MECHANICAL SYMBOLS - GENERAL

	NEW PIPING, DUCTWORK, OR EQUIPMENT
	EXISTING PIPING, DUCTWORK, OR EQUIPMENT TO REMAIN
—x—	EXISTING PIPING, DUCTWORK, OR EQUIPMENT TO BE REMOVED
	NEW EQUIPMENT
ER	EXISTING EQUIPMENT TO BE REMOVED
E	EXISTING EQUIPMENT TO REMAIN
ERR	EXISTING EQUIPMENT TO BE REMOVED AND RELOCATED
RE	RELOCATED POSITION OF EXISTING EQUIPMENT
	CONTINUATION FOR DUCTWORK OR PIPING
AHU—1	TYPE OF EQUIPMENT (AIR HANDLING UNIT) UNIT NUMBER
	POINT OF CONNECTION (OF NEW WORK TO EXISTING WORK) OR POINT OF DISCONNECTION (TO REMOVE AND PATCH EXISTING WORK)
#	DRAWING NOTE TAG
1	REVISION SYMBOL
A B	SECTION DESIGNATION ON DRAWING WHERE SECTION IS CUT A — SECTION DESIGNATION B — DRAWING NO.
T	THERMOSTAT (HAS DISPLAY, OCCUPANT ADJUSTMENT, OR BOTH) TO BE WALL MOUNTED. REFER TO PLANS FOR LOCATION.
TS	TEMPERATURE SENSOR (HAS NO DISPLAY OR OCCUPANT ADJUSTMENT) TO BE WALL OR DUCT MOUNTED. REFER TO PLANS FOR LOCATION.
SD	DUCT MOUNTED SMOKE DETECTOR

MECHANICAL ABBREVIATIONS

ACU	AIR CONDITIONING UNIT
AD	ACCESS DOOR
AHU	AIR HANDLING UNIT
ATC	AUTOMATIC TEMPERATURE CONTROL
BMS	BUILDING MANAGEMENT SYSTEM
BTU	BRITISH THERMAL UNIT
CFM	CUBIC FEET PER MINUTE
CV	CONSTANT VOLUME
DX	DIRECT EXPANSION
EAT	ENTERING AIR TEMPERATURE
EC	ELECTRICAL CONTRACTOR
ER	EXISTING EQUIPMENT TO REMOVED
ERR	EXISTING EQUIPMENT TO REMOVED AND RELOCATED
EWT	ENTER WATER TEMPERATURE
FLA	FULL LOAD AMPS
FPI	FIN PER INCH
FTR	FIN TUBE RADIATION
GPM	GALLONS PER MINUTE
HX	HEAT EXCHANGER
HZ	HERTZ
KW	KILOWATT
LAT	LEAVING AIR TEMPERATURE
MAU	MAKE—UP AIR UNIT
MBH	THOUSAND BTU PER HOUR
MC	MECHANICAL CONTRACTOR
MCA	MINIMUM CIRCUIT AMPS
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NK	NECK SIZE
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OED	OPEN END DUCT
PH	PHASE
PSI	POUND PER SQUARE INCH
PSIA	POUNDS PER SQUARE INCH ABSOLUTE
PSIG	POUNDS PER SQUARE INCH GAUGE
RE	RELOCATED POSITION OF EXISTING EQUIPMENT
RE:	REFER TO...
TYP	TYPICAL
VN	VENT
V	VOLTS
VFD	VARIABLE FREQUENCY DRIVE
WMS	WIRE MESH SCREEN

MECHANICAL SYMBOLS - DUCTWORK

18X12	DUCT SIZE (FIRST FIGURE INDICATES HORIZONTAL SIZE)
18ø	ROUND DUCT DIAMETER
	SUPPLY OR OUTSIDE AIR INTAKE DUCT UP
	SUPPLY OUTSIDE AIR INTAKE DUCT DOWN
	RETURN OR EXHAUST DUCT UP
	RETURN OR EXHAUST DUCT DOWN
	ACOUSTICAL LINING IN DUCT
	TRANSITION FROM RECTANGULAR TO ROUND OR OVAL DUCT
AD	ACCESS DOOR IN DUCT
R	SLOPING RISE IN DUCT IN DIRECTION OF ARROW
D	SLOPING DROP IN DUCT IN DIRECTION OF ARROW
	MITERED ELBOW WITH TURNING VANES
	RADIUS ELBOW (INNER RADIUS = WIDTH)
	DUCT SPLIT
	90° BRANCH TAP (USE 45° BOOT, OR CONICAL TAP FOR BRANCH SERVING A SINGLE DIFFUSER/REGISTER ONLY)
	45° BRANCH TAP
	SPLIT (SUPPLY) OR CONVERGENCE (RETURN/EXHAUST) RADIUS ELBOW TYPE
	SPLIT (SUPPLY) OR CONVERGENCE (RETURN/EXHAUST) MITERED ELBOW TYPE WITH TURNING VANES
	SPLIT (SUPPLY) OR CONVERGENCE (RETURN/EXHAUST) BULLHEAD TYPE
	OFFSET (WITH RADIUS ELBOWS)
	SUPPLY REGISTER
	RETURN OR EXHAUST REGISTER
VD	VOLUME DAMPER
FD	FIRE DAMPER W/DUCT ACCESS DOOR (FD/AD)
M	MOTORIZED DAMPER W/DUCT ACCESS DOOR
FXC	FLEXIBLE CONNECTION
	FLEXIBLE DUCT
VD	MODULAR LINEAR DIFFUSER WITH PLENUM
VD	BRANCH TAKEOFF TO CEILING DIFFUSER/REGISTER
	SUPPLY CEILING DIFFUSER (4—WAY BLOW)
	SUPPLY CEILING DIFFUSER (3—WAY BLOW)
	SUPPLY CEILING DIFFUSER (2—WAY BLOW)
	SUPPLY CEILING DIFFUSER (1—WAY BLOW)
CD—B(500)	DIFFUSER TYPE AND CFM (CUBIC FEET PER MINUTE). REFER TO SCHEDULE.
	RETURN CEILING GRILLE OR REGISTER
VAV—B(500)	TERMINAL BOX (CV, VAV, FP). DESIGNATION INDICATES TYPE, BOX SIZE, AND CFM. QUANTITY (REFER TO SCHEDULES).
VAV—B(500)	TERMINAL BOX WITH REHEAT COIL (CV, VAV, FP). DESIGNATION INDICATES TYPE, BOX SIZE AND CFM. QUANTITY (REFER TO SCHEDULES).
SA	SUPPLY AIR DUCT
RA	RETURN AIR DUCT
OA	OUTSIDE AIR INTAKE DUCT
EXH	EXHAUST DUCT

MECHANICAL SYMBOL LIST - PIPING

	DIRECTION OF FLOW IN PIPE
	PITCH PIPE DOWN IN DIRECTION OF ARROW
	ELBOW TURNED UP
	ELBOW TURNED DOWN
	BOTTOM PIPE CONNECTION
	TOP PIPE CONNECTION
	FLEXIBLE CONNECTION
	BALL VALVE
	GATE VALVE
	GLOBE VALVE
	CHECK VALVE (ARROW INDICATES FLOW DIRECTION)
	AUTOMATIC THREE—WAY CONTROL VALVE
	AUTOMATIC TWO—WAY CONTROL VALVE
	PRESSURE REDUCING VALVE
	PLUG VALVE
	BUTTERFLY VALVE (MANUAL)
	CIRCUIT SETTER/BALANCING VALVE
	PIPE GUIDE
	EXPANSION JOINT
	CONCENTRIC REDUCER (ARROW INDICATES FLOW DIRECTION)
	ECCENTRIC REDUCER (ARROW INDICATES FLOW DIRECTION)
	UNION
	CAPPED PIPE
	"Y" TYPE STRAINER WITH BLOW DOWN VALVE
	PIPE SLEEVE
	PIPE FLANGE
	VALVE IN VERTICAL PIPE
	MANUAL AIR VENT
	AUTOMATIC AIR VENT
	THERMOMETER
	PIPE SENSOR WELL
	PRESSURE GAUGE WITH SHUT OFF VALVE
	PUMP
DTWS	DUAL—TEMPERATURE HOT/CHILLED WATER SUPPLY
DTWR	DUAL—TEMPERATURE HOT/CHILLED WATER RETURN
LPS	LOW PRESSURE STEAM SUPPLY
LPR	LOW PRESSURE STEAM CONDENSATE RETURN
CD	CONDENSATE DRAIN LINE (GRAVITY)
PD	PUMPED DRAIN LINE
CHWS	CHILLED WATER SUPPLY
CHWR	CHILLED WATER RETURN
HWS	HOT WATER SUPPLY
HWR	HOT WATER RETURN
GLR	GLYCOL WATER RETURN
GLS	GLYCOL WATER SUPPLY

NEW YORK STATE CODES & STANDARDS

- 2020 BUILDING CODE OF NEW YORK STATE
- 2020 FIRE CODE OF NEW YORK STATE
- 2020 PLUMBING CODE OF NEW YORK STATE
- 2020 MECHANICAL CODE OF NEW YORK STATE
- 2020 FUEL GAS CODE OF NEW YORK STATE
- 2020 NYS UNIFORM CODE SUPPLEMENT
- NYS EDUCATION DEPARTMENT 2022 MANUAL OF PLANNING STANDARDS

NEW YORK STATE ENERGY CODES

- 2020 ENERGY CONSERVATION CONSTRUCTION CODE OF NEW YORK STATE
- 2016 ASHRAE 90.1

REFERENCED STANDARDS

APPLICABLE REFERENCE STANDARDS SHALL BE AS REFERENCED BY ALL STATE CODES. THE LIST BELOW IS FOR QUICK REFERENCE AND DOES NOT INCLUDE ALL APPLICABLE REFERENCE STANDARDS.

- 2016 NFPA 13 — STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS
- 2016 NFPA 14 — STANDARD FOR THE INSTALLATION OF STANDPIPE AND HOSE SYSTEMS
- 2016 NFPA 20 — STANDARD FOR THE INSTALLATION OF STATIONARY PUMPS FOR FIRE PROTECTION
- 2017 NFPA 70 — NATIONAL ELECTRICAL CODE
- 2016 NFPA 72 — NATIONAL FIRE ALARM AND SIGNALING CODE

MECHANICAL DRAWING LIST

Sheet Number	Sheet Title
AH M001	MECHANICAL COVER SHEET
AH M002	MECHANICAL GENERAL NOTES
AH MD100	MECHANICAL DEMOLITION PLAN — GROUND FLOOR
AH MD101	MECHANICAL DEMOLITION PLAN — FIRST FLOOR
AH MD102	MECHANICAL DEMOLITION PLAN — ROOF
AH MD300	MECHANICAL DEMOLITION PART PLAN — BOILER ROOM
AH M100	MECHANICAL PLAN — GROUND FLOOR
AH M101	MECHANICAL PLAN — FIRST FLOOR
AH M102	MECHANICAL PLAN — ROOF
AH M300	MECHANICAL PART PLAN — BOILER ROOM
AH M601	MECHANICAL SCHEDULES
AH M602	MECHANICAL SCHEDULES
AH M603	MECHANICAL SCHEDULES
AH M701	MECHANICAL DETAILS
AH M702	MECHANICAL DETAILS
AH M703	MECHANICAL DETAILS
AH M704	MECHANICAL DETAILS

EASTCHESTER UNION FREE SCHOOL DISTRICT

2022 CAPITAL PROJECT
PHASE 4

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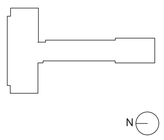
ISSUE	DATE
ISSUED FOR BID	11/06/2024

KEY PLAN



PROJECT NO. 66-03-01-03-0-001-024
MEMASI PROJECT NO. 102-2301

MECHANICAL COVER SHEET

AH M001

MECHANICAL GENERAL NOTES

1. THESE DRAWINGS ARE GENERALLY DIAGRAMMATIC AND ARE INTENDED TO CONVEY THE SCOPE OF WORK AS WELL AS INDICATE GENERAL ARRANGEMENT OF EQUIPMENT, DUCTWORK AND PIPING. THE CONTRACTOR SHALL ADHERE TO THESE DRAWINGS AS CLOSELY AS POSSIBLE. HOWEVER, THE RIGHT IS RESERVED TO VARY THE RUNS OF DUCTWORK AND PIPING AND TO MAKE OFFSETS, WHERE NECESSARY, TO ACCOMMODATE CONDITIONS ARISING AT THE JOB SITE. THE CONTRACTOR SHALL PREPARE SHOP DRAWINGS TO BE SUBMITTED TO THE ENGINEER FOR APPROVAL. NO WORK SHALL BE PERFORMED PRIOR TO RECEIPT OF EQUIPMENT, DUCTWORK, AND PIPING FABRICATION SHOP DRAWING APPROVAL.
2. THE DRAWINGS AND SPECIFICATIONS SHALL BE INTERPRETED SO AS TO REQUIRE THE MOST SUBSTANTIAL AND COMPREHENSIVE PERFORMANCE OF THE WORK, CONSISTENT WITH THE INTENT AND REQUIREMENTS OF THE CONTRACT DOCUMENTS, AND SUCH WORK SHALL BE PERFORMED BY THE CONTRACTOR WITHOUT EXTRA COST TO THE OWNER. IN THE CASE OF A DISCREPANCY WITHIN THE CONTRACT DOCUMENTS, THE WORST CASE OR HIGHEST COST SHALL APPLY FOR BIDDING PURPOSES. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCY VIA RFI PRIOR TO PERFORMING THE ASSOCIATED WORK.
3. ANY MATERIAL, WORK, OR INCIDENTAL ACCESSORIES OR MINOR DETAILS NOT SHOWN BUT NECESSARY TO MAKE THE WORK COMPLETE IN ALL RESPECTS AND READY FOR OPERATION, EVEN IF NOT PARTICULARLY SHOWN ON THE DRAWINGS, SHALL BE PROVIDED BY THE CONTRACTOR WITHOUT ADDITIONAL EXPENSE TO THE OWNER.
4. DUCT SIZES SHOWN ON DRAWINGS ARE CLEAR INSIDE DIMENSIONS. WHERE ACOUSTICALLY LINED DUCT IS SPECIFIED, OUTER DUCT DIMENSIONS SHALL BE INCREASED TO ACCOMMODATE LINING.
5. EACH CONTRACTOR WILL BE RESPONSIBLE FOR CLOSE COORDINATION WITH OTHER CONTRACTORS' WORK.
6. REFER TO APPROPRIATE SPECIFICATION SECTION FOR EQUIPMENT SELECTION PARAMETERS WHERE DRAWINGS DO NOT CONTAIN EQUIPMENT SCHEDULES.
7. FOR AIR SYSTEMS, THE MECHANICAL CONTRACTOR SHALL INCLUDE IN BID PRICING SUPPLYING AND INSTALLING BRANCH VOLUME DAMPERS FOR ALL SUPPLY, RETURN, AND EXHAUST BRANCH DUCTWORK, REGARDLESS IF VOLUME DAMPERS ARE NOT SHOWN IN CONTRACT DOCUMENTS. ALL VOLUME DAMPERS SHALL BE ADJUSTABLE HANDLE TYPE FOR LAY-IN ACCESSIBLE CEILING OR CABLE OPERATED FOR CONCEALED TYPE OF CEILING. ALL BRANCH DUCT VOLUME DAMPERS SERVING DIFFUSERS IN GYPSUM BOARD CEILINGS (OR OTHERWISE INACCESSIBLE) SHALL BE REMOTELY (CORD OR CABLE) OPERABLE THROUGH THE FACE OF THE DIFFUSER.
8. INSTALL THERMOSTATS, FAN SPEED CONTROLLERS, AND OTHER ROOM OCCUPANT ADJUSTABLE CONTROLS WITH TOP OF DEVICE 4'-0" ABOVE FINISHED FLOOR OR AS DIRECTED OTHERWISE BY ARCHITECT. COORDINATE EXACT LOCATIONS WITH THE ARCHITECTURAL PLANS. DEVICE COLORS TO BE SELECTED BY THE ARCHITECT. MANUFACTURER'S LOGO SHALL NOT BE EXPOSED.
9. WHERE PIPING CONNECTIONS FOR EQUIPMENT SUCH AS PUMPS, AC UNITS, COILS, ETC. DIFFER FROM THE LINE SIZE PIPING, IT SHALL BE THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR TO FURNISH AND INSTALL THE NECESSARY REDUCER/EXPANDER FITTINGS TO ENABLE CONNECTION BETWEEN THE PIPING SYSTEM AND THE EQUIPMENT.
10. PROVIDE UL LISTED AND LABELED FIRE DAMPERS AT ALL DUCT PENETRATIONS THROUGH FIRE RATED WALLS AND FLOORS, REGARDLESS IF FIRE DAMPERS ARE NOT SHOWN IN CONTRACT DOCUMENTS. PROVIDE 1-1/2 HOUR RATED FIRE DAMPERS AT WALLS/FLOORS WITH 2 HOUR OR LESS RATING. PROVIDE 3 HOUR RATED FIRE DAMPERS AT WALLS/FLOORS WITH 3 HOUR OR MORE RATING. ALL FIRE DAMPERS SHALL BE TYPE "B" WITH SHUTTER OUT OF AIRSTREAM, AND SHALL BE RATED FOR DYNAMIC AIRFLOW CONDITIONS 2,000 FT/MIN AND 4.0 IN-WC. PROVIDE ACCESS DOORS IN DUCTWORK, 18"x18" UNLESS OTHERWISE NOTED. COORDINATE WITH GENERAL CONTRACTOR FOR LOCATIONS AND SIZES OF ACCESS DOORS IN GENERAL CONSTRUCTION.
11. PROVIDE UL LISTED AND LABELED COMBINATION FIRE/SMOKE DAMPERS AT ALL DUCT PENETRATIONS THROUGH FIRE AND SMOKE RATED WALLS AND FLOORS, REGARDLESS IF FIRE DAMPERS ARE NOT SHOWN IN CONTRACT DOCUMENTS. ALL COMBINATION FIRE/SMOKE DAMPERS SHALL BE PROVIDED WITH AN END SWITCH FOR STATUS SIGNAL TO THE BMS AND FIRE SMOKE CONTROL PANEL. ALL COMBINATION FIRE/SMOKE DAMPERS SHALL BE RATED FOR DYNAMIC AIRFLOW CONDITIONS 2,000 FT/MIN AND 4.0 IN-WC. PROVIDE ACCESS DOORS IN DUCTWORK, 18"x18" UNLESS OTHERWISE NOTED. COORDINATE WITH GENERAL CONTRACTOR FOR LOCATIONS AND SIZES OF ACCESS DOORS IN GENERAL CONSTRUCTION.
12. PROVIDE FIRESTOPPING FOR ALL DUCT, PIPE, AND CONDUIT PENETRATIONS THROUGH FIRE RATED WALLS AND FLOORS.
13. WHERE DUCTS AND PIPES PENETRATE FIRE AND/OR SMOKE RATED WALLS, LEAVE A MINIMUM OF 2 INCHES CLEAR ABOVE THE DUCTS AND PIPES, SUCH THAT THE MECHANICAL CONTRACTOR CAN SEAL THE WALL ABOVE THE DUCTS. DO NOT INSTALL FLEXIBLE DUCTWORK THROUGH FIRE AND/OR SMOKE RATED WALLS.
14. PROVIDE ESCUTCHEON PLATES WHERE DUCTS OR PIPES PENETRATE CEILINGS, WALLS, OR FLOORS WHERE EXPOSED TO VIEW IN FINISHED AREAS. ESCUTCHEONS FOR DUCTS SHALL BE CONSTRUCTED OF THE SAME MATERIAL AS DUCT. PIPE ESCUTCHEONS SHALL BE CHROME-PLATED BRASS.
15. THE MECHANICAL CONTRACTOR SHALL INCLUDE IN BID PRICING SUPPLYING AND INSTALLING THERMOSTATS FOR ANY EQUIPMENT THAT REQUIRES CONTROL, SUCH AS VAV BOXES, FCU, FANS, HEATERS, FINNED TUBE RADIATION, RTU'S, ETC., REGARDLESS IF THERMOSTATS ARE NOT SHOWN IN CONTRACT DOCUMENTS. ALL THERMOSTATS SHALL BE DIRECT DIGITAL PROGRAMMABLE TYPE, UNLESS OTHERWISE NOTED. PROVIDE ONE THERMOSTAT FOR EACH FAN COIL UNIT, FAN UNIT, VAV, FPB, ENTRANCE HEATER, BASEBOARD RADIATION, ETC. THERMOSTAT LOCATIONS SHALL BE AS SHOWN ON PLANS AND/OR WHERE DIRECTED AND APPROVED BY THE ARCHITECT AND ENGINEER.
16. ALL DUCTWORK AND PIPING REQUIRING FIRE RATING AND WHERE SHOWN ON PLANS SHALL BE PROVIDED WITH UL LISTED FIRE-RATED DUCT WRAP WITH APPROPRIATE FIRE RATING (1-HOUR, 2-HOUR, ETC.), UNLESS A FIRE-RATED ARCHITECTURAL ENCLOSURE IN THAT LOCATION IS SPECIFIED WITHIN DRAWINGS AND SPECIFICATIONS FOR ANOTHER TRADE.
17. ALL LINEAR DIFFUSERS ARE TO BE COORDINATED WITH ARCHITECTURAL PLANS FOR EXACT LENGTHS AND LOCATIONS. ACTIVE PLENUM SECTIONS SHALL BE OF THE SIZES AS SHOWN ON PLANS. EACH BRANCH TAP SERVING THE LINEAR DIFFUSER SHALL BE PROVIDED WITH A VOLUME DAMPER WHICH SHALL BE OPERABLE THROUGH THE DIFFUSER FACE. ACTIVE SUPPLY SECTION OF LINEAR DIFFUSER SHALL BE PROVIDED WITH PATTERN CONTROL DEVICES AND EQUALIZING GRIDS. ACTIVE OR INACTIVE RETURN SECTIONS SHALL NOT BE FURNISHED WITH PATTERN CONTROL OR EQUALIZING GRIDS.
18. BORDER TYPES AND METHOD OF ATTACHMENT FOR ALL DIFFUSERS, GRILLES, AND REGISTERS SHALL BE COORDINATED WITH THE ARCHITECTURAL CEILING DETAILS AND SPECIFICATIONS.
19. REFER TO SPECIFICATIONS FOR ACOUSTIC LINING REQUIREMENTS NOT SHOWN ON THE DRAWINGS.
20. FOR WATER SYSTEMS: THE MECHANICAL CONTRACTOR SHALL INCLUDE IN BID PRICING SUPPLYING AND INSTALLING BALL TYPE SHUT-OFF VALVES AND SEPARATE BALANCING VALVE FOR ALL BRANCH PIPING REGARDLESS IF VALVES ARE NOT SHOWN IN CONTRACT DOCUMENTS. ALL SHUT-OFF VALVES SHALL BE FULL PORT AND PRESSURE RATED FOR SYSTEM PRESSURE. THE BALANCING VALVE SHALL BE SIMILAR TO B&G CIRCUIT SETTER PLUS CALIBRATED BALANCE VALVE, UNLESS OTHERWISE NOTED.
21. THE MECHANICAL CONTRACTOR SHALL INCLUDE IN BID PRICING SUPPLYING AND INSTALLING SECONDARY DRAIN PANS FOR ALL AIR CONDITIONING CEILING HUNG EQUIPMENT REGARDLESS IF DRAIN PANS ARE NOT SHOWN IN CONTRACT DOCUMENTS. REFER TO DETAIL FOR INSTALLATION OF DRAIN PANS. IF NO DETAIL IS SHOWN, CONTRACTOR MUST REQUEST DRAIN PAN DETAIL THRU RFI PROCESS DURING BIDDING.
22. THE MECHANICAL CONTRACTOR SHALL INCLUDE IN BID PRICING SUPPLYING AND INSTALLING CONDENSATE PIPING FOR ALL COOLING TYPE EQUIPMENT REGARDLESS IF CONDENSATE PIPING IS NOT SHOWN IN CONTRACT DOCUMENTS. ALL CONDENSATE PIPING SHALL BE INSULATED AND ROUTED TO NEAREST DRAIN OR JANITORS CLOSET. IF NO CONDENSATE PIPING IS SHOWN, CONTRACTOR MUST REQUEST CONDENSATE PIPING ROUTING THRU RFI PROCESS DURING BIDDING.
23. GENERAL NOTES, SYMBOLS, ABBREVIATIONS, AND DETAILS ARE APPLICABLE TO ALL HVAC/MECHANICAL DRAWINGS.
24. RELOCATE EXISTING WORK THAT INTERFERES WITH WORK OF THIS CONTRACT.
25. COORDINATE THIS WORK WITH THAT OF OTHER TRADES.
26. DIMENSIONS SHOWN ON PLAN ARE HORIZONTAL. DIMENSIONS SHOWN IN ELEVATION ARE VERTICAL, EXCEPT IN WAY OF STRUCTURAL STEEL, DIMENSIONS ARE MEASURED PERPENDICULAR TO FLANGE.
27. PRODUCT INSTALLATION SHALL ADHERE TO MANUFACTURERS' RECOMMENDATIONS.
28. PROVIDE ACCESS PANELS IN DUCTS AND CEILINGS/SOFFITS/WALLS/FLOORS IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS FOR ALL CONCEALED EQUIPMENT THAT REQUIRES PERIODIC SERVICE, INCLUDING AIR CONDITIONING UNITS, FANS, CONDENSATE PUMPS, FIRE DAMPERS, COMBINATION FIRE/SMOKE DAMPERS, AND DUCT MOUNTED SMOKE DETECTORS. MATCH FIRE RATING OF CEILING/SOFFIT/WALL/FLOOR WHERE APPLICABLE.
29. PROVIDE HANGERS, INSERTS, ANCHORS, SUPPLEMENTAL STEEL & SUPPORTS AS REQUIRED TO SUPPORT DUCTWORK, PIPING AND EQUIPMENT FROM STRUCTURE.
30. SCHEDULE WORK OF THIS SECTION TO AVOID INTERFERING WITH EXISTING OPERATIONS IN THE FACILITY.
31. COORDINATE ALL ROOF PENETRATIONS WITH THE WORK OF OTHER SECTIONS AND WITH FLASHING REQUIREMENTS. COORDINATE ALL ROOF PENETRATION LOCATIONS WITH THE OWNER. NOTIFY THE OWNER PRIOR TO STARTING WORK AND VERIFY COMPLIANCE WITH BOND AND WARRANTY OF THE ROOF.
32. RUN DUCTS AND PIPING CONCEALED, UNLESS OTHERWISE SPECIFIED, AND CLEAR OF CEILING INSERTS.
33. PROVIDE CLEARANCE IN FRONT OF ALL ELECTRIC CONTROL PANELS PER N.E.C. AND EQUIPMENT MANUFACTURERS' REQUIREMENTS.
34. PRIOR TO SUBMISSION OF SHOP DRAWINGS, COORDINATE WITH ELECTRICAL CONTRACTOR TO VERIFY VOLTAGES AVAILABLE FOR MECHANICAL EQUIPMENT.
35. MOTOR STARTERS AND VARIABLE FREQUENCY DRIVES FOR HVAC EQUIPMENT SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR AND INSTALLED/WIRED BY THE ELECTRICAL CONTRACTOR, UNLESS OTHERWISE NOTED. COORDINATE AND VERIFY WITH ELECTRICAL CONTRACTOR PRIOR TO SHOP DRAWING SUBMISSION.
36. ALL DISCONNECT SWITCHES FOR HVAC EQUIPMENT SHALL BE FURNISHED, INSTALLED, AND WIRED BY THE ELECTRICAL CONTRACTOR, UNLESS INTEGRAL TO HVAC EQUIPMENT OR OTHERWISE NOTED. COORDINATE AND VERIFY WITH ELECTRICAL CONTRACTOR PRIOR TO SHOP DRAWING SUBMISSION.
37. USE FLAT TRANSVERSE SEAM FOR DUCTWORK WHERE SPACE AVAILABLE DICTATES.
38. BRANCH DUCTS TO INDIVIDUAL DIFFUSERS AND REGISTERS SHALL BE THE SAME SIZE AS THE DIFFUSER OR REGISTER NECK, UNLESS OTHERWISE NOTED.
39. ALL DUCTWORK SHALL BE INSTALLED TIGHT TO BOTTOM OF STRUCTURAL MEMBERS UNLESS OTHERWISE NOTED OR ABSOLUTELY REQUIRED BY FIELD CONDITIONS.
40. DO NOT INSTALL DUCTWORK DIRECTLY UNDER AND PARALLEL TO THE WEB OF STRUCTURAL MEMBERS. OFFSET IN ORDER TO ALLOW FUTURE DUCTWORK AND PIPING TO CROSS OVER IN BETWEEN STRUCTURAL MEMBERS.
41. BRANCH DUCTS TO INDIVIDUAL DIFFUSERS AND REGISTERS SHALL BE PROVIDED WITH VOLUME DAMPERS, WHETHER OR NOT THE VOLUME DAMPERS ARE SHOWN ON PLAN.
42. VOLUME DAMPERS LOCATED ABOVE INACCESSIBLE CEILINGS SHALL BE CABLE OPERATED TYPE, WITH CABLE OPERATORS LOCATED IN ACCESSIBLE LOCATIONS AND CLEARLY LABELED FOR DIFFUSER OR REGISTER SERVED.
43. UNLESS OTHERWISE NOTED, ALL EXPOSED DUCTWORK IN FINISHED SPACES SHALL BE SPIRAL ROUND OR FLAT OVAL TYPE, WITH SOLID OUTER WALL, PERFORATED INNER WALL, 1 INCH THICK INTERSTITIAL ACOUSTICAL LINING, AND FLAT SEAMS.
44. ALL PIPING SHALL BE INSTALLED TIGHT TO BOTTOM OF STRUCTURAL MEMBERS UNLESS OTHERWISE NOTED OR ABSOLUTELY REQUIRED BY FIELD CONDITIONS.
45. DO NOT INSTALL PIPING DIRECTLY UNDER AND PARALLEL TO THE WEB OF STRUCTURAL MEMBERS. OFFSET IN ORDER TO ALLOW FUTURE DUCTWORK AND PIPING TO CROSS OVER IN BETWEEN STRUCTURAL MEMBERS.
46. CONDENSATE DRAIN (CD) AND CONDENSATE PUMP DISCHARGE (PD) PIPING SHALL BE RIGID COPPER, TYPE L, MINIMUM 3/4" NOMINAL PIPE SIZE, BRAZED OR SOLDERED, WITH 1" INSULATION, UNLESS OTHERWISE NOTED ON DRAWINGS.
47. ALL NEW AND EXISTING INSULATED HVAC PIPING EXPOSED TO VIEW IN FINSHED SPACES SHALL BE PROVIDED WITH PVC JACKETS.
48. WHERE EXISTING DUCTS, PIPES, LOUVERS, GRILLES, WIRES, CONDUITS, AND PNEUMATIC TUBING THROUGH EXISTING WALLS, PARTITIONS, SHAFTS, CHASES, AND SLABS ARE REMOVED BY THE MECHANICAL CONTRACTOR, THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR INFILLING AND REPAIRING OPENINGS TO MATCH EXISTING CONSTRUCTION, INCLUDING FIRE RATING, SMOKE RATING, INSULATION VALUE, MOISTURE BARRIER, PAINTING, AND GENERAL FINISH APPEARANCE.
49. WHERE NEW DUCTS, PIPES, LOUVERS, GRILLES, WIRES, AND CONDUITS INSTALLED BY THE MECHANICAL CONTRACTOR PENETRATE EXISTING WALLS, PARTITIONS, SHAFTS, CHASES, AND SLABS, THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR CUTTING NEW OPENINGS AND FIRESTOPPING. PROVIDE NEW STRUCTURAL SLEEVES OR LINTELS FOR NEW OPENINGS IN ACCORDANCE WITH SPECIFICATION SECTION 055000.
50. NEW AND EXISTING PERMANENT HVAC AIR EQUIPMENT MAY BE USED BY CONTRACTORS DURING CONSTRUCTION FOR TEMPORARY HEATING, COOLING, AND VENTILATION, ONLY UNDER THE FOLLOWING CONDITIONS:
    - 50.1. CONTRACTOR TO PROVIDE TEMPORARY FILTERS IN EACH UNIT DURING CONSTRUCTION, WHICH SHALL BE REPLACED WITH NEW CLEAN FILTERS AFTER GENERAL CONSTRUCTION IS COMPLETED.
    - 50.2. CONTRACTOR TO PROVIDE FILTER FABRIC AT ALL RETURN AND EXHAUST REGISTERS, GRILLES, AND OPENINGS DURING CONSTRUCTION.
    - 50.3. THE WARRANTY PERIOD FOR ALL EQUIPMENT SHALL NOT BEGIN UNTIL CONSTRUCTION IS COMPLETED. IF THE EQUIPMENT MANUFACTURER'S WARRANTY PERIOD BEGINS WHILE THE UNIT USED DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH EXTENDING THE WARRANTY TO PROVIDE THE FULL PERIOD OF COVERAGE TO THE OWNER.
    - 50.4. IF NEW PERMANENT HVAC AIR EQUIPMENT INSTALLED UNDER THIS PROJECT WILL NOT BE OPERATED BY THE CONTRACTOR DURING CONSTRUCTION, ALL OPEN OR INCOMPLETE DUCTWORK SHALL BE CAPPED AIRTIGHT WITH WITH HEAVY POLYETHYLENE PLASTIC. AFTER THE INSTALLATION OF DUCTWORK, REGISTERS, GRILLES, AND DIFFUSERS, THE CONTRACTOR SHALL BLANK OFF ALL REGISTERS, GRILLES, AND DIFFUSERS WITH HEAVY POLYETHYLENE PLASTIC AND TAPE AIR TIGHT, IN AREAS THAT ARE UNDER CONSTRUCTION, UNTIL WORK IS COMPLETE IN THOSE AREAS.
    - 50.5. IF THE ABOVE CONDITIONS ARE NOT MET, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ANY NECESSARY TEMPORARY HEATING, COOLING, AND VENTILATION EQUIPMENT, DUCTWORK, CONTROLS, PIPING, AND POWER AT HIS OWN EXPENSE.
    - 50.6. IF PERMANENT HVAC EQUIPMENT IS USED DURING CONSTRUCTION BUT NOT PROPERLY PROTECTED AS DESCRIBED ABOVE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING OUT DUST AND DEBRIS FROM DUCTWORK AND EQUIPMENT, AS WELL AS ANY NECESSARY REPAIR OR REPLACEMENT OF DAMAGED EQUIPMENT AT HIS OWN EXPENSE.
    - 50.7. WHEN GENERAL CONSTRUCTION IS COMPLETE, VACUUM CLEAN ALL DIFFUSERS, REGISTERS, GRILLES, AND HVAC EQUIPMENT IN THE PROJECT AREA OR SERVING THE PROJECT AREA. REMOVE ANY CONSTRUCTION DEBRIS.

MECHANICAL DEMOLITION GENERAL NOTES

1. DEMOLITION NOTES, SYMBOL LIST, AND DETAILS ARE APPLICABLE TO ALL HVAC/MECHANICAL DRAWINGS.
2. ALL PIPING IN WALLS AND FLOORS NOT TO BE REUSED WILL BE PLUGGED OR CAPPED, AND CUTTING AND PATCHING WILL BE PERFORMED TO RESTORE SURFACE TO ORIGINAL CONDITION BY THIS CONTRACTOR.
3. AFTER REMOVING PIPE THROUGH THE FLOOR SLABS, PACK OPENING WITH APPROVED FIRE-RATED PACKING.
4. THE CONTRACTOR SHALL INCLUDE IN HIS PRICE ALL COSTS ASSOCIATED WITH REMOVALS AND RELOCATIONS OF HVAC WORK AS DESCRIBED ON THE DRAWINGS AND IN THE SPECIFICATIONS WITH ALLOWANCES FOR EXPECTED OR UNFORESEEN DIFFICULTIES WHEN CONCEALED WORK HAS BEEN OPENED. NO CLAIMS FOR ADDITIONAL WORK ASSOCIATED WITH DEMOLITION WILL BE ACCEPTED, EXCEPT IN CERTAIN CASES CONSIDERED JUSTIFIABLE BY THE OWNER/ENGINEER.
5. THE CONTRACTOR SHALL PERFORM DEMOLITION AND REMOVAL WORK WITH MINIMUM INTERFERENCE WITH FUNCTIONING HVAC SYSTEMS. ALL AFFECTED SYSTEMS SHALL BE RECONNECTED AND RESTORED.
6. DEMOLITION AND REMOVAL WORK SHALL BE PERFORMED IN A NEAT AND WORKMANLIKE MANNER. THE CONTRACTOR SHALL PATCH, REPAIR, OR OTHERWISE RESTORE ANY DAMAGED INTERIOR OR EXTERIOR BUILDING SURFACE TO ITS ORIGINAL CONDITION.
7. THE CONTRACTOR SHALL REMOVE ALL DUCT AND PIPING SUPPORTS, ETC. FROM PARTITIONS THAT ARE TO BE REMOVED. WHERE THE REMOVAL OF THESE ITEMS DISRUPTS EXISTING PIPING THAT IS TO REMAIN, THE CONTRACTOR SHALL INSTALL AND PROVIDE BYPASS CONNECTIONS NECESSARY.
8. ALL PIPING WHICH BECOMES EXPOSED DURING THE ALTERATION WORK SHALL BE REAVED AND REROUTED CONCEALED BEHIND FINISHED SURFACES.
9. PORTIONS OF PIPING AND DUCTWORK TO BE REMOVED OR ABANDONED AS A RESULT OF DEMOLITION WORK, BUT WHICH ARE REQUIRED TO REMAIN ACTIVE, SHALL BE CUT AT CONVENIENT LOCATIONS, REROUTED, AND RECONNECTED.
10. THE CONTRACTOR SHALL NOTIFY THE OWNER AT THE APPROPRIATE TIME OF THE PROJECTED DEMOLITION AND PHASING SCHEDULE, SO THAT REMOVAL OR RELOCATION OF AFFECTED UTILITIES MAY BE CARRIED OUT IN COORDINATION WITH THE PROJECT REQUIREMENTS.
11. ALL EXISTING MATERIAL AND EQUIPMENT IN USABLE CONDITION, WHICH IS TO BE REMOVED UNDER THIS CONTRACT, SHALL REMAIN THE PROPERTY OF THE OWNER OR SHALL BE DISPOSED OF BY THE HVAC CONTRACTOR, AS DIRECTED BY THE OWNER.
12. ARRANGE TO WORK CONTINUOUSLY, INCLUDING OVER TIME, IF REQUIRED, TO ASSURE THAT SYSTEMS WILL BE SHUT DOWN ONLY DURING THE TIME ACTUALLY REQUIRED TO MAKE THE NECESSARY CONNECTIONS TO THE EXISTING SYSTEMS.
13. THE SHUTDOWN OF EXISTING BUILDING HVAC SERVICES SHALL BE COORDINATED WITH WITH THE OWNER. MAKE ARRANGEMENTS AT LEAST FIVE (5) BUSINESS DAYS PRIOR TO A SHUTDOWN.
14. CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL REQUIREMENTS.
15. WHERE THE DEMOLITION OF EXISTING PNEUMATIC CONTROL EQUIPMENT, THERMOSTATS, OR TUBING IS INDICATED IN THE PLANS, THE CONTRACTOR SHALL CAP THE ENDS OF ALL EXISTING TO REMAIN PNEUMATIC LINES AIRTIGHT UNLESS OTHERWISE NOTED. IF ADDITIONAL PNEUMATIC LINES OR DEVICES ARE DISCOVERED BY THE CONTRACTOR INSIDE WALLS OR ABOVE CEILINGS DURING DEMOLITION, THE CONTRACTOR SHALL INFORM THE DESIGN TEAM PRIOR TO REMOVAL OF THESE LINES OR DEVICES.
16. MECHANICAL CONTRACTOR IS RESPONSIBLE FOR REMOVAL AND RECONNECTION OF DIFFUSERS LOCATED WITHIN CEILINGS TO BE REMOVED/REPLACED THROUGHOUT.

MECHANICAL CONTRACTOR IS RESPONSIBLE FOR ALL WORK ASSOCIATED WITH THE MECHANICAL WORK. THIS INCLUDES:
A. CUTTING TO GAIN ACCESS FOR ROUGHING/UNITS.
B. PATCHING TO MATCH WITH LIKE MATERIALS/COLORS OF ANY SURFACES IMPACTED.
C. METAL CHASE ENCLOSURES OF ANY EXPOSED MECHANICAL PIPING.
D. EXISTING CEILING REMOVAL/REPLACEMENT WHERE NEEDED FOR MECHANICAL WORK.

MECHANICAL CONTRACTOR WILL RE-INSULATE ANY EXISTING HEATING PIPE ELBOWS AND PIPE RUNS WHICH WERE REMOVED BY ABATEMENT. SEE H-DRAWINGS FOR LOCATIONS AND SCOPE. ALL COSTS TO BE INCLUDED IN THE MECHANICAL CONTRACTORS BASE BID.

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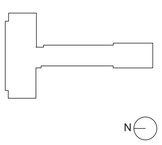
KEY PLAN

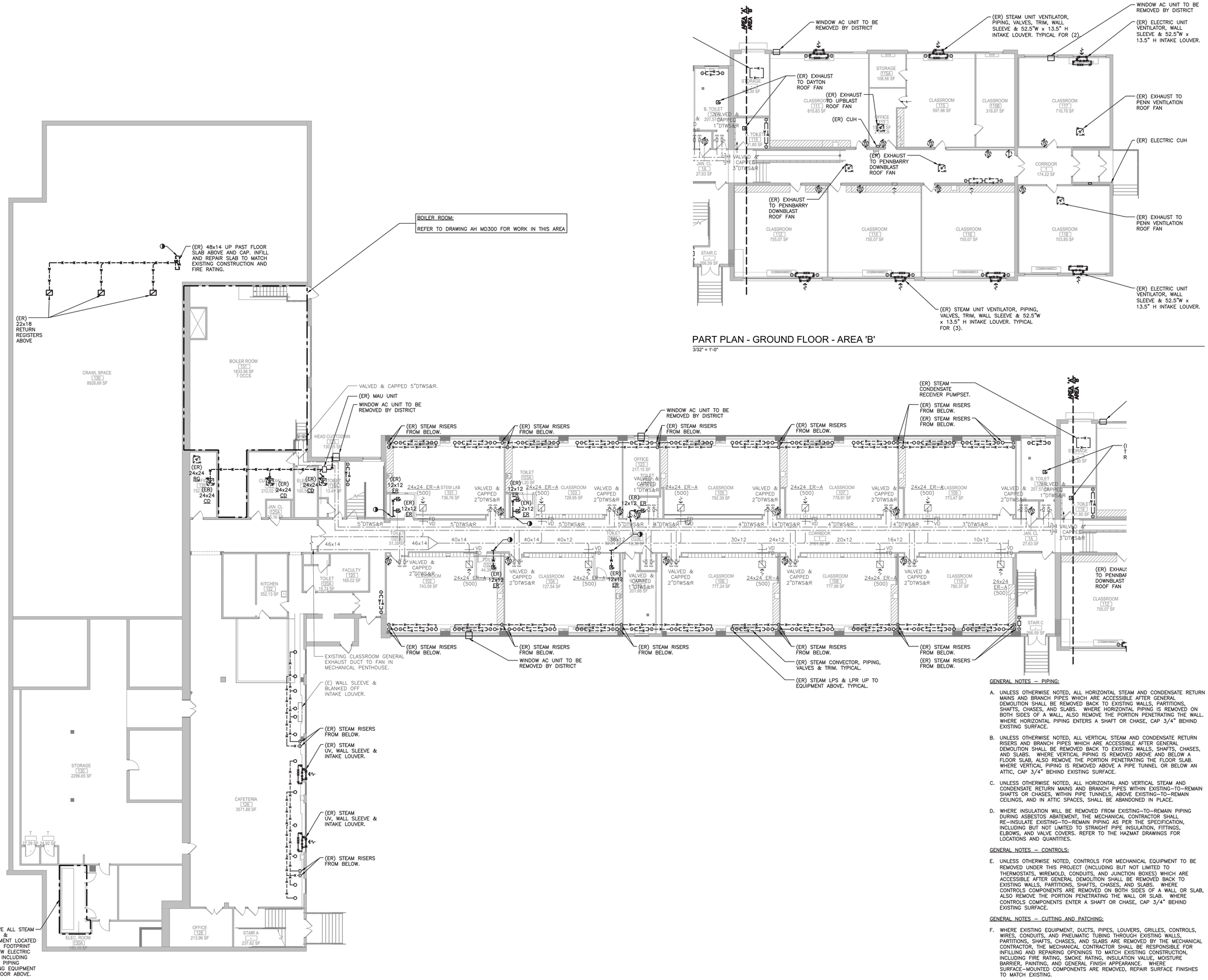


PROJECT NO. 66-03-01-03-0-001-024

MEMASI PROJECT NO. 102-2301

MECHANICAL GENERAL NOTES

AH M002



PART PLAN - GROUND FLOOR - AREA 'A'

3/32" = 1'-0"

PART PLAN - GROUND FLOOR - AREA 'B'

3/32" = 1'-0"

GENERAL NOTES – PIPING:

A. UNLESS OTHERWISE NOTED, ALL HORIZONTAL STEAM AND CONDENSATE RETURN MAINS AND BRANCH PIPES WHICH ARE ACCESSIBLE AFTER GENERAL DEMOLITION SHALL BE REMOVED BACK TO EXISTING WALLS, PARTITIONS, SHAFTS, CHASES, AND SLABS. WHERE HORIZONTAL PIPING IS REMOVED ON BOTH SIDES OF A WALL, ALSO REMOVE THE PORTION PENETRATING THE WALL. WHERE HORIZONTAL PIPING ENTERS A SHAFT OR CHASE, CAP 3/4" BEHIND EXISTING SURFACE.

B. UNLESS OTHERWISE NOTED, ALL VERTICAL STEAM AND CONDENSATE RETURN RISERS AND BRANCH PIPES WHICH ARE ACCESSIBLE AFTER GENERAL DEMOLITION SHALL BE REMOVED BACK TO EXISTING WALLS, SHAFTS, CHASES, AND SLABS. WHERE VERTICAL PIPING IS REMOVED ABOVE AND BELOW A FLOOR SLAB, ALSO REMOVE THE PORTION PENETRATING THE FLOOR SLAB. WHERE VERTICAL PIPING IS REMOVED ABOVE A PIPE TUNNEL OR BELOW AN ATTIC, CAP 3/4" BEHIND EXISTING SURFACE.

C. UNLESS OTHERWISE NOTED, ALL HORIZONTAL AND VERTICAL STEAM AND CONDENSATE RETURN MAINS AND BRANCH PIPES WITHIN EXISTING–TO–REMAIN SHAFTS OR CHASES, WITHIN PIPE TUNNELS, ABOVE EXISTING–TO–REMAIN CEILINGS, AND IN ATTIC SPACES, SHALL BE ABANDONED IN PLACE.

D. WHERE INSULATION WILL BE REMOVED FROM EXISTING–TO–REMAIN PIPING DURING ASBESTOS ABATEMENT, THE MECHANICAL CONTRACTOR SHALL RE–INSULATE EXISTING–TO–REMAIN PIPING AS PER THE SPECIFICATION, INCLUDING BUT NOT LIMITED TO STRAIGHT PIPE INSULATION, FITTINGS, ELBOWS, AND VALVE COVERS. REFER TO THE HAZMAT DRAWINGS FOR LOCATIONS AND QUANTITIES.

GENERAL NOTES – CONTROLS:

E. UNLESS OTHERWISE NOTED, CONTROLS FOR MECHANICAL EQUIPMENT TO BE REMOVED UNDER THIS PROJECT (INCLUDING BUT NOT LIMITED TO THERMOSTATS, WIREMOLD, CONDUITS, AND JUNCTION BOXES) WHICH ARE ACCESSIBLE AFTER GENERAL DEMOLITION SHALL BE REMOVED BACK TO EXISTING WALLS, PARTITIONS, SHAFTS, CHASES, AND SLABS. WHERE CONTROLS COMPONENTS ARE REMOVED ON BOTH SIDES OF A WALL OR SLAB, ALSO REMOVE THE PORTION PENETRATING THE WALL OR SLAB. WHERE CONTROLS COMPONENTS ENTER A SHAFT OR CHASE, CAP 3/4" BEHIND EXISTING SURFACE.

GENERAL NOTES – CUTTING AND PATCHING:

F. WHERE EXISTING EQUIPMENT, DUCTS, PIPES, LOUVERS, GRILLES, CONTROLS, WIRES, CONDUITS, AND PNEUMATIC TUBING THROUGH EXISTING WALLS, PARTITIONS, SHAFTS, CHASES, AND SLABS ARE REMOVED BY THE MECHANICAL CONTRACTOR, THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR INFILLING AND REPAIRING OPENINGS TO MATCH EXISTING CONSTRUCTION, INCLUDING FIRE RATING, SMOKE RATING, INSULATION VALUE, MOISTURE BARRIER, PAINTING, AND GENERAL FINISH APPEARANCE. WHERE SURFACE–MOUNTED COMPONENTS ARE REMOVED, REPAIR SURFACE FINISHES TO MATCH EXISTING.

G. MECHANICAL CONTRACTOR TO REMOVE AND REINSTALL CEILING TILES AS NEEDED TO FACILITATE THE MECHANICAL REMOVALS SCOPE OF WORK, EXCEPT IN AREAS WHERE CEILING REMOVAL/REPLACEMENT IS INDICATED AS GENERAL CONTRACTOR BASE SCOPE ON THE ARCHITECTURAL REFLECTED CEILING PLANS.

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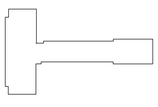
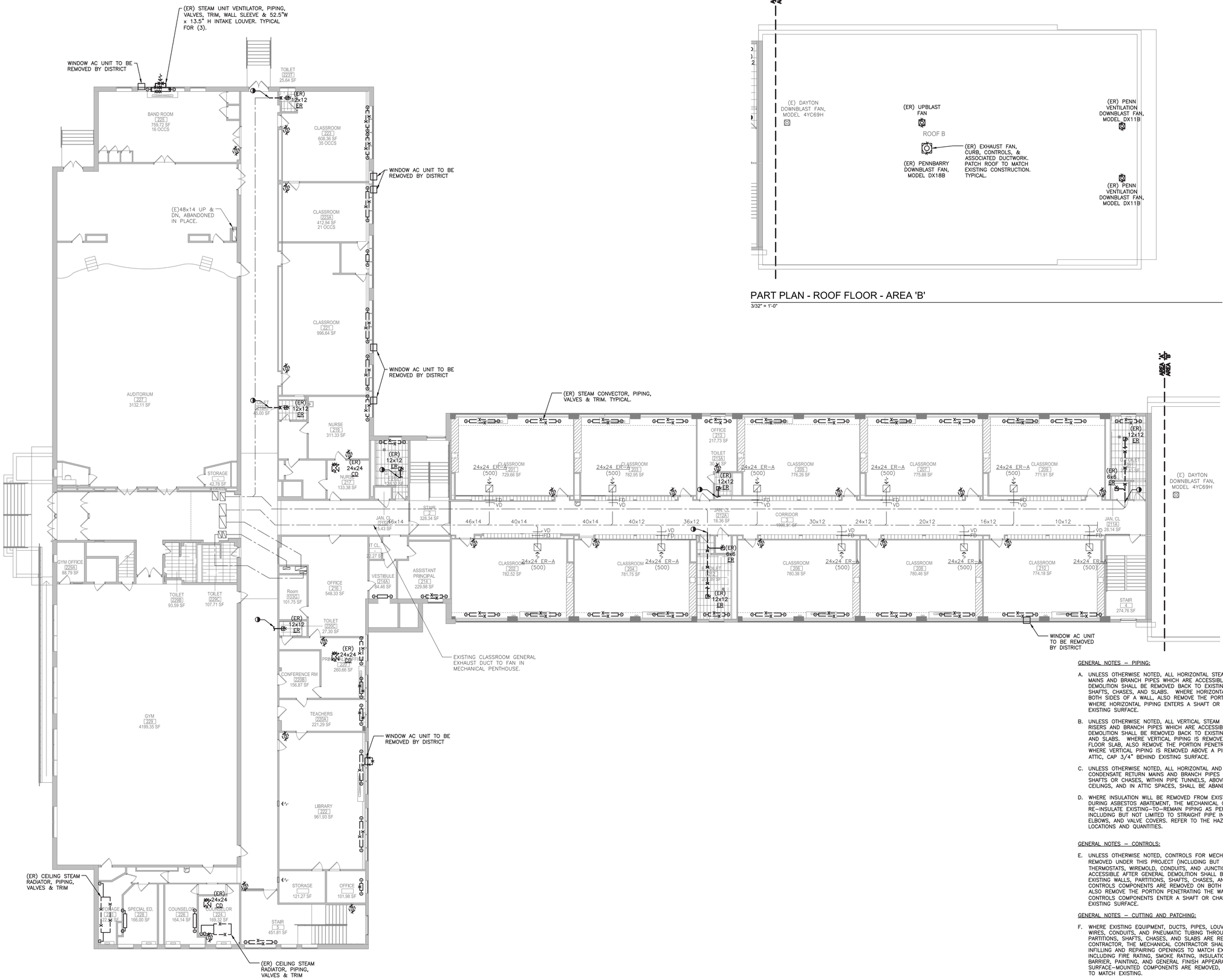


PROJECT NO.	66-03-01-03-0-001-024
MEMASI PROJECT NO.	102-2301

MECHANICAL DEMOLITION PLAN - GROUND FLOOR

AH MD100



PART PLAN - FIRST FLOOR - AREA 'A'

3/32" = 1'-0"

PART PLAN - ROOF FLOOR - AREA 'B'

3/32" = 1'-0"

GENERAL NOTES – PIPING:

A. UNLESS OTHERWISE NOTED, ALL HORIZONTAL STEAM AND CONDENSATE RETURN MAINS AND BRANCH PIPES WHICH ARE ACCESSIBLE AFTER GENERAL DEMOLITION SHALL BE REMOVED BACK TO EXISTING WALLS, PARTITIONS, SHAFTS, CHASES, AND SLABS. WHERE HORIZONTAL PIPING IS REMOVED ON BOTH SIDES OF A WALL, ALSO REMOVE THE PORTION PENETRATING THE WALL. WHERE HORIZONTAL PIPING ENTERS A SHAFT OR CHASE, CAP 3/4" BEHIND EXISTING SURFACE.

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GENERAL NOTES – CUTTING AND PATCHING:

F. WHERE EXISTING EQUIPMENT, DUCTS, PIPES, LOUVERS, GRILLES, CONTROLS, WIRES, CONDUITS, AND PNEUMATIC TUBING THROUGH EXISTING WALLS, PARTITIONS, SHAFTS, CHASES, AND SLABS ARE REMOVED BY THE MECHANICAL CONTRACTOR, THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR INFILLING AND REPAIRING OPENINGS TO MATCH EXISTING CONSTRUCTION, INCLUDING FIRE RATING, SMOKE RATING, INSULATION VALUE, MOISTURE BARRIER, PAINTING, AND GENERAL FINISH APPEARANCE. WHERE SURFACE–MOUNTED COMPONENTS ARE REMOVED, REPAIR SURFACE FINISHES TO MATCH EXISTING.

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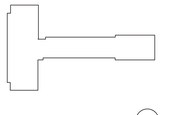
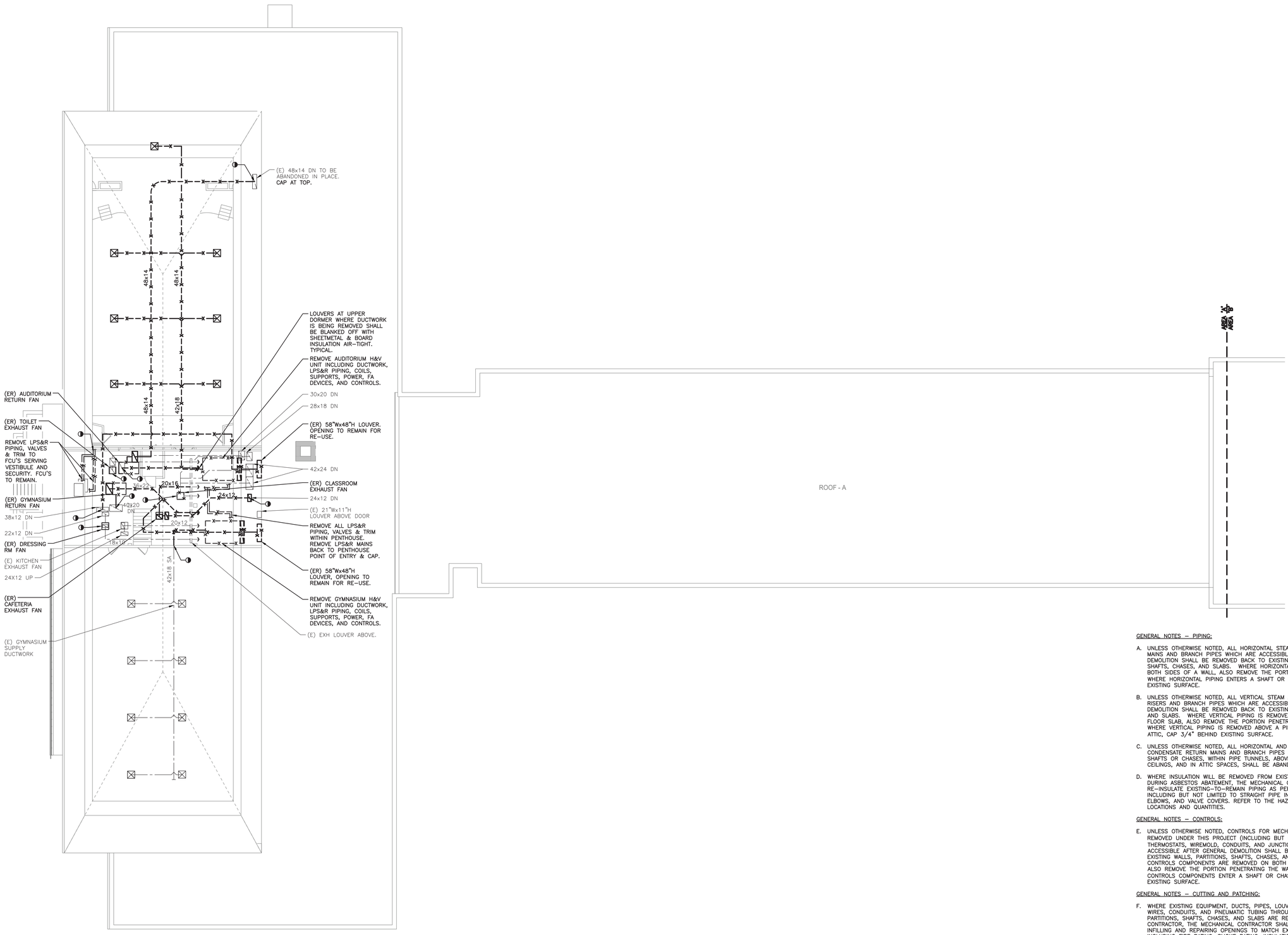


PROJECT NO.	66-03-01-03-0-001-024
MEMASI PROJECT NO.	102-2301

MECHANICAL DEMOLITION PLAN - FIRST FLOOR

AH MD101



PART PLAN - ROOF - AREA 'A'

3/32" = 1'-0"

GENERAL NOTES – PIPING:

A. UNLESS OTHERWISE NOTED, ALL HORIZONTAL STEAM AND CONDENSATE RETURN MAINS AND BRANCH PIPES WHICH ARE ACCESSIBLE AFTER GENERAL DEMOLITION SHALL BE REMOVED BACK TO EXISTING WALLS, PARTITIONS, SHAFTS, CHASES, AND SLABS. WHERE HORIZONTAL PIPING IS REMOVED ON BOTH SIDES OF A WALL, ALSO REMOVE THE PORTION PENETRATING THE WALL. WHERE HORIZONTAL PIPING ENTERS A SHAFT OR CHASE, CAP 3/4" BEHIND EXISTING SURFACE.

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D. WHERE INSULATION WILL BE REMOVED FROM EXISTING-TO-REMAIN PIPING DURING ASBESTOS ABATEMENT, THE MECHANICAL CONTRACTOR SHALL RE-INSULATE EXISTING-TO-REMAIN PIPING AS PER THE SPECIFICATION, INCLUDING BUT NOT LIMITED TO STRAIGHT PIPE INSULATION, FITTINGS, ELBOWS, AND VALVE COVERS. REFER TO THE HAZMAT DRAWINGS FOR LOCATIONS AND QUANTITIES.

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GENERAL NOTES – CUTTING AND PATCHING:

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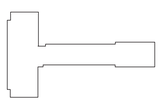
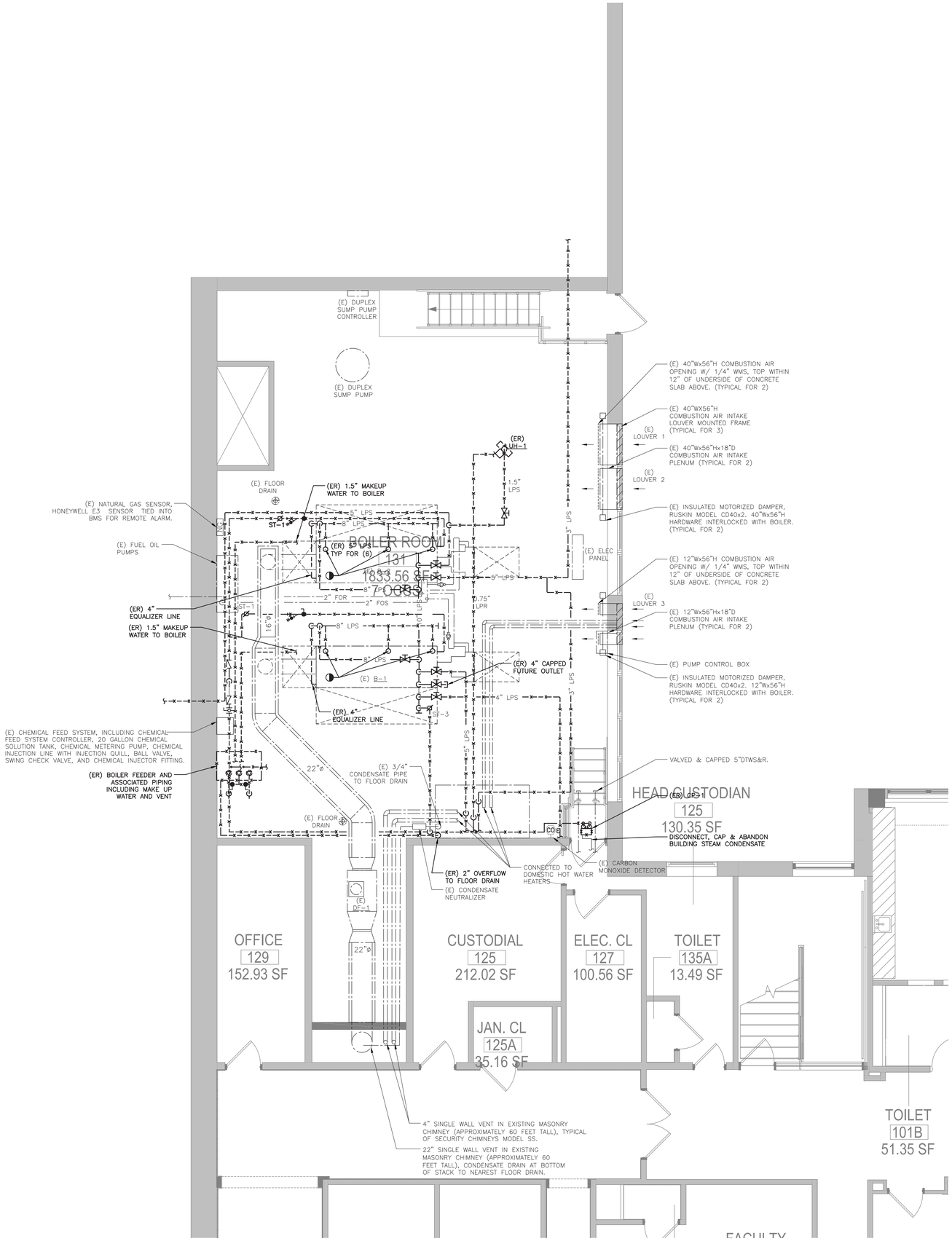


PROJECT NO.	66-03-01-03-0-001-024
MEMASI PROJECT NO.	102-2301

MECHANICAL DEMOLITION PLAN - ROOF

AH MD102



PART PLAN - GROUND FLOOR - BOILER ROOM

1/4" = 1'-0"

GENERAL NOTES – PIPING:

A. UNLESS OTHERWISE NOTED, ALL HORIZONTAL STEAM AND CONDENSATE RETURN MAINS AND BRANCH PIPES WHICH ARE ACCESSIBLE AFTER GENERAL DEMOLITION SHALL BE REMOVED BACK TO EXISTING WALLS, PARTITIONS, SHAFTS, CHASES, AND SLABS. WHERE HORIZONTAL PIPING IS REMOVED ON BOTH SIDES OF A WALL, ALSO REMOVE THE PORTION PENETRATING THE WALL. WHERE HORIZONTAL PIPING ENTERS A SHAFT OR CHASE, CAP 3/4" BEHIND EXISTING SURFACE.

B. UNLESS OTHERWISE NOTED, ALL VERTICAL STEAM AND CONDENSATE RETURN RISERS AND BRANCH PIPES WHICH ARE ACCESSIBLE AFTER GENERAL DEMOLITION SHALL BE REMOVED BACK TO EXISTING WALLS, SHAFTS, CHASES, AND SLABS. WHERE VERTICAL PIPING IS REMOVED ABOVE AND BELOW A FLOOR SLAB, ALSO REMOVE THE PORTION PENETRATING THE FLOOR SLAB. WHERE VERTICAL PIPING IS REMOVED ABOVE A PIPE TUNNEL OR BELOW AN ATTIC, CAP 3/4" BEHIND EXISTING SURFACE.

C. UNLESS OTHERWISE NOTED, ALL HORIZONTAL AND VERTICAL STEAM AND CONDENSATE RETURN MAINS AND BRANCH PIPES WITHIN EXISTING–TO–REMAIN SHAFTS OR CHASES, WITHIN PIPE TUNNELS, ABOVE EXISTING–TO–REMAIN CEILINGS, AND IN ATTIC SPACES, SHALL BE ABANDONED IN PLACE.

GENERAL NOTES – CONTROLS:

D. UNLESS OTHERWISE NOTED, CONTROLS FOR MECHANICAL EQUIPMENT TO BE REMOVED UNDER THIS PROJECT (INCLUDING BUT NOT LIMITED TO THERMOSTATS, WIREMOLD, CONDUITS, AND JUNCTION BOXES) WHICH ARE ACCESSIBLE AFTER GENERAL DEMOLITION SHALL BE REMOVED BACK TO EXISTING WALLS, PARTITIONS, SHAFTS, CHASES, AND SLABS. WHERE CONTROLS COMPONENTS ARE REMOVED ON BOTH SIDES OF A WALL OR SLAB, ALSO REMOVE THE PORTION PENETRATING THE WALL OR SLAB. WHERE CONTROLS COMPONENTS ENTER A SHAFT OR CHASE, CAP 3/4" BEHIND EXISTING SURFACE.

GENERAL NOTES – CUTTING AND PATCHING:

E. WHERE EXISTING EQUIPMENT, DUCTS, PIPES, LOUVERS, GRILLES, CONTROLS, WIRES, CONDUITS, AND PNEUMATIC TUBING THROUGH EXISTING WALLS, PARTITIONS, SHAFTS, CHASES, AND SLABS ARE REMOVED BY THE MECHANICAL CONTRACTOR, THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR INFILLING AND REPAIRING OPENINGS TO MATCH EXISTING CONSTRUCTION, INCLUDING FIRE RATING, SMOKE RATING, INSULATION VALUE, MOISTURE BARRIER, PAINTING, AND GENERAL FINISH APPEARANCE. WHERE SURFACE–MOUNTED COMPONENTS ARE REMOVED, REPAIR SURFACE FINISHES TO MATCH EXISTING.

F. MECHANICAL CONTRACTOR TO REMOVE AND REINSTALL CEILING TILES AS NEEDED TO FACILITATE THE MECHANICAL REMOVALS SCOPE OF WORK, EXCEPT IN AREAS WHERE CEILING REMOVAL/REPLACEMENT IS INDICATED AS GENERAL CONTRACTOR BASE SCOPE ON THE ARCHITECTURAL REFLECTED CEILING PLANS.

EASTCHESTER UNION FREE SCHOOL DISTRICT

2022 CAPITAL PROJECT PHASE 4

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ARCHITECT

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NEW YORK, NY 10014

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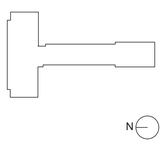
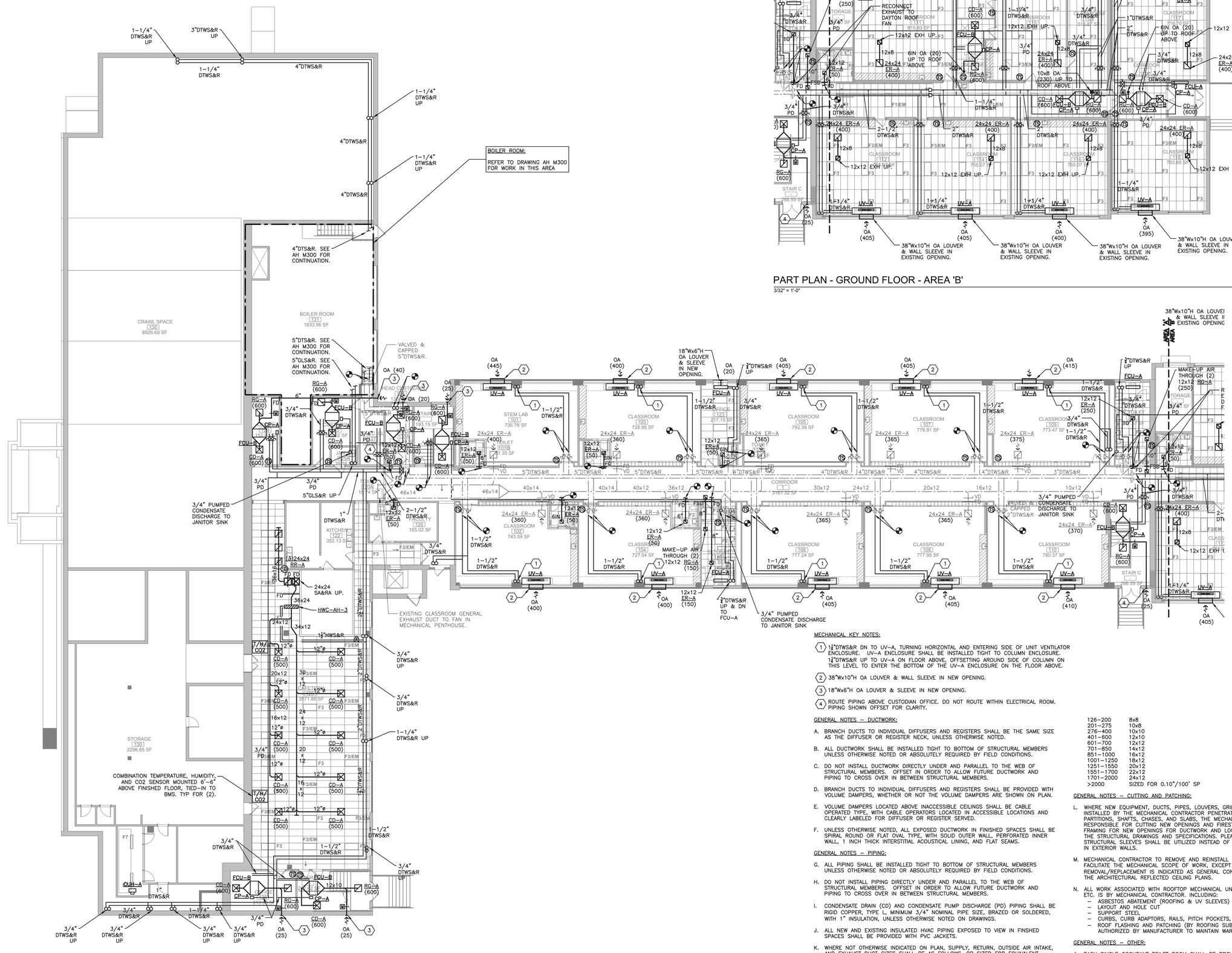
KEY PLAN



PROJECT NO.	66-03-01-03-0-001-024
MEMASI PROJECT NO.	102-2301

MECHANICAL DEMOLITION PART PLAN - BOILER ROOM

AH MD300



PART PLAN - GROUND FLOOR - AREA 'A'

3/32" = 1'-0"

PART PLAN - GROUND FLOOR - AREA 'B'

3/32" = 1'-0"

MECHANICAL KEY NOTES:

1. 1½"DTWS&R DN TO UV–A, TURNING HORIZONTAL AND ENTERING SIDE OF UNIT VENTILATOR ENCLOSURE. UV–A ENCLOSURE SHALL BE INSTALLED TIGHT TO COLUMN ENCLOSURE. 1½"DTWS&R UP TO UV–A ON FLOOR ABOVE, OFFSETTING AROUND SIDE OF COLUMN ON THIS LEVEL TO ENTER THE BOTTOM OF THE UV–A ENCLOSURE ON THE FLOOR ABOVE.
2. 38"Wx10"H OA LOUVER & WALL SLEEVE IN NEW OPENING.
3. 18"Wx6"H OA LOUVER & SLEEVE IN NEW OPENING.
4. ROUTE PIPING ABOVE CUSTODIAN OFFICE. DO NOT ROUTE WITHIN ELECTRICAL ROOM. PIPING SHOWN OFFSET FOR CLARITY.

GENERAL NOTES – DUCTWORK:

A. BRANCH DUCTS TO INDIVIDUAL DIFFUSERS AND REGISTERS SHALL BE THE SAME SIZE AS THE DIFFUSER OR REGISTER NECK, UNLESS OTHERWISE NOTED.

B. ALL DUCTWORK SHALL BE INSTALLED TIGHT TO BOTTOM OF STRUCTURAL MEMBERS UNLESS OTHERWISE NOTED OR ABSOLUTELY REQUIRED BY FIELD CONDITIONS.

C. DO NOT INSTALL DUCTWORK DIRECTLY UNDER AND PARALLEL TO THE WEB OF STRUCTURAL MEMBERS. OFFSET IN ORDER TO ALLOW FUTURE DUCTWORK AND PIPING TO CROSS OVER IN BETWEEN STRUCTURAL MEMBERS.

D. BRANCH DUCTS TO INDIVIDUAL DIFFUSERS AND REGISTERS SHALL BE PROVIDED WITH VOLUME DAMPERS, WHETHER OR NOT THE VOLUME DAMPERS ARE SHOWN ON PLAN.

E. VOLUME DAMPERS LOCATED ABOVE INACCESSIBLE CEILINGS SHALL BE CABLE OPERATED TYPE, WITH CABLE OPERATORS LOCATED IN ACCESSIBLE LOCATIONS AND CLEARLY LABELED FOR DIFFUSER OR REGISTER SERVED.

F. UNLESS OTHERWISE NOTED, ALL EXPOSED DUCTWORK IN FINISHED SPACES SHALL BE SPIRAL ROUND OR FLAT OVAL TYPE, WITH SOLID OUTER WALL, PERFORATED INNER WALL, 1 INCH THICK INTERSTITIAL ACOUSTICAL LINING, AND FLAT SEAMS.

GENERAL NOTES – PIPING:

G. ALL PIPING SHALL BE INSTALLED TIGHT TO BOTTOM OF STRUCTURAL MEMBERS UNLESS OTHERWISE NOTED OR ABSOLUTELY REQUIRED BY FIELD CONDITIONS.

H. DO NOT INSTALL PIPING DIRECTLY UNDER AND PARALLEL TO THE WEB OF STRUCTURAL MEMBERS. OFFSET IN ORDER TO ALLOW FUTURE DUCTWORK AND PIPING TO CROSS OVER IN BETWEEN STRUCTURAL MEMBERS.

I. CONDENSATE DRAIN (CD) AND CONDENSATE PUMP DISCHARGE (PD) PIPING SHALL BE RIGID COPPER, TYPE L, MINIMUM 3/4" NOMINAL PIPE SIZE, BRAZED OR SOLDERED, WITH 1" INSULATION, UNLESS OTHERWISE NOTED ON DRAWINGS.

J. ALL NEW AND EXISTING INSULATED HVAC PIPING EXPOSED TO VIEW IN FINSHED SPACES SHALL BE PROVIDED WITH PVC JACKETS.

K. WHERE NOT OTHERWISE INDICATED ON PLAN, SUPPLY, RETURN, OUTSIDE AIR INTAKE, AND EXHAUST DUCT SIZES SHALL BE AS FOLLOWS, OR SIZED FOR EQUIVALENT STATIC PRESSURE DROP. THESE SIZES ARE INSIDE CLEAR DIMENSIONS, AND OVERALL DIMENSIONS SHALL BE INCREASED AS NEEDED FOR ACOUSTICALLY LINED DUCTWORK:

CFM RANGE	DUCT SIZE WxH (INCHES)
0–85	6x6
86–125	8x6
126–200	8x8
201–275	10x8
276–400	10x10
401–600	12x10
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1001–1250	18x12
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1551–1700	22x12
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>2000	SIZED FOR 0.10"/100' SP

GENERAL NOTES – CUTTING AND PATCHING:

L. WHERE NEW EQUIPMENT, DUCTS, PIPES, LOUVERS, GRILLES, WIRES, AND CONDUITS INSTALLED BY THE MECHANICAL CONTRACTOR PENETRATE EXISTING WALLS, PARTITIONS, SHAFTS, CHASES, AND SLABS, THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR CUTTING NEW OPENINGS AND FIRESTOPPING. PROVIDE NEW FRAMING FOR NEW OPENINGS FOR DUCTWORK AND LOUVERS IN ACCORDANCE WITH THE STRUCTURAL DRAWINGS AND SPECIFICATIONS. PLEASE NOTE THAT PREFABRICATED STRUCTURAL SLEEVES SHALL BE UTILIZED INSTEAD OF LINTELS FOR NEW OPENINGS IN EXTERIOR WALLS.

M. MECHANICAL CONTRACTOR TO REMOVE AND REINSTALL CEILING TILES AS NEEDED TO FACILITATE THE MECHANICAL SCOPE OF WORK, EXCEPT IN AREAS WHERE CEILING REMOVAL/REPLACEMENT IS INDICATED AS GENERAL CONTRACTOR BASE SCOPE ON THE ARCHITECTURAL REFLECTED CEILING PLANS.

N. ALL WORK ASSOCIATED WITH ROOFTOP MECHANICAL UNITS, DUCTWORK COMPONENTS, ETC. IS BY MECHANICAL CONTRACTOR. INCLUDING:
- ASBESTOS ABATEMENT (ROOFING & UV SLEEVES)
- LAYOUT AND HOLE CUT
- SUPPORT STEEL
- CURBS, CURB ADAPTORS, RAILS, PITCH POCKETS, PIPE PENETRATIONS, ETC.
- ROOF FLASHING AND PATCHING (BY ROOFING SUBCONTRACTOR WHO IS AUTHORIZED BY MANUFACTURER TO MAINTAIN WARRANTY.

GENERAL NOTES – OTHER:

A. EACH SINGLE OCCUPANT TOILET ROOM SHALL BE PROVIDED WITH A DOOR UNDERCUT FOR MAKE–UP/TRANSFER AIR.

B. EACH MULTI–OCCUPANT TOILET ROOM SHALL BE PROVIDED WITH A TRANSFER DUCT WITH COMBINATION FIRE/SMOKE DAMPER AT THE CORRIDOR WALL PENETRATION.

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KEY PLAN

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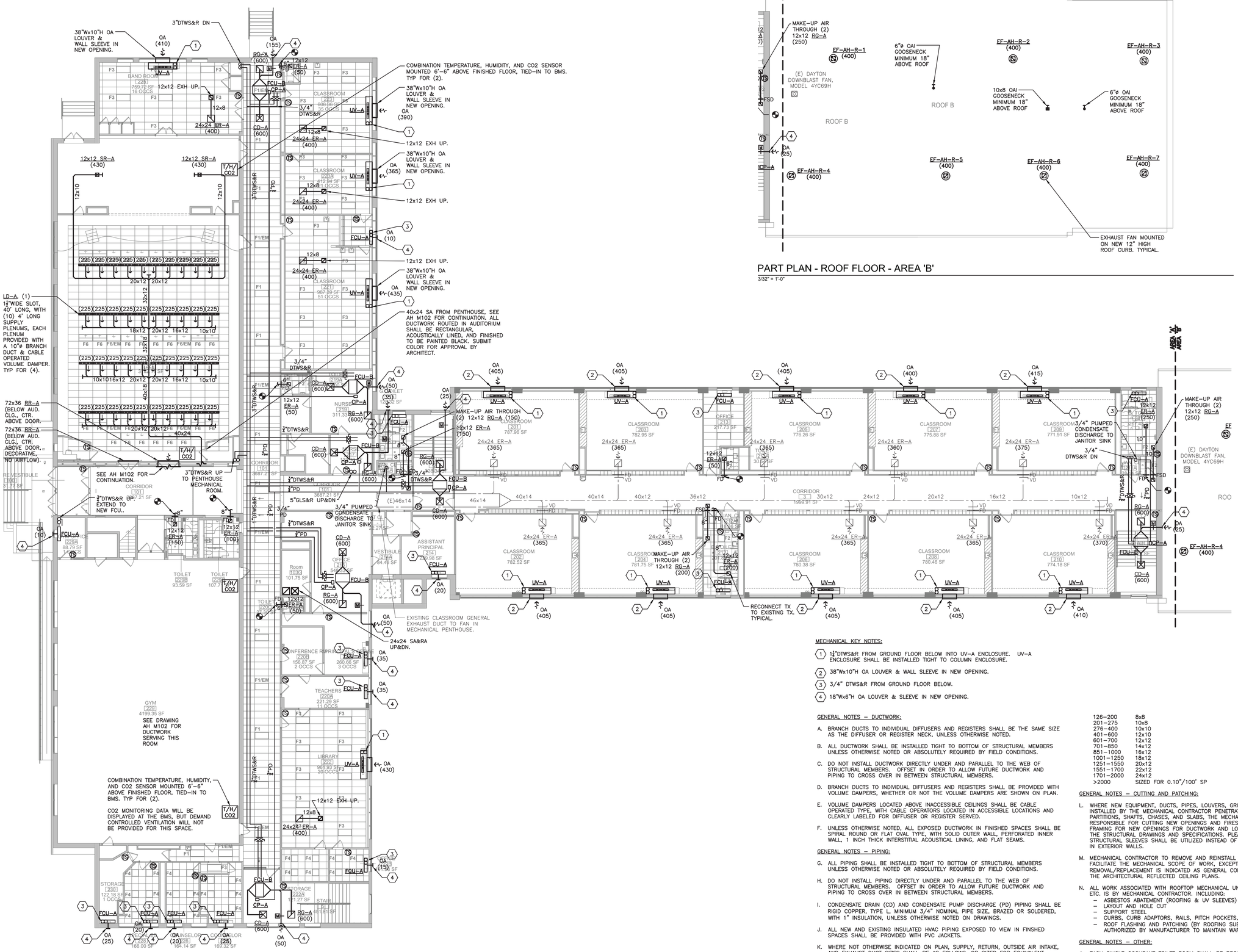
MECHANICAL PLAN - GROUND FLOOR

AH M100



PART PLAN - FIRST FLOOR - AREA 'A'

3/32" = 1'-0"

PART PLAN - ROOF FLOOR - AREA 'B'

3/32" = 1'-0"

MECHANICAL KEY NOTES:

1. 1½"DTWS&R FROM GROUND FLOOR BELOW INTO UV-A ENCLOSURE. UV-A ENCLOSURE SHALL BE INSTALLED TIGHT TO COLUMN ENCLOSURE.
2. 38"Wx10"H OA LOUVER & WALL SLEEVE IN NEW OPENING.
3. 3/4" DTWS&R FROM GROUND FLOOR BELOW.
4. 18"Wx6"H OA LOUVER & SLEEVE IN NEW OPENING.

GENERAL NOTES – DUCTWORK:

A. BRANCH DUCTS TO INDIVIDUAL DIFFUSERS AND REGISTERS SHALL BE THE SAME SIZE AS THE DIFFUSER OR REGISTER NECK, UNLESS OTHERWISE NOTED.

B. ALL DUCTWORK SHALL BE INSTALLED TIGHT TO BOTTOM OF STRUCTURAL MEMBERS UNLESS OTHERWISE NOTED OR ABSOLUTELY REQUIRED BY FIELD CONDITIONS.

C. DO NOT INSTALL DUCTWORK DIRECTLY UNDER AND PARALLEL TO THE WEB OF STRUCTURAL MEMBERS. OFFSET IN ORDER TO ALLOW FUTURE DUCTWORK AND PIPING TO CROSS OVER IN BETWEEN STRUCTURAL MEMBERS.

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E. VOLUME DAMPERS LOCATED ABOVE INACCESSIBLE CEILINGS SHALL BE CABLE OPERATED TYPE, WITH CABLE OPERATORS LOCATED IN ACCESSIBLE LOCATIONS AND CLEARLY LABELED FOR DIFFUSER OR REGISTER SERVED.

F. UNLESS OTHERWISE NOTED, ALL EXPOSED DUCTWORK IN FINISHED SPACES SHALL BE SPIRAL ROUND OR FLAT OVAL TYPE, WITH SOLID OUTER WALL, PERFORATED INNER WALL, 1 INCH THICK INTERSTITIAL ACOUSTICAL LINING, AND FLAT SEAMS.

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GENERAL NOTES – CUTTING AND PATCHING:

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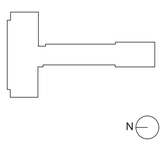

PROJECT NO.	66-03-01-03-0-001-024
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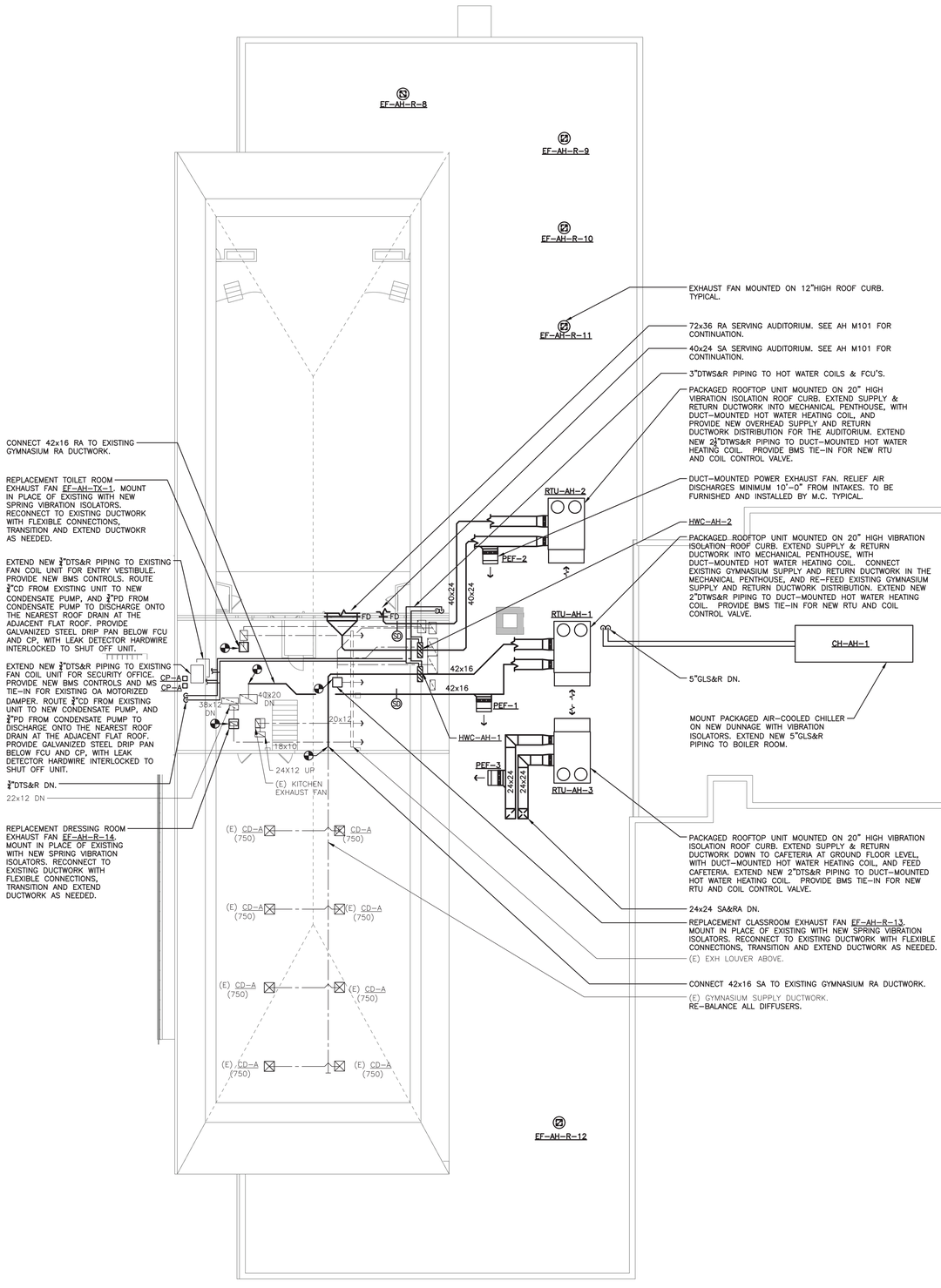
MECHANICAL PLAN - FIRST FLOOR

AH M101



PART PLAN - ROOF - AREA 'A'

3/32" = 1'-0"

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GENERAL NOTES – CUTTING AND PATCHING:

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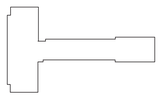

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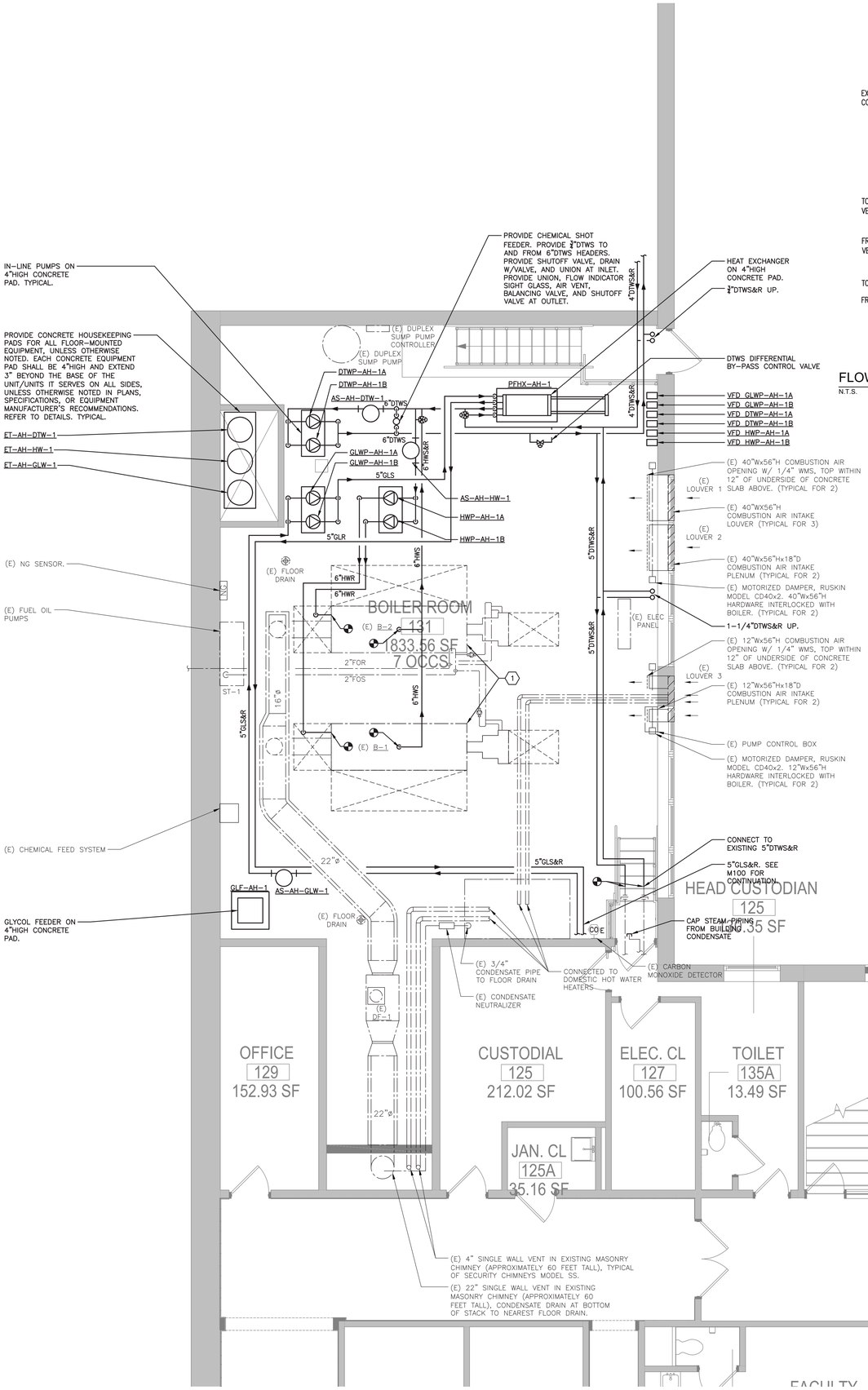
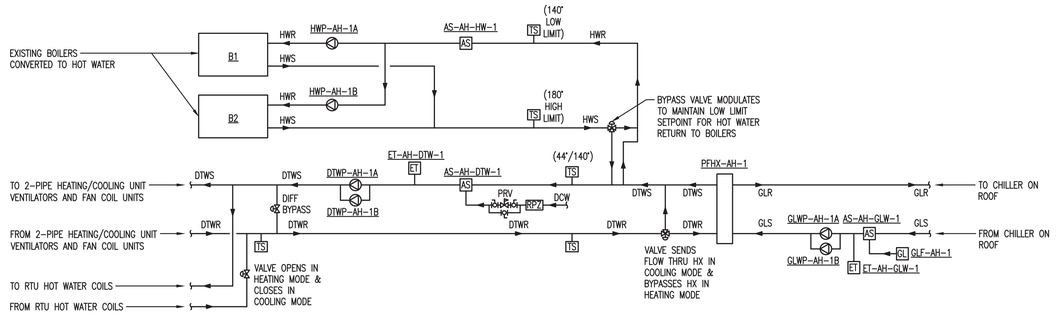
MECHANICAL PLAN - ROOF

AH M102



PART PLAN - GROUND FLOOR - BOILER ROOM

1/4" = 1'-0"



FLOW DIAGRAM

N.T.S.

GENERAL NOTES – DUCTWORK:

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B. ALL DUCTWORK SHALL BE INSTALLED TIGHT TO BOTTOM OF STRUCTURAL MEMBERS UNLESS OTHERWISE NOTED OR ABSOLUTELY REQUIRED BY FIELD CONDITIONS.

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J. ALL NEW AND EXISTING INSULATED HVAC PIPING EXPOSED TO VIEW IN FINSHED SPACES SHALL BE PROVIDED WITH PVC JACKETS.

GENERAL NOTES – CUTTING AND PATCHING:

K. WHERE NEW EQUIPMENT, DUCTS, PIPES, LOUVERS, GRILLES, WIRES, AND CONDUITS INSTALLED BY THE MECHANICAL CONTRACTOR PENETRATE EXISTING WALLS, PARTITIONS, SHAFTS, CHASES, AND SLABS, THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR CUTTING NEW OPENINGS AND FIRESTOPPING. PROVIDE NEW LINTELS FOR NEW OPENINGS IN ACCORDANCE WITH SPECIFICATION SECTION 055000.

L. MECHANICAL CONTRACTOR TO REMOVE AND REINSTALL CEILING TILES AS NEEDED TO FACILITATE THE MECHANICAL SCOPE OF WORK, EXCEPT IN AREAS WHERE CEILING REMOVAL/REPLACEMENT IS INDICATED AS GENERAL CONTRACTOR BASE SCOPE ON THE ARCHITECTURAL REFLECTED CEILING PLANS.

MECHANICAL KEY NOTES:

1 BOILER STEAM TO HOT WATER CONVERSION:
THE TWO EXISTING STEAM BOILERS WILL BE CONVERTED TO HOT WATER TYPE. THE CONVERSION SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING:

a. REMOVAL OF THE BOILER STEAM RISERS, SUB-HEADER AND EQUALIZER PIPING
b. REMOVAL OF THE STEAM PRESSURE RELIEF VALVES
c. REMOVAL OF THE OPERATING, HIGH LIMIT BOILER PRESSURE CONTROLS
d. REMOVAL OF THE BOILER PRESSURE GAUGE
e. A COMPLETE CLEANING OF THE FIRESIDE OF THE BOILER TO INCLUDE BRUSH AND VACUUMING OF THE HEAT EXCHANGER AND RE-ASSEMBLY OF THE CLEAN OUT PASSAGES WITH NEW HIGH TEMPERATURE ROPE AS NEEDED
f. A COMPLETE CLEANING OF THE BOILER WATERSIDE TO INCLUDE WASHING, FLUSHING AND DE-SCALING OF THE HX IF NECESSARY
g. USING THE EXISTING THREADED 5" CONNECTION ON THE BOILER FRONT SECTION, PROVIDE A NEW SUPPLY PIPE TO THE HOT WATER SYSTEM, INCLUDING A FULL PORT BOILER ISOLATION VALVE. INSTALL NIPPLES AND CAPS ON THE 5" TAPS ON THE REMAINING INTERMEDIATE AND REAR SECTIONS WHERE APPLICABLE.
h. USING THE EXISTING THREADED 6" CONNECTION ON THE BOILER REAR SECTION BOTTOM, PROVIDE A NEW 6" PIPE HOT WATER RETURN CONNECTION, INCLUDE A FULL PORT BOILER ISOLATION VALVE. REFER TO PIPING DATA IN THE WEIL MCLAIN SERIES 88 O&m MANUAL.
i. FURNISH THE FOLLOWING NEW BOILER CONTROLS"
  i.a. HONEYWELL L4006A OPERATING CONTROL
  i.b. HONEYWELL L4006E HIGH LIMIT CONTROL
  i.c. TEMPERATURE SENSOR FOR EXISTING SIEMENS RWF 50 LOAD CONTROL LOCATED IN BURNER PANEL
  i.d. PRESSURE / TEMPERATURE GAUGE
  i.e. WATTS TYPE 750 PRESSURE RELIEF VALVE – 50 PSI WITH A MINIMUM RELIEVING CAPACITY OF 4,540 MBH OR GREATER
j. THE TWO EXISTING LOW WATER CUT OFFS ARE TO BE REMOVED AND REUSED ADDING MCDONNEL MILLER #TC-4 TEST AND CHECK VALVES TO EACH CONTROL
k. PROVIDE COMPLETE START UP AND TEST OF THE CONVERTED BOILER SYSTEM USING FACTORY AUTHORIZED SERVICE AGENT.

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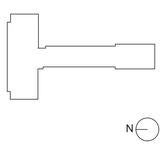
KEY PLAN



PROJECT NO.	66-03-01-03-0-001-024
MEMASI PROJECT NO.	102-2301

MECHANICAL PART PLAN - BOILER ROOM

AH M300

AIR-COOLED CHILLER SCHEDULE

DESIGNATION	LOCATION	SERVICE	CONFIGURATION	DESIGN AMBIENT TEMP. DB (°F)	NOMINAL COOLING CAPACITY (TONS)	COOLING CAPACITY AT DESIGN CONDITIONS (TONS)	TOTAL POWER (KW)	LEED EER (BTU / W'H)	COOLING EER (BTU / W'H)	LEED IPLV.IP (BTU / W'H)	REFRIGERATION SYSTEM DATA						WATERSIDE DATA						DIMENSIONS			OPERATING WEIGHT (LBS)	ELECTRICAL DATA								MANUF.	MODEL	REMARKS
											REFRIG. TYPE	COMPR. TYPE	NO. OF COMPR.	NO. OF REFRIG. CKTS.	CAPACITY CONTROL	NO. OF CONDENS. FANS	FLUID TYPE	MAX WORKING PRESSURE (PSIG)	FLOW (GPM)	E.W.T. (°F)	L.W.T. (°F)	EVAP. W.P.D. (FT)	STR. W.P.D. (FT)	HEIGHT (IN)	WIDTH (IN)	LENGTH (IN)		VOLTS	PH	Hz	DISCONNECT BY E.C OR MANUF.	DISCONNECT LOCATION	DISCONNECT TYPE	DISCONNECT ENCL.	EMER. PWR.			
CH-AH-1	ROOF	CHILLED WATER FOR ELEMENTARY SCHOOL	OUTDOOR AIR-COOLED	95	160	135.1	165.05	10.373	9.885	17.009	R-454B	SCROLL	4	2	4-STAGE	8	35% PROPYLENE GLYCOL	150	290	54	42	10.4	5.5	98	88	229	7,897	208	3	60	E.C.	UNIT MTD.	NON-FUSED	NEMA 3R	NO	TRANE	ACS	SEE NOTES BELOW

NOTES:
1. PROVIDE THE FOLLOWING MANUFACTURER FEATURES AND OPTIONS:
   1.1. MICROPROCESSOR CONTROLS.
   1.2. BACNET OR BACNET IP COMMUNICATIONS ACCESSORY, OPTION PROVIDED TO BE COORDINATED WITH BMS VENDOR DURING SUBMITTALS.
   1.3. TRANE FACTORY SUPPLIED "SUPERIOR" NOISE REDUCTION PACKAGE, OR EQUIVALENT PERFORMANCE.
2. PROVIDE THE FOLLOWING FIELD ACCESSORIES:
   2.1. TIE-IN TO EXISTING BASE-BUILDING BMS.

PUMP SCHEDULE

DESIGNATION	LOCATION	SERVICE	STAGING	FLOW CONTROL	CONSTUCTION DATA					FLUID DATA						MOTOR DATA			ELECTRICAL DATA												DIMENSIONS			WEIGHT (LBS)	MANUFACTURER	MODEL	REMARKS
					TYPE	INLET SIZE (IN)	OUTLET SIZE (IN)	IMPELLER DIA (IN)	PRESSURE RATING (PSI)	TEMP. FOR PRESSURE RATING (°F)	FLUID TYPE	FLUID TEMP (°F)	GPM	TDH (FT)	NPSHR (FT)	EFF. AT DESIGN (%)	RPM	BHP	MOTOR HP	VOLTS	PH	Hz	DISCONNECT BY E.C. OR MANUF.	DISCONNECT LOCATION	DISCONNECT TYPE	DISCONNECT ENCL. TYPE	STARTER BY M.C., E.C., OR MANUF.	STARTER LOCATION	STARTER TYPE	STARTER ENCL. TYPE	EMER. PWR. (Y/N)	LENGTH OR DEPTH (IN)	WIDTH (IN)	HEIGHT (IN)				
HWP-AH-1A, HWP-AH-1B	ELEMENTARY SCHOOL BOILER ROOM	ELEMENTARY SCHOOL BOILER PUMPS	DUTY / STANDBY	VARIABLE FLOW	IN-LINE	6	6	10.2	175	250	WATER	180	430	30	5.01	79.8	1,048	4.08	5	208	3	60	M.C.	AT STARTER	NON-FUSED	NEMA 1	M.C.	BOILER ROOM	VFD W/O BYPASS	NEMA 1	N	32	17	31.75	131	ARMSTRONG	4380	
DTWP-AH-1A, DTWP-AH-1B	ELEMENTARY SCHOOL BOILER ROOM	ELEMENTARY SCHOOL DUAL TEMP LOOP	DUTY / STANDBY	VARIABLE FLOW	IN-LINE	3	3	5.0	175	250	WATER	44/140	300	70	15.2	81	3,354	6.90	10	208	3	60	M.C.	AT STARTER	NON-FUSED	NEMA 1	M.C.	BOILER ROOM	VFD W/O BYPASS	NEMA 1	N	14	17	27	131	ARMSTRONG	4380	
GLWP-AH-1A, GLWP-AH-1B	ELEMENTARY SCHOOL BOILER ROOM	ELEMENTARY SCHOOL CHILLER GLYCOL LOOP	DUTY / STANDBY	CONSTANT FLOW	IN-LINE	3	3	5.0	175	250	35% PROPYLENE GLYCOL	42	330	70	16.9	82	3,346	7.20	10	208	3	60	M.C.	AT STARTER	NON-FUSED	NEMA 1	M.C.	BOILER ROOM	VFD W/O BYPASS	NEMA 1	N	14	17	27	131	ARMSTRONG	4380	

PACKAGED ROOFTOP UNIT SCHEDULE (PART 1 OF 2)

DESIGNATION	LOCATION	AREA SERVED	NOMINAL COOLING CAPACITY (TONS)	DUCT CONNECTIONS		SUPPLY FAN DATA											DUCT-MOUNTED POWER EXHAUST FAN																DX COOLING DATA													
				SUPPLY	RETURN	SUPPLY AIRFLOW (CFM)	MIN. OUTSIDE AIRFLOW WITH DCV DISABLED (CFM)	MIN. OUTSIDE AIRFLOW WITH DCV ENABLED (CFM)	ESP (IN W.C.)	NO. OF FANS	NO. OF MOTORS	HP (PER MOTOR)	BHP (PER MOTOR)	FAN TYPE	DRIVE TYPE	STARTER TYPE	STARTER LOCATION	SPEED CONTROL	EXHAUST AIRFLOW (CFM)	ESP (IN W.C.)	MOTOR HP	ELECTRICAL DATA									MANUFACTURER	MODEL	REFRIG. TYPE	HIGH AMBIENT LIMIT FOR COOLING DB (°F)	LOW AMBIENT LIMIT FOR COOLING DB (°F)	EER AT AHRI COND.	IEER AT AHRI COND.	DESIGN AMBIENT TEMP. DB (°F)	NO. OF COMPR.	NO. OF REFRIG. CKTS.	CAPACITY CONTROL	NO. OF COND. FANS	GROSS TOT. MBH	GROSS SENS. MBH	NET TOT. MBH	NET SENS. MBH	E.A.T. DB (°F)	E.A.T. WB (°F)	COIL L.A.T. DB (°F)	COIL L.A.T. WB (°F)	UNIT L.A.T. DB (°F)	UNIT L.A.T. WB (°F)
																				VOLTS	PH	Hz	FLA	DISCONNECT BY E.C. OR MANUF.	DISCONNECT LOCATION	DISCONNECT TYPE	DISCONNECT ENCL. TYPE	EMER. PWR. (Y/N)																													
RTU-AH-1	ROOF	GYMNASIUM	17.5	HORIZONTAL	HORIZONTAL	6,000	1,720	N/A	1.50	2	2	3	3.328	BC PLENUM	DIRECT	VFD	UNIT MTD.	SZ-VAV	5,000	0.3	1	208	3	60.00	1.70	E.C.	UNIT MTD.	NON-FUSED	NEMA 3R	N	PLENUMS INC.	PE2010F	R-410A	95	0	12.2	21.2	95	2	1	3-STAGE	2	213	152	204	143	80	67	56	55	58	56
RTU-AH-2	ROOF	AUDITORIUM	25	HORIZONTAL	HORIZONTAL	9,550	3,885	780	1.50	2	2	4.6	6.208	BC PLENUM	DIRECT	VFD	UNIT MTD.	SZ-VAV	5,000	0.3	1	208	3	60.00	1.70	E.C.	UNIT MTD.	NON-FUSED	NEMA 3R	N	PLENUMS INC.	PE2010F	R-410A	95	0	11.0	20.5	95	2	1	3-STAGE	2	279	203	266	190	80	67	59	57	61	58
RTU-AH-3	ROOF	CAFETERIA	15	HORIZONTAL	HORIZONTAL	5,100	2,025	515	1.50	2	2	3	2.638	BC PLENUM	DIRECT	VFD	UNIT MTD.	SZ-VAV	4,000	0.3	0.75	208	3	60.00	1.50	E.C.	UNIT MTD.	NON-FUSED	NEMA 3R	N	PLENUMS INC.	PE1811F	R-410A	95	0	12.7	24.8	95	1	1	3-STAGE	2	181	132	176	126	80	67	56	55	57	56

PACKAGED ROOFTOP UNIT SCHEDULE (PART 2 OF 2)

DESIGNATION	LOCATION	AREA SERVED	ELECTRICAL DATA (RTU)								FILTERS		BASE DIMENSIONS (IN)			OPER. WEIGHT OF UNIT AND ROOF CURB (LBS)	MANUFACTURER	MODEL	REMARKS
			VOLTS	PH	Hz	MCA	MOP	DISCONNECT BY E.C OR MANUF.	DISCONNECT LOCATION	DISCONNECT TYPE	DISCONNECT ENCL. TYPE	EMER. PWR. (Y/N)	PRE-FILTER	MAIN FILTER	WIDTH	LENGTH OR DEPTH				
RTU-AH-1	ROOF	GYMNASIUM	208	3	60	100	125	MANUF.	UNIT MTD.	NON-FUSED	NEMA 3R	N	2" MERV-8	4" MERV-13	123	87	2206	TRANE	TZJ210A	SEE NOTES BELOW
RTU-AH-2	ROOF	AUDITORIUM	208	3	60	120	150	MANUF.	UNIT MTD.	NON-FUSED	NEMA 3R	N	2" MERV-8	4" MERV-13	123	87	2214	TRANE	TZJ300A	SEE NOTES BELOW
RTU-AH-3	ROOF	CAFETERIA	208	3	60	90	125	MANUF.	UNIT MTD.	NON-FUSED	NEMA 3R	N	2" MERV-8	4" MERV-13	123	87	2,106	TRANE	TZJ180A	SEE NOTES BELOW

NOTES:
1. PROVIDE THE FOLLOWING FACTORY SUPPLIED FEATURES AND OPTIONS FOR EACH UNIT:
   1.1. UNIT (INCLUDING ACCESS DOORS) SHALL BE CONSTRUCTED TO WITHSTAND WIND SPEED OF 130 MPH IN ACCORDANCE WITH STANDARD ASCE 7.
   1.2. DIGITAL PROGRAMMABLE CONTROLLER WITH BACNET COMMUNICATIONS INTERFACE FOR BMS TIE-IN.
   1.3. DUAL ENTHALPY AIRSIDE ECONOMIZER WITH FULLY MODULATING OUTSIDE AIR / RETURN AIR DAMPERS.
   1.4. HINGED ACCESS DOORS.
   1.5. 2" FIXED DEFLECTION VIBRATION ISOLATION ROOF CURB, MINIMUM 20" HIGH INCLUDING VIBRATION ISOLATION RAILS AND CLIPS, CONSTRUCTED AND INSTALLED TO WITHSTAND A WIND SPEED OF 130 MPH IN ACCORDANCE STANDARD ASCE 7.
   1.6. AIR INTAKE WEATHER HOOD WITH BIRDSCREEN TO FACILITATE AIRFLOW MEASURING STATION BY CONTROLS VENDOR.
   1.7. EXHAUST WEATHER HOOD WITH BIRDSCREEN.
   1.8. HOT GAS REHEAT
   1.9. POWER EXHAUST FAN WITH INTEGRAL DUCT CONNECTION FLANGE, STARTER, DISCONNECT, GRAVITY BACKDRAFT DAMPER, RAIN HOOD, AND BIRDSCREEN. FAN SHALL BE DUCT-MOUNTED, FACTORY-FURNISHED, FIELD-INSTALLED INCLUDING INTERCONNECTION CONTROL WIRING, WITH SEPARATE POWER FEED.

ELECTRIC CABINET UNIT HEATER SCHEDULE

DESIGNATION	MOUNTING TYPE (SURFACE/ RECESSED)	MOUNTING LOCATION (WALL/ CEILING)	LOCATION	HEATING CAPACITY (BTU/H)	AIRFLOW (CFM)	ELECTRICAL DATA						FINISH COLOR	T-STAT TYPE (REMOTE/ BUILT-IN)	DIMENSIONS						WEIGHT (LBS)	MANUF.	MODEL	REMARKS
						WATTS	VOLTS	PH	HZ	DISC. BY E.C. OR MANUF.	EMER. PWR. (Y/N)			BACK BOX HEIGHT (IN)	BACK BOX WIDTH (IN)	BACK BOX DEPTH OR LENGTH (IN)	GRILLE HEIGHT (IN)	GRILLE WIDTH (IN)	GRILLE DEPTH OR LENGTH (IN)				
CUH-A	SURFACE	WALL	RE: PLAN	5,100	65	1,500	120	1	60	MANUF.	N	WHITE	BUILT-IN	11	9	4	12	11	1	12	Q-MARK	CWH1151DSAF	SEE NOTES BELOW

NOTES:
1. PROVIDE THE FOLLOWING MANUFACTURER FEATURES AND OPTIONS FOR ALL UNITS:
   1.1. HEAT PURGE FAN DELAY SWITCH.
   1.2. BUILT-IN POWER ON/OFF SWITCH.
   1.3. THERMAL CUTOFF.
2. ALL FINISH COLORS ARE SUBJECT TO APPROVAL BY THE ARCHITECT. SUBMIT COLOR CHART FOR REVEW.
3. FOR ALL "WALL MOUNTED" UNITS, MOUNTING HEIGHT SHALL BE AS PER ARCHITECTURAL DRAWINGS. IF NO MOUNTING HEIGHT IS INDICATED ON ARCHITECTURAL DRAWINGS, MOUNT BOTTOM AT 12" AFF.
4. REFER TO PLANS FOR QUANTITIES AND LOCATIONS. SOME LETTER DESIGNATIONS IN THIS SCHEDULE MAY NOT BE APPLICABLE TO THIS SPECIFIC PROJECT.

EQUIPMENT NOTES

GLYCOL AUTO-FILL UNITS (GLF-AH-1):
SHALL BE ARMSTRONG MODEL GLA-U-HP-2, WITH 53 GALLON TANK CAPACITY, ADJUSTABLE 2-90 PSI FILL PRESSURE, 150 PSI MAXIMUM WORKING PRESSURE, DUAL 3/4 HP PUMPS (1 DUTY, 1 STANDBY) WITH CHANGE OVER UPON PUMP TRIP, 120V/1ϕ/60 Hz ELECTRICAL CONNECTION. PROVIDE THE FOLLOWING FEATURES & OPTIONS:

- LOW LEVEL CUT-OUT FLOAT SWITCH.
- PUMP SUCTION ISOLATION VALVE.
- PUMP SUCTION STRAINER.
- POWER ON LAMP.
- SYSTEM PRESSURE GAUGE.
- AUTO MIX VALVE.
- PUMP DISCHARGE ISOLATION VALVE.
- HIGH LEVEL WARNING FLOAT SWITCH.
- LOW LEVEL WARNING FLOAT SWITCH.
- CONTACTS FOR REMOTE ANNUNCIATION OF HIGH LEVEL, LOW LEVEL, & PUMP RUN.
- AUTO ALTERNATING PUMP CONTROLLER.
- PUMP H-O-A SWITCHES.
- STARTER & DISCONNECT SWITCH FOR EACH PUMP, TO BE FURNISHED BY MECHANICAL CONTRACTOR & INSTALLED BY ELECTRICAL CONTRACTOR.

LOUVERS - FOR UNIT VENTILATORS AND FAN COIL UNITS:
INTAKE AND EXHAUST LOUVERS SHALL BE GREENHECK MODEL ESD-202 OR APPROVED EQUAL, STATIONARY DRAINABLE BLADE TYPE. FRAME SHALL BE EXTRUDED 6063-T5 ALUMINUM, 2 INCH DEEP X 0.063 INCH THICK. BLADES SHALL BE EXTRUDED 6063-T5 ALUMINUM, 0.063 INCH THICK, POSITIONED AT 45 DEGREE ANGLE ON APPROXIMATELY 3 INCH CENTERS. BIRDSCREEN SHALL BE 3/4 INCH X 0.051 INCH FLATTENED ALUMINUM. MINIMUM SIZE SHALL BE 6" WIDE BY 6" HIGH. MAXIMUM SIZE FOR A SINGE SECTION SHALL BE 120" WIDE X 120" HIGH. WITH MULTIPLE SECTIONS PROVIDED WHERE LARGER DIMENSIONS ARE INDICATED ON THE DRAWINGS. FINISH SHALL BE MILL. FINISH COLOR SHALL BE INTEGRAL COLOR ANODIZED, WITH COLOR CHART SUBMITTED TO THE ARCHITECT FOR COLOR SELECTION PRIOR TO FABRICATION. FOR LOUVER TEST SECTION SIZE 48" WIDE X 48" HIGH, NET FREE AREA SHALL BE AT LEAST 38% OF GROSS AREA, POINT OF WATER PENETRATION SHALL BE AT LEAST 1,058 FEET PER MINUTE THROUGH THE NET FREE AREA PER AMCA TEST PROCEDURE, AND STATIC PRESSURE DROP SHALL NOT TO EXCEED 0.10 INCHES OF WATER COLUMN AT AN AIR VELOCITY OF 925 FEET PER MINUTE THROUGH THE NET FREE AREA. LOUVERS SHALL BE FURNISHED AND INSTALLED BY MECHANICAL CONTRACTOR - REFER TO SPEC SECTION 089000 FOR ADDITIONAL INFORMATION AND INSTALLATION INSTRUCTIONS.

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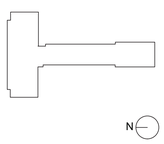
KEY PLAN



PROJECT NO. 66-03-01-03-0-001-024
MEMASI PROJECT NO. 102-2301

MECHANICAL SCHEDULES

AH M601

UNIT VENTILATOR SCHEDULE

DESIGNATION	CONFIGURATION	AIR CONNECTIONS			SUPPLY FAN DATA										COILS					CHILLED WATER (OR DUAL TEMP) COIL COOLING DATA											HOT WATER (OR DUAL TEMP) COIL HEATING DATA								ELECTRICAL DATA								FILTER	UNIT OVERALL DIMENSIONS			WEIGHT	MANUFACTURER	MODEL	REMARKS
		SUPPLY	RETURN	OUTSIDE AIR	SUPPLY AIRFLOW (CFM)	FAN SPEED SETTING	MIN. OUTSIDE AIRFLOW (CFM)	ESP (IN WC)	NO. OF FANS	NO. OF MOTORS	HP (PER MOTOR)	BHP (PER MOTOR)	FAN TYPE	DRIVE TYPE	STARTER TYPE	STARTER LOCATION	STEAM	DX	CHILLED WATER	HOT WATER	DUAL TEMP HOT & CHILLED WATER	FLUID	ROWS	TOT. MBH	SENS. MBH	GPM	E.W.T. (°F)	L.W.T. (°F)	E.A.T. DB (°F)	E.A.T. WB (°F)	L.A.T. DB (°F)	L.A.T. WB (°F)	W.P.D. (FT-WC)	FLUID	ROWS	MBH	GPM	E.W.T. (°F)	L.W.T. (°F)	E.A.T. (°F)	L.A.T. (°F)	W.P.D. (FT-WC)	VOLTS	PH	Hz	BY E.C OR MANUF.	LOCATION	TYPE	ENCL. TYPE	EMER. PWR. (Y/N)	PRE-FILTER	WIDTH (IN)	HEIGHT (IN)	LENGTH OR DEPTH (IN)	(LBS)			
UV-A	VERTICAL	TOP GRILLE	LOW FRONT GRILLE	REAR DUCT COLLAR	1,150	MEDIUM	RE: PLANS	0	1	1	1/4	-	CENTRI-FUGAL	DIRECT	ECM	AT MOTOR	-	-	-	-	X	WATER	4	48.9	29.4	8.6	44	54	80	67	57	53	7.8	WATER	4	100.4	8.6	140	117	52	132	7.8	120	1	60	MANUF.	UNIT MTD.	NON-FUSED	NEMA 1	N	1" MERV-13	105	30	21	470	TRANE	VUV-E-150	SEE NOTES BELOW
UV-B	HORIZONTAL CEILING RECESSED	FRONT DUCT COLLAR	BOTTOM GRILLE	TOP DUCT COLLAR	1,150	MEDIUM	RE: PLANS	0.30	1	1	1/4	-	CENTRI-FUGAL	DIRECT	ECM	AT MOTOR	-	-	-	-	X	WATER	4	48.9	29.4	8.6	44	54	80	67	57	53	7.8	WATER	4	100.4	8.6	140	117	52	132	7.8	120	1	60	MANUF.	UNIT MTD.	NON-FUSED	NEMA 1	N	1" MERV-13	105	15	30	470	TRANE	HUV-E-150	SEE NOTES BELOW

NOTES:
1. PROVIDE THE FOLLOWING FACTORY SUPPLIED FEATURES AND OPTIONS FOR ALL UNITS:
   1.1. COMBINATION OUTSIDE AIR AND RETURN AIR MOTORIZED DAMPER, SINGLE BLADE, NO LINKAGE, FULLY MODULATING.
2. PROVIDE THE FOLLOWING FACTORY SUPPLIED FEATURES AND OPTIONS FOR UV-A:
   2.1. FULL HEIGHT "FALSE BACK" ASSEMBLY WITH OUTSIDE AIR INTAKE PLENUM AT BACK OF UNIT. MOUNT UNIT TIGHT TO EXTERIOR WALL WITH GASKET.
3. PROVIDE THE FOLLOWING FIELD SUPPLIED OPTIONS:
   3.1. AUTOMATIC TEMPERATURE CONTROLS SUB-CONTRACTOR TO FURNISH AND FIELD-INSTALL BMS CONTROLS, DAMPER ACTUATORS, CONTROL VALVES, AND CONTROL WIRING.
4. FINISH COLOR SHALL BE "STONE GREY". SUBMIT COLOR CHART FOR APPROVAL.

FAN COIL UNIT SCHEDULE

DESIGNATION	CONFIGURATION	AIR CONNECTIONS			SUPPLY FAN DATA										COILS				CHILLED WATER (OR DUAL TEMP) COIL COOLING DATA											HOT WATER (OR DUAL TEMP) COIL HEATING DATA								ELECTRICAL DATA								FILTER	UNIT OVERALL DIMENSIONS			WALL OR CEILING OPENING DIMENSIONS			FACEPLATE DIMENSIONS		WEIGHT	MANUFACTURER	MODEL	REMARKS
		SUPPLY	RETURN	OUTSIDE AIR	SUPPLY AIRFLOW (CFM)	MIN. OUTSIDE AIRFLOW (CFM)	ESP (IN WC)	NO. OF FANS	NO. OF MOTORS	HP (PER MOTOR)	BHP (PER MOTOR)	FAN TYPE	DRIVE TYPE	STARTER TYPE	STARTER LOCATION	STEAM	CHILLED WATER	HOT WATER	DUAL TEMP HOT & CHILLED	FLUID	ROWS	TOT. MBH	SENS. MBH	GPM	E.W.T. (°F)	L.W.T. (°F)	E.A.T. DB (°F)	E.A.T. WB (°F)	L.A.T. DB (°F)	L.A.T. WB (°F)	W.P.D. (FT-WC)	FLUID	ROWS	MBH	GPM	E.W.T. (°F)	L.W.T. (°F)	E.A.T. (°F)	L.A.T. (°F)	W.P.D. (FT-WC)	VOLTS	PH	Hz	BY E.C OR MANUF.	LOCATION	TYPE	ENCL. TYPE	EMER. PWR. (Y/N)	PRE-FILTER	WIDTH (IN)	HEIGHT (IN)	LENGTH OR DEPTH (IN)	WIDTH (IN)	HEIGHT OR LENGTH (IN)	RECESS DISTANCE (IN)	WIDTH (IN)	HEIGHT OR LENGTH (IN)	(LBS)			
FCU-A	VERTICAL SLOPE TOP	TOP GRILLE	LOW FRONT GRILLE	REAR DUCT COLLAR	600	RE: PLANS	0	1	1	0.22	0.12	CENTRI-FUGAL	DIRECT	ECM	AT MOTOR	-	-	-	X	WATER	4	18.9	14.9	3.1	44	56	80	67	57	56	4.7	WATER	4		3.1			55		3.1	120	1	60	MANUF.	UNIT MTD.	NON-FUSED	NEMA 1	N	1" MERV-13	48	29	10	-	-	-	-	-	155	TRANE	FC-J-B-060	SEE NOTES BELOW
FCU-B	HORIZONTAL CONCEALED	FRONT DUCT COLLAR	REAR DUCT COLLAR	TOP DUCT COLLAR	600	RE: PLANS	0.30	1	1	0.22	0.21	CENTRI-FUGAL	DIRECT	ECM	AT MOTOR	-	-	-	X	WATER	4	18.9	14.9	3.1	44	56	80	67	57	56	4.7	WATER	4		3.1			55		3.1	120	1	60	MANUF.	UNIT MTD.	NON-FUSED	NEMA 1	N	1" MERV-13	47	10	25	-	-	-	-	-	139	TRANE	FC-C-B-060	SEE NOTES BELOW

NOTES:
1. PROVIDE THE FOLLOWING FACTORY SUPPLIED FEATURES AND OPTIONS FOR ALL UNITS WITH OUTSIDE AIR INTAKE CONNECTIONS:
   1.1. 2-POSITION OUTSIDE AIR MOTORIZED DAMPER AND ACTUATOR, "OPEN" POSITION FIELD ADJUSTIBLE FROM 0-50%.
2. PROVIDE THE FOLLOWING FACTORY SUPPLIED FEATURES AND OPTIONS FOR ALL FLOOR-MOUNTED UNITS:
   2.1. SUB-BASE, 4" HIGH.
3. PROVIDE THE FOLLOWING FIELD SUPPLIED OPTIONS FOR ALL UNITS:
   3.1. AUTOMATIC TEMPERATURE CONTROLS SUB-CONTRACTOR TO FURNISH AND FIELD-INSTALL BMS CONTROLS, CONTROL VALVES, AND CONTROL WIRING.
4. FINISH COLOR SHALL BE "STONE GREY" FOR FCU-A AND FCU-B. SUBMIT COLOR CHART FOR APPROVAL.

HOT WATER COIL SCHEDULE

DESIGNATION	LOCATION	AREA SERVED	AIR FLOW DATA			HOT WATER COIL DATA									COIL DIMENSIONS			WEIGHT (LBS)	TUBE MATERIAL	WALL THICKNESS	MANUFACTURER	MODEL	REMARKS
			AIR FLOW (CFM)	AIR VELOCITY (FPM)	MAX. AIR P.D. (IN W.C.)	FLUID	MBH	GPM	E.W.T. (°F)	L.W.T. (°F)	E.A.T. (°F)	L.A.T (°F)	MAX. W.P.D. (FT-WC)	ROWS	FINS PER INCH	WIDTH (IN)	HEIGHT (IN)	LENGTH OR DEPTH (IN)					
HWC-AH-1	MECHANICAL PENTHOUSE	RTU-AH-1	6,000	857	0.303	WATER	228.0	22.8	180	160.0	55	90.0	3.4	1	11	42	24	4	63	COPPER	.020	TRANE	D5WB24042	SEE NOTES BELOW
HWC-AH-2	MECHANICAL PENTHOUSE	RTU-AH-2	9,550	833	0.275	WATER	380.0	38.0	180	160.0	55	90.0	5.5	1	1	48	36	4	96	COPPER	.020	TRANE	D5WB36048	SEE NOTES BELOW
HWC-AH-3	MECHANICAL PENTHOUSE	RTU-AH-3	5,100	833	0.29	WATER	190.0	19.0	180	160.0	55	90.0	2.3	1	1	36	24	4	56	COPPER	.020	TRANE	D5WB24036	SEE NOTES BELOW

NOTES:
1. PROVIDE THE FOLLOWING FACTORY-SUPPLIED FEATURES AND OPTIONS FOR ALL UNITS: FLANGED TYPE CONNECTIONS.

CONDENSATE PUMP SCHEDULE

DESIGNATION	DISCHARGE FLOWRATE (GPH)	HEAD AT DESIGN FLOWRATE (FT-WC)	SHUT-OFF HEAD (FT-WC)	RESERVOIR CAPACITY (GAL)	WEIGHT (LBS)	MAX. FLUID TEMP. (°F)	MOTOR HP	ELECTRICAL DATA						MANUFACTURER	MODEL	REMARKS
								VOLTS	PH	Hz	FLA	DISCONNECT BY E.C. OR MANUF.	DISCONNECT ENCL. TYPE	EMER. PWR. (Y/N)			
CP-A	80	18	20	1.0	15	140	1/30	120	1	60	1.5	E.C.	NEMA 1	N	LITTLE GIANT	VCCA-20-P	SEE NOTES BELOW

NOTES:
1. PROVIDE THE FOLLOWING FACTORY FEATURES AND OPTIONS:
   1.1. UL 2043 PLENUM RATED, NON-COMBUSTIBLE CONSTRUCTION.
   1.2. CAST ALUMINUM RESERVOIR.
   1.3. STAINLESS STEEL SHAFT.
   1.4. AUXILARY SWITCH.
   1.5. THERMAL OVERLOAD PROTECTOR.
   1.6. HARD-WIRED, NO CORD OR PLUG.
   1.7. FILTER SCREEN.
2. PROVIDE THE FOLLOWING FIELD ACCESSORIES:
   2.1. CHECK VALVE.
   2.2. BALL VALVE.
3. REFER TO PLANS FOR QUANTITIES AND LOCATIONS.

AIR SEPARATOR SCHEDULE

DESIGNATION	LOCATION	CONFIGURATION	GPM	FLUID TYPE	MAX. WORKING TEMPERATURE (°F)	MAX. WORKING PRESSURE (PSI)	ASME SEC. VIII DIV.1 RATED (Y/N)	INTERNAL STRAINER (Y/N)	FLUID INLET & OUTLET SIZE (IN)	FLUID INLET & OUTLET CONFIG.	AIR OUTLET SIZE (IN)	AIR OUTLET CONFIG.	DRAIN SIZE (IN)	DRAIN CONFIG.	MANUFACTURER	MODEL	REMARKS
AS-AH-HW-1	ANNE HUTCH BOILER ROOM	VORTEX	430	WATER	375	165	Y	N	6	150# FLANGE	1-1/2	NPT	1	NPT	ARMSTRONG	VA-6	SEE NOTES BELOW
AS-AH-DTW-1	ANNE HUTCH BOILER ROOM	VORTEX	300	WATER	375	165	Y	N	5	150# FLANGE	1-1/2	NPT	1	NPT	ARMSTRONG	VA-5	SEE NOTES BELOW
AS-AH-GL-1	ANNE HUTCH BOILER ROOM	VORTEX	330	35% PROPYLENE GLYCOL	375	165	Y	N	5	150# FLANGE	1-1/2	NPT	1	NPT	ARMSTRONG	VA-5	SEE NOTES BELOW

NOTES:
1. PROVIDE AN AUTOMATIC AIR EMIMINATOR FOR EACH AIR SEPARATOR, ARMSTRONG MODEL AAE-750, WITH 250°F MAXIMUM OPERATING TEMPERATURE, 2-133 PSIG AIR PRESSURE OPERATING RANGE, 100% SPRING ACTION POSITIVE SHUTOFF, 3/4" NPT SYSTEM CONNECTION.

EXPANSION TANK SCHEDULE

DESIGNATION	LOCATION	CONFIGURATION	TANK VOLUME (GAL)	ACCEPTANCE VOLUME (GAL)	MAX. WORKING TEMPERATURE (°F)	MAX. WORKING PRESSURE (PSI)	ASME SEC. VIII DIV.1 RATED (Y/N)	SYSTEM CONN. SIZE (IN)	SYSTEM CONN. CONFIG.	CHARGING VALVE CONN. SIZE (IN)	CHARGING VALVE CONN. CONFIG.	DRAIN PLUG SIZE (IN)	DIMENSIONS DIAMETER (IN)	DIMENSIONS HEIGHT (IN)	OPERATING WEIGHT (LBS)	MANUFACTURER	MODEL	REMARKS
ET-AH-GL-1	ANNE HUTCHINSON BOILER ROOM	FLOOR MOUNTED	53	48	240	125	Y	1/2	NPTF	1/2	NPTF	1/2	24	38	204	ARMSTRONG	200L	SEE NOTES BELOW
ET-AH-DTW-1	ANNE HUTCHINSON BOILER ROOM	FLOOR MOUNTED	211	190	240	125	Y	1/2	NPTF	1/2	NPTF	1/2	30	83	680	ARMSTRONG	800L	SEE NOTES BELOW

NOTES:
1. EACH UNIT SHALL BE FACTORY PRE-CHARGED TO 12 PSIG. CALCULATE, ADJUST, AND INCREASE CHARGE IN FIELD TO MAINTAIN SYSTEM PRESSURE OF 5 PSIG AT HIGHEST POINT OF ASSOCIATED HYDRONIC SYSTEM.

FAN SCHEDULE

DESIGNATION	LOCATION	AREA SERVED	SERVICE	CONFIGURATION	DRIVE TYPE	AIRFLOW (CFM)	EXTERNAL STATIC PRESSURE (IN WC)	RPM	MHP	ELECTRICAL DATA													WEIGHT (LBS)	MANUFACTURER	MODEL	REMARKS
										VOLTS	PH	Hz	DISCONNECT BY E.C. OR MANUF.	DISCONNECT LOCATION	DISCONNECT TYPE	DISCONNECT ENCLOSURE TYPE	STARTER BY M.C. OR MANUF.	STARTER LOCATION	STARTER TYPE	STARTER ENCLOSURE TYPE	EMER. POWER (Y/N)				
EF-AH-R-1	ROOF	CLASSROOM 111	SPILL AIR	UPBLAST	DIRECT	370	0.25	1,550	1/10	115	1	60	MANUF.	UNIT MTD.	NON-FUSED	NEMA-3R	MANUF.	INTEGRAL TO MOTOR	ECM	NEMA 1	N	40	GREENHECK	CUE-080-VG	SEE NOTES BELOW
EF-AH-R-2	ROOF	CLASSROOM 115	SPILL AIR	UPBLAST	DIRECT	350	0.25	1,550	1/10	115	1	60	MANUF.	UNIT MTD.	NON-FUSED	NEMA-3R	MANUF.	INTEGRAL TO MOTOR	ECM	NEMA 1	N	40	GREENHECK	CUE-080-VG	SEE NOTES BELOW
EF-AH-R-3	ROOF	CLASSROOM 117	SPILL AIR	UPBLAST	DIRECT	355	0.25	1,550	1/10	115	1	60	MANUF.	UNIT MTD.	NON-FUSED	NEMA-3R	MANUF.	INTEGRAL TO MOTOR	ECM	NEMA 1	N	40	GREENHECK	CUE-080-VG	SEE NOTES BELOW
EF-AH-R-4	ROOF	CLASSROOM 112	SPILL AIR	UPBLAST	DIRECT	365	0.25	1,550	1/10	115	1	60	MANUF.	UNIT MTD.	NON-FUSED	NEMA-3R	MANUF.	INTEGRAL TO MOTOR	ECM	NEMA 1	N	40	GREENHECK	CUE-080-VG	SEE NOTES BELOW
EF-AH-R-5	ROOF	CLASSROOM 114	SPILL AIR	UPBLAST	DIRECT	365	0.25	1,550	1/10	115	1	60	MANUF.	UNIT MTD.	NON-FUSED	NEMA-3R	MANUF.	INTEGRAL TO MOTOR	ECM	NEMA 1	N	40	GREENHECK	CUE-080-VG	SEE NOTES BELOW
EF-AH-R-6	ROOF	CLASSROOM 116	SPILL AIR	UPBLAST	DIRECT	360	0.25	1,550	1/10	115	1	60	MANUF.	UNIT MTD.	NON-FUSED	NEMA-3R	MANUF.	INTEGRAL TO MOTOR	ECM	NEMA 1	N	40	GREENHECK	CUE-080-VG	SEE NOTES BELOW
EF-AH-R-7	ROOF	CLASSROOM 118	SPILL AIR	UPBLAST	DIRECT	355	0.25	1,550	1/10	115	1	60	MANUF.	UNIT MTD.	NON-FUSED	NEMA-3R	MANUF.	INTEGRAL TO MOTOR	ECM	NEMA 1	N	40	GREENHECK	CUE-080-VG	SEE NOTES BELOW
EF-AH-R-8	ROOF	BAND ROOM 225	SPILL AIR	UPBLAST	DIRECT	370	0.25	1,550	1/10	115	1	60	MANUF.	UNIT MTD.	NON-FUSED	NEMA-3R	MANUF.	INTEGRAL TO MOTOR	ECM	NEMA 1	N	40	GREENHECK	CUE-080-VG	SEE NOTES BELOW
EF-AH-R-9	ROOF	CLASSROOM 223	SPILL AIR	UPBLAST	DIRECT	355	0.25	1,550	1/10	115	1	60	MANUF.	UNIT MTD.	NON-FUSED	NEMA-3R	MANUF.	INTEGRAL TO MOTOR	ECM	NEMA 1	N	40	GREENHECK	CUE-080-VG	SEE NOTES BELOW
EF-AH-R-10	ROOF	CLASSROOM 223A	SPILL AIR	UPBLAST	DIRECT	330	0.25	1,550	1/10	115	1	60	MANUF.	UNIT MTD.	NON-FUSED	NEMA-3R	MANUF.	INTEGRAL TO MOTOR	ECM	NEMA 1	N	40	GREENHECK	CUE-080-VG	SEE NOTES BELOW
EF-AH-R-11	ROOF	CLASSROOM 221	SPILL AIR	UPBLAST	DIRECT	390	0.25	1,550	1/10	115	1	60	MANUF.	UNIT MTD.	NON-FUSED	NEMA-3R	MANUF.	INTEGRAL TO MOTOR	ECM	NEMA 1	N	40	GREENHECK	CUE-080-VG	SEE NOTES BELOW
EF-AH-R-12	ROOF	LIBRARY 222	SPILL AIR	UPBLAST	DIRECT	390	0.25	1,550	1/10	115	1	60	MANUF.	UNIT MTD.	NON-FUSED	NEMA-3R	MANUF.	INTEGRAL TO MOTOR	ECM	NEMA 1	N	40	GREENHECK	CUE-080-VG	SEE NOTES BELOW
EF-AH-R-13	MECHANICAL PENTHOUSE	CLASSROOMS	SPILL AIR	UTILITY SET	BELT	7,400	2.00	1,100	5	208	3	60	MANUF.	UNIT MTD.	NON-FUSED	NEMA-3R	M.C.	WALL MOUNTED	VFD WIBYPASS	NEMA 1	N	554	GREENHECK	USF-324-BI-X	SEE NOTES BELOW
EF-AH-R-14	MECHANICAL PENTHOUSE	DRESSING ROOMS	EXHAUST	UTILITY SET	BELT	1,100	2.00	2,177	1	208	3	60	MANUF.	UNIT MTD.	NON-FUSED	NEMA-3R	M.C.	WALL MOUNTED	CONST. SPD WIHOA	NEMA 1	N	159	GREENHECK	USF-212-BI-X	SEE NOTES BELOW
EF-AH-TX-1	MECHANICAL PENTHOUSE	TOILET ROOMS	EXHAUST	UTILITY SET	BELT	1,600	2.00	2,177	1	208	3	60	MANUF.	UNIT MTD.	NON-FUSED	NEMA-3R	M.C.	WALL MOUNTED	CONST. SPD WIHOA	NEMA 1	N	159	GREENHECK	USF-212-BI-X	SEE NOTES BELOW

NOTES:
1. PROVIDE THE FOLLOWING FOR EACH ROOFTOP FAN:
   1.1. 12" HIGH ROOF CURB. ROOF HEAIGHT MEASURED FROM TOP OF ROOF SURFACE. INCREASE CURB HEIGHT AS NEEDED FOR ROOF INSULATION THICKNESS.
   1.2. MOTORIZED BACKDRAFT DAMPER
   1.3. ECM MOTOR CONTROLLER INTEGRAL TO FAN MOTOR, WITH CONTACTS SUITABLE FOR BMS TIE-IN, GREENHECK "VARI-GREEN" OR EQUAL.
2. PROVIDE THE FOLLOWING FOR EACH UTILITY SET FAN:
   2.1. MOTORIZED BACKDRAFT DAMPER
   2.2. MOTOR HOOD, ACCESS DOOR, BELT COVER.

PLATE AND FRAME HEAT EXCHANGER SCHEDULE

DESIGNATION	LOCATION	CONSTRUCTION DATA																SOURCE SIDE								LOAD SIDE								DIMENSIONS			OPERATING WEIGHT (LBS)	MANUFACTURER	MODEL	REMARKS
		PLATE MATERIAL	PLATE THICKNESS (MM)	SEAL MATERIAL	SINGLE OR DOUBLE WALL	POTABLE WATER RATED (Y/N)	MAX. OPERATING PRESSURE (PSI)	MAX. DIFFERENTIAL PRESSURE (PSI)	MAX. TEST PRESSURE (PSI)	MAX. OPERATING TEMP. (°F)	ASME RATED (Y/N)	AHRI RATED (Y/N)	DESIGN DUTY MARGIN (%)	DESIGN FOULING FACTOR	SURFACE AREA WITH DUTY MARGIN (SQ.FT.)	DESIGN NO. OF PLATES	SPACE FOR FUTURE PLATES	APPROACH TEMP. (°F)	HEAT TRANSFER (MBH)	SERVICE	FLUID	INLET PIPE CONN. (IN)	OUTLET PIPE CONN. (IN)	FLOW (GPM)	PRESS. DROP. (PSI)	E.W.T. (°F)	L.W.T. (°F)	SERVICE	FLUID	INLET PIPE CONN. (IN)	OUTLET PIPE CONN. (IN)	FLOW (GPM)	PRESS. DROP. (PSI)	E.W.T. (°F)	L.W.T. (°F)	LENGTH (IN)	WIDTH (IN)	HEIGHT (IN)				
PFHX-AH-1	ELEMENTARY SCHOOL BOILER ROOM	304 SS	0.4	EPDM	SINGLE	NO	150	150	195	320	Y	Y	10	0.00011	2124.5	389	118	2.0	1,808	ELEMENTARY SCHOOL CHILLER GLYCOL LOOP	35% PROPYLENE GLYCOL	4	4	330	2.97	42.0	54.0	ELEMENTARY SCHOOL CHILLED WATER	WATER	4	4	300	2.06	56.0	44.0	100.6	20	73	4254	WESSELS	AWP47-96-389	SEE NOTES BELOW

NOTES:
1. PROVIDE FRAME WITH FUTURE EXPANSION CAPACITY FOR 25% ADDITIONAL PLATES, UNLESS OTHERWISE NOTED.
2. ALL PIPE CONNECTIONS SHALL BE ON FRONT FACE.

EASTCHESTER UNION FREE SCHOOL DISTRICT

2022 CAPITAL PROJECT PHASE 4

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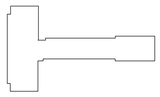
ISSUE	DATE
ISSUED FOR BID	11/06/2024

KEY PLAN



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PROJECT NO. 66-03-01-03-0-001-024
MEMASI PROJECT NO. 102-2301

MECHANICAL SCHEDULES

AH M602

VENTILATION SCHEDULE

BUILDING	LEVEL	AIR HANDLING SYSTEM DATA			ROOM DATA						OUTSIDE VENTILATION AIRFLOW REQUIRED PER THE 2020 NEW YORK STATE MECHANICAL CODE - SECTION 403				
		AIR HANDLING SYSTEM DESIGNATION	DESIGN SUPPLY AIRFLOW (CFM)	DESIGN OUTSIDE VENTILATION AIRFLOW (CFM)	ROOM NUMBER	ROOM NAME	FLOOR AREA (SQ.FT.)	NUMBER OF OCC.	DESIGN SUPPLY AIRFLOW (CFM)	DESIGN MINIMUM OUTSIDE VENTILATION AIRFLOW (CFM)	OUTSIDE VENTILATION AIRFLOW PER PERSON (CFM / PERSON)	OUTSIDE VENTILATION AIRFLOW PER SQUARE FOOT (CFM / SF)	ZONE AIR DISTRIBUTION EFFECTIVENESS	ROOM OUTSIDE VENTILATION AIRFLOW (CFM)	ROOM DESIGN OUTSIDE VENTILATION AIRFLOW MEETS OR EXCEEDS CODE REQUIREMENT (YES / NO)
ELEMENTARY SCHOOL	GROUND	UV-A	1,150	445	101	STEM LAB	726	31	1,150	445	10	0.18	1	441	YES
ELEMENTARY SCHOOL	GROUND	UV-A	1,150	400	102	CLASSROOM	733	31	1,150	400	10	0.12	1	398	YES
ELEMENTARY SCHOOL	GROUND	UV-A	1,150	400	103	CLASSROOM	746	31	1,150	400	10	0.12	1	400	YES
ELEMENTARY SCHOOL	GROUND	UV-A	1,150	400	104	CLASSROOM	728	31	1,150	400	10	0.12	1	397	YES
ELEMENTARY SCHOOL	GROUND	UV-A	1,150	405	105	CLASSROOM	768	31	1,150	405	10	0.12	1	402	YES
ELEMENTARY SCHOOL	GROUND	UV-A	1,150	405	106	CLASSROOM	758	31	1,150	405	10	0.12	1	401	YES
ELEMENTARY SCHOOL	GROUND	UV-A	1,150	405	107	CLASSROOM	752	31	1,150	405	10	0.12	1	400	YES
ELEMENTARY SCHOOL	GROUND	UV-A	1,150	405	108	CLASSROOM	757	31	1,150	405	10	0.12	1	401	YES
ELEMENTARY SCHOOL	GROUND	UV-A	1,150	415	109	CLASSROOM	856	31	1,150	415	10	0.12	1	413	YES
ELEMENTARY SCHOOL	GROUND	UV-A	1,150	410	110	CLASSROOM	822	31	1,150	410	10	0.12	1	409	YES
ELEMENTARY SCHOOL	GROUND	UV-A	1,150	410	111	CLASSROOM	798	31	1,150	410	10	0.12	1	406	YES
ELEMENTARY SCHOOL	GROUND	UV-A	1,150	405	112	CLASSROOM	780	31	1,150	405	10	0.12	1	404	YES
ELEMENTARY SCHOOL	GROUND	FCU-B	600	20	113	OFFICE	186	1	600	20	5	0.06	1	16	YES
ELEMENTARY SCHOOL	GROUND	UV-A	1,150	405	114	CLASSROOM	777	31	1,150	405	10	0.12	1	403	YES
ELEMENTARY SCHOOL	GROUND	UV-A	1,150	385	115	CLASSROOM	600	31	1,150	385	10	0.12	1	382	YES
ELEMENTARY SCHOOL	GROUND	FCU-A	600	15	115A	STORAGE	79	0	600	15	0	0.18	1	14	YES
ELEMENTARY SCHOOL	GROUND	FCU-A	1,150	350	115B	CLASSROOM	306	31	1,150	350	10	0.12	1	347	YES
ELEMENTARY SCHOOL	GROUND	UV-A	1,150	400	116	CLASSROOM	732	31	1,150	400	10	0.12	1	398	YES
ELEMENTARY SCHOOL	GROUND	UV-A	1,150	395	117	CLASSROOM	704	31	1,150	395	10	0.12	1	394	YES
ELEMENTARY SCHOOL	GROUND	UV-A	1,150	395	118	CLASSROOM	688	31	1,150	395	10	0.12	1	393	YES
ELEMENTARY SCHOOL	GROUND	FCU-A	600	20	123	OFFICE	199	1	600	20	5	0.06	1	17	YES
ELEMENTARY SCHOOL	GROUND	FCU-B	600	25	125	CUSTODIAL	211	1	600	25	5	0.06	0.8	22	YES
ELEMENTARY SCHOOL	GROUND	FCU-B	600	20	125	HEAD CUSTODIAN	148	1	600	20	5	0.06	0.8	17	YES
ELEMENTARY SCHOOL	GROUND	RTU-AH-3	5,100	2,025	126	CAFETERIA	2,866	147	5,100	2,025	7.5	0.18	0.8	2,023	YES
ELEMENTARY SCHOOL	GROUND	FCU-B	600	25	128	OFFICE	235	1	600	25	5	0.06	0.8	24	YES
ELEMENTARY SCHOOL	GROUND	FCU-B	600	20	129	OFFICE	153	1	600	20	5	0.06	0.8	18	YES
ELEMENTARY SCHOOL	GROUND	FCU-B	600	25	-	STAIR A	280	0	600	25	0	0.06	0.8	21	YES
ELEMENTARY SCHOOL	GROUND	FCU-B	600	15	-	STAIR B	187	0	600	15	0	0.06	0.8	14	YES
ELEMENTARY SCHOOL	GROUND	FCU-B	600	25	-	STAIR C	283	0	600	25	0	0.06	0.8	21	YES
ELEMENTARY SCHOOL	GROUND	FCU-A	600	5	-	VESTIBULE	54	0	600	5	0	0.06	1	3	YES
ELEMENTARY SCHOOL	GROUND	FCU-B	600	20	-	CORRIDOR 1A	204	0	600	20	0	0.06	0.8	15	YES
ELEMENTARY SCHOOL	GROUND	FCU-B	600	230	-	CORRIDOR 1B	3,035	0	600	230	0	0.06	0.8	228	YES
ELEMENTARY SCHOOL	1ST FLOOR	UV-A	1,150	405	201	CLASSROOM	762	31	1,150	405	10	0.12	1	401	YES
ELEMENTARY SCHOOL	1ST FLOOR	UV-A	1,150	405	202	CLASSROOM	778	31	1,150	405	10	0.12	1	403	YES
ELEMENTARY SCHOOL	1ST FLOOR	UV-A	1,150	405	203	CLASSROOM	755	31	1,150	405	10	0.12	1	401	YES
ELEMENTARY SCHOOL	1ST FLOOR	UV-A	1,150	405	204	CLASSROOM	760	31	1,150	405	10	0.12	1	401	YES
ELEMENTARY SCHOOL	1ST FLOOR	UV-A	1,150	405	205	CLASSROOM	757	31	1,150	405	10	0.12	1	401	YES
ELEMENTARY SCHOOL	1ST FLOOR	UV-A	1,150	405	206	CLASSROOM	757	31	1,150	405	10	0.12	1	401	YES
ELEMENTARY SCHOOL	1ST FLOOR	UV-A	1,150	400	207	CLASSROOM	749	31	1,150	400	10	0.12	1	400	YES
ELEMENTARY SCHOOL	1ST FLOOR	UV-A	1,150	405	208	CLASSROOM	760	31	1,150	405	10	0.12	1	401	YES
ELEMENTARY SCHOOL	1ST FLOOR	UV-A	1,150	415	209	CLASSROOM	862	31	1,150	415	10	0.12	1	413	YES
ELEMENTARY SCHOOL	1ST FLOOR	UV-A	1,150	410	210	CLASSROOM	821	31	1,150	410	10	0.12	1	409	YES
ELEMENTARY SCHOOL	1ST FLOOR	FCU-A	600	20	213	OFFICE	218	1	600	20	5	0.06	1	18	YES
ELEMENTARY SCHOOL	1ST FLOOR	FCU-A	600	20	214	ASSISTANT PRINCIPAL	226	1	600	20	5	0.06	1	19	YES
ELEMENTARY SCHOOL	1ST FLOOR	FCU-B	600	45	216	OFFICE	550	2	600	45	5	0.06	1	43	YES
ELEMENTARY SCHOOL	1ST FLOOR	FCU-B	600	35	217	NURSE	241	2	600	35	5	0.06	0.8	31	YES
ELEMENTARY SCHOOL	1ST FLOOR	FCU-B	600	50	219	NURSE	446	2	600	50	5	0.06	0.8	46	YES
ELEMENTARY SCHOOL	1ST FLOOR	FCU-A	600	35	220	PRINCIPAL'S OFFICE	422	1	600	35	5	0.06	1	30	YES
ELEMENTARY SCHOOL	1ST FLOOR	FCU-A	600	35	220A	TEACHERS	226	4	600	35	5	0.06	1	34	YES
ELEMENTARY SCHOOL	1ST FLOOR	UV-A	1,150	435	221	CLASSROOM	1,010	31	1,150	435	10	0.12	1	431	YES
ELEMENTARY SCHOOL	1ST FLOOR	FCU-A	600	10	221A	OFFICE	69	1	600	10	5	0.06	1	9	YES
ELEMENTARY SCHOOL	1ST FLOOR	UV-A	1,150	430	222	LIBRARY	965	31	1,150	430	10	0.12	1	426	YES
ELEMENTARY SCHOOL	1ST FLOOR	FCU-A	600	15	222A	OFFICE	102	1	600	15	5	0.06	1	11	YES
ELEMENTARY SCHOOL	1ST FLOOR	UV-A	1,150	390	223	CLASSROOM	646	31	1,150	390	10	0.12	1	388	YES
ELEMENTARY SCHOOL	1ST FLOOR	UV-A	1,150	365	223A	CLASSROOM	420	31	1,150	365	10	0.12	1	360	YES
ELEMENTARY SCHOOL	1ST FLOOR	FCU-A	600	25	224	COUNSELOR	168	2	600	25	5	0.06	1	20	YES
ELEMENTARY SCHOOL	1ST FLOOR	UV-A	1,150	410	225	CLASSROOM	817	31	1,150	410	10	0.12	1	408	YES
ELEMENTARY SCHOOL	1ST FLOOR	FCU-A	600	20	226	COUNSELOR	164	2	600	20	5	0.06	1	20	YES
ELEMENTARY SCHOOL	1ST FLOOR	RTU-AH-2	9,550	3,885	227	AUDITORIUM	4,787	564	9,550	3,885	5	0.06	0.8	3,884	YES
ELEMENTARY SCHOOL	1ST FLOOR	FCU-A	600	20	228	SPECIAL ED	166	2	600	20	5	0.06	1	20	YES
ELEMENTARY SCHOOL	1ST FLOOR	RTU-AH-1	6,000	1,720	229	GYM	4,190	31	6,000	1,720	20	0.18	0.8	1,718	YES
ELEMENTARY SCHOOL	1ST FLOOR	FCU-A	600	25	230	STORAGE	122	0	600	25	0	0.18	1	22	YES
ELEMENTARY SCHOOL	1ST FLOOR	FCU-B	600	35	-	STAIR 5	443	0	600	35	0	0.06	0.8	33	YES
ELEMENTARY SCHOOL	1ST FLOOR	FCU-B	600	25	-	STAIR 2	307	0	600	25	0	0.06	0.8	23	YES
ELEMENTARY SCHOOL	1ST FLOOR	FCU-B	600	25	-	STAIR 4	284	0	600	25	0	0.06	0.8	21	YES
ELEMENTARY SCHOOL	1ST FLOOR	FCU-B	600	155	101	CORRIDOR	2,003	0	600	155	0	0.06	0.8	150	YES

REGISTER, GRILLE, AND DIFFUSER SCHEDULE

DESIGNATION	SERVICE	TYPE	NOMINAL OVERALL DIMENSION (IN)	NECK SIZE (IN)	CFM RANGE	CONFIGURATION	BORDER TYPE	MATERIAL OF CONSTRUCTION	EQUALIZING GRID IN NECK	OPPOSED BLADE DAMPER IN NECK	FILTER RACK	FINISH COLOR	MANUFACTURER	MODEL	REMARKS
CD-A	SUPPLY	CEILING DIFFUSER	24x24	6"DIA	0-100	PLAQUE-STYLE, 4-WAY THROW	LAY-IN	STEEL	YES	NO	NO	WHITE	TITUS	OMNI	SEE NOTES BELOW
				8"DIA	101-175										
				10"DIA	176-350										
				12"DIA	351-550										
ER-A	EXHAUST	CEILING REGISTER	12X12 OR 24x24	6"DIA	0-100	LOUVERED FACE, 1/2" BLADE SPACING, 45° FIXED DEFLECTION	LAY-IN OR SURFACE MOUNTED	ALUMINUM	NO	NO	NO	WHITE	TITUS	355FL	SEE NOTES BELOW
				8"DIA	101-175										
				10"DIA	176-350										
				12"DIA	351-550										
RG-A	RETURN	CEILING GRILLE	24x12	24x12	0-1000	LOUVERED FACE, 1/2" BLADE SPACING, 45° FIXED DEFLECTION	LAY-IN	STEEL	NO	NO	NO	WHITE	TITUS	355RL	SEE NOTES BELOW
			24x24	24x24	1001-2000										
RR-A	RETURN	SIDEWALL REGISTER	72" WIDE X 36 " HIGH	72" WIDE X 36 " HIGH	0-7000	LOUVERED FACE, 5/16" BLADE SPACING, REVERSIBLE CORE FOR 5° OR 15° FIXED DEFLECTION	SURFACE MOUNT BORDER WITH CONCEALED SCREW FASTENING	ALUMINUM	NO	ONLY IF REGISTER IS MOUNTED TO EXPOSED SPIRAL DUCT	NO	WHITE	TITUS	1700L	SEE NOTES BELOW
LD-A	SUPPLY	LINEAR DIFFUSER	(2) 2" WIDE SLOT, LENGTHS AS NOTED ON	8"DIA (CONNECTION TO FACTORY PLENUM)	0-175	CONTINUOUS SLOT LINEAR DIFFUSER WITH "VERTICAL & HORIZONTAL" PATTERN CONTROLLER WITH THE SLOT	LAY-IN OR SURFACE MOUNTED WITH CONCEALED SCREW FASTENING	ALUMINUM	NO	NO	NO	BLACK PATTERN CONTROLLER & VISIBLE INTERNAL	TITUS	ML-39	SEE NOTES BELOW
				10"DIA (CONNECTION TO FACTORY PLENUM)	176-300										
SR-A	SUPPLY	CEILING/SIDE WALL REGISTER	RE: PLAN	RE: PLAN	RE: PLAN	INDIVIDUALLY ADJUSTABLE BLADES, 3/4" BLADE SPACING, DOUBLE DEFLECTION	LAY-IN OR SURFACE MOUNTED	STEEL	NO	ONLY IF REGISTER IS MOUNTED TO EXPOSED SPIRAL DUCT	NO	WHITE	TITUS	300RL	SEE NOTES BELOW

NOTES:

1. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS.
2. ALL FINISH COLORS ARE SUBJECT TO APPROVAL BY THE ARCHITECT. SUBMIT COLOR CHART FOR REVIEW.
3. COORDINATE BORDER TYPES WITH ARCHITECTURAL CEILING SPECIFICATIONS.
4. ER-A: PROVIDE FACTORY FURNISHED SQUARE-TO-ROUND ADAPTER FOR EACH REGISTER, MATTE BLACK FINISH FOR INTERNAL SURFACES.
5. RG-A: PROVIDE FACTORY FURNISHED LIGHT SHIELD, MATTE BLACK FINISH FOR INTERNAL SURFACES.
6. LD-A:
   - 6.1. ALL ACTIVE SUPPLY, EXHAUST, AND RETURN (DUCTED) SECTIONS SHALL BE PROVIDED WITH FACTORY FURNISHED ACOUSTICALLY LINED 2', 3', OR 4' LONG PLENUMS WITHSIDE INLET CONNECTIONS.
   - 6.2. ALL ACTIVE RETURN (CEILING PLENUM) SECTIONS SHALL BE PROVIDED WITH RETURN HOOD LIGHT SHIELDS, LENGTHS AS SHOWN ON PLANS.
   - 6.3. INACTIVE PORTIONS WITHOUT PLENUMS OR LIGHT SHIELDS SHALL BE BLANKED OFF, MATTE BLACK FINISH FOR VISIBLE SURFACES.
   - 6.4. PROVIDE "MP" MITERED CORNERS, FACTORY BLANKED, 6"x6" AND FACTORY END CAPS.
   - 6.5 PROVIDE CABLE OPERATED DAMPER (COD) FOR LINEAR DIFFUSERS ABOVE SHEETROCK CEILING.

EASTCHESTER UNION FREE SCHOOL DISTRICT

2022 CAPITAL PROJECT PHASE 4

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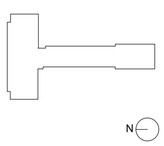
NEW YORK, NY 10014

ISSUE	DATE
ISSUED FOR BID	11/06/2024

KEY PLAN

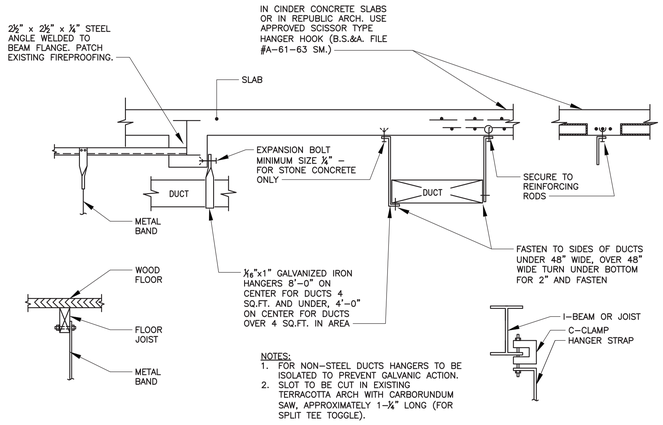


PROJECT NO. 66-03-01-03-0-001-024

MEMASI PROJECT NO. 102-2301

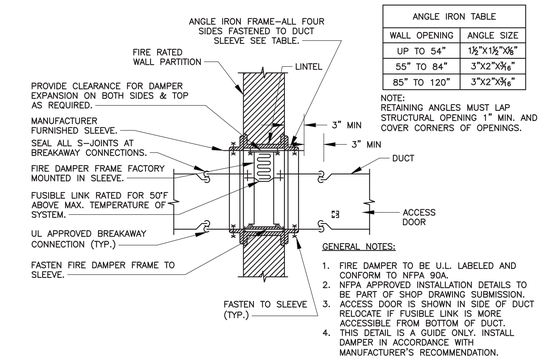
MECHANICAL SCHEDULES

AH M603



TYPICAL DUCT HANGING DETAIL

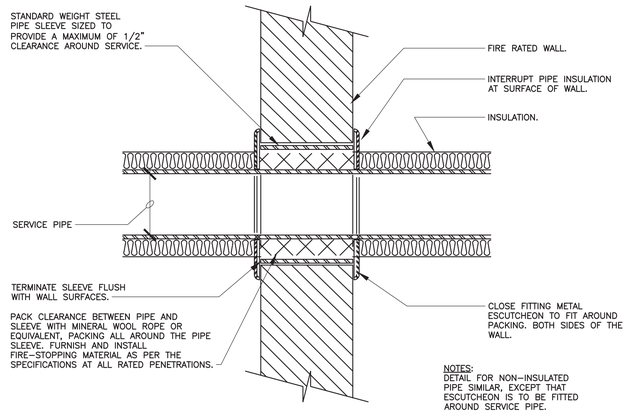
N.T.S.



ANGLE IRON TABLE	
WALL OPENING	ANGLE SIZE
UP TO 54"	1½"X1½"X⅛"
55" TO 84"	3"X2"X3/16"
85" TO 120"	3"X2"X¼"

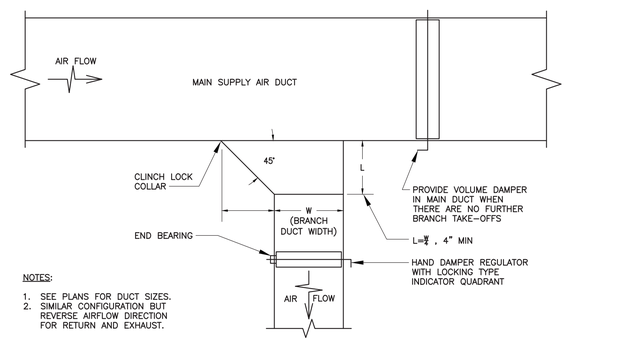
VERTICAL FIRE DAMPER DETAIL TYPE "B" (OUT OF AIR STREAM)

N.T.S.



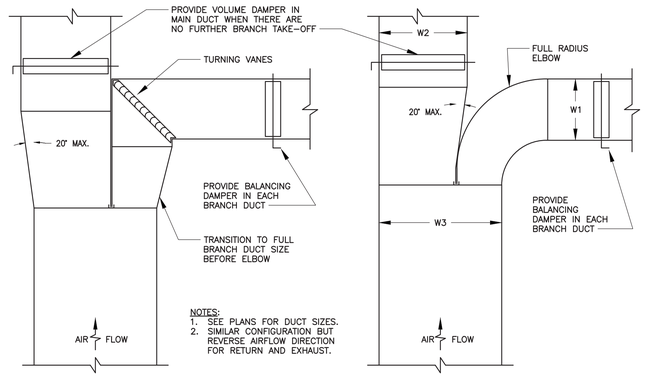
DETAIL OF PIPE THROUGH RATED PARTITION OR FLOOR

N.T.S.



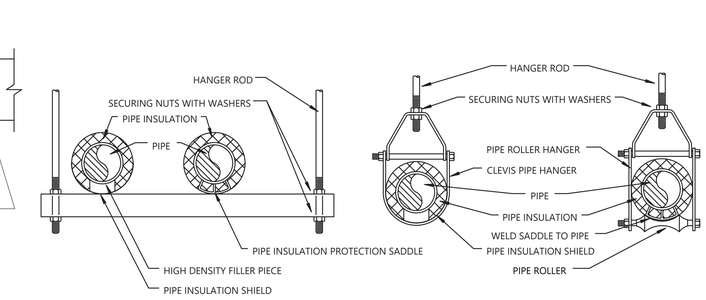
TYPICAL DETAIL OF RECTANGULAR SUPPLY AIR DUCT TAP

N.T.S.



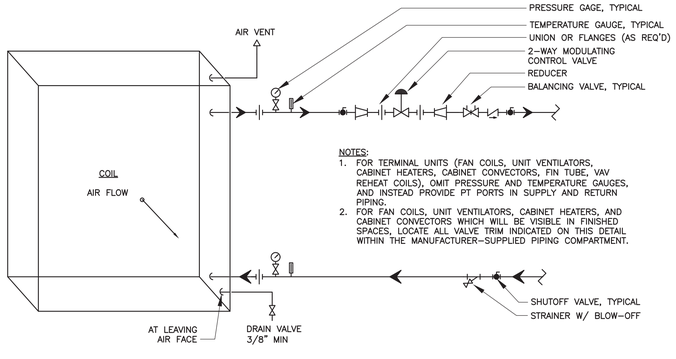
DETAIL OF LOW PRESSURE SUPPLY AIR DUCT NECK CONNECTIONS

N.T.S.



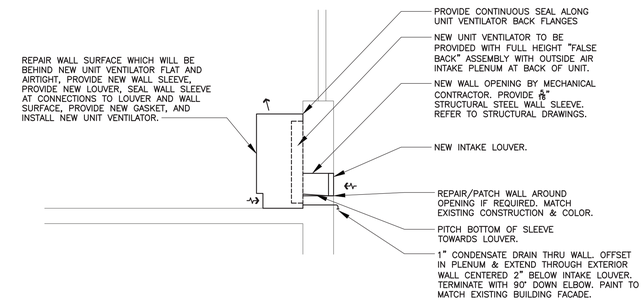
PIPE HANGING DETAIL

N.T.S.



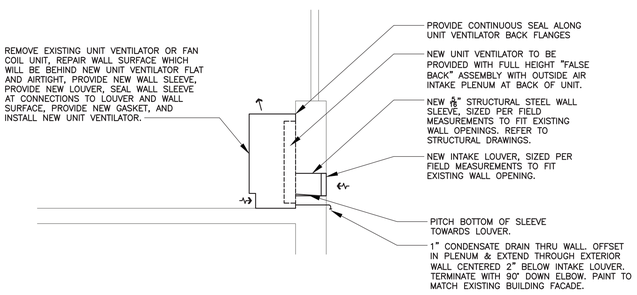
HOT WATER, CHILLED WATER, OR DUAL TEMPERATURE COIL PIPING DETAIL

N.T.S.



FLOOR-MOUNTED UNIT VENTILATOR OR FAN COIL UNIT INSTALLATION DETAIL NEW INTAKE WALL OPENING PROVIDED

N.T.S.



FLOOR-MOUNTED UNIT VENTILATOR OR FAN COIL UNIT INSTALLATION DETAIL EXISTING INTAKE WALL OPENING REUSED

N.T.S.

EASTCHESTER UNION FREE SCHOOL DISTRICT

2022 CAPITAL PROJECT
PHASE 4

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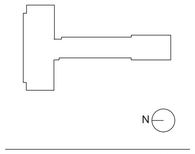
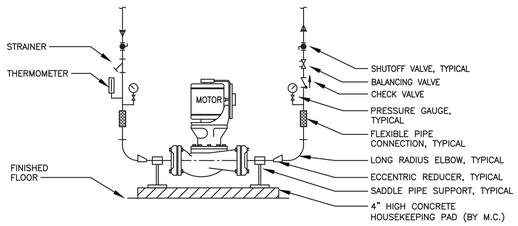


PROJECT NO.	66-03-01-03-0-001-024
MEMASI PROJECT NO.	102-2301

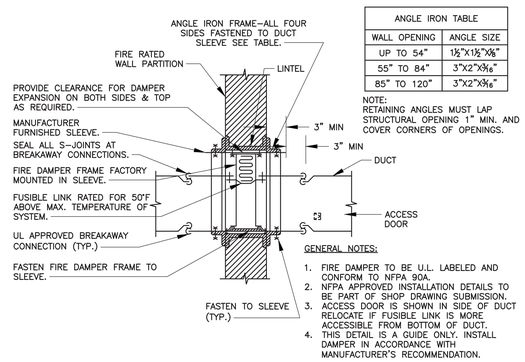
MECHANICAL DETAILS

AH M701



IN-LINE PUMP DETAIL - FLOOR MOUNTED

N.T.S.



ANGLE IRON TABLE	
WALL OPENING	ANGLE SIZE
UP TO 54"	1½"X1½"X⅛"
55" TO 84"	3"X2"X5/16"
85" TO 120"	3"X2"X⅛"

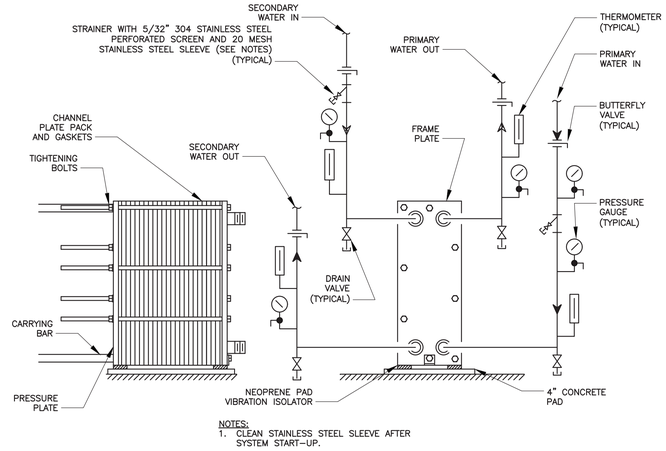
NOTE:
RETAINING ANGLES MUST LAP STRUCTURAL OPENING 1" MIN. AND COVER CORNERS OF OPENINGS.

GENERAL NOTES:

1. FIRE DAMPER TO BE U.L. LABELED AND CONFORM TO NFPA 90A.
2. NFPA APPROVED INSTALLATION DETAILS TO BE PART OF SHOP DRAWING SUBMISSION.
3. ACCESS DOOR IS SHOWN IN SIDE OF DUCT RELOCATE IF FUSIBLE LINK IS MORE ACCESSIBLE FROM BOTTOM OF DUCT.
4. THIS DETAIL IS A GUIDE ONLY. INSTALL DAMPER IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION.

VERTICAL FIRE DAMPER DETAIL TYPE "B" (OUT OF AIR STREAM)

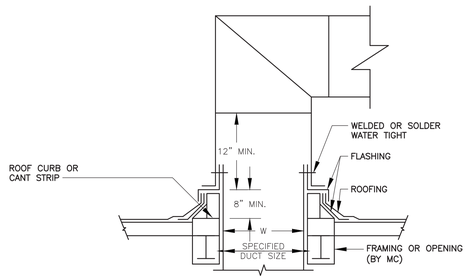
N.T.S.



NOTES:
1. CLEAN STAINLESS STEEL SLEEVE AFTER SYSTEM START–UP.

PLATE AND FRAME HEAT EXCHANGER DETAIL

N.T.S.



DUCT PENETRATION THROUGH ROOF DETAIL

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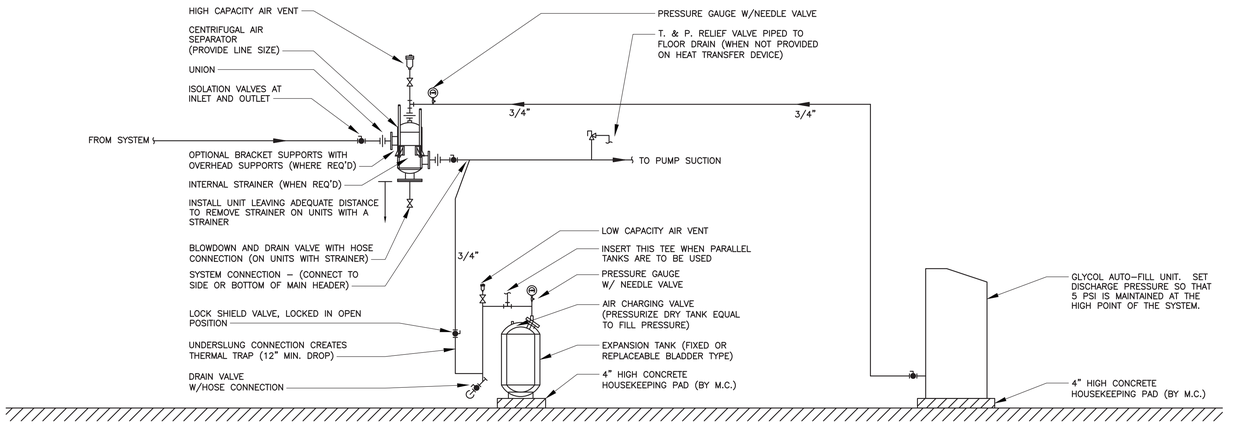
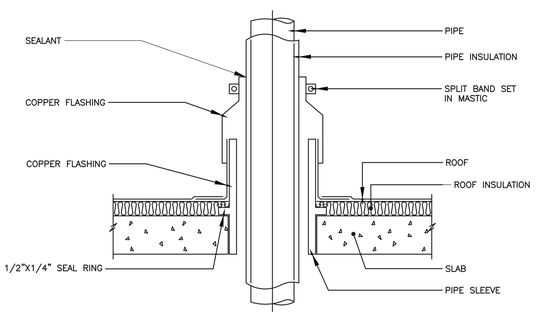


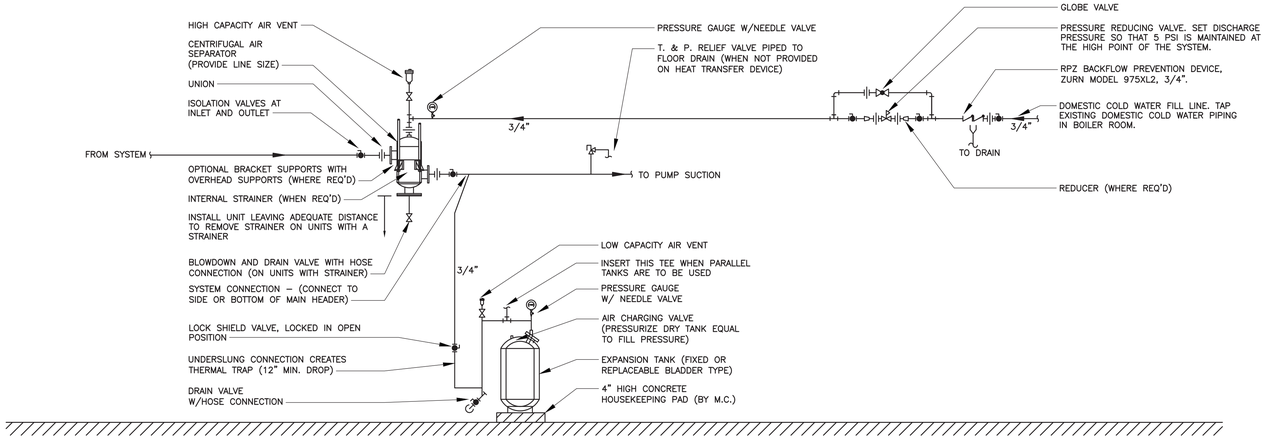
AIR SEPARATOR, EXPANSION TANK, AND GLYCOL FEEDER DETAIL

N.T.S.



PIPE PENETRATION THROUGH ROOF DETAIL

N.T.S.



AIR SEPARATOR, EXPANSION TANK, AND COLD WATER MAKEUP DETAIL

N.T.S.

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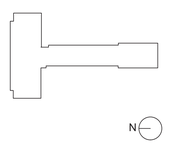
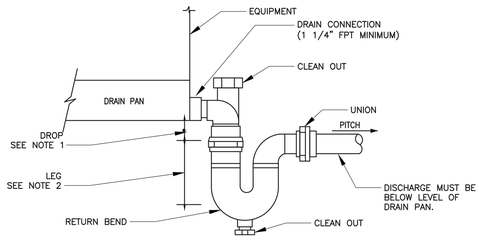


PROJECT NO. 66-03-01-03-0-001-024

MEMASI PROJECT NO. 102-2301

MECHANICAL DETAILS

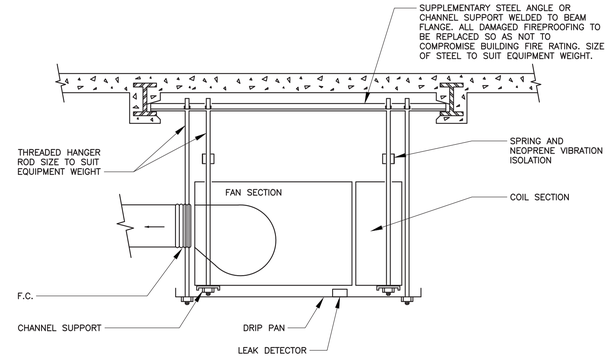
AH M702



NOTES:
1. 1" MIN. DROP REQUIRED USE OF STANDARD FITTINGS SHOWN EXCEEDS THIS MINIMUM.
2. X/2+1"=LEG FOR DRAW THRU UNIT WHERE X= NEGATIVE STATIC PRESSURE AT FAN INLET (MIN. 5")
3. ADD STRUCTURAL STEEL TO RAISE THE BOTTOM OF THE UNIT TO ACCOMMODATE TRAP HEIGHT.
4. PITCH DRAIN FOR PROPER RUN-OFF AND DISCHARGE TO APPROVED RECEPTACLE.
5. SUPPORT DRAIN LINES TO PREVENT SAG AND CONDENSATE OVERFLOW.
6. MANUALLY PRIME FILL TRAP BEFORE START-UP TO FORM INITIAL DRAIN SEAL.

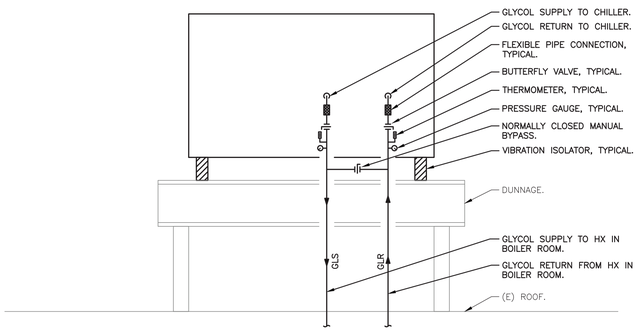
PIPE SIZE	MAX. COOLING LOAD
¾"	<=20 TONS
1"	20 TONS TO 40 TONS
1 ¼"	40 TONS TO 90 TONS
1 ½"	90 TONS TO 125 TONS
2"	>125 TONS TO 250 TONS

TYPICAL CONDENSATE DRAIN PIPING DETAIL (DRAW THROUGH)
N.T.S.



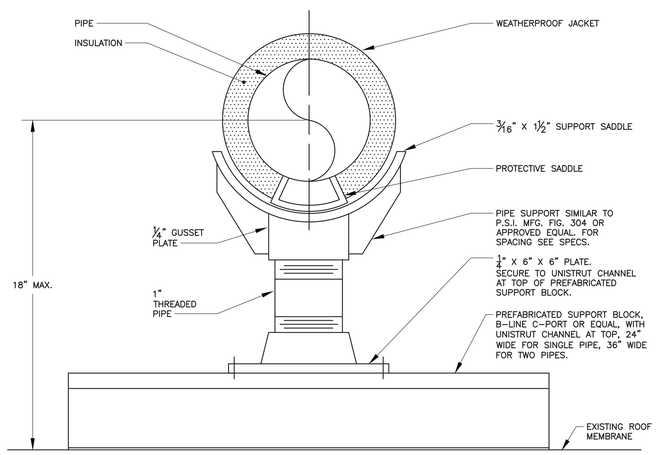
NOTES:
1. INCLUDE DRIP PAN AND LEAK DETECTOR FOR ALL CONCEALED HVAC UNITS WITH COOLING COILS (4-PIPE FAN COIL UNIT WITH HOT AND CHILLED WATER COILS, 2-PIPE FAN COIL UNIT WITH A DUAL-TEMPERATURE HOT/CHILLED WATER COIL, ETC.).
2. INCLUDE DRIP PAN AND LEAK DETECTOR FOR ALL CONCEALED HVAC UNITS WHICH ARE INTENDED FOR HEATING ONLY SERVICE, BUT WILL BE CONNECTED TO DUAL-TEMPERATURE HOT/CHILLED WATER PIPING (2-PIPE CABINET UNIT HEATERS WITH HOT WATER COIL, ETC.). THE DRIP PAN AND LEAK DETECTOR WILL BE UTILIZED AS A BACKUP TO BMS CONTROLS PROGRAMMED TO CLOSE THE CONTROL VALVE WHENEVER CHILLED WATER IS BEING CIRCULATED.

HVAC EQUIPMENT HANGING DETAIL
N.T.S.



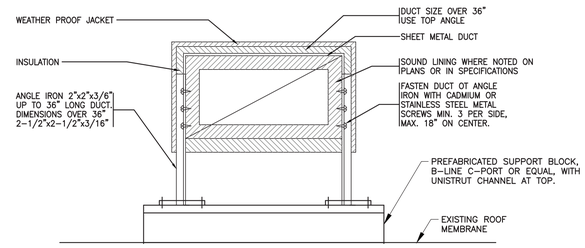
CHILLER PIPING DETAIL
N.T.S.

ROOFTOP UNIT INSTALLATION DETAIL
N.T.S.

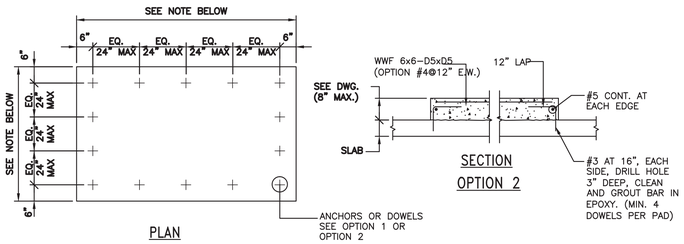


PIPING SUPPORT AT ROOF DETAIL
N.T.S.

DUCT SUPPORT SPACING AT THE ROOF SHALL COMPLY WITH ALL OF THE FOLLOWING CRITERIA, WHICHEVER IS MOST STRINGENT:
- MINIMUM 10 FEET ON CENTER FOR STRAIGHT RUNS.
- AT EACH CHANGE IN DIRECTION (BOTH ENDS OF HORIZONTAL ELBOW, HORIZONTAL END OF HORIZONTAL-TO-VERTICAL ELBOW).
- PER "SMACNA HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE", LATEST EDITION.



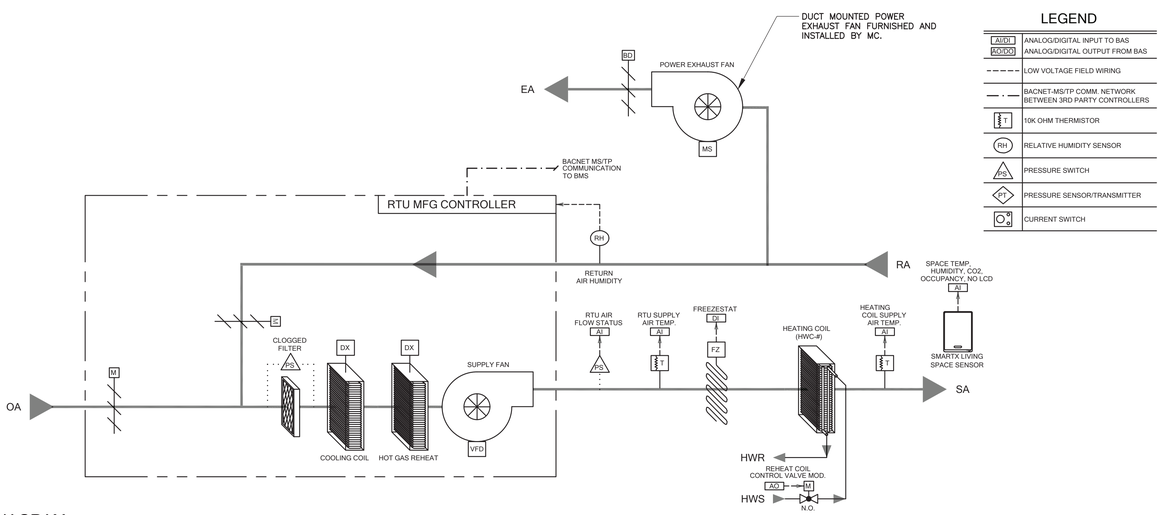
DUCTWORK SUPPORT AT ROOF DETAIL
N.T.S.



NOTE:

FOR APPROXIMATE SIZE AND LOCATION OF PAD, SEE MECHANICAL DRAWINGS. FINAL SIZE AND LOCATION TO BE DETERMINED BY CONTRACTOR AND APPROVED BY ENGINEER

CONCRETE EQUIPMENT PAD DETAIL
N.T.S.



LEGEND

AI/DI	ANALOG/DIGITAL INPUT TO BAS
AO/DO	ANALOG/DIGITAL OUTPUT FROM BAS
	LOW VOLTAGE FIELD WIRING
	BACNET-MS/TP COMM. NETWORK BETWEEN 3RD PARTY CONTROLLERS
T	10K OHM THERMISTOR
RH	RELATIVE HUMIDITY SENSOR
PS	PRESSURE SWITCH
PT	PRESSURE SENSOR/TRANSMITTER
	CURRENT SWITCH

RTU CONTROLS DIAGRAM
N.T.S.

EASTCHESTER UNION FREE SCHOOL DISTRICT

2022 CAPITAL PROJECT
PHASE 4

ANNE HUTCHINSON ELEMENTARY SCHOOL

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HAZARDOUS MATERIALS CONSULTANT
WSP
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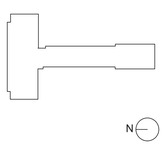
250 W 34TH ST., 4TH FLOOR
NEW YORK, NY 10014

ISSUED FOR BID	11/06/2024
ISSUE	DATE

KEY PLAN

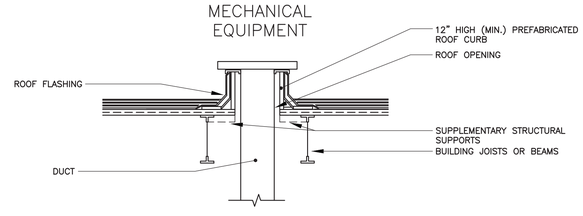


PROJECT NO.	66-03-01-03-0-001-024
MEMASI PROJECT NO.	102-2301

MECHANICAL DETAILS

AH M703

ALL WORK ASSOCIATED WITH ROOFTOP MECHANICAL UNITS, DUCTWORK COMPONENTS, ETC. IS BY MECHANICAL CONTRACTOR. INCLUDING:
A. LAYOUT AND HOLE CUT
B. SUPPORT STEEL
C. CURBS, CURB ADAPTORS, RAILS, PITCH POCKETS, PIPE PENETRATIONS, ETC.
D. ROOF FLASHING AND PATCHING (BY ROOFING SUBCONTRACTOR WHO IS AUTHORIZED BY MANUFACTURER TO MAINTAIN WARRANTY).



ROOF CURB INSTALLATION DETAIL

N.T.S.

EASTCHESTER UNION FREE SCHOOL DISTRICT

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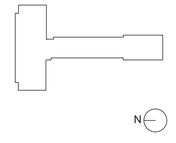

PROJECT NO. 66-03-01-03-0-001-024
MEMASI PROJECT NO. 102-2301

MECHANICAL DETAILS

AH M704

ELECTRICAL SYMBOL LIST

(NOT ALL SYMBOLS SHOWN ARE NECESSARILY USED ON THIS PROJECT)

SYMBOL	DESCRIPTION
	20A, 125V DECORA STYLE DUPLEX RECEPTACLE – FLUSH WALL MOUNTED
	20A, 125V DECORA STYLE QUADRUPLEX RECEPTACLE – FLUSH WALL MOUNTED
	20A, 125V DECORA STYLE GFCI TYPE DUPLEX RECEPTACLE – FLUSH WALL MOUNTED
WP	20A, 125V GFCI TYPE WEATHER RESISTANT DUPLEX RECEPTACLE IN WEATHER PROOF ENCLOSURE
	20A, 125V DECORA STYLE DUPLEX RECEPTACLE – CEILING MOUNTED
	SPECIAL PURPOSE RECEPTACLE – FLUSH WALL MOUNTED
	DATA OUTLET WITH 1 1/4"E.C. UP TO CEILING. TURN 90° AND STUB AND BUSH 6" INTO ACCESSIBLE CEILING
J	CEILING MOUNTED JUNCTION BOX WITH FINAL EQUIPMENT CONNECTION
J	FLUSH WALL MOUNTED JUNCTION BOX WITH FINAL EQUIPMENT CONNECTION
J	FLUSH FLOOR MOUNTED JUNCTION BOX WITH FINAL EQUIPMENT CONNECTION
	UNFUSED DISCONNECT SWITCH
100A / 60A	FUSED DISCONNECT SWITCH – 100 AMP SWITCH, 60 AMP FUSE, UNFUSED (EXCEPT WHERE FUSE SIZE IS INDICATED) 3–POLE (EXCEPT WHERE NOTED)
	COMBINATION MOTOR CONTROLLER AND DISCONNECT SWITCH FURNISHED BY MECHANICAL CONTRACTOR INSTALLED BY ELECTRICAL CONTRACTOR. COOR. LOCATION W/MECH. CONT.
CB 100A / 60A	CIRCUIT BREAKER 100A FRAME/60A TRIP, 3 POLE, U.O.N. ST – SHUNT TRIP
VFD	VARIABLE FREQUENCY DRIVE (VFD), FURNISHED BY MECHANICAL CONTRACTOR INSTALLED BY ELECTRICAL CONTRACTOR. COORD. LOCATION WITH MECH. CONTRACTOR
M	MOTOR
	PULLBOX, SIZED PER NEC
T	DRY TYPE 480–208V TRANSFORMER DELTA–WYE WITH GROUNDED SECONDARY SIDE, UON.
	FLUSH MOUNTED PANELBOARD
	SURFACE MOUNTED PANELBOARD
GND	GROUND BAR
	2#12+1#12G–3/4"C FOR ONE CKT. HOMERUN, U.O.N.
	4#12+1#12G–3/4"C FOR TWO CKT. HOMERUN, U.O.N.
	6#12+1#12G–3/4"C FOR THREE CKT. HOMERUN, U.O.N.
	3#12+1#12G–3/4"C HOMERUN, U.O.N.
	CONCEALED CONDUIT
	CONDUIT TURNING UP
	CAPPED CONDUIT
	FLEXIBLE EQUIPMENT CONNECTION
	GROUND CONNECTION
$T	MANUAL STARTER – TOGGLE TYPE WITH THERMAL ELEMENT – 250V HP RATED, FURNISHED BY ELEC CONTRACTOR
RP	SECURITY DEVICE REPEATER

LIGHTING CONTROL SYMBOL LIST

(NOT ALL SYMBOLS SHOWN ARE NECESSARILY USED ON THIS PROJECT)

SYMBOL	DESCRIPTION
$	SINGLE POLE LINE VOLTAGE SWITCH
$K	KEY ACTIVATED LINE VOLTAGE SWITCH
DS	DUAL TECHNOLOGY OCCUPANCY SENSOR, WALL MTD.
VS	DUAL TECHNOLOGY VACANCY SENSOR, CEILING MTD.
WS M	LOW VOLTAGE LIGHTING CONTROL MASTER LIGHTING CONTROL WALL STATION
WS K,OR	LOW VOLTAGE LIGHTING CONTROL LOCAL LIGHTING CONTROL WALL STATION ("OR" DENOTES VACANCY SENSOR OVERRIDE, "K" DENOTES KEY SWITCH)
PC	EXTERIOR LIGHTING PHOTOCELL
DS	INTERIOR DAYLIGHT ZONE SENSOR
RC a,b	ROOM CONTROLLER (LOWER CASE LETTER DENOTES CONTROL ZONES). REFER TO LIGHTING CONTROL DETAILS
WS D	LOW VOLTAGE LIGHTING CONTROL LOCAL LIGHTING CONTROL WALL STATION WITH VACANCY SENSOR OVERRIDE AND ZONE DIMMING
OS	DUAL TECHNOLOGY OCCUPANCY SENSOR, CEILING MTD.
	WALL MOUNTED EMERGENCY LIGHTING UNIT, DUAL–LITE #EV2I

FIRE ALARM SYMBOL LIST

(NOT ALL SYMBOLS SHOWN ARE NECESSARILY USED ON THIS PROJECT)

SYMBOL	DESCRIPTION
S	CEILING MOUNTED ADDRESSABLE SMOKE DETECTOR
D	DUCT SMOKE DETECTOR
F	COMBINATION FIRE ALARM BELL/STROBE LIGHT UNIT – FLUSH WALL MOUNTED (WITH ADJUSTABLE CANDELA RATING)
F	FIRE ALARM PULL STATION
R	FIRE ALARM RELAY
RAN	FIRE ALARM REMOTE ANNUNCIATOR PANEL
ST 75	FIRE ALARM STROBE LIGHT – "75" INDICATES CANDELA SET POINT
CO	CARBON MONOXIDE DETECTOR
ST 75	FIRE ALARM STROBE LIGHT (CEILING MOUNTED) – "75" INDICATES CANDELA SET POINT

ELECTRICAL ABBREVIATIONS

(NOT ALL SYMBOLS SHOWN ARE NECESSARILY USED ON THIS PROJECT)

A	AMPERE	KCM	THOUSAND CIRCULAR MILS
AC	ABOVE COUNTER	KV	KILOVOLT
AFF	ABOVE FINISHED FLOOR	KVA	KILOVOLT AMPERE
AHJ	AUTHORITY HAVING JURISDICTION	KW	KILOWATT
AIC	AMP INTERRUPTING CAPACITY	KWH	KILOWATT HOUR
ATS	AUTOMATIC TRANSFER SWITCH	LTG	LIGHTING
AUTO	AUTOMATIC	MAX	MAXIMUM
AWG	AMERICAN WIRE GAUGE	MCB	MAIN CIRCUIT BREAKER
BLDG	BUILDING	MCC	MOTOR CONTROL CENTER
C	CONDUIT	MIN	MINIMUM
CB	CIRCUIT BREAKER	MTD	MOUNTED
CCTV	CLOSED CIRCUIT TELEVISION	N	NEUTRAL
CKT	CIRCUIT	NIC	NOT IN CONTRACT
CO	CARBON MONOXIDE	NTS	NOT TO SCALE
COMM	COMMUNICATION	OC	ON CENTER
CT	CURRENT TRANSFORMER	P	POLE
CU	COPPER	ø or PH	PHASE
DEG	DEGREE	PNL	PANEL
DGP	DATA GATHERING PANEL	PWR	POWER
DISC	DISCONNECT	R	RELOCATED
DN	DOWN	RECEPT	RECEPTACLE
DWG	DRAWING	TEL	TELEPHONE
E/EX	EXISITNG TO REMAIN	TOS	TOP OF SHAFT
EC	ELECTRICAL CONTRACTOR	TV	TELEVISION
EM	EMERGENCY	TYP	TYPICAL
ER	EXISTING TO BE REMOVED	UON	UNLESS OTHERWISE NOTED
ERR	EXISTING TO BE REMOVED AND RELOCATED	V	VOLT OR VOLTAGE
FA	FIRE ALARM	VA	VOLT AMPERE
FACP	FIRE ALARM CONTROL PANEL	VIF	VERIFY IN FIELD
FL	FLOOR	W	WATT
FT	FEET OR FOOT	WP	WEATHERPROOF
GRD	GROUND	WT	WATERTIGHT
GFI	GROUND FAULT INTERRUPTER	XP	EXPLOSION PROOF
HID	HIGH INTENSITY DISCHARGE		
HP	HORSE POWER		
HZ	HERTZ		
JB	JUNCTION BOX		

NEW YORK STATE CODES & STANDARDS

- 2020 BUILDING CODE OF NEW YORK STATE
- 2020 FIRE CODE OF NEW YORK STATE
- 2020 PLUMBING CODE OF NEW YORK STATE
- 2020 MECHANICAL CODE OF NEW YORK STATE
- 2020 FUEL GAS CODE OF NEW YORK STATE
- 2020 NYS UNIFORM CODE SUPPLEMENT
- NYS EDUCATION DEPARTMENT 2022 MANUAL OF PLANNING STANDARDS

NEW YORK STATE ENERGY CODES

- 2020 ENERGY CONSERVATION CONSTRUCTION CODE OF NEW YORK STATE
- 2016 ASHRAE 90.1

REFERENCED STANDARDS

APPLICABLE REFERENCE STANDARDS SHALL BE AS REFERENCED BY ALL STATE CODES. THE LIST BELOW IS FOR QUICK REFERENCE AND DOES NOT INCLUDE ALL APPLICABLE REFERENCE STANDARDS.

- 2016 NPFA 13 – STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS
- 2016 NFPA 14 – STANDARD FOR THE INSTALLATION OF STANDPIPE AND HOSE SYSTEMS
- 2016 NFPA 20 – STANDARD FOR THE INSTALLATION OF STATIONARY PUMPS FOR FIRE PROTECTION
- 2017 NFPA 70 – NATIONAL ELECTRICAL CODE
- 2016 NFPA 72 – NATIONAL FIRE ALARM AND SIGNALING CODE

CUTTING AND PATCHING GENERAL NOTES

ELECTRICAL CONTRACTOR SHALL PERFORM ALL CUTTING AND PATCHING OF EXISTING CONSTRUCTION AS REQUIRED TO PROPERLY INSTALL AND CONCEAL ALL RACEWAYS, BOXES, DEVICES, AND EQUIPMENT. ALL WORK ASSOCIATED WITH CUTTING OF CONSTRUCTION SHALL BE ACCOMPLISHED IN A CLEAN AND NEAT FASHION WITH PURPOSE TO MINIMIZE ANY DISRUPTION OF EXISTING SYSTEMS. ELECTRICAL CONTRACTOR SHALL RETURN ANY AFFECTED CONSTRUCTION TO AS FOUND. ELECTRICAL CONTRACTOR SHALL MATCH ALL REQUIRED FINISHES SUCH AS TILE/GROUT, PAINT, PLASTER, BRICK, ECT. WITH EXISTING SURROUNDINGS.

ELECTRICAL DRAWING LIST

LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	MANUFACTURER	CATALOG NUMBER	WATTAGE / CCT / LUMENS / CRI	VOLTS	NOTES
F1	2X4 FLAT PANEL	METALUX	24FP4735C	41 / 3500K / 4591 / 80	UNV	EL14W EM PACK WHERE INDICATED
F2	2X2 FLAT PANEL	METALUX	22FP3235C	29 / 3500K / 3307 / 80	UNV	EL14W EM PACK WHERE INDICATED
F3	2X4 TROFFER	LITHONIA	ENVX 2X4 HRG 6000LM 80CRI 35K MIN1 EZT MVOLT	50 / 3500K / 6000 / 80	UNV	EL15WLCP EM PACK WHERE INDICATED
X1	LED EDGE-LIT EXIT SIGN	LITHONIA	LRP 1/2 RC/RMR 120/277 EL N	2W	UNV	SHIP WITH ALL MOUNTING OPTIONS AND DIRECTIONAL INDICATORS

ELECTRICAL GENERAL NOTES

1. ALL WORK SHALL COMPLY WITH REQUIREMENTS OF THE NATIONAL ELECTRIC CODE, BUILDING DEPARTMENT, BUILDING MANAGEMENT, ALL AUTHORITIES HAVING JURISDICTION, AND APPLICABLE NATIONAL, STATE, AND LOCAL CODES. LAWS AND REGULATIONS GOVERNING OR RELATING TO ANY PORTION OF THIS WORK SHALL BE INCORPORATED INTO AND MADE A PART OF THESE SPECIFICATIONS. CONTRACTOR IS TO INFORM THE ENGINEER OF ANY EXISTING WORK OR MATERIALS WHICH VIOLATE ANY OF THE ABOVE LAWS AND REGULATIONS. ANY WORK DONE BY THE CONTRACTOR CAUSING SUCH VIOLATION OF LAWS AND REGULATIONS SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE BY THIS CONTRACTOR AND AT NO EXPENSE TO THE OWNER.
2. PRIOR TO SUBMISSION OF BID, THIS CONTRACTOR SHALL VISIT THE JOB SITE TO ASCERTAIN THE ACTUAL FIELD CONDITIONS AS THEY RELATED TO THE WORK AS INDICATED ON THE DRAWINGS AND DESCRIBED HEREIN. DISCREPANCIES, IF ANY, SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION PRIOR TO SUBMISSION OF BID, AND, IF NOT RESOLVED TO SATISFACTION, SHALL BE SUBMITTED AS A WRITTEN QUALIFICATION OF THE BID. SUBMISSION OF A BID SHALL BE EVIDENCE THAT SITE VERIFICATION HAS BEEN PERFORMED AS DESCRIBED ABOVE.
3. DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENT OF WORK AND APPROXIMATE LOCATION OF EQUIPMENT. REFER TO ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS AND COORDINATE FINAL LOCATIONS OF SWITCHES, LIGHT FIXTURES, RECEPTACLES, ETC. WORK SHALL BE COORDINATED WITH OTHER TRADES TO AVOID CONFLICTS. IF A CONFLICT OCCURS IN THE SPECIFICATIONS AND/OR ON THE DRAWINGS, THE MORE STRINGENT SITUATION SHALL APPLY.
4. PRIOR TO SUBMISSION OF BID, THIS CONTRACTOR SHALL REVIEW ALL DRAWINGS OF THE ENTIRE PROJECT INCLUDING GENERAL CONSTRUCTIONS, DEMOLITION, ARCHITECTURAL, MECHANICAL, ELECTRICAL, TELECOM/AV/SECURITY, PLUMBING, AND FIRE PROTECTION AND SHALL INCLUDE ANY WORK REQUIRED IN THE BID WHICH IS INDICATED OR IMPLIED TO BE PERFORMED BY THIS TRADE IN OTHER SECTIONS OF THE WORK.
5. ANY EQUIPMENT, PARTS, MATERIALS, ACCESSORIES, OR LABOR THAT IS NECESSARY FOR PROPER PERFORMANCE OF THE ELECTRICAL WORK, ALTHOUGH NOT SPECIFICALLY MENTIONED HEREIN, OR SHOWN ON THE DRAWINGS, SHALL BE FURNISHED AND INSTALLED AS IF CALLED FOR IN DETAIL WITHOUT ADDITIONAL COST.
6. THIS CONTRACTOR SHALL SUBMIT FOR APPROVAL, A PLAN INDICATING THE SIZE AND LOCATION OF ALL ACCESS DOORS REQUIRED FOR OPERATION AND MAINTENANCE OF ALL CONCEALED EQUIPMENT, DEVICES, JUNCTION BOXES, PULL BOXES, ETC. THIS CONTRACTOR SHALL ARRANGE FOR FURNISHING AND INSTALLATION OF ALL ACCESS DOORS IN FINISHED CONSTRUCTION AND INCLUDE COSTS IN THE BID.
7. REMOVAL, TEMPORARY CONNECTIONS, AND RELOCATION OF CERTAIN EXISTING WORK WILL BE NECESSARY FOR THE INSTALLATION OF THE NEW SYSTEMS. ALL EXISTING CONDITIONS ARE NOT COMPLETELY DETAILED ON THE DRAWINGS. THE CONTRACTOR SHALL SURVEY THE SITE AND MAKE ALL NECESSARY CHANGES REQUIRED BASED ON EXISTING CONDITIONS FOR PROPER INSTALLATION OF NEW WORK.
8. PLAN INSTALLATION OF NEW WORK AND CONNECTIONS TO EXISTING WORK TO ENSURE MINIMUM INTERFERENCE WITH REGULAR OPERATION OF EXISTING FACILITIES. ALL SYSTEM SHUTDOWNS AFFECTING OTHER AREAS SHALL BE ORGANIZED WITH BUILDING MANAGEMENT. PROVIDE TEMPORARY FEEDERS, CIRCUITRY, ETC., AS REQUIRED TO MINIMIZE DOWNTIME.
9. DISCONNECTS SHALL BE 'QUICK–BREAK' HEAVY DUTY TYPE IN NEMA 1 ENCLOSURE FUSED OR UN–FUSED AS INDICATED ON THE DRAWINGS. FUSES FOR SWITCHES SHALL BE CURRENT LIMITING TYPE WITH AN INTERRUPTING CAPACITY OF 200,000 RMS AMPERES AND OF THE CONTINUOUS CURRENT RATING AS SHOWN ON THE DRAWINGS.
10. CIRCUIT BREAKERS SHALL BE 'THERMAL MAGNETIC' TYPE, QUICK–MAKE, QUICK–BREAK WITH NON–WELDING CONTACTS COMPENSATED FOR AMBIENT TEMPERATURES AND SHALL HAVE A MINIMUM SHORT CIRCUIT RATING OF 10,000 AMPERES SYMMETRICAL FOR 120/208V PANELS AND 14,000 AMPERES SYMMETRICAL FOR 277/480V PANELS OR HIGHER WHERE NOTES.
11. CONDUIT SHALL BE RIGID THREADED REGARDLESS OF SIZE IN LOCATIONS PER PROJECT SPECIFICATIONS.
12. ALL CONDUCTORS SHALL BE COPPER, TYPE THHN/THWN INSULATED. ALL CONDUCTORS SHALL HAVE 600 VOLT RATED INSULATION, UNLESS OTHERWISE NOTED. UNLESS SPECIFIED ALL WIRE #10 AWG AND SMALLER SHALL BE SOLID CONDUCTORS AND 8 AWG AND LARGER SHALL BE STRANDED.
13. BRANCH CIRCUIT WIRE SIZE: THE MINIMUM WIRE SIZE FOR BRANCH CIRCUITS SHALL BE NO. 12 AWG EXCEPT 120V CIRCUITS OVER 80 FEET IN LENGTH SHALL BE 10 AWG.
14. PULL BOXES, JUNCTION BOXES, AND OUTLET BOXES SHALL BE MANUFACTURED FROM GALVANIZED INDUSTRY STANDARD SHALL STEEL.
15. PROVIDE PULL BOXES AND JUNCTION BOXES IN LONG STRAIGHT RUNS OF RACEWAY TO ASSURE THAT CABLES ARE NOT DAMAGED WHEN THEY ARE PULLED, TO FULFILL REQUIREMENTS AS TO THE NUMBER OF BENDS PERMITTED IN RACEWAY BETWEEN CABLE ACCESS POINTS, THE ACCESSIBILITY OF CABLE JOINTS AND SPLICES, AND THE APPLICATION OF CABLE SUPPORTS.
16. PULL BOXES AND JUNCTION BOXES SHALL BE SIZED SO THAT THE MINIMUM BENDING RADIUS CRITERIA SPECIFIED FOR THE WIRES AND CABLE ARE MAINTAINED.
17. ALL EQUIPMENT, DEVICE BOXES, JUNCTION BOXES, PULL BOXES, AND OUTLET BOXES SHALL BE INSTALLED SO AS TO ALLOW ACCESS TO THE BOX. IF NECESSARY AND APPROVED BY OWNER/ENGINEER, PROVIDE ACCESS DOOR OR COVER PLATES IN AREAS WHERE UNOBSTRUCTED ACCESS IS NOT POSSIBLE.
18. OPENINGS AROUND ELECTRICAL PENETRATION THROUGH FIRE RESISTANCE RATED WALL, PARTITIONS, FLOOR OR CEILING SHALL BE FIRE STOPPED USING APPROVED METHODS. SEALANT SHALL BE RATED FOR THREE (3) HOURS.
19. FOR HEIGHTS OF OUTLETS REFER TO DETAILS SHEET. EXCEPTIONS APPLY AT JUNCTION BOXES OF DIFFERENT WALL FINISH MATERIALS, ON MOLDING OR BREAK IN WALL SURFACE, IN VIOLATION OF CODE REQUIREMENTS, AS NOTED OR DIRECTED.
20. PROVIDE WEIGHTS, LOCATIONS, AND DIMENSIONS OF EQUIPMENT IN EXCESS OF 200 LBS. SUPPORTED ON FLOOR OR HUNG FROM BUILDING STRUCTURE TO BASE BUILDING STRUCTURAL ENGINEER FOR APPROVAL PRIOR TO INSTALLATION.
21. THE ELECTRICAL CONTRACTOR SHALL COORDINATE HIS WORK WITH HVAC, PLUMBING, FIRE PROTECTION, TELECOM/AV/SECURITY, AND OTHER TRADES FOR EXACT LOCATION OF ALL MOTOR AND CONTROL DEVICES, BACK BOXES, AND CONDUIT REQUIREMENTS. LOCATIONS AS SHOWN ON ELECTRICAL DRAWINGS ARE APPROXIMATE.
22. EXTERIOR RECEPTACLES SHALL BE PROVIDED WITH WEATHERPROOF DIE CAST ALUMINUM LOCAKBLE "WHILE IN USE" COVERS.
23. ALL FIRE ALARM NOTIFICATION APPLIANCES SHALL BE "RED."

ELECTRICAL LIGHTING NOTES

A. FOR EXACT ELEVATION, LOCATION, QUANTITY AND SPECIFICATIONS OF LIGHTING FIXTURES AND SWITCHES REFER TO ARCHITECTURAL DRAWINGS AND COORDINATE WITH ARCHITECT IN THE FIELD.

B. LIGHTING FIXTURES SHALL BE CIRCUITED IN ACCORDANCE WITH CIRCUIT NUMBER INDICATED ADJACENT TO EACH FIXTURE. CIRCUITRY MAY BE SHOWN IN CERTAIN INSTANCES.

C. ALL JUNCTION OR OUTLET BOXES SHALL BE INSTALLED SO AS TO ALLOW ACCESS TO COVER. PROVIDE ARCHITECT APPROVED ACCESS DOORS OR PLATES AS REQUIRED IN AREAS WHERE UNOBSTRUCTED ACCESS TO BOX OR OUTLET IS NOT POSSIBLE.

D. PRIOR TO ORDERING LIGHTING FIXTURES, COORDINATE WITH ARCHITECTURAL DRAWINGS AND SPECIFICATIONS. IF DISCREPANCIES EXIST BETWEEN ARCHITECTURAL AND ENGINEERING INFORMATION OBTAIN CLARIFICATION PRIOR TO PROCEEDING.

E. CIRCUIT NUMBERS ARE INDICATED FOR INTENT ONLY. THE ELECTRICAL CONTRACTOR SHALL ADJUST ACCORDINGLY IN THE FIELD TO BALANCE THE CIRCUITS EVENLY ON ALL PHASES.

F. MULTIPLE SWITCHES SHOWN IN SAME LOCATION SHALL BE GANGED TOGETHER WITH A COMMON FACEPLATE.

G. ALL LIGHTING FIXTURES CONTROLLED BY DIMMER SWITCHES SHALL BE PROVIDED WITH DEDICATED NEUTRAL CONDUCTOR.

H. ALL LIGHT FIXTURES DESIGNATED WITH "EM" SHALL BE PROVIDED WITH EMERGENCY BATTERY PACK CAPABLE OF FULL LIGHT OUTPUT FOR MINIMUM 90 MINUTES.

I. EXTERIOR LIGHTING SHALL BE CONTROLLED BY PHOTOCELLS AND TIMECLOCKS WITH A MANUAL OVERRIDE SWITCHES LOCATED IN ELECTRICAL ROOMS.

ELECTRICAL DEMOLITION NOTES

1. GENERAL
   - 1.1. SEE HVAC DRAWINGS FOR HVAC EQUIPMENT TO BE REMOVED. REMOVE ALL ASSOCIATED CONDUIT, WIRE, SWITCHES, BOXES ASSOCIATED WITH EQUIPMENT TO BE REMOVED.
   - 1.2. SEE PLUMBING DRAWINGS FOR PLUMBING EQUIPMENT TO BE REMOVED.
   - 1.3. FOR EQUIPMENT TO BE REMOVED DISCONNECT POWER AND REMOVED CONDUIT/WIRING BACK TO PANEL.
   - 1.4. REMOVE ALL DRYWALL MOUNTED DUPLEX RECEPTACLES AND ASSOCIATED CIRCUITING. WHERE OUTLETS ARE REMOVED AND THROUGH CIRCUITING SERVE OTHER OUTLETS BEYOND THE DEMOLITION AREA, RESTORE OR MAINTAIN THROUGH CIRCUITING.
   - 1.5. CONTRACTOR SHALL PROVIDE LABOR AND MATERIALS AS REQUIRED TO BUNDLE, NEATEN, AND CLEAN UP EXISTING LOOSE CABLING INCLUDING BUT NOT LIMITED TO LOW VOLTAGE CABLING, FIRE ALARM CABLING, ETC. WHERE CEILINGS ARE EXPOSED, CONTRACTOR SHALL REINSTALL ALL EXISTING CABLING IN EMT CONDUIT AS CLOSE TO UNDERSIDE OF STRUCTURE AS POSSIBLE.
   - 1.6. REMOVE ALL CLIPS AND HANGERS FROM CEILING SLAB AND REPAIR IF REQUIRED.
2. EXISTING CONDUIT
   - 2.1. THIS CONTRACTOR SHALL REMOVE ALL WALL CONDUITS, BOXES, CEILING CONDUITS LEFT AFTER WALL DEMOLITION. REMOVE ALL WIRING BACK TO EXISTING PANELS.
3. EXISTING ELECTRICAL PANELS
   - 3.1. CONTRACTOR SHALL USE CARE IN DISCONNECTING WIRING FROM PANELS AND CIRCUIT BREAKERS. CAREFULLY STORE ALL PANEL COVERS AS CONTRACTOR WILL BE RESPONSIBLE FOR COMPLETE USABLE PANEL INSTALLATION.
4. EXISTING LIGHTING FIXTURES
   - 4.1. REMOVE ALL ASSOCIATED CONDUIT, WIRE, SWITCHES, BOXES ASSOCIATED WITH EQUIPMENT TO BE REMOVED.
   - 4.2. DISCONNECT POWER AND REMOVE CONDUIT/WIRING BACK TO PANEL FOR EQUIPMENT TO BE REMOVED.
5. EXISTING FIRE ALARM
   - 5.1. NO EXISTING SMOKE DETECTOR, PUBLIC ADDRESS SPEAKER, FIRE ALARM BOX OR SIMILAR SERVICES INCLUDING THE ASSOCIATED WIRING SHALL BE DAMAGED DURING DEMOLITION AND SUBSEQUENT CONSTRUCTION.
   - 5.2. NO ACTIVE SMOKE DETECTOR SHALL BE COVERED OR OTHERWISE RENDERED INEFFECTIVE FOR ITS INTENDED PURPOSE.
   - 5.3. ALL ACTIVE SMOKE DETECTION, PUBLIC ADDRESS AND FIRE ALARM SYSTEM SHALL BE MAINTAINED BY THE CONTRACTOR DURING CONSTRUCTION. ANY DAMAGES TO THESE SYSTEMS AS A RESULT OF CONSTRUCTION, SHALL BE REPAIRED BY THE CONTRACTOR IMMEDIATELY. REPAIRS SHALL BE MADE TO THE SATISFACTION OF THE OWNER AND CONSTRUCTION MANAGER.
   - 5.4. DURING DEMOLITION WORK CONTRACTOR IS TO PROTECT FIRE ALARM DEVICES AGAINST DUST AND OTHER PARTICLES.
6. TEMPORARY LIGHTING AND POWER
   - 6.1. FURNISH AND INSTALL WIRING FOR ADEQUATE LIGHT AND SMALL POWER TOOLS FOR THE PROJECT.
   - 6.2. MAINTAIN THE SYSTEM IN GOOD AND ADEQUATE WORKING CONDITIONS AT ALL TIMES.
   - 6.3. FURNISH AND INSTALL ALL LAMPS, BREAKERS, AND FUSING, AS IS NECESSARY.
   - 6.4. REPLACE BURNED OUT LAMPS, DEFECTIVE BREAKERS, OR BLOWN FUSES.
   - 6.5. TEMPORARY MAINTENANCE FOR THE ABOVE SHALL BE BASED ON OPERATION 1/2 HOUR BEFORE START OF FIRST TRADE THROUGH 1/2 HOUR AFTER END OF LAST TRADE NORMAL WORK DAY.
   - 6.6. TEMPORARY LIGHT AND POWER SHALL BE INSTALLED IN ACCORDANCE WITH CODES AND AUTHORITIES HAVING JURISDICTION.

ELECTRICAL POWER NOTES

A. CONTRACTOR SHALL COORDINATE WITH ARCHITECTURAL DRAWINGS AND ARCHITECT IN FIELD FOR EXACT LOCATION, QUANTITY AND ELEVATION OF POWER AND TELEPHONE/DATA OUTLETS PRIOR TO INSTALLATION.

B. RECEPTACLES SHALL BE CIRCUITED IN ACCORDANCE WITH CIRCUIT NUMBER INDICATED ADJACENT TO EACH DEVICE. CIRCUITRY MAY BE SHOWN IN CERTAIN INSTANCES.

C. CIRCUIT NUMBERS ARE INDICATED FOR INTENT ONLY. THE ELECTRICAL CONTRACTOR SHALL ADJUST ACCORDINGLY IN THE FIELD, TO BALANCE THE CIRCUITS EVENLY ON ALL PHASES.

D. EXACT LOCATIONS FOR ALL MECHANICAL EQUIPMENT SHALL BE DETERMINED FROM THE MECHANICAL DRAWINGS. COORDINATE WITH MECHANICAL CONTRACTOR IN FIELD.

E. WHERE APPLICABLE, RUN 1" EMPTY CONDUIT TO NEAREST ACCESSIBLE HUNG CEILING WITH GROMMET END FITTINGS FOR TELEPHONE/DATA & PROVIDE DRAG LINES FOR PULLING CABLE.

F. COORDINATE THE HARDWARE REQUIREMENTS FOR THE DOORS WITH THE ARCHITECT & SECURITY CONSULTANT PRIOR TO INSTALLATION (I.E. ELECTRIC HINGES, CARD READERS, ELECTRIC STRIKES, MAGNETIC SWITCHES, POWER SUPPLIES, ETC.) PROVIDE A BACKBOX WITH 1" CONDUIT WITH DRAG LINES STUBBED UP ABOVE CEILING FOR ALL LOW VOLTAGE DEVICES SUCH AS CARD READERS, MAGNETIC LOCKS, ELECTRIC LOCKSET, ELECTRIC STRIKE, ETC.

G. ALL BRANCH CIRCUIT HOME RUNS SHALL BE 2#12 & 1#12 GND IN 3/4" CONDUIT IN LOCATIONS PERMITTED PER PROJECT SPECIFICATIONS TO PANEL & CIRCUIT INDICATED. MAXIMUM OF THREE HOME RUNS PER CONDUIT.

H. MULTIWIRE BRANCH CIRCUITS SUPPLYING POWER TO FURNITURE PARTITIONS SHALL BE PROVIDED WITH MEANS TO DISCONNECT POWER SIMULTANEOUSLY.

I. ELECTRICAL CONTRACTOR SHALL PROVIDE A BACKBOX AND 1" EMPTY CONDUIT WITH DRAG LINE FOR ALL IN–WALL WIRED KEYPADS AND TOUCHSCREENS.

J. ELECTRICAL CONTRACTOR SHALL REFER TO MECHANICAL DRAWINGS, PLUMBING DRAWINGS, AND COORDINATE WITH MECHANICAL CONTRACTOR AND PLUMBING CONTRACTOR FOR EXACT LOCATION OF MECHANICAL AND PLUMBING EQUIPMENT. PROVIDE DISCONNECT SWITCHES AND CIRCUITING SIZED PER THEIR EQUIPMENT SCHEDULES.

K. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH AUDIO/VISUAL, TELECOM, AND SECURITY DRAWINGS AND CONTRACTORS FOR ANY ADDITIONAL BACKBOX, CONDUIT, AND POWER REQUIREMENTS.

L. ELECTRICAL CONTRACTOR SHALL FIELD COORDINATE THE VOLTAGE, PHASE, AND HORSEPOWER OF ALL ELECTRICAL EQUIPMENT PURCHASED AND SUPPLIED TO THE SITE. ELECTRICAL CONTRACTOR SHALL SUPPLY FUSES OR CIRCUIT BREAKERS PER MANUFACTURER'S RECOMMENDATIONS WHERE NECESSARY.

M. ELECTRICAL CONTRACTOR SHALL PROVIDE A COMPLETE TYPEWRITTEN PANEL SCHEDULE DIRECTORY IN ANY PANEL UNDERGOING WORK AT PROJECT COMPLETION OF ALL CIRCUITS UTILIZED, IDENTIFYING THE LOADS THAT THEY ARE SERVING.

N. ALL JUNCTION BOXES AND DISCONNECT SWITCH LOCATIONS SHALL BE COORDINATED IN THE FIELD. JUNCTION BOXES AND DISCONNECT SWITCHES FOR MECHANICAL EQUIPMENT ABOVE CEILINGS SHALL BE INSTALLED SO THAT THEY ARE ACCESSIBLE FROM ACCESS PANELS. COORDINATE WITH MECHANICAL CONTRACTOR.

O. ELECTRICAL CONTRACTOR SHALL INSTALL ALL STARTERS, AND VARIABLE FREQUENCY DRIVES (FURNISHED BY MECHANICAL CONTRACTOR) AND PROVIDE CONDUIT AND WIRING TO AND FROM STARTERS AND VFDs TO MECHANICAL EQUIPMENT AND/OR ITS ASSOCIATED DISCONNECT SWITCHES. COORDINATE WITH MECHANICAL CONTRACTOR FOR EXACT LOCATIONS AND REQUIREMENTS.

FIRE ALARM COORDINATION NOTES

1. ALL FIRE ALARM WORK SHALL BE UNDER THE ELECTRICAL CONTRACT.
2. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL POWER REQUIREMENTS TO FIRE ALARM EQUIPMENT–DEVICES REGARDLESS IF ONLY INDICATED ON FA–DRAWINGS.
3. ELECTRICAL CONTRACTOR SHALL COORDINATE WIRING OF EQUIPMENT–DEVICES FURNISHED AND/OR INSTALLED BY OTHER DIVISIONS ASSOCIATED WITH THE FA SYSTEM.
4. ELECTRICAL CONTRACTOR SHALL COORDINATE INTERFACES–CONNECTIONS TO EQUIPMENT PROVIDED BY OTHER DIVISIONS ASSOCIATED WITH THE FA SYSTEM.
5. REFER TO FIRE ALARM DRAWINGS/SPECS FOR ADDITIONAL COORDINATION REQUIREMENTS.

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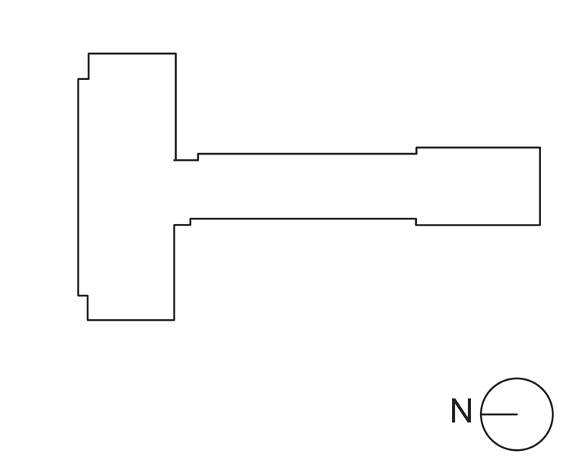
KEY PLAN



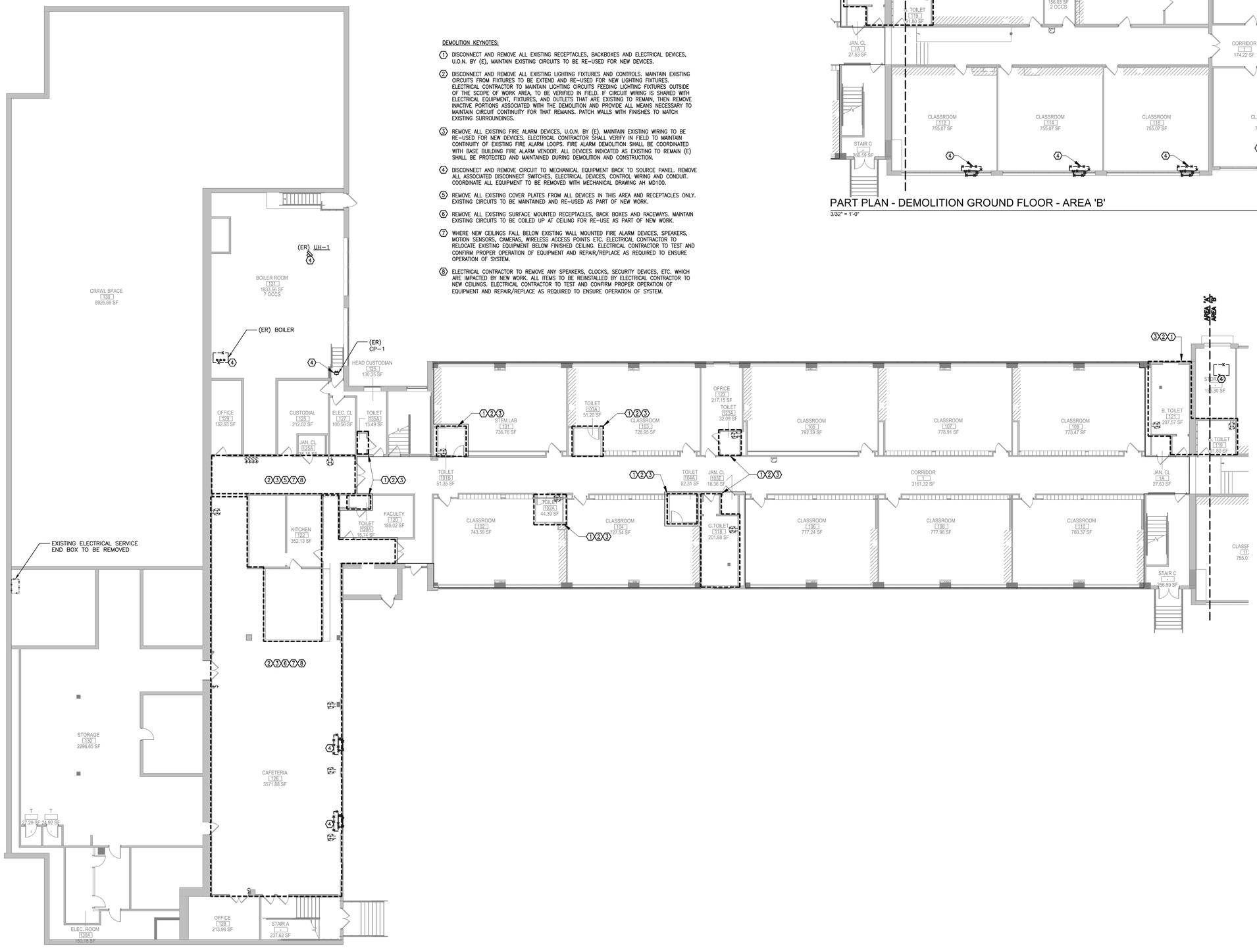
PROJECT NO.	66-03-01-03-0-001-024
MEMASI PROJECT NO.	102-2301

ELECTRICAL COVER SHEET

AH E001

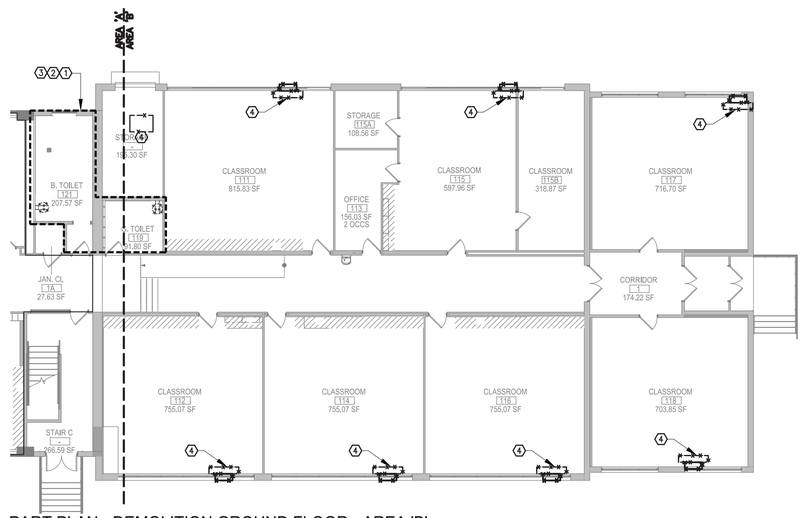
DEMOLITION KEYNOTES:

1. DISCONNECT AND REMOVE ALL EXISTING RECEPTACLES, BACKBOXES AND ELECTRICAL DEVICES, U.O.N. BY (E), MAINTAIN EXISTING CIRCUITS TO BE RE-USED FOR NEW DEVICES.
2. DISCONNECT AND REMOVE ALL EXISTING LIGHTING FIXTURES AND CONTROLS. MAINTAIN EXISTING CIRCUITS FROM FIXTURES TO BE EXTEND AND RE-USED FOR NEW LIGHTING FIXTURES. ELECTRICAL CONTRACTOR TO MAINTAIN LIGHTING CIRCUITS FEEDING LIGHTING FIXTURES OUTSIDE OF THE SCOPE OF WORK AREA, TO BE VERIFIED IN FIELD. IF CIRCUIT WIRING IS SHARED WITH ELECTRICAL EQUIPMENT, FIXTURES, AND OUTLETS THAT ARE EXISTING TO REMAIN, THEN REMOVE INACTIVE PORTIONS ASSOCIATED WITH THE DEMOLITION AND PROVIDE ALL MEANS NECESSARY TO MAINTAIN CIRCUIT CONTINUITY FOR THAT REMAINS. PATCH WALLS WITH FINISHES TO MATCH EXISTING SURROUNDINGS.
3. REMOVE ALL EXISTING FIRE ALARM DEVICES, U.O.N. BY (E), MAINTAIN EXISTING WIRING TO BE RE-USED FOR NEW DEVICES. ELECTRICAL CONTRACTOR SHALL VERIFY IN FIELD TO MAINTAIN CONTINUITY OF EXISTING FIRE ALARM LOOPS. FIRE ALARM DEMOLITION SHALL BE COORDINATED WITH BASE BUILDING FIRE ALARM VENDOR. ALL DEVICES INDICATED AS EXISTING TO REMAIN (E) SHALL BE PROTECTED AND MAINTAINED DURING DEMOLITION AND CONSTRUCTION.
4. DISCONNECT AND REMOVE CIRCUIT TO MECHANICAL EQUIPMENT BACK TO SOURCE PANEL. REMOVE ALL ASSOCIATED DISCONNECT SWITCHES, ELECTRICAL DEVICES, CONTROL WIRING AND CONDUIT. COORDINATE ALL EQUIPMENT TO BE REMOVED WITH MECHANICAL DRAWING AH MD100.
5. REMOVE ALL EXISTING COVER PLATES FROM ALL DEVICES IN THIS AREA AND RECEPTACLES ONLY. EXISTING CIRCUITS TO BE MAINTAINED AND RE-USED AS PART OF NEW WORK.
6. REMOVE ALL EXISTING SURFACE MOUNTED RECEPTACLES, BACK BOXES AND RACEWAYS. MAINTAIN EXISTING CIRCUITS TO BE COILED UP AT CEILING FOR RE-USE AS PART OF NEW WORK.
7. WHERE NEW CEILINGS FALL BELOW EXISTING WALL MOUNTED FIRE ALARM DEVICES, SPEAKERS, MOTION SENSORS, CAMERAS, WIRELESS ACCESS POINTS ETC. ELECTRICAL CONTRACTOR TO RELOCATE EXISTING EQUIPMENT BELOW FINISHED CEILING. ELECTRICAL CONTRACTOR TO TEST AND CONFIRM PROPER OPERATION OF EQUIPMENT AND REPAIR/REPLACE AS REQUIRED TO ENSURE OPERATION OF SYSTEM.
8. ELECTRICAL CONTRACTOR TO REMOVE ANY SPEAKERS, CLOCKS, SECURITY DEVICES, ETC. WHICH ARE IMPACTED BY NEW WORK. ALL ITEMS TO BE REINSTALLED BY ELECTRICAL CONTRACTOR TO NEW CEILINGS. ELECTRICAL CONTRACTOR TO TEST AND CONFIRM PROPER OPERATION OF EQUIPMENT AND REPAIR/REPLACE AS REQUIRED TO ENSURE OPERATION OF SYSTEM.



PART PLAN - DEMOLITION GROUND FLOOR - AREA 'A'

3/32" = 1'-0"



PART PLAN - DEMOLITION GROUND FLOOR - AREA 'B'

3/32" = 1'-0"

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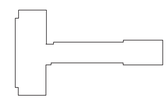
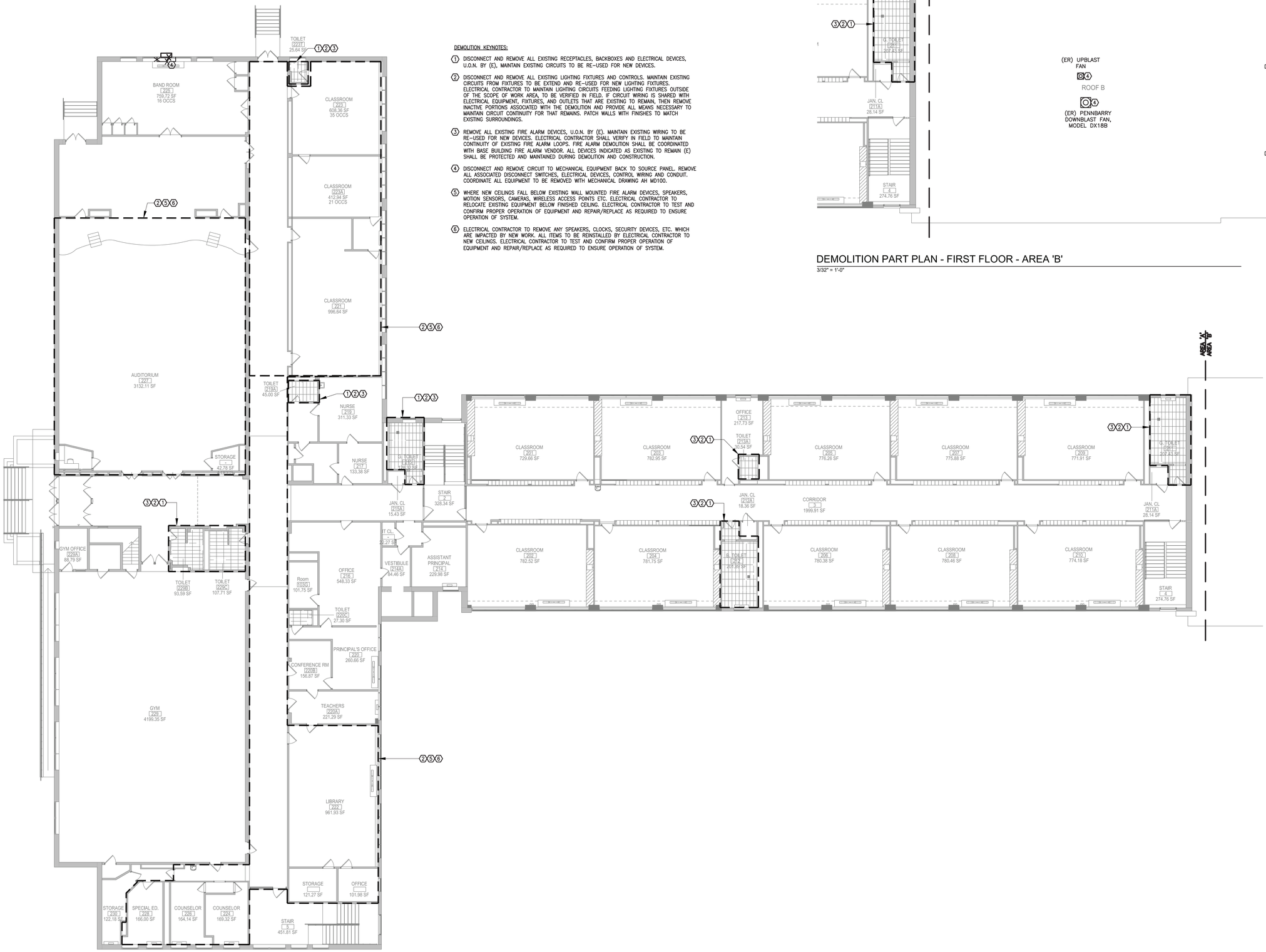


PROJECT NO. 66-03-01-03-0-001-024

MEMASI PROJECT NO. 102-2301

ELECTRICAL DEMOLITION PLAN - GROUND FLOOR

AH ED100



DEMOLITION PART PLAN - FIRST FLOOR - AREA 'A'

3/32" = 1'-0"

DEMOLITION KEYNOTES:

1. DISCONNECT AND REMOVE ALL EXISTING RECEPTACLES, BACKBOXES AND ELECTRICAL DEVICES, U.O.N. BY (E), MAINTAIN EXISTING CIRCUITS TO BE RE-USED FOR NEW DEVICES.
2. DISCONNECT AND REMOVE ALL EXISTING LIGHTING FIXTURES AND CONTROLS. MAINTAIN EXISTING CIRCUITS FROM FIXTURES TO BE EXTEND AND RE-USED FOR NEW LIGHTING FIXTURES. ELECTRICAL CONTRACTOR TO MAINTAIN LIGHTING CIRCUITS FEEDING LIGHTING FIXTURES OUTSIDE OF THE SCOPE OF WORK AREA, TO BE VERIFIED IN FIELD. IF CIRCUIT WIRING IS SHARED WITH ELECTRICAL EQUIPMENT, FIXTURES, AND OUTLETS THAT ARE EXISTING TO REMAIN, THEN REMOVE INACTIVE PORTIONS ASSOCIATED WITH THE DEMOLITION AND PROVIDE ALL MEANS NECESSARY TO MAINTAIN CIRCUIT CONTINUITY FOR THAT REMAINS. PATCH WALLS WITH FINISHES TO MATCH EXISTING SURROUNDINGS.
3. REMOVE ALL EXISTING FIRE ALARM DEVICES, U.O.N. BY (E). MAINTAIN EXISTING WIRING TO BE RE-USED FOR NEW DEVICES. ELECTRICAL CONTRACTOR SHALL VERIFY IN FIELD TO MAINTAIN CONTINUITY OF EXISTING FIRE ALARM LOOPS. FIRE ALARM DEMOLITION SHALL BE COORDINATED WITH BASE BUILDING FIRE ALARM VENDOR. ALL DEVICES INDICATED AS EXISTING TO REMAIN (E) SHALL BE PROTECTED AND MAINTAINED DURING DEMOLITION AND CONSTRUCTION.
4. DISCONNECT AND REMOVE CIRCUIT TO MECHANICAL EQUIPMENT BACK TO SOURCE PANEL. REMOVE ALL ASSOCIATED DISCONNECT SWITCHES, ELECTRICAL DEVICES, CONTROL WIRING AND CONDUIT. COORDINATE ALL EQUIPMENT TO BE REMOVED WITH MECHANICAL DRAWING AH MD100.
5. WHERE NEW CEILINGS FALL BELOW EXISTING WALL MOUNTED FIRE ALARM DEVICES, SPEAKERS, MOTION SENSORS, CAMERAS, WIRELESS ACCESS POINTS ETC. ELECTRICAL CONTRACTOR TO RELOCATE EXISTING EQUIPMENT BELOW FINISHED CEILING. ELECTRICAL CONTRACTOR TO TEST AND CONFIRM PROPER OPERATION OF EQUIPMENT AND REPAIR/REPLACE AS REQUIRED TO ENSURE OPERATION OF SYSTEM.
6. ELECTRICAL CONTRACTOR TO REMOVE ANY SPEAKERS, CLOCKS, SECURITY DEVICES, ETC. WHICH ARE IMPACTED BY NEW WORK. ALL ITEMS TO BE REINSTALLED BY ELECTRICAL CONTRACTOR TO NEW CEILINGS. ELECTRICAL CONTRACTOR TO TEST AND CONFIRM PROPER OPERATION OF EQUIPMENT AND REPAIR/REPLACE AS REQUIRED TO ENSURE OPERATION OF SYSTEM.

DEMOLITION PART PLAN - FIRST FLOOR - AREA 'B'

3/32" = 1'-0"

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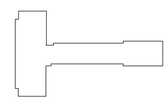


PROJECT NO. 66-03-01-03-0-001-024

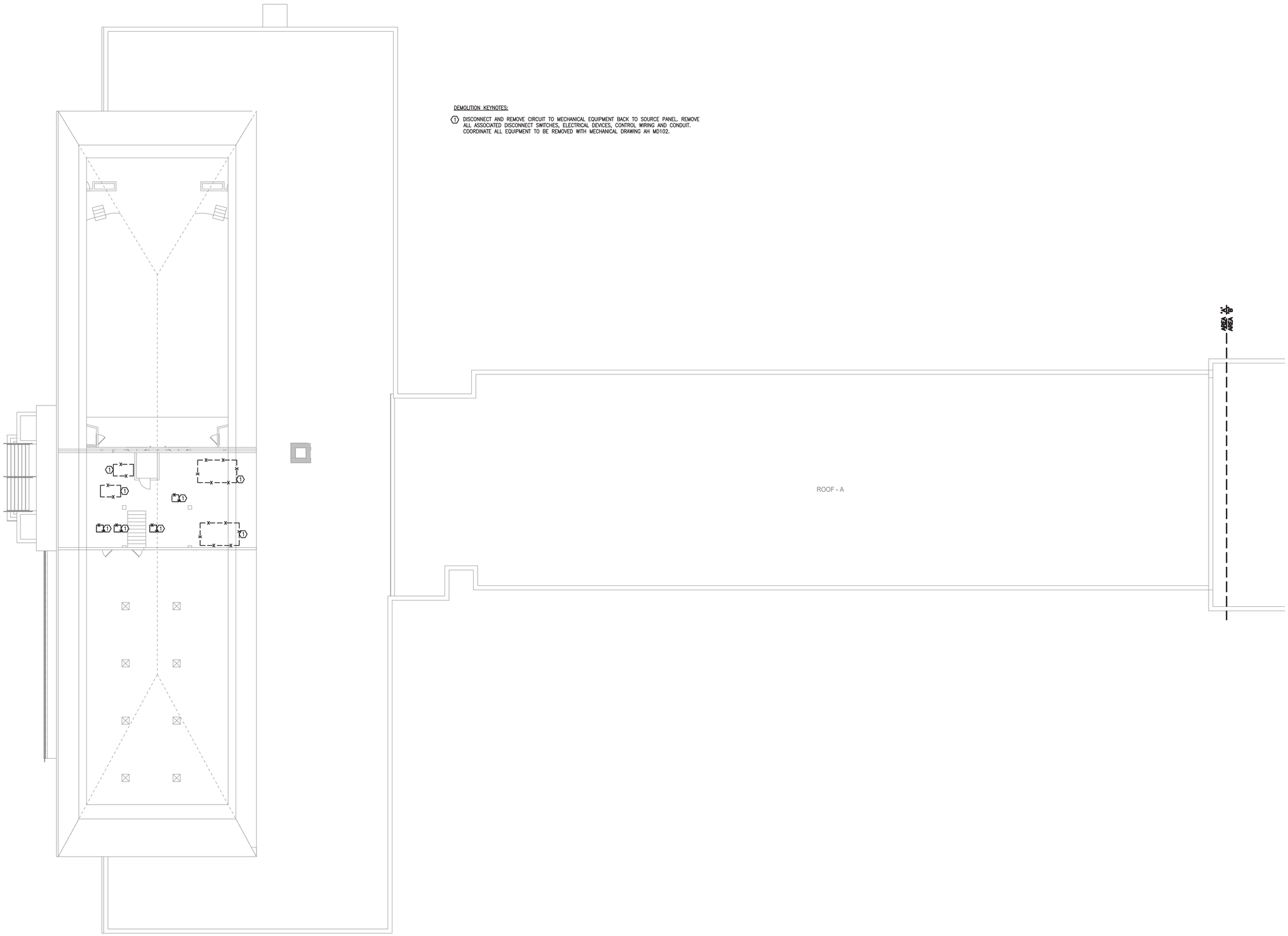
MEMASI PROJECT NO. 102-2301

ELECTRICAL DEMOLITION PLAN - FIRST FLOOR

AH ED101

DEMOLITION KEYNOTES:

1. DISCONNECT AND REMOVE CIRCUIT TO MECHANICAL EQUIPMENT BACK TO SOURCE PANEL. REMOVE ALL ASSOCIATED DISCONNECT SWITCHES, ELECTRICAL DEVICES, CONTROL WIRING AND CONDUIT. COORDINATE ALL EQUIPMENT TO BE REMOVED WITH MECHANICAL DRAWING AH MD102.



PART PLAN - ROOF - AREA 'A'

3/32" = 1'-0"

EASTCHESTER UNION FREE SCHOOL DISTRICT

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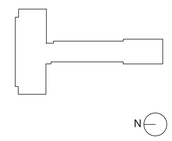

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PROJECT NO. 66-03-01-03-0-001-024

MEMASI PROJECT NO. 102-2301

ELECTRICAL DEMOLITION PLAN - ROOF

AH ED102

POWER NOTES:

1. ELECTRICAL CONTRACTOR TO CUT OUT AND REMOVE SELECT PORTIONS OF WALLS AS NEEDED TO SUIT NEW PANELS. PATCH WALLS WITH FINISHES TO MATCH EXISTING SURROUNDINGS AS REQUIRED.
2. ELECTRICAL CONTRACTOR SHALL REINSTALL ALL EXISTING CEILING MOUNTED SECURITY DEVICES, WIRELESS ACCESS POINTS, AND SPEAKERS TEMPORARILY SUPPORTED DURING CONSTRUCTION. ELECTRICAL CONTRACTOR SHALL TEST AND ENSURE PROPER FUNCTION OF THESE DEVICES/EQUIPMENT BEFORE & AFTER REINSTALLATION. ELECTRICAL CONTRACTOR SHALL REPLACE ANY DEVICES/EQUIPMENT DAMAGED DURING CONSTRUCTION. COORDINATE INSTALLATION WITH FINISHED CEILING. ELECTRICAL CONTRACTOR TO PROVIDE MARKED SURVEY DRAWINGS SHOWING LOCATION AND CONFIRMING FUNCTIONAL STATUS PRIOR TO ANY DEMOLITION WORK.
3. ELECTRICAL CONTRACTOR SHALL REPLACE ALL EXISTING FIRE ALARM DEVICES DURING CONSTRUCTION WITH NEW AND PROVIDE NEW DEVICES IN AREAS NOTED ON DRAWINGS.
4. WHERE MODIFICATIONS TO EXISTING PERIMETER COUNTERS ARE REQUIRED TO ACCOMMODATE MECHANICAL UNIT VENTILATORS OR FCU'S ELECTRICAL CONTRACTOR SHALL REMOVE ANY EXISTING RECEPTACLES AT AFFECTED COUNTER. ELECTRICAL CONTRACTOR SHALL ALSO MODIFY ALL ELECTRICAL CONDUIT INFRASTRUCTURE AT THESE LOCATIONS TO ALLOW FOR MECHANICAL INSTALLATIONS AND PROVIDE NEW CIRCUITS TO UNITS.
5. WITHIN NOTED AREA ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL A DEDICATED HARDWIRED CIRCUIT TO HAND DRYER.
6. WITHIN NOTED AREA, ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL RECEPTACLES AT EXISTING LOCATIONS WITH DEDICATED CIRCUITS BACK TO EXISTING SOURCE.
7. PROVIDE POWER TO ALL RESTROOM FIXTURES PER MANUFACTURE'S INSTALLATION REQUIREMENTS.

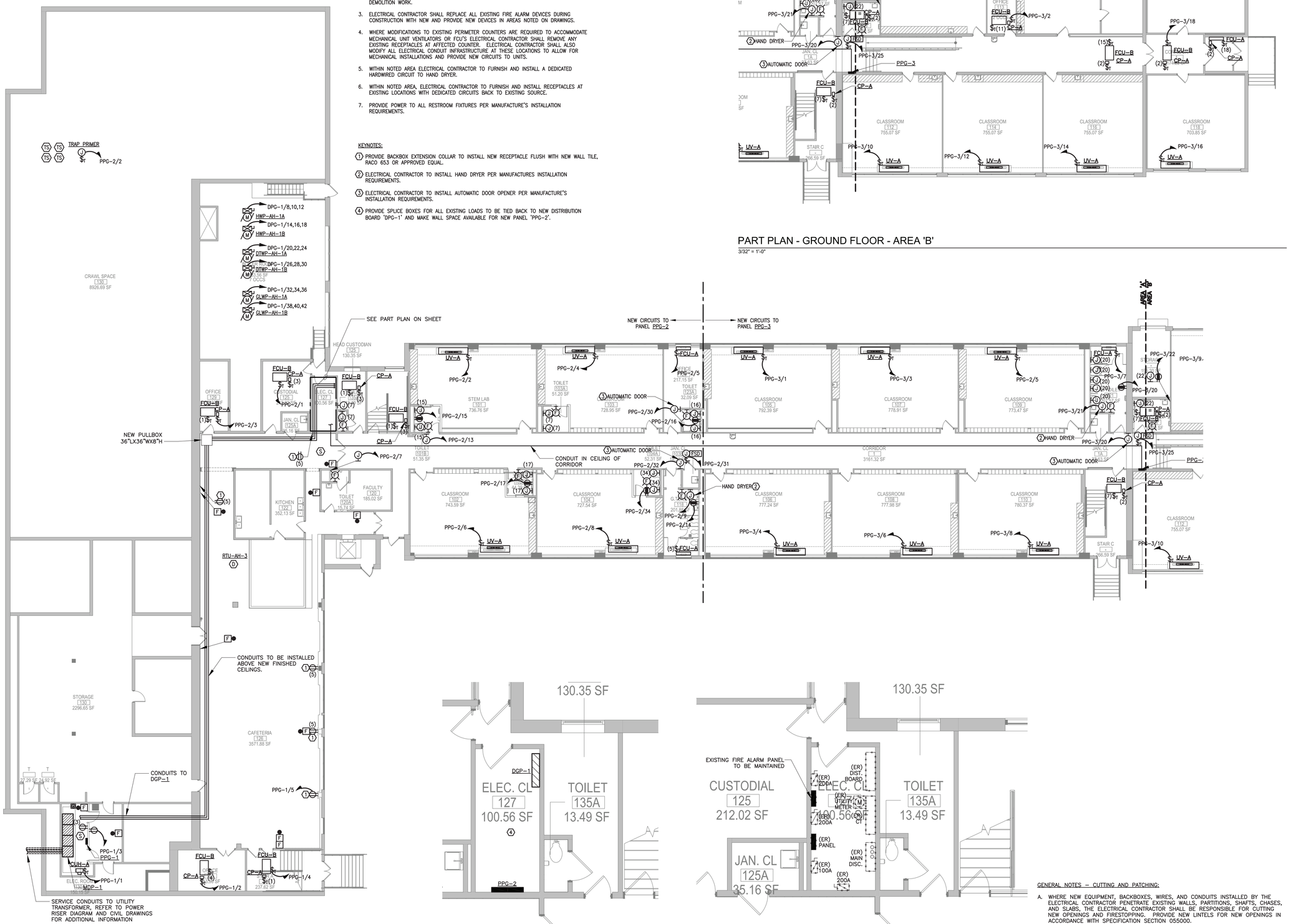
KEYNOTES:

(1) PROVIDE BACKBOX EXTENSION COLLAR TO INSTALL NEW RECEPTACLE FLUSH WITH NEW WALL TILE, RACO 653 OR APPROVED EQUAL.

(2) ELECTRICAL CONTRACTOR TO INSTALL HAND DRYER PER MANUFACTURES INSTALLATION REQUIREMENTS.

(3) ELECTRICAL CONTRACTOR TO INSTALL AUTOMATIC DOOR OPENER PER MANUFACTURE'S INSTALLATION REQUIREMENTS.

(4) PROVIDE SPLICE BOXES FOR ALL EXISTING LOADS TO BE TIED BACK TO NEW DISTRIBUTION BOARD "DPG-1" AND MAKE WALL SPACE AVAILABLE FOR NEW PANEL "PPG-2".



PART PLAN - GROUND FLOOR - AREA 'A'

3/32" = 1'-0"

PART PLAN - GROUND FLOOR - AREA 'B'

3/32" = 1'-0"

ELECTRICAL ROOM PART PLAN - NEW WORK

1/4" = 1'-0"

ELECTRICAL ROOM PART PLAN - DEMOLITION

1/4" = 1'-0"

GENERAL NOTES – CUTTING AND PATCHING:

A. WHERE NEW EQUIPMENT, BACKBOXES, WIRES, AND CONDUITS INSTALLED BY THE ELECTRICAL CONTRACTOR PENETRATE EXISTING WALLS, PARTITIONS, SHAFTS, CHASES, AND SLABS, THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR CUTTING NEW OPENINGS AND FIRESTOPPING. PROVIDE NEW LINTELS FOR NEW OPENINGS IN ACCORDANCE WITH SPECIFICATION SECTION 055000.

B. ELECTRICAL CONTRACTOR TO REMOVE AND REINSTALL CEILING TILES AS NEEDED TO FACILITATE THE MECHANICAL SCOPE OF WORK, EXCEPT IN AREAS WHERE CEILING REMOVAL/REPLACEMENT IS INDICATED AS GENERAL CONTRACTOR BASE SCOPE ON THE ARCHITECTURAL REFLECTED CEILING PLANS.

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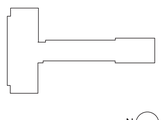
KEY PLAN



PROJECT NO. 66-03-01-03-0-001-024

MEMASI PROJECT NO. 102-2301

ELECTRICAL POWER PLAN - GROUND FLOOR

AH E100

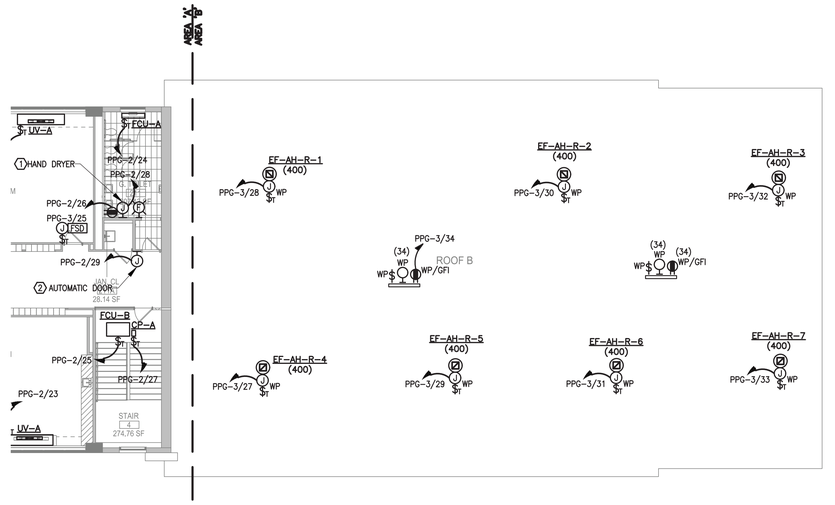
POWER NOTES:

1. ELECTRICAL CONTRACTOR TO CUT OUT AND REMOVE SELECT PORTIONS OF WALLS AS NEEDED TO SUIT NEW PANELS. PATCH WALLS WITH FINISHES TO MATCH EXISTING SURROUNDINGS AS REQUIRED.
2. ELECTRICAL CONTRACTOR SHALL REINSTALL ALL EXISTING CEILING MOUNTED SECURITY DEVICES, WIRELESS ACCESS POINTS, AND SPEAKERS TEMPORARILY SUPPORTED DURING CONSTRUCTION. ELECTRICAL CONTRACTOR SHALL TEST AND ENSURE PROPER FUNCTION OF THESE DEVICES/EQUIPMENT BEFORE & AFTER REINSTALLATION. ELECTRICAL CONTRACTOR SHALL REPLACE ANY DEVICES/EQUIPMENT DAMAGED DURING CONSTRUCTION. COORDINATE INSTALLATION WITH FINISHED CEILING. ELECTRICAL CONTRACTOR TO PROVIDE MARKED SURVEY DRAWINGS SHOWING LOCATION AND CONFIRMING FUNCTIONAL STATUS PRIOR TO ANY DEMOLITION WORK.
3. ELECTRICAL CONTRACTOR SHALL REPLACE ALL EXISTING FIRE ALARM DEVICES DURING CONSTRUCTION WITH NEW AND PROVIDE NEW DEVICES IN AREAS NOTED ON DRAWINGS.
4. WHERE MODIFICATIONS TO EXISTING PERIMETER COUNTERS ARE REQUIRED TO ACCOMMODATE MECHANICAL UNIT VENTILATORS OR FCU'S ELECTRICAL CONTRACTOR SHALL REMOVE ANY EXISTING RECEPTACLES AT AFFECTED COUNTER. ELECTRICAL CONTRACTOR SHALL ALSO MODIFY ALL ELECTRICAL CONDUIT INFRASTRUCTURE AT THESE LOCATIONS TO ALLOW FOR MECHANICAL INSTALLATIONS AND PROVIDE NEW CIRCUITS TO UNITS.
5. WITHIN NOTED AREA ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL A DEDICATED HARDWIRED CIRCUIT TO HAND DRYER.
6. WITHIN NOTED AREA, ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL RECEPTACLES AT EXISTING LOCATIONS WITH DEDICATED CIRCUITS BACK TO EXISTING SOURCE.

KEYNOTES:

(1) ELECTRICAL CONTRACTOR TO INSTALL HAND DRYER PER MANUFACTURE'S INSTALLATION REQUIREMENTS.

(2) ELECTRICAL CONTRACTOR TO INSTALL AUTOMATIC DOOR OPENER PER MANUFACTURE'S INSTLLATION REQUIREMENTS.



PART PLAN - FIRST FLOOR - AREA 'B'

3/32" = 1'-0"

PART PLAN - FIRST FLOOR - AREA 'A'

3/32" = 1'-0"

GENERAL NOTES – CUTTING AND PATCHING:

A. WHERE NEW EQUIPMENT, BACKBOXES, WIRES, AND CONDUITS INSTALLED BY THE ELECTRICAL CONTRACTOR PENETRATE EXISTING WALLS, PARTITIONS, SHAFTS, CHASES, AND SLABS, THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR CUTTING NEW OPENINGS AND FIRESTOPPING. PROVIDE NEW LINTELS FOR NEW OPENINGS IN ACCORDANCE WITH SPECIFICATION SECTION 055000.

B. ELECTRICAL CONTRACTOR TO REMOVE AND REINSTALL CEILING TILES AS NEEDED TO FACILITATE THE MECHANICAL SCOPE OF WORK, EXCEPT IN AREAS WHERE CEILING REMOVAL/REPLACEMENT IS INDICATED AS GENERAL CONTRACTOR BASE SCOPE ON THE ARCHITECTURAL REFLECTED CEILING PLANS.

EASTCHESTER UNION FREE SCHOOL DISTRICT

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NEW YORK, NY 10014

ISSUE	DATE
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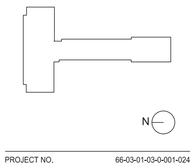
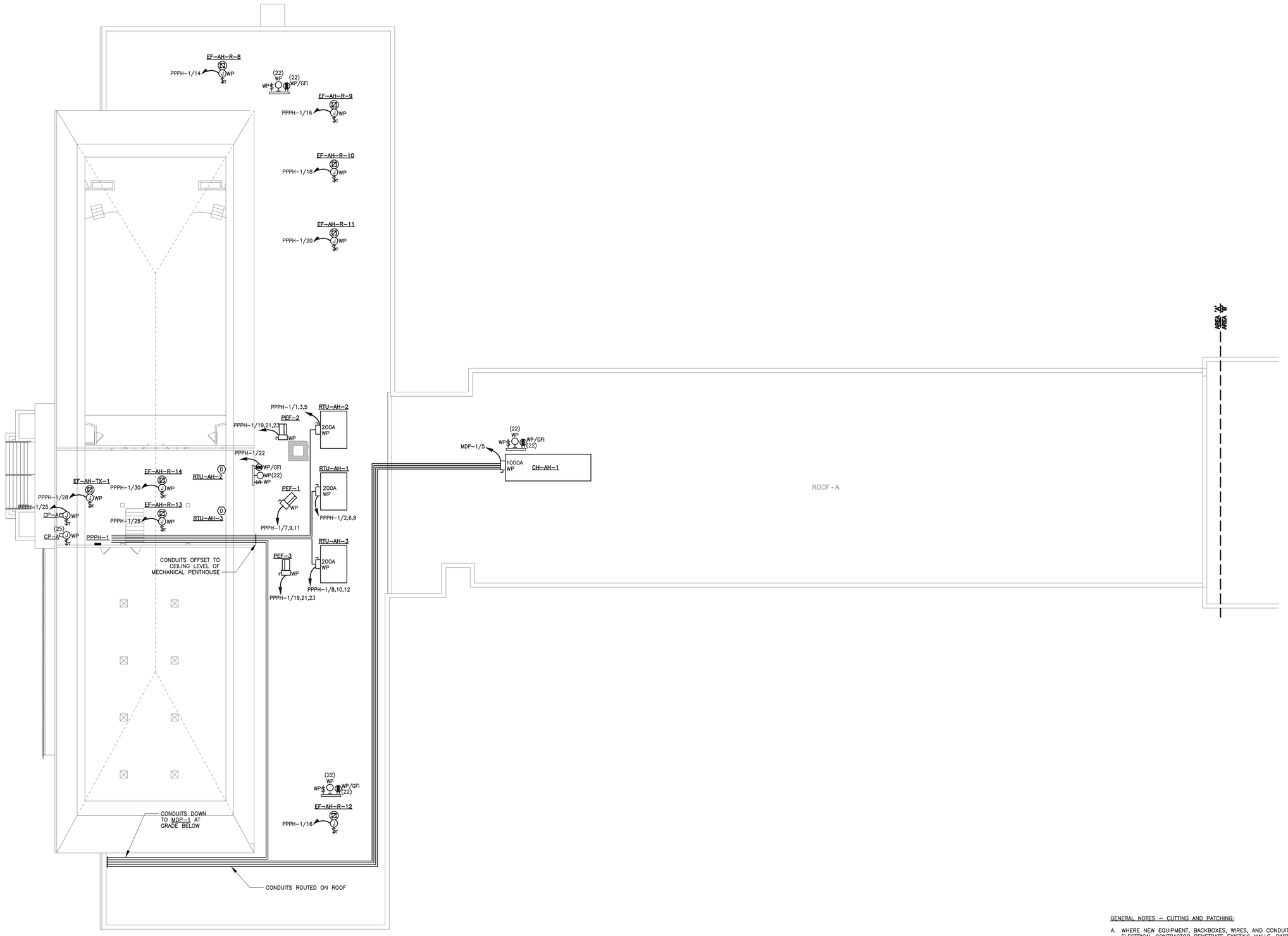
KEY PLAN



PROJECT NO.	66-03-01-03-0-001-024
MEMASI PROJECT NO.	102-2301

ELECTRICAL POWER PLAN - FIRST FLOOR

AH E101



PART PLAN - ROOF - AREA 'A'

3/32" = 1'-0"

GENERAL NOTES – CUTTING AND PATCHING:

A. WHERE NEW EQUIPMENT, BACKBOXES, WIRES, AND CONDUITS INSTALLED BY THE ELECTRICAL CONTRACTOR PENETRATE EXISTING WALLS, PARTITIONS, SHAFTS, CHASES, AND SLABS, THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR CUTTING NEW OPENINGS AND FIRESTOPPING. PROVIDE NEW LINTELS FOR NEW OPENINGS IN ACCORDANCE WITH SPECIFICATION SECTION 055000.

B. ELECTRICAL CONTRACTOR TO REMOVE AND REINSTALL CEILING TILES AS NEEDED TO FACILITATE THE MECHANICAL SCOPE OF WORK, EXCEPT IN AREAS WHERE CEILING REMOVAL/REPLACEMENT IS INDICATED AS GENERAL CONTRACTOR BASE SCOPE ON THE ARCHITECTURAL REFLECTED CEILING PLANS.

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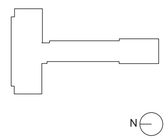


PROJECT NO. 66-03-01-03-0-001-024

MEMASI PROJECT NO. 102-2301

ELECTRICAL POWER PLAN - ROOF

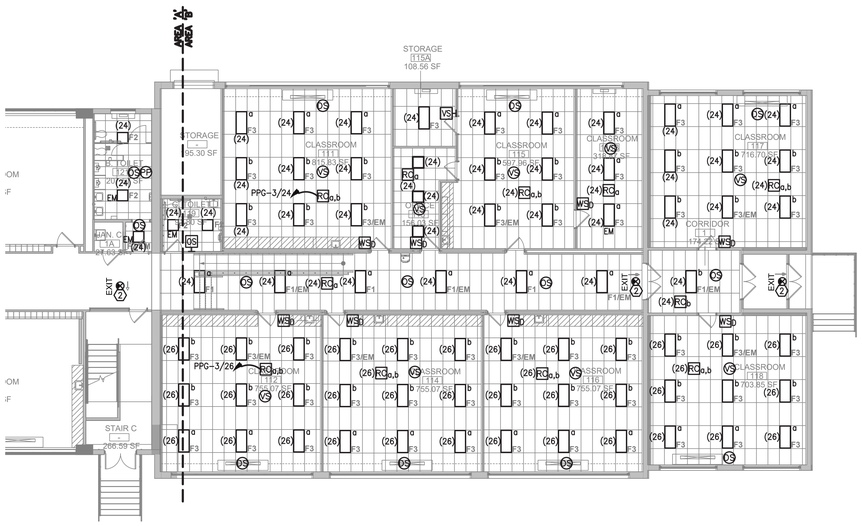
AH E102

LIGHTING NOTES:

1. CAFETERIA ROOM CONTROLLER SHALL HAVE TIME CLOCK INTERFACE TO MAINTAIN LIGHTING ON REGARDLESS OF OCCUPANCY SENSOR STATUS DURING NORMAL SCHOOL HOURS (TIME CLOCK ON STATE). LIGHTING FIXTURES SHALL BE CONTROLLED BY OCCUPANCY SENSORS AFTER HOURS (TIME CLOCK OFF STATE). THE CAFETERIA ROOM CONTROLLER TO EXISTING AVAILABLE NETWORK AND PROVIDE CAT 5E CABLE TO NEAREST CORRIDOR ROOM CONTROLLER.
2. ALLOW FOR 0-10V CONTROL WIRE FOR LIGHTING FIXTURES IN CAFETERIA AND CLASSROOMS.
3. EXIT SIGNS AND LIGHTING FIXTURES WITH AN ADJACENT 'EM' DESIGNATION SHALL INCLUDE AN INTEGRAL 90 MINUTE EMERGENCY BATTERY DRIVER WITH TEST BUTTON AND STATUS LED. PROVIDE AN UN-SWITCH HOT LEG WIRE TO CONTROLLED EMERGENCY LIGHTING FIXTURES FOR BATTERY CHARGE AND VOLTAGE SENSING. PROVIDE A DEDICATED UN-CONTROLLED CIRCUIT TO NIGHT LIGHTS AND EXIT SIGNS.
4. LIGHTING CIRCUIT NUMBERS ARE SHOWN FOR REFERENCE ONLY. RE-USE EXISTING LIGHTING CIRCUIT. WHERE ADDITIONAL CIRCUITS ARE REQUIRED, CONNECT TO SPARE CIRCUIT BREAKERS WITHIN EXISTING PANELS OR THE NEW PANELS TO BE ADDED.
5. PROVIDE POWER FROM EXIT SIGN AHEAD OF AREA LIGHTING CONTROLS.
6. BATHROOMS WITH OCCUPANCY FOR MORE THAN ONE PERSON SHALL BE PROVIDED WITH POWER PACKS AND CEILING MOUNTED OCCUPANCY SENSORS. WALL SWITCHES SHALL NOT BE PROVIDED.
7. PROVIDE ROOM CONTROLLERS OF REQUIRED QUANTITY FOR LIGHTING FIXTURES IN CLASSROOMS, OFFICES, CORRIDORS, AND MISCELLANEOUS OCCUPIED SPACES. LIGHTING FIXTURE CIRCUITS WITHIN CLASSROOMS SHALL WIRE THROUGH ROOM CONTROLLER FOR VACANCY SENSOR AND WALL STATION CONTROL.
8. CORRIDOR ROOM CONTROLLERS SHALL HAVE TIME CLOCK INTERFACE TO MAINTAIN LIGHTING ON REGARDLESS OF OCCUPANCY SENSOR STATUS DURING NORMAL SCHOOL HOURS (TIME CLOCK ON STATE). LIGHTING FIXTURES SHALL BE CONTROLLED BY OCCUPANCY SENSORS AFTER HOURS (TIME CLOCK OFF STATE).
9. REFER TO LIGHTING CONTROL WIRING DIAGRAMS ON DRAWING E-501.
10. COORDINATE INSTALLATION OF LIGHT SWITCHES WITH EXISTING CONDITIONS. RECESS ALL SWITCHING DEVICES AND INSTALL ALL ASSOCIATED BOXES AND RACEWAYS WITHIN EXISTING WALLS. PATCH EXISTING WALLS WITH FINISHES AS REQUIRED TO MATCH EXISTING SURROUNDINGS.

KEYNOTES:

1. EXISTING LIGHTING FIXTURE TO BE RE-CENTERED WITH NEW CEILINGS. EXTEND LIGHTING CIRCUIT IN THE AREA TO NEW FIXTURES.
2. EXTEND EXISTING EXIT SIGN CIRCUIT TO NEW EXIT SIGN.



LIGHTING PART PLAN - GROUND FLOOR - AREA 'B'

3/32" = 1'-0"

LIGHTING PART PLAN - GROUND FLOOR - AREA 'A'

3/32" = 1'-0"

EASTCHESTER UNION FREE SCHOOL DISTRICT

2022 CAPITAL PROJECT PHASE 4

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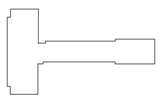


PROJECT NO. 66-03-01-03-0-001-024

MEMASI PROJECT NO. 102-2301

ELECTRICAL LIGHTING PLAN - GROUND FLOOR

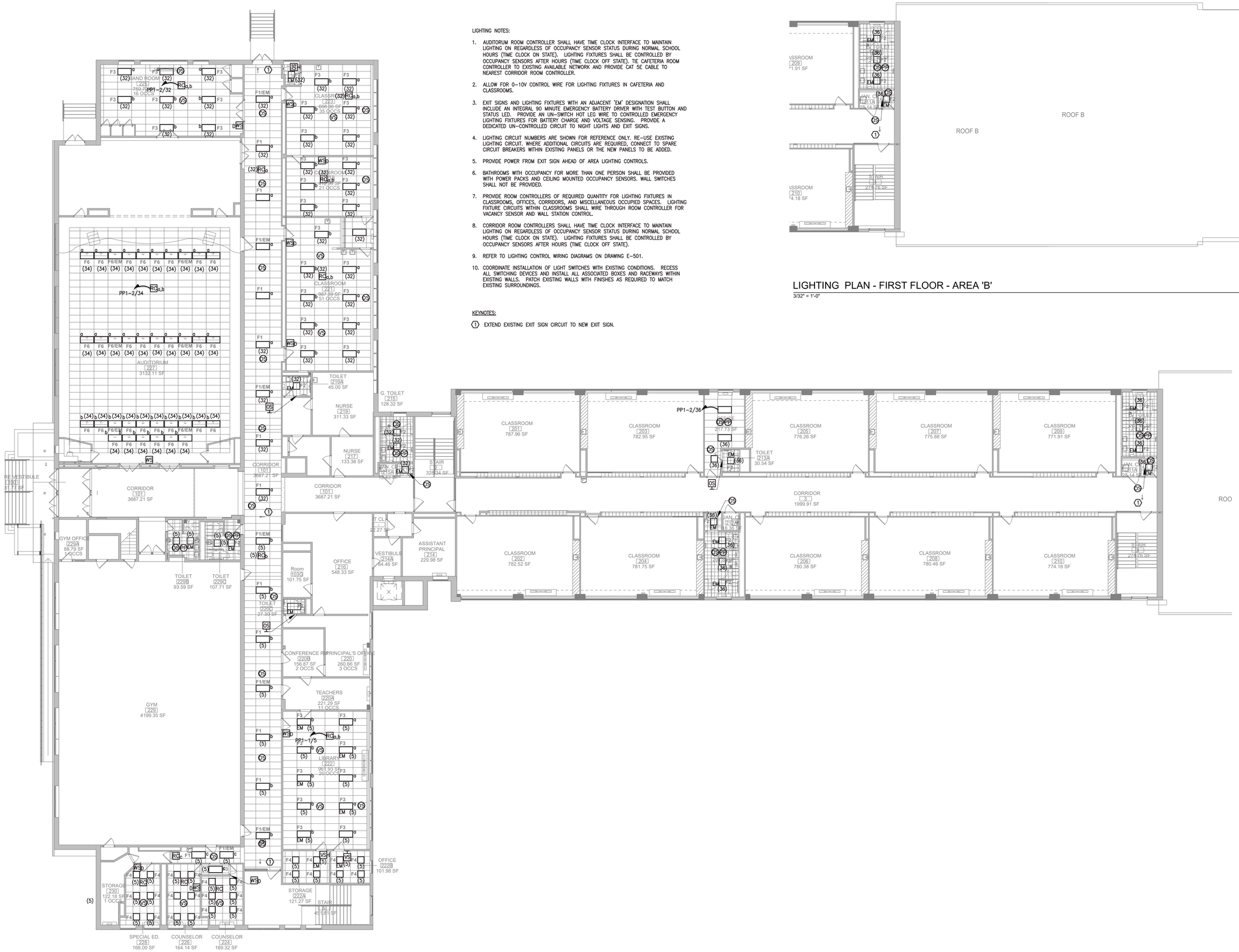
AH E200

LIGHTING NOTES:

1. AUDITORUM ROOM CONTROLLER SHALL HAVE TIME CLOCK INTERFACE TO MAINTAIN LIGHTING ON REGARDLESS OF OCCUPANCY SENSOR STATUS DURING NORMAL SCHOOL HOURS (TIME CLOCK ON STATE). LIGHTING FIXTURES SHALL BE CONTROLLED BY OCCUPANCY SENSORS AFTER HOURS (TIME CLOCK OFF STATE). THE CAFETERIA ROOM CONTROLLER TO EXISTING AVAILABLE NETWORK AND PROVIDE CAT 5E CABLE TO NEAREST CORRIDOR ROOM CONTROLLER.
2. ALLOW FOR 0-10V CONTROL WIRE FOR LIGHTING FIXTURES IN CAFETERIA AND CLASSROOMS.
3. EXIT SIGNS AND LIGHTING FIXTURES WITH AN ADJACENT 'EM' DESIGNATION SHALL INCLUDE AN INTEGRAL 90 MINUTE EMERGENCY BATTERY DRIVER WITH TEST BUTTON AND STATUS LED. PROVIDE AN UN-SWITCH HOT LEG WIRE TO CONTROLLED EMERGENCY LIGHTING FIXTURES FOR BATTERY CHARGE AND VOLTAGE SENSING. PROVIDE A DEDICATED UN-CONTROLLED CIRCUIT TO NIGHT LIGHTS AND EXIT SIGNS.
4. LIGHTING CIRCUIT NUMBERS ARE SHOWN FOR REFERENCE ONLY. RE-USE EXISTING LIGHTING CIRCUIT. WHERE ADDITIONAL CIRCUITS ARE REQUIRED, CONNECT TO SPARE CIRCUIT BREAKERS WITHIN EXISTING PANELS OR THE NEW PANELS TO BE ADDED.
5. PROVIDE POWER FROM EXIT SIGN AHEAD OF AREA LIGHTING CONTROLS.
6. BATHROOMS WITH OCCUPANCY FOR MORE THAN ONE PERSON SHALL BE PROVIDED WITH POWER PACKS AND CEILING MOUNTED OCCUPANCY SENSORS. WALL SWITCHES SHALL NOT BE PROVIDED.
7. PROVIDE ROOM CONTROLLERS OF REQUIRED QUANTITY FOR LIGHTING FIXTURES IN CLASSROOMS, OFFICES, CORRIDORS, AND MISCELLANEOUS OCCUPIED SPACES. LIGHTING FIXTURE CIRCUITS WITHIN CLASSROOMS SHALL WIRE THROUGH ROOM CONTROLLER FOR VACANCY SENSOR AND WALL STATION CONTROL.
8. CORRIDOR ROOM CONTROLLERS SHALL HAVE TIME CLOCK INTERFACE TO MAINTAIN LIGHTING ON REGARDLESS OF OCCUPANCY SENSOR STATUS DURING NORMAL SCHOOL HOURS (TIME CLOCK ON STATE). LIGHTING FIXTURES SHALL BE CONTROLLED BY OCCUPANCY SENSORS AFTER HOURS (TIME CLOCK OFF STATE).
9. REFER TO LIGHTING CONTROL WIRING DIAGRAMS ON DRAWING E-501.
10. COORDINATE INSTALLATION OF LIGHT SWITCHES WITH EXISTING CONDITIONS. RECESS ALL SWITCHING DEVICES AND INSTALL ALL ASSOCIATED BOXES AND RACEWAYS WITHIN EXISTING WALLS. PATCH EXISTING WALLS WITH FINISHES AS REQUIRED TO MATCH EXISTING SURROUNDINGS.

KEYNOTES:

(1) EXTEND EXISTING EXIT SIGN CIRCUIT TO NEW EXIT SIGN.



LIGHTING PLAN - FIRST FLOOR - AREA 'A'

3/32" = 1'-0"

LIGHTING PLAN - FIRST FLOOR - AREA 'B'

3/32" = 1'-0"

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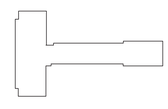
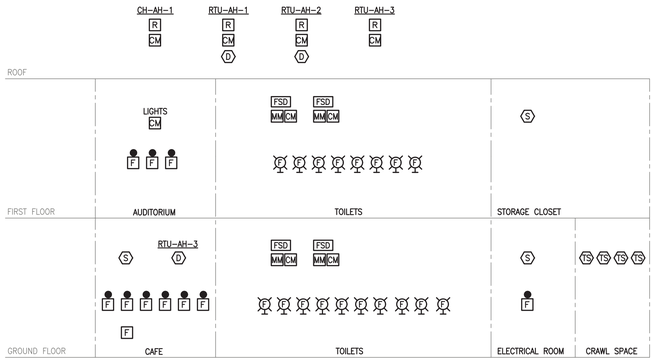


PROJECT NO.	66-03-01-03-0-001-024
MEMASI PROJECT NO.	102-2301

ELECTRICAL LIGHTING PLAN - FIRST FLOOR

AH E201



1 PARTIAL FIRE ALARM RISER

SCALE: NTS

ELECTRICAL CONTRACTOR SHALL REFER TO FLOOR PLANS FOR EXACT QUANTITIES OF ALL FIRE ALARM DEVICES. COORDINATE WITH MECHANICAL CONTRACTOR FOR EXACT LOCATION OF ALL DUCT SMOKE DETECTORS. PROVIDE ADDITIONAL POWER SUPPLY AS REQUIRED.

FIRE ALARM RISER GENERAL NOTES:

1. PROVIDE ALL EQUIPMENT, PROGRAMMING & WIRING REQUIRED FOR A COMPLETE CODE COMPLIANT SYSTEM.
2. PROVIDE ALL FILING, PERMIT & FIRE DEPARTMENT INSPECTION FEES.
3. ALL NOTIFICATION AND SIGNAL LINE CIRCUITS SHALL BE CLASS B WIRING WITHOUT T-TAPPING OF CIRCUITS.
4. COORDINATE WITH THE LOCAL AUTHORITY HAVING JURISDICTION FOR THE EXACT SEQUENCE OF OPERATIONS.
5. SMOKE DETECTORS SHALL BE A MINIMUM OF 3 FEET FROM ALL SUPPLY DIFFUSERS.
6. ALL FIRE ALARM WIRING SHALL BE INSTALLED IN CONDUIT WHEN RUN EXPOSED IN MECHANICAL ROOMS. PROVIDE CONDUIT CONCEALED IN WALLS UP TO ACCESSIBLE CEILING WITH INSULATING BUSHING FOR ALL WALL MOUNTED FIRE ALARM DEVICES.
7. ALL FIRE ALARM EQUIPMENT SHALL BE APPROVED BY LOCAL AHJ PRIOR TO ORDERING.
8. FIRE ALARM RISER IS A DIAGRAMMATIC REPRESENTATION OF THE SYSTEM. REFER TO FLOOR PLANS FOR DEVICE QUANTITY AND LOCATIONS.
9. ALL FIRE ALARM CABLING SHALL BE PLENUM RATED AND MEET PATHWAY SURVIVABILITY LEVEL 2.
10. ALL FIRE ALARM ANNUNCIATING DEVICES SHALL BE "RED".
11. PROVIDE A CONTROL MODULE AND RELAY FOR ALL FIRE SMOKE DAMPERS. REFER TO MECHANICAL DRAWINGS FOR EXACT LOCATION AND QUANTITIES. PROVIDE DUCT SMOKE DETECTORS TO ACTIVATE FIRE SMOKE DAMPERS AS REQUIRED.
12. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS THAT INCLUDE MANUFACTURER'S CUT SHEETS WITH EQUIPMENT MODEL NUMBERS, BATTERY CALCULATIONS, CONDUCTOR TYPE AND SIZES, AND VOLTAGE DROP CALCULATIONS.
13. REMOVE EXISTING FIRE ALARM DEVICES IN SCOPE OF WORK AREA WHERE NEW DEVICES ARE INDICATED.
14. ALL NEW FIRE ALARM DEVICES SHALL BE TIED INTO EXISTING ADDRESSABLE FIRE ALARM LOOPS. PROVIDE ADDITIONAL ADDRESSABLE CARDS/AMPLIFIER/POWER SUPPLY/WIRING AND CONDUIT AS REQUIRED.

POWER RISER GENERAL NOTES:

1. ALL ELECTRICAL PANELS TO BE PROVIDED WITH COPPER BUSING AND LOADS TO BE PHASE BALANCED.
2. ALL ELECTRICAL FEEDERS TO BE ALUMINUM UNLESS OTHERWISE NOTED BY SUBSCRIPT "CU" AND ALL BRANCH CIRCUITING SHALL BE COPPER.
3. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH LOCAL UTILITY COMPANY FOR EXACT REQUIREMENTS OF SERVICE. THE ENTIRE ELECTRICAL INSTALLATION SHALL BE IN CONFORMANCE WITH CON ED SPECIFICATIONS AND DETAILS. REFER TO CIVIL DRAWINGS FOR EXACT LOCATIONS OF NEW EQUIPMENT, STRUCTURES, AND ROUTING OF CONDUITS. NOT ALL SPECIFICATION/DETAIL NUMBERS INDICATED ON DRAWINGS.
4. PRIMARY AND SECONDARY UTILITY SERVICE CONDUITS SHALL BE RIGID GALVANIZED STEEL, AS REQUIRED BY UTILITY COMPANY. REFER TO CON ED SPECIFICATIONS FOR TRENCH REQUIREMENTS AND BURIAL DEPTHS.
5. ELECTRICAL CONTRACTOR SHALL ISSUE SWITCHBOARD AND METERING EQUIPMENT SHOP DRAWINGS TO LOCAL UTILITY CO. FOR APPROVAL PRIOR TO ORDERING ANY EQUIPMENT. COORDINATE AVAILABLE FAULT CURRENT AT POINT OF SERVICE TERMINATION WITH UTILITY CO.
6. ELECTRICAL CONTRACTOR SHALL VERIFY VOLTAGE DROP ON FEEDERS BASED ON ROUTING OF FEEDER CHOSEN IN FIELD. CUMMULATIVE VOLTAGE DROP FROM UTILITY TRANSFORMER SECONDARY LUGS TO FINAL LOAD SHALL NOT EXCEED 5%, NO INDIVIDUAL FEEDER SHALL EXCEED 3%, AND NO INDIVIDUAL BRANCH CIRCUIT SHALL EXCEED 2%.
7. PROVIDE CABLE SUPPORTS FOR ALL VERTICAL RISERS PER NEC TABLE 300.19(A).
8. PROVIDE PULL BOXES AS REQUIRED, SIZED PER NEC. PULL BOXES INSTALLED IN THE GARAGE SHALL BE STAINLESS STEEL.
9. ELECTRICAL CONTRACTOR SHALL PROVIDE THE APPROPRIATE QUANTITY/SIZE OF LUGS IN PANELBOARDS, SWITCHBOARDS, AND CIRCUIT BREAKERS TO ACCOMMODATE THE QUANTITY/SIZE OF CONDUCTORS TO BE TERMINATED. WHERE INCREASED LUG SIZES ARE NOT AVAILABLE, ELECTRICAL CONTRACTOR SHALL PROVIDE SUITABLE COMPRESSION TYPE CABLE REDUCERS WITH ASSOCIATED SPLICE BOXES AS NEEDED.
10. ELECTRICAL CONTRACTOR SHALL PROVIDE MOUNTING AND SUPPORT FOR PANELBOARDS AND EQUIPMENT, AS REQUIRED.
11. ELECTRICAL CONTRACTOR SHALL VERIFY EXACT FEEDER/CONDUIT ROUTING IN FIELD IN CONJUNCTION WITH ARCHITECTURAL DEMOLITION AND NEW WORK PLANS PRIOR TO BID. ANY CONDUIT ROUTING NOTED ON FLOOR PLANS IS DIAGRAMMATIC.

POWER RISER DEMOLITION KEY NOTES:

- D1 DISCONNECT AND REMOVE EXISTING UTILITY SERVICE CONDUCTORS. PATCH, SEAL AND REPAIR WALL FROM EXISTING TO BE REMOVED CONDUIT PENETRATIONS THROUGH EXTERIOR WALL.
- D2 DISCONNECT AND REMOVE EXISTING SERVICE END BOX. PATCH AND REPAIR WALL AFTER REMOVAL.
- D3 EXISTING CONDUITS SHALL BE MAINTAINED. REFER TO NEW WORK POWER RISER FOR ADDITIONAL INFORMATION.
- D4 DISCONNECT AND REMOVE EXISTING MAIN SERVICE DISCONNECT SWITCH, CT CABINET, METER, AND DISTRIBUTION BOARD, AND ASSOCIATED FEEDER CONDUCTORS AND CONDUIT BETWEEN EQUIPMENT. MAINTAIN EXISTING DISTRIBUTION BOARD LOAD SIDE FEEDER CONDUCTORS AND CONDUIT, REFER TO NEW WORK POWER RISER FOR ADDITIONAL INFORMATION.
- D5 DISCONNECT AND REMOVE EXISTING MAIN SERVICE BONDING JUMPER AND GROUNDING ELECTRODE CONDUCTOR. REFER TO NEW WORK POWER RISER FOR NEW SERVICE GROUND SYSTEM.

POWER RISER NEW WORK KEY NOTES:

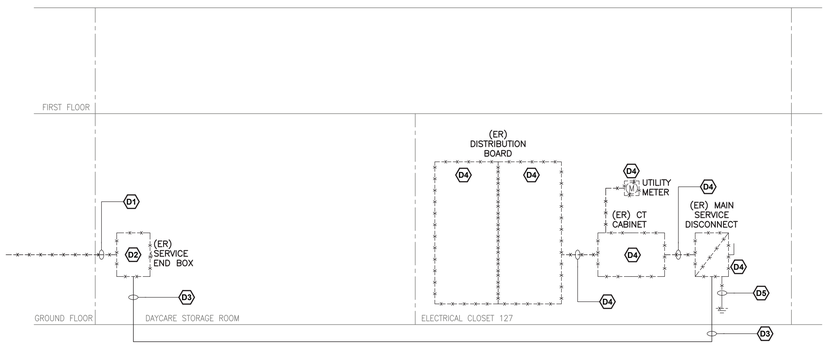
1. EXISTING 3-4" CONDUITS SHALL BE MAINTAINED WITH EXISTING CONDUCTORS TERMINATED INTO NEW PULL BOX FOR FUTURE USE. LABEL PULL BOX AS "SPARE FEEDER FROM GROUND FLOOR ELECTRICAL ROOM" AND "SPARE FEEDER FROM ROOM DAY CARE STORAGE ROOM", RESPECTIVELY.
2. FEEDERS DISCONNECTED FROM EXISTING REMOVED DISTRIBUTION BOARD PER DEMOLITION KEYNOTE 'D4', SHALL BE TERMINATED TO NEW CIRCUIT BREAKERS IN NEW DISTRIBUTION BOARD DGP-1 . ELECTRICAL CONTRACTOR SHALL VERIFY REQUIRED NEW OCPD SIZES IN FIELD, PROVIDE SPLICE BOXES, AND EXTEND WIRING AND CONDUIT, AS REQUIRED.
3. CONDUITS SHALL BE MIN. 3" CONCRETE ENCASED WHERE ROUTED THROUGH THE BUILDING IN ACCORDANCE WITH NEC 230.6. REFER TO ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR ADDITIONAL INFORMATION.

FEEDER SCHEDULE
3Ø, 4W (ALUMINUM, U.O.N.)

TAG	FEEDER SIZES	RATING
A	(4) #8 & (1) #8 GRD – 1 1/4"C	40A
B	(4) #6 & (1) #8 GRD – 1 1/4"C	50A
C	(4) #4 & (1) #6 GRD – 1 1/2"C	65A
D	(4) #3 & (1) #6 GRD – 1 1/2"C	75A
E	(4) #2 & (1) #6 GRD – 2"C	90A
F	(4) #1 & (1) #6 GRD – 2"C	100A
G	(4) #1/0 & (1) #4 GRD – 2 1/2"C	120A
H	(4) #2/0 & (1) #4 GRD – 2 1/2"C	135A
I	(4) #3/0 & (1) #4 GRD – 2 1/2"C	155A
J	(4) #4/0 & (1) #4 GRD – 3"C	180A
K	(4) #250 & (1) #4 GRD – 3"C	205A
L	(4) #300 & (1) #2 GRD – 4"C	230A
M	(4) #350 & (1) #2 GRD – 4"C	250A
N	(4) #400 & (1) #2 GRD – 4"C	270A
O	(4) #500 & (1) #2 GRD – 4"C	310A
P	(4) #600 & (1) #1 GRD – 4"C	340A
Q	2 SETS (4) #4/0 & (1) #1 GRD – 3"C	360A
R	2 SETS (4) #250 & (1) #1 GRD – 3"C	410A
S	2 SETS (4) #300 & (1) #1/0 GRD – 4"C	460A
T	2 SETS (4) #350 & (1) #1/0 GRD – 4"C	500A
U	2 SETS (4) #400 & (1) #2/0 GRD – 4"C	540A
V	2 SETS (4) #500 & (1) #2/0 GRD – 4"C	620A
W	2 SETS (4) #600 & (1) #3/0 GRD – 4"C	680A
X	3 SETS (4) #300 & (1) #3/0 GRD – 4"C	690A
Y	3 SETS (4) #350 & (1) #3/0 GRD – 4"C	750A
Z	3 SETS (4) #400 & (1) #3/0 GRD – 4"C	810A
AA	3 SETS (4) #500 & (1) #4/0 GRD – 4"C	930A
BB	3 SETS (4) #600 & (1) #250 GRD – 4"C	1020A
CC	4 SETS (4) #500 & (1) #250 GRD – 4"C	1240A
DD	4 SETS (4) #600 & (1) #350 GRD – 4"C	1360A
EE	5 SETS (4) #600 & (1) #350 GRD – 4"C	1700A
FF	6 SETS (4) #600 & (1) #400 GRD – 4"C	2040A
GG	6 SETS (4) #750 & (1) #600 GRD – 4"C	2310A
HH	8 SETS (4) #600 & (1) #600 GRD – 4"C	2720A
II	9 SETS (4) #600 & (1) #600 GRD – 4"C	3060A
CU	COPPER FEEDER	
VD	INCREASED FEEDER SIZE DUE TO VOLTAGE DROP	
CE	FEEDER ENCASED MIN. 2" CONCRETE	
US	CONDUIT RUN OUTSIDE OF BUILDING UNDER SLAB	
2HR	OMNICABLE VITALINK 2-HR RATED MC, OR SIMILAR	

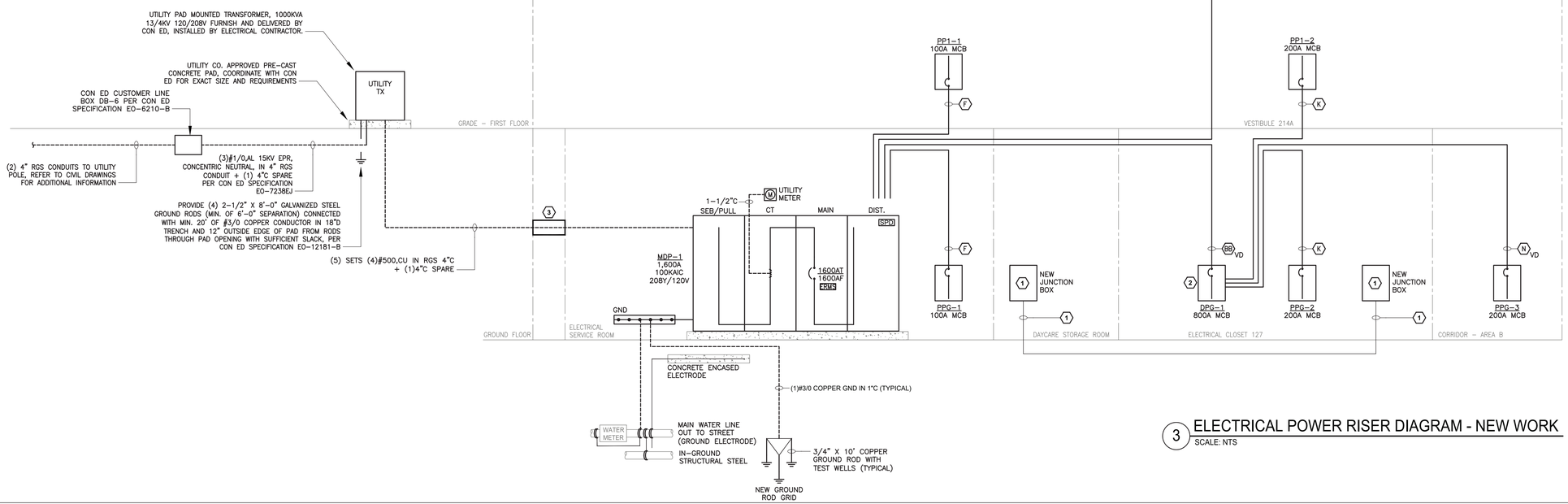
FIRE ALARM SEQUENCE OF OPERATION:

1. ACTIVATION OF A MANUAL PULL STATION SHALL:
   a. ANNUNCIATE AT THE MAIN FIRE ALARM CONTROL PANEL AND THE REMOTE ANNUNCIATORS.
   b. SEND ALARM INDICATION TO CENTRAL STATION COMPANY TO NOTIFY THE FIRE DEPARTMENT.
   c. ACTIVATE ALARM TONES ON ALL FLOORS.
2. ACTIVATION OF A SMOKE DETECTOR, HEAT DETECTOR, DUCT SMOKE DETECTOR, WATER FLOW SWITCH, IN COMMON AREAS SHALL PERFORM FUNCTIONS LISTED IN a, b & c ABOVE AND:
   d. SHUTDOWN ALL FAN SYSTEMS
   e. CLOSE ALL SMOKE DAMPERS
   f. CLOSE ALL SMOKE CONTROL DOORS IN ALL BUILDINGS
3. ACTIVATION OF AN ELEVATOR LOBBY, ELEVATOR MACHINE ROOM AND HOIST WAY SMOKE DETECTOR SHALL PERFORM FUNCTIONS LISTED IN a, b, c, d, e, AND f ABOVE AND:
   h. RECALL ALL ELEVATORS TO THE GROUND FLOOR (PROVIDE ALTERNATE RECALL AS PER NFPA) AND OPEN ASSOCIATED HOIST WAY VENT.
4. ACTIVATION OF A TOP OR BOTTOM SHAFT HEAT DETECTOR SHALL ACTIVATE ELEVATOR SHUNT TRIP BREAKER TO DISCONNECT POWER FROM ELEVATOR CAB(S) OF THAT SHAFT.
5. ACTIVATION OF SPRINKLER TAMPER SWITCH SHALL ACTIVATE A SUPERVISORY SIGNAL AT THE THE FIRE CONTROL PANEL.
6. PROVIDE STATUS FOR ALL HVAC SYSTEMS CONNECTED TO THE FIRE ALARM SYSTEM. STATUS SHALL BE ACCOMPLISHED VIA AIR FLOW SWITCHES FOR POSITIVE INDICATION. STATUS SHALL BE INDICATED VIA LED ON FIRE ALARM CONTROL PANEL.



2 ELECTRICAL POWER RISER DIAGRAM - DEMOLITION

SCALE: NTS



3 ELECTRICAL POWER RISER DIAGRAM - NEW WORK

SCALE: NTS

EASTCHESTER UNION FREE SCHOOL DISTRICT

2022 CAPITAL PROJECT PHASE 4

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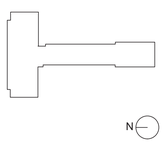
ISSUE	DATE
ISSUED FOR BID	11/06/2024

KEY PLAN



PROJECT NO. 66-03-01-03-0-001-024

MEMASI PROJECT NO. 102-2301

ELECTRICAL RISER DIAGRAMS

AH E301

DISTRIBUTION PANELBOARD DESIGNATION : **MDP-1**

VOLTAGE	208Y/120 V	NEUTRAL	100%	BUS RATING	1600 A
PHASE	3 Ø	MIN. K.A.I.C. SYM	100 K.A.I.C.	MAIN CIRCUIT BREAKER	1600 A
WIRE	4 W + G	REMARKS	PROVIDE ERMS; PROVIDE SURGE PROTECTION DEVICE		

CIRCUIT BREAKER NO.	FRAME	TRIP	TYPE	LOAD DESCRIPTION	LOAD	QUANTITY OF FEEDERS (SETS)	FEEDER (EACH) PHASE LEGS NO.	PHASE LEGS SIZE	NEUTRAL NO.	NEUTRAL SIZE	GROUND NO.	GROUND SIZE	INSULATION TYPE	CONDUIT SIZE	REMARKS
1	800A	800A		DPG-1	98.5 KVA	REFER TO RISER DIAGRAM									
2	100A	100A		PPG-1	3.0 KVA	REFER TO RISER DIAGRAM									
3	100A	100A		PP1-1	2.0 KVA	REFER TO RISER DIAGRAM									
4	400A	400A		PPPH-1	93.0 KVA	REFER TO RISER DIAGRAM									
5	1000A	800A		CH-AH-1	166.0 KVA	4	3A	350				1/0		4C	
6	30A	30A		SPD											200KA W/ SURGE COUNTER MONITORIING
7	200A	225A		**SPARE**											
8	100A	100A		**SPARE**											
9															
10															

TOTAL CONNECTED LOAD =	**349.3 KVA**	**969 A**
TOTAL DEMAND LOAD =	**349.3 KVA**	**969 A**

DISTRIBUTION PANELBOARD DESIGNATION : **DPG-1**

VOLTAGE	208Y/120 V	NEUTRAL	100%	BUS RATING	1000 A
PHASE	3 Ø	MIN. K.A.I.C. SYM	100 K.A.I.C.	MAIN CIRCUIT BREAKER	800 A
WIRE	4 W + G	REMARKS			

CIRCUIT BREAKER NO.	FRAME	TRIP	TYPE	LOAD DESCRIPTION	LOAD	QUANTITY OF FEEDERS (SETS)	FEEDER (EACH) PHASE LEGS NO.	PHASE LEGS SIZE	NEUTRAL NO.	NEUTRAL SIZE	GROUND NO.	GROUND SIZE	INSULATION TYPE	CONDUIT SIZE	REMARKS
1	100A	100A		PPG-2	17.7 KVA	REFER TO RISER DIAGRAM									
2	100A	100A		PPG-3	17.4 KVA	REFER TO RISER DIAGRAM									
3	100A	100A		PP1-2	20.2 KVA	REFER TO RISER DIAGRAM									
4	100A	100A		PP1-1	2.7 KVA	REFER TO RISER DIAGRAM									
5	30A	20A		HWP-AH-1A	4.8 KVA	1	3A	8			1	10		1 C	
6	30A	20A		HWP-AH-1B	4.8 KVA	1	3A	8			1	10		1 C	
7	60A	40A		GLWP-AH-1A	8.9 KVA	1	3A	8			1	10		1 C	
8	60A	40A		GLWP-AH-1B	8.9 KVA	1	3A	8			1	10		1 C	
9	60A	60A		KITCHEN (EXISTING CIRCUIT #1)											
10	60A	60A		1C EMERGENCY (EXISTING CIRCUIT #2)											
11	60A	60A		(EXISTING CIRCUIT #3)											
12	60A	60A		COMPUTER PANEL (EXISTING CIRCUIT #4)											
13	100A	100A		BOILER ROOM PANEL (EXISTING CIRCUIT #5)											
14	100A	100A		FAN ROOM PANEL (EXISTING CIRCUIT #6)											
15	225A	200A		STAGE PANEL (EXISTING CIRCUIT #7)											
16	400A	400A		FIRE PUMP (EXISTING CIRCUIT #8)											
17	30A	30A		CLOCKS (EXISTIN CIRCUIT #9)											
18	30A	30A		FIRE ALARM (EXISTING CIRCUIT #10)											
19	100A	100A		LTG PANEL 1B (EXISTING CIRCUIT #11)											
20	100A	100A		CUSTDIAN OFFICE PANEL (EXISTING CIRCUIT #12)											
21	100A	100A		NURSE PANEL (EXISTING CIRCUIT #13)											
22	100A	100A		LIBRARY PANEL (EXISTING CIRCUIT #14)											
23	100A	100A		GYM (EXISTING CIRCUIT #15)											
24	100A	100A		(EXISTING CIRCUIT #16)											
25	400A	400A		LTG PANEL GA+1A (EXISTING CIRCUIT #17)											
26	225A	200A		EXISTING LOAD (ELEC CLOSET DISCONNET SWITCH)											
27	225A	200A		BREAKER BOX (EXISTING DISCONNECT SWITCH)											
28	225A	200A		BREAKER BOX 113											
29	225A	200A		CP-3 (EXISTING DISCONNECT SWITCH)											
30	100A	100A		**SPARE**											
31	100A	100A		**SPARE**											

TOTAL CONNECTED LOAD =	**85.3 KVA**	**237 A**
TOTAL DEMAND LOAD =	**85.3 KVA**	**237 A**

PANEL DESIGNATION : **PPG-1**

VOLTAGE	208Y/120 V	NEUTRAL	100%	QUANTITY OF POLES	42
PHASE	3 Ø	SCC RATING (SYM)	42 K.A.I.C.	MAIN CIRCUIT BREAKER	100 A
WIRE	4 W + G			MAIN BUS	100 A
SURFACE MOUNTED	X	NEMA 1 ENCLOSURE	X	GROUND BUS	X
FEED THROUGH LUGS					
REMARKS :					

CKT #	TRIP	LOAD DESCRIPTION	ØA (VA)	ØB (VA)	ØC (VA)	LOAD DESCRIPTION	TRIP	CKT #
1	20A	CUH-A ELECTRICAL ROOM	1900			CP-A	20A	2
3	20A	ELEC ROOM REC		760		FCU-B - OFFICE 128 & STAIR A	20A	4
5	20A	CAFÉ REC			100	**SPARE**	20A	6
7	20A	CAFÉ LIGHTING	200			**SPARE**	20A	8
9	20A	**SPARE**		0		**SPARE**	20A	10
11	20A	**SPARE**			0	**SPARE**	20A	12
13			0					14
15				0				16
17					0			18
19			0					20
21				0				22
23					0			24
25			0					26
27				0				28
29					0			30
31			0					32
33				0				34
35					0			36
37			0					38
39				0				40
41					0			42

TOTAL CONNECTED LOAD PER PHASE (kVA)	2.10	0.76	0.10
TOTAL CONNECTED LOAD	2.96 KVA		8.2 A
TOTAL DEMAND LOAD	2.46 KVA		6.8 A

PANEL DESIGNATION : **PPG-2**

VOLTAGE	208Y/120 V	NEUTRAL	100%	QUANTITY OF POLES	42
PHASE	3 Ø	SCC RATING (SYM)	42 K.A.I.C.	MAIN CIRCUIT BREAKER	100 A
WIRE	4 W + G			MAIN BUS	100 A
SURFACE MOUNTED	X	NEMA 1 ENCLOSURE	X	GROUND BUS	X
FEED THROUGH LUGS					
REMARKS :					

CKT #	TRIP	LOAD DESCRIPTION	ØA (VA)	ØB (VA)	ØC (VA)	LOAD DESCRIPTION	TRIP	CKT #
1	20A	FCU-B - OFF 129, CUST 125, TOILET 135A, STAIR	1496			UV-A STEM LAB 101	20A	2
3	20A	CP-A		1496		UV-A CLASSROOM 103	20A	4
5	20A	FCU-A OFFICE 123 & G TOILET 118			896	UV-A CLASSROOM 102	20A	6
7	20A	POWER FOR RESTROOM FIXTURES	896			UV-A CLASSROOM 104	20A	8
9	20A	HAND DRYER G TOILET 118		1700		TRAP PRIMER	20A	10
11	20A	**SPARE**			200	TAMPER SWITCH	20A	12
13	20A	**SPARE**	1680			G. TOILET 118	20A	14
15	20A	TOILET REC 101B		360		TOILET 123A	20A	16
17	20A	TOILET REC 102A			876	UV-A 1ST FL CLASSROOM 205	20A	18
19	20A	UV-A 1ST FL CLASSROOM 206	1392			UV-A 1ST FL CLASSROOM 207	20A	20
21	20A	UV-A 1ST FL CLASSROOM 208		1392		UV-A 1ST FL CLASSROOM 209	20A	22
23	20A	UV-A 1ST FL CLASSROOM 210			896	FCU-A 1ST FL CLASSROOM 205	20A	24
25	20A	FCU-B 1ST FL STAIR	380			1ST FL TOILET REC	20A	26
27	20A	1ST FL CP-A		1700		1ST FL TOILET HAND DRYER	20A	28
29	20A	1ST FL AUTOMATIC DOOR TOILET			1100	AUTOMATIC DOOR TOILET 123A	20A	30
31	20A	FSD	800			AUTOMATIC DOOR TOILET 118	20A	32
33	20A	FIRE ALARM STROBE BOOSTER (EXIST LOAD)		300		TOILET 104A REC	20A	34
35	20A	FIRE ALARM BELL BOOST (EXIST LOAD)			0	SMOKE ALARM (EXISTING LOAD)	20A	36
37	20A	OFFICE LIGHTS (EXIST LOAD)	0			AC OFF (EXISTING LOAD)	20A	38
39	20A	ELEVATOR 2ND FL HALL LIGHTS (EXIST LOAD)		0		OFFICE RECEPT (EXISTING LOAD)	20A	40
41	20A	ELEVATOR LIGHTS (EXIST LOAD)			0	DOOR MAG (EXISTING LOAD)	20A	42
43	20A	HEAT (EXISTING LOAD)	0			(EXISTING LOAD)	20A	44
45	20A	FAN (EXISTIN LOAD)		300		RESTROOM LIGHTING	20A	46
47	20A	**SPARE**			0	**SPARE**	20A	48
49	20A	**SPARE**	0			**SPARE**	20A	50
51	20A	**SPARE**		0		**SPARE**	20A	52
53					0			54
55			0					56
57				0				58
59					0			60

TOTAL CONNECTED LOAD PER PHASE (kVA)	6.64	7.25	3.97
TOTAL CONNECTED LOAD	17.86 KVA		49.6 A
TOTAL DEMAND LOAD	17.66 KVA		49.0 A

EASTCHESTER UNION FREE SCHOOL DISTRICT

2022 CAPITAL PROJECT PHASE 4

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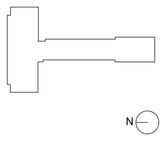
KEY PLAN



PROJECT NO. 66-03-01-03-0-001-024

MEMASI PROJECT NO. 102-2301

ELECTRICAL PANEL SCHEDULES

AH E401

PANEL DESIGNATION : **PPG-3**

VOLTAGE	208Y/120 V	NEUTRAL	100%	QUANTITY OF POLES	42
PHASE	3 Ø	SCC RATING (SYM)	42 K.A.I.C.	MAIN CIRCUIT BREAKER	100 A
WIRE	4 W + G			MAIN BUS	100 A
SURFACE MOUNTED	X	NEMA 1 ENCLOSURE	X	GROUND BUS	X
FEED THROUGH LUGS					

REMARKS :

CKT #	TRIP	LOAD DESCRIPTION	ØA (VA)	ØB (VA)	ØC (VA)	LOAD DESCRIPTION	TRIP	CKT #
1	20A	UV-A CLASSROOM 105	1696			CP-A	20A	2
3	20A	UV-A CLASSROOM 107	7	1392		UV-A CLASSROM 106	20A	4
5	20A	UV-A CLASSROOM 109			1392	UV-A CLASSROM 108	20A	6
7	20A	FCU-A TOILETS & STAIRS	1096			UV-A CLASSROM 110	20A	8
9	20A	UV-A CLASSROOM 111		1392		UV-A CLASSROM 112	20A	10
11	20A	FCU-A STORAGE & OFFICE 113			1096	UV-A CLASSROM 114	20A	12
13	20A	UV-A CLASSROOM 115	1392			UV-A CLASSROM 116	20A	14
15	20A	FCU-A CLASSROOM 115B & CORRIDOR		1096		UV-A CLASSROM 118	20A	16
17	20A	UV-A CLASSROOM 117			1096	FCU-A CORRIDOR & VESTIBULE	20A	18
19	20A	**SPARE**	180			B TOILET 121 REC	20A	20
21	20A	TOILET 119 HAND DRYER		1680		G. TOILET 119 REC	20A	22
23	20A	AUTOMATIC DOOR TOILET 121			800	CLASROOM & CORRIDOR LIGHTING	20A	24
25	20A	FSD	600			CLASROOM & CORRIDOR LIGHTING	20A	26
27	20A	EF-AH-R-4		600		EF-AH-R-1	20A	28
29	20A	EF-AH-R-5			600	EF-AH-R-2	20A	30
31	20A	EF-AH-R-6	600			EF-AH-R-3	20A	32
33	20A	EF-AH-R-7		660		ROOF REC	20A	34
35	20A	**SPARE**			0	**SPARE**	20A	36
37	20A	**SPARE**	0			**SPARE**	20A	38
39	20A	**SPARE**		0		**SPARE**	20A	40
41	20A	**SPARE**			0	**SPARE**	20A	42

TOTAL CONNECTED LOAD PER PHASE (kVA)	5.57	6.82	4.98	
TOTAL CONNECTED LOAD	17.38 KVA			48.2 A
TOTAL DEMAND LOAD	16.87 KVA			46.8 A

PANEL DESIGNATION : **PP1-1**

VOLTAGE	208Y/120 V	NEUTRAL	100%	QUANTITY OF POLES	42
PHASE	3 Ø	SCC RATING (SYM)	42 K.A.I.C.	MAIN CIRCUIT BREAKER	100 A
WIRE	4 W + G			MAIN BUS	100 A
SURFACE MOUNTED	X	NEMA 1 ENCLOSURE	X	GROUND BUS	X
FEED THROUGH LUGS					

REMARKS :

CKT #	TRIP	LOAD DESCRIPTION	ØA (VA)	ØB (VA)	ØC (VA)	LOAD DESCRIPTION	TRIP	CKT #
1	20A	FCU-A - STORAGE 230, SPECIAL 228, COUN 226	500			CP-A	20A	2
3	20A	FCU-A/B - COUNSELOR 224 & STAIR 5		996		UV-A - LIBRARY 222	20A	4
5	20A	CLASSROOM & CORRDIOR LIGHTING			996	UV-A - PRINCIPALS OFFICE 220	20A	6
7	20A	**SPARE**	200			FCU-A TEASHERS 220A	20A	8
9	20A	**SPARE**		0		**SPARE**	20A	10
11	20A	**SPARE**			0	**SPARE**	20A	12
13	20A	**SPARE**	0			**SPARE**	20A	14
15	20A	**SPARE**		0		**SPARE**	20A	16
17	20A	**SPARE**			0	**SPARE**	20A	18
19	20A	**SPARE**	0			**SPARE**	20A	20
21	20A	**SPARE**		0		**SPARE**	20A	22
23	20A	**SPARE**			0	**SPARE**	20A	24
25			0					26
27				0				28
29					0			30
31			0					32
33				0				34
35					0			36
37			0					38
39				0				40
41					0			42

TOTAL CONNECTED LOAD PER PHASE (kVA)	0.70	1.00	1.00	
TOTAL CONNECTED LOAD	2.69 KVA			7.5 A
TOTAL DEMAND LOAD	2.59 KVA			7.2 A

PANEL DESIGNATION : **PP1-2**

VOLTAGE	208Y/120 V	NEUTRAL	100%	QUANTITY OF POLES	42
PHASE	3 Ø	SCC RATING (SYM)	42 K.A.I.C.	MAIN CIRCUIT BREAKER	100 A
WIRE	4 W + G			MAIN BUS	100 A
SURFACE MOUNTED	X	NEMA 1 ENCLOSURE	X	GROUND BUS	X
FEED THROUGH LUGS					

REMARKS :

CKT #	TRIP	LOAD DESCRIPTION	ØA (VA)	ØB (VA)	ØC (VA)	LOAD DESCRIPTION	TRIP	CKT #
1	20A	UV-A BAND ROOM 226	1496			CP-A	20A	2
3	20A	FCU-B CORRIDOR		400		G. TOILET FCU-A 215	20A	4
5	20A	UV-A CLASSROOM 223			896	FCU-B STAIR	20A	6
7	20A	UV-A CLASSROOM 223A	1392			UV-A CLASSROOM 201	20A	8
9	20A	FCU-A & UV-A CLASSROOM 221		1592		UV-A CLASSROOM 203	20A	10
11	20A	FCU-B NURSE 217 & 2129			1096	UV-A CLASSROOM 202	20A	12
13	20A	FCU-B PRINCIPLE 214 & OFFICE 216	1096			UV-A CLASSROOM 204	20A	14
15	20A	G.TOILET 215 REC		1680		G.TOILET 215 HAND DRYER	20A	16
17	20A	TOILET 213A REC			180	**SPARE**	20A	18
19	20A	B. TOILET 212 REC	1680			B. TOILET 212 HAND DRYER	20A	20
21	20A	TOILET 229B REC		1680		TOILET 229B HAND DRYER	20A	22
23	20A	TOILET 229C REC			1680	TOILET 229C HAND DRYER	20A	24
25	20A	FCU-A OFFICE 213	1700			TOILET 219A HAND DRYER	20A	26
27	20A	FCU-A B. TOILET 212		380		TOILET 219 REC	20A	28
29	20A	AUTOMATIC DOOR TOILET 213A			1000	AUTOMATIC DOOR TOILET 212	20A	30
31	20A	AUTOMATIC DOOR TOILET 215A	800			CORRIDOR & CLASSROOM LIGHTING	20A	32
33	20A	TOILET 223T POWER		660		AUDITORIUM LIGHTING	20A	34
35	20A	FCU-A GYM OFFICE			800	RESTROOM LIGHTING	20A	36
37	20A	**SPARE**	0			**SPARE**	20A	38
39	20A	**SPARE**		0		**SPARE**	20A	40
41	20A	**SPARE**			0	**SPARE**	20A	42

TOTAL CONNECTED LOAD PER PHASE (kVA)	8.16	6.39	5.65	
TOTAL CONNECTED LOAD	20.21 KVA			56.1 A
TOTAL DEMAND LOAD	16.72 KVA			46.4 A

PANEL DESIGNATION : **PPPH-1**

VOLTAGE	208Y/120 V	NEUTRAL	100%	QUANTITY OF POLES	42
PHASE	3 Ø	SCC RATING (SYM)	42 K.A.I.C.	MAIN CIRCUIT BREAKER	400 A
WIRE	4 W + G			MAIN BUS	400 A
SURFACE MOUNTED	X	NEMA 1 ENCLOSURE	X	GROUND BUS	X
FEED THROUGH LUGS					

REMARKS :

CKT #	TRIP	LOAD DESCRIPTION	ØA (VA)	ØB (VA)	ØC (VA)	LOAD DESCRIPTION	TRIP	CKT #
1	125A	RTU-AH-1 3#1+1#6G - 1-1/2"C	21220			RTU-AH-2 3#1/0+1#6G - 2"C	150A	2
3				21220				4
5					21220			6
7	20A	RTU-AH-1 EXHUAST FAN (PEF-1)	8836			RTU-AH-3 3#1+1#6G - 1-1/2"C	125A	8
9				8836				10
11					8836			12
13	20A	RTU-AH-2 EXHUAST FAN (PEF-2)	400			EF-AH-R-8	20A	14
15				400		EF-AH-R-9	20A	16
17					400	EF-AH-R-10	20A	18
19	20A	RTU-AH-3 EXHUAST FAN (PEF-3)	400			EF-AH-R-11	20A	20
21				600		CONVIENENCE ROOF REC AND LIGHT	20A	22
23					400	EF-AH-R-12	20A	24
25	20A	CP-A	400			EF-AH-R-13	20A	26
27	20A	**SPARE**		200		EF-AH-TX-1	20A	28
29	20A	**SPARE**			200	EF-AH-R-14	20A	30
31	20A	**SPARE**	0			**SPARE**	20A	32
33	20A	**SPARE**		0		**SPARE**	20A	34
35	20A	**SPARE**			0	**SPARE**	20A	36
37	20A	**SPARE**	0			**SPARE**	20A	38
39	20A	**SPARE**		0		**SPARE**	20A	40
41	20A	**SPARE**			0	**SPARE**	20A	42

TOTAL CONNECTED LOAD PER PHASE (kVA)	31.26	31.26	31.06	
TOTAL CONNECTED LOAD	93.57 KVA			259.7 A
TOTAL DEMAND LOAD	93.37 KVA			259.2 A

EASTCHESTER UNION FREE SCHOOL DISTRICT

2022 CAPITAL PROJECT PHASE 4

ANNE HUTCHINSON ELEMENTARY SCHOOL

ARCHITECT

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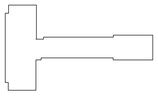
ONE PENN PLAZA
250 W 34TH ST., 4TH FLOOR
NEW YORK, NY 10014

ISSUE	DATE
ISSUED FOR BID	11/06/2024

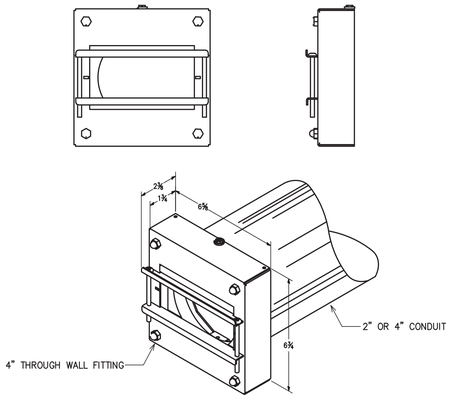
KEY PLAN



PROJECT NO. 66-03-01-03-0-001-024
MEMASI PROJECT NO. 102-2301

ELECTRICAL PANEL SCHEDULES

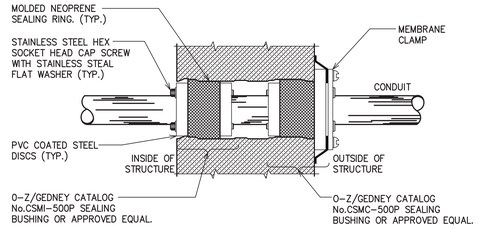
AH E402



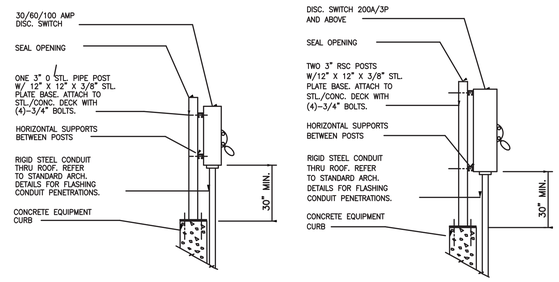
TYPICAL CONDUIT THRU-WALL FIRESTOPPING DETAIL
N.T.S.

NOTES:

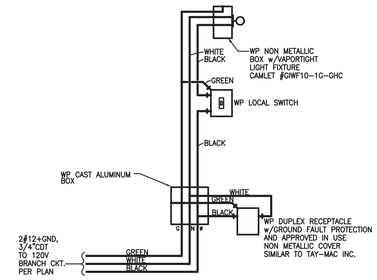
1. CONTRACTOR TO PROVIDE FITTING ON EACH END OF CONDUIT(S). FOR 4" CONDUITS UTILIZE WIREMOLD FLAMSTOPPER CAT No.FS4-FY. FOR 2" CONDUITS UTILIZE WIREMOLD FLAMSTOPPER CAT No.FS2-FY. AT CONTRACTORS OPTION, UTILIZE PRE-CUT 2", 4" CONDUITS, WIREMOLD CAT No.FSPCC2725 OR FSPCC4725 RESPECTIVELY. PRE-CUT CONDUITS ARE 7-5/16" IN LENGTH. PROVIDE ADEQUATE SPACING BETWEEN CONDUIT BANKS TO ALLOW FOR INSTALLATION OF FITTING.
2. DETAIL/SPECIFICATIONS APPLICABLE FOR ALL LOW VOLTAGE CABLING PASSING THROUGH ALL FIRE RATED WALLS. CONTRACTOR SHALL REFERENCE ARCHITECTURAL DRAWINGS FOR RATED WALL LOCATIONS.
3. IF UTILIZED IN CONJUNCTION WITH CABLE TRAY, PROVIDE GROUND HARDWARE AND CONNECTIONS AS REQUIRED.



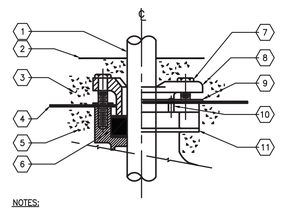
EXTERIOR WALL PENETRATION DETAIL
N.T.S.



ROOF MOUNTED DISCONNECT SWITCH DETAIL
N.T.S.



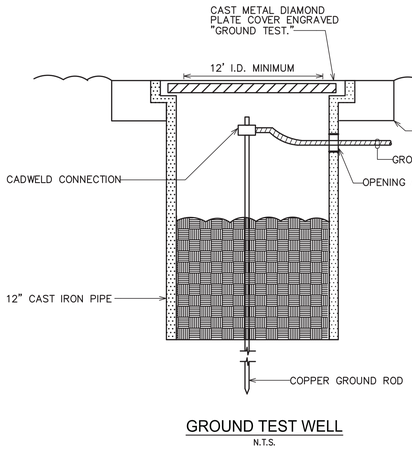
ROOF TOP MAINTENENCE UNIT LTG/PWR DETAIL
N.T.S.



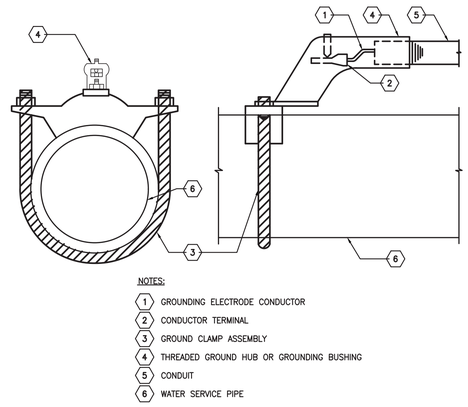
NOTES:

1	RIGID STEEL CONDUIT	7	PRESSURE CLAMP BOLT
2	FLOOR FINISH	8	PRESSURE CLAMP
3	CONCRETE FILL	9	MEMBRANE CLAMP RING
4	WATERPROOF MEMBRANE	10	MEMBRANE CLAMP SCREW
5	STRUCTURAL SLAB	11	CAST IRON BODY
6	SEALING GROMMET		

FLOOR SLEEVE
N.T.S.



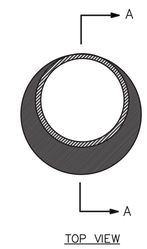
GROUND TEST WELL
N.T.S.



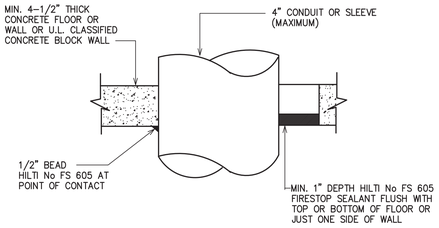
NOTES:

1. GROUNDING ELECTRODE CONDUCTOR
2. CONDUCTOR TERMINAL
3. GROUND CLAMP ASSEMBLY
4. THREADED GROUND HUB OR GROUNDING BUSHING
5. CONDUIT
6. WATER SERVICE PIPE

MAIN WATER PIPE ELECTRODE CONNECTION
N.T.S.



TOP VIEW

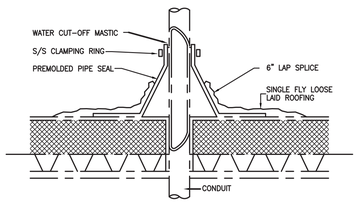


SECTION A-A

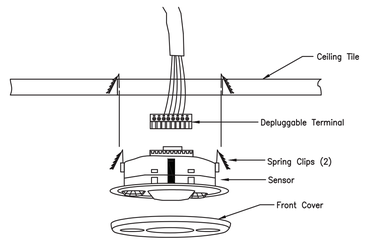
DETAIL OF CONDUIT THROUGH CONCRETE FLOOR/WALL OR BLOCK WALL
N.T.S.

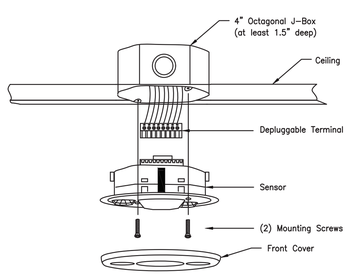
NOTES:

1. CONDUIT MAY BE CENTERED OR OFFSET IN HOLE. MAXIMUM DIAMETER OF HOLE OPENING IS 14 INCHES.
2. TEMPORARY FORMS MAY BE REQUIRED TO SUPPORT THE FIRESTOP SEALANT WHILE IT CURES.
3. FOR CONDUIT SLEEVE INSTALATIONS PROVIDE AROUND CONDUCTORS WITHIN SLEEVE.

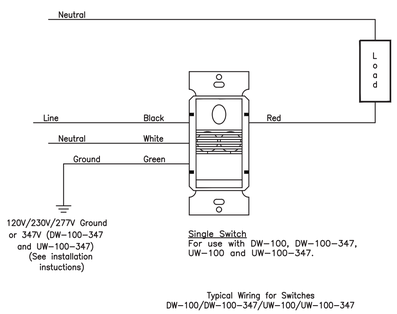


CONDUIT ROOF PENETRATION DETAIL
N.T.S.

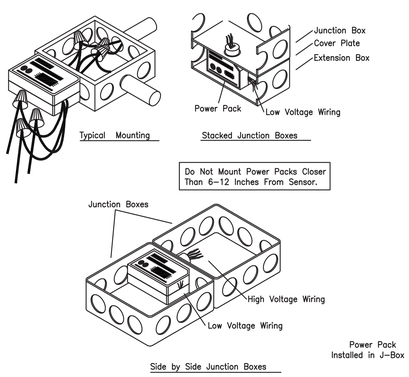




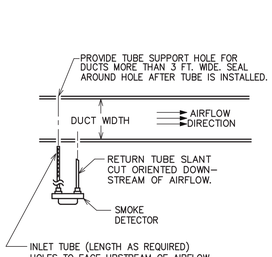
MOUNTING DETAIL FOR CEILING MTD. OCCUPANCY SENSOR
N.T.S.

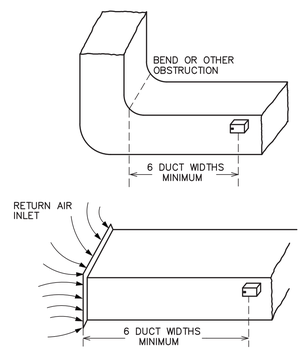


WALL MTD. OCUPANCY SENSOR WIRING DIAGRAM
N.T.S.



POWER PACK INSTALLATION DETAIL
N.T.S.





NOTE:
1. DUCT DETECTOR LOCATIONS SHALL BE DETERMINED IN FIELD WITH ENGINEER AND FIRE ALARM VENDOR.

TYPICAL DUCT SMOKE DETECTOR PLACEMENT & INSTALLATION DETAIL (PLAN VIEW)
N.T.S.

EASTCHESTER UNION FREE SCHOOL DISTRICT

2022 CAPITAL PROJECT
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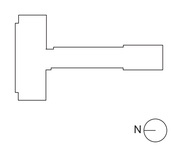

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ELECTRICAL DETAILS

AH E501