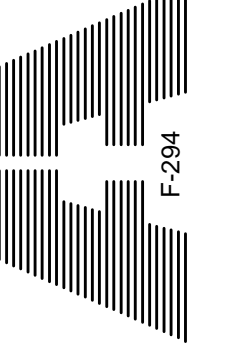


- NOTES INDICATED BY "○":
- ① REMOVE ENTIRE EXISTING ROOF FOR REPLACEMENT. EXISTING CURBS SERVING ROOF PENETRATIONS, ROOF MOUNTED FRAMES, CONDENSING UNITS, SKYLIGHTS, ETC. TO REMAIN.
 - ② NOTE THAT THE SOUTH ROOF IS APPROXIMATELY 4' HIGHER THAN THE ROOF IMMEDIATELY NORTH.
 - ③ CAREFULLY REMOVE EXISTING 110-TON AIR-COOLED PACKAGED CHILLERS (2) AND DELIVER TO OWNER AT A DESIGNATED LOCATION OF HIS CHOICE. REFER TO ELECTRICAL DRAWINGS FOR ELECTRICAL WORK. CHILLERS SHALL REMAIN IN PLACE UNTIL NEW CHILLERS ARE OPERATIONAL. SCHEDULE SHUTDOWN FOR CHANGE OVER.
 - ④ EXISTING SUPPORT FRAME FOR CHILLERS TO REMAIN AND BE MODIFIED TO SUPPORT NEW DOAS UNIT(S)
 - ⑤ REMOVE EXISTING 6" CHS/R AND SUPPORTS FROM ROOF.
 - ⑥ REMOVE EXISTING CHILLED WATER PUMPS MOUNTED ON ROOF. REMOVE CONDUIT AND ELECTRICAL SERVICE TO PUMPS. REFER TO ELECTRICAL DRAWINGS.
 - ⑦ REMOVE EXISTING NATURAL GAS GENERATOR SET FROM THE ROOF. EXISTING SUPPORT FRAME TO REMAIN.
 - ⑧ REMOVE EXISTING 6" CHS/R PENETRATING ROOF.
 - ⑨ REMOVE EXISTING SUPPLY FAN SERVING BUILDING. DUCT PENETRATION AND CURB TO REMAIN.
 - ⑩ REMOVE EXISTING EXHAUST FAN SERVING BUILDING. DUCT PENETRATION AND CURB TO REMAIN.
 - ⑪ REMOVE EXISTING GRAVITY INTAKE VENT SERVING BUILDING. DUCT PENETRATION AND CURB TO REMAIN.
 - ⑫ EXISTING CONDENSING UNIT AND ASSOCIATED REFRIGERANT PIPING TO REMAIN AND BE PROTECTED DURING ROOF REPLACEMENT.
 - ⑬ EXISTING EXHAUST FAN TO REMAIN. BALANCE FOR CFM SHOWN.
 - ⑭ EXISTING 2", 2PSI GAS LINE TO REMAIN TO SERVE NEW DOAS UNITS.
 - ⑮ EXISTING FRAME TO BE REMOVED UNDER ROOF REPLACEMENT SCOPE

DEMOLITION ROOF PLAN - MECHANICAL

GRAPHIC SCALE: 3/16" = 1'-0"



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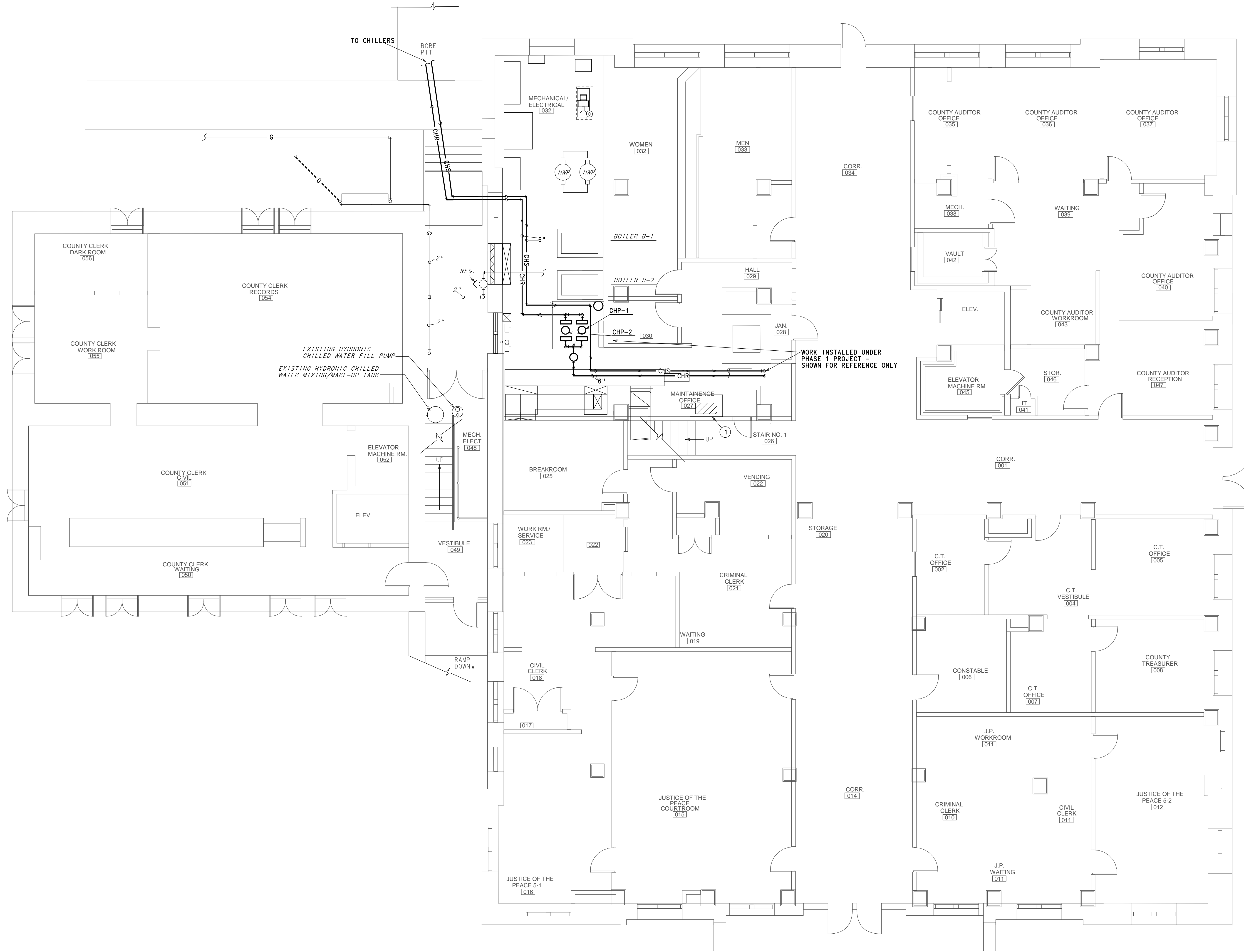
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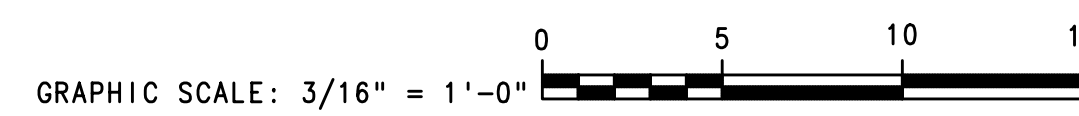
M005



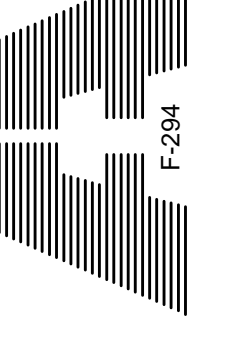
NOTES INDICATED BY "O":

① EXISTING LOCATION OF JOHNSON METASYS OPERATOR'S WORK STATION. REPLACE WORKSTATION, AND UPGRADE SOFTWARE, CONNECT ALL NEW EQUIPMENT. REFER TO SPECIFICATION FOR CONTROLS WORK.

NEW BASEMENT FLOOR PLAN - MECHANICAL



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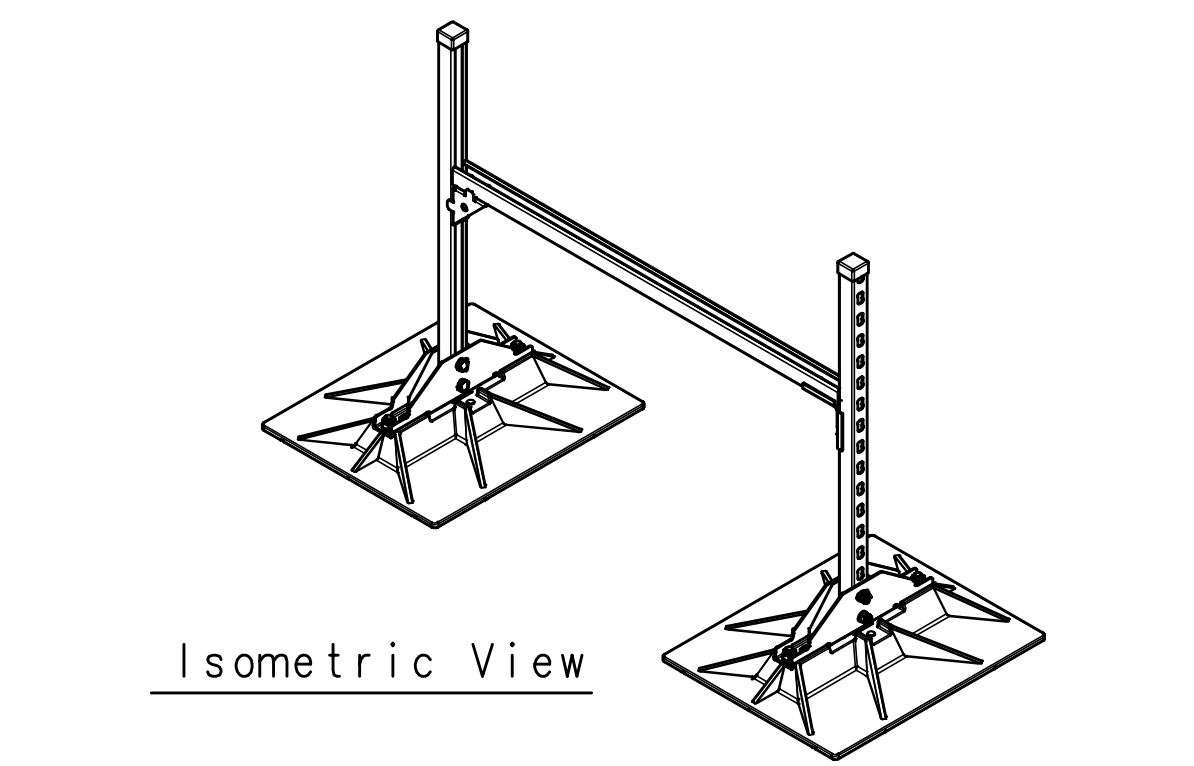
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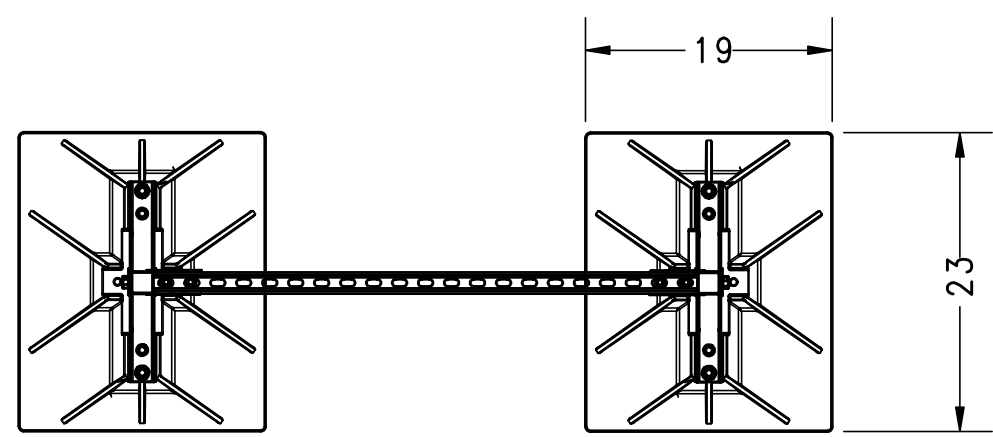
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NEW
BASEMENT
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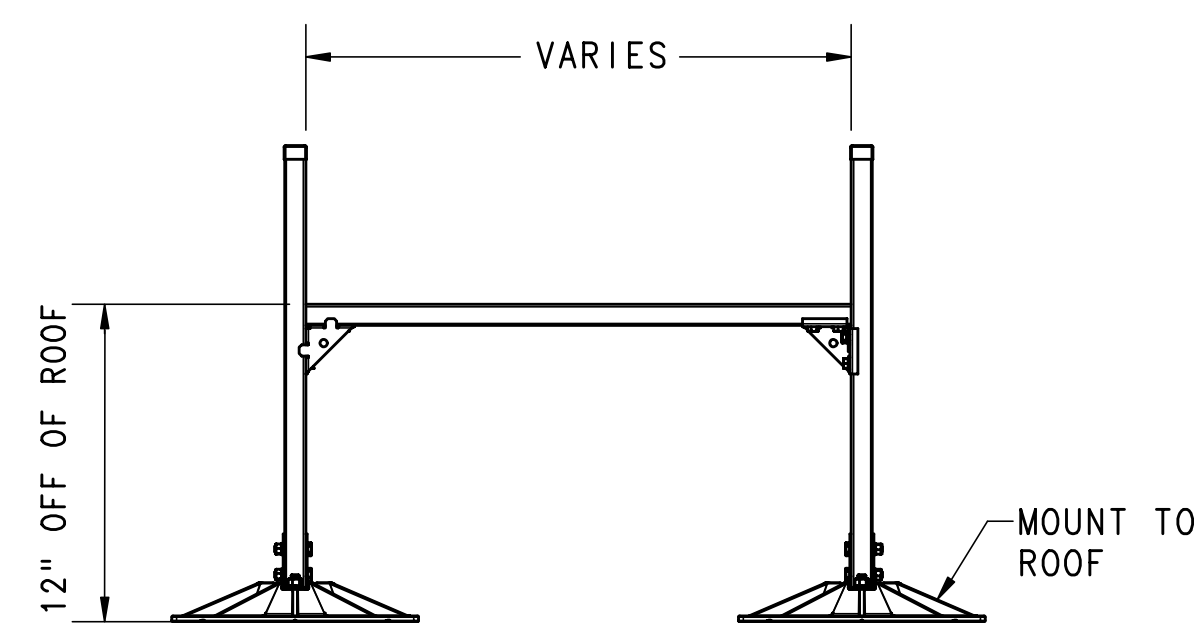
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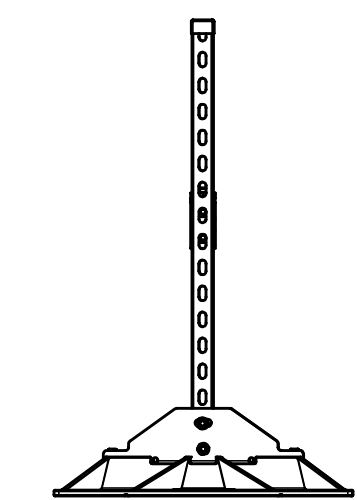
Isometric View



Top View



Front View



Side View

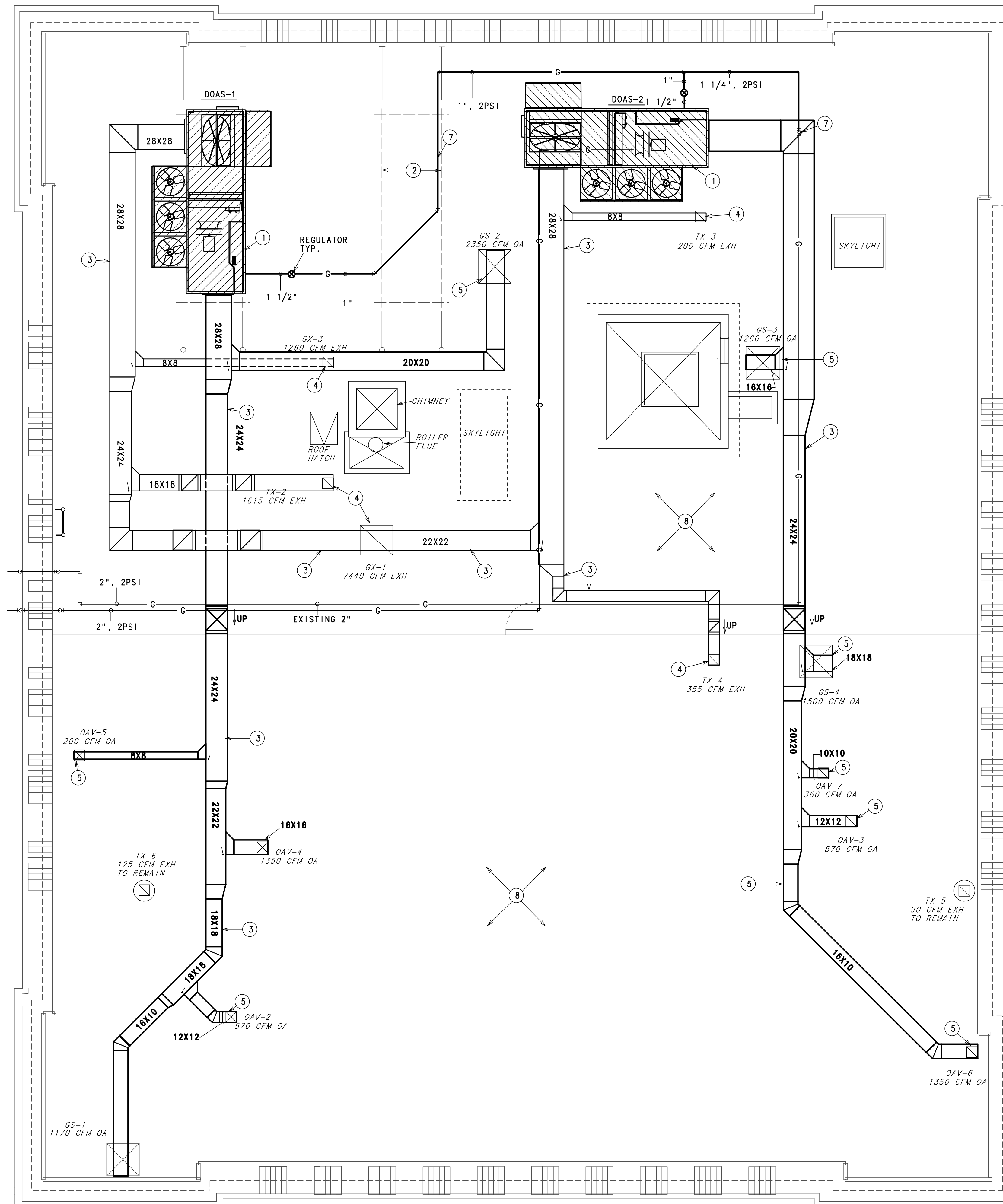
ACCESSORIES
 - 19 x 23 Support pad
 - Cross bracing

PRODUCT DESCRIPTION
 Duct and Cable Trays are designed for single or multiple duct supports and cable trays. See drawing for configuration of ductwork.

NOTE: PROVIDE 2-TIER SUPPORTS WHERE REQUIRED

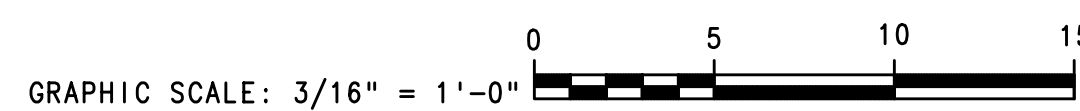
KEY INFORMATION

- The 10-DS series support is engineered to ensure member/component capacities and deflection criteria are not exceeded. Maximum loading from any MIRO base to the finished roof surface is not to exceed 2.0 psi unless specifically allowed otherwise in the project specifications. Deflection in the horizontal header bar is not to exceed the span length by 360 or 1/8.
- Recommended spacing is not to exceed 8 feet centers depending upon the load. Do not exceed load weight
- Width and height are built job specific based on information provided to MIRO Ind. with a minimum height of 12"
- Frame is made with 12 Gauge Channel; size is determined during design
- Base Material: Polycarbonate
- All metal parts are hot dip galvanized



- NOTES INDICATED BY "○"
- NEW DOAS UNIT. MOUNT ON EXISTING FRAME.
 - EXISTING FRAME TO BE REMOVED UNDER ROOF REPLACEMENT PROJECT.
 - TYPICAL SUPPLY AND EXHAUST DUCT - REFER TO SPECIFICATIONS FOR OUTDOOR DUCTWORK OPTIONS - THERMADUCT, RIGID INSULATION WITH THERMADUCT, OR DOUBLE WALL DUCT. MOUNT DUCT MINIMUM OF 18" ABOVE ROOF. REFER TO ROOF SUPPORT DETAIL. INSTALL DUCT SUPPORTS AT INTERVALS RECOMMENDED BY MANUFACTURER.
 - CONNECT TO EXISTING EXHAUST CONNECTION. REUSE EXISTING CURB. INSULATE DUCT AT CONNECTION AND FLASH WATER-TIGHT.
 - CONNECT TO EXISTING OUTSIDE AIR CONNECTION, OA VENTILATOR OR OA SUPPLY FAN LOCATION. REUSE EXISTING CURB. INSULATE DUCT AT CONNECTION AND FLASH WATER-TIGHT.
 - INCORPORATE CONTROL OF NEW DOAS EQUIPMENT INTO JOHNSON CONTROLS METASYS SYSTEM. BALANCE ALL OUTSIDE AIR AND EXHAUST SYSTEMS TO AIR QUANTITIES SHOWN. REFER TO SPECIFICATIONS.
 - CONNECT TO EXISTING NATURAL GAS LINE AND EXTEND TO NEW DOAS UNITS. INSTALL GAS REGULATORS AT EACH DOAS UNIT.
 - ROOF TO BE REPLACED OUTSIDE THE SCOPE OF THE PHASE 2 PROJECT. REFER TO ROOF REPLACEMENT PROJECT AND COORDINATE WORK WITH ROOFING CONTRACTOR.

NEW ROOF PLAN - MECHANICAL



ROOF DUCT SUPPORT DETAIL
 NO SCALE

PIPE SUPPORT SIMILAR

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 NEW ROOF PLAN

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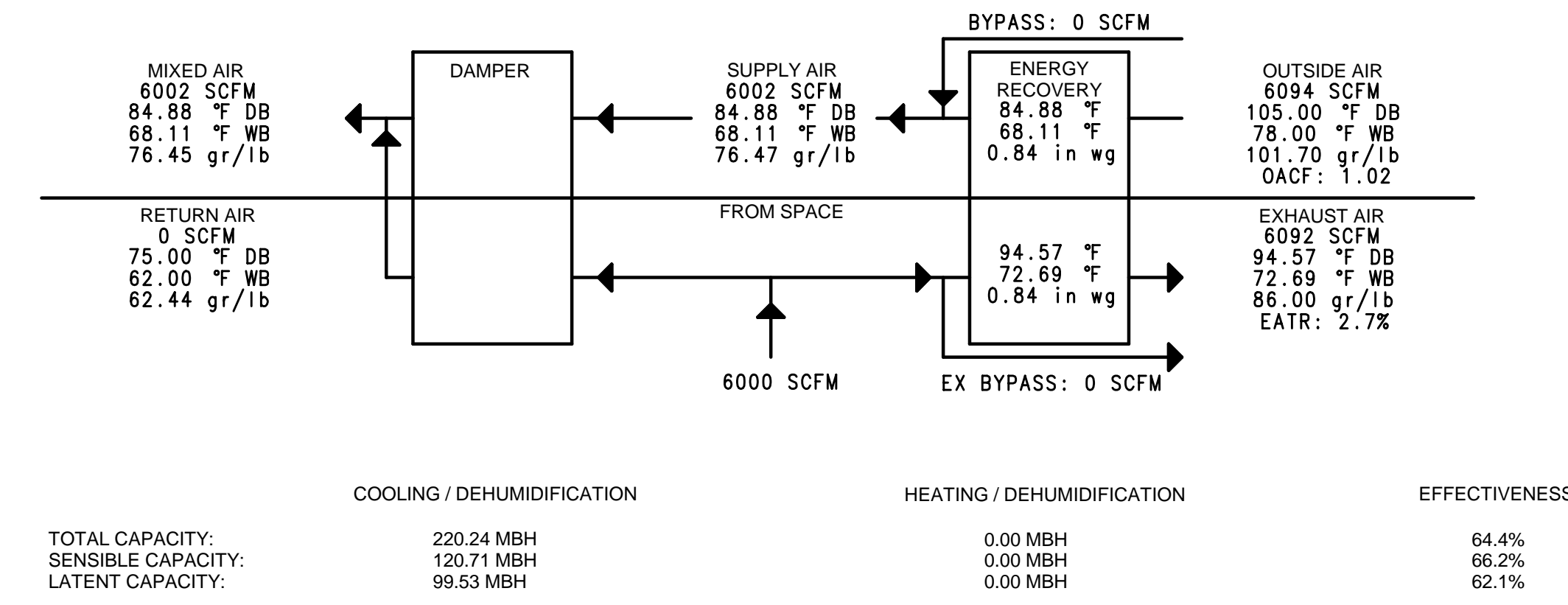
DEDICATED OUTSIDE AIR SYSTEM (DOAS) SYSTEM UNIT SCHEDULE																					
MARK	SUPPLY FAN						COOLING					HEATING		ELECTRICAL				UNIT	WEIGHT		
	CFM	ESP "WC	RPM	HP	DRIVE	VFP	NET COOLING SENS MBH	NET COOLING TOTAL MBH	SUMMER EAT DB/WB	SUMMER LAT DB/WB	SUMMER REHEAT LAT DB/WB	SUMMER UNIT LAT, DB/WB	TYPE	CAPACITY MBH	EAT/LAT DB F	UNIT FLA	UNIT MCA			FUSE SIZE	EER
DOAS-1	6000	2.0	1527	7.5	BELT	YES	198.8	288.8	87.9/68.11	50.4/50.1	75/60	75/60	NAT GAS	154.3	48/81	460V/3PH/60HZ	83	88	110	11	4302
DOAS-2	6000	2.0	1527	7.5	BELT	YES	198.8	288.8	87.9/68.11	50.4/50.1	75/60	75/60	NAT GAS	154.3	48/81	460V/3PH/60HZ	83	88	110	11	4302

NOTES:

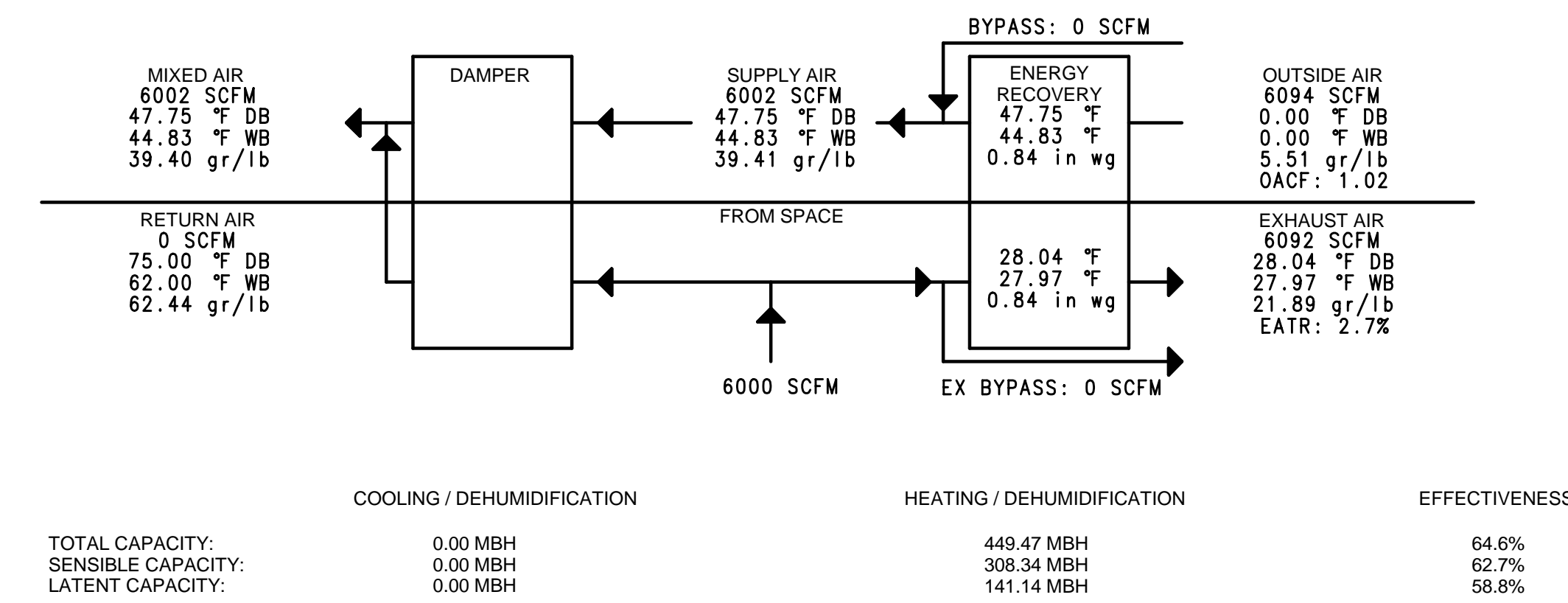
- SEE ENERGY RECOVERY WHEEL SPECIFICATION AT RIGHT FOR WHEEL PERFORMANCE REQUIRED.
- PROVIDE WITH BACnet (ms/tp), MODBUS, N2 NETWORK CARD. INTEGRATE WITH JCI METASYS SYSTEM

ENERGY RECOVERY WHEEL

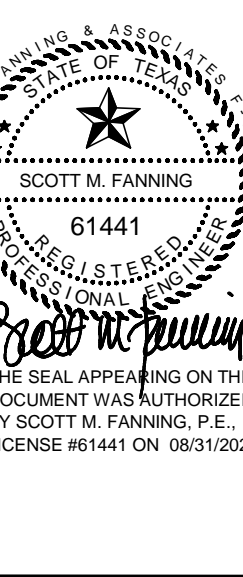
SUMMER CONDITIONS



WINTER CONDITIONS



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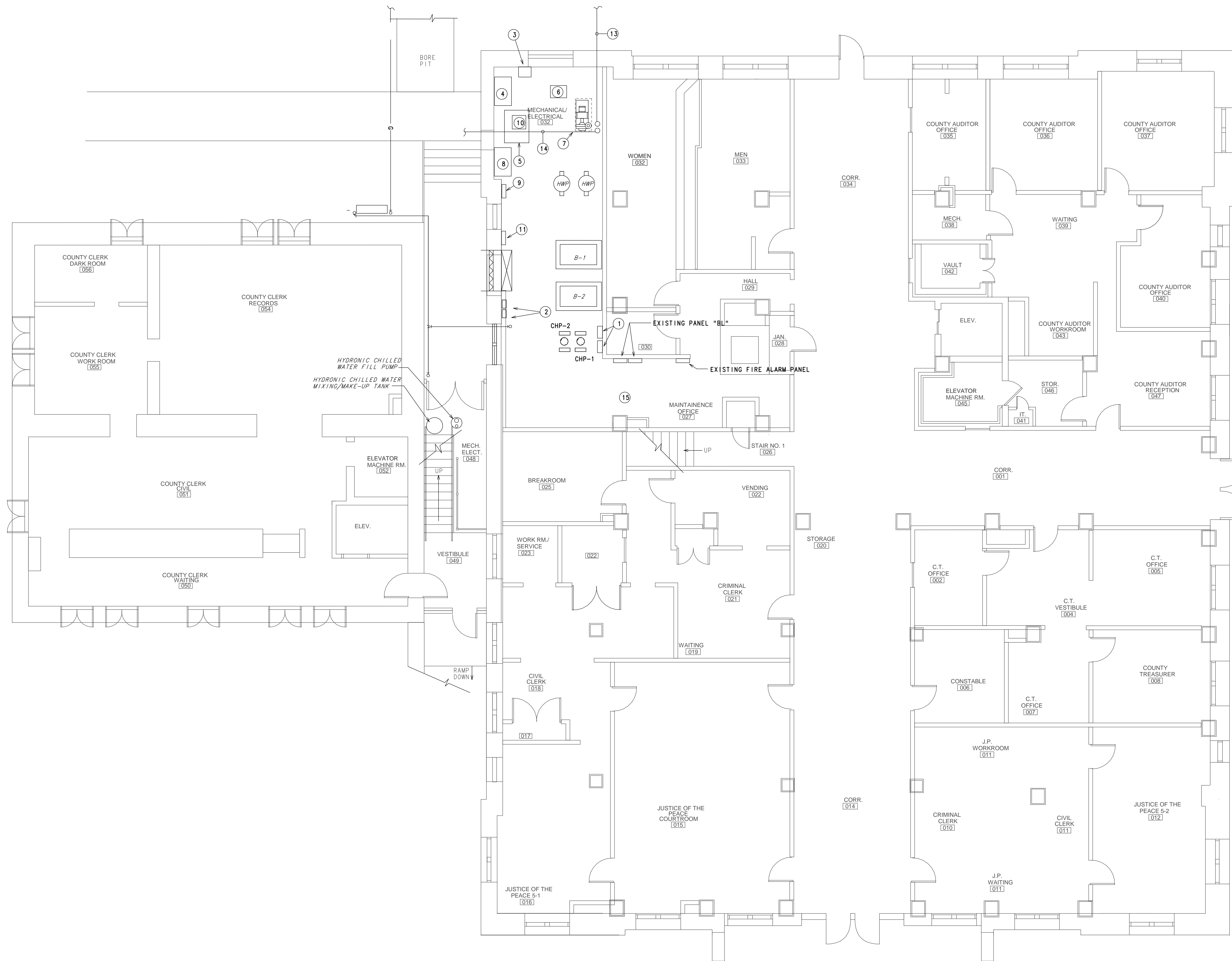
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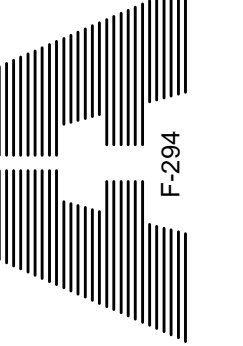
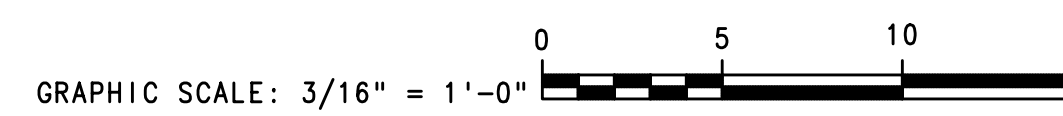
M106



- NOTES INDICATED BY "○":
- ① EXISTING WALL MOUNTED WATER HEATERS.
 - ② DISCONNECT/CONTROLLERS FOR PUMPS CH-1 AND CH-2.
 - ③ EXISTING ATS.
 - ④ EXISTING "DPH".
 - ⑤ EXISTING 300KVA TRANSFORMER.
 - ⑥ EXISTING FIRE PUMP CONTROLLER.
 - ⑦ EXISTING FIRE PUMP.
 - ⑧ EXISTING PANEL "DPL".
 - ⑨ EXISTING PANEL "EH".
 - ⑩ EXISTING 30 KVA TRANSFORMER.
 - ⑪ EXISTING PANEL "EL".
 - ⑫ NOTE NOT USED.
 - ⑬ EXISTING ATT COPPER PHONE LINES.
 - ⑭ SUDDENLINK FIBER OPTIC CABLE RUN.
 - ⑮ PROVIDE NEW 20A/1P BREAKER IN PANEL "2L" FOR NEW CONTROLS. COORDINATE AND PROVIDE 120 VOLT CIRCUITS AS REQUIRED FOR TEMPERATURE CONTROLS ON ALL FLOORS AS REQUIRED. FIELD VERIFY WORK REQUIRED.

ELECTRICAL LEGEND	
SYMBOL	DESIGNATION
	GROUND FAULT INTERRUPTER RECEPTACLE
	JUNCTION BOX
	LIGHTING AND APPLIANCE PANEL
	DISTRIBUTION PANEL
	CIRCUIT INDICATION (NO. OF WIRES: GROUND/HOT/NEUTRAL SHOWN)
	SWITCH LEG INDICATION
	CIRCUIT RUN TO PANEL (NO. OF WIRES SHOWN)
	MOTOR
	MOTOR CONTROLLER
	DISCONNECT SWITCH
	THERMOSTAT
	GROUND FAULT CIRCUIT INTERRUPTER
	UNDERGROUND

NEW BASEMENT FLOOR PLAN - ELECTRICAL

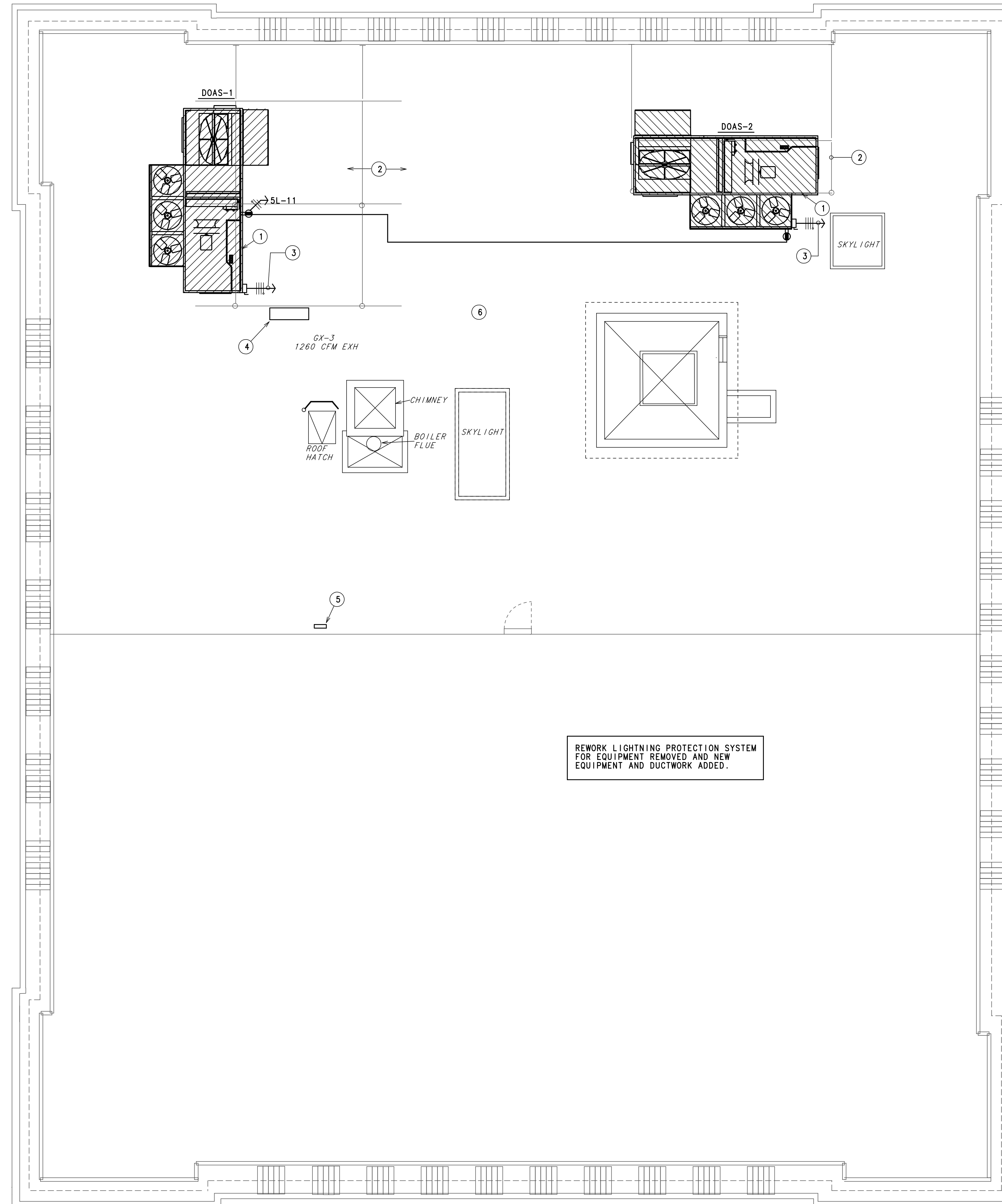


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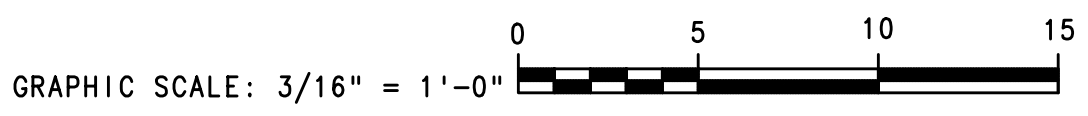


PROVIDE NEW BREAKER, CONDUIT, AND CONDUCTORS FOR DOAS-1 AND DOAS-2.

CKT	SERVES	Ckt Brkr Trip Poles	CONDUCTORS / CONDUIT	Continuous VA		Non-continuous VA		Total VA
				Light	Load2	Recept	Load4	
1	Spare	300 3						
2	New DOAS-1	110+ 3	3 # 2, # 6G in 1.25" C.				73,128	73,128
3	Spare	300 3						
4	New DOAS-2	110+ 3	3 # 2, # 6G in 1.25" C.				73,128	73,128
5	Main 600A MCB	600	See Riser Diagram					
6	Space							
7	XXX							
8	Spare	70 3						
9	XXX							
10	Spare	70 3						
11	XXX							
12	XXX							
	XXX							
	XXX							
SERVICE: 480 volt, 3 phase, 3 wire + G							146,256	146,256
MAINS: 600A MCB							146,256	146,256
MOUNTING: Surface NEMA 3R								
SCCR (RMS Sym) = 30K								
Notes:				PANEL CONNECTED VA		146,256		
(1) Existing Copper Bussing				PANEL DEMAND VA		146,256		
(2) Existing Hinged Door				PANEL CALCULATED VA		146,256		
(3) New Custom Laminated Plastic Nameplate				PANEL SPARE VA		36,564		
(4) New Typed Circuit Directory				PANEL DESIGN VA		182,820		
(5) New Arc-Flash Warning Label (NEC 110.16)				PANEL CONNECTED AMPS / PHASE		176		
(6) * Provide New Breaker. Coordinate Size With Equipment Installed.				PANEL DEMAND AMPS / PHASE		176		
				PANEL DESIGN AMPS / PHASE		220		
				Nameplate Info Below (White Letters on Black)				
				Existing Panel "CH"				
				277/480 Volt				
				Fed From Panel "DHP"				

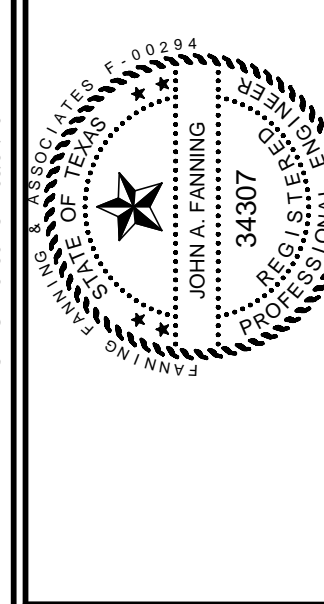
REWORK LIGHTNING PROTECTION SYSTEM FOR EQUIPMENT REMOVED AND NEW EQUIPMENT AND DUCTWORK ADDED.

NEW ROOF PLAN - ELECTRICAL



- NOTES INDICATED BY "○"
- NEW DOAS UNIT. MOUNT ON EXISTING FRAME.
 - MECHANICAL CONTRACTORS TO MODIFY EXISTING FRAME AS REQUIRED.
 - CONNECT NEW DOAS TO EXISTING PANEL "CH". PROVIDE NEW CONDUIT, CONDUCTORS, AND BREAKERS. PROVIDE CONDUIT FOR CONTROLS AS REQUIRED.
 - EXISTING PANEL "CH" TO REMAIN. INSTALL NEW BREAKERS FOR DOAS-1 AND DOAS-2
 - EXISTING PANEL "SL" TO REMAIN. CONNECT NEW ROOF RECEPTACLES TO EXISTING ROOF RECEPTACLE CIRCUIT 5L-11. PROVIDE AND INSTALL NEW INTERIOR SHIELD.
 - PROVIDE NEW 20A/1P BREAKERS IN PANEL "2L" FOR NEW CONTROLS. COORDINATE AND PROVIDE 120 VOLT CIRCUITS AS REQUIRED FOR TEMPERATURE CONTROLS AT ALL LOCATIONS IN BUILDING. FIELD VERIFY WORK REQUIRED.

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