

TRAPHAGEN HALL

4TH FLOOR HVAC UPGRADES

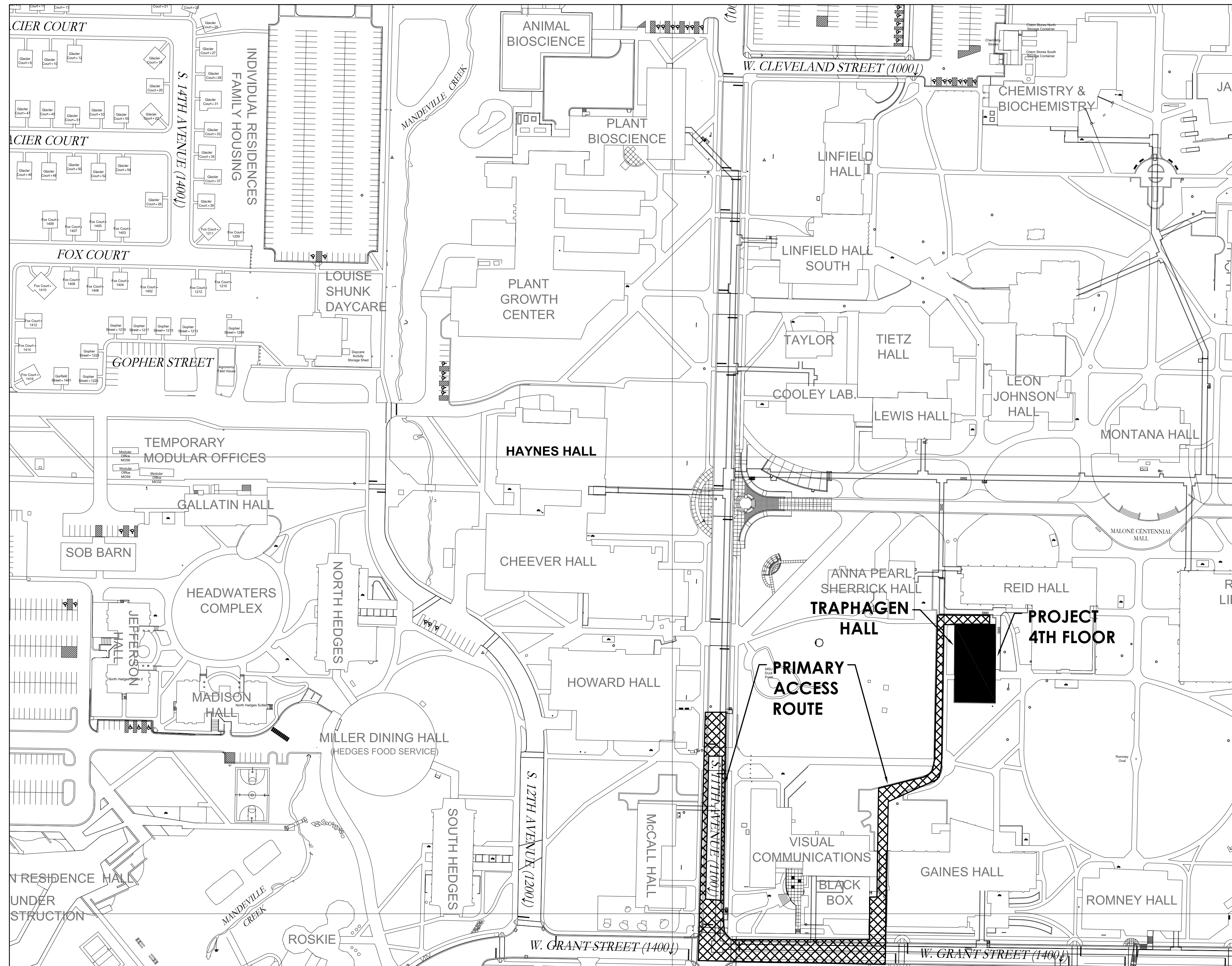
CONSTRUCTION DOCUMENTS 4 FEBRUARY, 2022

MECHANICAL AND ELECTRICAL ENGINEERS:
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MSU-CPDC

MONTANA STATE UNIVERSITY
 BOZEMAN, MONTANA
 PHONE: 406.994.5413
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1 SITE PLAN
 CVR NO SCALE

GENERAL PROJECT NOTES

- ALL CONSTRUCTION AND CONSTRUCTION METHODS TO BE IN ACCORDANCE WITH APPLICABLE CODES, GOVERNMENTAL AGENCIES, AND LOCAL DESIGN CRITERIA INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING:
 - INTERNATIONAL BUILDING CODE, 2018 EDITION
 - INTERNATIONAL MECHANICAL CODE, 2018 EDITION
 - INTERNATIONAL FUEL GAS CODE, 2018 EDITION
 - UNIFORM PLUMBING CODE, 2018 EDITION
 - NATIONAL ELECTRIC CODE, 2017 EDITION
 - NATIONAL FIRE PROTECTION ASSOCIATION CODE, LATEST EDITION
- ANY AMBIGUITIES OR DISCREPANCIES DISCOVERED BY THE USE OF THESE CONTRACT DOCUMENTS SHALL BE REPORTED TO THE MSU PROJECT MANAGER IMMEDIATELY.
- CHANGES OR DEVIATIONS FROM THE CONTRACT DOCUMENTS MADE WITHOUT THE WRITTEN CONSENT OF THE OWNER ARE UNAUTHORIZED. COORDINATE NECESSARY MODIFICATIONS WITH THE MSU PROJECT MANAGER PRIOR TO CONSTRUCTION.
- THE CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION AND SCHEDULING OF ALL REQUIRED INSPECTIONS DURING THE COURSE OF THE CONSTRUCTION PROJECT. PARTIES REQUIRED TO ATTEND SHOULD BE GIVEN 48 HOURS MINIMUM NOTICE.
- THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR SAFETY AND SHALL TAKE WHATEVER MEASURES ARE NECESSARY TO ENSURE THE HEALTH AND SAFETY OF THE CONTRACTOR'S EMPLOYEES, SUBCONTRACTORS, BUILDING OCCUPANTS, PEDESTRIANS AT OR NEAR THE CONSTRUCTION SITE OR ACCESS ROUTES, AND OF ALL OTHER PERSONS IN AREAS AFFECTED BY THE CONTRACTOR'S CONSTRUCTION ACTIVITIES.

GENERAL SITE / STAGING NOTES

- THE CONTRACTOR SHALL MINIMIZE INTERFERENCE WITH ADJOINING STREETS, SIDEWALKS, PARKING AREAS, AND OTHER ADJACENT OCCUPIED OR USED FACILITIES DURING CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL NOT BLOCK STREETS, SIDEWALKS, OR ACCESS TO DUMPSTER LOCATIONS AT ANY TIME.
- THE CONTRACTOR SHALL PROTECT EXISTING SITE AND LANDSCAPING FROM DAMAGE CAUSED BY CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL RESTORE EXISTING SITE AND LANDSCAPING DAMAGED BY CONSTRUCTION OPERATIONS TO CURRENT MSU STANDARDS OR AS DIRECTED BY THE MSU PROJECT MANAGER PRIOR TO SUBSTANTIAL COMPLETION.
- THE CONTRACTOR SHALL PROTECT THE EXISTING BUILDINGS FROM DAMAGE, CONTAMINATION, AND SOILING CAUSED BY CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL KEEP BUILDING ENTRANCES AND STAIRWELLS CLEAR OF CONSTRUCTION MATERIALS, TOOLS, AND EQUIPMENT AT ALL TIMES.
- THE CONTRACTOR SHALL ACCESS THE SITE FROM S. 19TH AVENUE, 11TH AVENUE, COLLEGE STREET OR GRANT STREET. SOME OF THESE ROUTES MAY NOT BE AVAILABLE DURING THE CONSTRUCTION PERIOD.
- ALL CONTRACTOR VEHICLES PARKED ON CAMPUS, INCLUDING VEHICLES OWNED BY EMPLOYEES OF THE CONTRACTOR, SHALL BE PARKED IN DESIGNATED PARKING AREAS ONLY. VEHICLES MAKING DELIVERIES TO THE PROJECT SITE MUST BE MOVED TO A DESIGNATED PARKING AREA OR REMOVED FROM CAMPUS IMMEDIATELY AFTER UNLOADING. ALL VEHICLES PARKED IN DESIGNATED PARKING AREAS MUST HAVE A VALID MSU PARKING PERMIT. PERMITS CAN BE PURCHASED FROM THE UNIVERSITY POLICE (994-2121). VIOLATORS OF MSU VEHICLE REGULATIONS MAY BE TICKETED AND / OR TOWED. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- CONSTRUCTION STAGING AREA: SHOULD THE CONTRACTOR REQUIRE ON-SITE CONSTRUCTION STAGING, AN AREA FOR THIS PURPOSE WILL BE PROVIDED. THE CONTRACTOR MAY BE REQUIRED TO FENCE THE STAGING AREA TO PREVENT ACCESS FROM UNAUTHORIZED PERSONNEL. THE CONTRACTOR SHALL RESTORE AREAS USED FOR CONSTRUCTION STAGING THAT ARE DAMAGED DURING THE COURSE OF CONSTRUCTION OPERATIONS TO CURRENT MSU STANDARDS OR AS DIRECTED BY THE MSU PROJECT MANAGER PRIOR TO SUBSTANTIAL COMPLETION.

LEGEND

- THE CONTRACTOR SHALL LIMIT HIS OPERATIONS TO THE AREAS DEFINED BELOW. AREAS BEYOND THESE LIMITS ARE NOT IN CONTRACT (NIC) AND SHALL NOT BE USED BY THE CONTRACTOR FOR ANY PURPOSE DURING THE COURSE OF CONSTRUCTION.
- CONSTRUCTION STAGING AREA: CONTRACTOR MAY UTILIZE THE INDIVIDUAL PARKING SPACES WITHIN THE SCOPE OF THIS PROJECT FOR CONSTRUCTION STAGING. STAGING AREA LOCATIONS INDICATED ON SITE PLAN ARE APPROXIMATE.
 - PRIMARY ACCESS ROUTE: JOB RELATED VEHICULAR TRAFFIC SHALL ACCESS THE CONSTRUCTION SITE BY THIS ROUTE ONLY
 - CONTRACT LIMITS (CONSTRUCTION SCOPE OF WORK)

INDEX OF DRAWINGS

- CVR SITE PLAN, GENERAL PROJECT NOTES, GENERAL SITE / STAGING NOTES, LEGEND, INDEX OF DRAWINGS, PHASING NOTES
- MD1.1 DEMO FOURTH FLOOR PLAN - MECHANICAL
 - M1.1 FOURTH FLOOR PLAN - MECHANICAL
 - M1.2 ROOF PLAN - MECHANICAL
 - M2.1 MECHANICAL DETAILS, SCHEDULES AND LEGEND.
 - ED1.1 DEMO FOURTH FLOOR PLAN - ELECTRICAL
 - E1.0 BASEMENT PLAN - ELECTRICAL
 - E1.1 FOURTH FLOOR PLAN - ELECTRICAL
 - E1.2 ROOF PLAN - ELECTRICAL
 - E2.1 ELECTRICAL ONE-LINE DIAGRAM, LEGEND AND SCHEDULES

PHASING NOTES

- DEMOLITION OF MECHANICAL EQUIPMENT AND DUCTWORK.
- INSTALL NEW MECHANICAL EQUIPMENT, MAKE FINAL CONNECTIONS, COMPLETE PROJECT CONSTRUCTION, AND BRING SYSTEM UP TO FULL OPERATION.

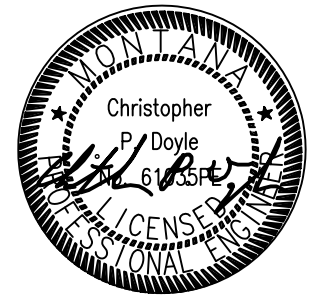
TRAPHAGEN HALL
 4TH FLOOR HVAC UPGRADES
 MONTANA STATE UNIVERSITY

100%CD SET



DRAWN BY: CPD
 REVIEWED BY: CPD

REV.	DESCRIPTION	DATE



PPA#21-0091

A/E#00-00-00

Consultant #: 2119

SHEET TITLE

SHEET
CVR

DATE
 2-4-2022

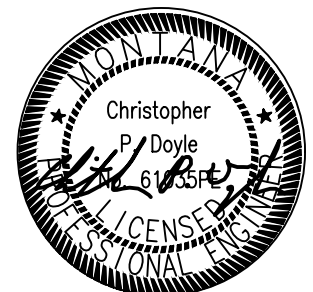
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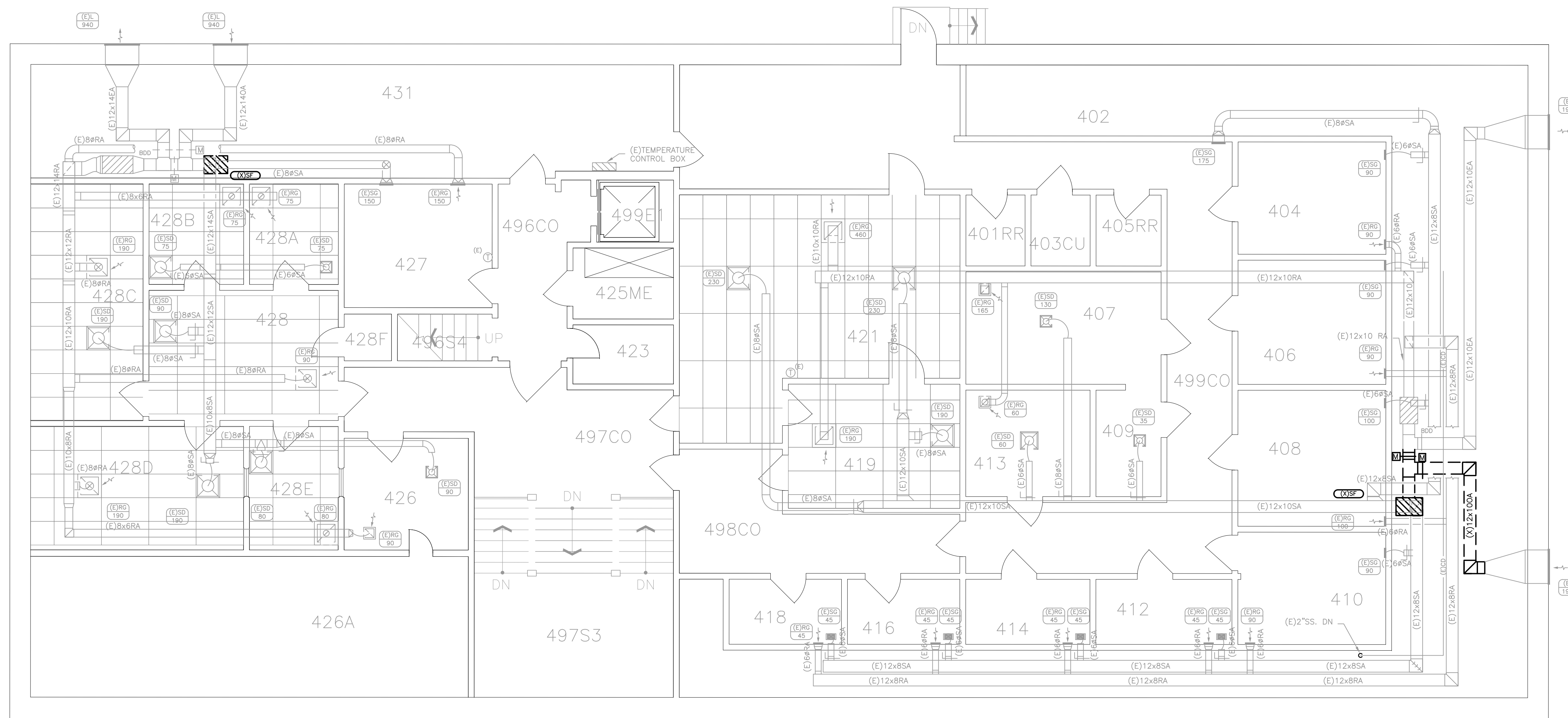
SHEET TITLE
DEMO FOURTH
FLOOR PLAN -
MECHANICAL

SHEET
MD1.1

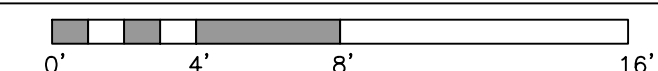
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2-4-2022

GENERAL NOTES

- IT IS ABSOLUTELY NECESSARY FOR ALL TRADES INCLUDING EQUIPMENT SUPPLIERS TO COORDINATE WITH EACH OTHER AND TO VERIFY THAT THERE ARE NO CONFLICTS IN LOCATIONS OF DUCTS, CONDUITS, SPRINKLER HEADS, SPRINKLER PIPING, DIFFUSERS, ELECTRICAL BOXES AND OTHER ITEMS THROUGHOUT THIS PROJECT BEFORE FINAL PLACEMENT OF MATERIALS.
- REFER TO PROJECT SPECIFICATIONS FOR ADDITIONAL INFORMATION: DETAILED EQUIPMENT REQUIREMENTS, INSTALLATION INSTRUCTIONS, PERFORMANCE REQUIREMENTS, CONTROL SEQUENCES AND ALL OTHER PROJECT DETAILS.
- COORDINATE ALL UTILITY INTERRUPTIONS WITH THE OWNER AND PROVIDE 5 WORKING DAYS NOTIFICATION PRIOR TO ANY UTILITY SHUT DOWN.
- ITEMS SHOWN DARK AND DASHED AND/OR NOTED WITH (X) ARE TO BE REMOVED. ITEMS SHOWN IN LIGHT LINE AND/OR NOTED WITH (E) ARE EXISTING TO REMAIN. ITEMS SHOWN IN HEAVY LINE AND/OR NOTED WITH (N) ARE NEW.
- DISPOSE OF ALL DEMOLISHED ITEMS OFF SITE. OWNER HAS THE FIRST RIGHT TO SALVAGE ANY EQUIPMENT SCHEDULED FOR DEMOLITION.
- EXACT ROUTING AND SIZES OF EXISTING PLUMBING AND PIPING IN THE BUILDING IS DIFFICULT TO DETERMINE DUE TO CONCEALMENT IN OR BEHIND EXISTING CONSTRUCTION. DRAWINGS SHOW APPROXIMATE EXISTING CONDITIONS, HOWEVER, FIELD VERIFICATION WILL BE REQUIRED.



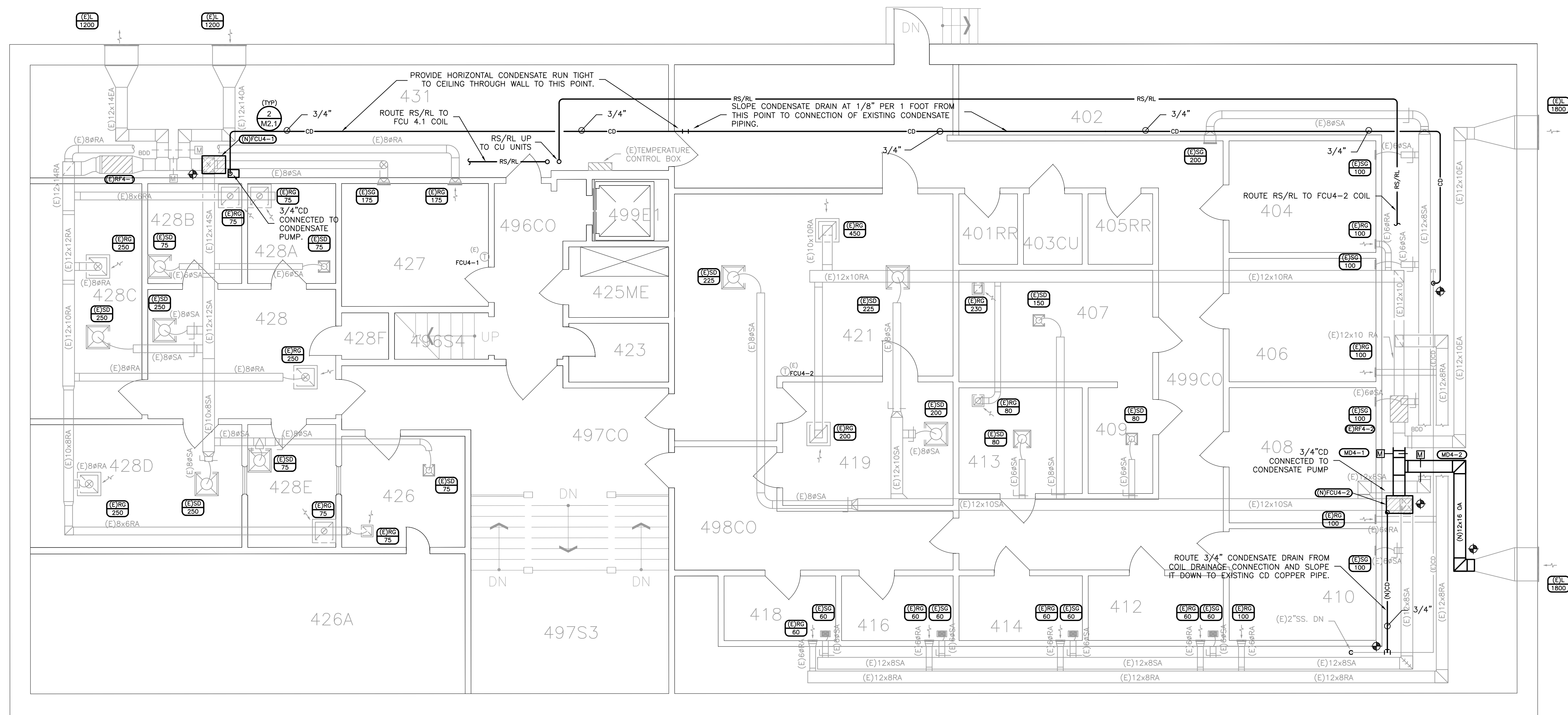
DEMO FOURTH FLOOR PLAN - MECHANICAL
SCALE: 3/16" = 1'-0"



NOT TO SCALE. DIMENSIONS SHALL BE AS SHOWN ON THE DRAWING.

GENERAL NOTES:

1. IT IS ABSOLUTELY NECESSARY FOR ALL TRADES INCLUDING EQUIPMENT SUPPLIERS TO COORDINATE WITH EACH OTHER AND TO VERIFY THAT THERE ARE NO CONFLICTS IN LOCATIONS OF DUCTS, CONDUITS, SPRINKLER HEADS, SPRINKLER PIPING, DIFFUSERS, ELECTRICAL BOXES AND OTHER ITEMS THROUGHOUT THIS PROJECT BEFORE FINAL PLACEMENT OF MATERIALS.
2. REFER TO PROJECT SPECIFICATIONS FOR ADDITIONAL INFORMATION: DETAILED EQUIPMENT REQUIREMENTS, INSTALLATION INSTRUCTIONS, PERFORMANCE REQUIREMENTS, CONTROL SEQUENCES AND ALL OTHER PROJECT DETAILS.
3. DUCT SIZES SHOWN ON THE PLAN ARE NET INTERIOR DIMENSIONS. INCREASE THE OVERALL DUCT SIZE TO ACCOMMODATE INTERNAL INSULATION.
4. DUCTWORK SHALL BE GALVANIZED SHEET METAL.
5. OUTSIDE DUCTWORK SHALL BE INSULATED WITH 1" DUCT LINER.



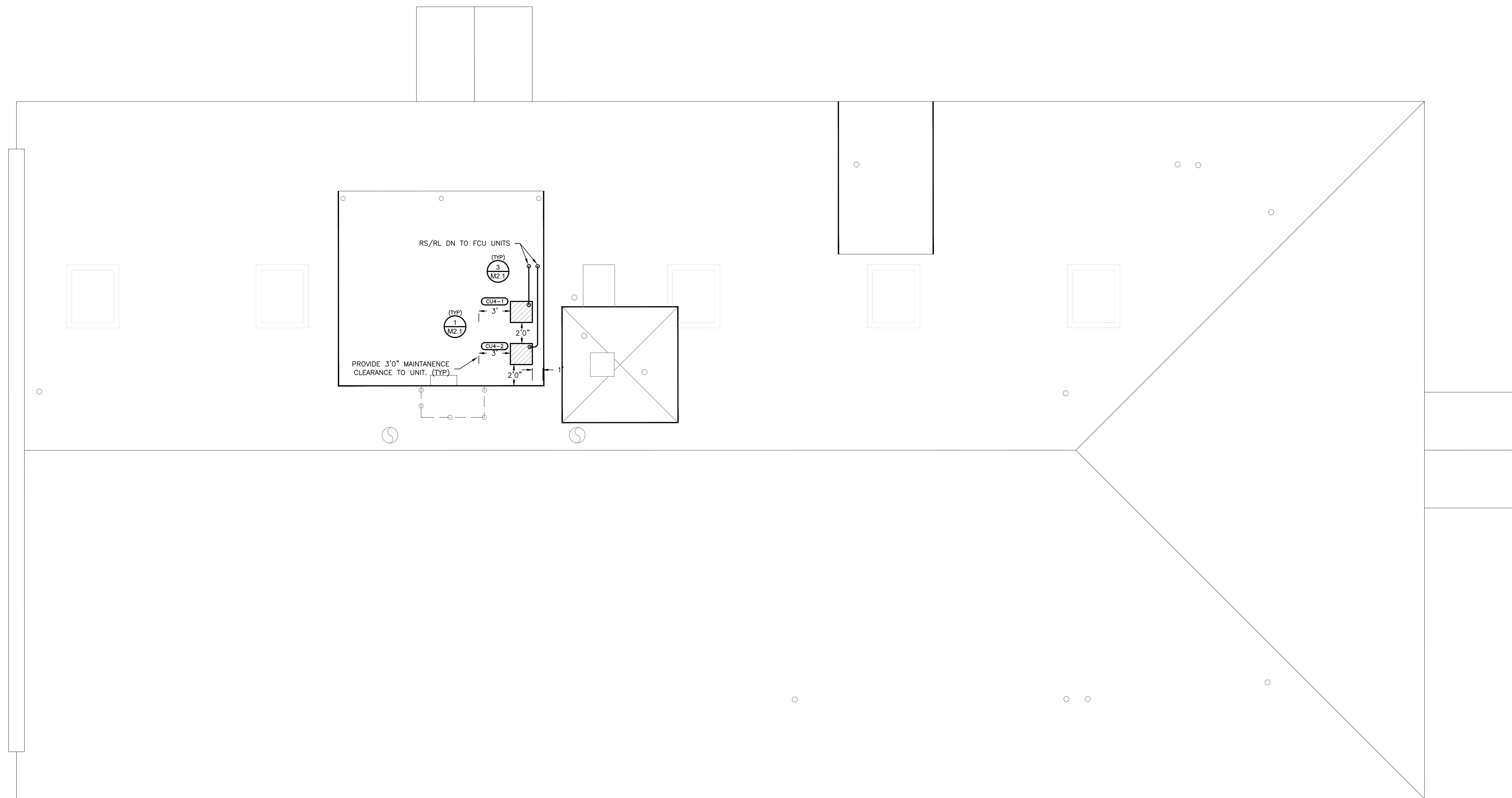
FOURTH FLOOR PLAN - MECHANICAL
SCALE: 3/16" = 1'-0"

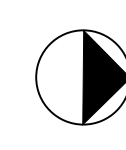



NOT TO SCALE. ALL DIMENSIONS ARE TO CENTER UNLESS OTHERWISE NOTED.

GENERAL NOTES

- IT IS ABSOLUTELY NECESSARY FOR ALL TRADES INCLUDING EQUIPMENT SUPPLIERS TO COORDINATE WITH EACH OTHER AND TO VERIFY THAT THERE ARE NO CONFLICTS IN LOCATIONS OF DUCTS, CONDUITS, SPRINKLER HEADS, SPRINKLER PIPING, DIFFUSERS, ELECTRICAL BOXES AND OTHER ITEMS THROUGHOUT THIS PROJECT BEFORE FINAL PLACEMENT OF MATERIALS.
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- DISPOSE OF ALL DEMOLISHED ITEMS OFF SITE. OWNER HAS THE FIRST RIGHT TO SALVAGE ANY EQUIPMENT SCHEDULED FOR DEMOLITION.
- EXACT ROUTING AND SIZES OF EXISTING PLUMBING AND PIPING IN THE BUILDING IS DIFFICULT TO DETERMINE DUE TO CONCEALMENT IN OR BEHIND EXISTING CONSTRUCTION. DRAWINGS SHOW APPROXIMATE EXISTING CONDITIONS, HOWEVER, FIELD VERIFICATION WILL BE REQUIRED.



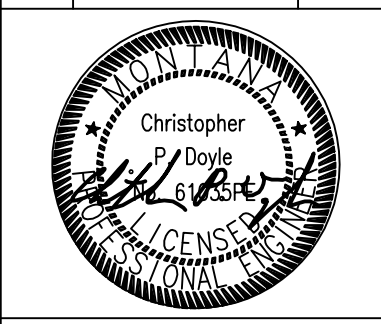
 **ROOF PLAN - MECHANICAL**
SCALE: 3/16" = 1'-0" 

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PPA#21-0091
A/E#00-00-00

Consultant #: 2119

SHEET TITLE
MECHANICAL
LEGEND SCHEDULE
AND DETAILS

SHEET

M2.1

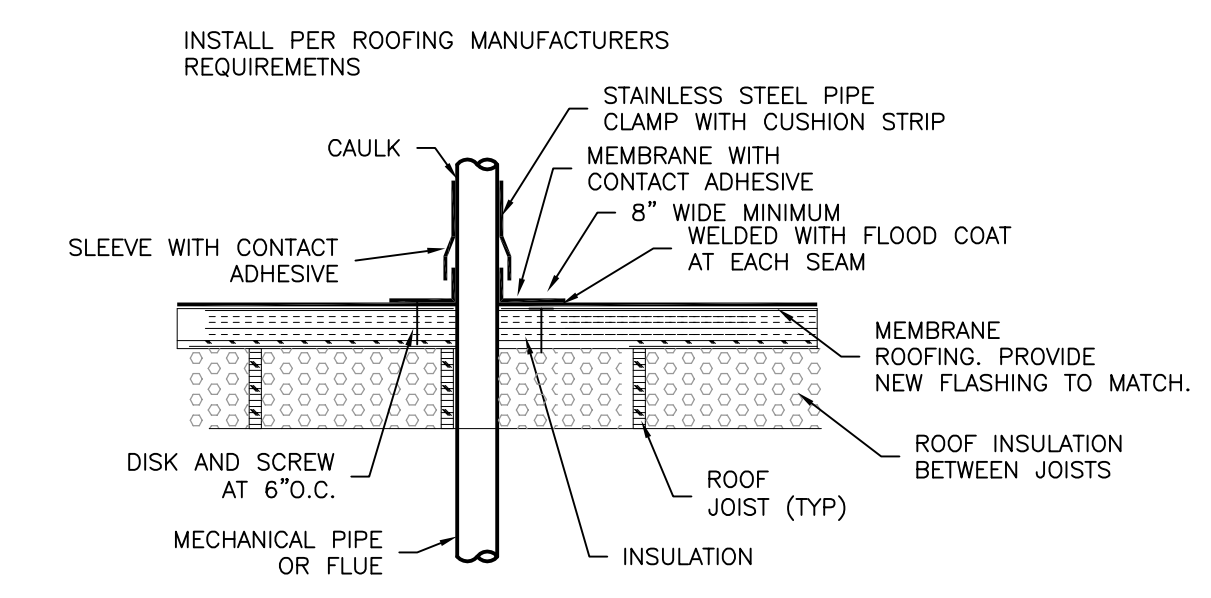
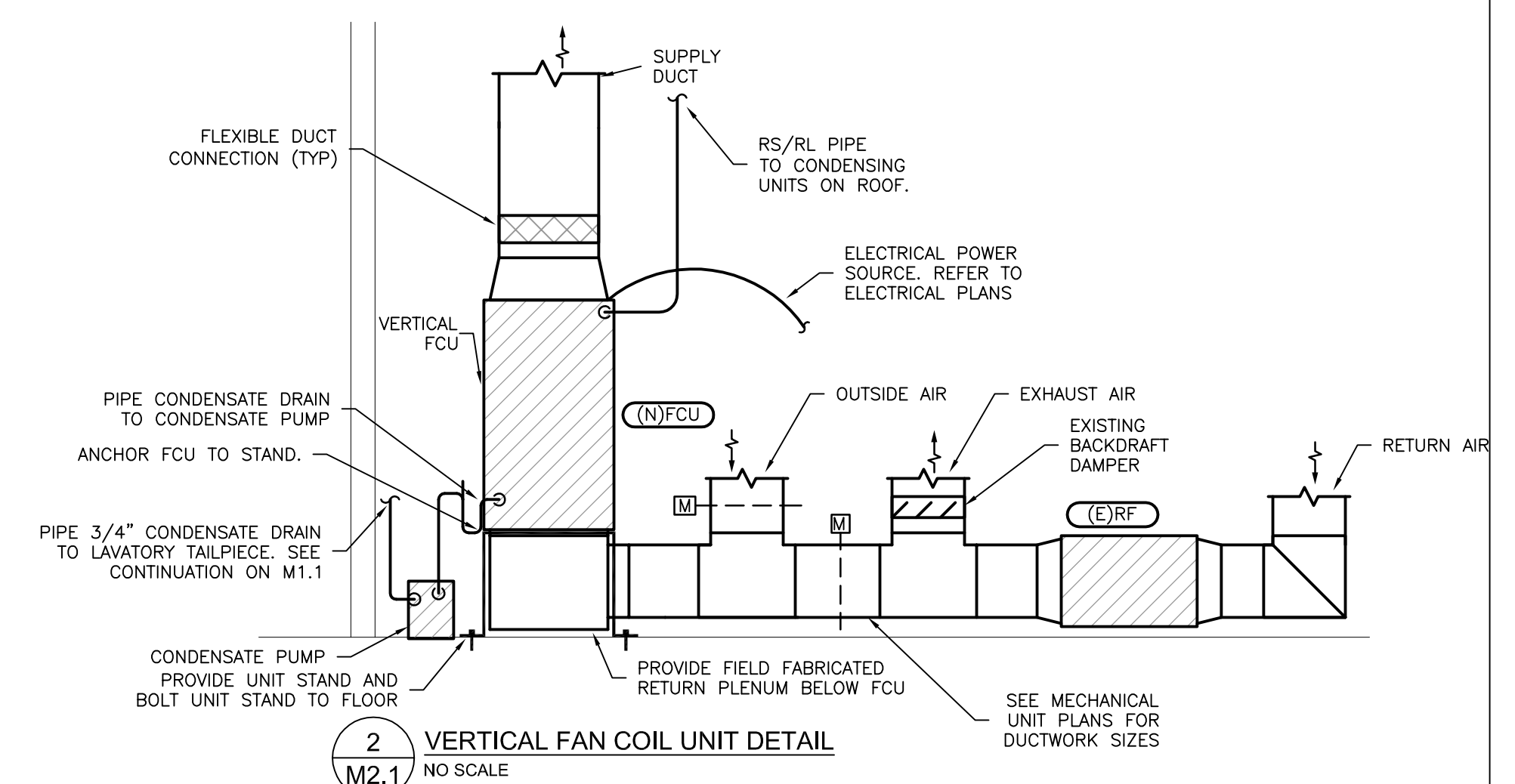
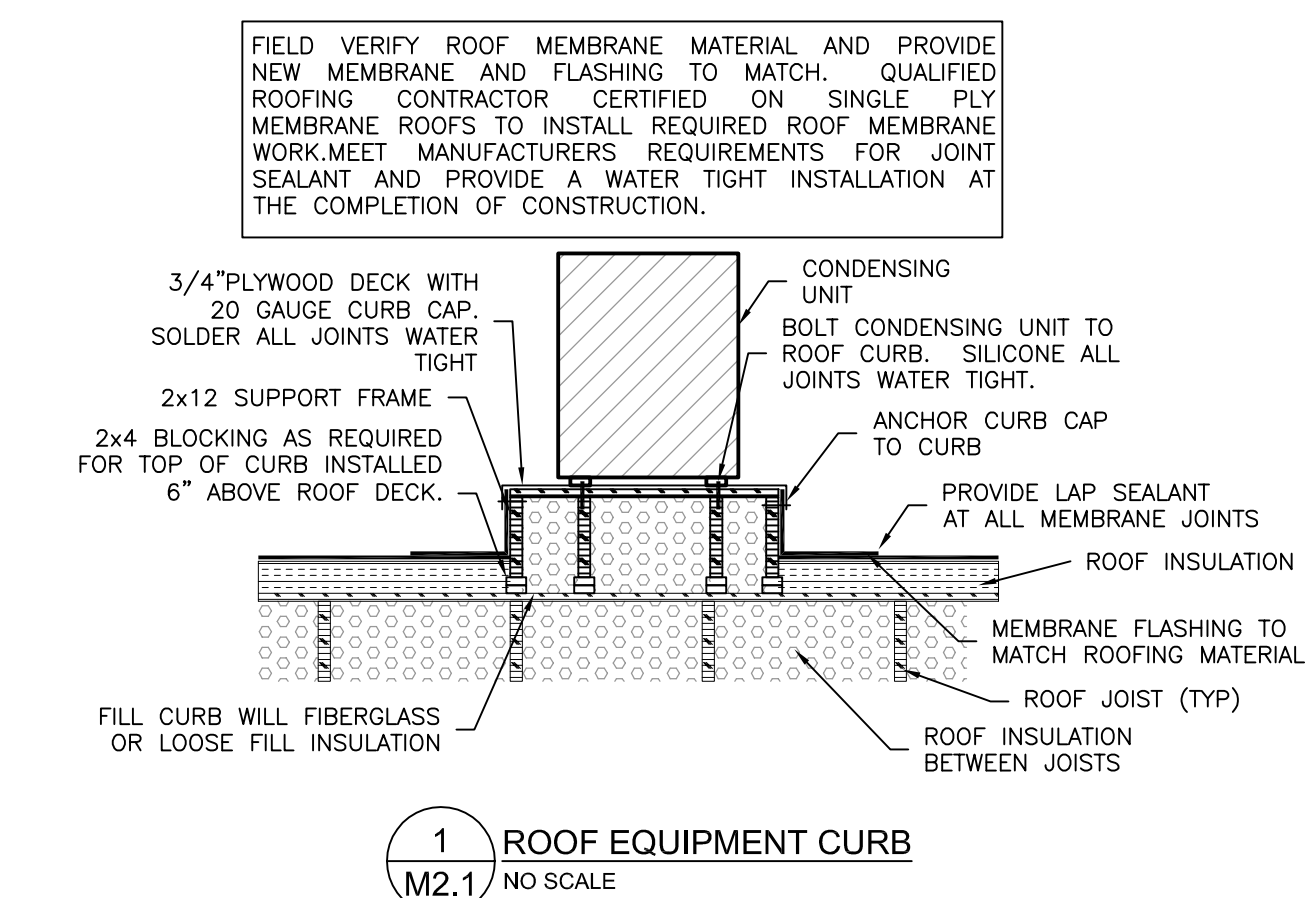
DATE
2-4-2022

MECHANICAL LEGEND (NOT ALL SYMBOLS ARE USED ON THIS PROJECT)

RL	REFRIGERANT LIQUID	GV	GATE VALVE	SD	SUPPLY DUCT DROP
RS	REFRIGERANT SUCTION	BV	BALL VALVE	SD/D	SUPPLY DUCT DOWN TO NEXT FLOOR
RD	REFRIGERANT DISCHARGE	BV	BUTTERFLY VALVE	SD/U	SUPPLY UP TO NEXT FLOOR
CD	CONDENSATE DRAIN	CV	CHECK VALVE	SD/R	SUPPLY DUCT RISE
M3.1	SECTION TAG DESIGNATION AND SHEET LOCATION	DCCV	DOUBLE CHECK VALVE	RE/SD	RETURN/EXHAUST DUCT DROP TO NEXT FLOOR
M2.1	DETAIL TAG DESIGNATION AND SHEET LOCATION	RPB	REDUCED PRESSURE BACKFLOW	RE/U	RETURN/EXHAUST DUCT UP TO NEXT FLOOR
AHU2-12	EQUIPMENT AND EQUIPMENT TAG	GV	GAS VALVE	RE/SD/D	RETURN/EXHAUST DUCT DROP TO NEXT FLOOR
SG-1	DIFFUSER TAG AND OUTLET AIRFLOW (CFM)	PVR	PRESSURE REDUCING VALVE	RE/U	RETURN/EXHAUST UP TO NEXT FLOOR
200	FLOOR DRAIN	TCV	THREE-WAY CONTROL VALVE	RE/SD	RETURN/EXHAUST DUCT RISE FOR DUCT LINER
FD	ROOF DRAIN	TCV	TWO-WAY CONTROL VALVE	12x10	DUCT SIZE - FIRST NUMBER INDICATES DUCT WIDTH, NET INTERIOR SIZE INCREASE FOR DUCT LINER
WC-1	PLUMBING FIXTURE & LABEL	STR	STRAINER	12#	INDICATES ROUND DUCTWORK
WC-1	POINT OF CONNECTION TO EXISTING PIPING, FIELD VERIFY EXACT SIZE AND LOCATION	BV	BALANCING VALVE	D	FLEXIBLE DUCT CONNECTION
WC-1	DUCT TURN WITH R EQUAL TO DIA (MINIMUM)	TR	TEMP/PRESSURE RELIEF VALVE	R	DUCT OFFSET DROP
WC-1	DUCT TURN WITH SINGLE TURNING VANES, SPACING LESS THAN 3", RADIUS GREATER THAN 4"	PG	PRESSURE GAUGE	R	DUCT OFFSET RISE
WC-1	THERMOSTAT AND UNIT SERVED	PG	TEMPERATURE GAUGE	R	DUCT TRANSITION
		PG	PETE'S PLUG	SQ	SQUARE TO ROUND TRANSITION
		PG	UNION	V	VOLUME DAMPER, MOTORIZED DAMPER
		PG	PIPE ANCHOR	F	FIRE, SMOKE AND FIRE/SMOKE DAMPER
		PG	PIPE SLEEVE		
		PG	EXPANSION JOINT		
		PG	PIPE TURN DOWN		
		PG	PIPE RISE		
		PG	PIPE BOTTOM CONNECTION		
		PG	PIPE TOP CONNECTION		
		PG	PIPE CONNECTION		
		PG	PIPE CAP		
		PG	PIPE END CLEANOUT		

ABBREVIATIONS

ADA	AMERICANS W/ DISABILITIES ACT COMPLIANT EQUIPMENT	EA	EXISTING TO REMAIN EXHAUST AIR	HWR	HEATING WATER (GLYCOL) RETURN	SA	SUPPLY AIR
AD	ACCESS DOOR	EF	EXHAUST FAN	L-##	LOUVER	SD	SMOKE DAMPER
AFF	ABOVE FINISHED FLOOR	EG-##	EXHAUST GRILLE	LAV	LAVATORY	SD/SG	SUPPLY DIFFUSER/GRILLE
AHU	AIR HANDLING UNIT	ELECT	ELECTRICAL	MANUF	MANUFACTURER	SF	SUPPLY FAN
BDD	BACK DRAFT DAMPER	FCO	FLOOR CLEANOUT	MBH	1000 BTU/HR	SH	SHOWER
BS/BSU	BRANCH SELECTOR UNIT	FCU/FCU	FAN COIL UNIT	MECH	MECHANICAL	SK	SINK
CA	COMBUSTION AIR	FD	FLOOR DRAIN	MS	MOP SINK	SS	SANITARY SEWER
CO	CLEANOUT	FD	FIRE DAMPER	MS	MOP SINK	ST	STORM SEWER
CONT	CONTINUATION	FD/SD	FIRE/SMOKE DAMPER	MS	MOP SINK	TC	TEMPERATURE CONTROL
CW	DOMESTIC COLD WATER	FE	FIRE EXTINGUISHER	(N)	NEW	TG	TRANSFER GRILLE
CWS	CHILLED WATER (GLYCOL SUPPLY)	FS	FLOOR SINK	OA	OUTSIDE AIR	TYP	TYPICAL
CW	CHILLED WATER (GLYCOL RETURN)	HP/HPU	HEAT PUMP UNIT	OC	ON CENTER	UR	URINAL
DDC	DIRECT DIGITAL CONTROL	HB	HOSE BIB	PRV	PRESS. REDUCING VALVE	V	VENT THROUGH ROOF
DF	DRINKING FOUNTAIN	HW	HEATING WATER (GLYCOL) SUPPLY	(R)	REMOVE AND RELOCATE	VTR	VENT THROUGH ROOF
		HWS	HEATING WATER (GLYCOL) SUPPLY	RA	RETURN AIR	WC	WATER CLOSET
				RD	ROOF DRAIN	WCO	WALL CLEANOUT
				RG-##	RETURN GRILLE	(X)	EXISTING TO BE REMOVED



FAN COIL UNIT SCHEDULE

TAG	MANUF	MODEL	ARRANGEMENT	LOCATION	ALTITUDE	REFRIGERANT	AIRFLOW (CFM)	OUTDOOR AIR MIN (CFM)	ESP (IN W.C.)	TOTAL BTUH	SENSIBLE BTUH	EAT DB/WB	LAT DB/WB	VOLT	PHASE	HZ	HP	MFS	EQUIP WEIGHT	REMARKS
FCU4-1	TRANE	BCCD036A1	VERTICAL COMPACT	431	4800'	R-410	1200	110	1.0	36,000	30,000	76.8/63.0	50.2/49.2	120	1	60	0.5	20	150	1,2,3,4
FCU4-2	TRANE	BCCD048A1	VERTICAL COMPACT	402	4800'	R-410	1800	245	1.0	48,000	36,000	77.7/63.0	50.1/49.1	120	1	60	1	20	150	1,2,4

REMARKS:
1. PROVIDE WITH FILTER IN UNIT. ESP DOES NOT INCLUDE FILTER. ASSUME 25" OF STATIC FOR FILTER. PROVIDE WITH BOTTOM RETURN OPTION. PROVIDE WITHOUT FACTORY CONTROLS. EXISTING CONTROLLER TO OPERATE FAN COIL UNIT. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
2. PROVIDE ALL REFRIGERANT PIPING, INSULATION AND ACCESSORIES BETWEEN INDOOR UNITS AND OUTDOOR UNITS. PROVIDE WITH WATER LEVEL DETECTION DEVICE INTERLOCKED WITH UNIT TO SHUT DOWN UNIT UPON DETECTION OF CONDENSATE.
3. PROVIDE CONDENSATE PUMP LITTLE GIANT VCMA-20 SERIES MODEL WITH ELECTRICAL SPECS (120V-60HZ-1PH).
4. PROVIDE WITH EC MOTOR.

FAN SCHEDULE

TAG	MANUF	MODEL	LOCATION	SERVES	ARRANGEMENT	ALTITUDE	AIRFLOW (CFM)	SP (IN W.C.)	DRIVE	CONTROL	VOLT	PHASE	HZ	POWER	REMARKS
(E)R/F4-1	PENN	SX95-OA	431	SOUTH ZONE	INLINE	4800	1,200	1.0	EXISTING	DDC	120	1	60	1/2 HP	1
(E)R/F4-2	PENN	SX125-OA	402	NORTH ZONE	INLINE	4800	1,800	1.0	EXISTING	DDC	120	1	60	1.5 HP	1

REMARKS:
1. PROVIDE NEW BELTS AND/OR PULLEYS AS REQUIRED TO ACHIEVE NEW AIRFLOWS.

CONDENSING UNIT SCHEDULE

TAG	MANUF.	MODEL	SERVES	TONS	REFRIGERANT	SEER	VOLT.	PHASE	HZ	UNIT MCA	UNIT MOP	UNIT WEIGHTS (LB)	REMARKS
CU4-1	TRANE	4TTA3036A3	FCU4-1	3.0	R-410A	14.0	208	3	60	14	20	200	1.2
CU4-2	TRANE	4TTA4048A3	FCU4-2	4.0	R-410A	14.0	208	3	60	18	30	200	1.2

REMARKS:
1. UNIT RATED AT 91°F/61°F OUTDOOR TEMPERATURE, 4800' ELEVATION. PROVIDE WITH MAXIMUM SOUND LEVEL OF 79 DBA.
2. PROVIDE REFRIGERANT PIPING SIZED FOR EQUIPMENT AND LOCATION INCLUDING DOUBLE SUCTION RISERS (ETC.). SUBMIT SHOP DRAWINGS. PROVIDE WITH HARD START KIT, AND LOW AMBIENT OPERATION DOWN TO 0°F.

MOTORIZED DAMPER SCHEDULE

TAG	LOCATON	DUCT SIZE	SERVES	AIRFLOW (CFM)	CONTROL	VOLT	PHASE	HZ	REMARKS
MD4-1	ROOM 402	12x16	RETURN AIR	1,800	TEMP CONTROL	24	1	60	-
MD4-2	ROOM 402	12x16	OUTSIDE AIR	1,800	TEMP CONTROL	24	1	60	-

REMARKS:

MECHANICAL DETAILS AND SCHEDULES
NO SCALE

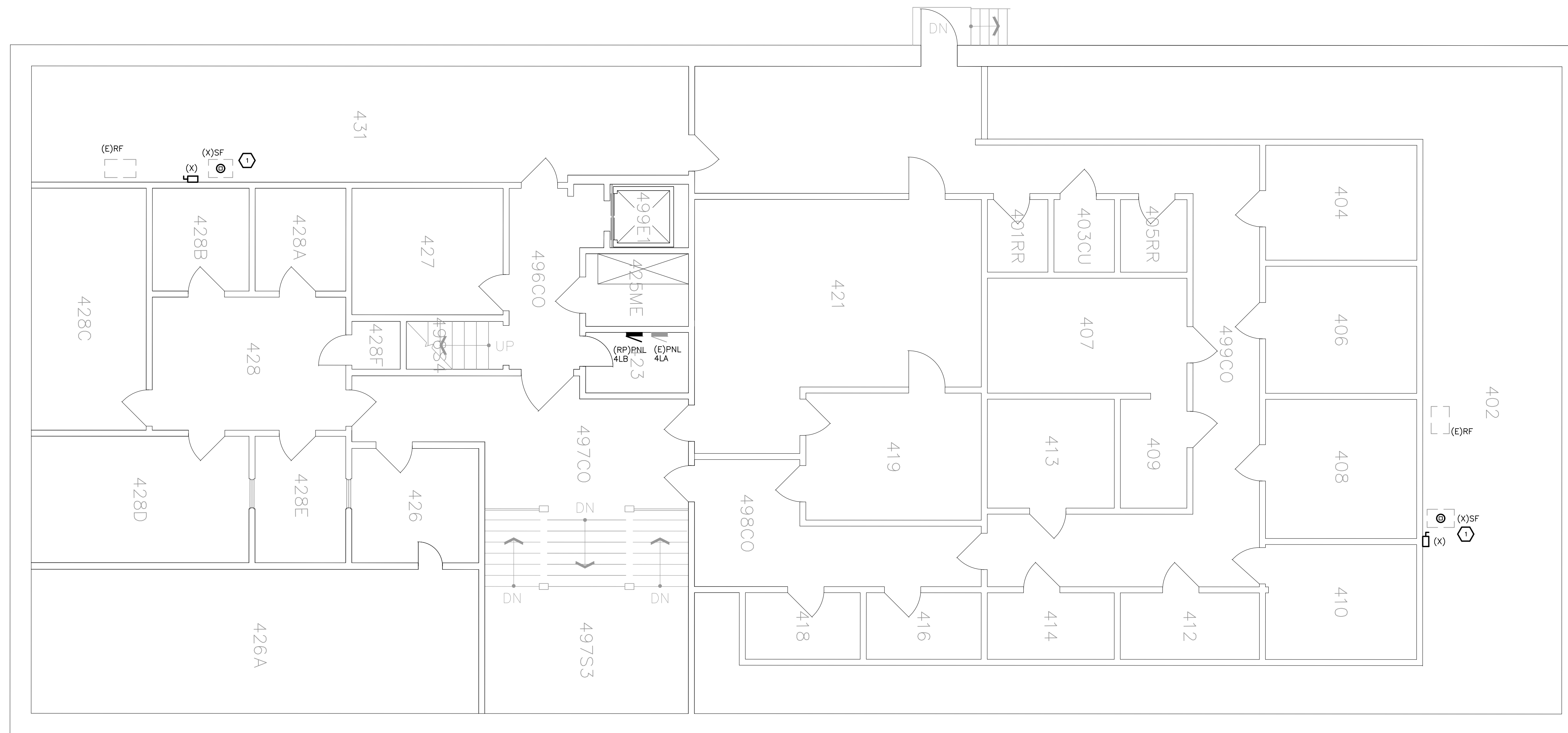
NOT TO SCALE UNLESS INDICATED OTHERWISE

CONSTRUCTION NOTES

- 1. EXISTING SUPPLY FAN TO BE REPLACED WITH NEW FAN COIL UNIT. REMOVE CONNECTIONS TO FAN AND CAP CIRCUITS WITHIN JUNCTION BOX. PROVIDE POWER TO NEW FAN COIL UNITS FROM NEW PANEL.

GENERAL NOTES

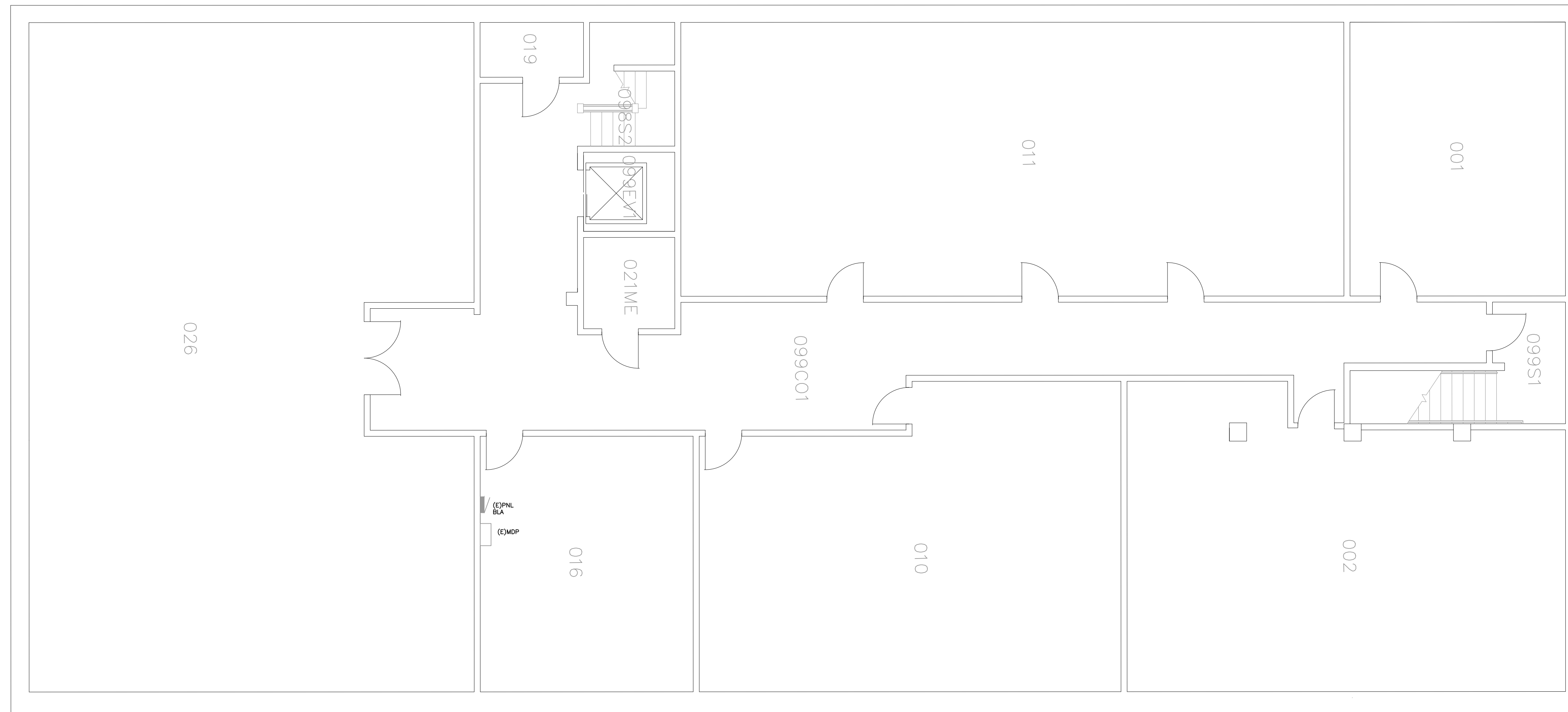
1. IT IS ABSOLUTELY NECESSARY FOR ALL TRADES INCLUDING EQUIPMENT SUPPLIERS TO COORDINATE WITH EACH OTHER AND TO VERIFY THAT THERE ARE NO CONFLICTS IN LOCATIONS OF DUCTS, CONDUITS, SPRINKLER HEADS, SPRINKLER PIPING, DIFFUSERS, ELECTRICAL BOXES AND OTHER ITEMS THROUGHOUT THIS PROJECT BEFORE FINAL PLACEMENT OF MATERIALS.
2. REFER TO PROJECT SPECIFICATIONS FOR ADDITIONAL INFORMATION: DETAILED EQUIPMENT REQUIREMENTS, INSTALLATION INSTRUCTIONS, PERFORMANCE REQUIREMENTS, CONTROL SEQUENCES AND ALL OTHER PROJECT DETAILS.
3. PROVIDE NEW CONDUCTORS IN EXISTING RACEWAYS THAT ARE FEASIBLE TO RE-USE. USE EXISTING BACKBOXES WITH NEW DEVICES IN APPROPRIATE AREAS.
4. ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH NEC, STATE AND LOCAL BUILDING CODE.
5. RETURN ANY USABLE/ SALVAGEABLE ELECTRICAL DEVICES TO OWNER INCLUDING BUT NOT LIMITED TO: LIGHT FIXTURES, ELECTRICAL HEATERS, PANELS, CIRCUIT BREAKERS ETC. CONFIRM WITH OWNER ITEMS THAT ARE DESIRABLE FOR RETENTION.
6. ALL ITEMS ON DEMOLITION PLANS AND PROVIDED WITH A (X) ARE TO BE REMOVED UNLESS NOTED OTHERWISE. ITEMS PROVIDED WITH AN (E) ARE TO REMAIN. NOTE - ITEMS SHOWN IN THE DEMOLITION PLANS ARE BASED ON "EXISTING AS-BUILTS". ADDITIONAL ELECTRICAL ITEMS MAY BE ENCOUNTERED THAT ARE NOT SHOWN.
7. ANY WORK THAT REQUIRES POWER DISRUPTIONS SHALL BE SCHEDULED, MINIMUM OF 5 WORKING DAYS AHEAD OF TIME, AND APPROVED BY THE OWNER. ALL WORK SHALL BE PERFORMED WITH NO DISRUPTION OF THE OWNER'S BUSINESS.



DEMO FOURTH FLOOR PLAN - ELECTRICAL
SCALE: 3/16" = 1'-0"

GENERAL NOTES

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3. INSTALL ALL NEW WORK TO MEET CURRENT CODES AND INSTALLATION STANDARDS.
4. NEW CONDUCTORS SHALL BE COPPER AND A MINIMUM OF #12 GAUGE.
5. NEW WIRING AND DEVICES SHALL BE SPECIFICATION GRADE AND RATED FOR MINIMUM 20A.



BASEMENT PLAN - ELECTRICAL
SCALE: 3/16" = 1'-0" 

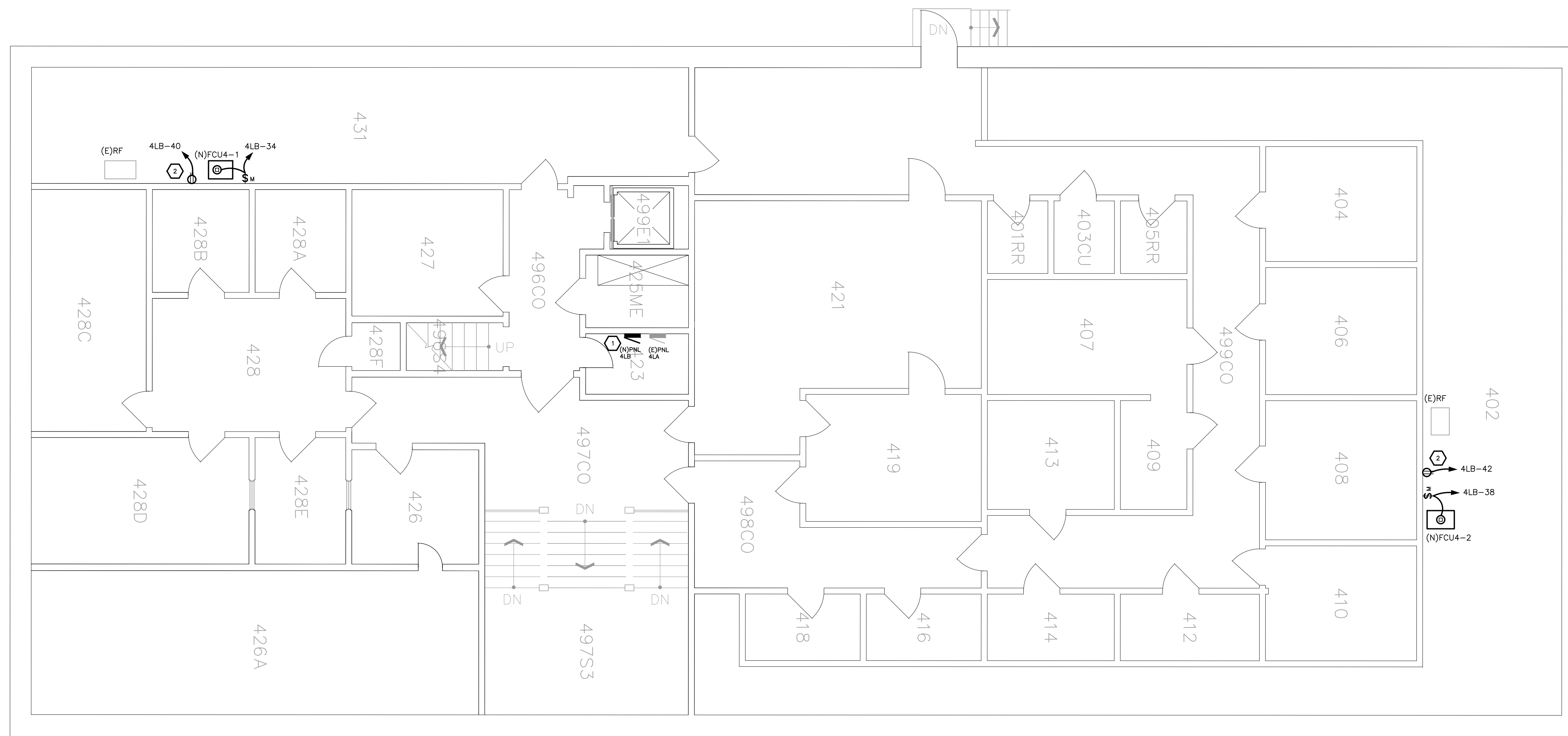
CONSTRUCTION NOTES

1 NEW COOLING SYSTEM BREAKERS SHALL BE TURNED ON IN THE SPRING WHEN SNOW MELT BREAKERS ARE TURNED OFF. REVERSE PROCESS SHALL OCCUR IN THE FALL. DETAILS OF BREAKER SWITCHING SHALL BE COORDINATED WITH FACILITIES SERVICES. ELECTRICAL CONTRACTOR IS TO PROVIDE A PERMANENT SIGN NEAR ELECTRICAL PANEL WITH BREAKER SWITCHING INFORMATION.

2 COORDINATE FINAL LOCATION AND MOUNTING HEIGHT OF RECEPTACLE FOR CONDENSATE PUMP WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN.

GENERAL NOTES

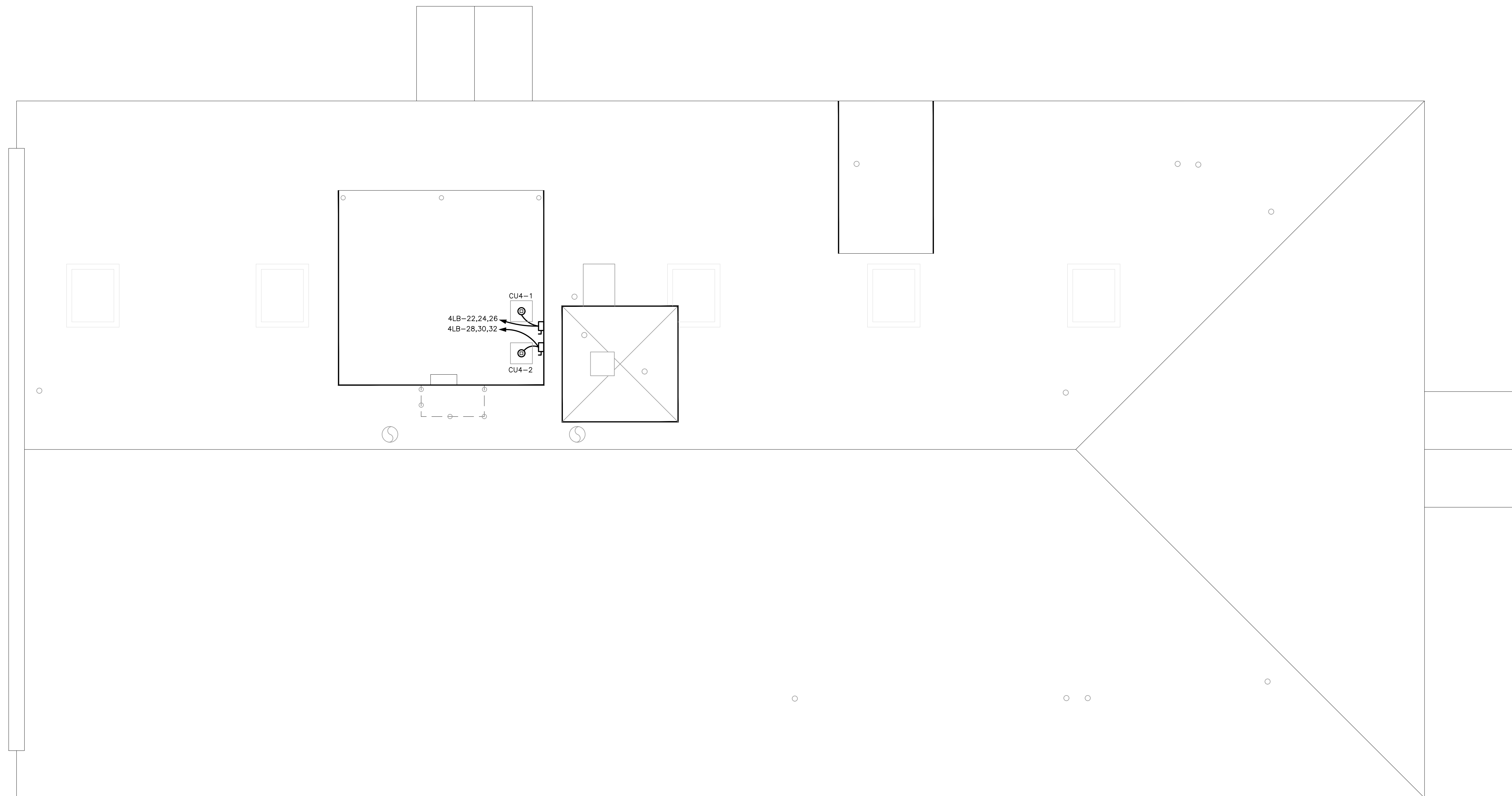
- IT IS ABSOLUTELY NECESSARY FOR ALL TRADES INCLUDING EQUIPMENT SUPPLIERS TO COORDINATE WITH EACH OTHER AND TO VERIFY THAT THERE ARE NO CONFLICTS IN LOCATIONS OF DUCTS, CONDUITS, SPRINKLER HEADS, SPRINKLER PIPING, DIFFUSERS, ELECTRICAL BOXES AND OTHER ITEMS THROUGHOUT THIS PROJECT BEFORE FINAL PLACEMENT OF MATERIALS.
- REFER TO PROJECT SPECIFICATIONS FOR ADDITIONAL INFORMATION: DETAILED EQUIPMENT REQUIREMENTS, INSTALLATION INSTRUCTIONS, PERFORMANCE REQUIREMENTS, CONTROL SEQUENCES AND ALL OTHER PROJECT DETAILS.
- INSTALL ALL NEW WORK TO MEET CURRENT CODES AND INSTALLATION STANDARDS.
- NEW CONDUCTORS SHALL BE COPPER AND A MINIMUM OF #12 GAUGE.
- NEW WIRING AND DEVICES SHALL BE SPECIFICATION GRADE AND RATED FOR MINIMUM 20A.

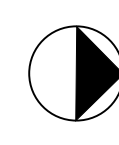


FOURTH FLOOR PLAN - ELECTRICAL
SCALE: 3/16" = 1'-0"

GENERAL NOTES

1. IT IS ABSOLUTELY NECESSARY FOR ALL TRADES INCLUDING EQUIPMENT SUPPLIERS TO COORDINATE WITH EACH OTHER AND TO VERIFY THAT THERE ARE NO CONFLICTS IN LOCATIONS OF DUCTS, CONDUITS, SPRINKLER HEADS, SPRINKLER PIPING, DIFFUSERS, ELECTRICAL BOXES AND OTHER ITEMS THROUGHOUT THIS PROJECT BEFORE FINAL PLACEMENT OF MATERIALS.
2. REFER TO PROJECT SPECIFICATIONS FOR ADDITIONAL INFORMATION: DETAILED EQUIPMENT REQUIREMENTS, INSTALLATION INSTRUCTIONS, PERFORMANCE REQUIREMENTS, CONTROL SEQUENCES AND ALL OTHER PROJECT DETAILS.
3. INSTALL ALL NEW WORK TO MEET CURRENT CODES AND INSTALLATION STANDARDS.
4. NEW CONDUCTORS SHALL BE COPPER AND A MINIMUM OF #12 GAUGE.
5. NEW WIRING AND DEVICES SHALL BE SPECIFICATION GRADE AND RATED FOR MINIMUM 20A.



 **ROOF PLAN - ELECTRICAL**
SCALE: 3/16" = 1'-0" 