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PENLAND BUILDING MECHANICAL SYSTEMS UPGRADES



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PROJECT LOCATION MAP NOT TO SCALE

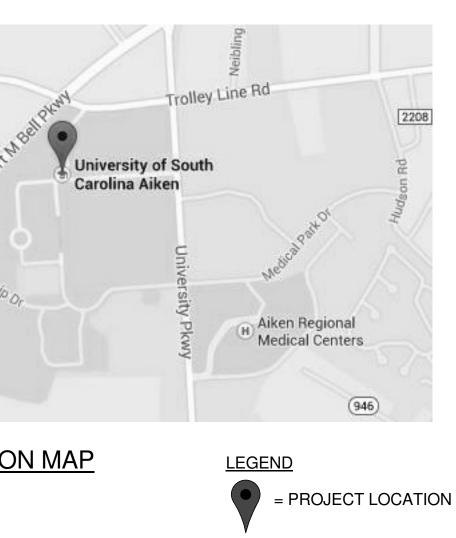
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UNIVERSITY OF SOUTHCAROLINA AIKEN

471 UNIVERSITY PKWY. AIKEN, SC 29801

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JUNE 1, 2015



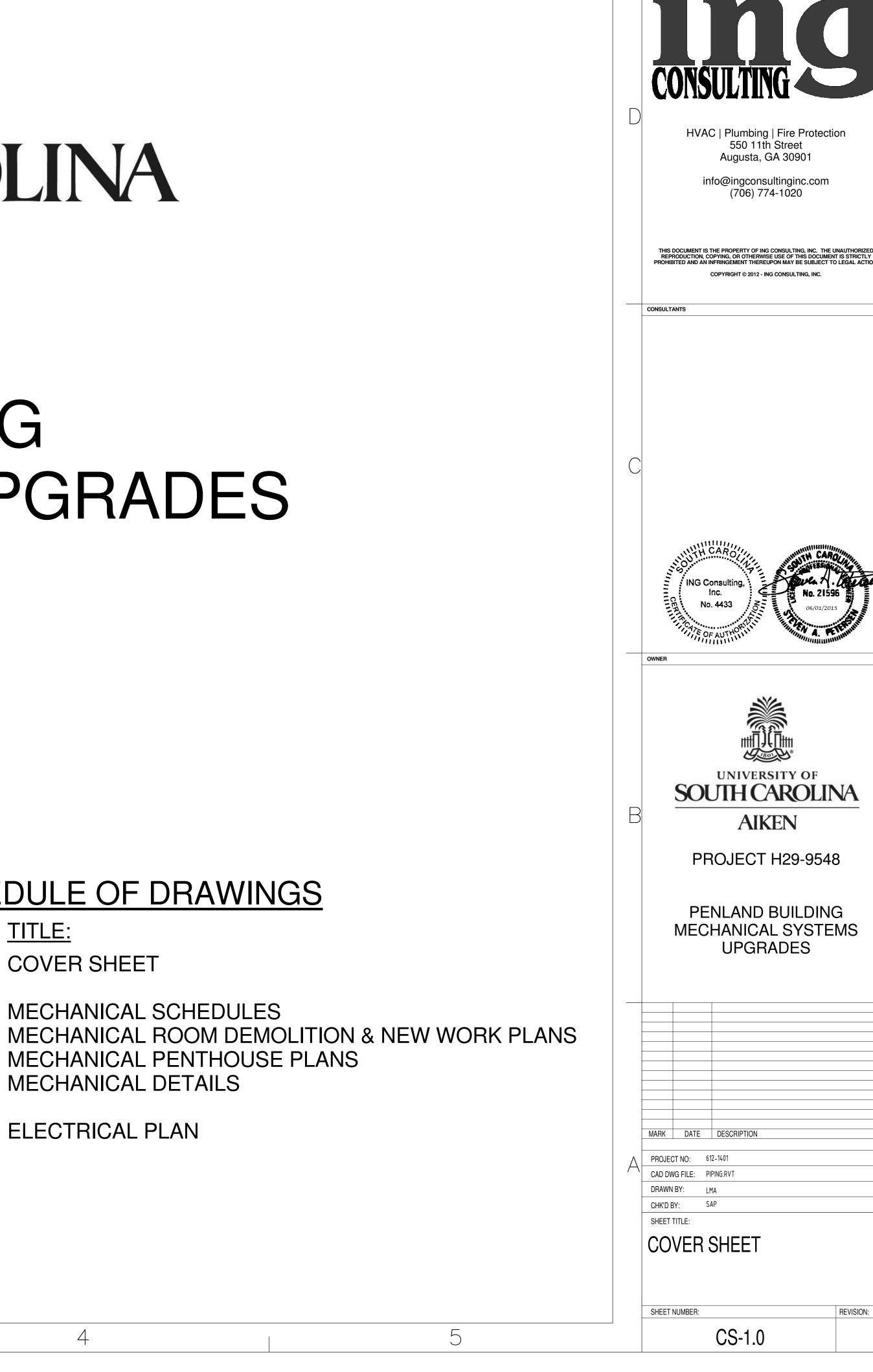
SCHEDULE OF DRAWINGS

<u>SHEET:</u>	<u>TITLE:</u>
CS_10	COVER SHE

- CS-1.0 COVER SHEET
- MECHANICAL SCHEDULES M-1.0
- M-1.1
- MECHANICAL PENTHOUSE PLANS M-1.2
- M-2.0 MECHANICAL DETAILS
- E-1.0 ELECTRICAL PLAN

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										WATEI		LED C	HILLER	SCHE	DULE							
MANUFACTURER			MANUFACTURER EVAPORATOR				CONDENSER				PERFORMANCE AT AHRI CONDITIONS				ELECTRICAL							
TAG	MAKE	MODEL	NOMINAL CAPACITY (TONS)	DESIGN FLOW (GPM)	MINIMUM FLOW (GPM)	EWT (°F)	LWT (°F)	MAX PRES. DROP (FT WG)	NO. OF PASSES	DESIGN FLOW (GPM)	EWT (°F)	LWT (°F)	MAX PRES. DROP (FT WG)	NO. OF PASSES	INPUT POWER AT 100% (Kw/TON)	SOUND PRESSURE AT 100% (dB(A))	INPUT POWER AT 50% (Kw/TON)	SOUND PRESSURE AT 50% (dB(A))	REFRIGERANT	VOLT/PH	МСА	МОСР
CH-1	CARRIER	23XRVA1A1NPHR251	200	480	125	54	44	19	2	615	95	85	17	2	0.627	87	0.302	77	R-134a	460 / 3	232	400

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OPTIONS:																							

PTIONS:	
1) singi	LE POINT POWER CONNECTION.
D POW	ER FACTOR CORRECTION TO MAINTAIN MINIMUM OF 0.95 UNIT POWER FACTOR INCLUDING COMPRESSORS AND

3) VARIABLE SPEED DRIVE WITH CURRENT LIMITING CAPABILITY FOR EMERGENCY MODE OPERATION. ④ UNIT SHALL BE ONE-PIECE.

5) VARY UNIT CAPACITY FROM 100% TO 10% UTILIZING VARIABLE SPEED DRIVES AND COMPRESSORS. UNLOADING AND/OR HOT GAS BYPASS ARE NOT ACCEPTABLE.

6 UNIT MOUNTED CIRCUIT BREAKER WITH LOCKABLE HANDLE. ⑦ FIVE-YEAR TOTAL PARTS ONLY WARRANTY FOR COMPRESSOR.

8 BACNET COMMUNICATION CARD.

(9) REFRIGERANT SERVICE ISOLATION VALVES.

1 PROCURE THE SERVICES OF EMCOR SERVICES TO INTEGRATE CHILLER CONTROLS INTO THE EXISTING ANDOVER BUILDING MANAGEMENT SYSTEM. (1) 150psig, HINGED, MARINE WATER BOXES ON EVAPORATOR AND CONDESER. COORDINATE OUTLET LOCATIONS WITH PIPING ARRANGEMENT. 12 THE CHILLER FOOTPRINT SHALL NOT EXCEED THE EXISTING CONCRETE EQUIPMENT PAD DIMENSIONS OF 15'-0"x3'-10". EXISTING MECHANICAL ROOM CONDITIONS WILL NOT ALLOW FOR INCREASED PAD DIMENSIONS IN ANY DIRECTION.

CHILLED WATER PLIMP SCHEDULE

					CHILLED WAT		UNIF J		LL						
TAG	MANUFACTURER	MODEL	SIZE	ТҮРЕ	SERVICE	FLOW (GPM)	HEAD (FT. W.G.)	EFFICIENCY (%)	IMPELLER DIA. (IN.)	VOLTS / PH.	внр	НР	RPM	WEIGHT (LB.)	OPTIONS:
PCP-1 BELL & GOSSETT E-1510 4BD BASE MOUNT END SUCTION PRIMARY CHILLED WATER 500 60 82.9 8 3/8 208/3 9.14 15 1,800 567 ①②③④⑤⑦⑧															
 2 SUCTIC 3 TRIPLE 4 AIR SEF 5 EXPANS 6 MOUNS 	DUTY VALVE EQUAL TO I PARATOR EQUAL TO BELL	BELL & GOSSE . & GOSSETT LL & GOSSET BASE.	ETT MODEL 3 MODEL R-6F	DS-5B. (6" CONNECTIONS, STRAINER, MOD	UMP CONNECTION, 0.7 PSI DROP MA EL 107A AIR VENT, 700 GPM CAPACIT 53 GAL. ACCEPTANCE, VERTICAL, 12	ΤΥ).	, 22 PSI RELIEF	VALVE FOR 50 PS	SI SYSTEM PRES	SURE).					

(8) PROCURE THE SERVICES OF EMCOR SERVICES TO INTEGRATE PUMP VFD INTO THE EXISTING ANDOVER BUILDING MANAGEMENT SYSTEM.

	WATER HEATER AND ACCESSORIES										
MARK MANUF. MODEL# CAPACITY GAL. KW # STAGES / THERMOSTAT CW / HW TAP SIZE IN. ELECTRICAL OPTIONS TO BE PROVIDED:								OPTIONS TO BE PROVIDED:			
EWH-1	RHEEM	E85-54-GS	85	18	1	IMMERSION	1.5"	480/3/60	FIELD MOUNTED AND INTERLOCKED SOLID STATE LOW WATER CUTOFF T&PRV VALVE FACTORY MOUNTED WATTS EXPANSION TANK # DET-12 WITH SERVICE CHECK		

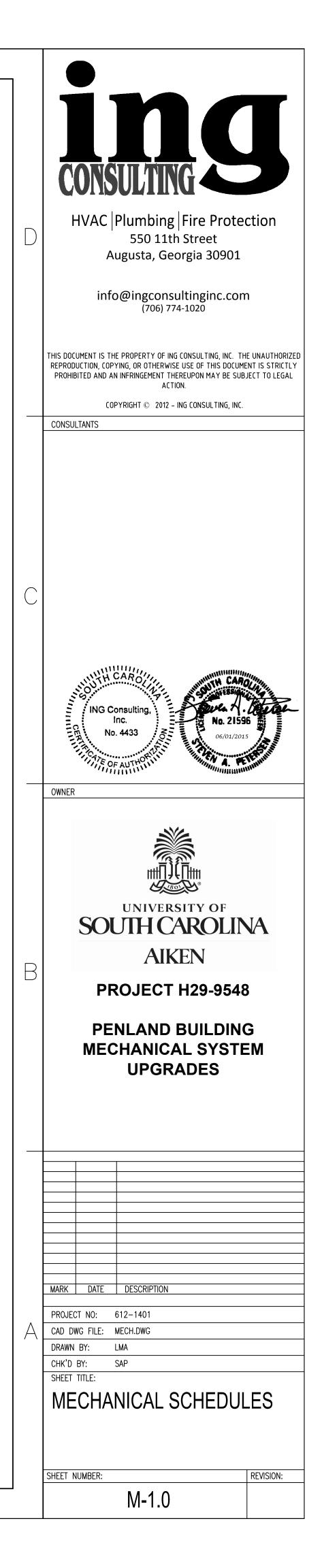
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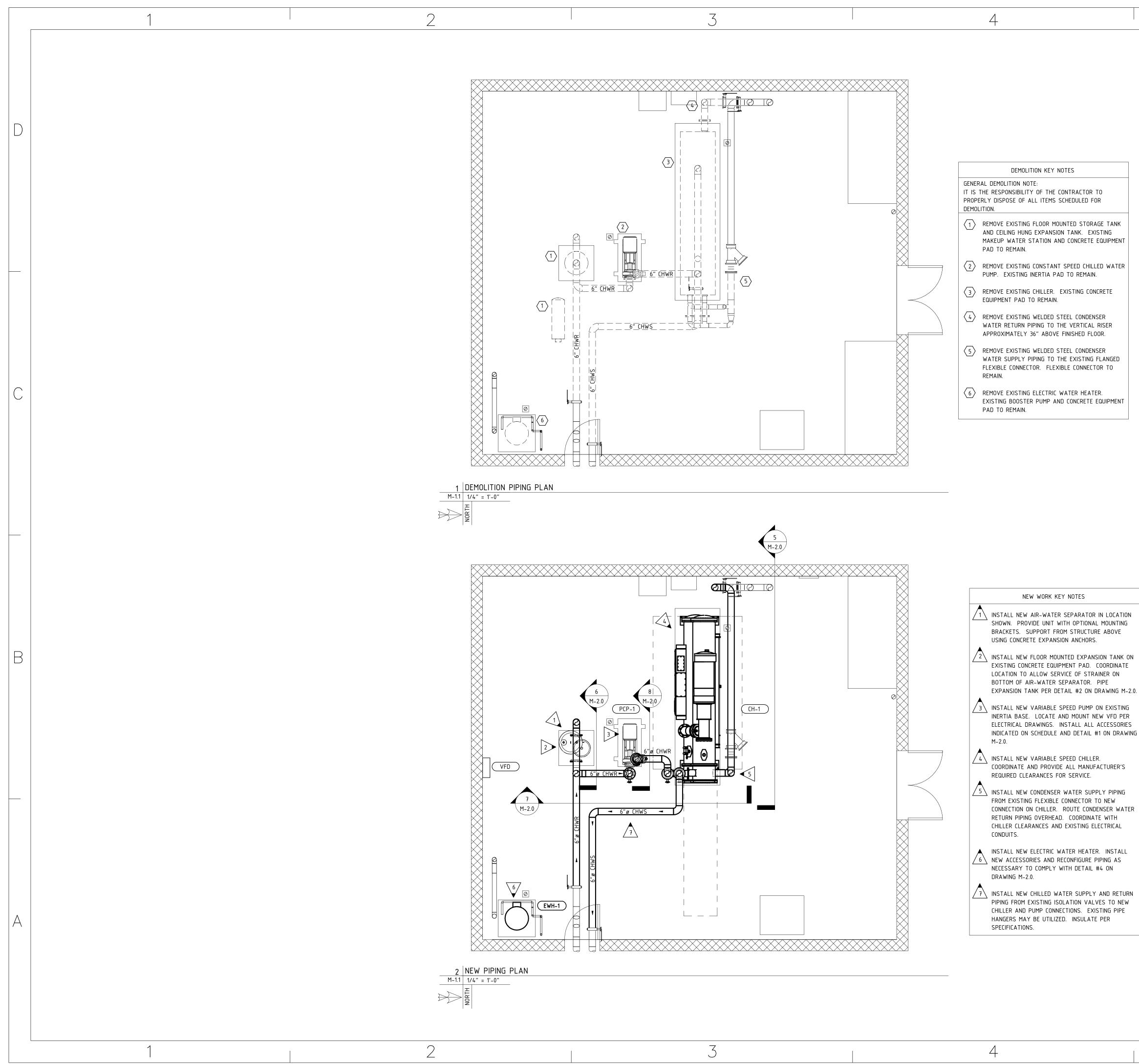
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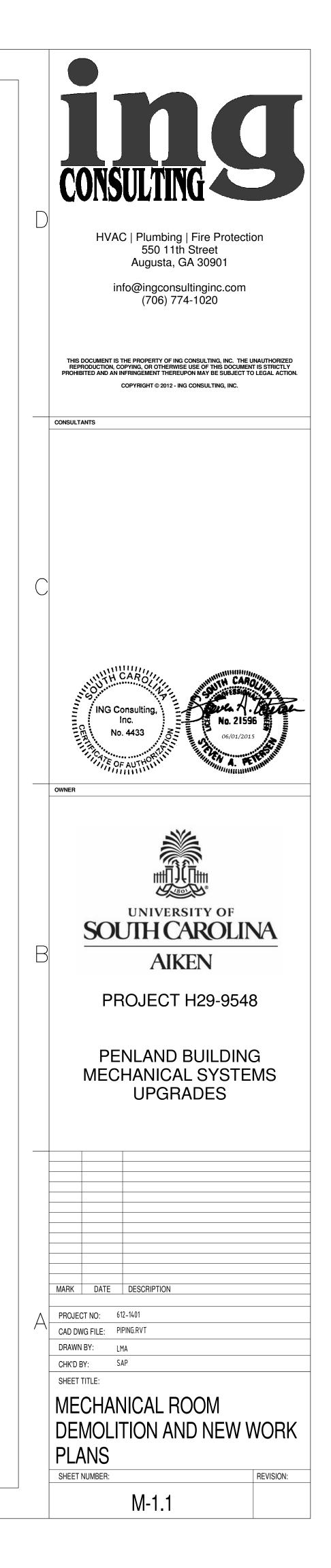
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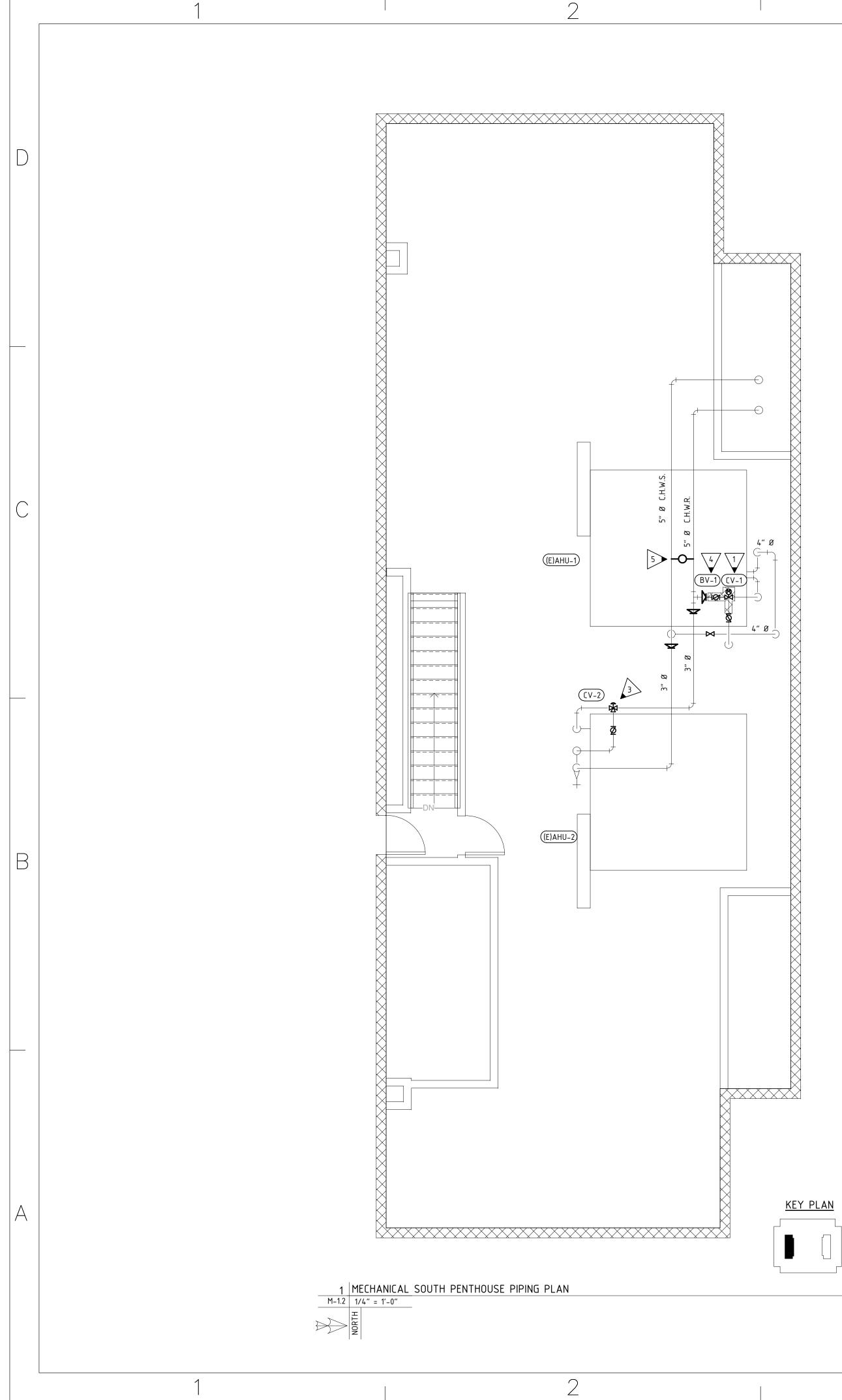
ОСР	WEIGHT (LB.)	OPTIONS:
00	15,900	1234567890112





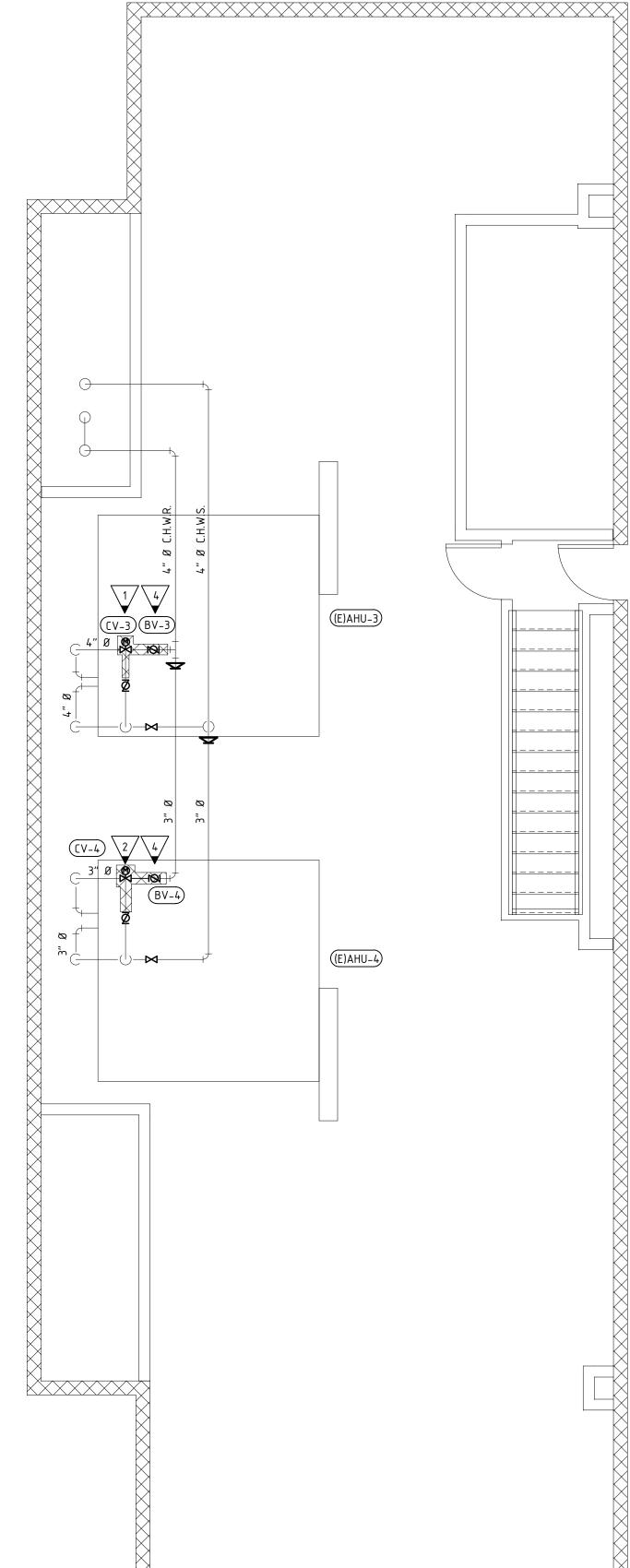


<u>key plan</u>



GENERAL NOTES REPAIR ALL EXISTING DAMAGED FIBERGLASS PIPING INSULATION LOCATED WITHIN THE MECHANICAL ROOM. MATCH EXISTING THICKNESS AND ASJ JACKET. REPLACE EXISTING PIPING AND FITTINGS AS NECESSARY FOR INSTALLATION FOR NEW CONTROL VALVES AND CALIBRATED BALANCING VALVES. NEW WORK KEY NOTES REMOVE AND REPLACE EXISTING FLANGED 3" THREE-WAY CONTROL VALVE AND ACTUATOR WITH A NEW TWO-WAY CONTROL VALVE. NEW VALVE SHALL BE EQUAL IN SIZE, CV VALUE AND ACTUATOR ELECTRICAL REQUIREMENTS. CONTRACTOR TO CONFIRM EXISTING VALVE AND ACTUATOR REQUIREMENTS PRIOR TO PURCHASE. PROVIDE AND INSTALL NEW CALIBRATED BALANCING VALVE. IN RETURN PIPING AND ADJACENT TO NEW CONTROL VALVE. TYPICAL 2 PLACES. REMOVE AND REPLACE EXISTING NPT 2" THREE-WAY CONTROL VALVE AND ACTUATOR WITH A NEW TWO-WAY CONTROL VALVE. NEW VALVE SHALL BE EQUAL IN SIZE, CV VALUE AND ACTUATOR ELECTRICAL REQUIREMENTS. CONTRACTOR TO CONFIRM EXISTING VALVE AND ACTUATOR REQUIREMENTS PRIOR TO PURCHASE. PROVIDE AND INSTALL NEW CALIBRATED BALANCING VALVE IN RETURN PIPING AND ADJACENT TO NEW CONTROL VALVE. TYPICAL 2 PLACES. REMOVE AND REPLACE EXISTING NPT 2" THREE-WAY CONTROL VALVE AND ACTUATOR WITH A NEW THREE-WAY CONTROL VALVE. NEW VALVE SHALL BE EQUAL IN SIZE, CV VALUE AND ACTUATOR ELECTRICAL REQUIREMENTS. CONTRACTOR TO CONFIRM EXISTING VALVE AND ACTUATOR REQUIREMENTS PRIOR TO PURCHASE. PROVIDE AND INSTALL NEW CALIBRATED BALANCING VALVE IN RETURN PIPING AND ADJACENT TO NEW CONTROL VALVE. TYPICAL 2 PLACES. 4 REMOVE BYPASS BRANCH TO EXISTING BALANCING VALVE. CAP AND INSULATE. INSTALL NEW DIFFERENTIAL PRESSURE SENSOR IN THIS LOCATION. TIE IN NEW D-P SENSOR TO CONTROL SYSTEM TO CONTROL NEW VARIABLE SPEED PRIMARY PUMP.

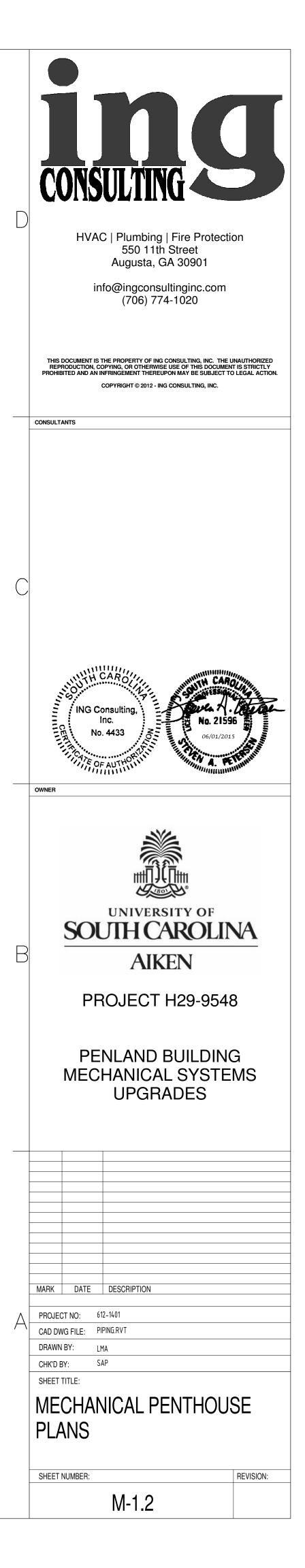
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2 MECHANICAL NORTH PENTHOUSE PIPING PLAN M-1.2 1/4" = 1'-0"

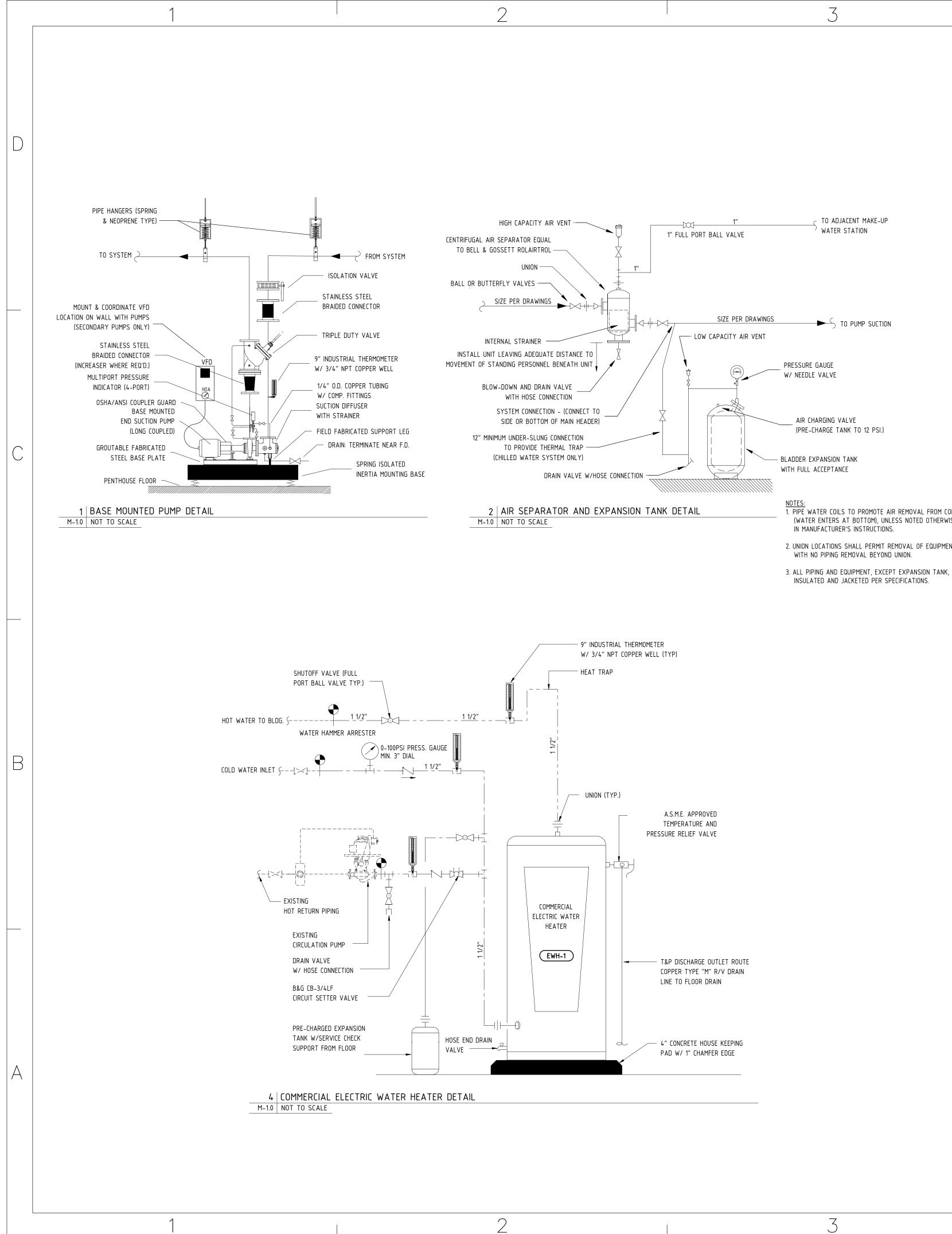
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EXISTING AIR HANDLER CHILLED WATER FLOW DATA								
TAG	GPM							
AHU-1	230							
AHU-2	95							
AHU-3	165							
AHU-4	95							

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<u>key plan</u>



<u>NUTES:</u> 1. PIPE WATER COILS TO PROMOTE AIR REMOVAL FROM COIL (WATER ENTERS AT BOTTOM), UNLESS NOTED OTHERWISE

2. UNION LOCATIONS SHALL PERMIT REMOVAL OF EQUIPMENT

