

# PAYSON CITY CENTER AHU-3 REPLACEMENT

439 W. Utah Ave, Payson, UT 84651

## CONSTRUCTION DOCUMENTS

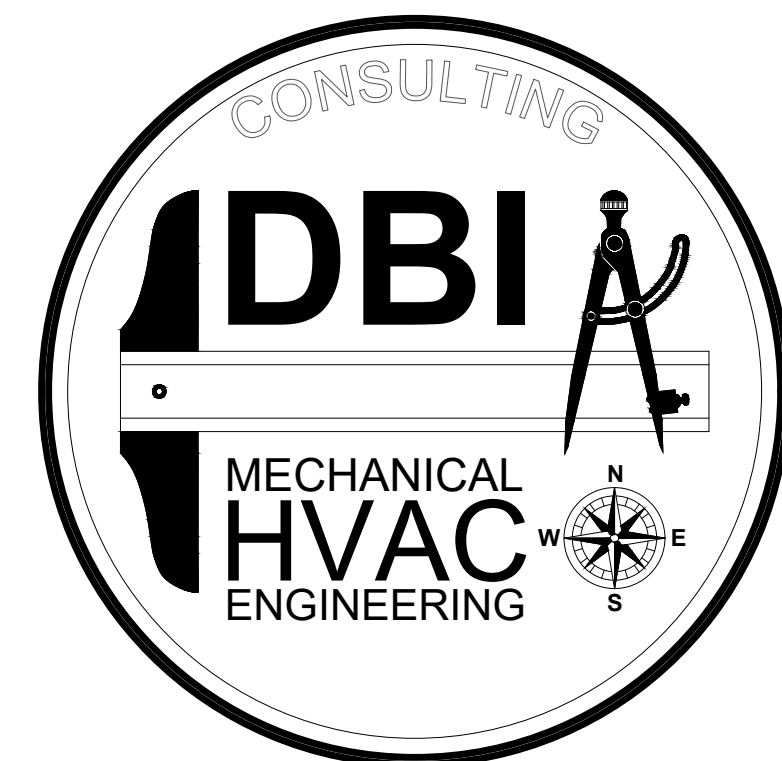
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#### PROJECT GENERAL CONDITIONS

1. BECAUSE OF THE SMALL SCALE OF THE MECHANICAL DRAWINGS, IT IS NOT POSSIBLE TO INDICATE ALL OFFSETS, FITTINGS, AND ACCESSORIES WHICH MAY BE REQUIRED. CONTRACTOR IS RESPONSIBLE TO INVESTIGATE ALL EXISTING CONDITIONS THAT AFFECT THE WORK AND SHALL ARRANGE THE WORK ACCORDINGLY, PROVIDING ALL EXTENSIONS, FITTINGS, VALVES AND ACCESSORIES TO MEET THE CONDITIONS AS MAY BE REQUIRED.
2. EXAMINE THE CONSTRUCTION SITE PRIOR TO BIDDING AND OBTAIN AN UNDERSTANDING OF THE CONDITIONS UNDER WHICH THE WORK WILL BE PERFORMED. NO ALLOWANCES WILL BE MADE FOR FAILURE TO MAKE SUCH EXAMINATIONS.
3. VERIFY THE DIMENSIONS GOVERNING THE MECHANICAL WORK AT THE BUILDING DURING CONSTRUCTION. NO EXTRA COMPENSATION SHALL BE CLAIMED NOR ALLOWED BECAUSE OF DIFFERENCES BETWEEN ACTUAL DIMENSIONS AND THOSE INDICATED ON THE DRAWINGS. NO WAIVER OF RESPONSIBILITY FOR DEFECTIVE WORK SHALL BE CLAIMED OR ALLOWED DUE TO UNFAVORABLE CONDITIONS AFFECTING MECHANICAL WORK.
4. INSTALL EQUIPMENT AND MATERIALS TO PROVIDE REQUIRED ACCESS FOR SERVICING AND MAINTENANCE. RESPECT MANUFACTURER'S RECOMMENDED CLEARANCES FOR SERVICING AND MAINTENANCE. COORDINATE WORK WITH ALL TRADES TO ENSURE MAINTENANCE ACCESS TO ALL COMPONENTS IN THE BUILDING.



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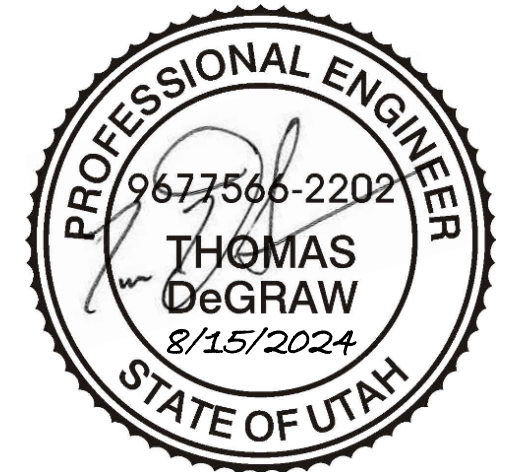
DATE: 8/15/2024

DESIGNER: TOM DeGRAW

DRAWN BY: KINKADE MINSON



STAMP



PAYSON CITY CENTER  
AHU-3 REPLACEMENT

439 W Utah Ave, Payson, UT 84651

REVISIONS:

MECHANICAL  
SYMBOL LEGEND  
AND SCHEDULES

M-001

Construction Documents

### SYMBOL LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	NEW CONNECTION SYMBOL	(E)	EXISTING
	RISE IN RECTANGULAR SUPPLY AIR DUCT		SUPPLY PIPING AND FLOW ARROW
	RISE IN ROUND SUPPLY AIR DUCT		RETURN PIPING AND FLOW ARROW
	DROP IN RECTANGULAR SUPPLY AIR DUCT		PIPE DROP
	DROP IN ROUND SUPPLY AIR DUCT		PIPE RISE
	RISE IN RECTANGULAR RETURN AIR DUCT		TEE PIPE CONNECTION
	RISE IN ROUND RETURN AIR DUCT		CONCENTRIC REDUCER
	DROP IN RECTANGULAR RETURN AIR DUCT		ECCENTRIC REDUCER
	DROP IN ROUND RETURN AIR DUCT		CAP
	RISE IN RECTANGULAR EXHAUST AIR DUCT		Y-STRAINER
	RISE IN ROUND EXHAUST AIR DUCT		2-WAY CONTROL VALVE
	DROP IN RECTANGULAR EXHAUST AIR DUCT		BALL VALVE
	DROP IN ROUND EXHAUST AIR DUCT		GATE VALVE
	SUPPLY AIR DIFFUSER		DRAIN PIPING
	RETURN AIR GRILLE		WASTE PIPE DROP
	EXHAUST AIR GRILLE		WASTE PIPE RISE
	ROUND DUCT NECK FITTING		CLEANOUT
	45° DUCT ELBOW FITTING		STEAM TRAP / BUCKET TRAP
	90° DUCT ELBOW FITTING WITH TURNING VANES		SOLENOID VALVE
	RECTANGULAR TO ROUND DUCT CONNECTION		SITE GLASS
	HIGH EFFICIENCY TAKEOFF		
	HIGH EFFICIENCY TAKEOFF WITH HAND DAMPER		
	DAMPER IN DUCT		
	RADIUS 45° DUCT ELBOW FITTING		
	RADIUS 90° DUCT ELBOW FITTING		
	THERMOSTAT		
	TEMPERATURE SENSOR		

### SITE CLIMATE DESIGN CONDITIONS

LOCATION	ELEVATION	DESIGN CONDITIONS IN ° FAHRENHEIT			REMARKS
	ABOVE SEA	SUMMER		WINTER	
	LEVEL IN FEET	DRY BULB	WET BULB	DRY BULB	
PAYSON UTAH	4,680	95	63	5	-

8.15.2024 06:54 - KINKADE MINSON

**BUILT-UP AIR HANDLER UNIT SCHEDULE**

**AIR HANDLING UNIT**

SYMBOL	MAXIMUM AIR HANDLER UNIT SIZE INCHES			LOCATION	SERVICE	MINIMUM OUT SIDE AIR FLOW CFM	CONSTRUCTION TYPE	REMARKS	SPECIFICATION SECTION
	LENGTH	WIDTH	HEIGHT						
	AHU-300	215	100						

**SUPPLY FAN**

SYMBOL	SERVICE	TOTAL AIR FLOW CFM	TOTAL STATIC PRESSURE INCHES W.C.	QUANTITY OF FANS	FAN RPM	BHP EACH	TOTAL BHP	TOTAL HP	MOTOR ELECTRICAL CHARACTERISTICS					FAN TYPE	MAX. CELL WEIGHT	FAN WHEEL SIZE	CLASS	FANWALL CELL SIZE INCHES			SPECIFICATION SECTION
									HP EACH	VOLTS	HERTZ	PHASE	RPM					WIDTH	HEIGHT	DEPTH	
SF-300	AHU-300	15,600	3	4	1,710	2.6	10.41	12	3	208	60	3	1,760	HPF-A100	364	22	III	44	44	26	23 3416

**DX COOLING COIL**

SYMBOL	SERVICE	NOMINAL AIR FLOW CFM	EAT	LAT	SENSIBLE HEAT CAPCITY IN MBH	TOTAL HEAT CAPCITY IN MBH	SERPENTINE	REFRIGERANT	QUANTITY OF COILS	TOTAL SQ.FT.	MAX FACE VEL.	MAX APD	MINIMUM ROWS	MAX. FINS PER INCH	NOMINAL COIL SIZE INCHES FIN WIDTH X HEIGHT	REMARKS	SPECIFICATION SECTION
			DB/WB *F	DB/WB *F													
CC-300	AHU-300	15,600	82/62	51.8/51	424.3	440.8	0.25	R-410A	2	36	433	0.35	4	12	72 X 36	-	23 8216

**FILTER SECTION**

SYMBOL	SERVICE	NOMINAL AIR FLOW CFM	MIN. FILTER FACE AREA SQ.FT.	FILTER FRAME TYPE	PRE-FILTER MERV8 CAMFIL FARR	FILTER EFFICIENCY MERV	FILTER QUANTITY AND SIZE	SPECIFICATION SECTION
F-300	AHU-300	15,600	48	FARR M22 FAST FRAME	2" - 30/30	8	12 - 24 X 24	23 4116

**CHANNEL BLENDER/OA AND RA AIR OPENINGS**

SYMBOL	SERVICE	NOMINAL SIZE INCHES				BLENDER DAMPER BLADE QUANTITY	BLENDER PRODUCTS MODEL	SPECIFICATION SECTION
		QUANTITY	HEIGHT	WIDTH	DEPTH			
RAO-300	AHU-300	1	85.75	15.25	-	-	-	23 8216
OA0-300	AHU-300	1	85.75	18.25	-	-	-	
CB-300	AHU-300	1	97.53	46.5	24.25	RA-8 / OA-7	CB-137-16-25-15-160-2CDCD	

Notes:  
 1. CHANNEL BLENDER WEIGHT SHALL NOT EXCEED 300 POUNDS.  
 2. MAXIMUM AIR PRESSURE DROP ACROSS CHANNEL BLENDER SHALL NOT EXCEED 0.5 INCHES OF WATER COLUMN.  
 3. CHANNEL BLENDER SHALL BE SHIPPED IN KNOCKDOWN FOR ASSEMBLY IN MECHANICAL ROOM.

**VARIABLE FREQUENCY DRIVES SPEED CONTROL PANEL**

SYMBOL	SERVICE	FAN MOTOR QUANTITY	VFD QUANTITY	FAN MOTOR HP	VFD HP EACH	TOTAL VFD HP	ELECTRICAL MOTOR			FAN SPEED CONTROL BOX MOUNTING	SPECIFICATION SECTION
							VOLTS	HZ	PH		
SCP-300	SF-300	4	4	3	3	12	208	60	1	REMOTE MOUNTED	23 0810

**STEAM HEATING COIL SCHEDULE**

SYMBOL	NOMINAL AIR FLOW CFM	SERVICE	HEATING STAGE	MAX AIR PRESSURE DROP IN. W.C.	MINIMUM CAPACITY MBH	ENTERING AIR DB	LEAVING AIR DB	ENTERING STEAM TEMP	CONDENSATE LBS/HR	STEAM PRESSURE	STEAM TRAP SYMBOL	B&G FLOAT AND THERMOSTATIC STEAM TRAP MODEL	MIN. FACE AREA SQ. FT.	MAX FACE VELOCITY	NOM. COIL SIZE INCHES		ROWS/FPI	REMARKS	SPECIFICATION SECTION
															WIDTH	HEIGHT			
SHC-300	5,800	ZONE-300	1	0.03	304.8	0	50.1	227	317	5	ST-1	FT015H-3	15.83	370	76	30	1/6	1, 2	23 8216
SHC-301	5,800	ZONE-300	2	0.03	224.9	50.1	91.1	227	234	5	ST-2	FT015H-3	15.83	370	76	30	1/6	1, 2	
SHC-302	1,800	ZONE-301	1	0.03	106.5	0	56.5	227	111	5	ST-3	FT015H-3	5.33	340	32	24	1/6	1, 2	
SHC-303	1,800	ZONE-301	2	0.03	75.2	56.5	101.3	227	78	5	ST-4	FT015H-3	5.33	340	32	24	1/6	1, 2	
SHC-304	1,800	ZONE-302	1	0.03	106.5	0	56.5	227	111	5	ST-5	FT015H-3	5.33	340	32	24	1/6	1, 2	
SHC-305	1,800	ZONE-302	2	0.03	75.2	56.5	101.3	227	78	5	ST-6	FT015H-3	5.33	340	32	24	1/6	1, 2	
-	-	-	-	-	-	-	-	227	45	5	ST-7	FT015H-3	-	-	-	-	-	3	

Notes:  
 1. MECHANICAL PIPING CONTRACTOR TO PROVIDE HEATING COIL STEAM TRAP, STRAINER, ISOLATION VALVE, ETC. FOR EACH STEAM HEATING COIL, SEE PIPING DIAGRAM FOR ALL REQUIREMENTS.  
 2. SHEET METAL CONTRACTOR TO PURCHASE STEAM HEATING COIL AND INSTALL COILS IN DUCTING AS SHOWN IN THE REMODEL DRAWINGS, COORDINATE WORK WITH MECHANICAL PIPING AND CONTROLS CONTRACTORS.  
 3. THIS ROW SHOWS STEAM TRAP REQUIREMENT FOR THE END OF LOOP STEAM TRAP, SEE REMODEL DRAWINGS AND PIPING DIAGRAM FOR PIPING REQUIREMENTS.

**AIR COOLED CONDENSING UNIT SCHEDULE**

SYMBOL	NOMINAL TONS COOLING	MAXIMUM COND. UNIT SIZE INCHES			MAXIMUM UNIT WEIGHT LBS.	IEER AHRI CONDITIONS	REFRIGERANT TYPE	NUMBER OF CIRCUITS	NUMBER OF STAGES	COMPRESSOR TYPE	NUMBER OF COMPRESSORS	ELECTRICAL CHARACTERISTICS					DAIKIN MODEL NUMBER	REMARKS	SPECIFICATION SECTION	
		LENGTH	WIDTH	HEIGHT								VOLTS	HZ	PH	UNIT POWER KW	MCA				MROPD
CU-300	36.6	99	80	55.5	2,500	14.9	R-410A	2	4	SCROLL	4	208	60	3	41.1	161.3	175	RCS040D	1	23 6213

Notes:  
 1. PROVIDE CONDENSING UNIT WITH ALL MOUNTING ACCESSORIES FOR CONCRETE PAD MOUNTING.

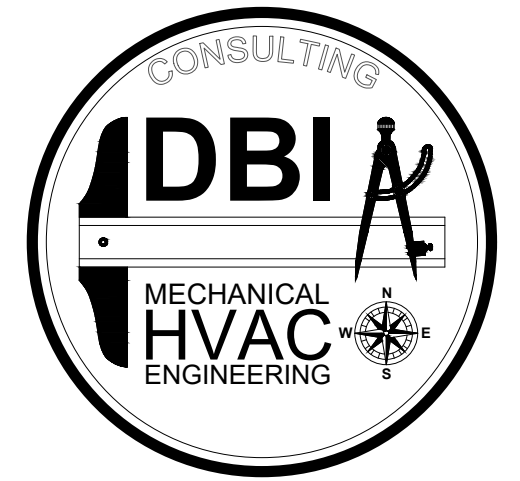
**ZONE CONTROL DAMPER SCHEDULE**

SYMBOL	NOMINAL AIR FLOW CFM	SERVICE	NOMINAL SIZE INCHES			TYPE	GREENHECK MODEL	REMARKS	SPECIFICATION SECTION
			QUANTITY	WIDTH	HEIGHT				
ZD-300	9,600	NORTH ZONE AHU-300	1	66	30	OPPOSED	VCD-43	1, 2	23 3714
ZD-301	3,000	WEST ZONE AHU-300	1	26	24	OPPOSED	VCD-43	1, 2	
ZD-302	3,000	EAST ZONE AHU-300	1	26	24	OPPOSED	VCD-43	1, 2	

Notes:  
 1. ZONE DAMPER TO BE PROVIDED WITH ACTUATOR MOUNTING BRACKET AND ROD FOR EXTERNAL SIDE DUCT MOUNTING.  
 2. ZONE DAMPERS CONTROLS TO BE PROVIDED BY CONTROLS CONTRACTOR, OR THEIR SUB CONTRACTOR.

**AIRFLOW MEASURING STATION**

SYMBOL	SERVICE	LOCATION	DUCT INSIDE DIM. INCHES	DUCT OUTSIDE DIM. INCHES	ELECTRICAL			EBTRON MODEL	REMARKS	SPECIFICATION SECTION
					VOLTS	HERTZ	PHASE			
AFM-300	NORTH ZONE	SUPPLY AIR DUCT	34 X 16	36 X 18	24	60	1	HTX104-T	-	23 0516
AFM-301	WEST ZONE	SUPPLY AIR DUCT	18 X 10	20 X 12	24	60	1	HTX104-T	-	
AFM-302	EAST ZONE	SUPPLY AIR DUCT	34 X 16	36 X 18	24	60	1	HTX104-T	-	

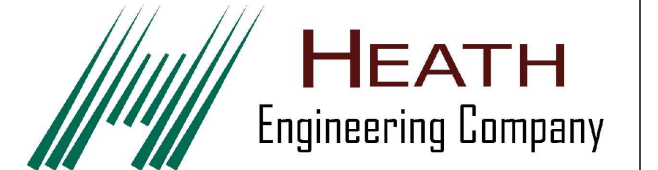


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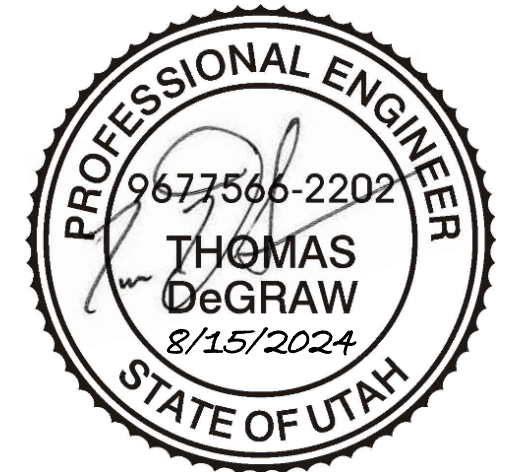
DATE: 8/15/2024

DESIGNER: TOM DeGRAW

DRAWN BY: KINKADE MINSON



STAMP



**PAYSON CITY CENTER  
AHU-3 REPLACEMENT**

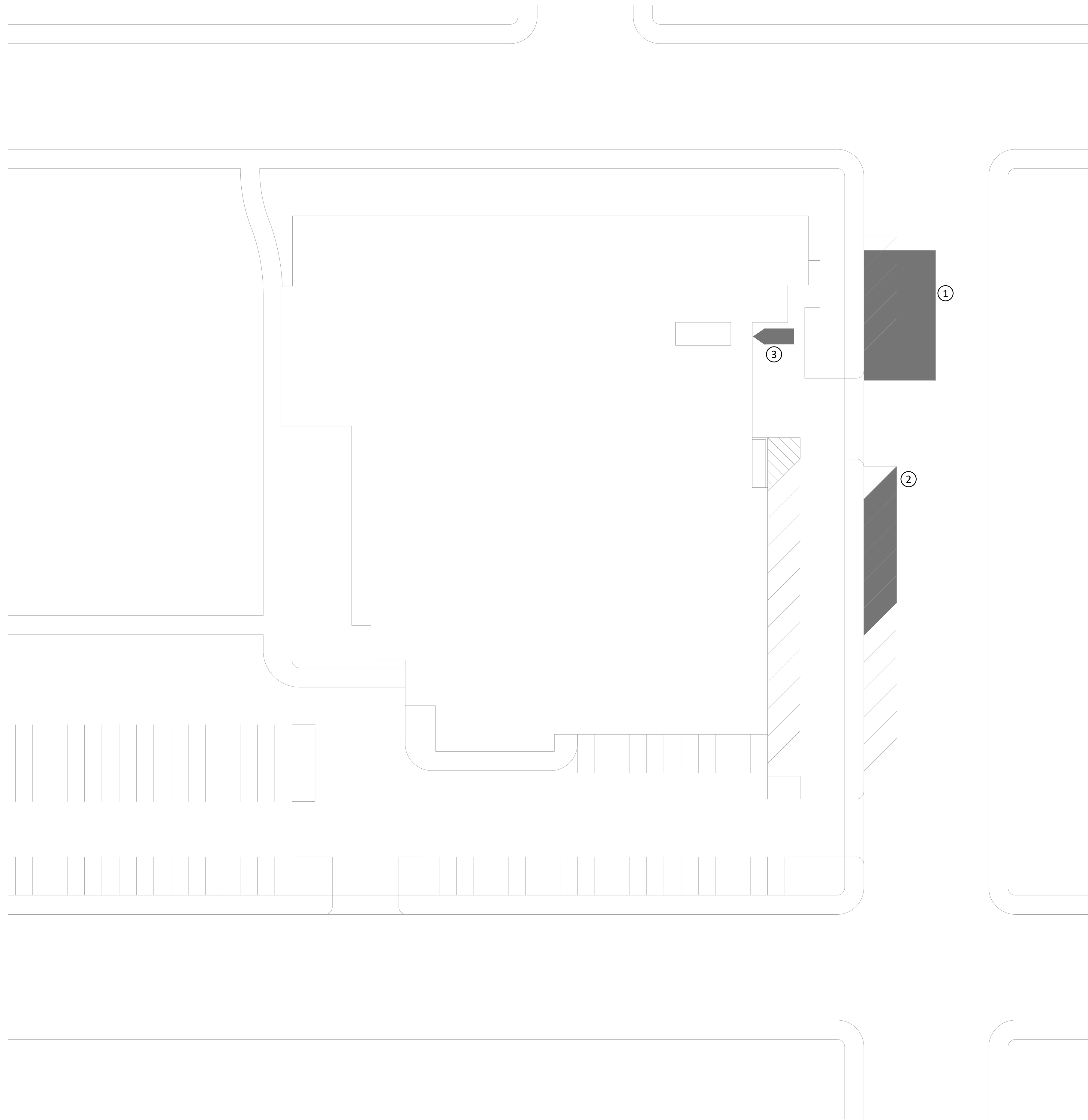
439 W Utah Ave, Payson, UT 84651

REVISIONS:

Construction Documents

MECHANICAL  
SCHEDULES

**M-002**



**REFERENCE NOTES**

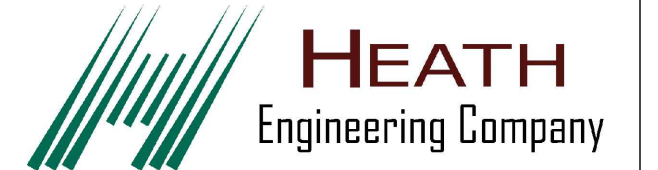
- ① DESIGNATED AREA FOR CRANING OF EXISTING CONDENSING UNIT AND NEW CONDENSING UNIT. SEE MD400 AND M-400 FOR DEMOLITION AND REMODEL WORK. COORDINATE LIFTING WITH PAYSON CITY POLICE DEPARTMENT AS THIS IS WHERE THEY PARK THEIR POLICE CRUISERS.
- ② DESIGNATED AREA FOR CONTRACTOR PARKING FOR PROJECT. COORDINATE PARKING WITH PAYSON CITY FACILITY MANAGER.
- ③ ACCESS TO CONDENSING UNIT AND AIR HANDLER FROM THIS LOCATION.



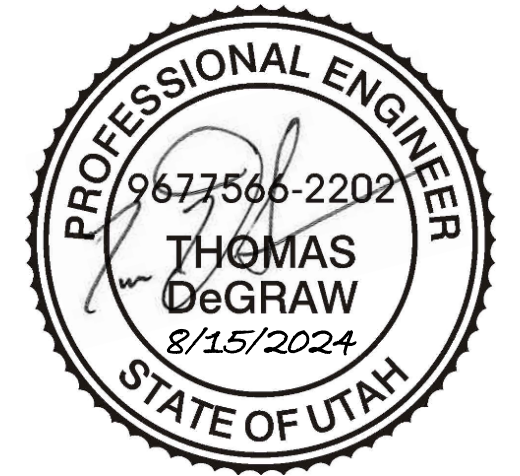
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AHU-3 REPLACEMENT**

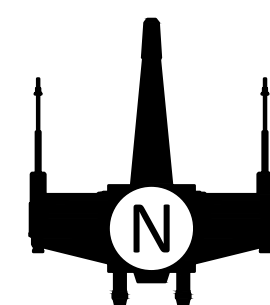
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REVISIONS:  
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PAYSON CITY CENTER  
SITE  
MECHANICAL PLAN

**MS100**

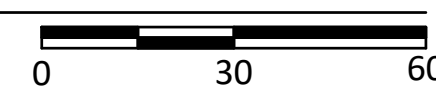
Construction Documents

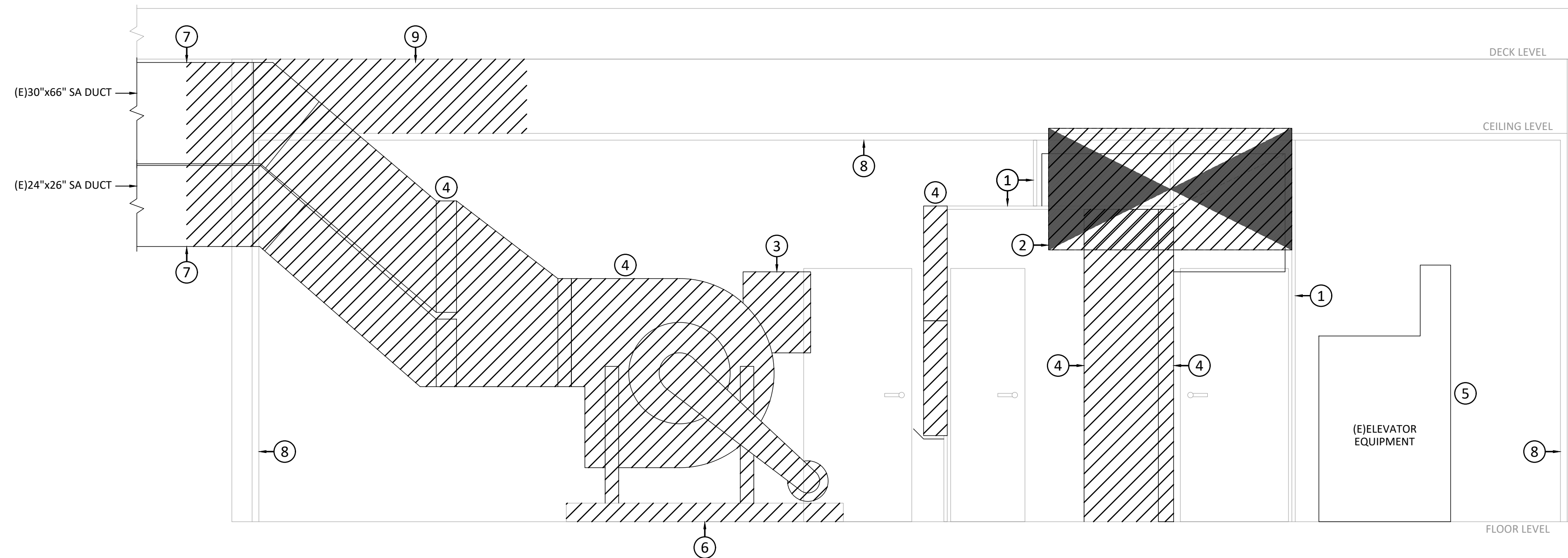


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MS100

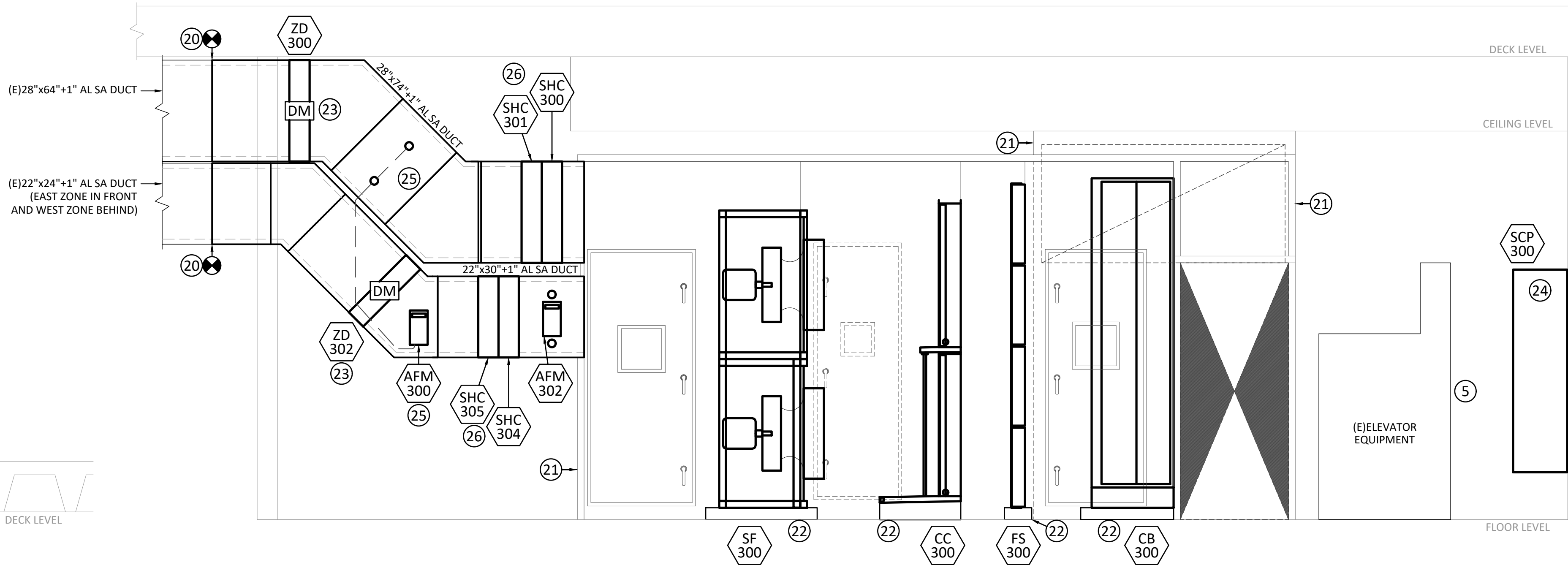
**PAYSON CITY CENTER SITE MECHANICAL PLAN**

SCALE: 1" = 30'-0"

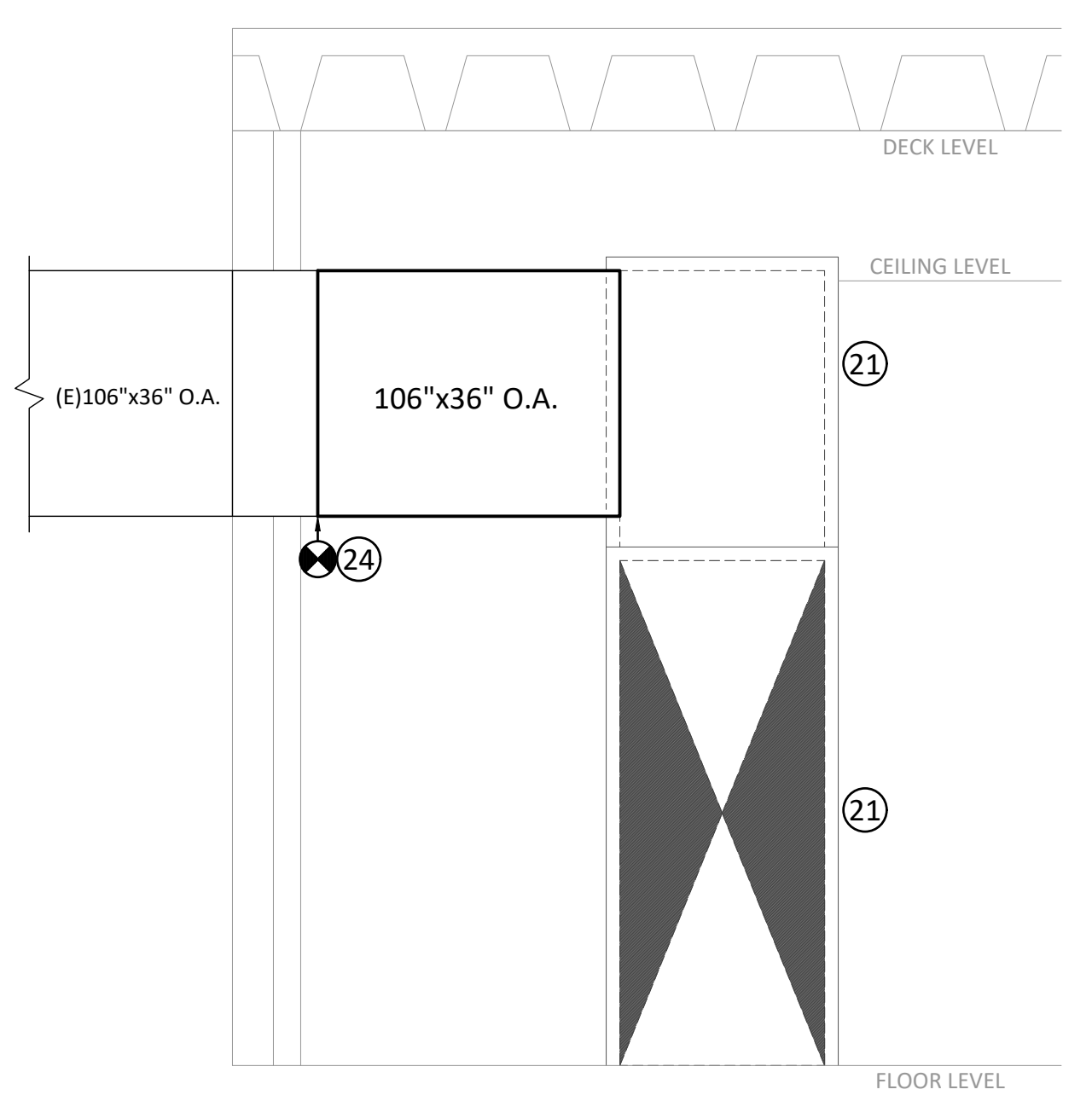




**A**  
M-301  
MECHANICAL DEMOLITION SECTION  
SCALE: 1/2" = 1'-0"  
0 2 4



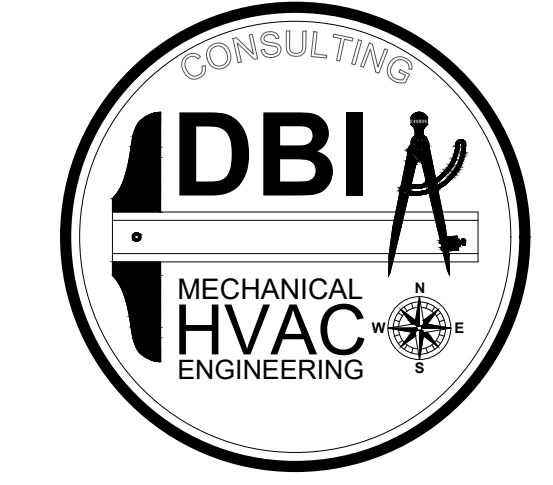
**B**  
M-301  
MECHANICAL REMODEL SECTION  
SCALE: 1/2" = 1'-0"  
0 2 4



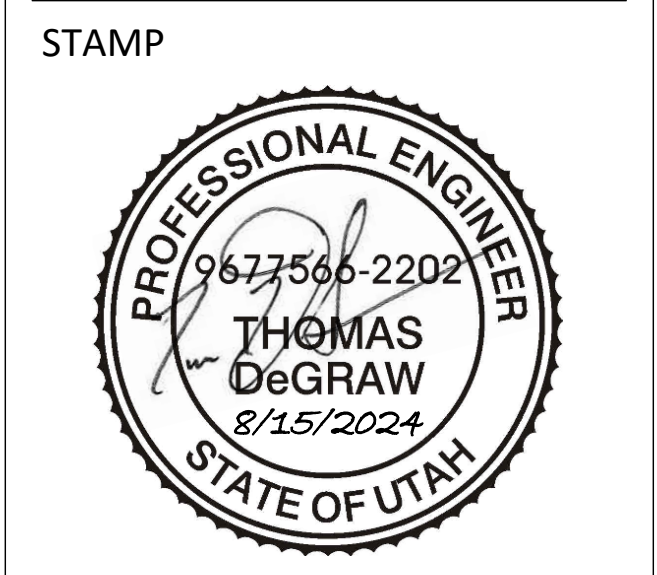
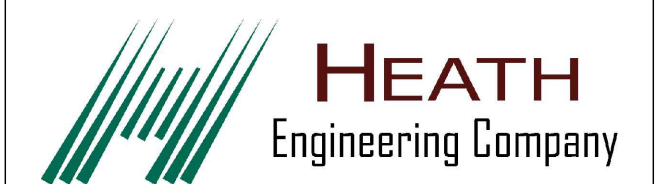
**C**  
M-301  
MECHANICAL REMODEL SECTION  
SCALE: 1/2" = 1'-0"  
0 2 4

**REFERENCE NOTES**

- 1 ALL EXISTING PLENUM WALLS TO BE REMOVED COMPLETE.
- 2 REMOVE EXISTING OUTSIDE AIR DUCT. SEE DEMOLITION PLAN ON MD401, AND REMODEL PLAN ON MH401.
- 3 REMOVE EXISTING AHU CONTROLS COMPLETE.
- 4 REMOVE EXISTING MECHANICAL EQUIPMENT COMPLETE IN PREPARATION FOR NEW WORK. SEE DEMOLITION PLAN ON MD401, AND REMODEL PLAN ON MH401.
- 5 EXISTING ITEMS TO REMAIN. PROTECT DURING CONSTRUCTION.
- 6 REMOVE EXISTING 5-1/2" EQUIPMENT HOUSEKEEPING PAD COMPLETE.
- 7 REMOVE EXISTING SUPPLY AIR DUCT BACK TO APPROXIMATELY THIS LOCATION IN PREPARATION FOR NEW WORK. SEE DEMOLITION PLAN ON MD401, AND REMODEL PLAN ON MH401.
- 8 ALL EXISTING 1" WALL AND CEILING INSULATION TO BE REMOVED COMPLETE.
- 9 EXISTING PORTION OF DROP DOWN CEILING TO BE REMOVED IN PREPARATION FOR THE INSTALLATION OF NEW SUPPLY AIR DUCT. SEE DEMOLITION PLAN ON MD401, AND REMODEL PLAN ON MH401.
- 20 FIELD VERIFY BEST LOCATION FOR DEMOLITION AND NEW CONNECTION OF SUPPLY AIR DUCTS. SEE NOTE 10 / MD401 FOR DEMOLITION REQUIREMENTS, AND 7 / MH401 FOR NEW WORK REQUIREMENTS.
- 21 NEW PLENUM WALLS. SEE REMODEL PLANS ON MH101 AND PLENUM WALL DETAILS ON M-501.
- 22 NEW CONCRETE HOUSEKEEPING PADS. SEE NOTES 4, 5, 10, AND 11 ON MH401.
- 23 ZONE DAMPER MOTORS SHALL BE EXTERNAL MOUNTED ON SIDES OF DUCT. SEE MH401.
- 24 INSTALL NEW SPEED CONTROL PANEL SCP-300 ON WALL AT 6'-2" AFF TO TOP OF PANEL. SEE ELECTRICAL DRAWINGS FOR ALL POWER REQUIREMENTS.
- 25 INSTALL NEW AIR FLOW MEASURING STATION FOR NORTH ZONE IN 28"x64"+1" AL S.A. 45° RISE SECTION. MOUNT CONTROL PANEL LOWER FOR EASE OF ACCESS.
- 26 SEE MP401 FOR STEAM HEATING COIL PIPING REQUIREMENTS.



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 DRAWN BY: KINKADE MINSON



**PAYSON CITY CENTER  
 AHU-3 REPLACEMENT**  
 439 W Utah Ave, Payson, UT 84651

REVISIONS:

MECHANICAL SECTIONS

**M-301**

Construction Documents

PAYSON CITY CENTER BUILDING

(ROOF)

(ROOF)

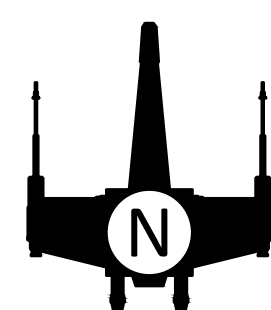
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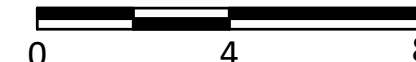
(E)CONDENSING UNIT



1  
MD400

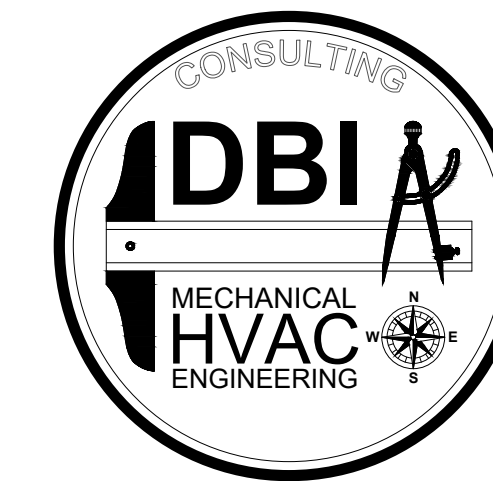
### ROOF LEVEL MECHANICAL DEMOLITION PLAN

SCALE: 1/4" = 1'-0"



### REFERENCE NOTES

- 1 EXISTING UNDERGROUND REFRIGERANT PIPING. SEE MD402 FOR CONTINUATION.
- 2 EXISTING ITEMS TO REMAIN. PROTECT DURING CONSTRUCTION.
- 3 REMOVE EXISTING REFRIGERANT PIPING FROM EXISTING CONDENSING UNIT TO PIPE DROP. CAP AND ABANDON UNDERGROUND PIPING IN PLACE. SEE MH101 FOR NEW PIPE ROUTING.
- 4 EXISTING CONDENSING UNIT AND EXISTING CONCRETE PAD TO BE REMOVED IN PREPARATION FOR THE INSTALLATION OF NEW HOUSEKEEPING PAD AND CONDENSING UNIT. SEE REMODEL PLAN ON MH400.
- 5 EXISTING LOUVERED PENTHOUSE ON ROOF. LOUVER PENTHOUSE IS FOR OUTSIDE AIR TO EXISTING AH-3. LOUVER TO BE CLEANED AS PART OF AIR HANDLER REPLACEMENT.



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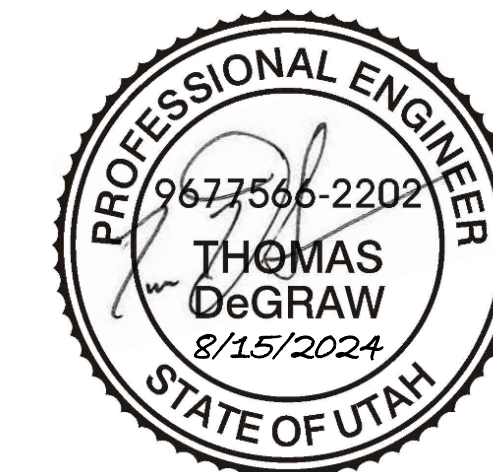
DATE: 8/15/2024

DESIGNER: TOM DeGRAW

DRAWN BY: KINKADE MINSON



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PAYSON CITY CENTER  
AHU-3 REPLACEMENT

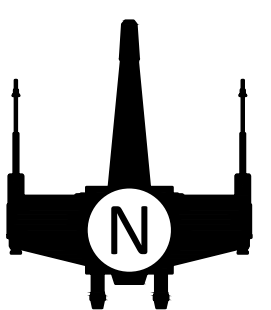
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SITE MECHANICAL  
DEMOLITION PLAN

MD400

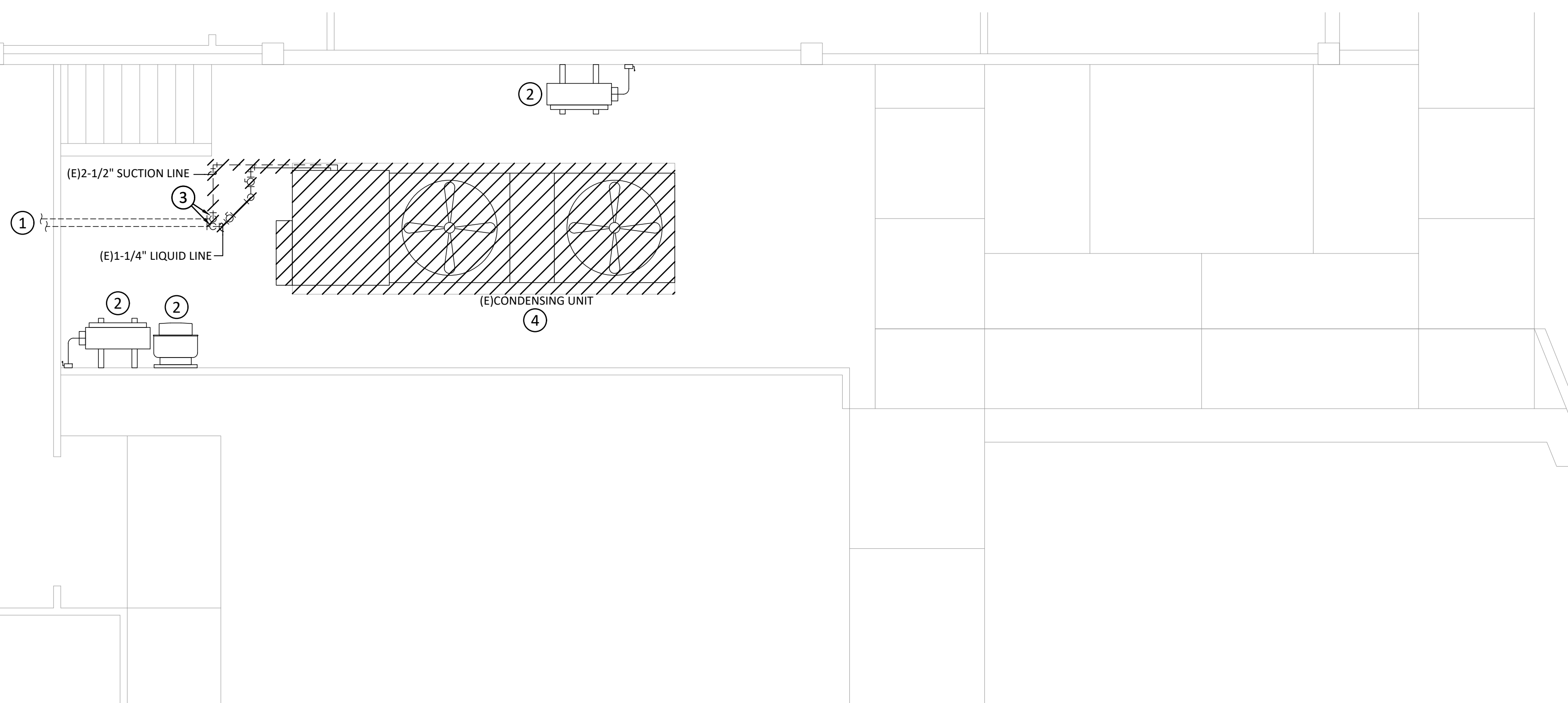
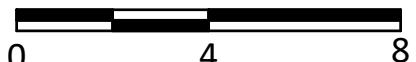
Construction Documents

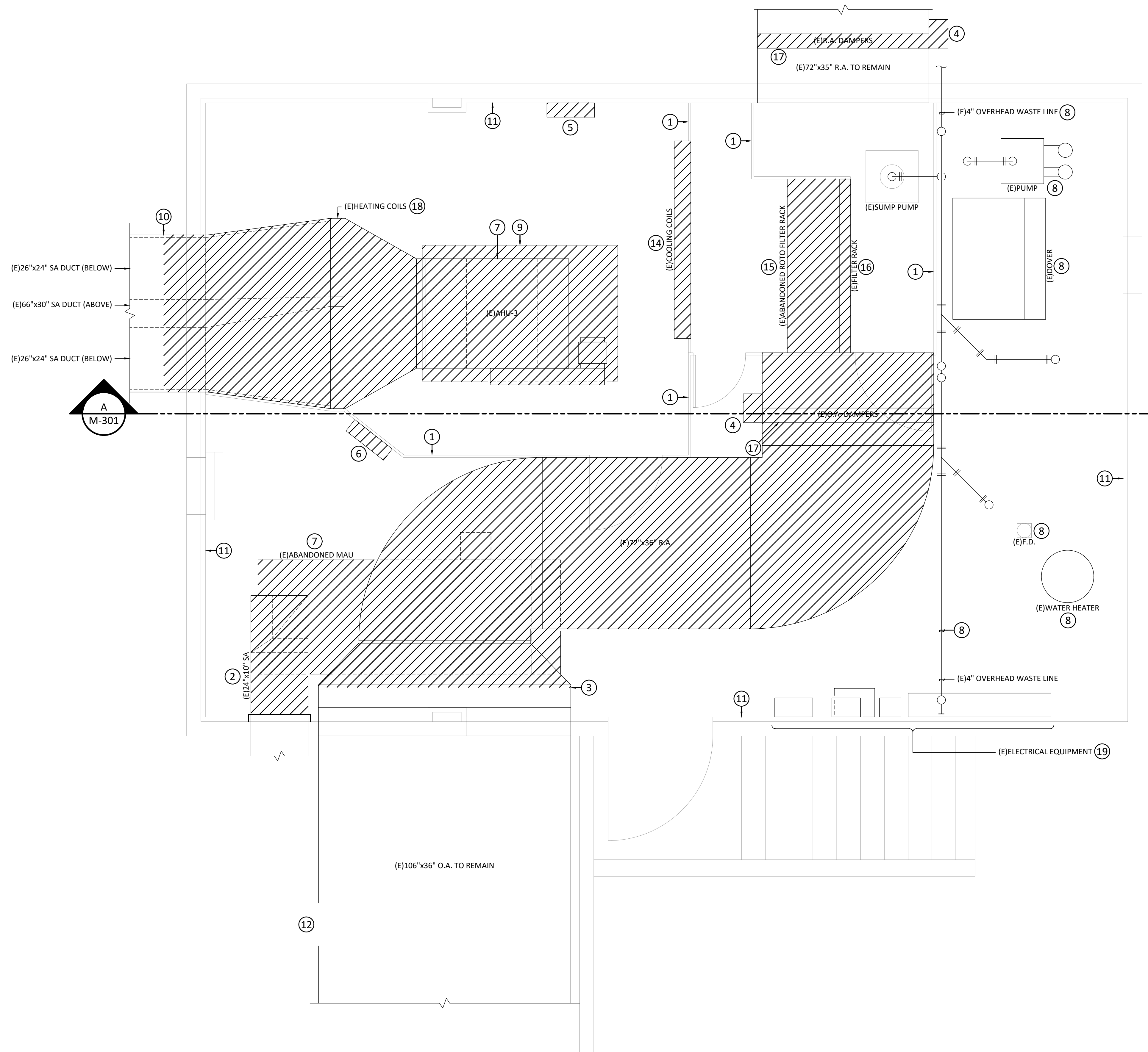


2  
MD400

### MAIN LEVEL MECHANICAL DEMOLITION PLAN

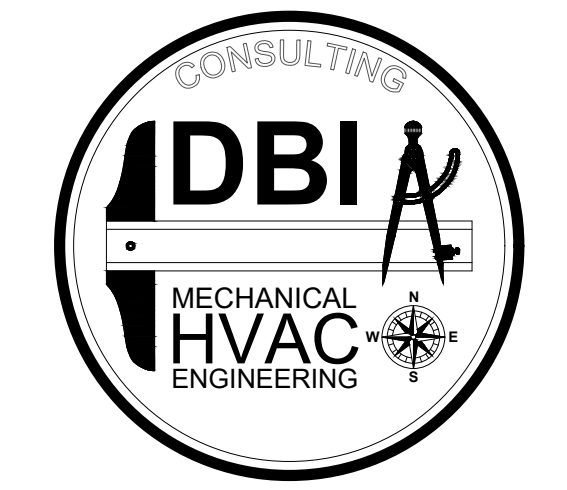
SCALE: 1/4" = 1'-0"





### REFERENCE NOTES

- 1 ALL EXISTING PLENUM WALLS AND ACCESS DOORS TO BE REMOVED COMPLETE.
- 2 REMOVE EXISTING DUCT BACK TO WALL AND CAP. ABANDON REMAINING EXISTING DUCT BEHIND WALL.
- 3 REMOVE OUTSIDE AIR DUCT BACK 1" BEHIND TRANSITION BY CUTTING DUCT. EXISTING ELECTRICAL CONDUIT IN DUCT BEHIND CUT LINE TO REMAIN. SEAL DUCT AIR TIGHT AROUND CONDUIT ON BOTH SIDES OF THE DUCT. SEE REMODEL DRAWING MH401 FOR NEW WORK.
- 4 REMOVE EXISTING PNEUMATIC DAMPER ACTUATOR WITH ITS ASSOCIATED COMPRESSED AIR PIPING BACK TO ITS SOURCE AND CAP.
- 5 REMOVE EXISTING AHU CONTROLS COMPLETES.
- 6 REMOVE EXISTING MAU CONTROLS COMPLETE.
- 7 REMOVE EXISTING MAKE-UP AIR UNIT WITH ITS ASSOCIATED DUCTING, ELECTRICAL, HUMIDIFIER, AND CONTROL CONNECTIONS IN PREPARATION FOR NEW WORK. SEE MD402 FOR PIPING DEMOLITIONS WORK.
- 8 EXISTING ITEMS TO REMAIN. PROTECT DURING CONSTRUCTION.
- 9 REMOVE EXISTING 5-1/2" EQUIPMENT HOUSEKEEPING PAD COMPLETE.
- 10 REMOVE EXISTING SUPPLY AIR DUCT BACK TO APPROXIMATELY THIS LOCATION IN PREPARATION FOR NEW WORK. FIELD VERIFY BEST LOCATION TO CUT DUCTWORK FOR NEW CONNECTION. SEE REMODEL PLAN ON MH401.
- 11 ALL EXISTING 1" THICK ACOUSTICAL INSULATION ON WALLS AND CEILING TO BE REMOVED COMPLETE.
- 12 OUTSIDE AIR DUCT HAS AN EXISTING ACCESS HOLE IN IT. PROVIDE AND INSTALL NEW ACCESS DOOR IN DUCT WHERE OPENING DUCT IS. SEAL AROUND ACCESS DOOR AIR TIGHT. SEE REMODEL PLAN ON MH401.
- 13 REMOVE EXISTING AIR HANDLER SUPPLY AIR FAN WITH ITS ASSOCIATED DUCTING, ELECTRICAL, AND CONTROL CONNECTIONS IN PREPARATION FOR NEW WORK. SEE MH401 FOR NEW WORK.
- 14 REMOVE EXISTING AIR HANDLER DX COOLING COIL WITH ITS ASSOCIATED PLENUM WALL, PIPE CONNECTIONS, AND CONDENSATE DRAIN PAN WITH SUPPORTS IN PREPARATION FOR NEW WORK. SEE MD402 FOR REFRIGERANT PIPING DEMOLITION WORK, AND MH401 AND MP401 FOR NEW WORK.
- 15 REMOVE EXISTING ABANDONED AIR HANDLER AUTOMATIC ROLLER FILTER WITH ITS ASSOCIATED ELECTRICAL POWER SUPPLY AND CONTROLS COMPLETE.
- 16 REMOVE EXISTING FILTER RACK IN PREPARATION FOR NEW WORK. SEE MH401 FOR NEW WORK.
- 17 REMOVE EXISTING RETURN AND OUTSIDE AIR DAMPERS COMPLETE IN PREPARATION FOR NEW WORK. SEE MH401 FOR NEW WORK.
- 18 REMOVE EXISTING AIR HANDLER STEAM HEATING COIL WITH ITS ASSOCIATED DUCT, PIPE CONNECTIONS, AND SUPPORTS IN PREPARATION FOR NEW WORK. SEE MD402 FOR STEAM PIPING DEMOLITION WORK, AND MH401 AND MP401 FOR NEW WORK.
- 19 SEE ELECTRICAL DRAWINGS FOR ALL WORK ASSOCIATED WITH ELECTRICAL PANELS.



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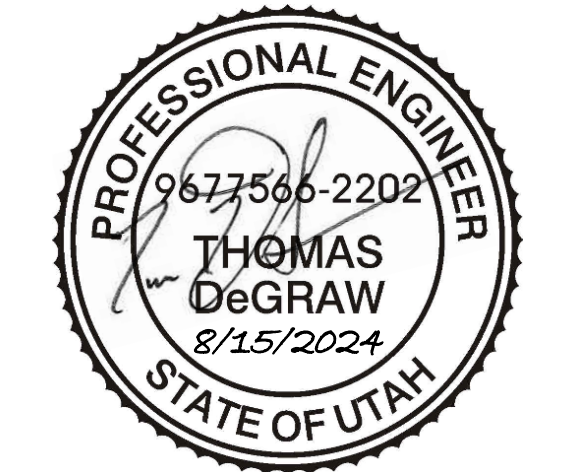
DATE: 8/15/2024

DESIGNER: TOM DeGRAW

DRAWN BY: KINKADE MINSON



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AHU-3 REPLACEMENT

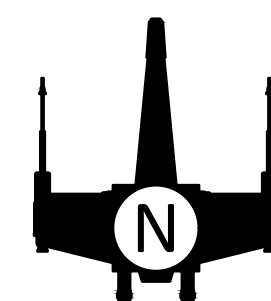
439 W Utah Ave, Payson, UT 84651

REVISIONS:

BASEMENT LEVEL  
MECHANICAL  
DEMOLITION PLAN

MD401

Construction Documents

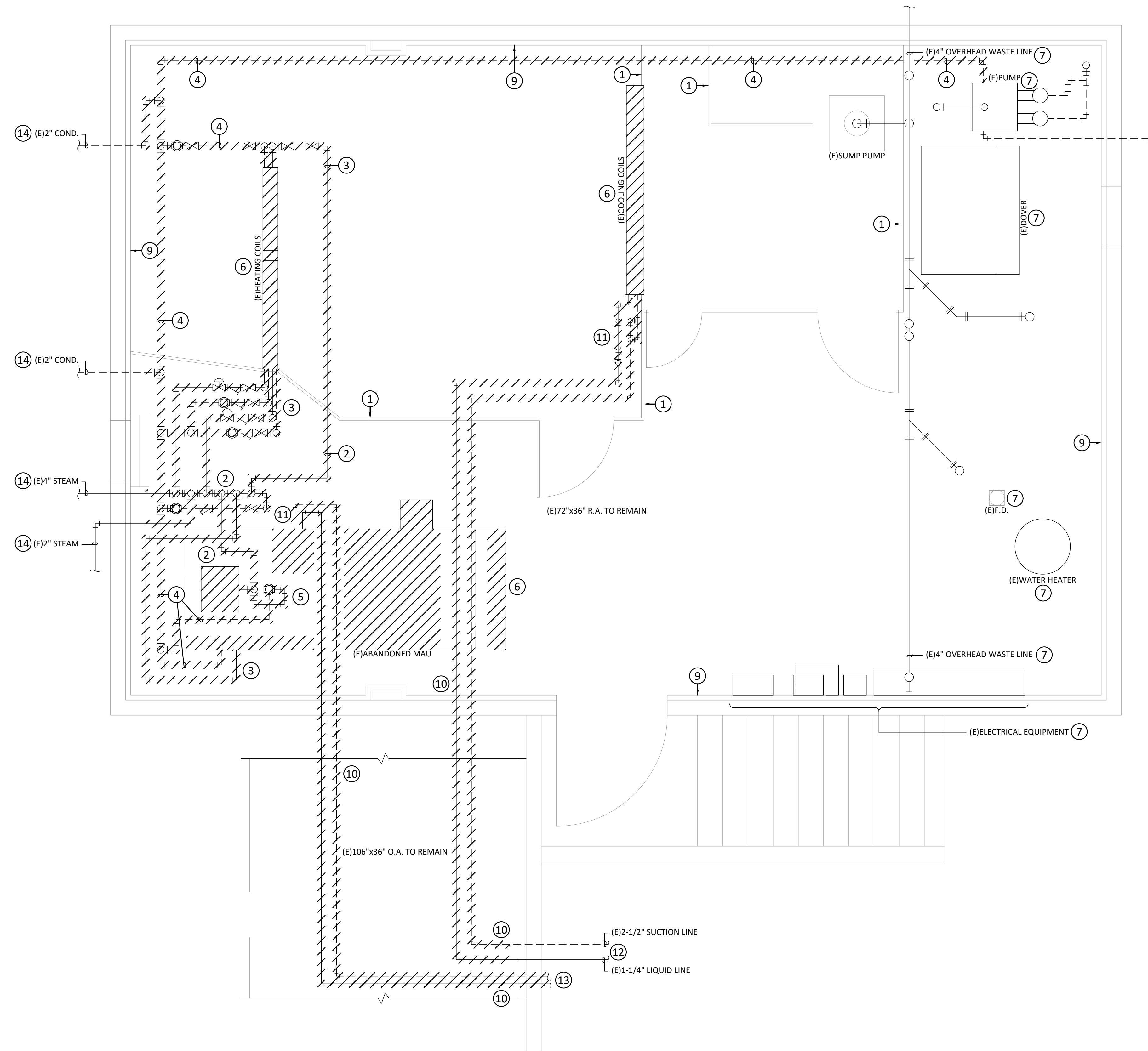


1  
MD401

### BASEMENT LEVEL MECHANICAL DEMOLITION PLAN

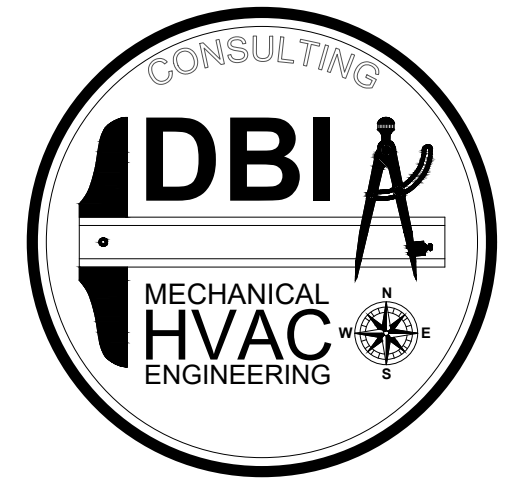
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## REFERENCE NOTES

- 1 EXISTING PENUM WALLS AND DOORS SHOWN FOR REFERENCE. SEE MD401 FOR DEMOLITION NOTES.
- 2 EXISTING STEAM SUPPLY PIPING TO BE REMOVED IN PREPARATION FOR NEW WORK. SEE MP401 FOR NEW WORK.
- 3 REMOVE ALL STEAM PIPING, VALVES, FITTINGS, AND ACCESSORIES SERVING EXISTING HEATING COILS COMPLETE.
- 4 REMOVE EXISTING STEAM HEATING CONDENSATE RETURN PIPING FROM HEATING COILS CONNECTION BACK TO CONDENSATE RETURN PUMP TANK.
- 5 REMOVE ALL STEAM AND CONDENSATE PIPING, VALVES, FITTINGS, AND ACCESSORIES SERVING ABANDONED MAU HUMIDIFIER COMPLETE.
- 6 EXISTING EQUIPMENT TO BE REMOVED. SEE MD401 FOR DEMOLITION NOTES.
- 7 EXISTING ITEMS TO REMAIN. PROTECT DURING CONSTRUCTION.
- 8 REMOVE EXISTING 5-1/2" EQUIPMENT HOUSEKEEPING PAD COMPLETE.
- 9 EXISTING 1" WALL AND CEILING INSULATION TO BE REMOVED COMPLETE. SEE NOTE #11/MD401.
- 10 REMOVE EXISTING COOLING SYSTEM REFRIGERANT PIPING FROM COOLING COILS BACK TO OUTSIDE AIR DUCT PENETRATION. CAP LIQUID AND SUCTION PIPING AT DUCT PENETRATION AND LEAVE ABANDONED IN THE GROUND. SEAL AROUND PIPING AIR TIGHT.
- 11 REMOVE EXISTING PIPING, VALVES, FITTINGS, FILTER DYERS, AND ACCESSORIES SERVING THE EXISTING COOLING COIL COMPLETE.
- 12 SEE MD400 FOR CONTINUATION.
- 13 ABANDONED EXISTING REFRIGERANT PIPING.
- 14 CONTRACTOR TO VERIFY EXISTING PIPE SIZES PRIOR TO ORDERING OF NEW PIPE. MAKE ADJUSTMENTS AS REQUIRED FOR A FULLY FUNCTIONING SYSTEM. SEE MP401 AND MP601 FOR NEW SYSTEM REQUIREMENTS.



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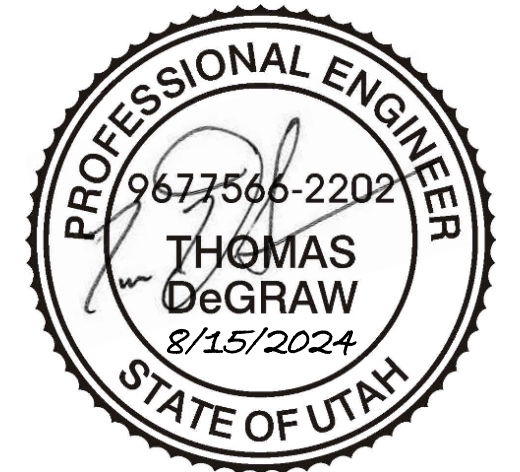
DATE: 8/15/2024

DESIGNER: TOM DeGRAW

DRAWN BY: KINKADE MINSON



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PAYSON CITY CENTER  
AHU-3 REPLACEMENT

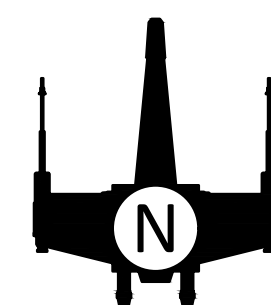
439 W Utah Ave, Payson, UT 84651

REVISIONS:

BASEMENT LEVEL  
MECHANICAL PIPING  
DEMOLITION PLAN

MD402

Construction Documents



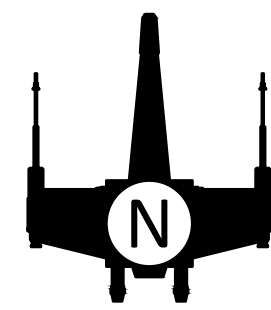
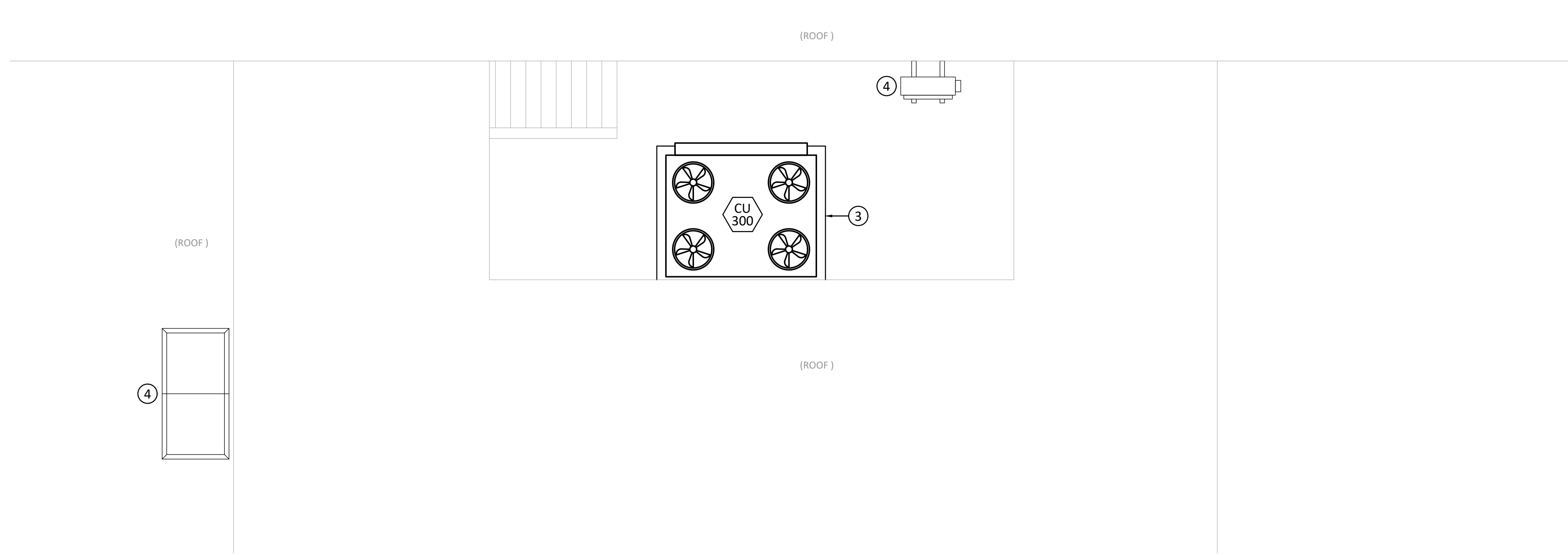
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MD402

## BASEMENT LEVEL MECHANICAL PIPING DEMOLITION PLAN

SCALE: 1/2" = 1'-0"



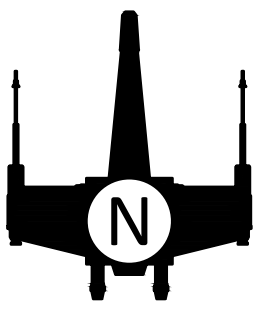
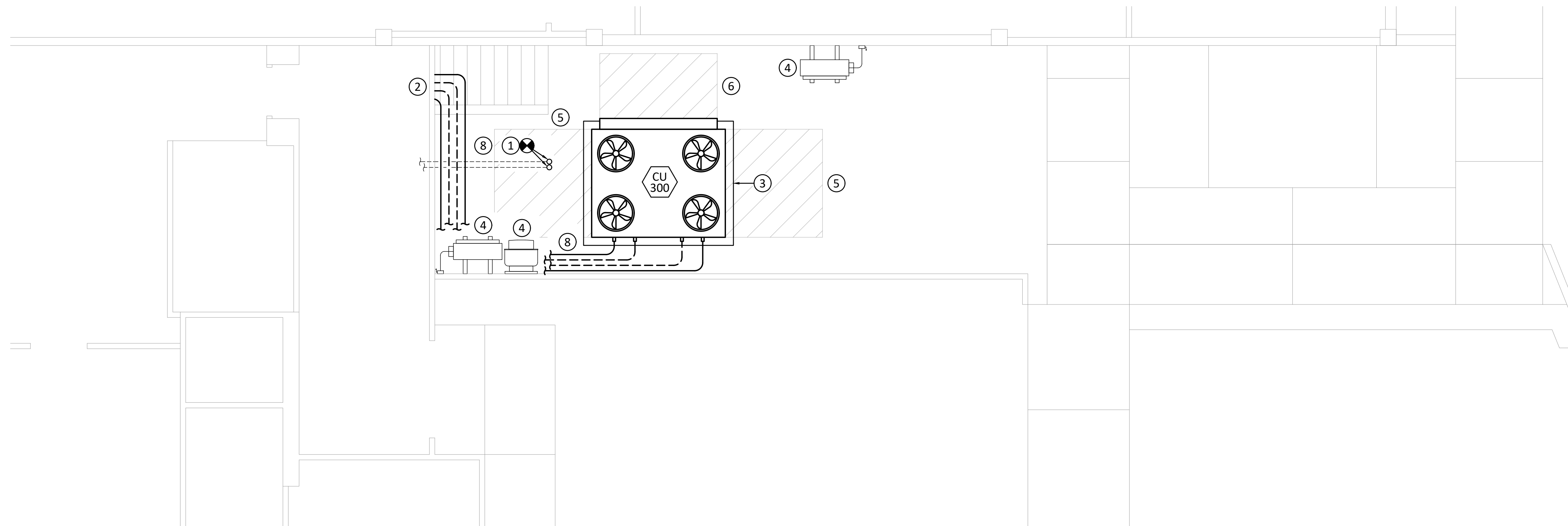
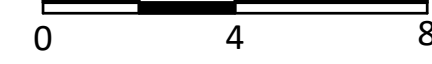
PAYSON CITY CENTER BUILDING



1  
M-400

**ROOF LEVEL MECHANICAL REMODEL PLAN**

SCALE: 1/4" = 1'-0"



2  
M-400

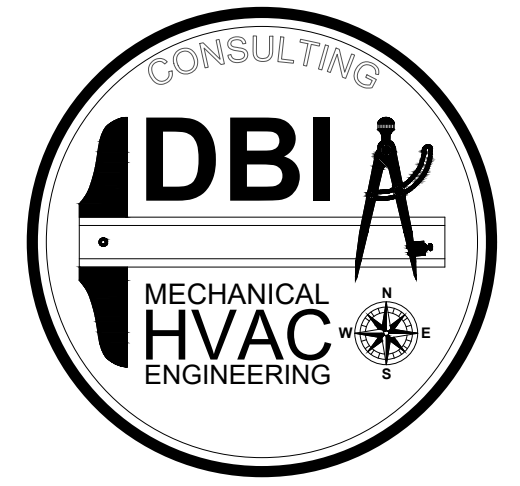
**MAIN LEVEL MECHANICAL REMODEL PLAN**

SCALE: 1/4" = 1'-0"



**REFERENCE NOTES**

- ① CAPPED REFRIGERANT PIPING IN GROUND. SEE NOTE 3 ON MD-403 FOR WORK REQUIREMENTS.
- ② PROVIDE AND INSTALL NEW REFRIGERANT PIPING FROM NEW CONDENSING UNIT TO COOLING COILS. SEE MP-401 FOR CONTINUATION, AND FLOW DIAGRAM FOR INSTALLATION REQUIREMENTS.
- ③ CONTRACTOR TO PROVIDE ALL MATERIAL REQUIRED TO INSTALL NEW HOUSEKEEPING PAD FOR NEW CONDENSING UNIT. SEE DETAIL 5 / M502 FOR INSTALLATION REQUIREMENTS AND FIELD VERIFY ALL CONDITIONS PRIOR TO PURCHASE AND INSTALLATION OF NEW PAD.
- ④ EXISTING ITEMS TO REMAIN. PROTECT DURING CONSTRUCTION.
- ⑤ 6'-0" CLEARANCE FOR MECHANICAL EQUIPMENT.
- ⑥ 4'-0" CLEARANCE FOR MECHANICAL EQUIPMENT.
- ⑦ EXISTING LOUVERED PENTHOUSE ON ROOF. SEE NOTE 5 ON MD-400 FOR WORK REQUIREMENTS.
- ⑧ PROVIDE AND INSTALL SUPPORT WITH COVER FOR DX PIPING. SEE DETAIL 6 / M502 FOR INSTALLATION REQUIREMENTS.

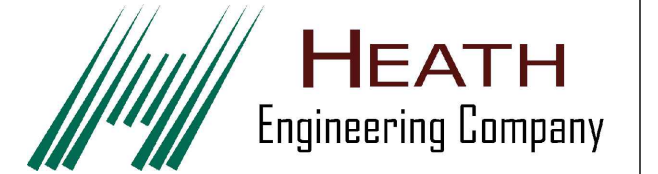


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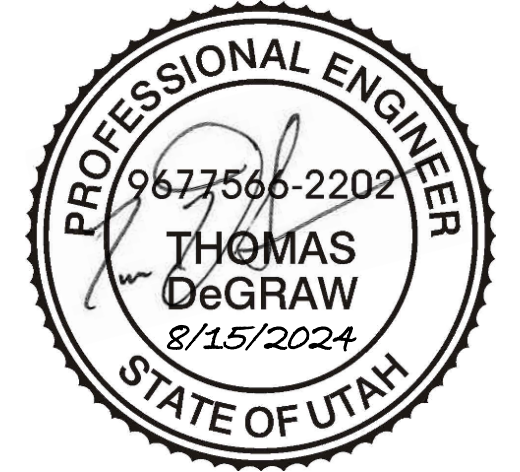
DATE: 8/15/2024

DESIGNER: TOM DeGRAW

DRAWN BY: KINKADE MINSON



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**PAYSON CITY CENTER  
AHU-3 REPLACEMENT**

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REVISIONS:

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SITE MECHANICAL  
REMODEL PLAN

**M-400**

Construction Documents



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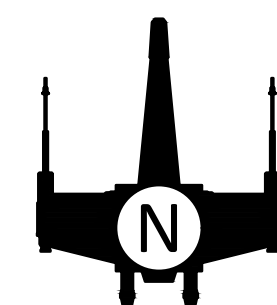
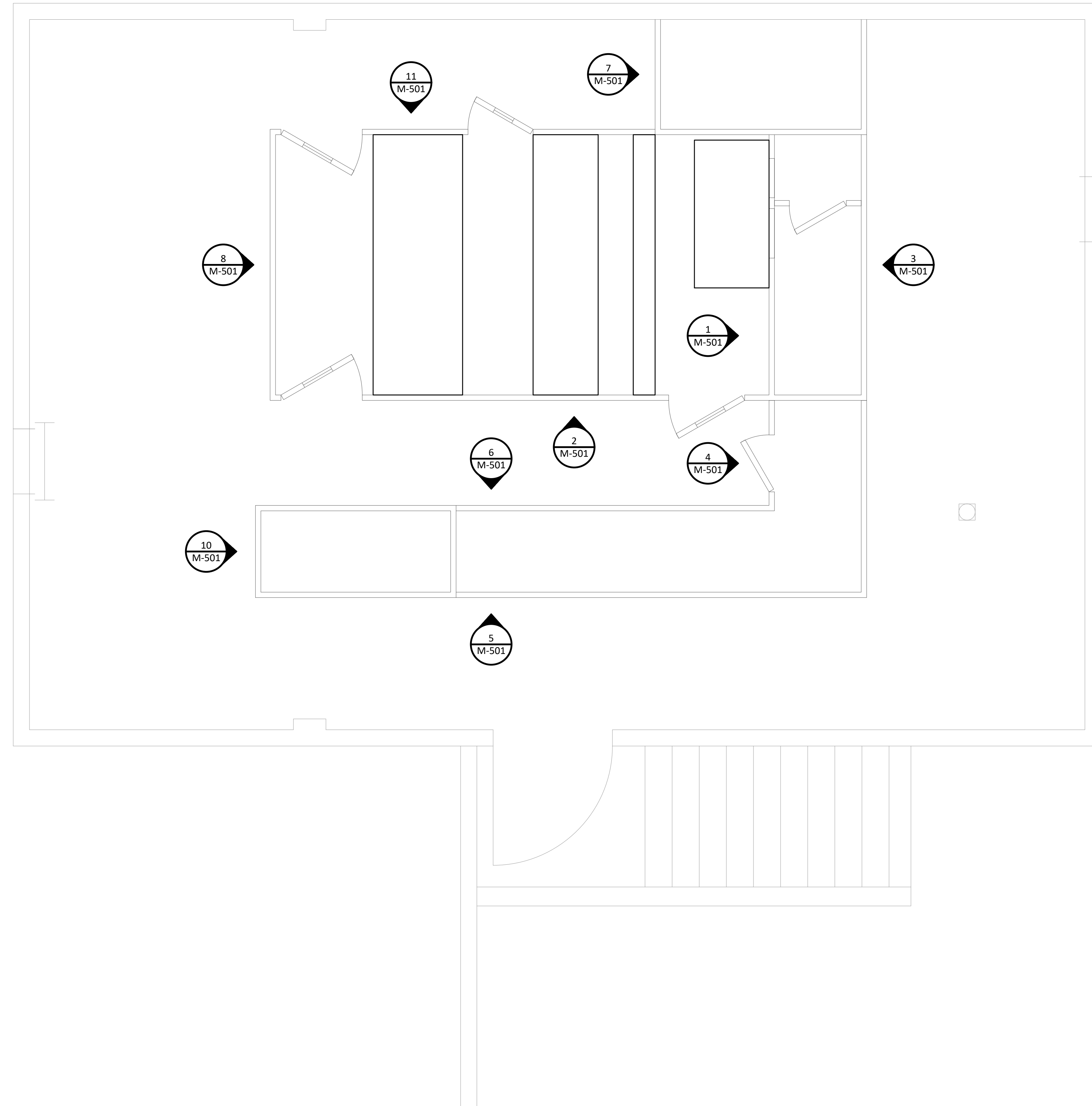
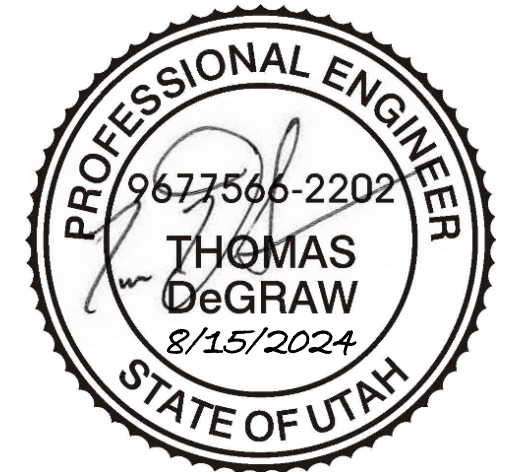
DATE: 8/15/2024

DESIGNER: TOM DeGRAW

DRAWN BY: KINKADE MINSON



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1  
M-401

### MECHANICAL PLENUM WALL AND CURBING REMODEL PLAN

SCALE: 1/2" = 1'-0"



REVISIONS:  
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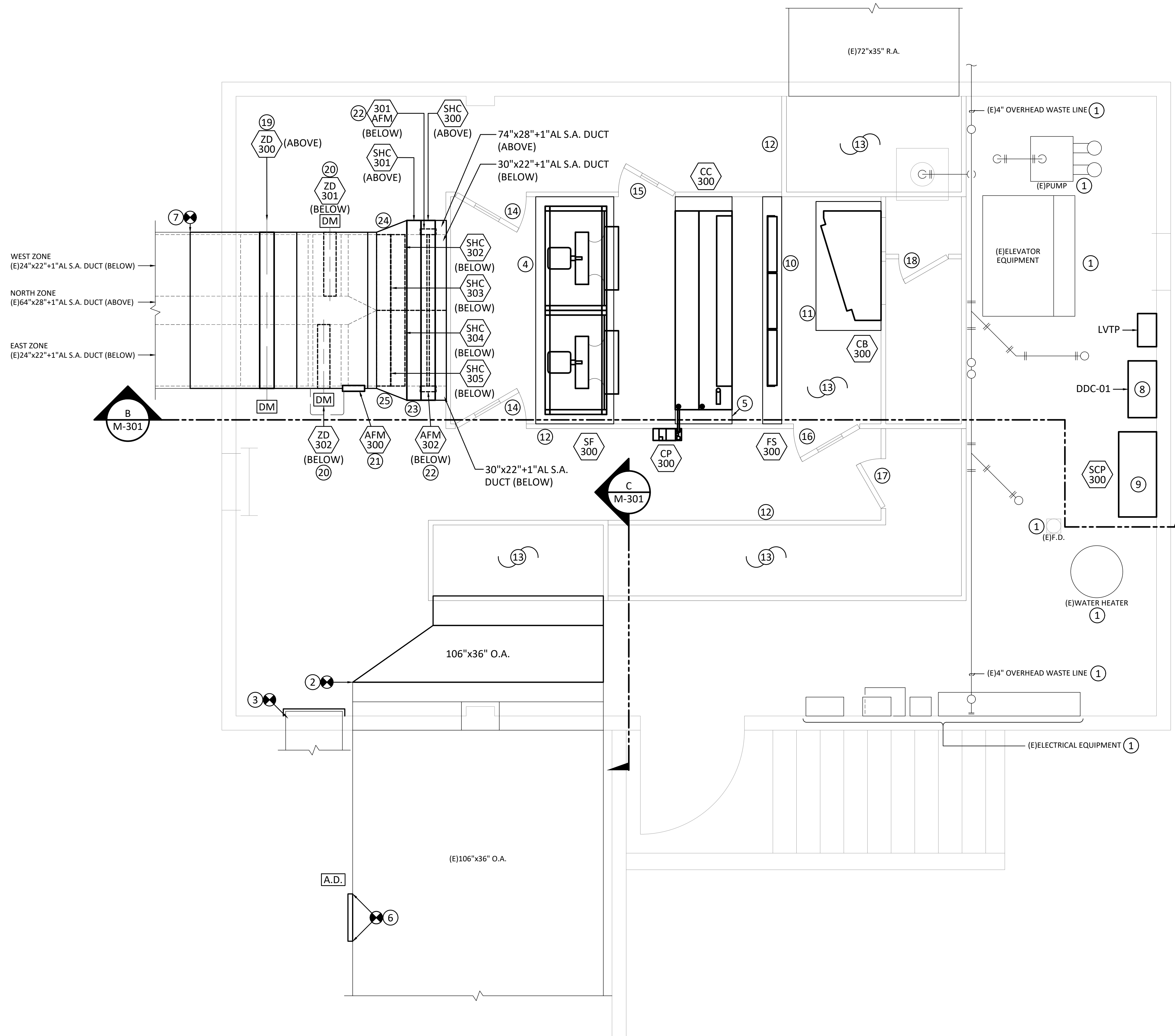
MECHANICAL PLENUM  
WALL AND CURBING  
REMODEL PLAN

# M-401

Construction Documents

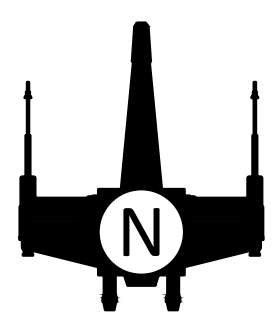
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AHU-3 REPLACEMENT

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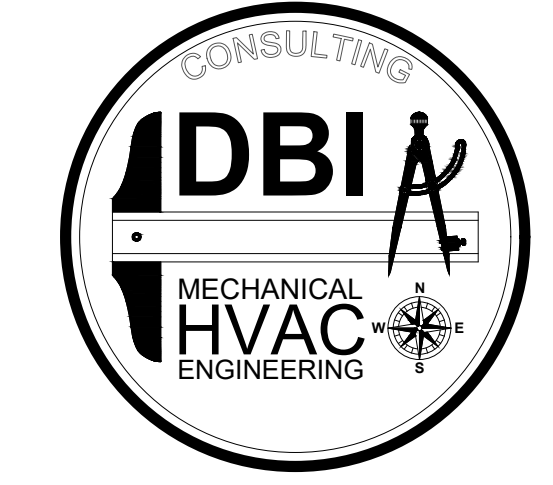


**REFERENCE NOTES**

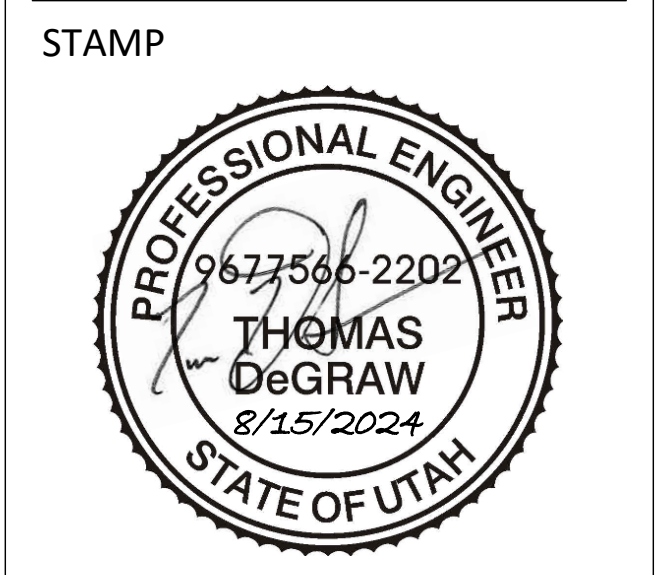
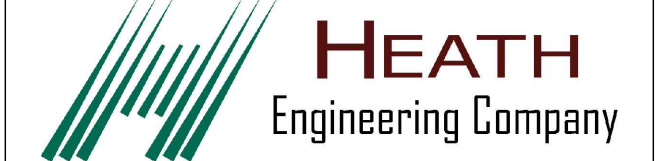
- 1 EXISTING ITEMS TO REMAIN. PROTECT DURING CONSTRUCTION.
- 2 CONNECT NEW 106"x36" OUTSIDE AIR DUCT AND TRANSITION TO 72"x36" DUCT AND EXTEND TO NEW OUTSIDE AIR PLENUM, SEAL DUCT AND PLENUM AIR TIGHT. SEE SECTION C / M-301 FOR ELEVATION AND PLENUM WALL DETAILS.
- 3 CAP EXISTING 24"x18" SUPPLY AIR DUCT AT WALL AND ABANDON IN PLACE. DUCT CAP SHALL HAVE 2" OF INSULATION ON IT.
- 4 PROVIDE NEW 4" HIGH HOUSEKEEPING PAD FOR SUPPLY AIR FANWALL. ANCHOR NEW FANWALL TO HOUSEKEEPING PAD, AND PROVIDE AND INSTALL 18 GAUGE G90 GALVANIZED SHEET METAL BLANKOFF PANELS AROUND FANWALL. SEAL AROUND FANWALL SYSTEM AIR TIGHT. SEE DETAILS 5 / M-502 AND 1 / M-504 FOR ALL INSTALLATION REQUIREMENTS.
- 5 PROVIDE NEW 5" HIGH HOUSEKEEPING PAD FOR NEW DX COOLING COIL WITH SLOPED CONCRETE AND DRAIN PANS. PROVIDE AND INSTALL 18 GAUGE G90 GALVANIZED SHEET METAL PANELS AROUND COOLING COIL AND SEAL AIR TIGHT. SEE DETAILS 1 / M-502, 5 / M-502, AND 2 / M-504 FOR ALL INSTALLATION REQUIREMENTS.
- 6 PROVIDE AND INSTALL NEW 24"x24" DUCT ACCESS DOOR WHERE EXISTING OPENING IN OUTSIDE AIR DUCT IS. ENLARGE OPENING AS NEEDED TO INSTALL NEW ACCESS DOOR. SEAL AIR TIGHT.
- 7 CONNECT NEW SUPPLY AIR DUCTS TO EXISTING DUCTS. FIELD VERIFY EXISTING DUCT SIZES AND BEST LOCATION FOR CONNECTION PRIOR TO DEMOLITION WORK. SEE NOTE 10 / MD401. SEAL DUCT AIR TIGHT.
- 8 NEW ATC DDC-01 CONTROL PANELS. CONTROLS CONTRACTOR, OR THEIR SUB CONTRACTOR, SHALL INSTALL NEW CONTROL PANELS WITH NEW LOW VOLTAGE TRANSFORMER PANEL WITH DEDICATED CIRCUIT. SEE ELECTRICAL DRAWINGS FOR POWER SUPPLY REQUIREMENTS.
- 9 ELECTRICAL CONTRACTOR TO MOUNT VFD SPEED CONTROL PANEL SCP-300 ON WALL AT 6'-2" ABOVE FINISHED FLOOR TO TOP OF PANEL. SEE M-301 AND ELECTRICAL DRAWINGS FOR ALL OTHER INSTALLATION REQUIREMENTS.
- 10 PROVIDE NEW 4" HIGH CONCRETE CURBING OR SHEET METAL HAT CHANNEL FOR NEW FILTER FRAME. PROVIDE AND INSTALL 18 GAUGE G90 GALVANIZED SHEET METAL BLANKOFF PANELS AROUND FILTER FRAMES. SEAL PANELS AND FRAMES AIR TIGHT. SEE DETAILS 3 / M-504 AND 5 / M-502 FOR INSTALLATION REQUIREMENTS.
- 11 PROVIDE NEW 4" HIGH HOUSEKEEPING PAD FOR NEW CHANNEL BLENDER. COORDINATE OPENINGS IN MANUFACTURED PLENUM WALL WITH CHANNEL BLENDER OPENINGS AND SEAL AIR TIGHT. SEE DETAILS 1 / M-501 FOR OPENINGS IN PLENUM WALL AND 5 / M-502 FOR HOUSEKEEPING PAD INSTALLATION REQUIREMENTS.
- 12 PROVIDE AND INSTALL NEW 2" THICK MANUFACTURED PLENUM WALL ANCHORED TO THE EXISTING CONCRETE FLOOR. SEE M-401 FOR WALL DETAIL REFERENCES AND WALL DETAILS ON M-501. SEAL ALL WALLS AIR TIGHT.
- 13 PROVIDE AND INSTALL NEW 2" THICK MANUFACTURED PLENUM CEILINGS ANCHORED TO PLENUM WALLS. SEE M-401 FOR WALL DETAIL REFERENCES AND WALL DETAILS ON M-501 AND M-502. FOLLOW ALL MANUFACTURERS GUIDELINES, AND SEAL ALL WALLS AND CEILINGS AIR TIGHT.
- 14 PLENUM ACCESS DOOR PROVIDED WITH WALLS. NOMINAL DOOR SIZE 30"Wx74"H. SEE DETAILS 11 / M-501 AND 2 / M-501.
- 15 PLENUM ACCESS DOOR PROVIDED WITH WALLS. NOMINAL DOOR SIZE 24"Wx74"H. SEE DETAIL 11 / M-501.
- 16 PLENUM ACCESS DOOR PROVIDED WITH WALLS. NOMINAL DOOR SIZE 28"Wx74"H. SEE DETAIL 2 / M-501.
- 17 PLENUM ACCESS DOOR PROVIDED WITH WALLS. NOMINAL DOOR SIZE 24"Wx68"H. SEE DETAIL 4 / M-501.
- 18 PLENUM ACCESS DOOR PROVIDED WITH WALLS. NOMINAL DOOR SIZE 20"Wx74"H. SEE DETAIL 11 / M-501.
- 19 ZONE CONTROL DAMPER ZD-300 INSTALLED IN NORTH ZONE DUCT AFTER AIR FLOW MEASURING STATION. SEE SECTION B / M-301.
- 20 ZONE CONTROL DAMPERS ZD-301 AND 302 INSTALLED IN EAST AND WEST ZONE DUCTS IN 45° RISE. SEE SECTION B / M-301.
- 21 AIR FLOW MEASURING STATION AFM-300 INSTALLED IN 45° RISE WITH CONTROL MOUNTED LOWER AFTER HEATING COILS. SEE SECTION B / M-301.
- 22 AIR FLOW MEASURING STATIONS AFM-301 AND 302 INSTALLED IN DUCTS BEFORE HEATING COILS. SEE SECTION B / M-301.
- 23 STEAM HEATING COILS SHC-300 AND SHC-301 INSTALLED IN NORTH ZONE 74"x28"+1"AL SUPPLY AIR DUCT. SEE SECTION B / M-301. SEE MP401 FOR PIPING REQUIREMENTS.
- 24 STEAM HEATING COILS SHC-302 AND SHC-303 INSTALLED IN WEST ZONE 30"x22"+1"AL SUPPLY AIR DUCT. SEE SECTION B / M-301. SEE MP401 FOR PIPING REQUIREMENTS.
- 25 STEAM HEATING COILS SHC-304 AND 305 INSTALLED IN EAST ZONE 30"x22"+1"AL SUPPLY AIR DUCT. SEE SECTION B / M-301. SEE MP401 FOR PIPING REQUIREMENTS.



1  
MH401  
**BASEMENT LEVEL MECHANICAL REMODEL PLAN**  
SCALE: 1/2" = 1'-0"



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DATE: 8/15/2024  
DESIGNER: TOM DeGRAW  
DRAWN BY: KINKADE MINSON



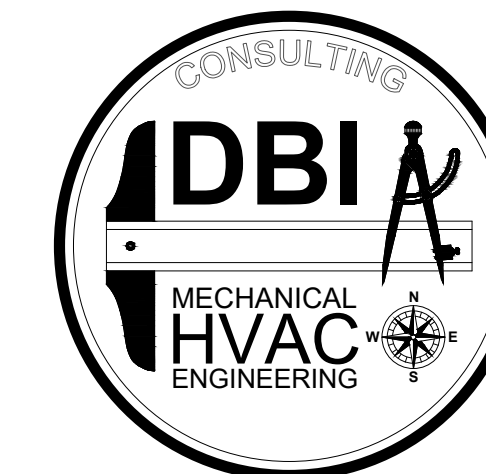
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AHU-3 REPLACEMENT**  
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REVISIONS:

**BASEMENT LEVEL  
MECHANICAL  
REMODEL PLAN**

**MH401**

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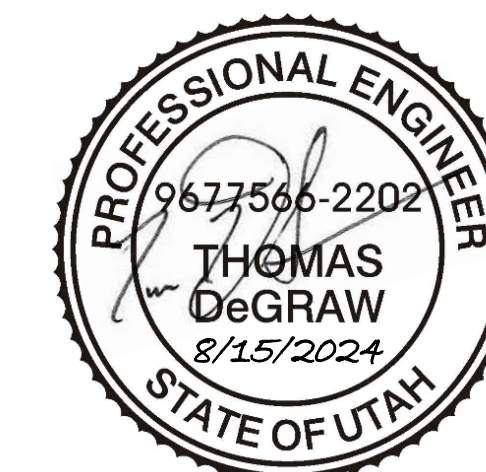
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DESIGNER: TOM DeGRAW

DRAWN BY: KINKADE MINSON



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AHU-3 REPLACEMENT

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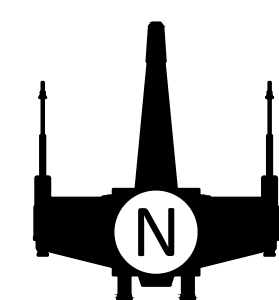
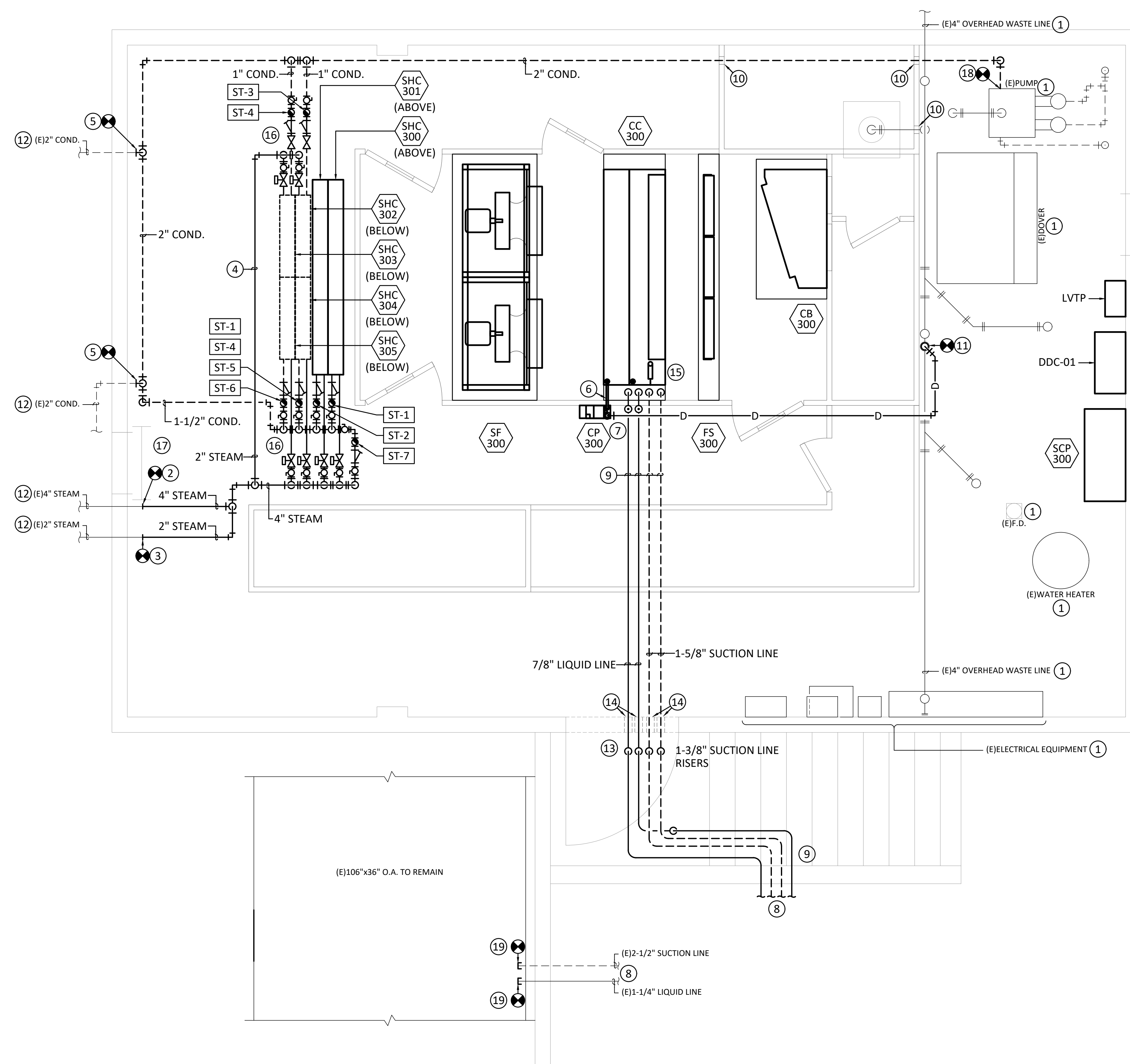
Construction Documents

BASEMENT LEVEL  
MECHANICAL PIPING  
REMODEL PLAN

MP401

### REFERENCE NOTES

- 1 EXISTING ITEMS TO REMAIN. PROTECT DURING CONSTRUCTION.
- 2 CONNECT TO EXISTING 4" STEAM PIPING WITH NEW 4" STEAM PIPING AND EXTEND TO HEATING COILS. FIELD VERIFY EXISTING PIPE SIZES AND BEST LOCATION FOR NEW CONNECTION PRIOR TO DEMOLITION WORK. VERIFY NEW PIPE ROUTING PRIOR TO ROUTING OF NEW PIPING AND COORDINATE WITH ALL TRADES.
- 3 ROUTE NEW 2" STEAM PIPE FROM NEW 4" STEAM PIPING AND CONNECT TO EXISTING 2" STEAM. FIELD VERIFY EXISTING PIPING SIZE. SEE NOTE 12 AND MP601 FOR PIPING REQUIREMENTS.
- 4 ROUTE STEAM PIPING OVER SUPPLY AIR DUCTWORK IN THIS AREA AND DOWN TO SERVE SHC-301 AND SHC-302 ON THE OTHER SIDE.
- 5 CONNECT TO EXISTING 2" STEAM CONDENSATE RETURN AND DROP DOWN IN TO NEW 2" CONDENSATE RETURN PIPING TO CONDENSATE TANK. FIELD VERIFY ALL EXISTING PIPE SIZES PRIOR TO ORDERING NEW PIPE. SEE NOTE 12.
- 6 RUN NEW 1" CONDENSATE WATER PIPING TO CONDENSATE PUMP TANK. SEAL PLENUM WALL PENETRATION AIR TIGHT. SEE ELECTRICAL DRAWINGS FOR CONDENSATE PUMP POWER CONNECTION.
- 7 ROUTE NEW 3/4" CONDENSATE LINE FROM CONDENSATE PUMP CONNECTION TO EXISTING 2" WASTE DRAIN. RISE AND SLOPE TO DRAIN.
- 8 SEE M-400 FOR CONTINUATION
- 9 ROUTE NEW LIQUID AND SUCTION LINES AS SHOWN AND AS TIGHT TOGETHER AS POSSIBLE FROM CONDENSING UNIT CU-300 TO NEW COOLING COIL CC-300. SEE M-400 FOR CONDENSING UNIT PIPING SECTION AND MP602 FOR DX PIPING DIAGRAM.
- 10 SEAL PLENUM WALL PENETRATIONS AIR TIGHT. ALL OTHER PIPING TO BE ROUTED TO AVOID MAKING ADDITIONAL PLENUM WALL PENETRATIONS.
- 11 EXISTING 2" CAPPED DRAIN TO BE MODIFIED AS REQUIRED FOR CONDENSATE DRAIN CONNECTION. PROVIDE MODIFIED 2" DRAIN WITH TRAP AND VENT FOR CONDENSATE PIPING.
- 12 CONTRACTOR TO VERIFY EXISTING PIPE SIZES PRIOR TO ORDERING OF NEW PIPE. MAKE ADJUSTMENTS AS REQUIRED FOR A FULLY FUNCTIONING SYSTEM. SEE MP601 FOR ALL PIPING AND VALVE REQUIREMENTS.
- 13 DROP 1-5/8" SUCTION PIPE DOWN WITH 1-3/8" PIPING WITH TRAP AND 7/8" LIQUID LINE DOWN TO AN ELEVATION BELOW 112" AFF TO BE BELOW CONDUITS INSIDE MECHANICAL ROOM. PIPING SHALL BE AT THE HIGHEST ELEVATION POSSIBLE GOING INTO MECHANICAL ROOM, FIELD VERIFY ALL ROUTING PRIOR TO ANY PIPE PURCHASING AND INSTALLATION. SEE MP602 FOR PIPING REQUIREMENTS.
- 14 CONTRACTOR TO FIELD LOCATE WHERE TO CONCRETE DRILL NEW HOLES FOR DX PIPING ABOVE EXISTING DOOR INTO MECHANICAL ROOM. COORDINATE ELEVATION WITH REQUIREMENTS DETAILED IN NOTE 13. SEE DETAIL 3 / M502 FOR WALL PENETRATION REQUIREMENTS.
- 15 SEE MP602 FOR COOLING COIL CONNECTION REQUIREMENTS. SEAL PLENUM WALL PENETRATIONS AIR TIGHT.
- 16 SEE MP601 FOR STEAM HEATING COIL CONNECTION REQUIREMENTS AND PIPE SIZE REQUIREMENTS. COORDINATE ALL STEAM AND CONDENSATE RETURN PIPING WITH ALL TRADES AND ROUTE PIPING TO PROVIDE BEST ACCESS FOR MAINTENANCE.
- 17 NO NEW PIPING SHALL OBSTRUCT EXISTING CRAWL SPACE ACCESS OPENING OR LADDER. COORDINATE ALL WORK.
- 18 CONNECT NEW 2" STEAM CONDENSATE RETURN PIPE INTO EXISTING CONDENSATE TANK WITH PUMPS. VERIFY THAT CONDENSATE RETURN SYSTEM IS FUNCTIONING AT THE END OF INSTALLATION PROCESS.
- 19 CAPPED EXISTING REFRIGERANT PIPING LEFT ABANDONED IN PLACE. SEE NOTE 10 / MD402 FOR ALL WORK REQUIREMENTS.



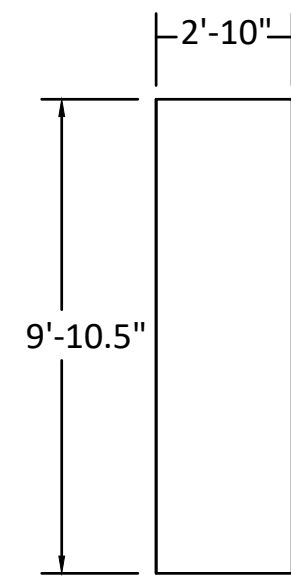
1  
MP401

### BASEMENT LEVEL MECHANICAL REMODEL PLAN

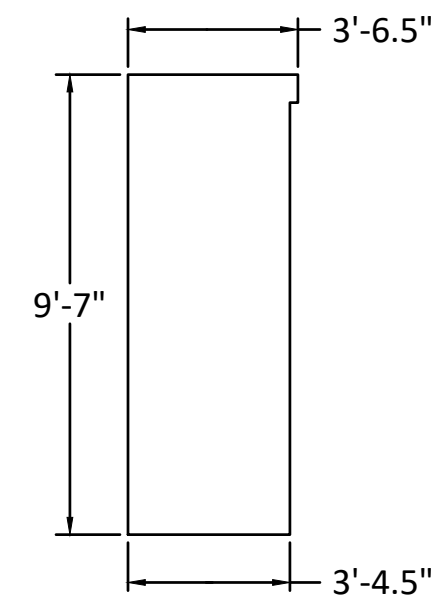
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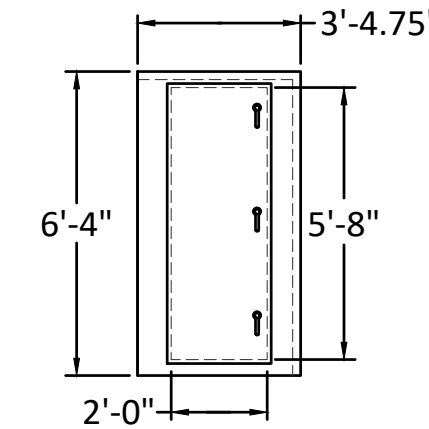
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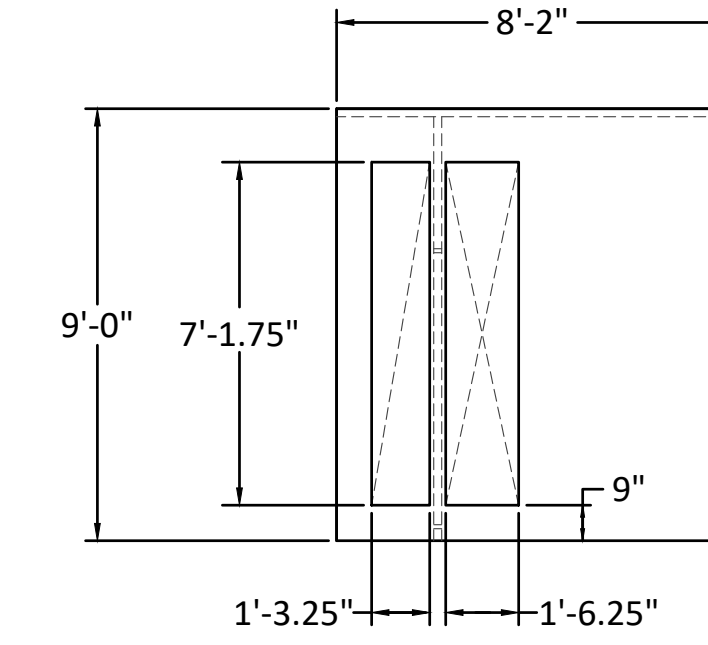
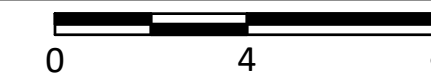
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M-501  
**MECHANICAL PLENUM WALL DETAIL**  
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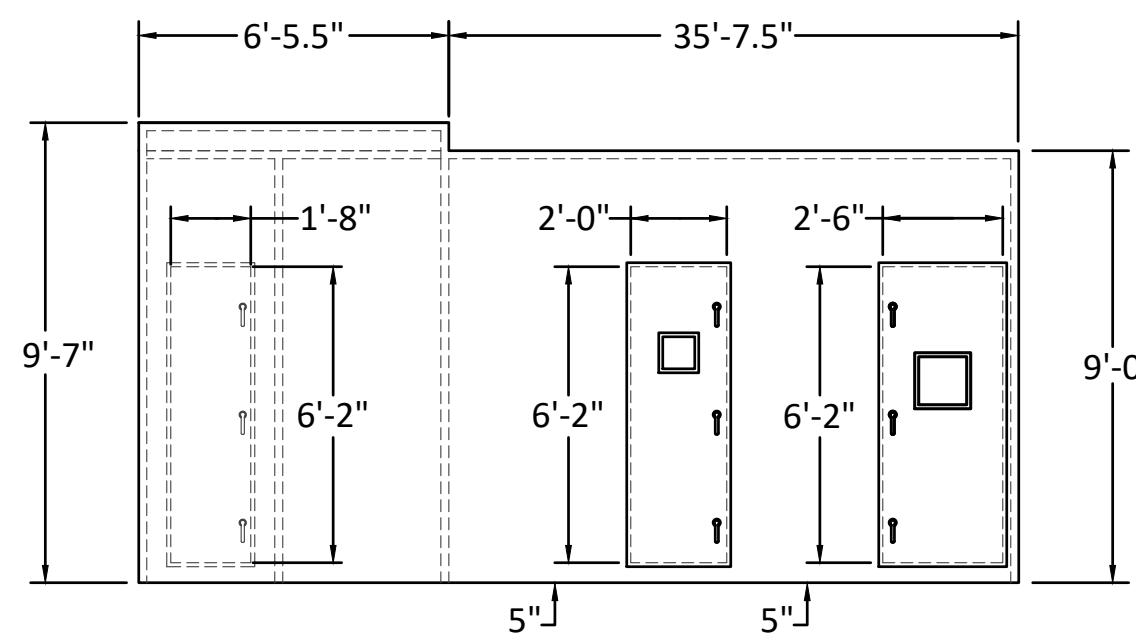
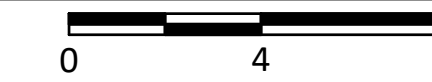
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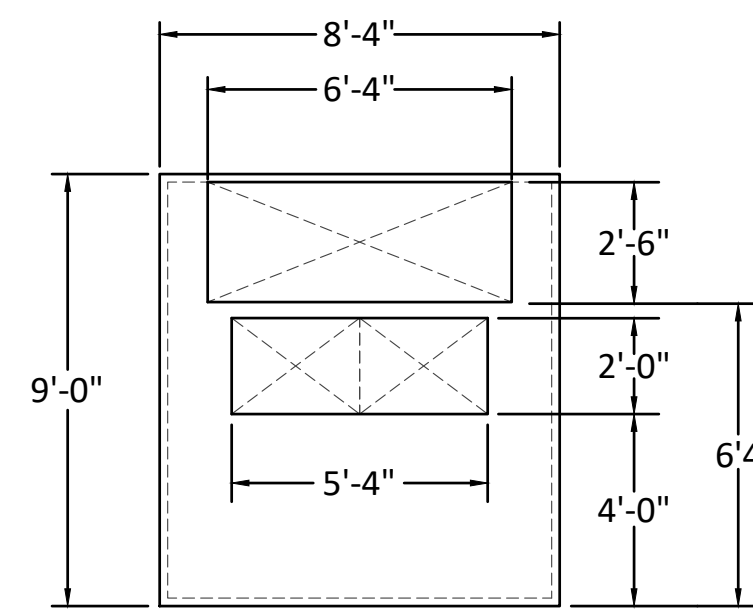
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**MECHANICAL PLENUM WALL DETAIL**  
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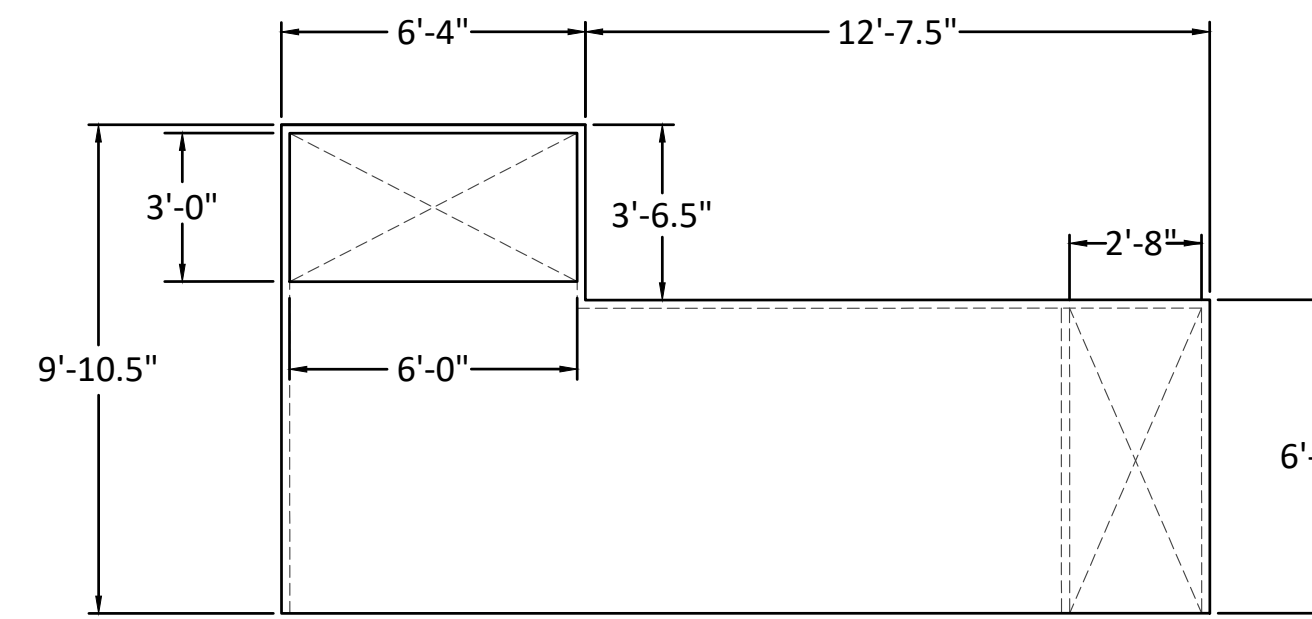
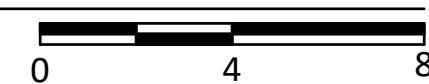
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**MECHANICAL PLENUM WALL DETAIL**  
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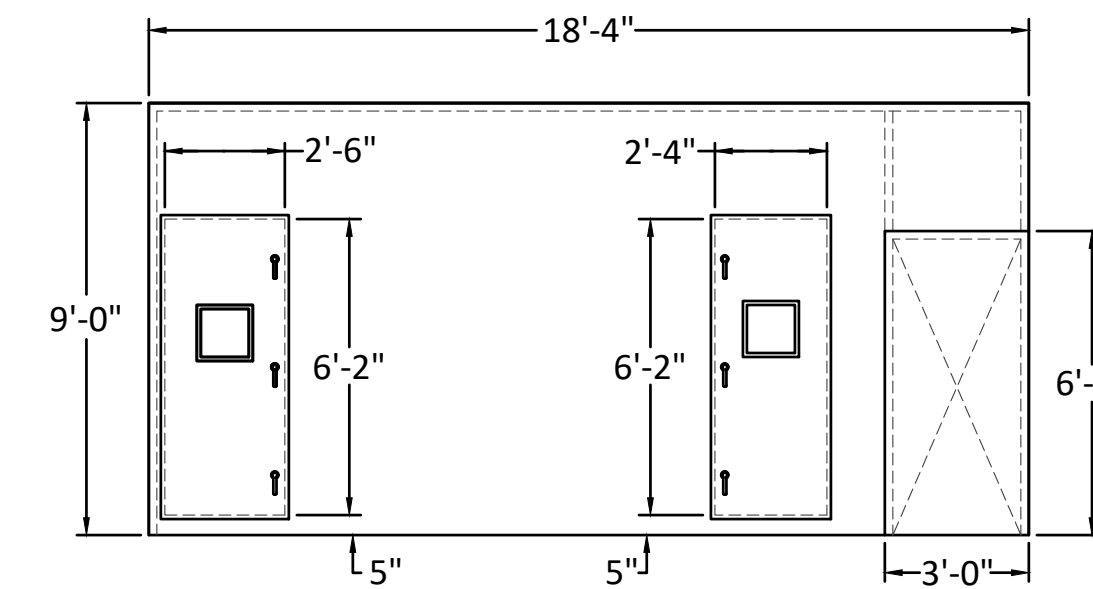
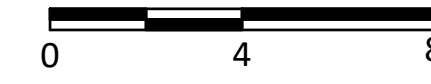
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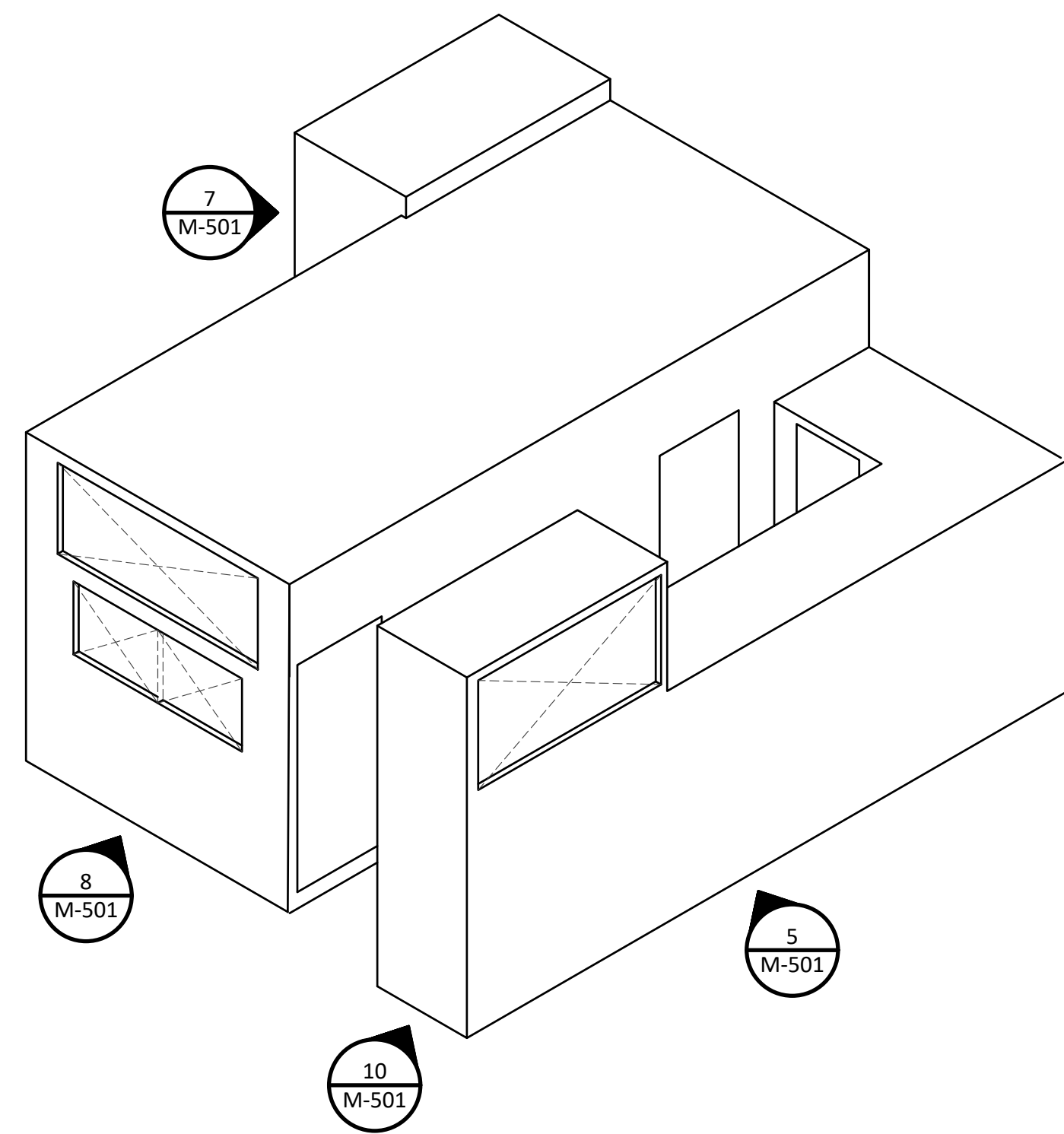
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**MECHANICAL PLENUM WALL DETAIL**  
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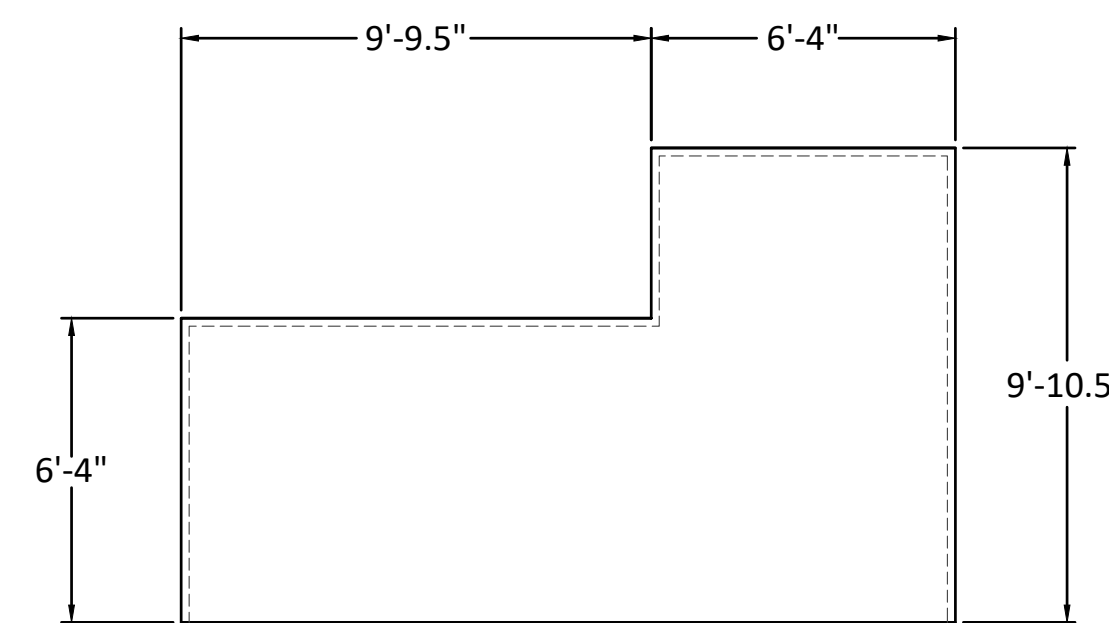
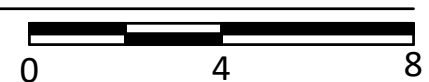
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**MECHANICAL PLENUM WALL DETAIL**  
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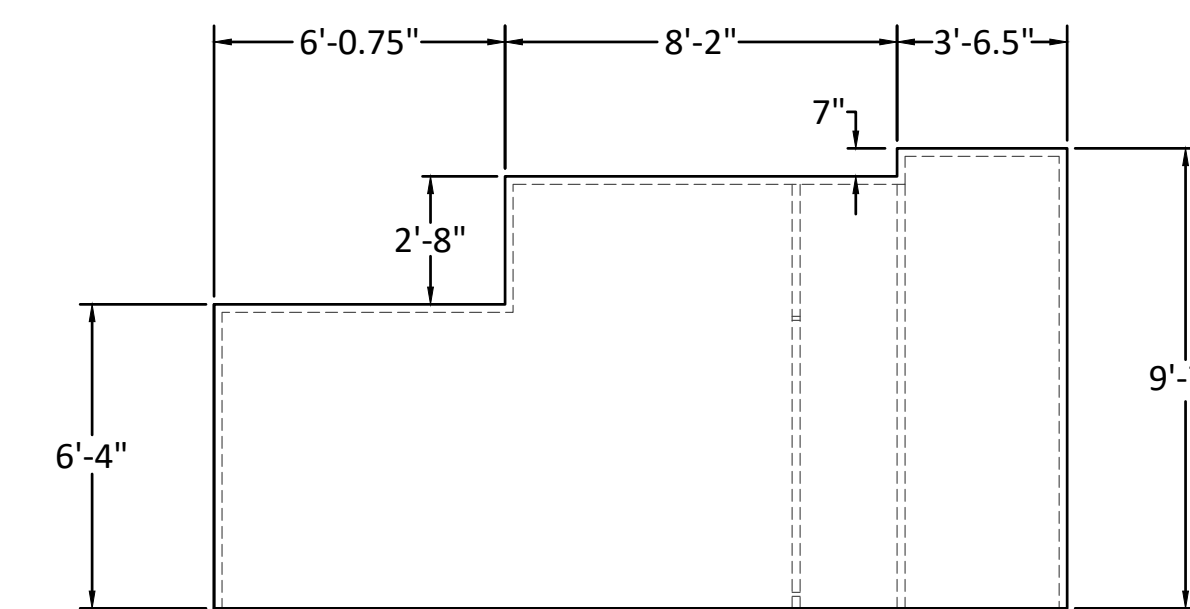
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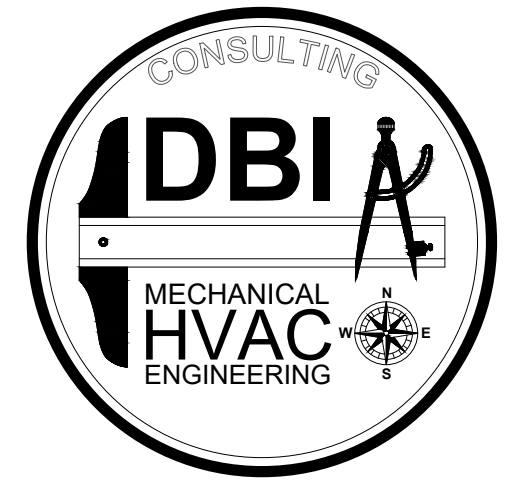
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**MECHANICAL PLENUM WALL ISOMETRIC DETAIL**  
SCALE: 1/4" = 1'-0"



6  
M-501  
**MECHANICAL PLENUM WALL DETAIL**  
SCALE: 1/4" = 1'-0"



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**MECHANICAL PLENUM WALL DETAIL**  
SCALE: 1/4" = 1'-0"

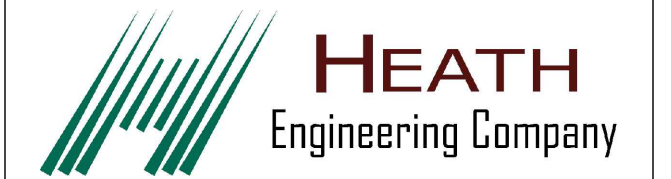


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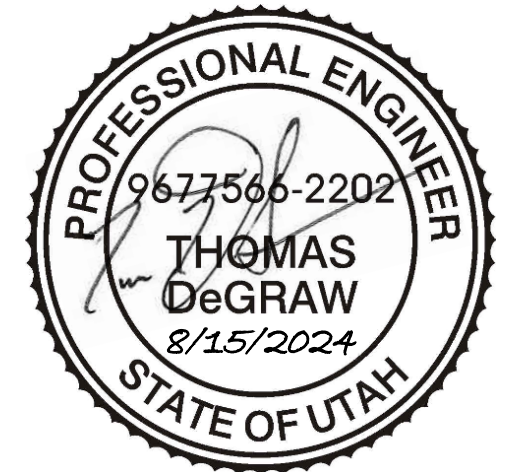
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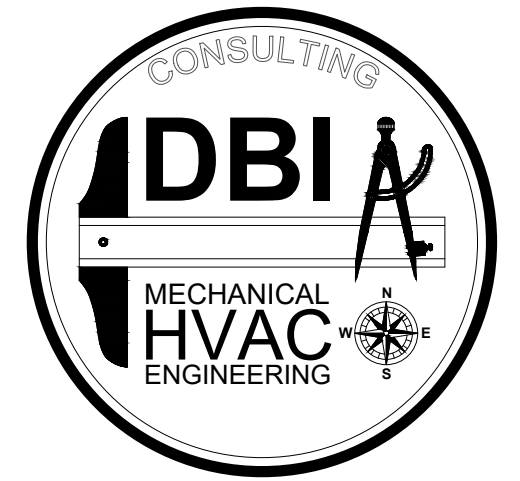
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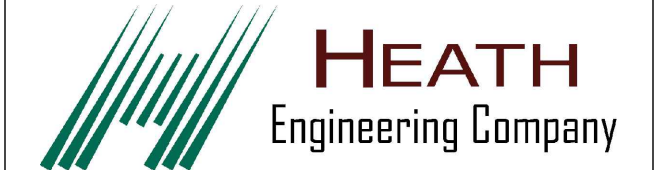


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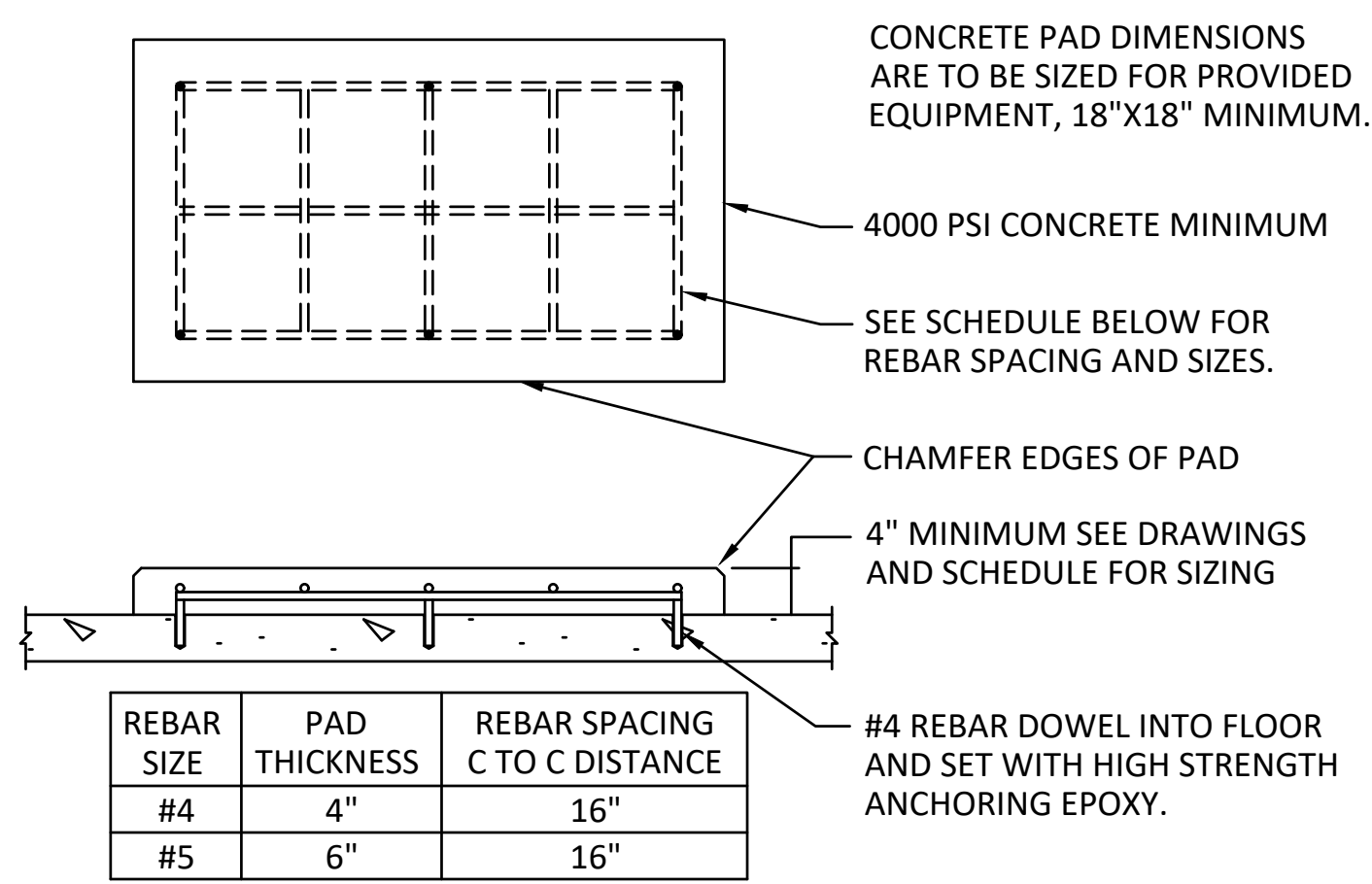
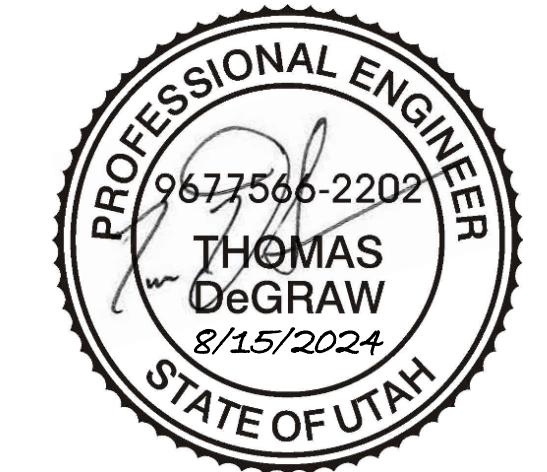
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DESIGNER: TOM DeGRAW

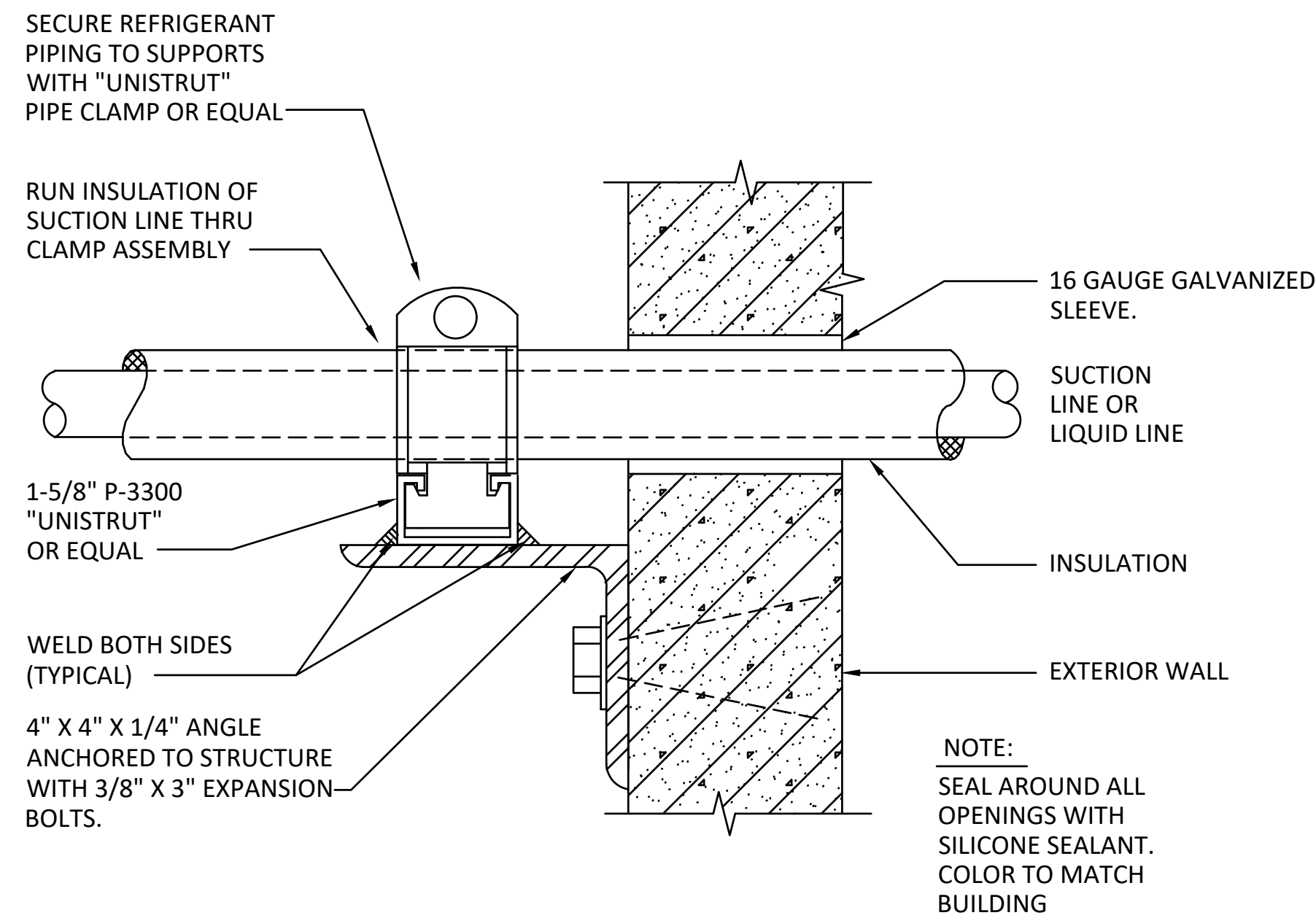
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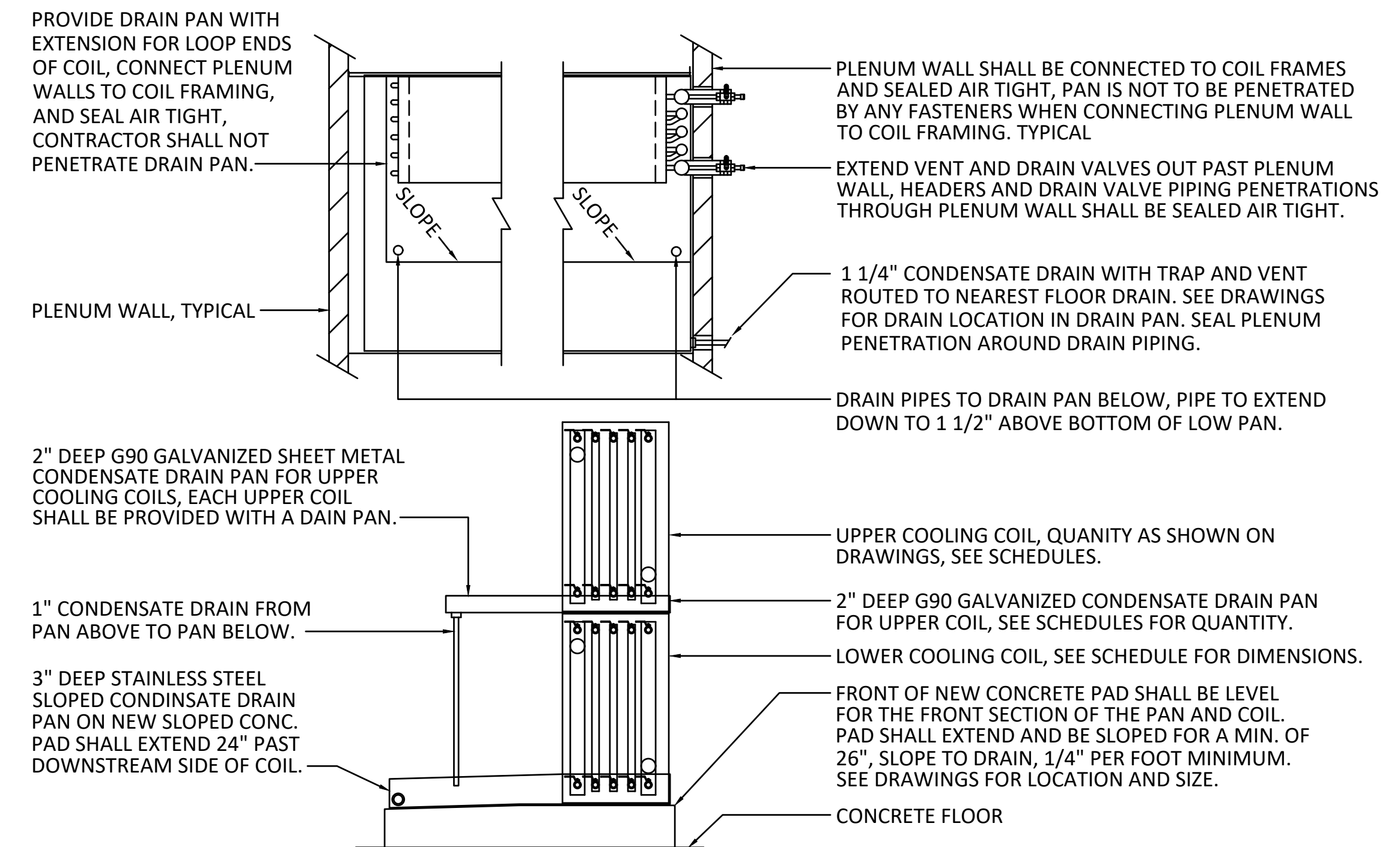
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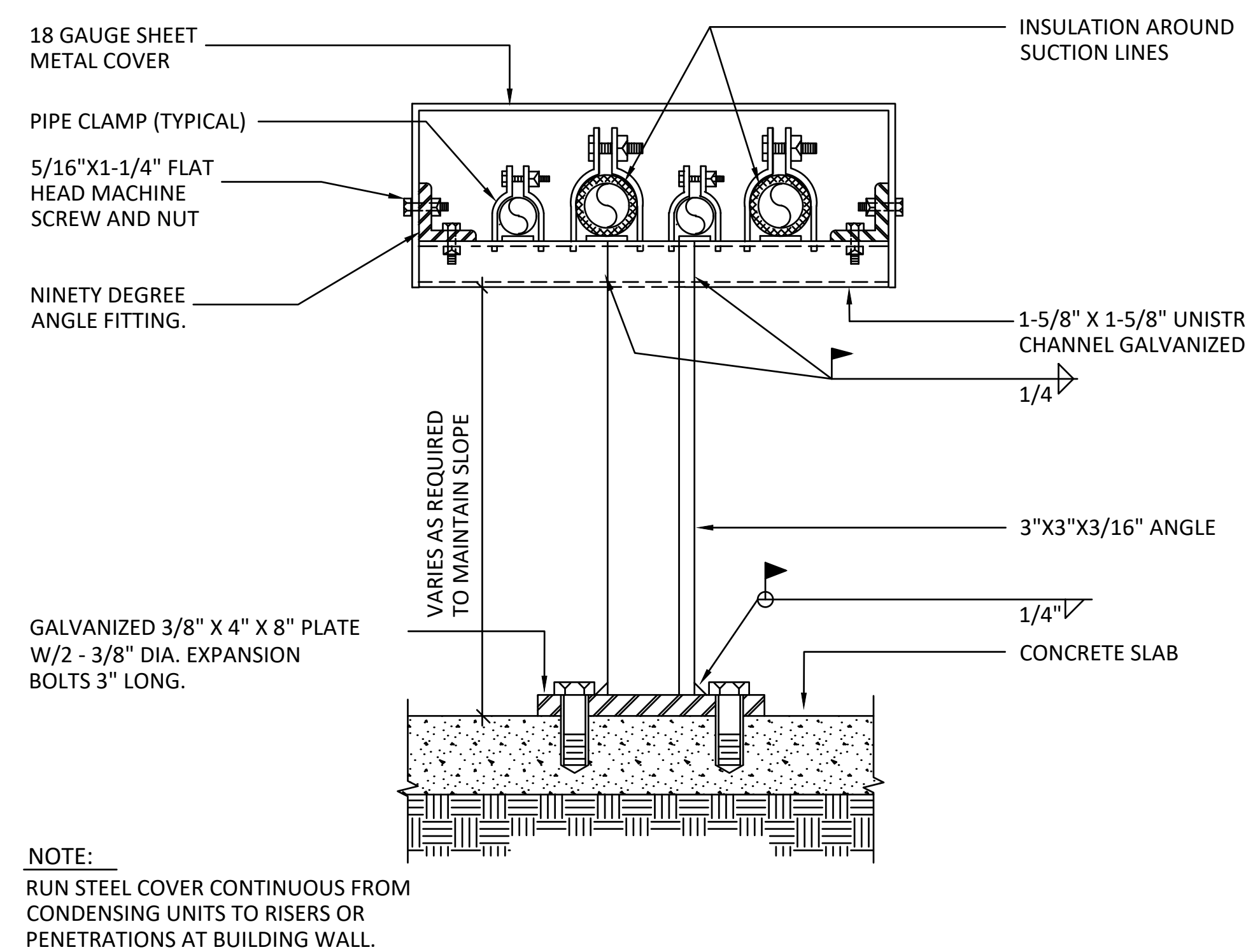
5 CONCRETE PAD DETAIL  
SCALE: NONE



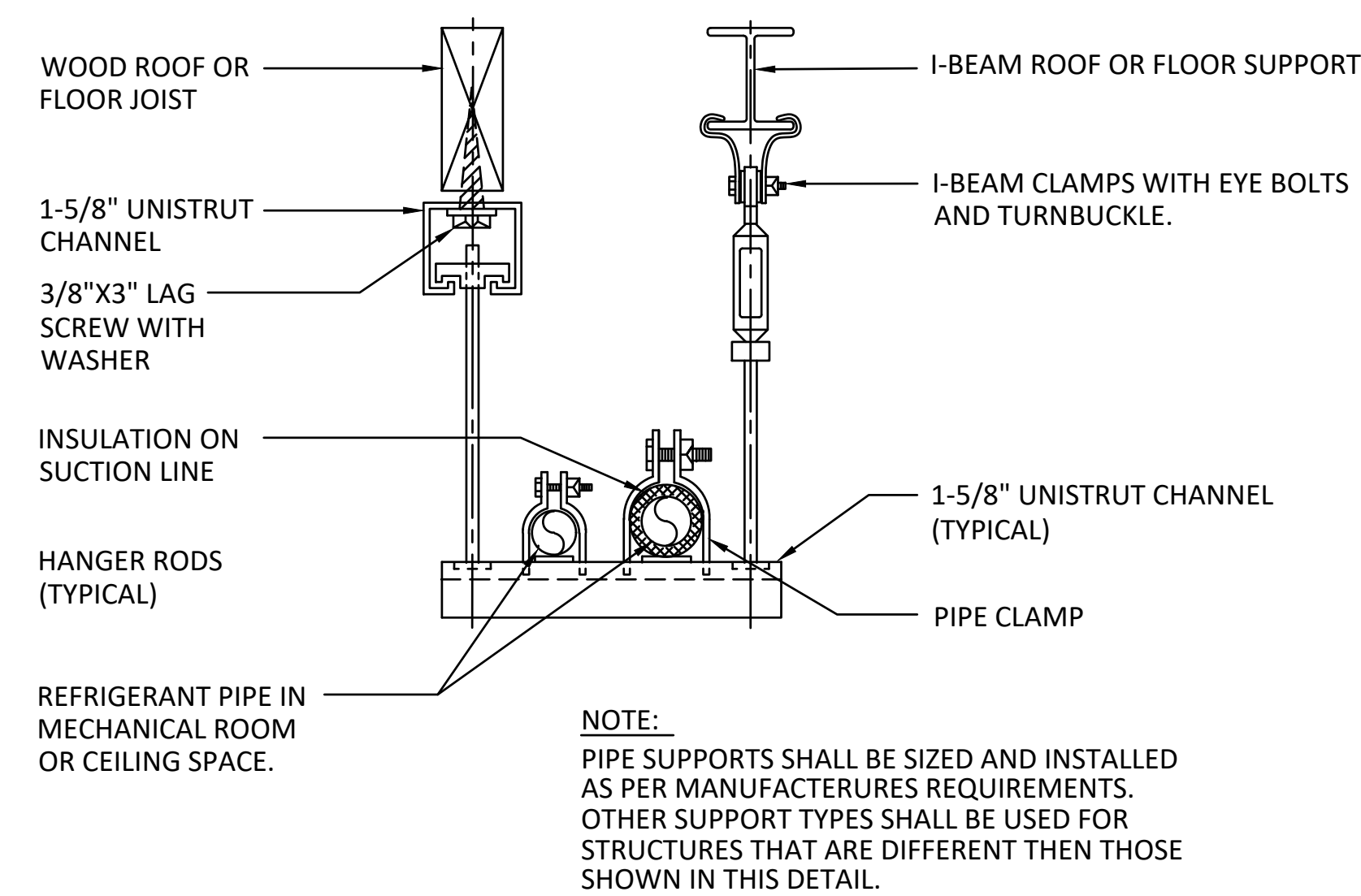
3 REFRIGERANT PIPE PENETRATION DETAIL  
SCALE: NONE



1 BASE AND UPPER COOLING COIL CONDENSATE DRAIN PAN DETAIL  
SCALE: NONE



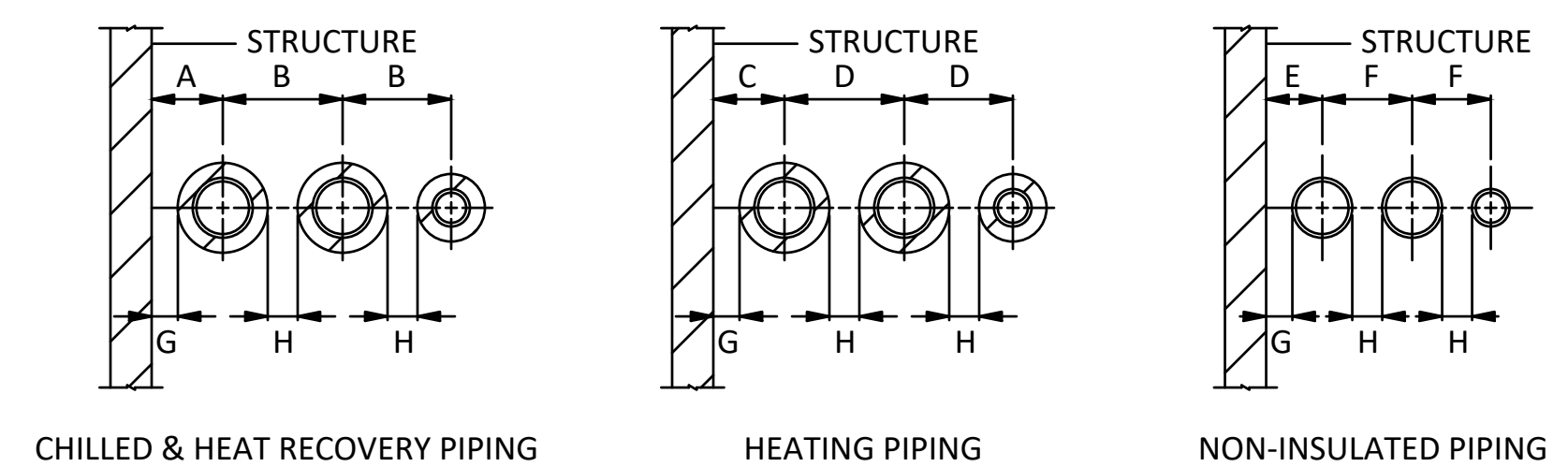
6 EXTERIOR REFRIGERANT PIPE DUPPORT DETAIL  
SCALE: NONE



4 REFRIGERANT PIPE SUPPORT DETAIL  
SCALE: NONE

MECHANICAL PIPING INSULATION TABLE			
PIPE SIZE	HWS/R	CHWS/R	HRS/R
UP TO 1-1/2"	1" THICK	1" THICK	1" THICK
OVER 1-1/2"	2" THICK	1-1/2" THICK	1-1/2" THICK

NOTE: CENTERLINE DIMENSIONS ARE BASED ON OUTER PIPE AND INSULATION THICKNESS DIMENSIONS G AND H ARE THE MINIMUM ALLOWED CLEARANCES FOR ALL PIPING.



PIPE SIZE INCHES	SPACING AND CLEARANCE DIMENSIONS IN INCHES							
	A	B	C	D	E	F	G	H
1/2 TO 3/4	5	6-3/4	5	6-3/4	4	4-3/4	3-1/2	4
1 TO 1-1/2	5-1/2	7-1/2	5-1/2	7-1/2	4-1/4	5-1/2	3-1/2	4
2 TO 3	6	10	7	11	5	7	3-1/2	4
4	7	11	7-1/2	12	5-1/2	8	3-1/2	4
5	7-1/2	12	8	13	6	9	3-1/2	4
6	8	13	8-1/2	14	6-1/2	10	3-1/2	4
8	9	15	9-1/2	16	7-1/2	12	3-1/2	4
10	10	17	10-1/2	18	8-1/2	14	3-1/2	4
12	11	19	11-1/2	20	9-1/2	16	3-1/2	4

2 PIPE INSULATION AND SPACING DETAIL  
SCALE: NONE

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MECHANICAL DETAILS

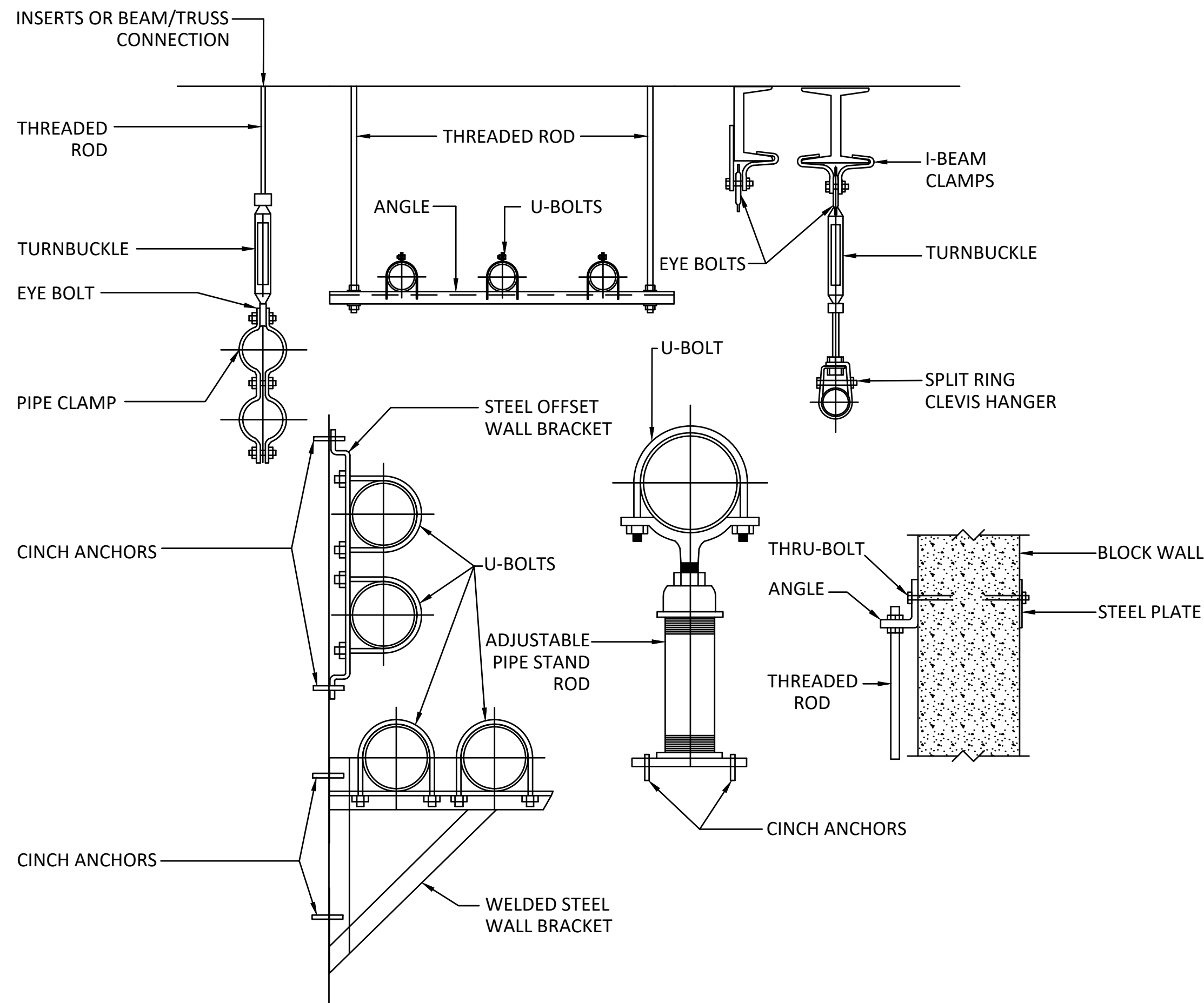
M-502

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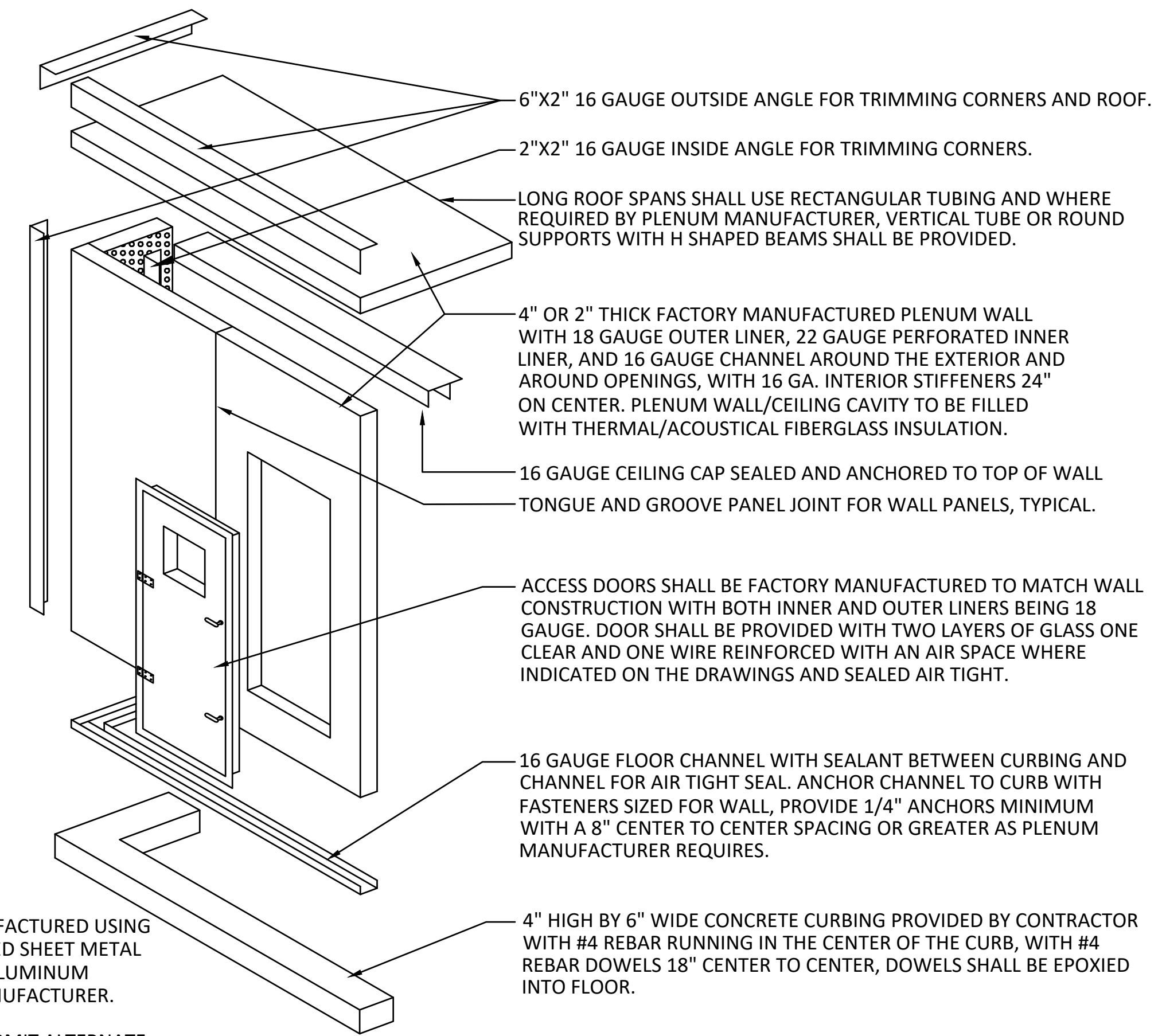
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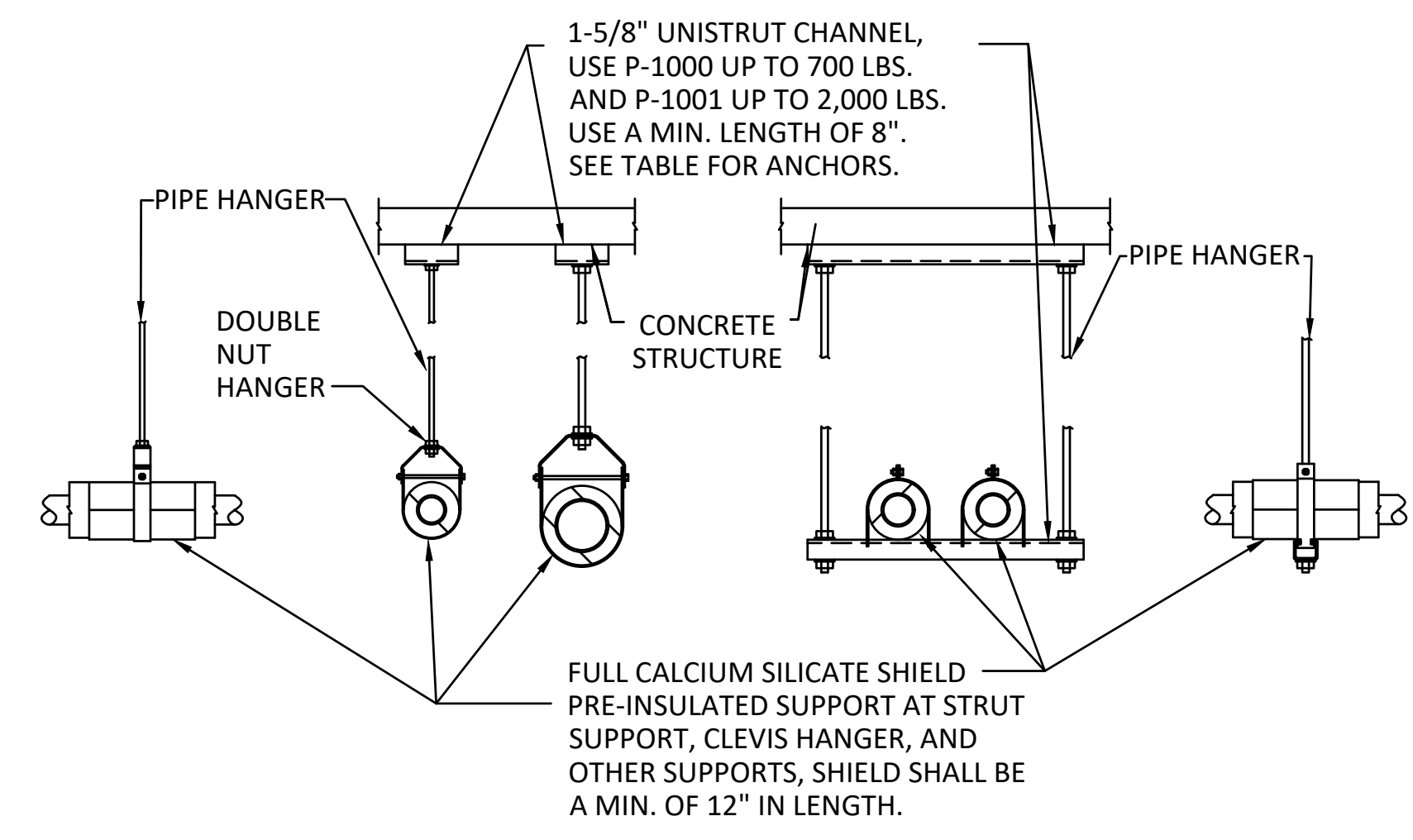
**3** TYPICAL PIPE SUPPORTS DETAIL  
M-503 SCALE: NONE



**GENERAL NOTES:**

1. WALL SHALL BE MANUFACTURED USING EITHER G90 GALVANIZED SHEET METAL OR THE EQUIVALENT ALUMINUM PROVIDED BY THE MANUFACTURER.
2. CONTRACTOR MAY SUBMIT ALTERNATE PLENUM CONSTRUCTION METHOD.

**1** PLENUM CONSTRUCTION DETAIL  
M-503 SCALE: NONE

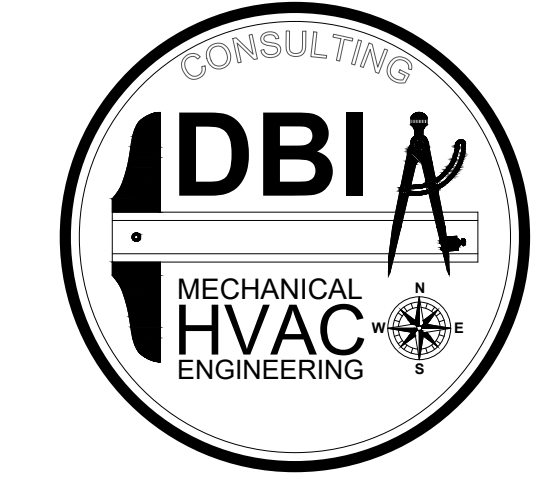


PIPE HANGER SIZE, AND SPACING TABLE			
PIPE SIZE INCHES	WEIGHT OF FILLED PIPE LBS/FT/TOTAL	HANGER ROD SIZE INCHES	MAXIMUM SPACING FT
3/4 TO 1-1/4	3/21	3/8	7
1-1/2	3.6/32.4	3/8	9
2	6.3/60.3	3/8	10
2-1/2	9.5/104.5	1/2	11
3	13/156	1/2	12
4 TO 5	29/406	5/8	14
6 TO 8	64/1024	3/4	16
10 TO 12	133/2660	7/8	20
14 TO 18	260/6240	1	24

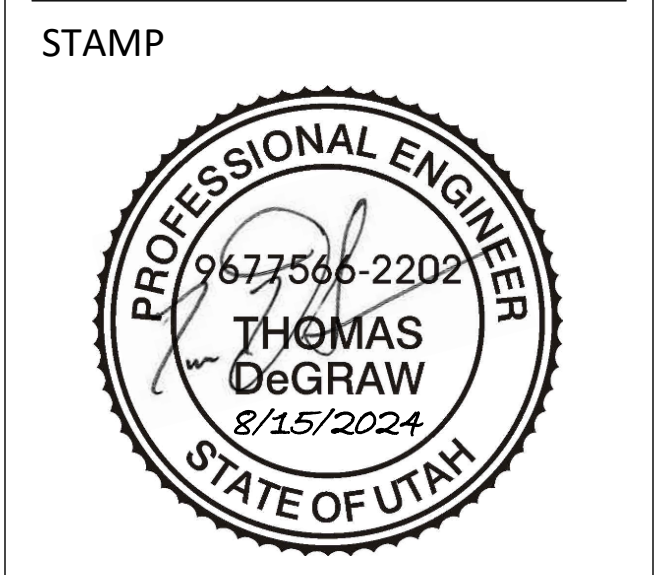
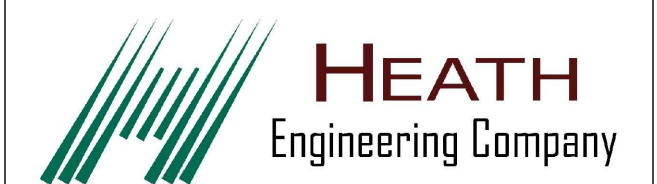
ANCHOR TABLE	
UNISTRUT CHANNEL HILTI CONC. ANCHOR	MAX. WEIGHT LBS./ANCHOR
1-1/2" DS ACTUATED	200
3/8"x3" KWIK BOLT	1200
1/2"x3" KWIK BOLT	2000
5/8"x3-1/2" KWIK BOLT	4000

NOTE: HANGERS, SPACING, AND ANCHORS ARE FOR SINGLE PIPES. IF TABLED VALUES ARE EXCEEDED, THEN HANGER SPACING SHALL BE REDUCED TO MATCH ROD, AND ANCHOR MAXIMUM CAPACITIES.

**2** PIPE HANGER AND SUPPORT DETAIL  
M-503 SCALE: NONE



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18 GAUGE GALVANIZED SHEET METAL FILLER PANELS INSTALLED AROUND FILTER SECTION. PANELS SHALL EXTEND FROM THE FRAMES TO THE PLENUM WALLS AND CEILING, SEAL ALL SEAMS AIR TIGHT. FASTENERS CONNECTING PANELS TO FRAMES SHALL NOT PROTRUDE INTO FILTERS WITHIN THE FRAMES.

CAMFIL FARR FASTFRAME FILTER FRAME MADE WITH 16 GAUGE GALVANIZED STEEL WITH GASKETED FILTER SEALING FLANGE, FILTER HOLDING COMPRESSION TABS THAT SHALL ACCOMMODATE ANY HEADERED FILTER. PROVIDE AND INSTALL 6" WIDE 16 GAUGE VERTICAL

PROVIDE AND INSTALL 6" WIDE 16 GAUGE GALVANIZED SHEET METAL VERTICAL SUPPORTS BETWEEN EVERY THIRD SET OF FILTER FRAMES. SEAL AIR TIGHT.

4" HIGH BY 6" WIDE 18 GAUGE SHEET METAL HAT CHANNEL ANCHORED TO THE CONCRETE FLOOR WITH 1/4" HIT PINS OR CONCRETE CURB WITH #4 REBAR RUNNING IN THE CENTER OF THE CURB WITH #4 REBAR DOWELS EPOXIED INTO THE FLOOR EVERY 18" ON CENTER.

INSTALL FILTER FRAMES CENTERED ON SHEET METAL CHANNEL ANCHORED CHANNEL WITH FLUSH MOUNTING SCREWS OR RIVETS. IF CONCRETE CURBING THEN ANCHOR USING HIT PINS.

**GENERAL NOTES:**

1. PANELS AND VERTICAL SUPPORTS SHALL BE MANUFACTURED OR FABRICATED USING G90 GALVANIZED SHEET METAL.
2. CONTRACTOR MAY SUBMIT ALTERNATE MATERIAL IF REQUIRED FOR CORROSION RESISTANCE.

3  
M-504

**BUILT-UP FILTER SECTION INSTALLATION DETAIL**

SCALE: NONE

18 GAUGE GALVANIZED SHEET METAL FILLER PANELS INSTALLED AROUND FAN ARRAY. PANELS SHALL EXTEND FROM THE FAN CUBES TO THE PLENUM WALLS AND CEILING, SEAL ALL SEAMS AIR TIGHT.

INSTALL FAN ARRAY ON CONCRETE CURB CENTERED IN BETWEEN PLENUM WALLS. INSTALL AS PER MANUFACTURERS GUIDELINES AND SEAL AIR TIGHT AROUND ALL THE FAN CUBES.

ANCHOR BOTTOM FAN CELLS TO CONCRETE CURB WITH 4 3/8" ANCHORS ON THE FRONT AND BACK OF EACH FAN CUBE 4" CONCRETE CURB WITH #4 REBAR RUNNING ON 18" CENTERS OF THE CURB WITH #4 REBAR DOWELS EPOXIED INTO THE FLOOR EVERY 18" ON CENTER. SEE CONCRETE CURB DETAIL.

EACH FAN CUBE SHALL BE PROVIDED WITH ULTRA LOW RESISTANT INTEGRAL FACTORY MOUNTED BACKDRAFT DAMPER.

**GENERAL NOTES:**

1. IT IS THE INSTALLING CONTRACTORS RESPONSIBILITY TO ENSURE THAT THE FAN ARRAY IS INSTALLED WITH ALL COMPONENTS REQUIRED FOR A FULLY FUNCTIONING FAN SYSTEM AND THAT THE ARRAY IS COMPLETELY SEALED AIR TIGHT ON THE SUCTION SIDE.
2. THE INSTALLING CONTRACTOR, SUPPLIER, OR START UP TECHNICIAN SHALL VERIFY THAT ALL FAN WHEELS ROTATE FREELY WITH NO CONTACT ON THE INLETS PRIOR TO START-UP.

1  
M-504

**BUILT-UP FAN ARRAY INSTALLATION DETAIL**

SCALE: NONE

1" CONDENSATE DRAIN FROM PAN ABOVE TO PAN BELOW.

PROVIDE DRAIN PAN WITH EXTENSION FOR LOOP ENDS OF COIL, CONNECT PLENUM WALLS TO COIL FRAMING, AND SEAL AIR TIGHT, CONTRACTOR SHALL NOT PENETRATE DRAIN PAN.

3" DEEP STAINLESS STEEL SLOPED CONDENSATE DRAIN PAN ON NEW SLOPED CONC. PAD SHALL EXTEND 24" PAST DOWNSTREAM SIDE OF COIL.

2" DEEP G90 GALVANIZED SHEET METAL CONDENSATE DRAIN PAN FOR UPPER COOLING COILS, EACH UPPER COIL SHALL BE PROVIDED WITH A DRAIN PAN.

**GENERAL NOTES:**

1. IT IS THE INSTALLING CONTRACTORS RESPONSIBILITY TO ENSURE THAT THE FAN ARRAY IS INSTALLED WITH ALL COMPONENTS REQUIRED FOR A FULLY FUNCTIONING FAN SYSTEM AND THAT THE ARRAY IS COMPLETELY SEALED AIR TIGHT ON THE SUCTION SIDE.
2. THE INSTALLING CONTRACTOR, SUPPLIER, OR START UP TECHNICIAN SHALL VERIFY THAT ALL FAN WHEELS ROTATE FREELY WITH NO CONTACT ON THE INLETS PRIOR TO START-UP.

2  
M-504

**BUILT-UP HEATING AND COOLING COIL INSTALLATION DETAIL**

SCALE: NONE

UPPER COOLING COIL, QUANTITY AS SHOWN ON DRAWINGS, SEE SCHEDULES.

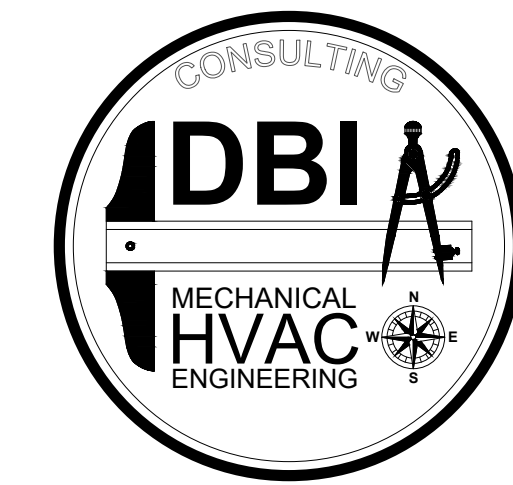
PLENUM WALL SHALL BE CONNECTED TO COIL FRAMES AND SEALED AIR TIGHT, PAN IS NOT TO BE PENETRATED BY ANY FASTENERS WHEN CONNECTING PLENUM WALL TO COIL FRAMING. (TYPICAL)

2" DEEP G90 GALVANIZED CONDENSATE DRAIN PAN FOR UPPER COIL, SEE SCHEDULES FOR QUANTITY.

PLENUM WALL (TYPICAL)

LOWER COOLING COIL, SEE SCHEDULE FOR DIMENSIONS.

CONCRETE HOUSEKEEPING PAD



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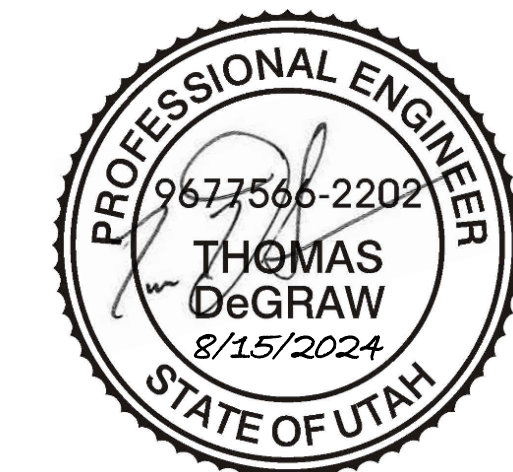
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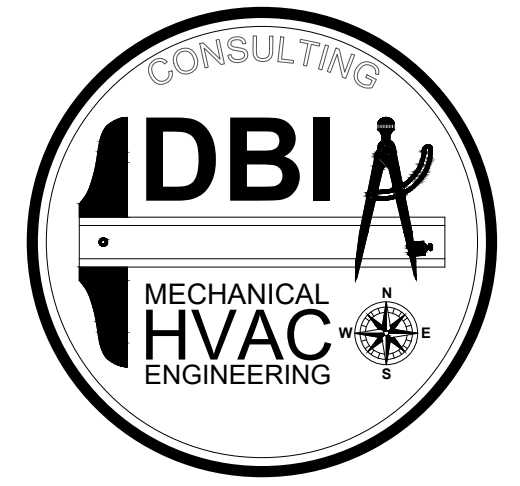
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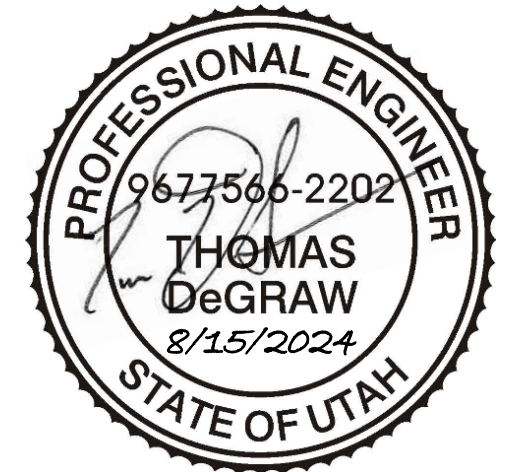
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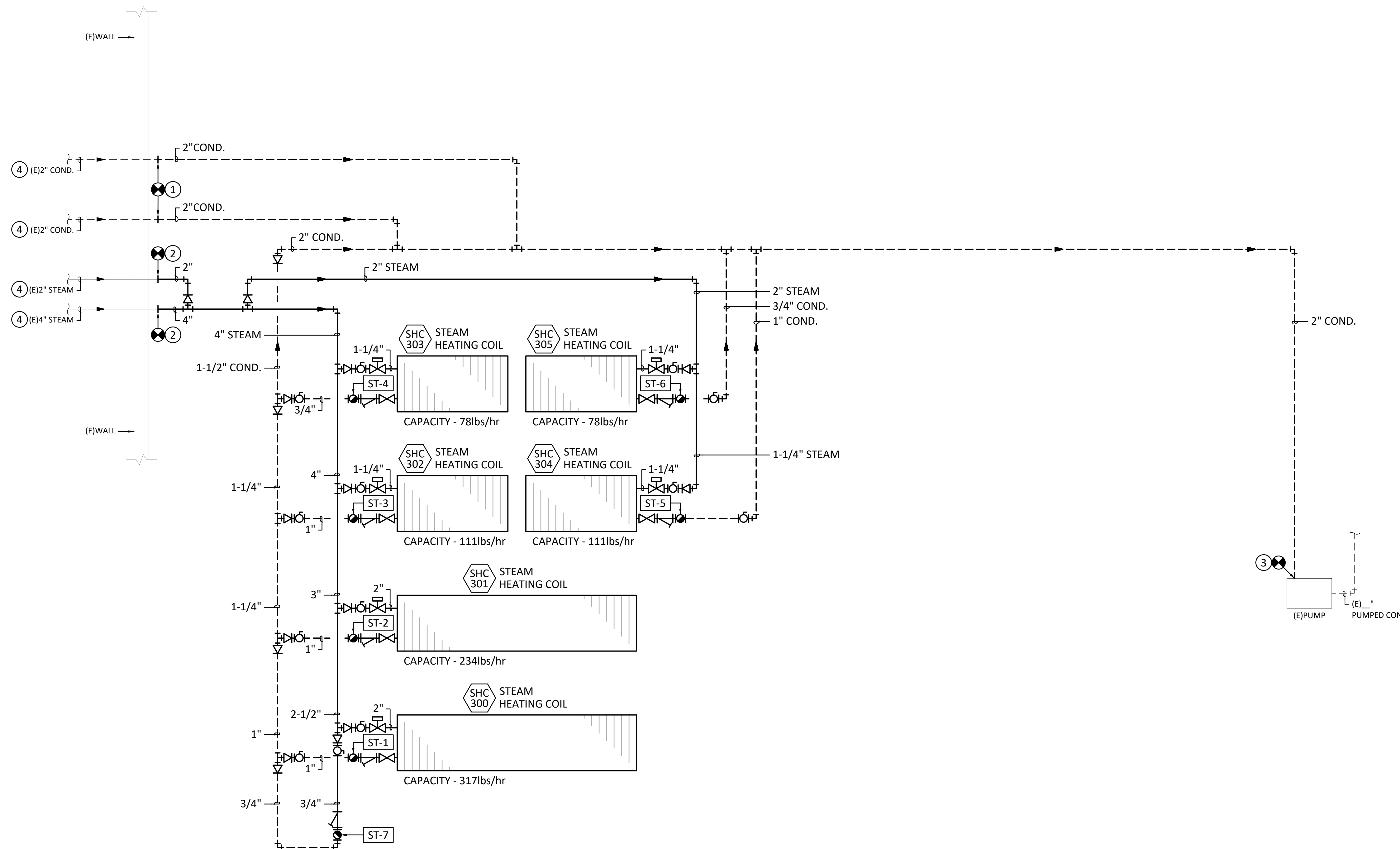


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### REFERENCE NOTES

- ① CONNECT NEW CONDENSATE RETURN LINES TO EXISTING NEAR EXISTING WALL PENETRATIONS. SEE MP101. ROUTE DOWN WALL AND INTO 2" MAIN CONDENSATE RETURN LINE.
- ② CONNECT NEW STEAM LINES TO EXISTING NEAR EXISTING WALL PENETRATIONS. SEE MP401.
- ③ RUN NEW 2" MAIN CONDENSATE RETURN LINE INTO EXISTING PUMP. SLOPE AS REQUIRED.
- ④ CONTRACTOR TO VERIFY EXISTING PIPE SIZES PRIOR TO ORDERING OF PIPE. MAKE ADJUSTMENTS AS REQUIRED FOR A FULLY FUNCTIONING SYSTEM.



1 MECHANICAL STEAM HEATING PIPING/FLOW DIAGRAM  
MP601 SCALE: NONE

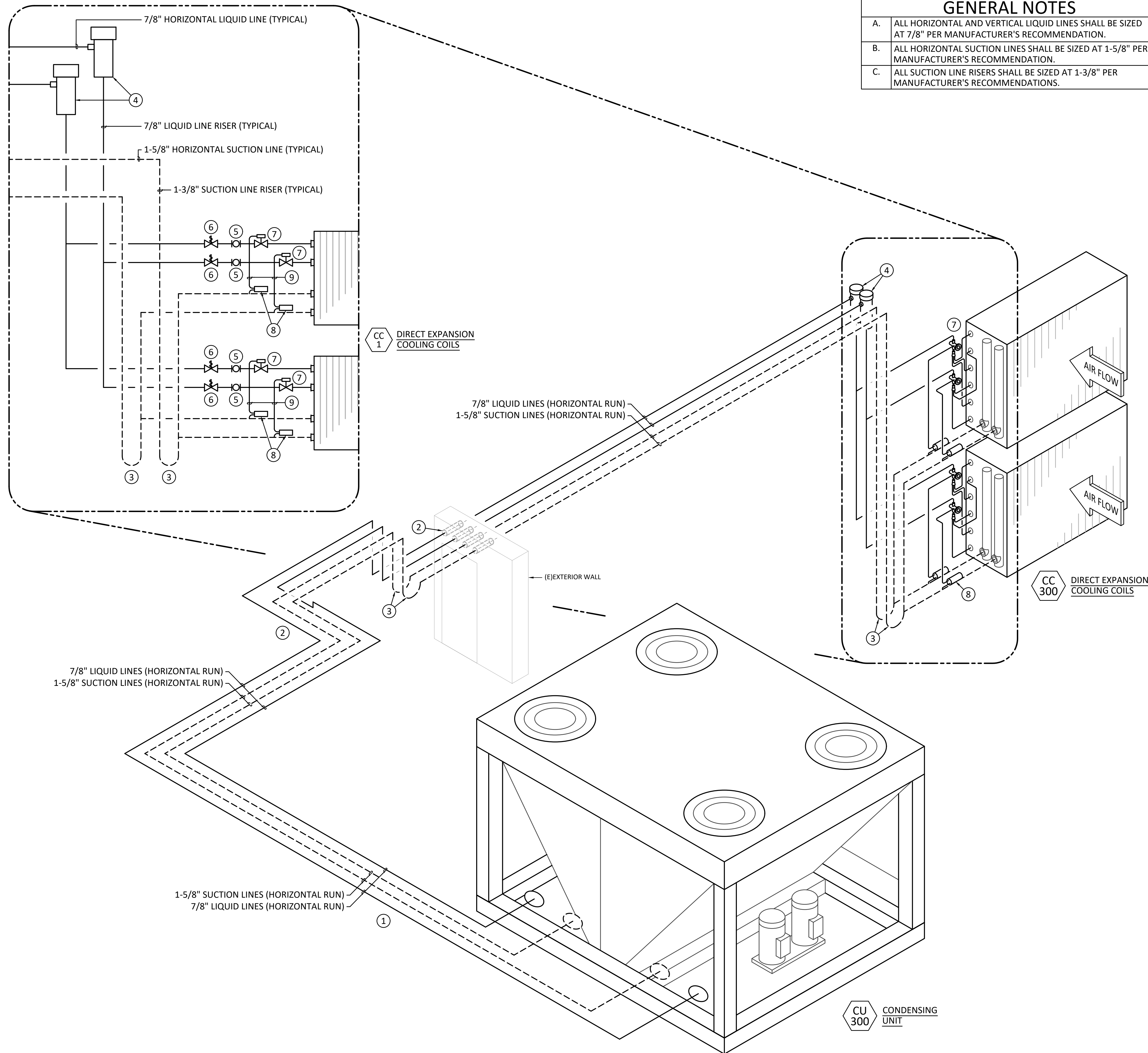
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MECHANICAL STEAM HEATING PIPING/ FLOW DIAGRAM

MP601

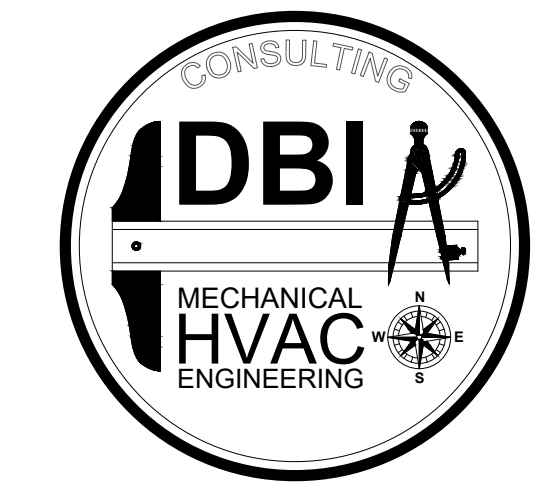
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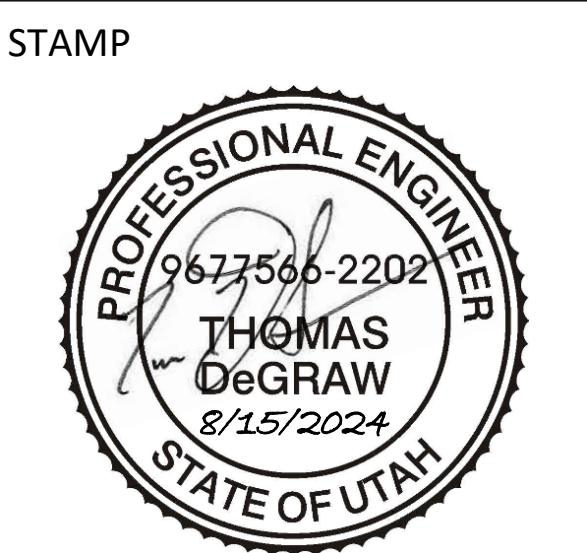
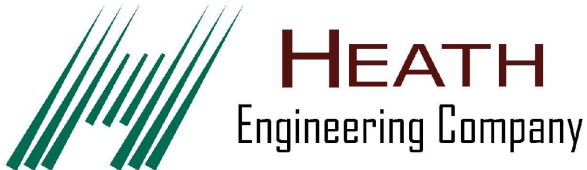


GENERAL NOTES	
A.	ALL HORIZONTAL AND VERTICAL LIQUID LINES SHALL BE SIZED AT 7/8" PER MANUFACTURER'S RECOMMENDATION.
B.	ALL HORIZONTAL SUCTION LINES SHALL BE SIZED AT 1-5/8" PER MANUFACTURER'S RECOMMENDATION.
C.	ALL SUCTION LINE RISERS SHALL BE SIZED AT 1-3/8" PER MANUFACTURER'S RECOMMENDATIONS.

- | REFERENCE NOTES |   |
|-----------------|---|
| 1               | NEW LIQUID AND SUCTION LINES FROM CONDENSING UNIT CU-300. SEE M-400.  |
| 2               | NEW LIQUID AND SECTION LINES TO BE RUN AT AN ELEVATION BELOW 112" TO AVOID CONFLICT WITH EXISTING CONDUIT AND PIPING. SEE MP401. CONTRACTOR TO FIELD VERIFY EXACT ELEVATION PRIOR TO INSTALLATION. CORE DRILL AND SEAL WALL PENETRATIONS WATER TIGHT. |
| 3               | ALL DROP/RISES IN THE SUCTION PIPING TO BE 1-3/8" PIPING WITH OIL TRAPS AT THE BOTTOM AS PER MANUFACTURER'S REQUIREMENTS.   |
| 4               | NEW FILTER DRYERS PROVIDED WITH CONDENSING UNIT. CONTRACTOR TO INSTALL PER MANUFACTURER'S INSTRUCTIONS.   |
| 5               | SIGHT GLASS PROVIDED AND INSTALLED BY INSTALLING CONTRACTOR.  |
| 6               | SOLENOID VALVE PROVIDED WITH CONDENSING UNIT AND TO BE ELECTRICALLY CONNECTED TO CONDENSING UNIT.   |
| 7               | CONNECT TO INTERLACED COOLING COIL TX VALVES PROVIDED WITH COOLING COIL.  |
| 8               | BULB MOUNTED ON HORIZONTAL PIPE CLOSE TO COIL TO AVOID MOUNTING NEAR TRAPS.   |
| 9               | TXV VALVE EXTERNAL EQUALIZATION LINE  |



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MECHANICAL REFRIGERANT PIPING/ FLOW DIAGRAM

MP602

1 MECHANICAL COOLING REFRIGERANT PIPING/FLOW DIAGRAM  
 MP602 SCALE: NONE

Construction Documents

8.15.2024 06:54 - KINKADE MINSON

STEAM CONTROL VAVLE SCHEDULE					
SYMBOL	LBS/HR	CIRCULATING FLUID	VALVE TYPE	PRESSURE DIFFERENCE PSI	SERVICE
SHCV-300	317	STEAM	2-WAY MODULATING	5	SHC-300
SHCV-301	234	STEAM	2-WAY MODULATING	5	SHC-301
SHCV-302	111	STEAM	2-WAY MODULATING	5	SHC-302
SHCV-303	78	STEAM	2-WAY MODULATING	5	SHC-303
SHCV-304	111	STEAM	2-WAY MODULATING	5	SHC-304
SHCV-305	78	STEAM	2-WAY MODULATING	5	SHC-305

### SEQUENCE OF OPERATIONS FOR HVAC CONTROLS

#### SUPPLY AIR HANDLING UNIT AHU-300

##### A. VARIABLE VOLUME SUPPLY FAN STATIC PRESSURE CONTROL SEQUENCE: (SF-300)

- IN THE AUTOMATIC MODE THE SUPPLY FANWALL SYSTEM SHALL START EACH FAN CELL CONNECTED TO THE VFDS SPEED CONTROLLER PANEL SCP-300 VIA THE DDC SYSTEM, WHEN ALL SAFETIES ARE SATISFIED. WHEN IN HAND THE SUPPLY FANWALL SECTION FED BY EACH VFD WILL RUN WHEN ALL SAFETIES ARE SATISFIED, AND SHALL BE CONTROLLED USING THE SPEED CONTROL PANEL.
- THE SPEED OF THE FANS SHALL BE CONTROLLED BY THE SPEED CONTROL PANEL BASED ON A STATIC PRESSURE FEEDBACK FROM THE DDC SYSTEM TO MAINTAIN SUPPLY THE DUCT/PLENUM STATIC PRESSURE SET POINT. THE DUCT/PLENUM STATIC SET POINT SHALL BE SET BY THE BALANCE AND CONTROLS CONTRACTORS WORKING TOGETHER AND THE NEW FANS ARE TO BE SET TO MAINTAIN THE STATIC PRESSURE SET POINT RECORDED BY THE CONTROLS CONTRACTOR. UPON COMPLETION THE OWNER CAN DETERMINE IF A NEW SET POINT IS TO BE USED.
- INTERLOCK THE FANWALL SPEED CONTROL PANEL SCP-300 TO SAFETIES RELAY TO SHUTDOWN VFDS UPON BUILDING FIRE ALARM, SMOKE DETECTION, FREEZE CONDITIONS AND HIGH OR LOW DUCT STATIC PRESSURE CONDITIONS. ACTIVATE EACH FAN ARRAY THROUGH THE CENTRAL CONTROL PANEL VIA THE SCP-300 START/STOP AND SPEED CONTROL SIGNAL.
- INTERLOCK THE AIR HANDLERS OUTSIDE AIR DAMPERS TO CLOSE AND THE RETURN DAMPERS TO OPEN WHEN THE FAN IS OFF OR IN THE UNOCCUPIED MODE.
- DISABLE OR TURN OFF CONDENSING UNIT CU-300 VIA THE DDC SYSTEM BY TURNING OFF THE COMPRESSORS VIA THE START/STOP RELAYS TO STOP THE CONDENSING UNIT COMPRESSORS FROM PROVIDING COOLING WHEN THE AIR HANDLER SUPPLY FAN OR FANS ARE OFF WHEN USED FOR COOLING.
- OPEN THE FIRST STAGE STEAM HEATING CONTROL VALVES TO THE ZONE HEATING COILS WHEN THE AIR HANDLER FANS ARE OFF TO PREVENT FREEZING. SECOND STAGE STEAM HEATING CONTROL VALVES ARE TO REMAIN CLOSED IF SF-300 IS OFF.
- DURING THE OCCUPIED MODE THE OUTSIDE AIR DAMPER BLADES SHALL OPEN AND MODULATE TO MAINTAIN BUILDING STATIC, IF ECONOMIZER MODE IS IN USE THE DAMPERS SHALL MODULATE TO MAINTAIN DISCHARGE AIR TEMPERATURE FOR COOLING.
- SET UP THE SYSTEM SUCH THAT THE SUPPLY FANS SPEED CAN BE SET AND ADJUSTED MANUALLY.

##### B. VARIABLE VOLUME AIR HANDLER COOLING TEMPERATURE CONTROL SEQUENCES: (CU-300 AND CC-300)

- THE DDC SYSTEM SHALL CONTROL THE CONDENSING UNIT AND COOLING COIL TO CONTROL THE LEAVING AIR TEMPERATURE WHEN THE AIR HANDLER IS IN COOLING MODE.
- A CONTROL LOOP SENSING THE DISCHARGE AIR TEMPERATURE WILL MODULATE THE CONDENSING UNIT COMPRESSORS, AND ECONOMIZER DAMPERS TO MAINTAIN A DISCHARGE AIR TEMPERATURE OF 55° F (ADJUSTABLE) FOR THE COLD AIR SUPPLY. ECONOMIZER DAMPERS SHALL MODULATE TO MAINTAIN BUILDING STATIC PRESSURE WHILE THE CONDENSING UNIT IS BEING UTILIZED TO PROVIDE COOLING.
- WHEN THE OUTDOOR TEMPERATURE IS USABLE FOR COOLING THE ECONOMIZER SHALL BE USED TO MAINTAIN MIXED AIR TEMPERATURE OF 55° F (ADJUSTABLE) BY MODULATING THE RETURN AND OUTSIDE AIR DAMPERS. RESET THE LOW LIMIT ALONG WITH THE CONDENSING UNIT COMPRESSOR USE TO USE OUTSIDE AIR FOR COOLING WHEN THE OUTSIDE AIR REACHES A TEMPERATURE THAT IS NOT FAVORABLE FOR COOLING THE OUTSIDE AIR DAMPER SHALL BE CLOSED TO ITS MINIMUM POSITION TO MAINTAIN BUILDING STATIC.
- THE OUTSIDE AIR DAMPER SHALL BE SET TO A MINIMUM THAT WILL PROVIDE THE BUILDING WITH A POSITIVE PRESSURE OF 0.03 TO 0.01 IN WC (ADJUSTABLE) WITH RESPECT TO OUTSIDE. THE ECONOMIZER SHALL OVERRIDE THE MINIMUM OUTSIDE AIR SET POINT WHEN OUTDOOR AIR CONDITIONS ARE FAVORABLE FOR FREE COOLING. THIS SHALL BE DONE BY MEASURING AND MONITORING THE BUILDING STATIC. WHEN THE AIR TEMPERATURE DROPS BELOW 40° F (ADJUSTABLE) THE FIRST STAGE OF STEAM HEATING FOR EACH ZONE SHALL BE USED TO MAINTAIN A DISCHARGE AIR TEMPERATURE OF 55° F (ADJUSTABLE) FOR EACH ZONE IN COOLING MODE WHILE MAINTAINING BUILDING PRESSURE.
- WHEN THE OUTDOOR CONDITIONS ARE SUCH THAT THE DISCHARGE AIR TEMPERATURE CANNOT BE MAINTAINED THE NEW CONDENSING UNIT CU-300 SHALL BE MODULATED TO PROVIDE COOLING TO THE DX COOLING COILS CC-300 TO MAINTAIN DISCHARGE AIR TEMPERATURE. THE ENTERING AND LEAVING AIR TEMPERATURES SHALL BE SENSED AND CONTROLLED TO OPTIMIZE THE USE OF THE CONDENSING UNIT'S USAGE VIA THE DDC SYSTEM.
- IF THE DISCHARGE AIR TEMPERATURE FALLS BELOW 38° F (ADJUSTABLE) BECAUSE OF THE MINIMUM OUTSIDE AIR REQUIREMENT, THE OUTSIDE AIR DAMPERS SHALL MODULATE CLOSED TO PREVENT FREEZING CONDITIONS TO THE STEAM HEATING COILS.

##### C. VARIABLE VOLUME AIR HANDLER ZONE CONTROL SEQUENCES: (NORTH ZONE ZD-300, AFM-300, SHC-300 AND 301 / WEST ZONE ZD-301, AFM-301, SHC-302, AND 303 / EAST ZONE ZD-303, AFM-302, SHC-304, AND 305)

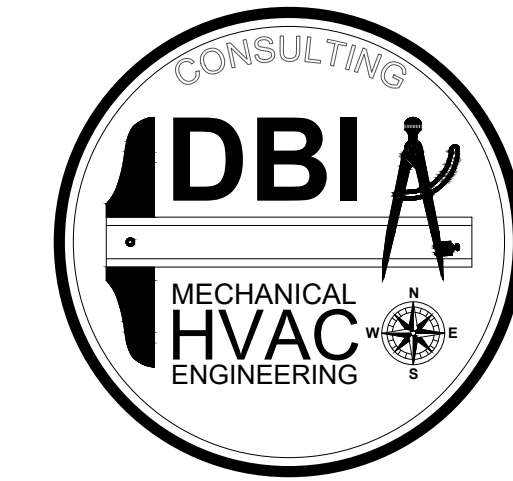
- THE DDC SYSTEM SHALL CONTROL THE THREE ZONES THAT AHU-300 SERVES VIA CONTROLLING ZONE DAMPERS FOR AIRFLOW CONTROL, COOLING AND HEATING COILS TO CONTROL LEAVING AIR TEMPERATURE, WHILE MEASURING SPACE TEMPERATURE, DUCT/PLENUM STATIC PRESSURE, AND AIRFLOW RATES.
- ZONE TEMPERATURE SENSORS:
  - EACH ZONE SHALL BE PROVIDED WITH A TEMPERATURE SENSOR AND SHALL BE PROGRAMMED WITH A 1 DEGREE DEADBAND (ADJUSTABLE).
  - ZONE TEMPERATURE SENSORS SHALL NOT BE PROVIDED WITH TEMPERATURE SET POINT ADJUSTMENT DIALS OR SLIDERS. THE SENSOR SHALL BE A SENSOR ONLY WITH PROTECTIVE COVER, ADJUSTMENTS TO THE SPACE SET POINTS SHALL BE MADE VIA THE DDC SYSTEM ONLY.
  - EACH ZONE SHALL HAVE A SETPOINT OF 72° F (ADJUSTABLE) FOR THE COOLING SETPOINT AND 70° F (ADJUSTABLE) FOR THE HEATING SETPOINT.
- ZONE AIRFLOW RATE CONTROL:
  - EACH ZONE SHALL BE EQUIPPED WITH AN AIRFLOW MEASURING DEVICE SO THAT THE ZONE DAMPERS CAN BE MODULATED TO KNOWN AIRFLOW RATES THAT SHALL BE MONITORED BY THE DDC SYSTEM TO CONTROL THE AIRFLOW RATE TO EACH ZONE IN THE COOLING AND HEATING MODES.
  - EACH AIRFLOW MEASURING DEVICE SHALL BE CALIBRATED FOR ELEVATION AND AIRFLOW BY THE BALANCE CONTRACTOR. THE AIRFLOW MEASURING DEVICES SHALL BE INSTALLED IN SECTIONS OF THE DUCT WHERE THEY ARE NOT INFLUENCED WITH RANDOM READINGS BASED ON TURBULENT FLOW FROM DAMPERS, ELBOWS, ETC.
- ZONE COOLING MODE:
  - EACH ZONE SHALL PROVIDE COOLING AIR TO THE AREAS IN THE BUILDING THEY SERVE WHEN THE SYSTEM IS IN AUTOMATIC MODE AND WHEN AT LEAST ONE ZONE IS IN A CALL FOR COOLING.
  - WHEN A ZONE IS IN THE COOLING MODE AND AT A MAXIMUM CALL FOR COOLING THE ZONE DAMPER SHALL MODULATE UP TO ITS MAXIMUM COOLING AIRFLOW RATE. AS THE SPACE TEMPERATURE APPROACHES THE SPACE SETPOINT THE ZONE DAMPER SHALL MODULATE DOWN TO THE MINIMUM AIRFLOW RATE SETPOINT. IF THE TEMPERATURE IN THE ZONE DROPS BELOW THE HEATING SETPOINT THEN THE ZONE SHALL TRANSITION TO HEATING MODE.
  - AS THE COOLING DEMAND INCREASES AND DECREASES THE AIRFLOW RATE OF THE AIR HANDLER WILL RISE AND DROP TO RESPOND TO THE ZONE LOADS. THE DUCT/PLENUM STATIC PRESSURE SENSOR SHALL CONTROL THE SPEED OF THE FANWALL AS DESCRIBED ABOVE. THE CONDENSING UNIT SHALL BE STAGED IN COOLING CAPACITY TO MATCH THE CHANGE IN AIRFLOW RATES TO MAINTAIN A LEAVING AIR TEMPERATURE OF 55° F (ADJUSTABLE). SEE COOLING CONTROL SEQUENCE ABOVE.
- ZONE HEATING MODE:
  - EACH ZONE SHALL PROVIDE HEATING AIR TO THE AREAS IN THE BUILDING THEY SERVE WHEN THE SYSTEM IS IN AUTOMATIC MODE AND WHEN THE ZONE IS IN A CALL FOR HEATING.
  - WHEN A ZONE IS IN THE HEATING MODE AND AT A MAXIMUM CALL FOR HEATING THE ZONE DAMPER SHALL MODULATE UP TO ITS MAXIMUM HEATING AIRFLOW RATE. AS THE SPACE TEMPERATURE APPROACHES THE SPACE SETPOINT THE ZONE DAMPER SHALL MODULATE DOWN TO THE MINIMUM AIRFLOW RATE SETPOINT. IF THE TEMPERATURE IN THE ZONE RISES ABOVE THE COOLING SETPOINT, THEN THE ZONE SHALL TRANSITION TO COOLING MODE.
  - EACH ZONE DUCT SHALL HAVE LEAVING AIR TEMPERATURE SENSORS DOWNSTREAM OF THE STEAM HEATING COILS. EACH ZONE SHALL HAVE TWO STEAM HEATING COILS, THE FIRST COILS SHALL BE STAGE ONE HEATING, AND THE SECOND COILS SHALL BE USED AS STAGE TWO HEATING. THE COILS SHALL BE STAGED IN THE HEATING MODE TO MATCH THE NEEDED HEATING CAPACITY TO MATCH THE CHANGE IN AIRFLOW RATES TO MAINTAIN A LEAVING AIR TEMPERATURE OF 100° F (ADJUSTABLE).

### DDC CONTROLLER PANEL 01 POINT LIST

NO.	POINT DESCRIPTION	POINT TYPE
<b>DIGITAL INPUTS</b>		
1	FREEZE STAT SAFETY FOR SHC-300 AND 301	DI
2	FREEZE STAT SAFETY FOR SHC-302 AND 303	DI
3	FREEZE STAT SAFETY FOR SHC-304 AND 305	DI
4	HIGH DUCT STATIC SAFETY FOR SF-300	DI
5	LOW DUCT STATIC SAFETY FOR SF-300	DI
6	RUN STATUS FOR COMPRESSOR/STAGE #1 CU-300	DI
7	RUN STATUS FOR COMPRESSOR/STAGE #2 CU-300	DI
8	RUN STATUS FOR COMPRESSOR/STAGE #3 CU-300	DI
9	RUN STATUS FOR COMPRESSOR/STAGE #4 CU-300	DI
10	RUN STATUS CURRENT DETECTOR FOR UPPER RIGHT FAN SF-300	DI
11	RUN STATUS CURRENT DETECTOR FOR LOWER RIGHT FAN SF-300	DI
12	RUN STATUS CURRENT DETECTOR FOR UPPER LEFT FAN SF-300	DI
13	RUN STATUS CURRENT DETECTOR FOR LOWER LEFT FAN SF-300	DI
14	VFD SPEED CONTROL PANEL ALARM	DI
<b>ANALOG INPUTS</b>		
1	STEAM HEAT COILS SHC-304 AND 305 LEAVING AIR TEMPERATURE	AI
2	STEAM HEAT COILS SHC-302 AND 303 LEAVING AIR TEMPERATURE	AI
3	STEAM HEAT COILS SHC-300 AND 301 LEAVING AIR TEMPERATURE	AI
4	DUCT DIFFERENTIAL PRESSURE SENSOR	AI
5	AIR FLOW MEASURING STATION AFM-302 AIRFLOW	AI
6	AIR FLOW MEASURING STATION AFM-302 TEMPERATURE	AI
7	AIR FLOW MEASURING STATION AFM-301 AIRFLOW	AI
8	AIR FLOW MEASURING STATION AFM-301 TEMPERATURE	AI
9	AIR FLOW MEASURING STATION AFM-300 AIRFLOW	AI
10	AIR FLOW MEASURING STATION AFM-300 TEMPERATURE	AI
11	COOLING COIL LEAVING/HEATING COIL ENTERING AIR TEMPERATURE SENSOR	AI
12	FILTER SECTION FILTER SECTION DIFFERENTIAL PRESSURE SENSOR	AI
13	MIXED AIR TEMPERATURE AND COOLING COIL ENTERING AIR TEMPERATURE SENSOR	AI
14	OUTSIDE AIR TEMPERATURE SENSOR	AI
15	RETURN AIR TEMPERATURE SENSOR	AI
16	EAST ZONE SPACE TEMPERATURE SENSOR	AI
17	WEST ZONE SPACE TEMPERATURE SENSOR	AI
18	NORTH ZONE SPACE TEMPERATURE SENSOR	AI
19	BUILDING STATIC PRESSURE SENSOR	AI
20	SPEED CONTROL PANEL SPEED/CFM FEEDBACK	AI
<b>DIGITAL OUTPUTS</b>		
1	SPEED CONTROL PANEL START/STOP	DO
2	CU-300 COMPRESSOR/STAGE #1 START/STOP	DO
3	CU-300 COMPRESSOR/STAGE #2 START/STOP	DO
4	CU-300 COMPRESSOR/STAGE #3 START/STOP	DO
5	CU-300 COMPRESSOR/STAGE #4 START/STOP	DO
<b>ANALOG OUTPUTS</b>		
1	SCP-300 SUPPLY AIR FAN SF-300 CFM/SPEED CONTROL	AO
2	ZD-300 ZONE DAMPER AIRFLOW CONTROL	AO
3	ZD-301 ZONE DAMPER AIRFLOW CONTROL	AO
4	ZD-302 ZONE DAMPER AIRFLOW CONTROL	AO
5	CB-300 CHANNEL BLENDER OUTSIDE AIR DAMPER CONTROL	AO
6	CB-300 CHANNEL BLENDER RETURN AIR DAMPER CONTROL	AO
7	SHCV-300 STEAM HEATING COIL SHC-300 LAT CONTROL N ZONE	AO
8	SHCV-301 STEAM HEATING COIL SHC-301 LAT CONTROL N ZONE	AO
9	SHCV-302 STEAM HEATING COIL SHC-302 LAT CONTROL W ZONE	AO
10	SHCV-303 STEAM HEATING COIL SHC-303 LAT CONTROL W ZONE	AO
11	SHCV-304 STEAM HEATING COIL SHC-304 LAT CONTROL E ZONE	AO
12	SHCV-305 STEAM HEATING COIL SHC-305 LAT CONTROL E ZONE	AO

### SYMBOL LEGEND

SYMBOL	DESCRIPTION
	---
	CONTROL SENSOR
	HUMIDITY SENSOR
	DAMPER MOTOR
	DIFFERENTIAL PRESSURE SENSOR
	FREEZE SAFETY STAT
	AIR FLOW MEASURING STATION
	ELECTRICAL COMMUTATIVE MOTOR
	HIGH DUCT STATIC
	LOW DUCT STATIC
	TEMPERATURE PROBE
	TEMPERATURE SENSOR COIL
	PRESSURE PROBE
	PRESSURE SENSOR COIL
	RELAY
	CONTACT
	NORMALLY CLOSED CONTACT
DDC	--
ECM	--
SCP	--
VAC	--
VFD	--
DI	--
AI	--
DO	--
AO	--
	VALVE ID TAG
	CONTROL TAG
POINT NUMBER CONTROL TYPE PANEL NUMBER 	

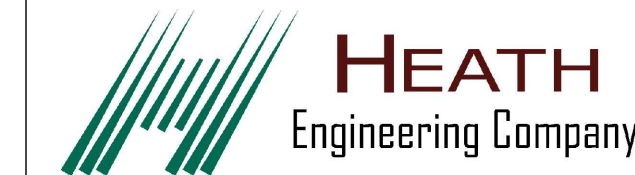


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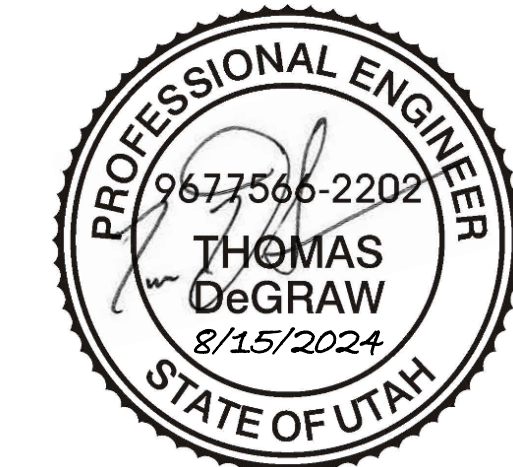
DATE: 8/15/2024

DESIGNER: TOM DeGRAW

DRAWN BY: KINKADE MINSON



STAMP



PAYSON CITY CENTER  
AHU-3 REPLACEMENT

439 W Utah Ave, Payson, UT 84651

REVISIONS:

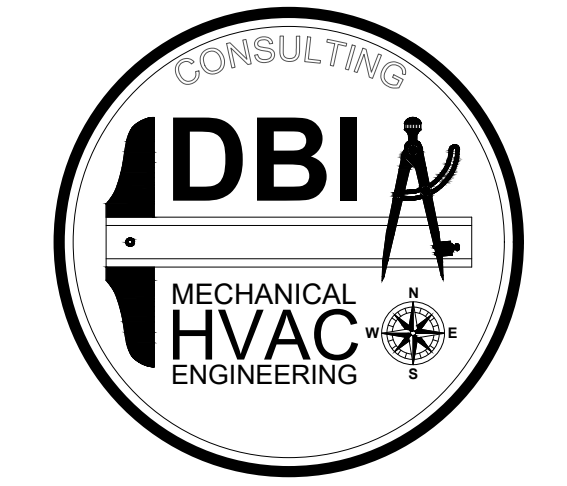
MECHANICAL CONTROLS  
SYMBOL LEGEND AND  
SCHEDULES

MI001

Construction Documents

**REFERENCE NOTES**

- ① REMOVE THE EXISTING PNEUMATIC TEMPERATURE CONTROLLER WITH ITS ASSOCIATED PNEUMATIC TUBING AND CAP THE TUBING AIR TIGHT.
- ⑩ INSTALL NEW DIGITAL TEMPERATURE SENSOR IN SAME LOCATION WHERE PNEUMATIC CONTROLLER WAS LOCATED AND CONNECT TO AHU-3 CONTROL PANEL DDC-01 IN MECHANICAL ROOM. SEE M1001 AND M1601 FOR CONTROL POINTS. SEE NOTE 8 / MH401 FOR CONTROL PANEL LOCATION.

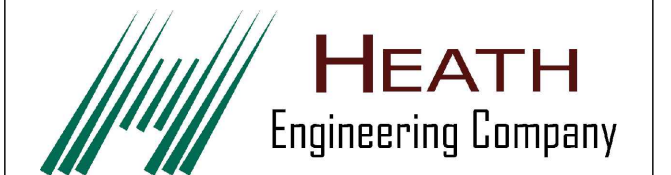


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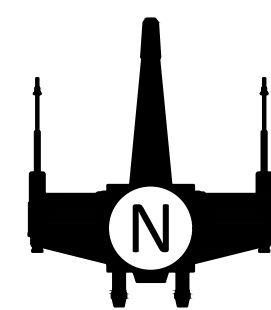
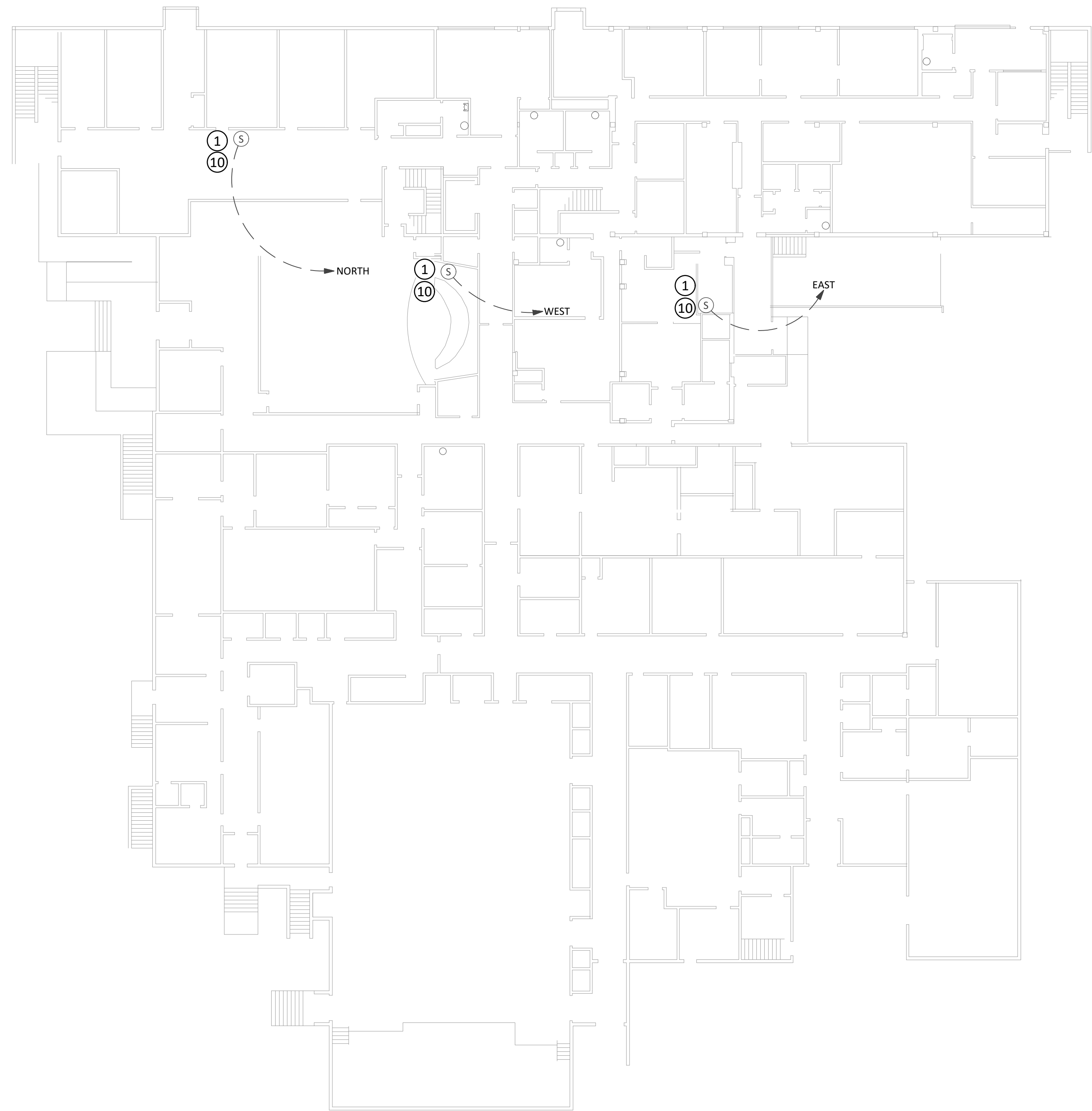
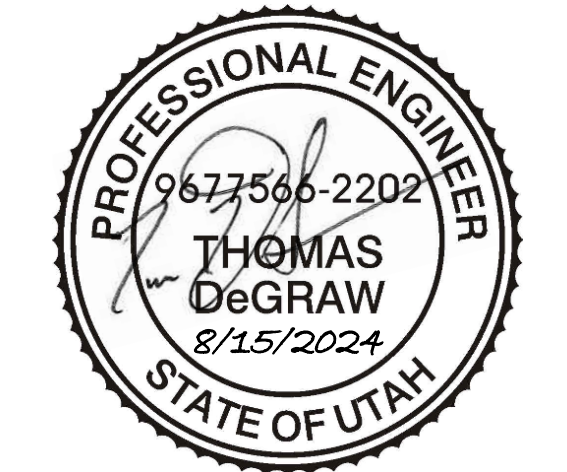
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1  
MI101

**OVERALL MAIN FLOOR MECHANICAL CONTROL PLAN**

SCALE: 1/16" = 1'-0"



REVISIONS:

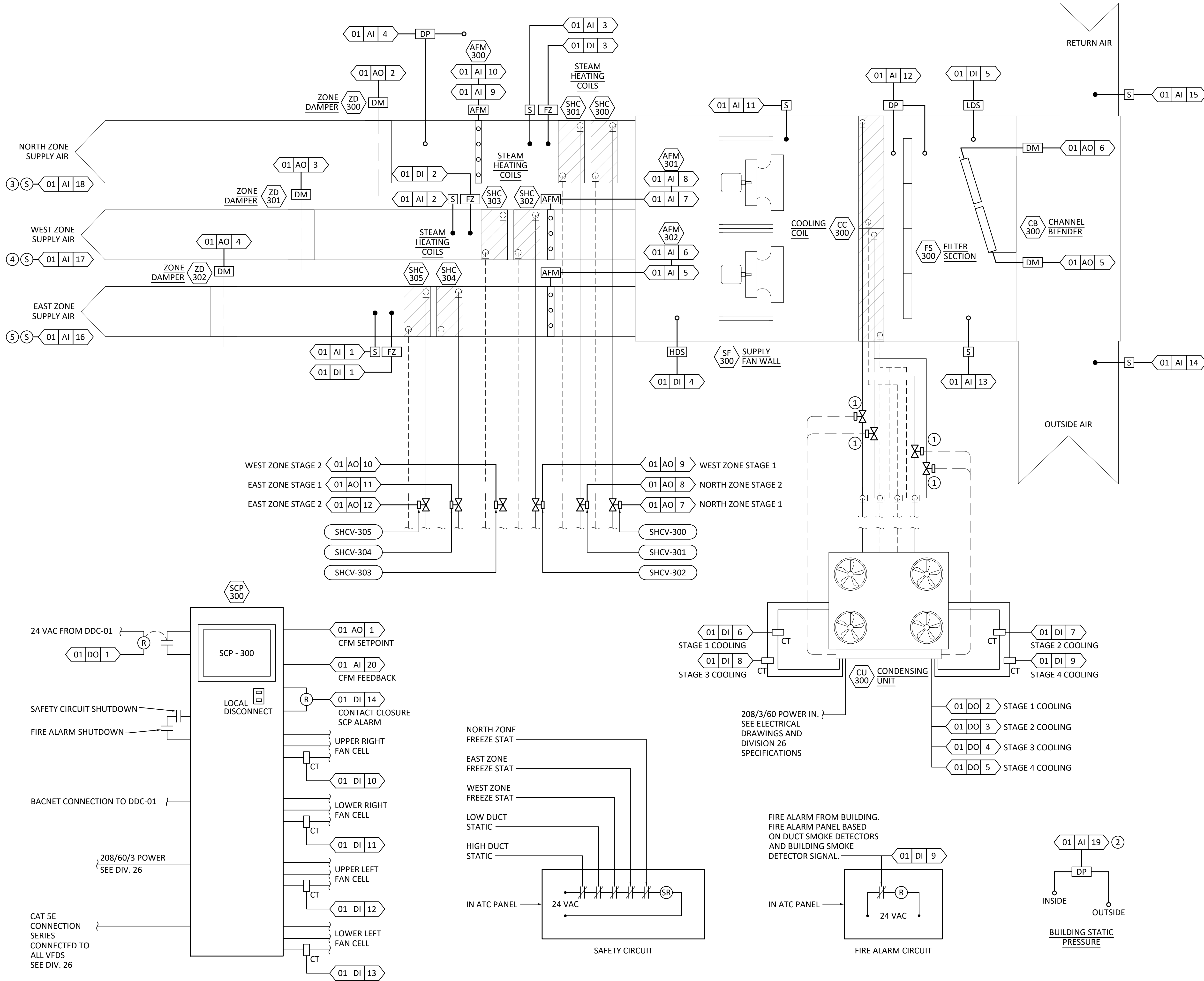
OVERALL MAIN FLOOR  
MECHANICAL  
CONTROL PLAN

**MI101**

Construction Documents

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- ### REFERENCE NOTES
- SOLENOID VALVE PROVIDED WITH CONDENSING UNIT AND INSTALLED BY REFRIGERANT PIPING CONTRACTOR. CONTROLS CONTRACTOR, OR THEIR SUB CONTRACTOR, TO INSTALL WIRING FROM CONDENSING UNIT CONTROL PANEL TO SOLENOID VALVES.
  - INSTALL BUILDING STATIC PRESSURE SENSOR AT MAIN ENTRANCE OF BUILDING. SEE MI100 FOR LOCATION.
  - NORTH ZONE SPACE TEMPERATURE SENSOR. SEE MI100 FOR LOCATION.
  - WEST ZONE SPACE TEMPERATURE SENSOR. SEE MI100 FOR LOCATION.
  - EAST ZONE SPACE TEMPERATURE SENSOR. SEE MI100 FOR LOCATION.

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 PROFESSIONAL ENGINEER  
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 8/15/2024  
 STATE OF UTAH

**PAYSON CITY CENTER  
 AHU-3 REPLACEMENT**

439 W Utah Ave, Payson, UT 84651

REVISIONS:

MECHANICAL  
 CONTROLS DIAGRAM

**MI601**

1 MI601 MECHANICAL CONTROLS DIAGRAMS SCALE: NONE

Construction Documents

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**POWER CONDUITS**

P101	1	P:	3 - #6	1'
		N:	NONE	
		G:	1 - #10	
P102	1	P:	3 - #12	3/4"
		N:	NONE	
		G:	1 - #12	
P103	1	P:	3 - #20	2"
		N:	NONE	
		G:	1 - #6	

**ELECTRICAL LINETYPES**

SYMBOL	DESCRIPTION
	EXPOSED CONDUIT
	UNDERGROUND CONDUIT
	BARE COPPER GROUND CONDUCTOR
	EXISTING EXPOSED CONDUIT
	EXISTING UNDERGROUND CONDUIT
	CAPPED UNDERGROUND CONDUIT OR STUBBUP
	NEW ELECTRICAL EQUIPMENT
	DETAIL VIEW OR MATCHING
	FUTURE
	CONDUIT DROP
	CONDUIT RISE

**LIGHTING**

SYMBOL	DESCRIPTION
	LIGHT FIXTURE, SEE FIXTURE SCHEDULE
	EMERGENCY LIGHTING, SEE FIXTURE SCHEDULE
F#	LIGHTING FIXTURE TYPE - SEE FIXTURE SCHEDULE.
	SINGLE POLE SWITCH
	3 WAY SWITCH
	WALL MOUNTED MOTION SWITCH - DUAL TECHNOLOGY
	MOTOR RATED MANUAL STARTER
	DIMMING SWITCH
NIGHT	UNSWITCHED NIGHT LIGHT
	CEILING MOUNTED DUAL-TECHNOLOGY MOTION SENSOR
	EXIT SIGN

**SCHEMATICS & DIAGRAMS**

SYMBOL	DESCRIPTION
	CIRCUIT BREAKER, SHOWN WITH TRIP RATING AND NUMBER OF POLES.
	UTILITY METER
	CURRENT TRANSFORMER
	MOTOR, NUMBER DESIGNATES NEMA HORSEPOWER SIZE.
	TERMINAL LUG, STRIP, OR POWER DISTRIBUTION BLOCK
	TRANSFORMER
	GROUND CONNECTION
	BOND TO BUILDING STEEL
	GROUND ROD
	BOND TO METALLIC WATER PIPE
	FUSE

**POWER**

SYMBOL	DESCRIPTION
	DUPLEX RECEPTACLE
	QUADRAPLEX RECEPTACLE
	GROUND FAULT CIRCUIT INTERRUPTER RECEPTACLE.
	GROUND FAULT CIRCUIT INTERRUPTER RECEPTACLE WITH WEATHERPROOF BUBBLE COVER.
	DUPLEX RECEPTACLE FLOOR OUTLET. PROVIDE FLOOR ACTIVATIONS AND BOXES REQUIRED FOR IN CONCRETE FLOOR BOX.
	RECESSED CEILING MOUNTED RECEPTACLE
	RECESSED FLOOR MOUNTED RECEPTACLE
	HOME RUN TO PANEL - INDICATING 2 #12, 1 #12 GND, 3/4" CONDUIT OR AS SHOWN.
	HOME RUN TO PANEL - INDICATING NUMBER OF CONDUCTORS - #12 OR AS SHOWN.
	HOME RUN TO PANEL SHOWING BRANCH CIRCUIT NUMBERS.
	HATCH MARKS IN CONDUIT RUN DENOTES NUMBER OF CONDUCTORS IN CONDUIT. LONG HATCH MARK DENOTES GROUND CONDUCTOR. SIZE OF CONDUCTORS TO BE #12 AWG CONDUCTORS IN CONDUIT UNLESS NOTED OTHERWISE. UNMARKED CONDUITS SHALL BE 3/4" WITH 3 #12.
	THERMOSTAT
	MOTOR
	JUNCTION BOX
	ELECTRICAL PANEL, POWER OR LIGHTING
+0'-0"	THIS NOTATION ADJACENT TO WALL OUTLET SYMBOL DENOTES MOUNTING HEIGHT ABOVE FINISHED FLOOR TO CENTER OF OUTLET DEVICE. IF NOT NOTED, THE MOUNTING HEIGHT TO CENTER SHALL BE AS DETAILED OR SPECIFIED.
	METER BASE
	COMBINATION SAFETY SWITCH AND STARTER, SEE SPECS
	SAFETY DISCONNECT SWITCH. +36" TO TOP (TYPICAL)
	VOLTAGE RATING NEMA ENCLOSURE FUSE (NF-NO FUSE) POLES SIZE (AMPS)

**ELECTRICAL PROJECT NOTES**

- THE COMPLETED INSTALLATION SHALL COMPLY WITH APPLICABLE FEDERAL, STATE, AND LOCAL CODES, ORDINANCES, AND REGULATIONS. THE CONTRACTOR SHALL OBTAIN NECESSARY PERMITS AND INSPECTIONS REQUIRED BY THE AUTHORITIES HAVING JURISDICTION. ALL WORK SHALL BE COMPLETED IN A NEAT, WORKMANLIKE MANNER IN ACCORDANCE WITH THE LATEST NECA STANDARDS OF INSTALLATION UNDER COMPETENT SUPERVISION. INSTALL GROUNDING PER NEC.
- VISIT THE SITE PRIOR TO BIDDING TO BECOME FAMILIAR WITH EXISTING CONDITIONS AND OTHER FACTORS, WHICH MAY EFFECT THE EXECUTION OF THE WORK. INCLUDE ALL RELATED COSTS IN THE INITIAL BID PROPOSAL.
- THE CONTRACTOR SHALL COORDINATE WORK WITH THE UTILITIES PROVIDING SERVICES ON THIS PROJECT, AND SHALL COMPLY WITH ALL THEIR INSTALLATION REQUIREMENTS.
- ALL MATERIALS SHALL BE NEW AND OF THE BEST QUALITY, MANUFACTURED IN ACCORDANCE WITH NEMA, ANSI, UL, OR OTHER APPLICABLE STANDARDS. THE USE OF MANUFACTURERS' NAMES, MODELS, AND NUMBERS IS INTENDED TO ESTABLISH STYLE, QUALITY, APPEARANCE, USEFULNESS, AND BID PRICE.
- PROTECT ALL ELECTRICAL MATERIAL AND EQUIPMENT INSTALLED AGAINST DAMAGE BY OTHER TRADES, WEATHER CONDITIONS, OR ANY OTHER PREVENTABLE CAUSES. EQUIPMENT DAMAGED DURING SHIPPING OR CONSTRUCTION, PRIOR TO ACCEPTANCE BY THE ENGINEER OR THE OWNER, WILL BE REJECTED AS DEFECTIVE.
- LEAVE THE SITE CLEAN. REMOVE ALL DEBRIS, EMPTY CARTONS, TOOLS, CONDUIT, WIRE SCRAPS AND ALL MISCELLANEOUS SPARE EQUIPMENT AND MATERIALS USED IN THE WORK DURING CONSTRUCTION. ALL COMPONENTS SHALL BE FREE OF DUST, GRIT AND FOREIGN MATERIALS, LEFT AS NEW BEFORE FINAL ACCEPTANCE OF WORK. DAMAGED PAINT AND FINISHES SHALL BE TOUCHED UP OR REPAINTED WITH MATCHING COLOR PAINT AND FINISH.
- CIRCUIT CONDUCTORS #6 AWG OR SMALLER SHALL BE THWN / THHN STRANDED COPPER. #4 AWG THROUGH #2 AWG SHALL BE THWN / THHN STRANDED COPPER. #1 AWG OR LARGER SHALL BE THWN-2 / THHN-2 STRANDED COPPER. MINIMUM POWER CONDUCTOR SIZE SHALL BE #12 AWG WITH #12 AWG GROUND.
- UNDERGROUND CONDUITS SHALL BE SCHEDULE 40 PVC. MINIMUM CONDUIT DEPTH SHALL BE 24". MINIMUM UNDERGROUND CONDUIT SIZE SHALL BE 1".
- CONDUITS SHALL BE MARKED AT EACH END. SPARE CONDUITS SHALL HAVE A PULL STRING INSTALLED AND SECURED.
- CONDUIT RISERS THROUGH THE FLOOR SHALL BE PRECOATED GALVANIZED RIGID STEEL (GR5). MINIMUM SIZE 3/4" UNLESS OTHERWISE NOTED ON THE PLANS.
- SAFETY SWITCHES, ELECTRICAL DISTRIBUTION EQUIPMENT, CONTROL PANELS, AND OTHER ELECTRICAL DEVICES SHALL BE UL LISTED, AND RATED FOR HEAVY DUTY SERVICE.
- WIRING DEVICES SHALL BE SPECIFICATION GRADE.
- THE CONTRACTOR IS RESPONSIBLE FOR MANAGING, SCHEDULING, DOCUMENTING, AND PERFORMING THE WORK SO THAT A COMPLETE ELECTRICAL, INSTRUMENTATION AND CONTROL SYSTEM FOR THE FACILITY IS PROVIDED. ACCURATE SHOP AND RECORD DRAWINGS, AND OEM MANUALS SHALL BE SUBMITTED PRIOR TO FINAL ACCEPTANCE OF THE WORK.
- TYPICAL DETAILS SHALL APPLY IN ALL CASES, WHETHER SPECIFICALLY REFERRED TO OR NOT.
- ANY OPEN WIRE IN CEILING SPACE SHALL BE PLENUM RATED.

**FEEDER DESIGNATION LOGIC**

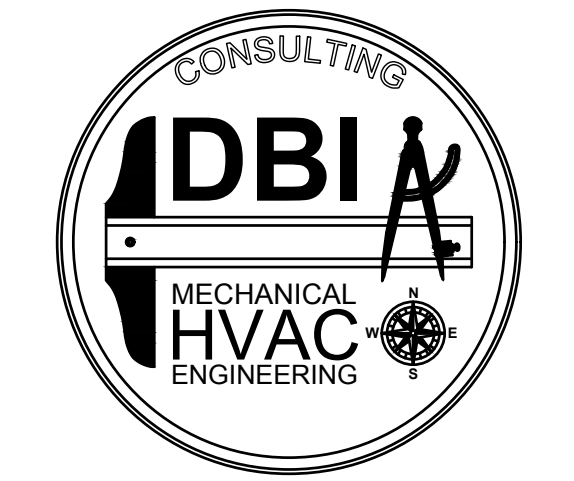
6	1	P: 2	5
		N: 3	
		G: 4	

KEY TO CONDUCTOR SIZE & TYPE

14 = #14 AWG COPPER	4 = #4 AWG ALUMINUM	1/0 = 1/0 AWG ALUMINUM	250 = 250 KCMIL ALUMINUM
12 = #12 AWG COPPER	2 = #2 AWG ALUMINUM	2/0 = 2/0 AWG ALUMINUM	350 = 350 KCMIL ALUMINUM
10 = #10 AWG COPPER	1 = #1 AWG ALUMINUM	3/0 = 3/0 AWG ALUMINUM	500 = 500 KCMIL ALUMINUM
8 = #8 AWG COPPER		4/0 = 4/0 AWG ALUMINUM	750 = 750 KCMIL ALUMINUM

**ABBREVIATIONS**

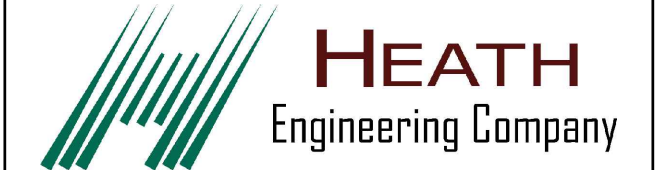
A	AMPERE	M	MOTOR
AFF	ABOVE FINISHED FLOOR	MFR(S)	MANUFACTURER(S)
C	CONDUIT	NEC	NATIONAL ELECTRICAL CODE
CB	CIRCUIT BREAKER	NECA	NATIONAL ELECTRICAL CONTRACTOR ASSOCIATION
CON	CONTRACTOR	NTS	NOT TO SCALE
CJ	COPPER BARE	P	PHASE
DWG	DRAWING	NTS	NOT TO SCALE
EXIST	EXISTING	PB	PULL BOX
GFCI	GROUND FAULT CIRCUIT INTERRUPTER	PNL	PANEL
GND	GROUND	V	VOLT
GR5	GALVANIZED RIGID STEEL	W	WATT, WIRE
I	CURRENT	WP	WEATHERPROOF
JB	JUNCTION BOX	XFMR	TRANSFORMER



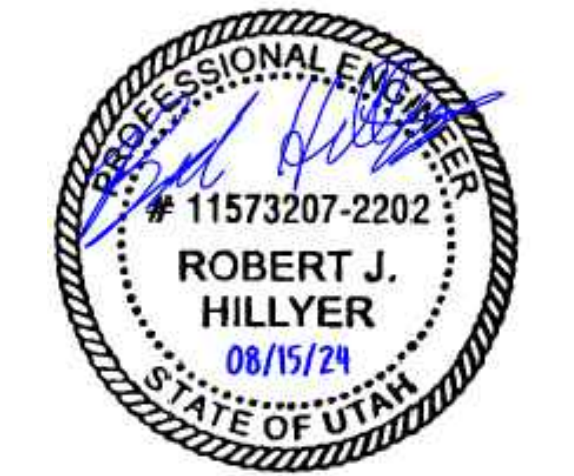
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DESIGNER: RC

DRAWN BY: BJ



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439 W Utah Ave, Payson, UT 84651

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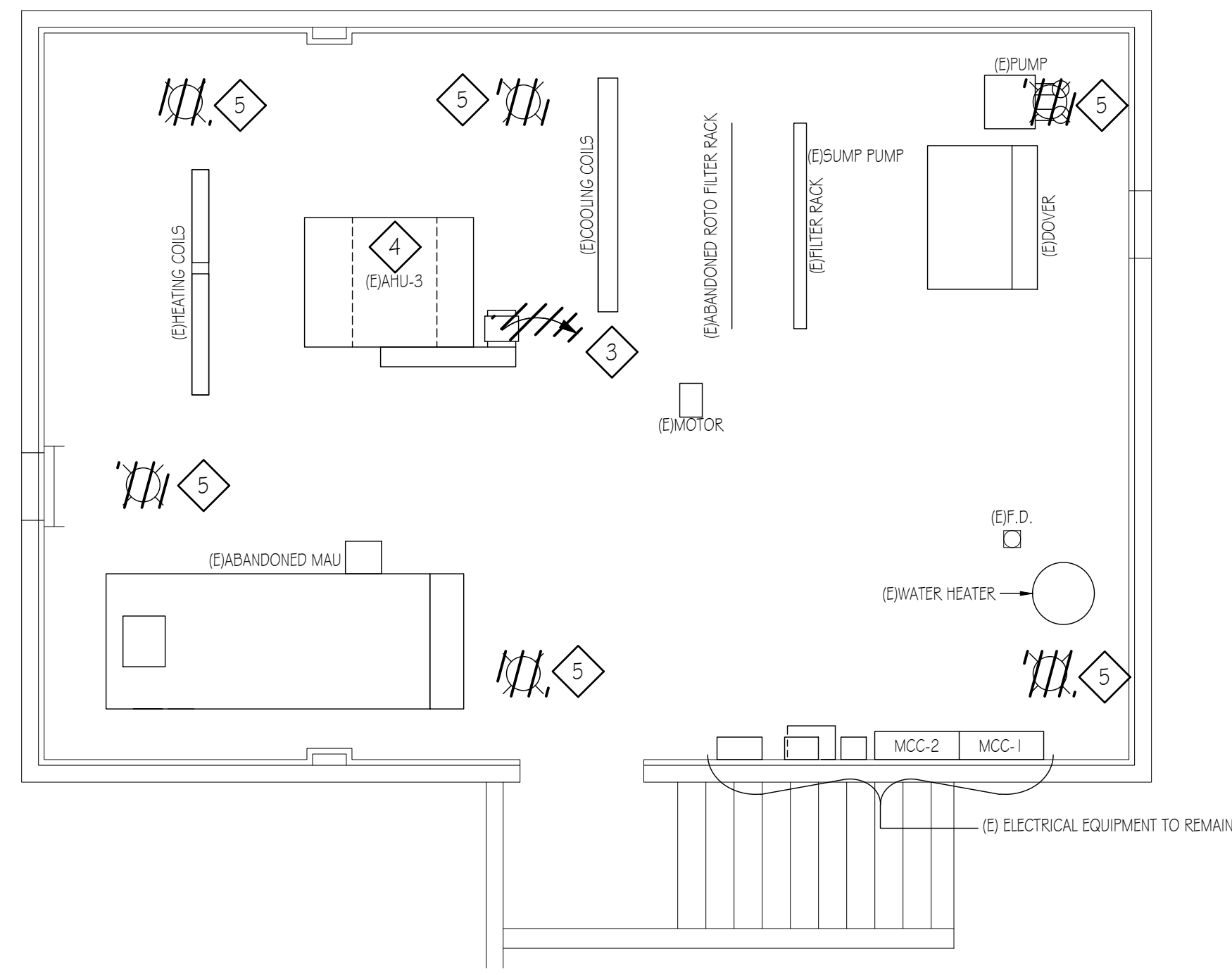
ELECTRICAL SYMBOL LEGEND

**E-001**

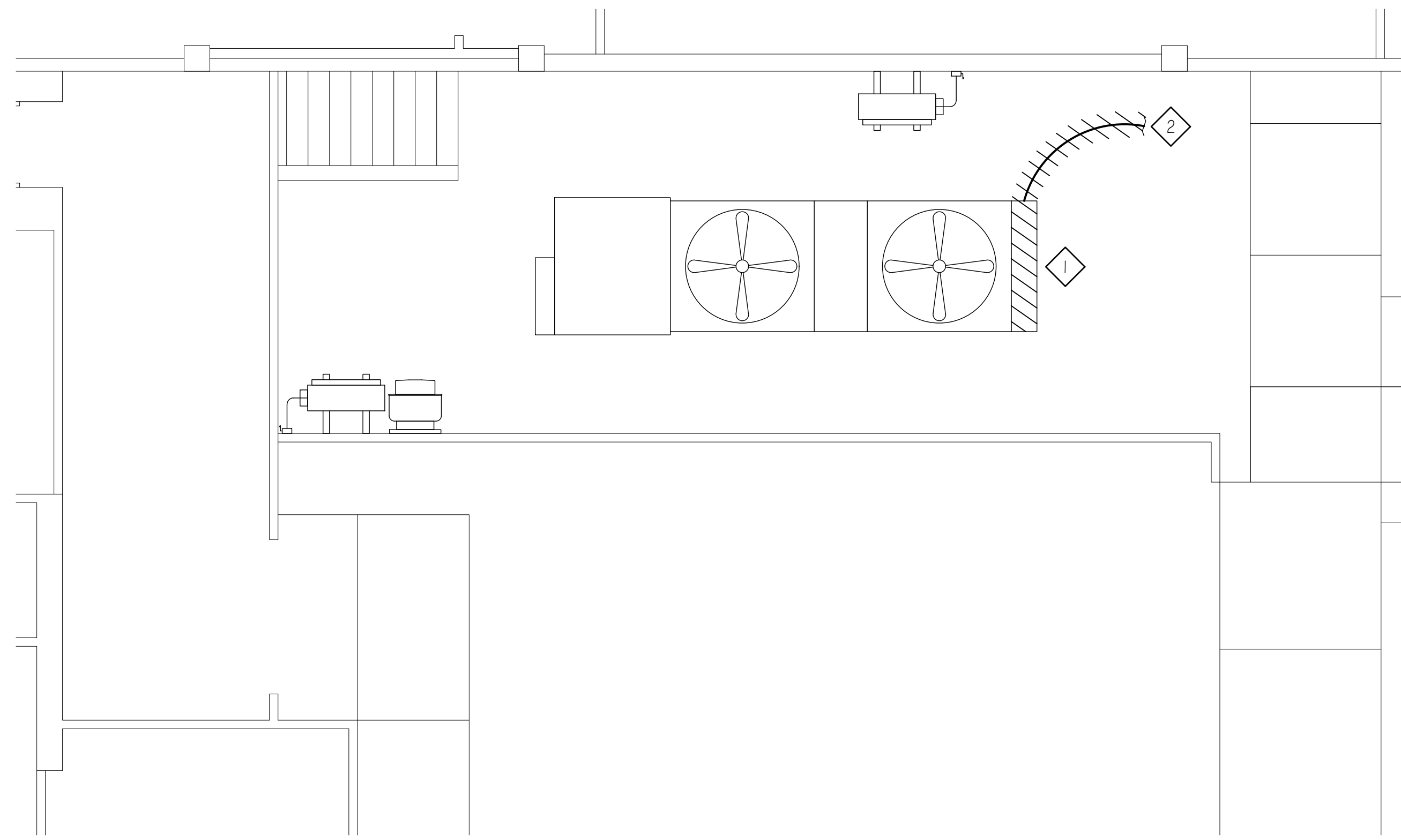
**LIGHTING FIXTURE SCHEDULE**

TYPE	ELECTRICAL	MANUFACTURER	CATALOG NUMBER	DESCRIPTION	SOURCE	NOTES
F1	120-277V	LITHONIA LSI METALUX COLUMBIA WILLIAMS	ZL1 N L48 5MR 5000LM FST MVOLT 40K 80CRI WH 5DL4-LED-50L-FL-UNV-DIM1-40-80CRI 4SNLED-LD5-505L-LW-UNV-L840-CD1-U MP54-30ML-CW-EDU 75R-4-L50/840 DIM-UNV	4' STRIP LIGHT. HIGH-GLOSS BAKED WHITE ENAMEL FINISH, STANDARD DIFFUSE SNAP ON LENS. 0-10V 10% DIMMING DRIVER	4000K CCT 5000 LUMENS	

Construction Documents



**3 BASEMENT LEVEL ELECTRICAL DEMOLITION PLAN**  
 E-101 SCALE: 1/4"=1'-0"  
 5 0 10

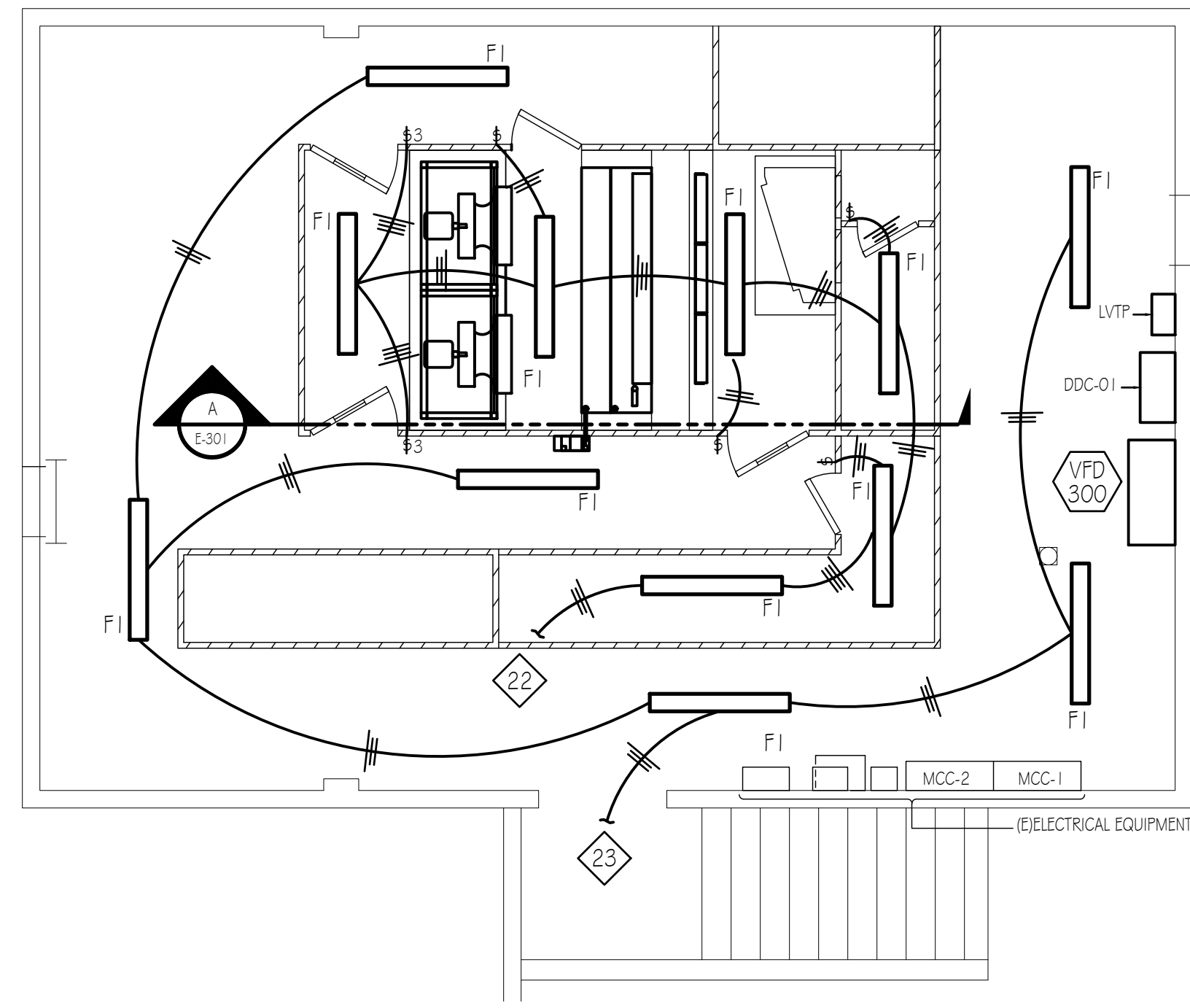


**1 MAIN LEVEL ELECTRICAL DEMOLITION PLAN**  
 E-101 SCALE: 1/4"=1'-0"  
 5 0 10

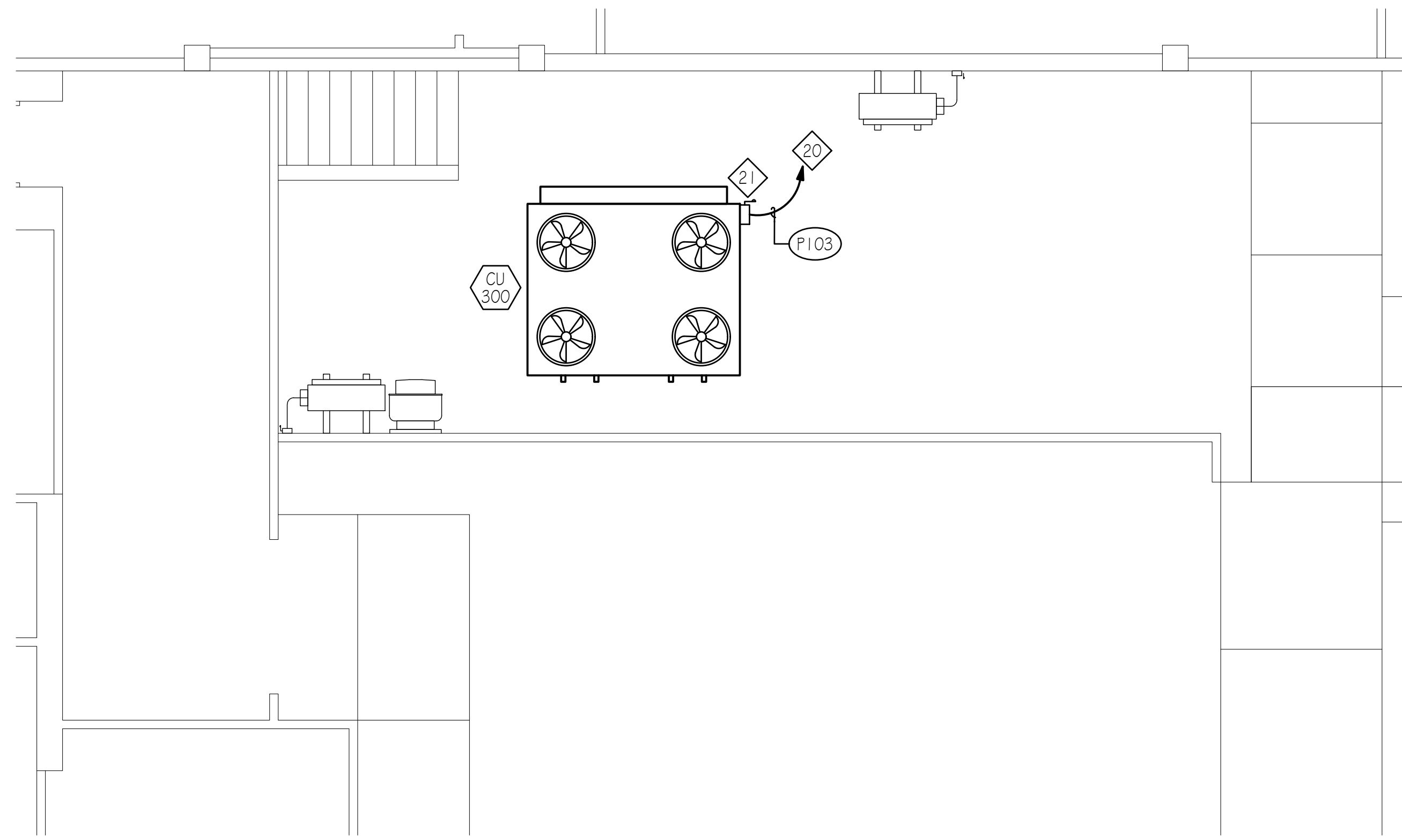


**DEMOLITION NOTES**

- 1 EXISTING CONDENSING UNIT ELECTRICAL CONTROL PANEL. DISCONNECT CONDUIT AND WIRING FOR CONDENSING UNIT REMOVAL.
- 2 REMOVE EXISTING CONDUCTORS AND ACCESSIBLE CONDUIT BACK TO SOURCE.
- 3 REMOVE ALL ELECTRICAL WIRING, BOXES AND ACCESSIBLE CONDUIT BACK TO SOURCE.
- 4 REMOVE ALL EXISTING LIGHTING, CONDUIT AND WIRING IN THIS AREA.
- 5 REMOVE EXISTING LIGHTING, CONDUIT AND WIRING CAN BE REUSED AT CONTRACTOR DISCRETION.



**4 BASEMENT LEVEL ELECTRICAL REMODEL PLAN**  
 E-101 SCALE: 1/4"=1'-0"  
 5 0 10

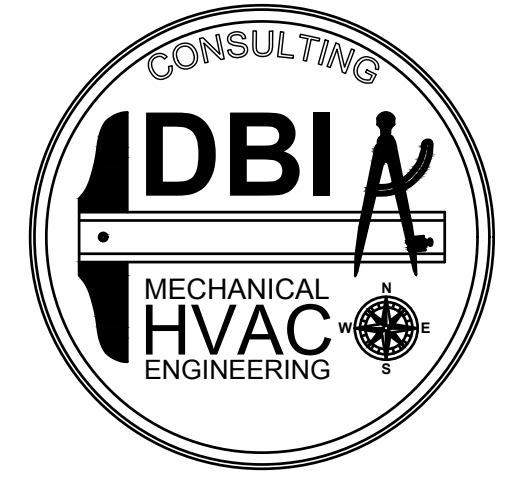


**2 MAIN LEVEL ELECTRICAL REMODEL PLAN**  
 E-101 SCALE: 1/4"=1'-0"  
 5 0 10

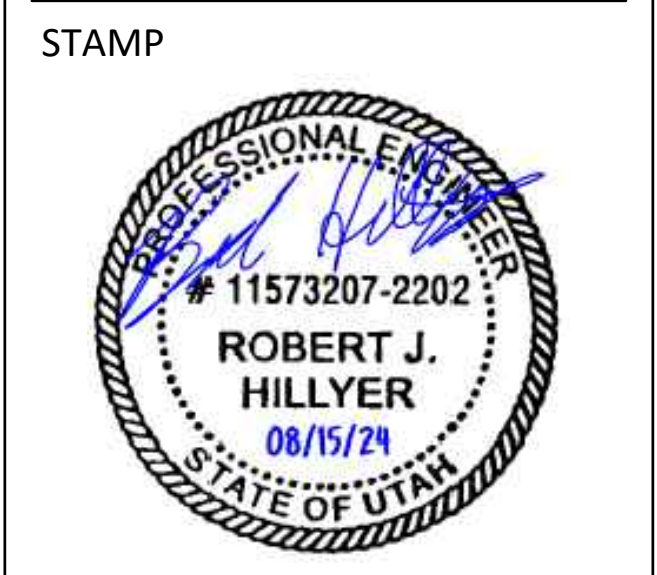
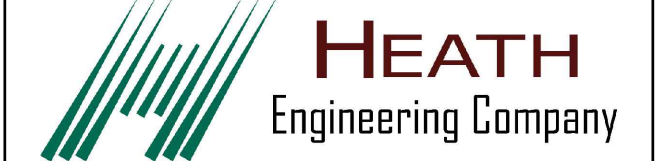


**REMODEL NOTES**

- 20 TO RETAINED 175A 3P BREAKER LOCATED IN EXISTING MCC-1.
- 21 200 / 3 / FUSE PER NAMEPLATE / 3R / 600 / HD
- 22 TO EXISTING LIGHTING CIRCUIT.
- 23 TO EXISTING ROOM LIGHT SWITCH.



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 DESIGNER: RC  
 DRAWN BY: BJ



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REVISIONS:

ELECTRICAL PLANS

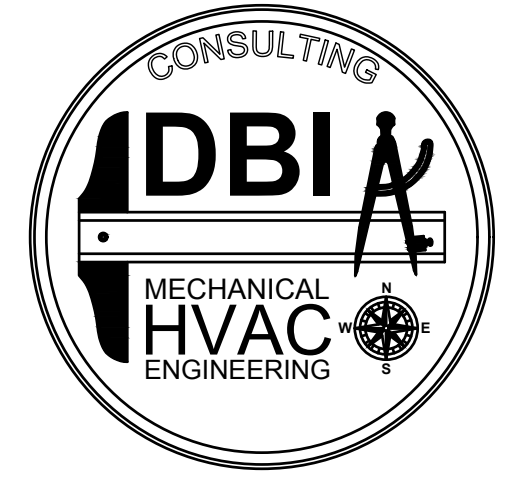
**E-101**

Construction Documents

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**DRAWING NOTES**

- 1 NEW VFD 300 CABINET
- 2 TO EXISTING MCC-2, RETAINED 50A 3P BREAKER.
- 3 TO FAN BEHIND

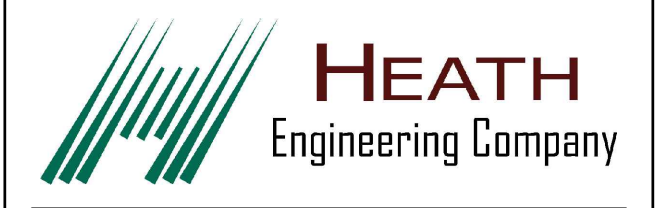


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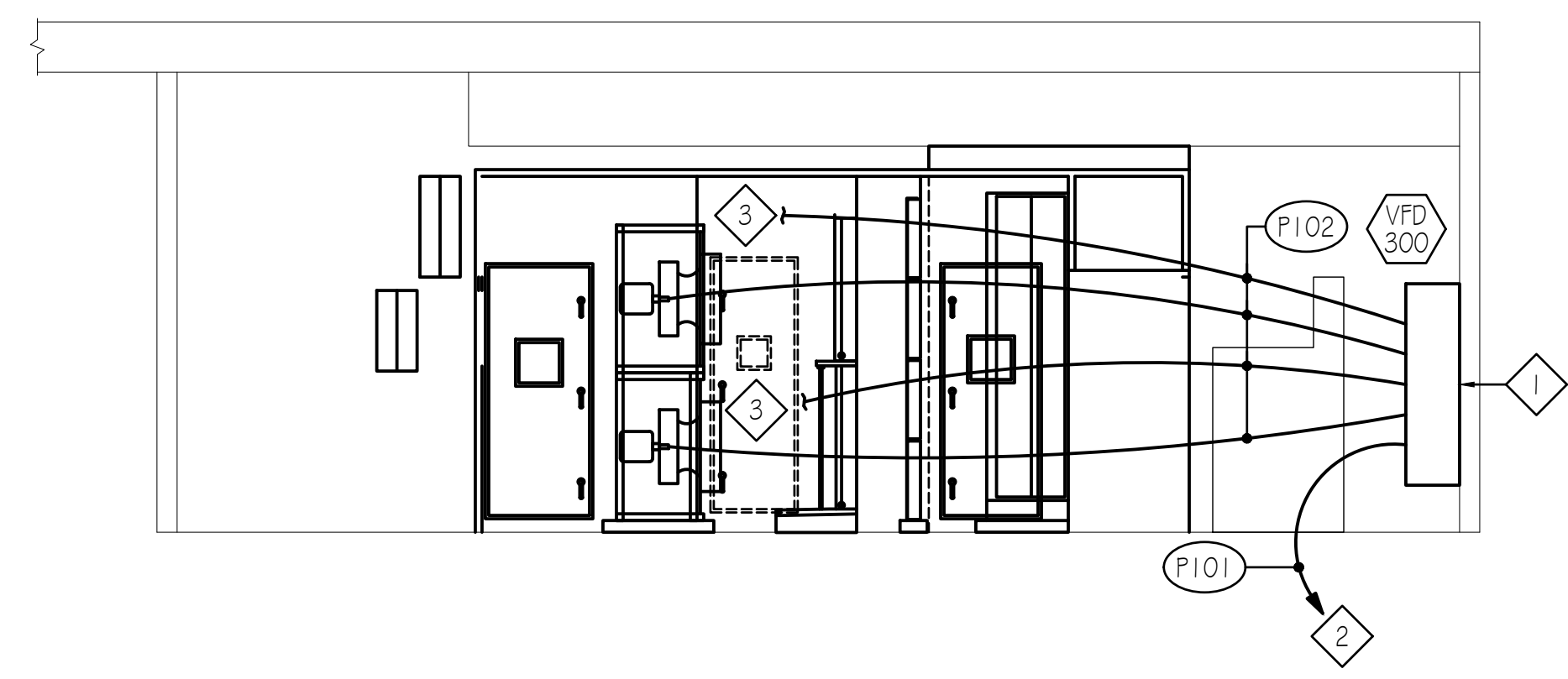
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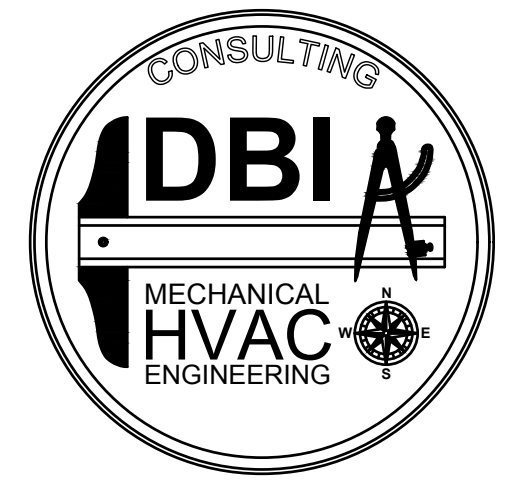
**ELECTRICAL REMODEL SECTION**  
SCALE: 1/4" = 1'-0"  
5 0 10

REVISIONS:

ELECTRICAL REMODEL SECTION

**E-301**

Construction Documents

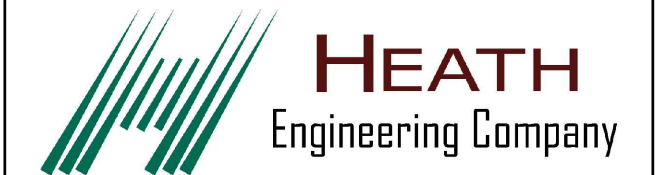


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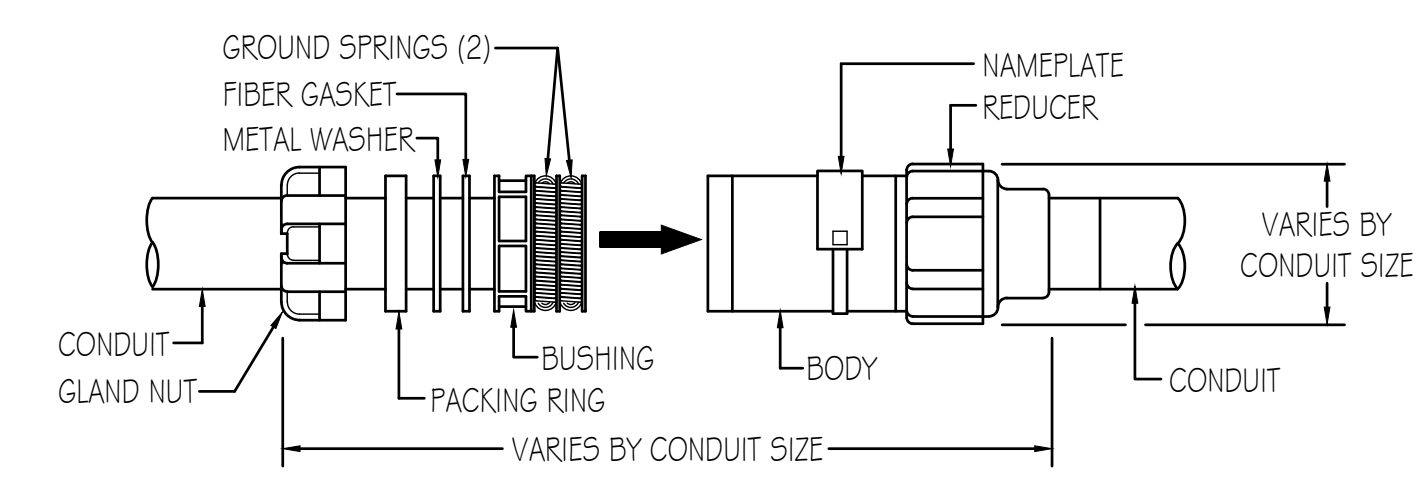
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REVISIONS:

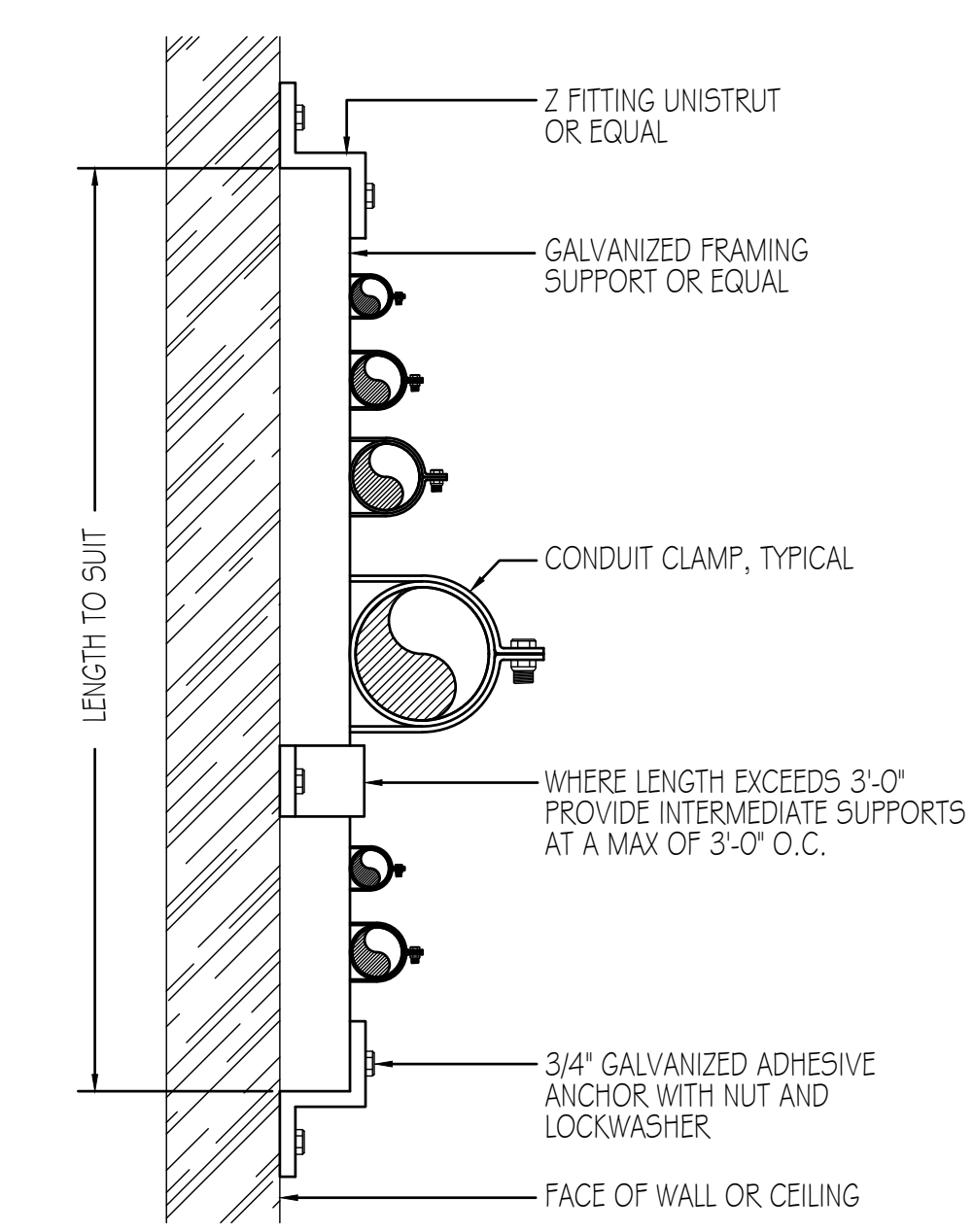
ELECTRICAL DETAILS

E-501

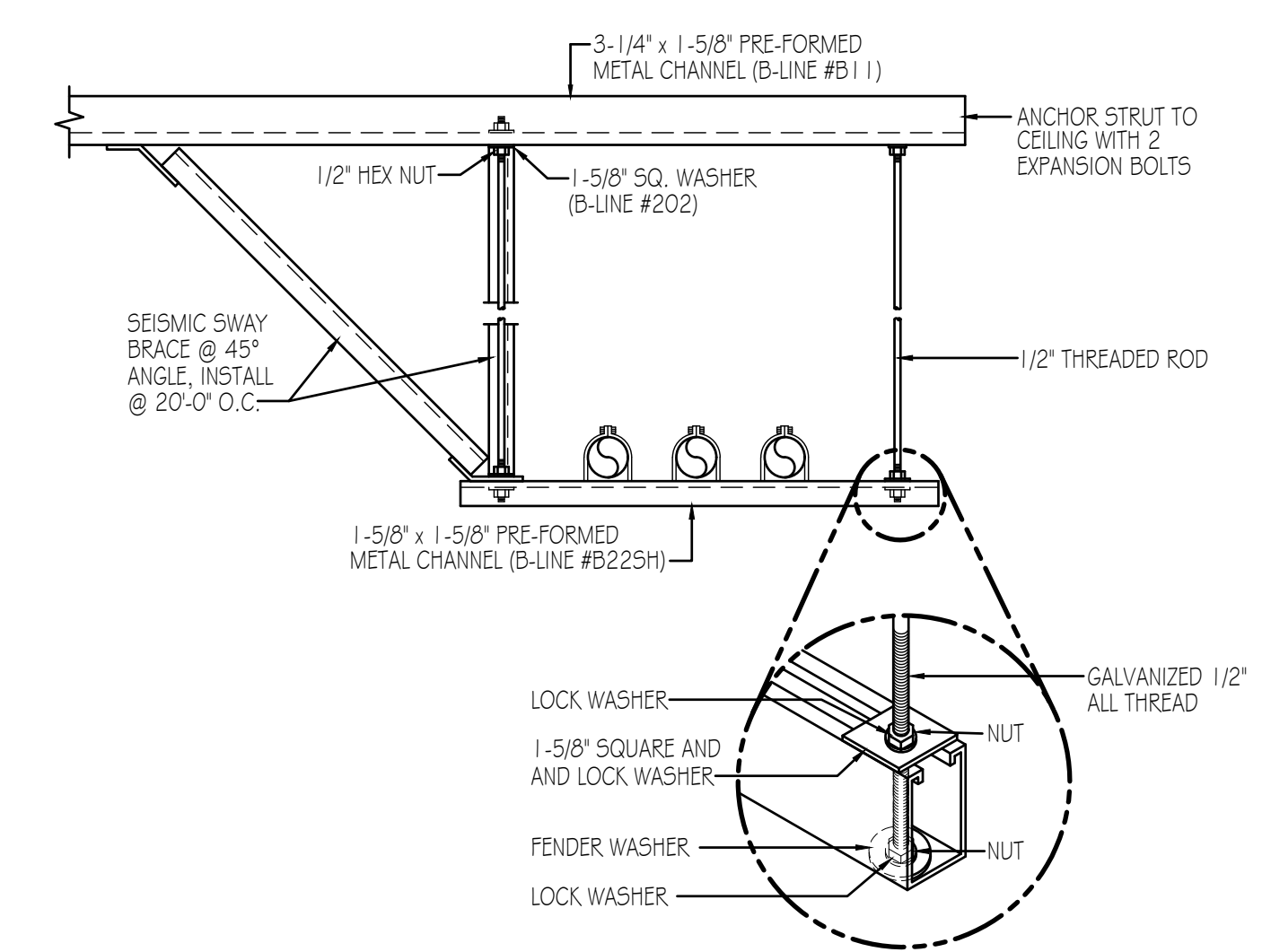
Construction Documents



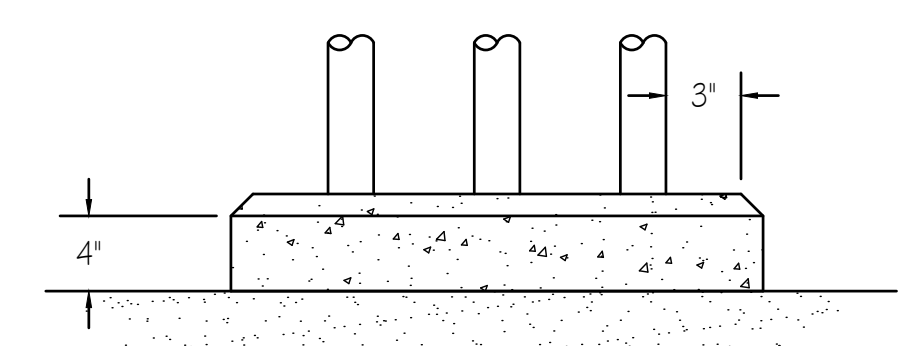
**1 CONDUIT EXPANSION FITTING DETAIL**  
E-501 SCALE: NONE



**2 CONDUIT SUPPORT DETAIL**  
E-501 SCALE: NONE

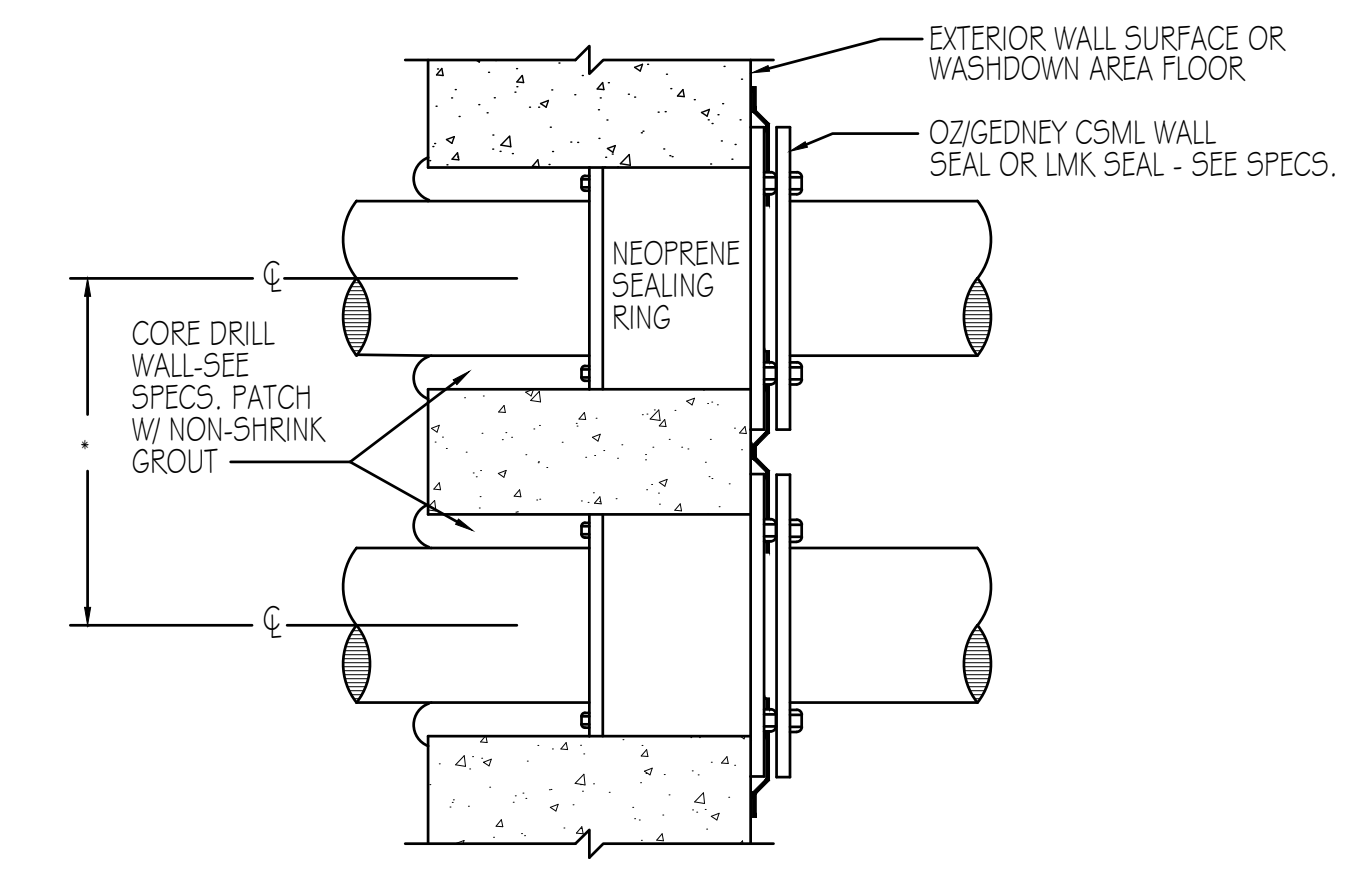


**3 TYPICAL INDOOR CONDUIT SUPPORT DETAIL**  
E-501 SCALE: NONE

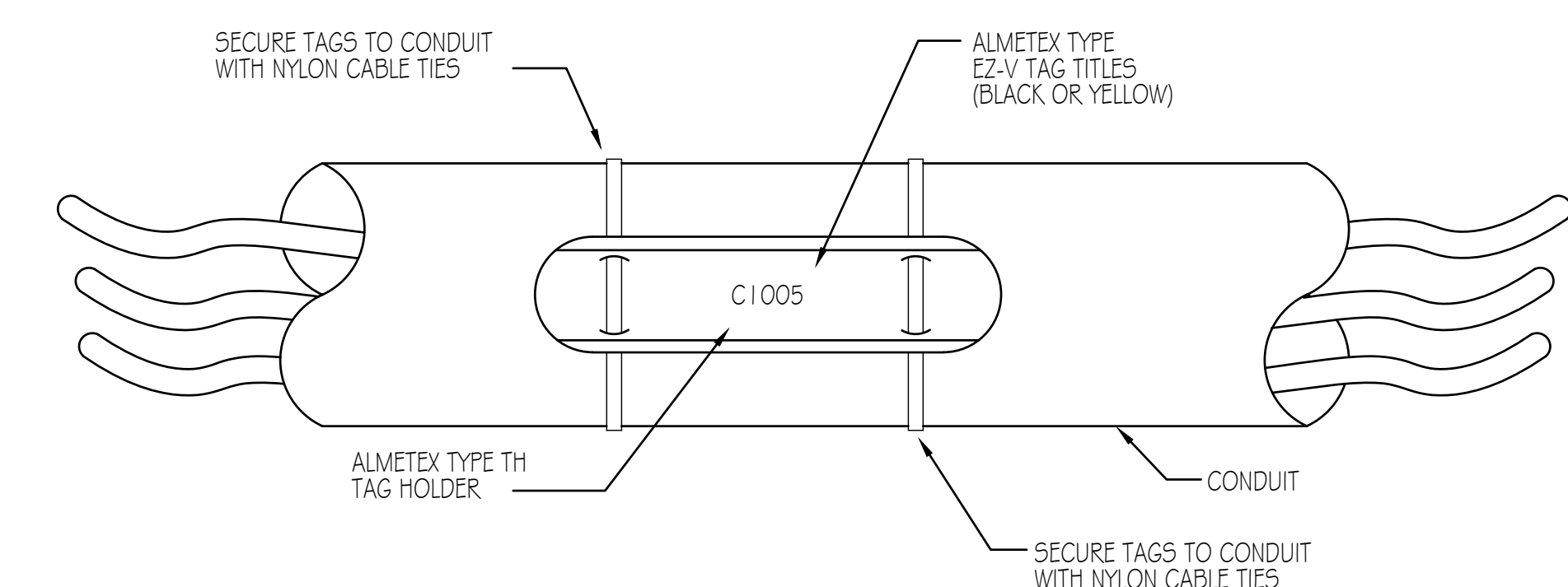


HOUSEKEEPING CURB REQUIRED AT ALL INTERIOR WALL LOCATIONS FOR SINGLE AND MULTIPLE CONDUIT RISERS. CONDUIT RISERS SHALL BE COUPLED SO THAT SINGLE CONDUITS ARE SIX FEET APART MINIMUM.

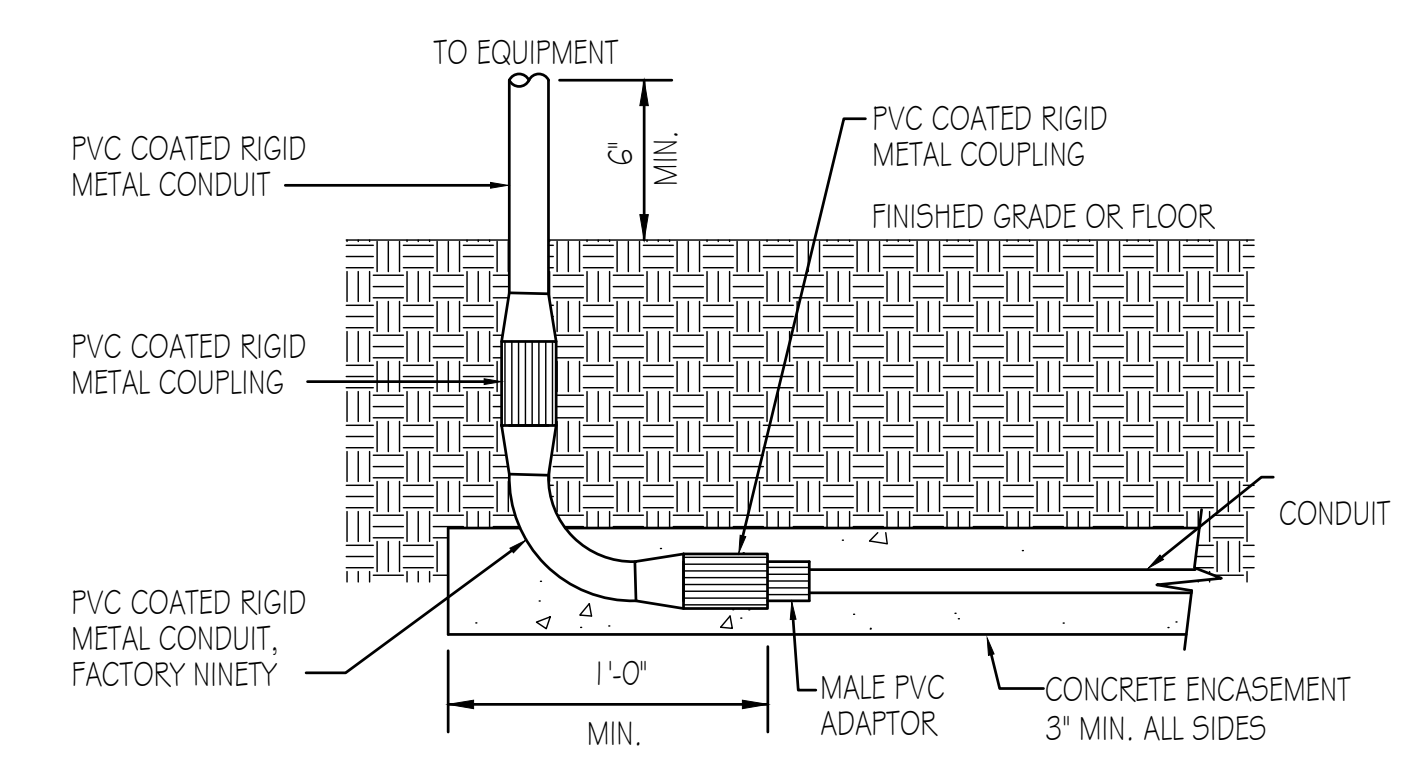
**4 CONCRETE HOUSEKEEPING CURB DETAIL**  
E-501 SCALE: NONE



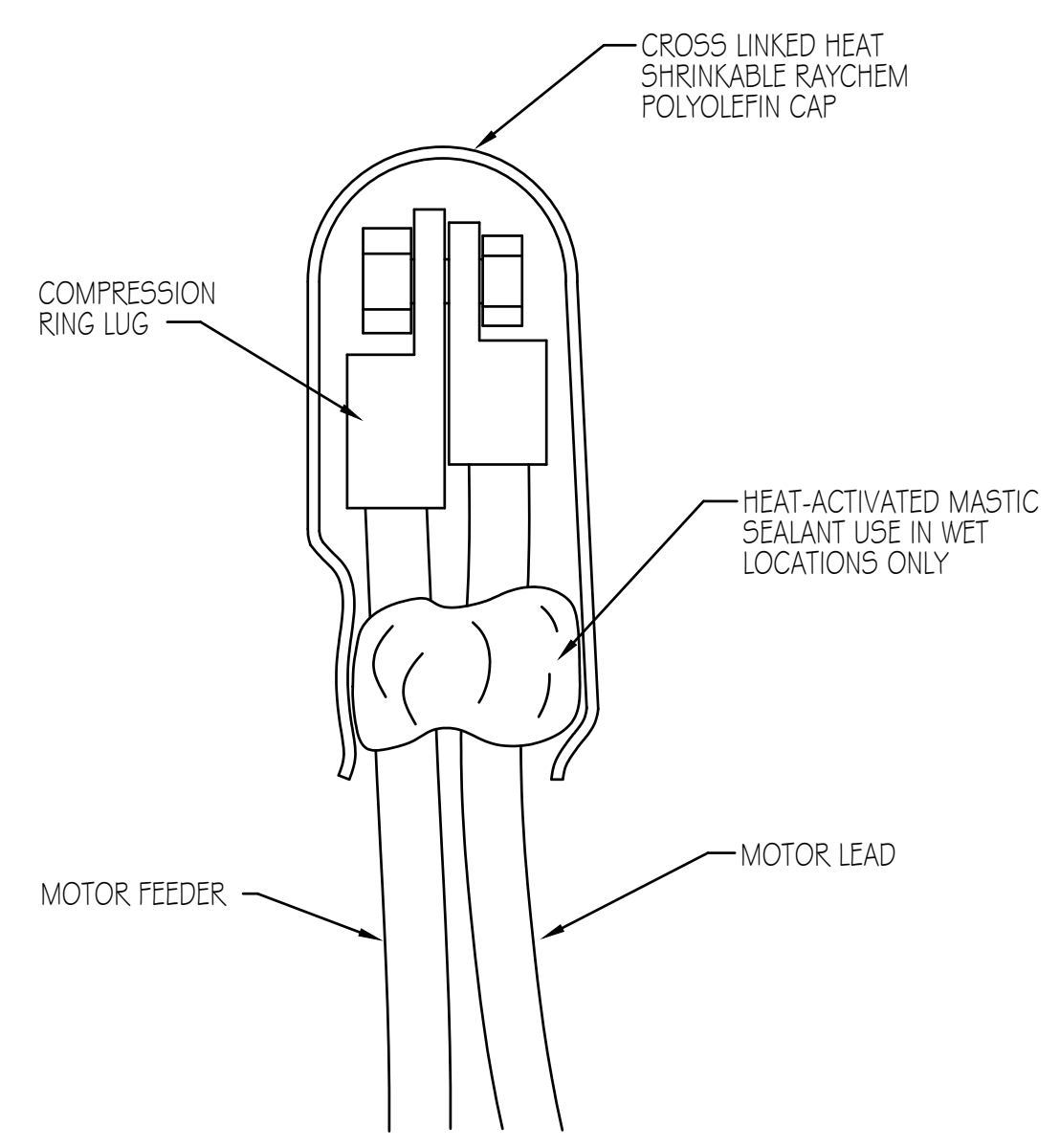
**5 UNDERGROUND CONDUIT WALL SEAL OR WASHDOWN FLOOR**  
E-501 SCALE: NONE



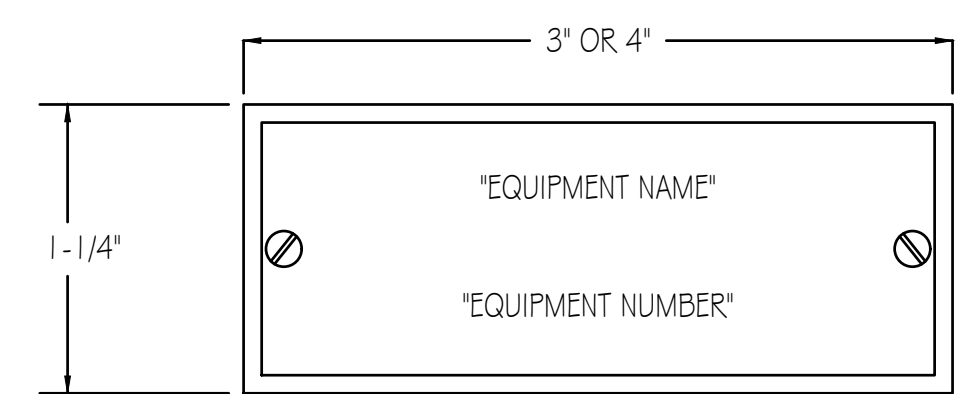
**6 CONDUIT MARKING SYSTEM**  
E-501 SCALE: NONE TYPICAL OF ALL CONDUITS



**7 CONDUIT RISER**  
E-501 SCALE: NONE TYPICAL



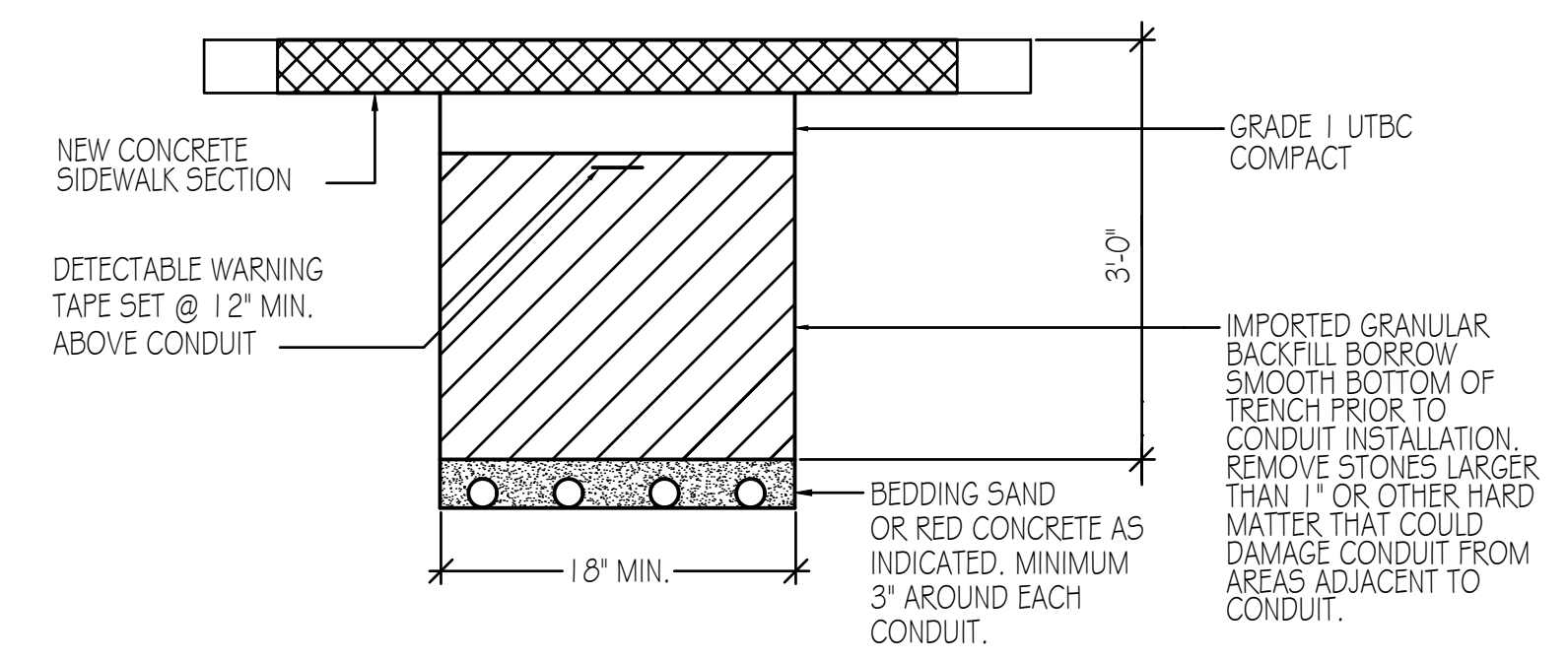
**8 TYPICAL MOTOR LEAD TERMINATION**  
E-501 SCALE: NONE TYPICAL



NOTES:

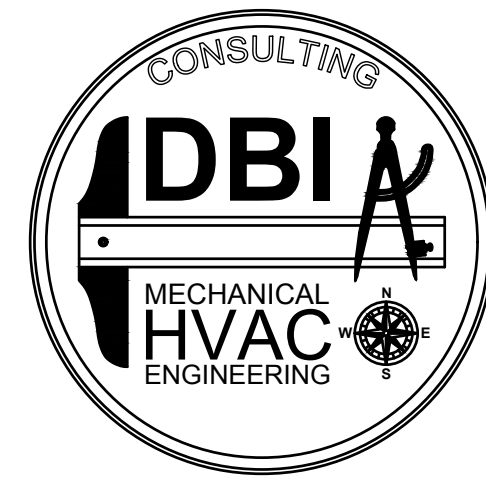
1. ALL LETTERS TO BE 1/4" UNLESS NOTED OTHERWISE.
2. ALL NAMEPLATES TO BE MOUNTED ON THE VERTICAL CENTERLINE OF THE CUBICAL OR DEVICE.
3. ATTACH ALL NAMEPLATES WITH STAINLESS STEEL SCREWS.
4. PROVIDE BLANK NAMEPLATES FOR ALL SPARE AND FUTURE DEVICES.

**9 NAMEPLATE DETAIL**  
E-501 SCALE: NONE TYPICAL OF ALL EQUIPMENT



**10 TRENCH DETAIL-SIDEWALK**  
E-501 SCALE: NONE

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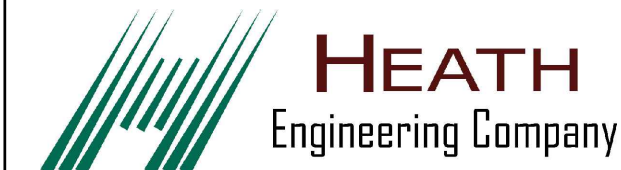


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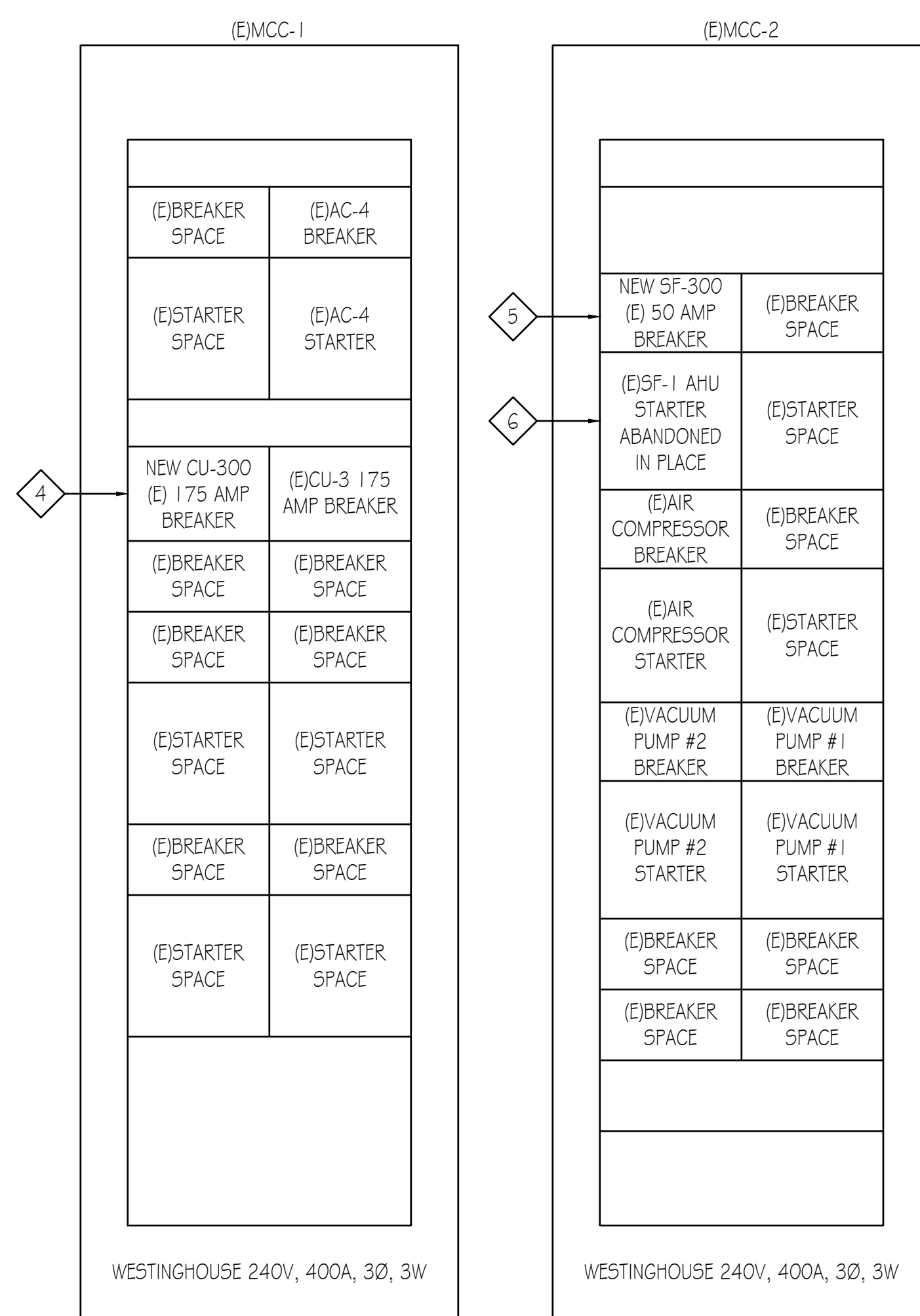


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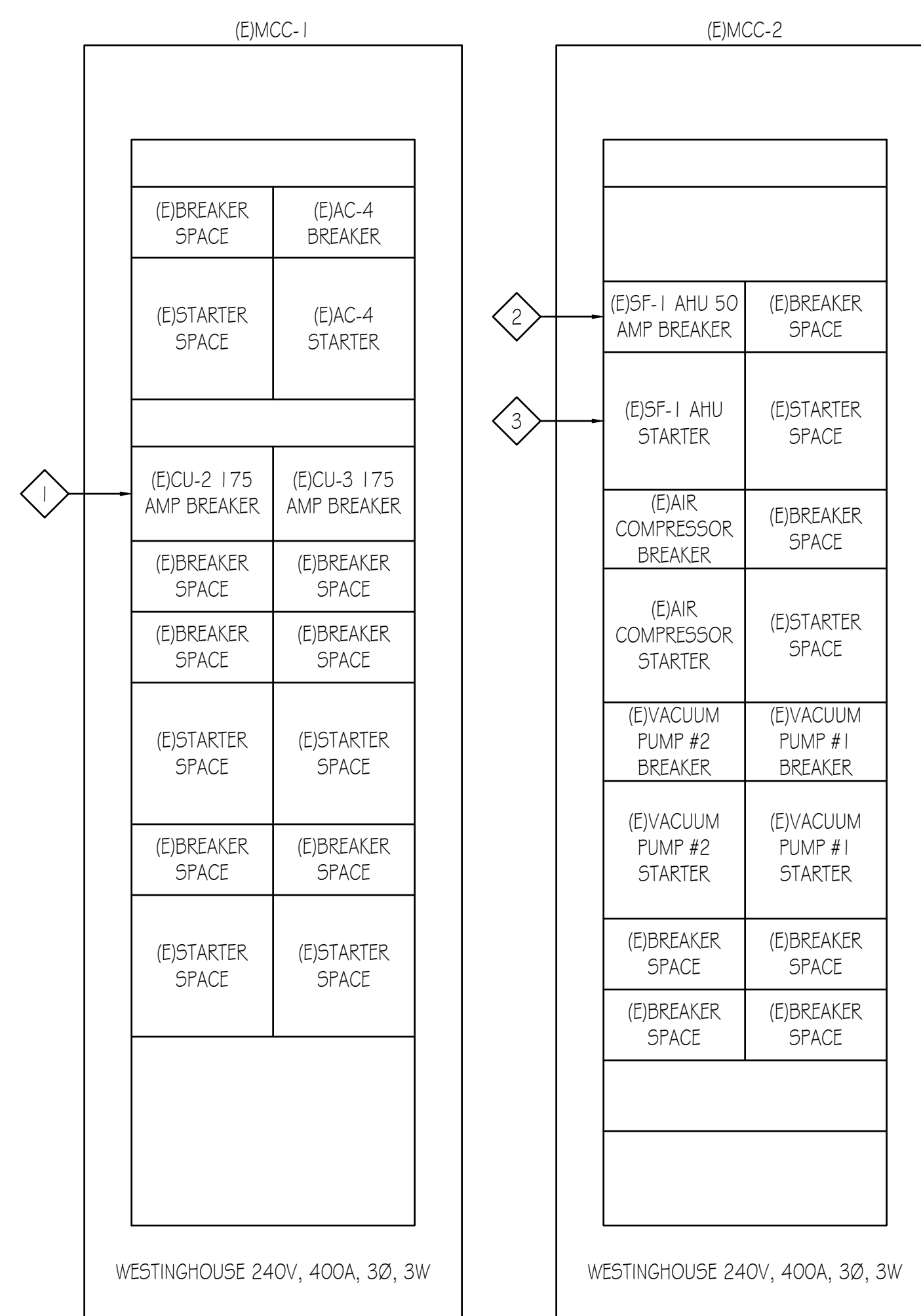


**DRAWING NOTES**

- 1 EXISTING WIRE TO BE REMOVED FROM EXISTING 175 AMP BREAKER. EXISTING BREAKER TO BE RETAINED FOR CONNECTION TO NEW CU-300.
- 2 EXISTING WIRE TO BE REMOVED FROM EXISTING 50 AMP BREAKER. EXISTING BREAKER TO BE RETAINED FOR CONNECTION TO NEW VFD LOAD.
- 3 EXISTING STARTER TO BE DISCONNECTED AND ABANDONED IN PLACE. MARK AS SPARE.
- 4 RETAINED 175 AMP BREAKER TO BE CONNECTED TO NEW CONDUCTORS FEEDING NEW CU-300.
- 5 RETAINED 50 AMP BREAKER TO BE CONNECTED TO NEW CONDUCTORS FEEDING NEW VFD CONTROL CABINET.
- 6 EXISTING STARTER TO BE DISCONNECTED AND ABANDONED IN PLACE. MARK AS SPARE.



2 **MCC-1 AND MCC-2 REMODEL DETAIL**  
E-502 SCALE: NONE



1 **MCC-1 AND MCC-2 DEMOLITION DETAIL**  
E-502 SCALE: NONE

REVISIONS:

ELECTRICAL DETAILS

E-502

Construction Documents

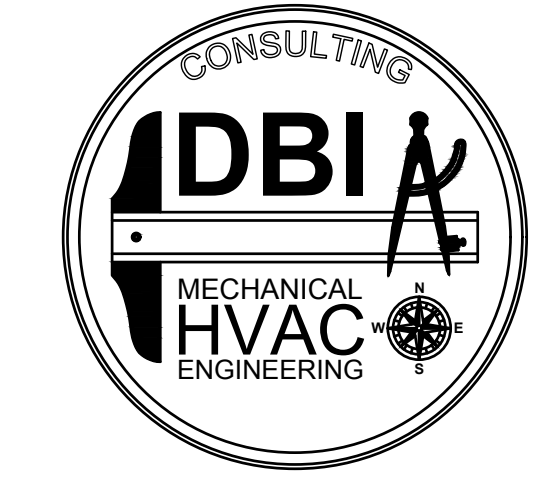
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**DRAWING NOTES**

- 1 NEW SF-300 VFD CABINET
- 2 EXISTING RETAINED BREAKER IN MCC-2 TO BE RECONNECTED TO NEW SF-300 VFD CONTROL CABINET.
- 3 EXISTING RETAINED BREAKER IN MCC-1 TO BE RECONNECTED TO NEW CU-300.

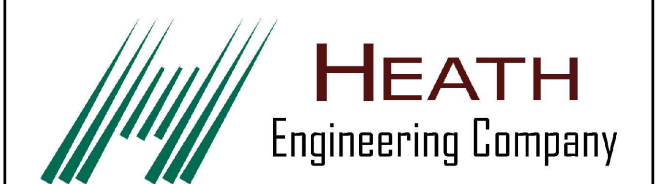


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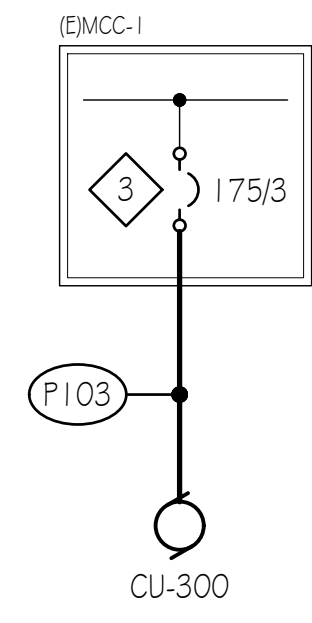
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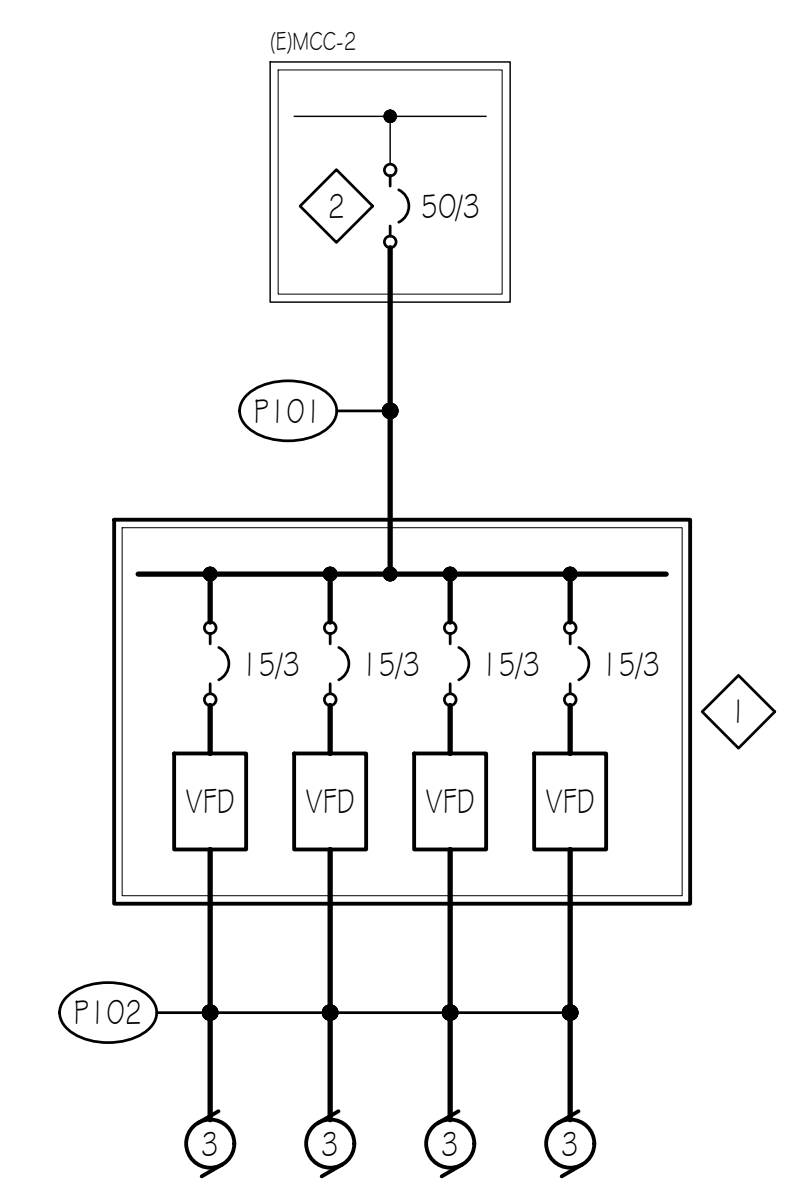
DRAWN BY: BJ



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**2 CU-300 ONE-LINE DIAGRAM**  
E-601 SCALE: NONE



**1 SF-300 FAN ONE-LINE DIAGRAM**  
E-601 SCALE: NONE

REVISIONS:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

ELECTRICAL ONE-LINE DIAGRAMS

**E-601**

Construction Documents

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