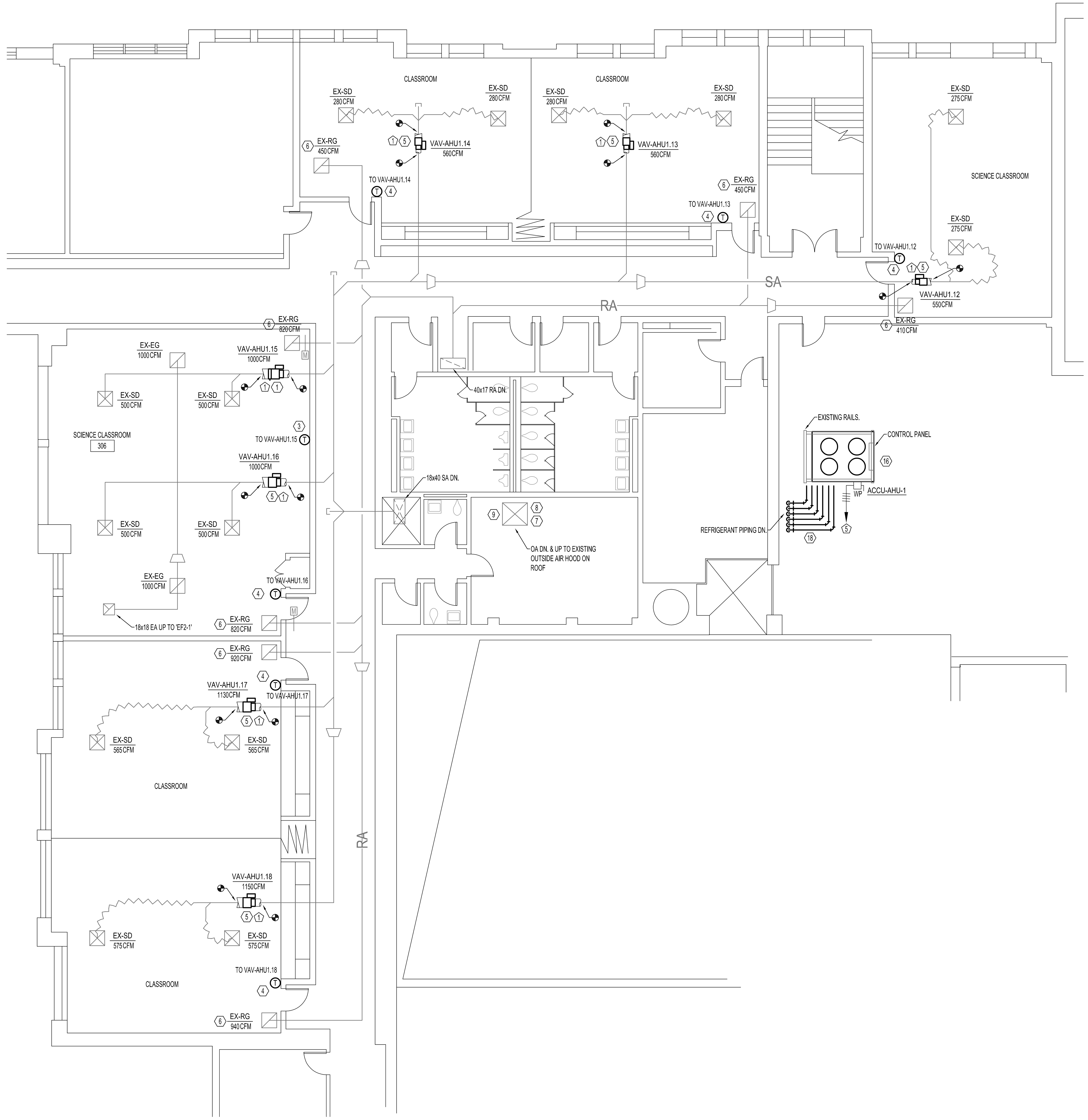
SEDGWICK MIDDLE SCHOOL
AHU REPLACEMENT
WET HARTFORD, CONNECTICUT

BEMIS ASSOCIATES, L.L.C.
Consulting Engineers
185 Main Street
Farmington, CT 06032

TITLE
MECHANICAL / ELECTRICAL NEW WORK - FIRST FLOOR PLAN

DATE 06/12/2020

DWG. NO. ME1.2



MECHANICAL NEW WORK - SECOND FLOOR PLAN

1/8" = 1'-0"

MECHANICAL NEW WORK - KEYED NOTES

1. PROVIDE NEW VAV BOX WITH HOT WATER COIL AND:
   - A. CLEAN EXISTING SUPPLY DUCTWORK FROM VAV TO EVERY ASSOCIATED SUPPLY DIFFUSER.
   - B. CLEAN ALL ASSOCIATED EXISTING SUPPLY DIFFUSERS (EX-SD).
   - C. EXTEND EXISTING 3/4" HOT WATER SUPPLY AND RETURN AND PROVIDE THE FINAL PIPING CONNECTIONS TO VAV BOX HOT WATER COIL. FOR PIPING ARRANGEMENT REFER TO TYPICAL DETAILS.
   - D. EXTEND DUCTWORK TO THE VAV BOX INLET AND OUTLET AND PROVIDE FINAL CONNECTIONS TO VAV BOX. FOR DUCT WORK ARRANGEMENT REFER TO TYPICAL DETAILS.
   - E. BALANCE EXISTING DUCTWORK AIR FLOW TO PROVIDE FLOW (CFM) SHOWN ON THE DRAWINGS FOR THE ASSOCIATED DIFFUSERS.
2. EXISTING EXHAUST AIR MOTORIZED DAMPER SHALL REMAIN. CLEAN:
   - A. EXISTING EXHAUST AIR LOUVER
   - B. EXISTING EXHAUST AIR PLENUM
   - C. EXISTING EXHAUST DUCTWORK BACK TO RF-AHU-1
   - D. PROVIDE NEW ALUMINUM BIRD SCREEN MESH.
   - E. CLEAN, TEST AND MAINTAIN THE BACKDRAFT DAMPER.
3. PROVIDE NEW THERMOSTAT, RECONNECT CONTROL WIRING.
4. PROVIDE NEW THERMOSTAT AND CONTROL WIRING.
5. PROVIDE NEW VAV BOX AND:
   - A. CLEAN EXISTING SUPPLY DUCTWORK FROM VAV TO EVERY ASSOCIATED SUPPLY DIFFUSER.
   - B. CLEAN ALL ASSOCIATED EXISTING SUPPLY DIFFUSERS(EX-SD).
   - C. EXTEND DUCTWORK TO THE VAV BOX INLET AND OUTLET AND PROVIDE FINAL CONNECTIONS TO VAV BOX. FOR DUCT WORK ARRANGEMENT REFER TO TYPICAL DETAILS.
   - D. BALANCE EXISTING DUCTWORK AIR FLOW TO PROVIDE FLOW (CFM) SHOWN ON THE DRAWINGS FOR THE ASSOCIATED DIFFUSERS.
6. CLEAN EXISTING RETRUN REGISTER (EX-RG) AND ASSOCIATED DUCTWORK BACK TO RF-AHU-1
7. CLEAN, TEST AND MAINTAIN EXISTING FIRE DAMPER.
8. CLEAN EXISTING OUTSIDE AIR (OA) DUCTWORK UP TO OUTSIDE AIR HOOD ON ROOF.
9. CLEAN EXISTING OUTSIDE AIR HOOD ON ROOF, PROVIDE NEW ALUMINUM BIRD SCREEN MESH.
10. PROVIDE NEW MOTORIZED DAMPER COORDINATE EXACT LOCATION ON SITE.
11. PROVIDE NEW RETURN FAN, COORDINATE EXACT LOCATION ON SITE.
12. PROVIDE NEW AHU COORDINATE EXACT LOCATION OF THE UNIT ON SITE. IT'S CONTRACTOR RESPONSIBILITY TO FIELD VERIFY AND MAKE SURE TO GET THE UNIT IN THE MECHANICAL ROOM. EXTEND EXISTING HOT WATER PIPING AND PROVIDE FINAL PIPING CONNECTION TO THE UNIT, FOR PIPING ARRANGEMENT SEE TYPICAL DETAIL ON SHEET#M3.0. PIPE NEW REFRIGERANT PIPING AND PROVIDE FINAL CONNECTION, REFER TO TYPICAL DETAIL ON SHEET#M3.0. PIPE CONDENSATE DRAIN TO EXISTING FLOOR DRAIN REFER TO TYPICAL DETAIL ON SHEET#M3.0
13. POUR NEW CONCRETE PAD, CONCRETE PAD SHALL BE 6" LARGER THAN THE AHU FOOTPRINT ON EACH SIDE.FOR MORE INFORMATION SEE TYPICAL DETAILS.
14. PROVIDE NEW VFD, COORDINATE EXACT LOCATION ON SITE.
15. PROVIDE REFRIGERANT PIPING, COORDINATE EXACT ROUTING ON SITE. THIS CONTRACTOR SHALL SUBMIT PIPING LAYOUT AND SIZING. PROVIDE INTERMEDIATE TRAPS ON THE GAS PIPING IN THE MIDDEL RUN OF THE RISERS. OPEN THE CEILING TO INSTALL REFRIGERANT PIPING AND PATCH TO MATCH EXISTING.
16. PROVIDE NEW ACCU-AHU-1, COORDINATE EXACT LOCATION ON SITE. COORDINATE WITH THE STRUCTURAL ENGINEER.
17. RE-LOCATE SPRINKLER HEADS AS REQUIRED, COUNT OF 6.
18. PIPE NEW REFRIGERANT PIPING AND PROVIDE FINAL CONNECTION, REFER TO TYPICAL DETAIL ON SHEET#M3.0. PROVIDE ROOF PIPING SUPPORT.

ELECTRICAL NEW WORK - KEYED NOTES

1. PROVIDE WIRING/CONDUIT AS REQUIRED AND EXTEND AND RECONNECT EXISTING BRANCH CIRCUIT POWER FEED TO NEW VAV BOX. ANY NEW WIRING SHALL BE #12 AWG CONDUCTORS INSTALLED IN 3/4"C. MAKE FINAL CONNECTION WITH LIQUID-TIGHT FLEXIBLE METAL CONDUIT.
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4. PROVIDE NEW DUCT SMOKE DETECTOR IN THE AHU SUPPLY/RETURN AIR DUCT. LOCATE DUCT SMOKE DETECTOR AHEAD OF ANY SUPPLY AIR DUCT BRANCH TAKE-OFFS. THE NEW DUCT SMOKE DETECTOR SHALL MATCH THE EXISTING BUILDING STANDARD AND SHALL BE COMPATIBLE WITH THE EXISTING BUILDING FIRE ALARM SYSTEM. PROVIDE WIRING AS REQUIRED AND RECONNECT TO EXISTING FIRE ALARM INITIATION CIRCUIT. PROVIDE A REMOTE TEST STATION AND ASSOCIATED WIRING FOR THE DUCT SMOKE DETECTOR AND FLUSH MOUNT IN THE WALL ADJACENT TO THE AHU.
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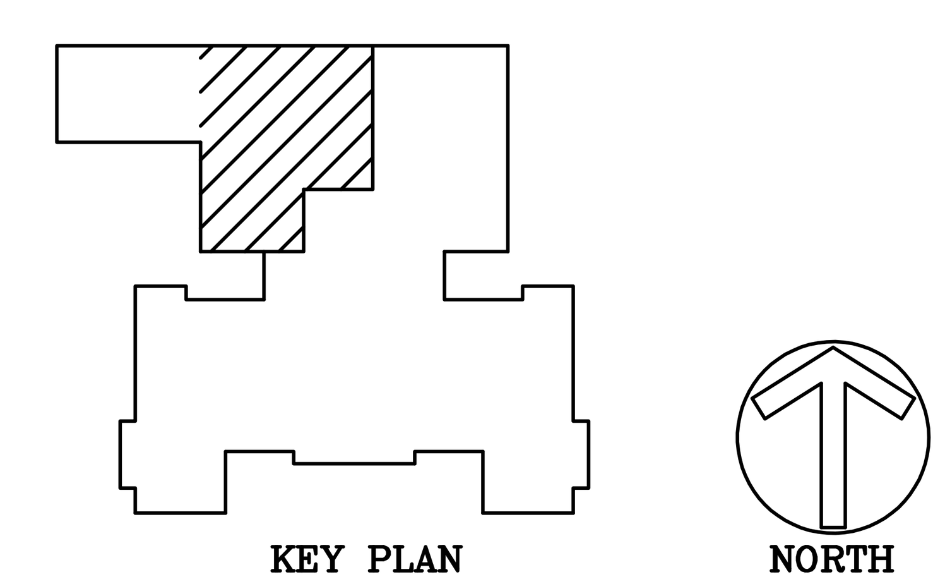

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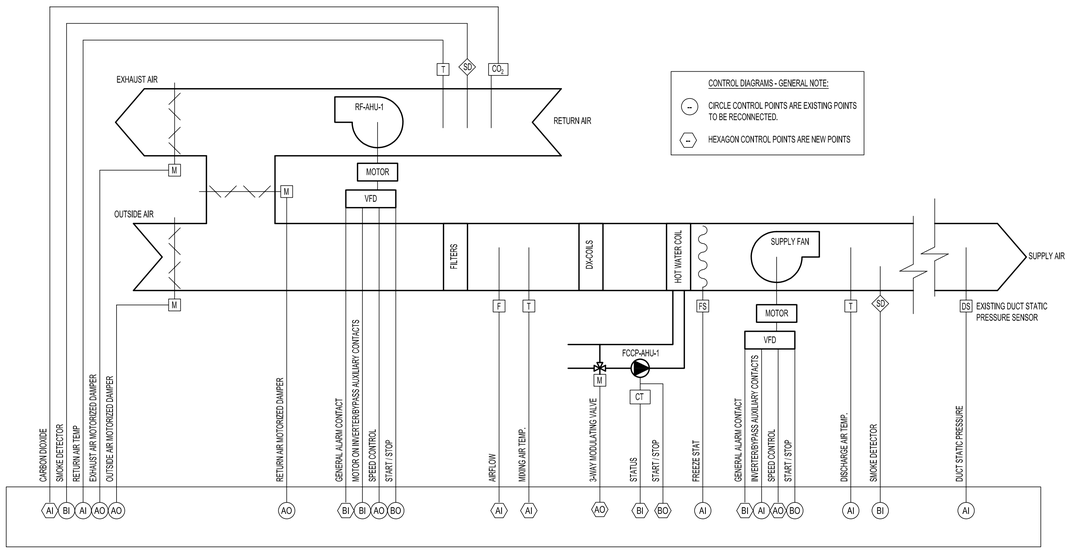
TITLE
MECHANICAL/ ELECTRICAL NEW WORK - SECOND FLOOR PLAN

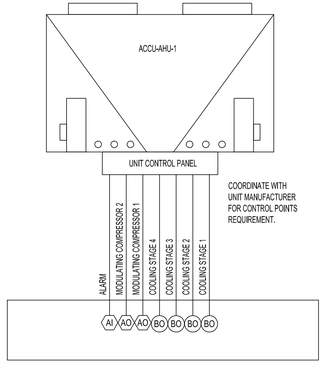
DATE 06/12/2020

DWG. NO. ME1.3



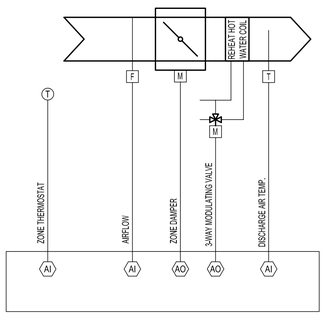
AHU-1 CONTROL DIAGRAM

SCALE: NTS



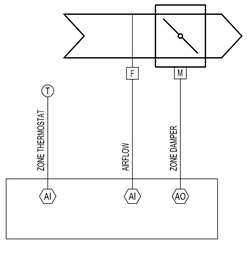
ACCU-AHU-1 CONTROL DIAGRAM

SCALE: NTS



VAV BOX WITH REHEAT HOT WATER COIL

SCALE: NTS



VAV BOX CONTROL DIAGRAM

SCALE: NTS

AIR HANDLING UNIT SCHEDULE

TAG	MFG	MODEL	WEIGHT	SUPPLY FAN						DIRECT EXPANSION COIL					HOT WATER COIL					
				FAN				MOTOR		SENSIBLE CAPACITY (MBH)	TOTAL CAPACITY (MBH)	EAT DB/WB (°F)	LAT DB/WB (°F)	FACE VELOCITY (FPM)	TOTAL CAPACITY (MBH)	EAT (°F)	LAT (°F)	FACE VELOCITY (FPM)	WPD (FT.WG)	REMARKS
				CFM	ESP (IN.WG)	TYPE	FAN#	POWER (HP) EACH	V/HZ/PH											
AHU-1	DAKIN	CAH028GDCM	2600	15100	2	ARRAY	5	3	208/60/3	409	646	79 / 67	54 / 53	523	416	55	80	612	3.8	REFER TO NOTES

NOTES:

1. PANELS AND ACCESS DOORS SHALL BE CONSTRUCTED AS A 2-INCH NOMINAL THICK; THERMAL BROKE DOUBLE WALL ASSEMBLY. INJECTED WITH FOAM INSULATION WITH AN R-VALUE OF NOT LESS THAN R-13.
2. ACCESS DOORS SHALL BE FLUSH MOUNTED TO CABINETRY, WITH MINIMUM OF TWO SIX INCH LONG STAINLESS STEEL PIANO-TYPE HINGES, LATCH AND FULL SIZE HANDLE ASSEMBLY.
3. A 6-INCH FORMED G60 GALVANIZED STEEL BASE RAIL SHALL BE PROVIDED BY THE UNIT MANUFACTURER FOR STRUCTURAL RIGIDITY AND CONDENSATE TRAPPING
4. 2-INCH MERV13 FILTER
5. PLENUM SECTION SHALL BE PROVIDED AND PROPERLY SIZED FOR INLET AND/OR DISCHARGE AIR FLOW (BETWEEN 600 AND 1500 FEET PER MINUTE
6. INSULATED STAINLESS STEEL DRAIN PAN.
7. ROUND WINDOW INSPECTION PORT SHALL BE PROVIDED ON EACH SECTION
8. FAN ASSEMBLY SHALL HAVE ECM, MOTORIZED IMPELLER FAN(S).
9. MOTOR CONTROL PANEL SHALL COME EQUIPPED WITH A FUSED DISCONNECT.
10. MOTOR SHALL BE BRUSHLESS DC TYPE WITH A PERMANENT MAGNET ROTOR.
11. INVERTER SHALL BE INTEGRAL TO THE MOTOR AND COME AS AN ASSEMBLY FROM THE FAN MANUFACTURER.

AIR COOLED CONDENSING UNIT SCHEDULE

TAG	MFG	MODEL	ELECTRICAL			EFFICIENCY	AMBIENT DB (°F)	REFRIGERATION EFFECT (MBH)	COMPRESSOR				WEIGHT (LB)	REMARKS
			V/HZ/PH	MCA	MROPD	EER			STAGES	QTY.	COMPRESSOR POWER (KW)	REFRIGERANT		
ACCU-AHU-1	DAKIN	RCS050D	208/60/3	245	250	11	95	568	MOD CONTROL WITH DIGITAL COMPRESSORS	4	47	R410A	2449	REFER TO NOTES

NOTES:

1. UNIT WIRING SHALL COMPLY WITH NEC REQUIREMENTS AND WITH ALL APPLICABLE UL STANDARDS
2. THE UNIT SHALL BE PROVIDED WITH A FACTORY WIRED WEATHERPROOF CONTROL PANEL.
3. PHASE FAILURE AND UNDER VOLTAGE PROTECTION SHALL BE PROVIDED TO PREVENT DAMAGE FROM SINGLE PHASING, PHASE REVERSAL, AND LOW VOLTAGE CONDITIONS.
4. GROUND FAULT PROTECTION ON THREE-PHASE MOTORS SHALL BE PROVIDED TO PROTECT AGAINST ARCING GROUND FAULTS.
5. UNIT SHALL BE PROVIDED WITH A 24 VOLT TRANSFORMER AND TERMINAL STRIP FOR CONTROLS.
6. CONDENSER FANS SHALL BE DIRECT DRIVE, PROPELLER TYPE DESIGNED FOR LOW TIP SPEED, VERTICAL AIR DISCHARGE, AND INCLUDE SERVICE GUARDS
7. COMPRESSORS SHALL BE EQUIPPED WITH SOUND BLANKET
8. UNIT MOUNTED DISCONNECT SWITCH
9. UN-WIRED GFI RECEPTACLE
10. PROVIDE FOUR VIBRATION ISOLATORS MODEL 'SLRSO-2-C2-920' BY 'MASON INDUSTRIES'

RETURN FAN SCHEDULE

TAG	MFG	TYPE	MODEL	CFM	ESP (IN.WG)	FAN RPM	HP	VOLT	PH	SOUND DATA INLET /OUTLET (dBA)	SPEED CONTROL	WEIGHT (LB)	REMARKS
RF-AHU-1	COOK	CENTRIFUGAL	365 CPS	12800	1	545	5	208	3	62 / 66	VFD	1541	REFER TO NOTES

NOTES:

1. PREMIUM EFFICIENCY MOTOR
2. SHAFT GROUNDING RING
3. DISCONNECT NEMA1
4. STEEL ACCESS DOOR-HINGE
5. STEEL FLANGED INLET
6. INLET AND OUTLET FLEXIBLE DUCT
7. OSHA BELT GUARD WITH ACCESS DOOR
8. EXTENDED LUBE LINES
9. STAINLESS STEEL SHAFT
10. BELT TENSION ROTARY
11. SPARE BELT SET
12. ISOLATION RAILS, MINIMUM 4" STRUCTURAL STEEL CHANNEL, ALL CONNECTIONS FULLY WELDED, MOUNTING HOLES PROVIDED, LORENIZED POWDER COAT FINISH
13. SEISMIC RESTRAINED SPRINGS. FLOOR MOUNTED. 2" DEFLECTION.

VARIABLE FREQUENCY DRIVE SCHEDULE

TAG	MFG	MODEL	SERVES	HP	REMARKS
VFD-RF-AHU-1	ABB	ACH580	RF-AHU-1	5	REFER TO NOTES

NOTES:

1. REFER TO SCHEDULES FOR MOTOR VOLTAGE AND PHASE REQUIREMENTS.
2. EACH VFD SHALL HAVE MANUAL BYPASS

VARIABLE AIR VOLUME BOX WITH HOT WATER COIL SCHEDULE

TAG	MFG	MODEL	SIZE	MAX CFM	MIN CFM	INLET SP IN.WG	MIN SP IN.WG	HEAT CFM	EAT (°F)	LAT (°F)	CAPACITY (MBH)	WPD (FT. WG)	EWT (°F)	LWT (°F)	COIL APD (IN.WG)	GPM	RAD (NC)	DIS (NC)	ATTEN METHOD	REMARKS
VAV-AHU1.01	EIT	SDR	12	1200	900	1	0.26	900	55	104	48	1.36	180	138	0.25	2.4	-	-	AHRI-885E	REFER TO NOTES
VAV-AHU1.02	EIT	SDR	10	1000	750	1	0.33	750	55	94	32	0.12	180	143	0.31	1.8	16	-	AHRI-885E	REFER TO NOTES
VAV-AHU1.03	EIT	SDR	10	1000	750	1	0.33	750	55	94	32	0.12	180	143	0.31	1.8	16	-	AHRI-885E	REFER TO NOTES
VAV-AHU1.04	EIT	SDR	8	600	300	1	0.26	300	55	106	17	0.07	180	155	0.25	1.4	16	-	AHRI-885E	REFER TO NOTES
VAV-AHU1.08	EIT	SDR	8	500	350	1	0.01	350	55	109	20	0.29	180	150	0.19	1.4	15	-	AHRI-885E	REFER TO NOTES
VAV-AHU1.15	EIT	SDR	12	1000	750	1	0.2	750	55	101	37	0.17	180	139	0.19	1.88	-	-	AHRI-885E	REFER TO NOTES

NOTES:

1. PROVIDE DOOR INTERLOCK DISCONNECT SWITCH
2. LOW LEAK VAV BOX CASING CONSTRUCTION
3. PROVIDE 24 VAC CONTROL TRANSFORMER
4. INSULATED ACCESS DOOR
5. 1" FOIL FACED INSULATION
6. PROVIDE SERVICE CLEARANCE IN STRICT ACCORDANCE WITH VAV BOX MANUFACTURER'S WRITTEN RECOMMENDATIONS.
7. '.' SIGNIFIES A NC VALUE (RADIATED OR DISCHARGE) THAT IS LESS THAN 15

VARIABLE AIR VOLUME BOX SCHEDULE

TAG	MFG	MODEL	SIZE	MAX CFM	MIN CFM	INLET SP IN.WG	MIN SP IN.WG	RAD (NC)	DIS (NC)	ATTEN METHOD	REMARKS
VAV-AHU1.05	EIT	SDR	8	500	350	1	0.01	18	-	AHRI-885E	REFER TO NOTES
VAV-AHU1.06	EIT	SDR	8	520	375	1	0.01	18	-	AHRI-885E	REFER TO NOTES
VAV-AHU1.07	EIT	SDR	8	520	375	1	0.01	18	-	AHRI-885E	REFER TO NOTES
VAV-AHU1.09	EIT	SDR	12	1100	770	1	0.01	18	-	AHRI-885E	REFER TO NOTES
VAV-AHU1.10	EIT	SDR	12	1100	770	1	0.01	18	-	AHRI-885E	REFER TO NOTES
VAV-AHU1.11	EIT	SDR	12	1110	780	1	0.01	18	-	AHRI-885E	REFER TO NOTES
VAV-AHU1.12	EIT	SDR	8	550	400	1	0.01	18	-	AHRI-885E	REFER TO NOTES
VAV-AHU1.13	EIT	SDR	8	560	400	1	0.01	19	15	AHRI-885E	REFER TO NOTES
VAV-AHU1.14	EIT	SDR	8	560	400	1	0.01	19	15	AHRI-885E	REFER TO NOTES
VAV-AHU1.16	EIT	SDR	12	1000	750	1	0.01	18	-	AHRI-885E	REFER TO NOTES
VAV-AHU1.17	EIT	SDR	12	1130	790	1	0.01	18	-	AHRI-885E	REFER TO NOTES
VAV-AHU1.18	EIT	SDR	12	1150	800	1	0.01	18	-	AHRI-885E	REFER TO NOTES

NOTES:

1. PROVIDE DOOR INTERLOCK DISCONNECT SWITCH
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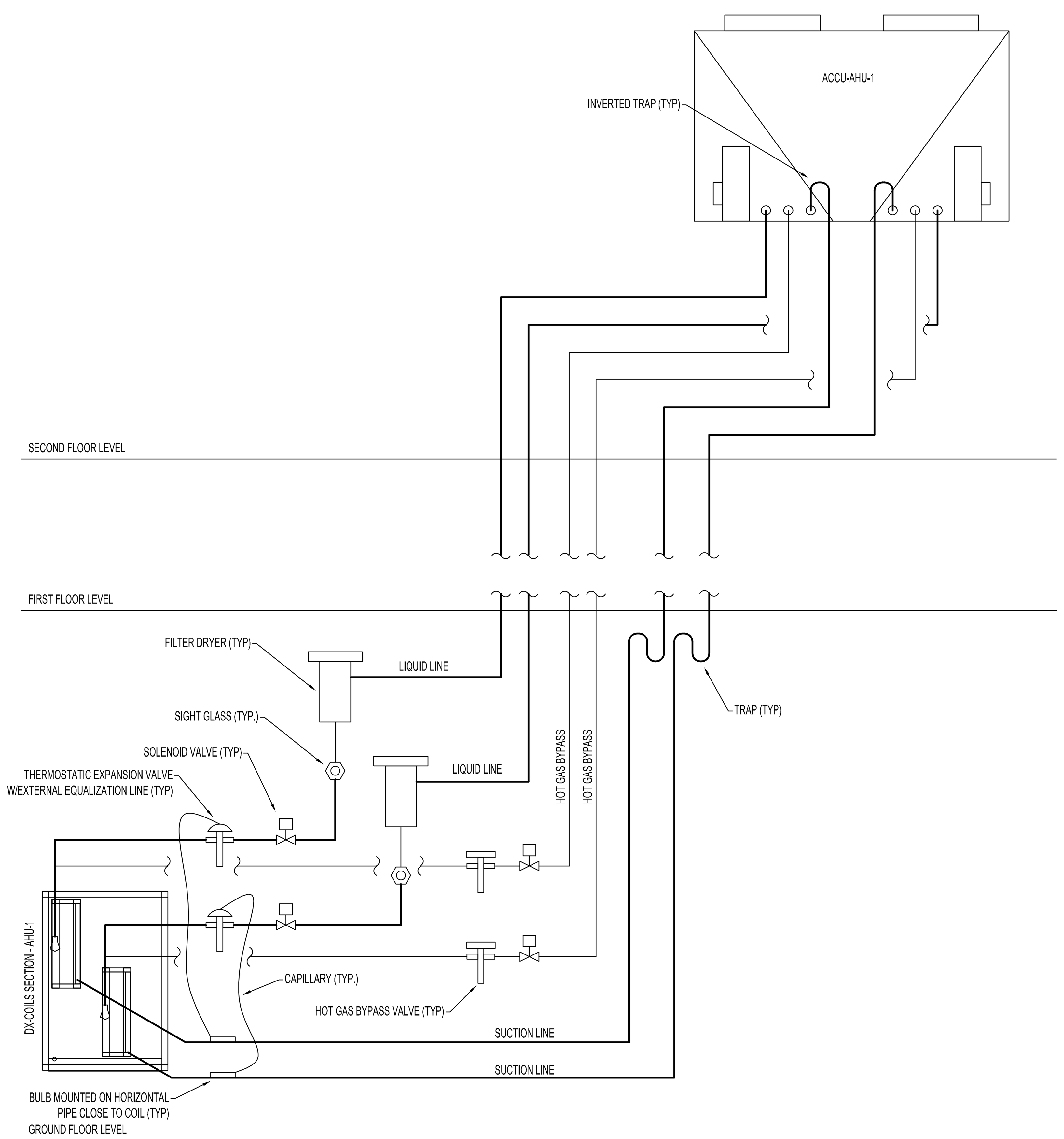
TITLE
MECHANICAL SCHEDULES AND CONTROL DIAGRAMS

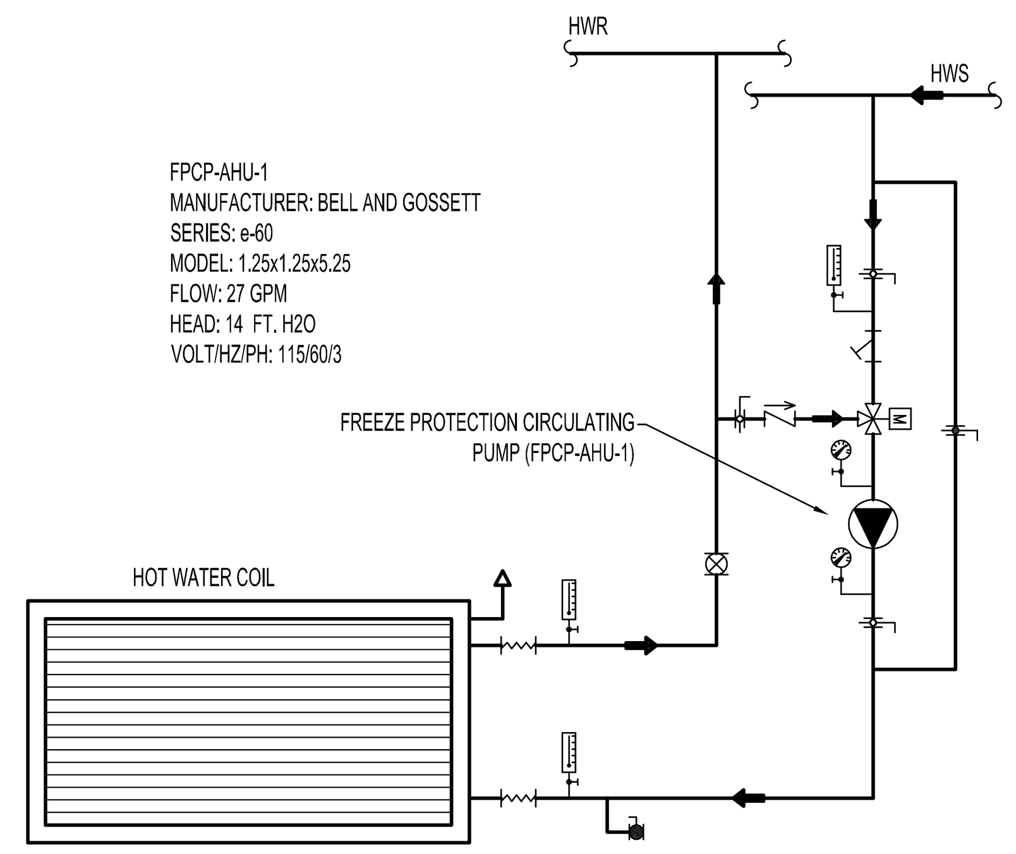
DATE 06/12/2020

DWG. NO.
M2.0



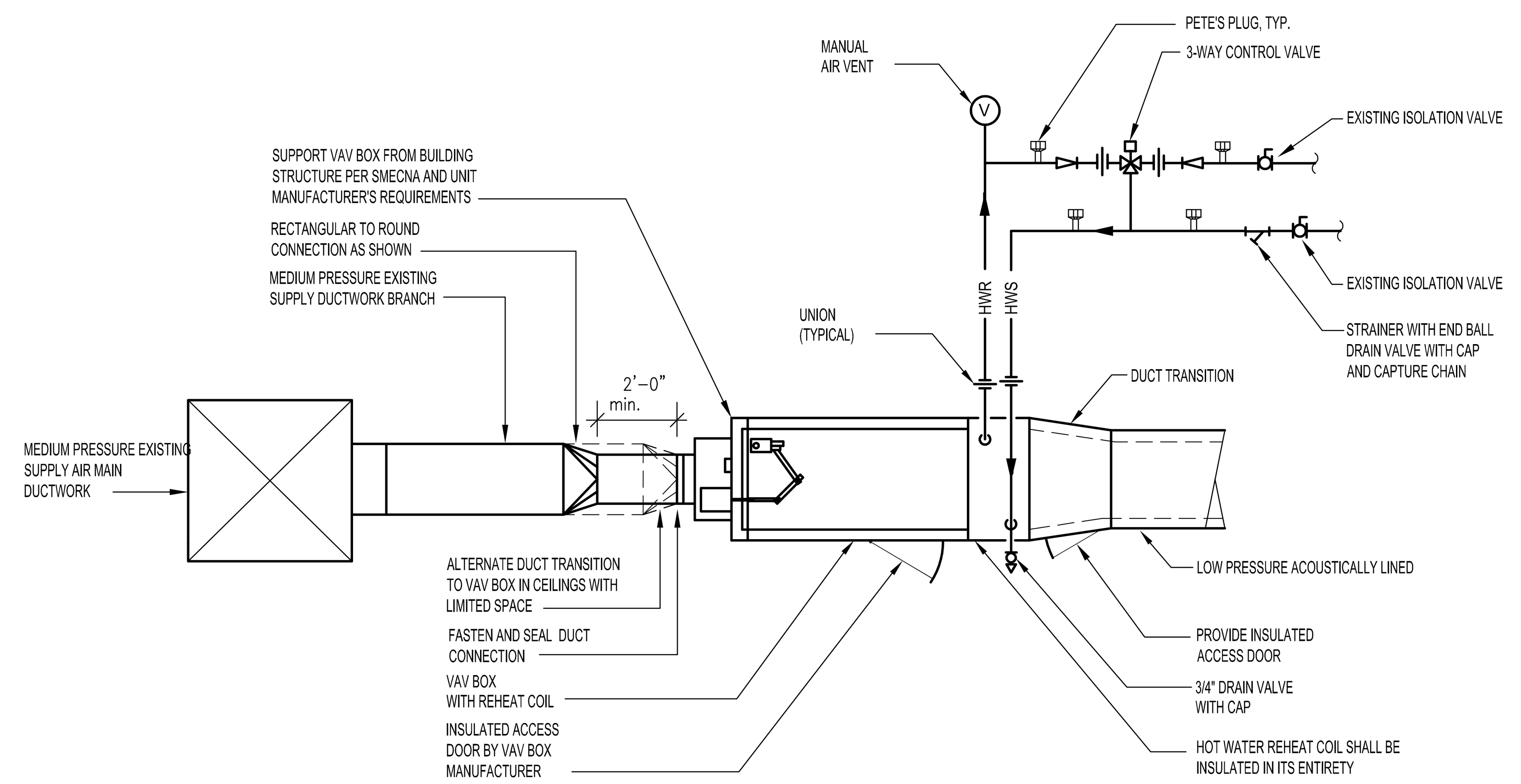
REFRIGERANT PIPING DETAIL

SCALE: NTS



AHU-1 HOT WATER COIL PIPING DIAGRAM

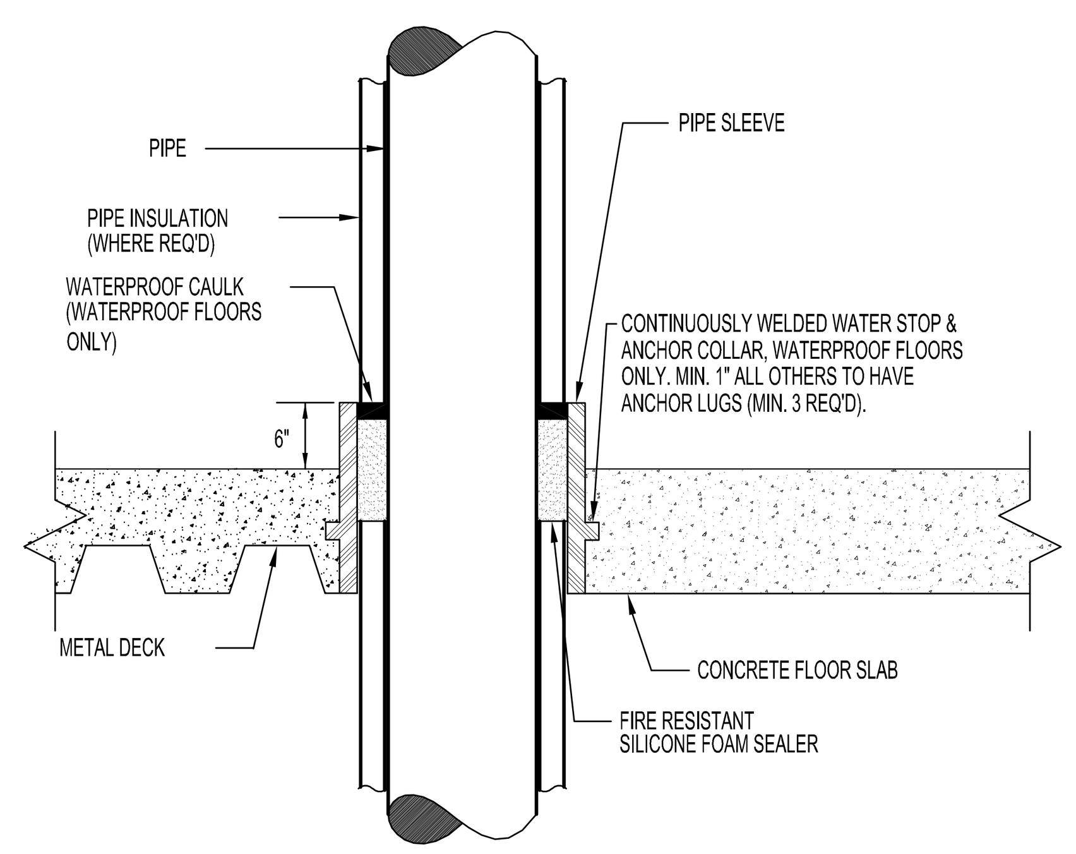
SCALE: NTS



NOTES:
1. PROVIDE COIL VALVE PACKAGE IN LIEU OF INDIVIDUAL VALVES AS FOLLOWS:
   A. RETURN PIPING: UNION WITH MANUAL AIR VENT AND P/T PORT.
   B. SUPPLY PIPING: Y STRAINER WITH UNION, P/T PORT AND HOSE END DRAIN CAP WITH CAPTURE CHAIN.
2. STRAINERS SHALL BE LINE SIZES AS SHOWN ON CONTRACT DRAWINGS.
3. ALL VALVES INCLUDING P/T PORTS SHALL HAVE EXTENDED STEMS TO ACCOMMODATE INSULATION INSTALLATION. CONTROL VALVE AND STRAINERS SHALL HAVE REMOVABLE INSULATION.
4. PRESSURE INDEPENDENT CONTROL VALVE SHALL BE INSTALLED BY MECHANICAL CONTRACTOR.

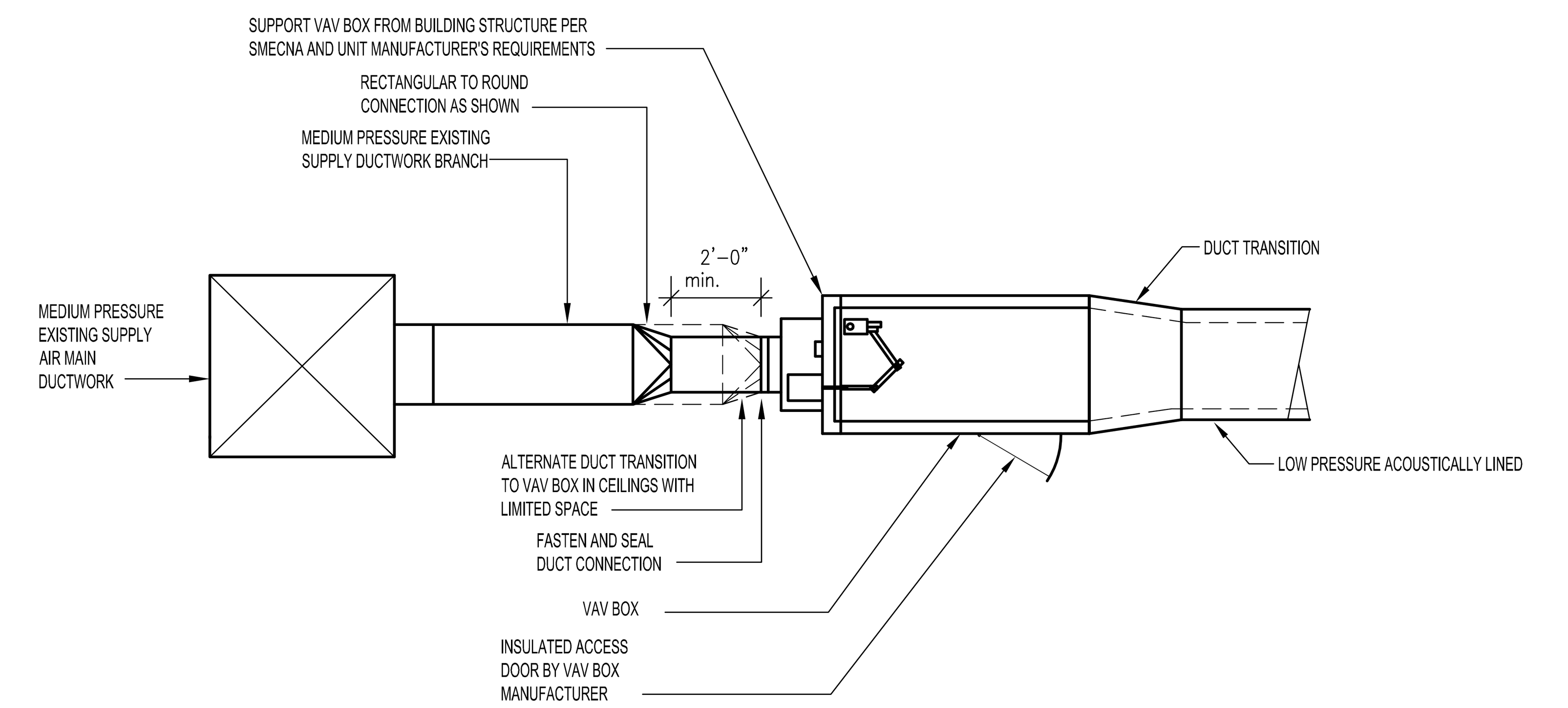
TYPICAL VAV BOX WITH HOT WATER REHEAT COIL DETAIL

SCALE: NTS



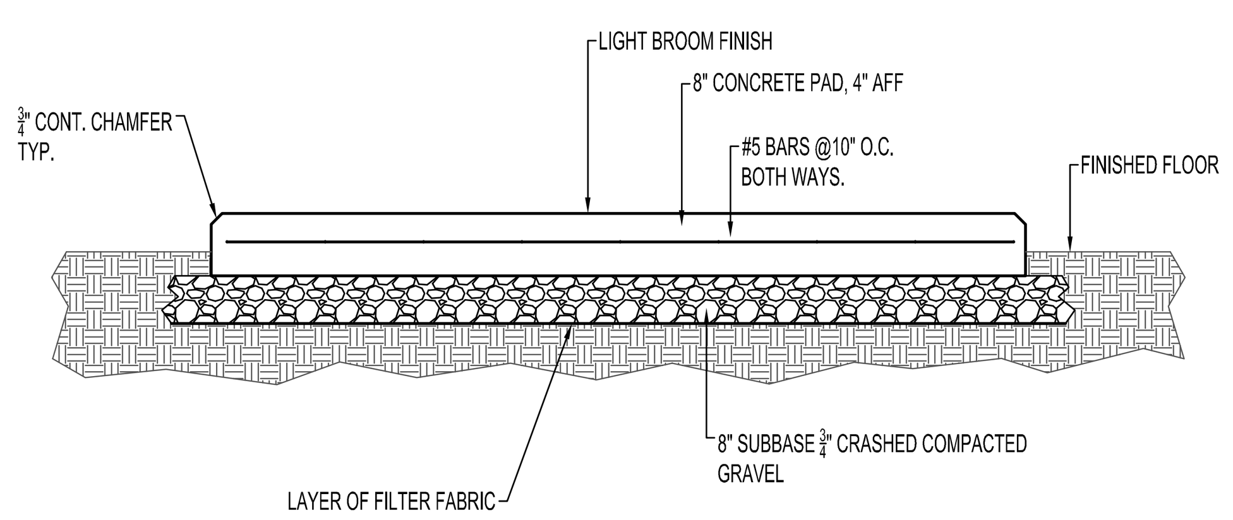
TYPICAL PIPE SLEEVE THROUGH FLOOR DETAIL

SCALE: NTS



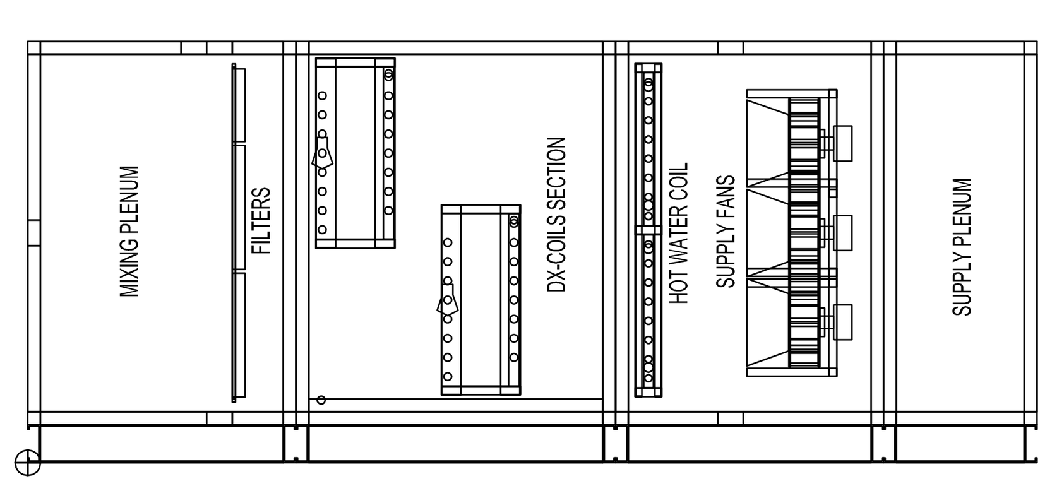
TYPICAL VAV BOX DETAIL

SCALE: NTS



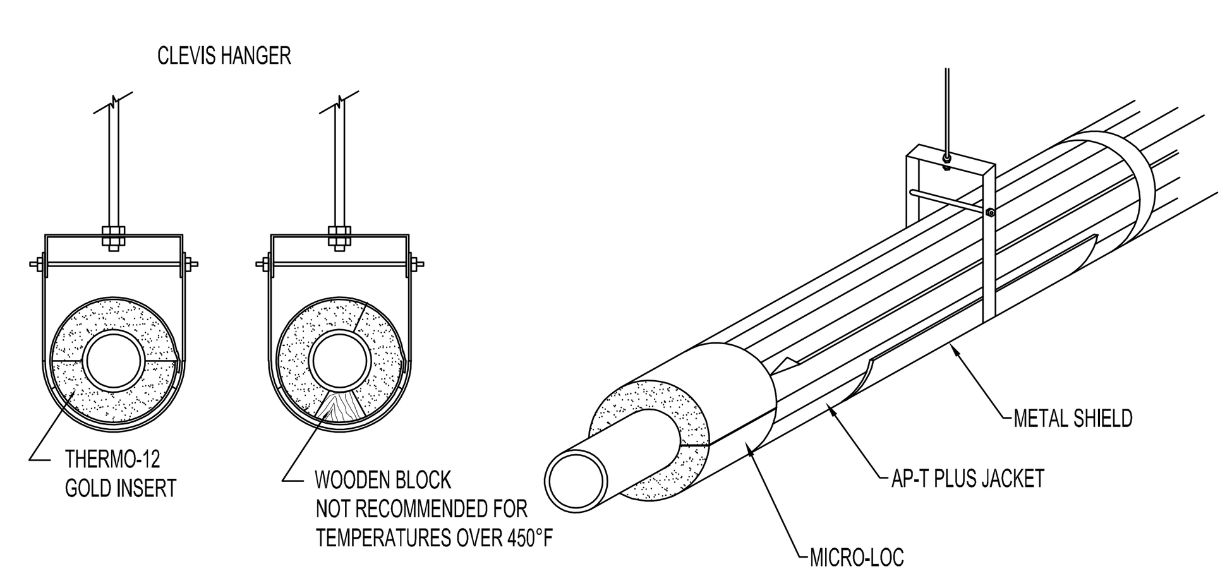
TYPICAL AHU HOUSE KEEPING PAD DETAIL

SCALE: NTS



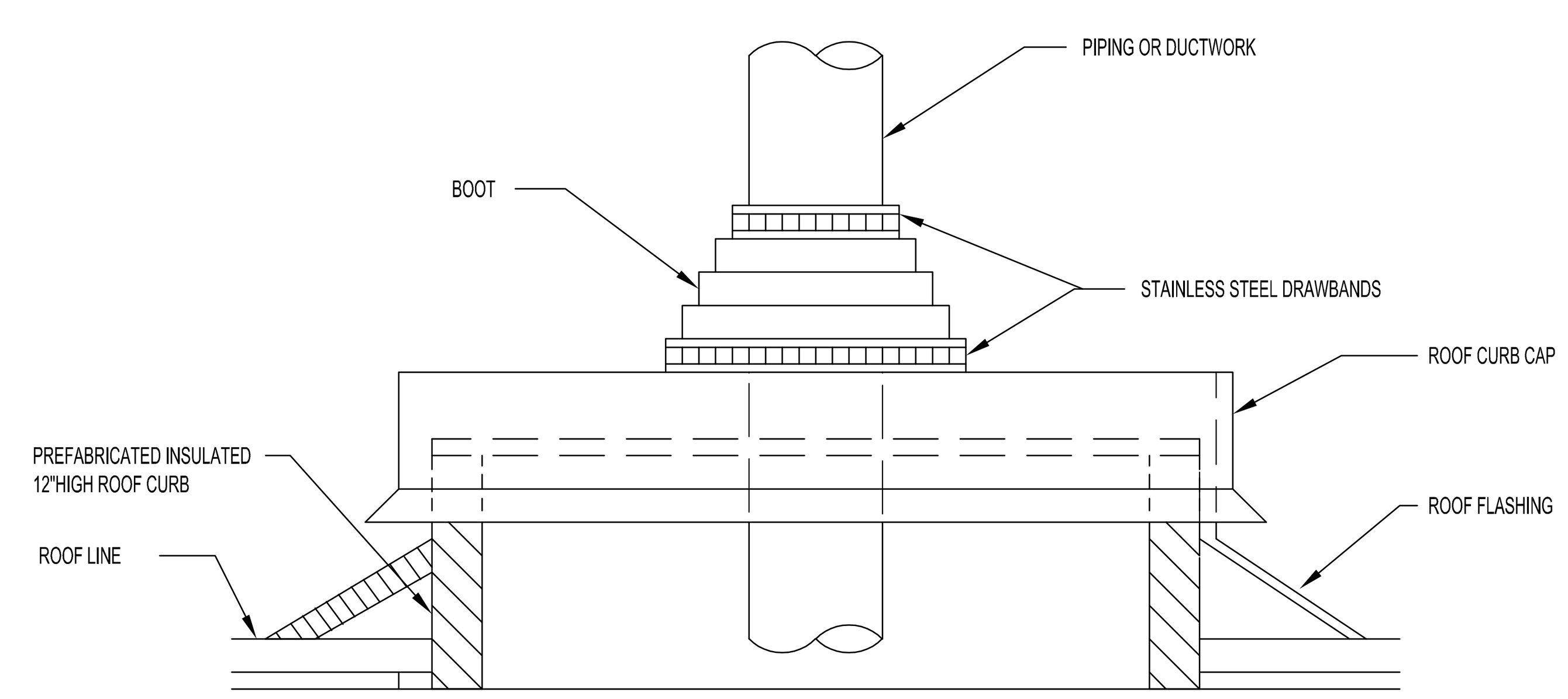
TYPICAL PIPING INSULATION

SCALE: NTS



TYPICAL PIPING INSULATION

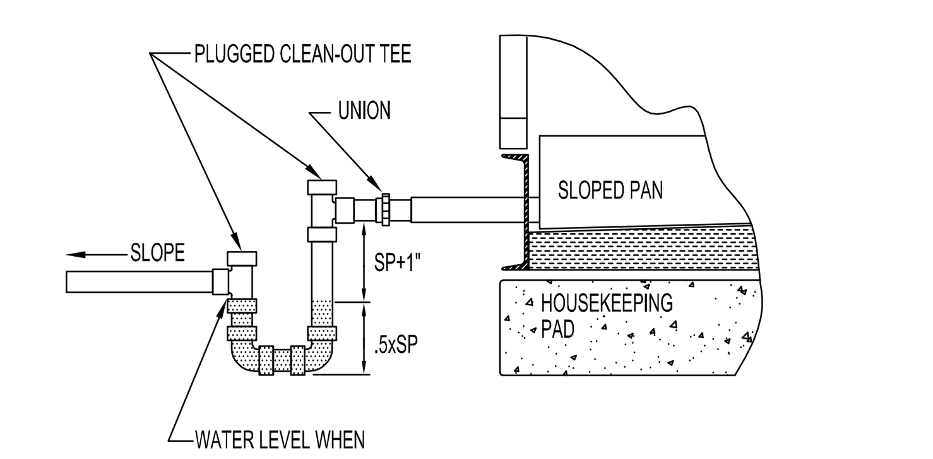
SCALE: NTS



NOTE: ROOF CURB TO BE PROVIDED BY MECHANICAL CONTRACTOR AND ALL FLASHING AND ROOFING TO BE PROVIDED BY ROOFING CONTRACTOR.

TYPICAL PIPING ROOF CURB DETAIL

SCALE: NTS



TYPICAL CONDENSATE DRAIN PIPING DRAW THROUGH TRAP

SCALE: NTS

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TITLE
MECHANICAL DETAILS

DATE 06/12/2020

DWG. NO.
M3.0