



Sunman-Dearborn Community Schools
BP#1 - Early Mechanical

ADDENDUM 1

Updated Drawings

Date: 8/5/24



Bright Elementary School

8 / 5 / 24

CONTROLS POINT LIST SCHEDULE																			
SUNMAN-DEARBORN COMM. SCHOOL CORP. BRIGHT ELEMENTARY	HARDWARE																		
	OUTPUT (O)				INPUT (T, D, V, C)										ALARMS		SOFTWARE		
	DIGITAL	ANALOG			DIGITAL	ANALOG									DIGITAL	ANALOG	BMS FUNCTIONS		
Point Description	Control Relay/Contact	Relay	Pressure Transducer	Pressure Switch	Flow Switch	Space Occupancy Sensor	Current Switch	Over-ride button	Contact Closure	Protocol	Auxiliary Contact	4-20 ma or 0-10 VDC	Pressure Switch	Flow Switch	Carbon Dioxide Level (ppm)	Carbon Monoxide (ppm)	Lighting Level (Foot candles)	Pressure (in H2O, ft H2O, DP)	Flow Measurement (gpm, cfm)
Unit heater UH	Enable/disable																		
AHU-1, 3, 4	Enable/disable																		
Supply fan VSD Enable																			
Supply fan VSD speed																			
Supply fan VSD alarm																			
OA damper																			
RA damper																			
Heating coil valve																			
Chilled water coil valve																			
Return air																			
Mixed air																			
Discharge air																			
Freezestat sensor																			
Supply air duct static pressure																			
AHU-2	Enable/disable																		
Supply fan VSD Enable																			
Supply fan VSD speed																			
Supply fan VSD alarm																			
OA damper																			
RA damper																			
Heating coil valve																			
Stages of DX cooling																			
Return air																			
Mixed air																			
Discharge air																			
Freezestat sensor																			
Supply air duct static pressure																			
Domestic water heater plant																			
Water heater status																			
Water heater circ pump status																			
Water heater firing rate %																			
Storage tank temp																			
Thermostatic mixing valve disch																			
HWRP enable/disable																			
HWRP return water temp																			

PIPING SYMBOLS			
	AUTOMATIC FLOW CONTROL VALVE		P&T RELIEF VALVE
	AIR SEPARATOR		P&T PORT
	AUTOMATIC AIR VENT		PIPE BREAK
	BALL VALVE		PIPE CAP
	BUTTERFLY VALVE		PIPE DROP
	CHECK VALVE		PIPE RISE
	DOUBLE CHECK BACKFLOW PREVENTER		PIPE THERMOMETER
	FLOW METER		PRESSURE GAUGE
	GAS OUTLET TURRET		PRESSURE INDEPENDENT CONTROL VALVE
	GAS COCK		PRESSURE REDUCING VALVE
	GATE VALVE		PRESSURE REGULATING VALVE
	GLOBE VALVE		STRAINER
	HOSE THREAD END WITH CAP		STRAINER WITH BLOWDOWN
	INLINE PIPE DROP		STEAM TRAP
	INLINE PUMP		TEMPERATURE SENSOR
	INLINE PIPE RISE		THERMOSTATIC MIXING VALVE
	MANUAL FLOW CONTROL VALVE		2-WAY CONTROL VALVE
	MANUAL AIR VENT		3-WAY CONTROL VALVE
	METER		UNION
MECHANICAL SYMBOLS			
	BACKDRAFT DAMPER		FLEXIBLE DUCT
	COMBINATION SMOKE/FIRE DAMPER		INLINE PUMP
	CONTROL DAMPER ACTUATOR		MANUAL AIR VENT
	DOUBLE WALL DUCTWORK		OPPOSED BLADE BALANCE DAMPER
	DUCT CAP		RETURN/EXHAUST TRANSFER AIR GRILLE
	DUCT MOUNTED COIL		SHUTOFF VAV BOX WITH REHEAT
	DUCTWORK WITH DUCT LINER		SINGLE BLADE BALANCE DAMPER
	DUCTWORK WITHOUT DUCT LINER		STRAINER
	FAN POWERED VAV BOX WITH REHEAT		STRAINER WITH BLOWDOWN
	FIRE DAMPER		SUPPLY AIR DIFFUSER
	FIRE DAMPER		TEMPERATURE SENSOR
	FIRE DAMPER		THERMOMETER
	FIRE DAMPER		UNIT HEATER
	FIRE DAMPER		WALL MOUNTED PRESSURE GAUGE
MECHANICAL LINE TYPES			
	EXISTING DUCT TO REMAIN		NEW SUPPLY DUCT
	NEW RETURN DUCT		NEW OUTSIDE AIR DUCT
	NEW EXHAUST DUCT		DUCT TO BE REMOVED
	HWS HOT WATER SUPPLY PIPE		HWR HOT WATER RETURN PIPE
	CHWS CHILLED WATER SUPPLY PIPE		CHWR CHILLED WATER RETURN PIPE
	GLY GLYCOL PIPE		LPSS LOW PRESSURE STEAM SUPPLY
	LPSS LOW PRESSURE STEAM RETURN		HPSS HIGH PRESSURE STEAM SUPPLY
	HPSS HIGH PRESSURE STEAM RETURN		STR STEAM CONDENSATE
	CWS CONDENSER WATER SUPPLY		CWR CONDENSER WATER RETURN
GENERAL LINE TYPES			
	EXISTING TO REMAIN LINE WEIGHT		EXISTING TO BE DEMOLISHED LINE TYPE AND WEIGHT
	NEW DUCT LINE WEIGHT		NEW PIPING LINE WEIGHT
	NEW EQUIPMENT LINE WEIGHT		
GENERAL SYMBOLS			
	EXTENT OF DEMOLITION		TIE-IN OF NEW TO EXISTING
MECHANICAL CONTROL SYMBOLS			
	CO2 CARBON DIOXIDE SENSOR		THERMOSTAT
	CO CARBON MONOXIDE SENSOR		THERMOSTAT (LINE VOLTAGE)
	DUCT OR PIPE PRESSURE SENSOR		THERMOSTAT WITH HUMIDISTAT AND CO2 SENSOR
	SECURITY TYPE THERMOSTAT		HUMIDISTAT
	PNEUMATIC THERMOSTAT		DIFFERENTIAL PRESSURE SENSOR

CONTROLS RESPONSIBILITY CHART				
ITEM	CONTROL CONTRACTOR	MECHANICAL CONTRACTOR	ELECTRICAL CONTRACTOR	REMARKS
INSTALL INTERIOR AND EXTERIOR LOW VOLTAGE CABLING AND CONDUIT	X			
ROUGH-IN OF THERMOSTAT WALL BOXES	X			
FURNISH CONTROL VALVES		X		
FURNISH PIPE WELLS FOR SENSORS	X			
INSTALL PIPE WELLS FOR SENSORS		X		
PROVIDE 120 VOLT POWER FOR CONTROL PANELS	X		X	
PROVIDE 120 VOLT POWER BETWEEN SLAVE PANELS				
PROVIDE INTERLOCK WIRING BETWEEN DEVICES, PANELS, BOILERS, CHILLERS, ETC		X		1
FURNISH VARIABLE SPEED DRIVES	X		X	2
INSTALL VARIABLE SPEED DRIVES				
PROVIDE LINE AND LOAD WIRING TO VARIABLE SPEED DRIVES			X	2
PROVIDE CONTROL WIRING TO VSD	X			
PROGRAM AND STARTUP VSD	X			
PROVIDE 120 VOLT POWER TO CONTROLS			X	
FURNISH CONTROL DAMPERS	X	X		3
INSTALL CONTROL DAMPERS		X		
FURNISH DAMPER ACTUATORS	X			
INSTALL DAMPER ACTUATORS	X			
WIRE LOW VOLTAGE ACTUATORS	X		X	
PROGRAM AND COMMISSION BOILER SEQUENCER		X		
PROGRAM AND COMMISSION CHILLER SEQUENCER		X		
COORDINATE PROJECT SCHEDULE WITH ALL TRADES	X	X	X	
PROVIDE SHOP DRAWINGS TO ALL TRADES	X	X		
VERIFY AND TEST SEQUENCE OF OPERATIONS	X			
TERMINATE DUCT DETECTORS	X			
ROOF PENETRATIONS FOR TEMPERATURE CONTROLS		X		4
EXTERIOR WALL PENETRATIONS FOR TEMPERATURE CONTROLS	X			
PROVIDE DUCT DETECTORS			X	
PROVIDE 120 VOLT POWER TO SOLENOID VALVES			X	5
PROVIDE LOW VOLTAGE CABLING TO SOLENOID VALVES	X			5
PROVIDE AND INSTALL REFRIGERANT MONITORING SYSTEM	X			
REMARKS:				
1. MECHANICAL CONTRACTOR/MANUFACTURER SHALL PROVIDE AND INSTALL ALL ASSOCIATED INTERLOCK WIRING AND DEVICES FOR A COMPLETE UNIT.				
2. PACKAGED VSDS INTERNAL TO HVAC EQUIPMENTED SHALL BE FURNISHED BY EQUIPMENT MANUFACTURER UNLESS NOTED OTHERWISE. REFER TO EQUIPMENT SCHEDULES FOR VSDS TO BE FURNISHED BY EQUIPMENT MANUFACTURER.				
3. PACKAGED CONTROL DAMPERS INTEGRAL TO HVAC EQUIPMENT SHALL BE FURNISHED BY EQUIPMENT MANUFACTURER UNLESS NOTED OTHERWISE. REFER TO EQUIPMENT SCHEDULES AND DETAILS FOR MORE INFORMATION.				
4. COORDINATE WITH GC FOR ROOF PENETRATIONS.				
5. COORDINATE WITH MC FOR REFRIGERANT AND GAS PIPING SOLENOID VALVE LOCATIONS.				

GENERAL DEMOLITION NOTES				
1.	ALL EXISTING PENETRATIONS FROM DUCT/PIPE/WIRE/CONDUIT THAT IS REMOVED SHALL BE PATCHED BY PROPER TRADES TO MATCH SURROUNDINGS UNLESS PENETRATION IS TO BE REUSED. PATCH ALL FLOOR AND WALL PENETRATIONS TO MAINTAIN FIRE RATED CONSTRUCTION.			
2.	ALL ROOF PENETRATIONS NOT BEING REUSED SHALL BE PATCHED TO MAINTAIN EXISTING ROOF WARRANTY. EXISTING CURBS TO BE ABANDONED SHALL BE CARPED WITH ALUMINUM HOOD PAINTED WITH "N.I.S." (NOT IN SERVICE). INSULATE CAVITY BELOW CAP WITH TIGHT FITTING 3" FOAM BOARD WRAPPED WITH SHEET METAL.			
3.	ALL PIPE SHALL BE REMOVED TO WITHIN AREAS THAT ARE INACCESSIBLE SUCH AS WALL CAVITIES AND BELOW SLAB. IN FINISHED SPACES REMOVE BELOW SURFACE. CAP WATER TIGHT, AND PATCH SURFACE TO MATCH SURROUNDINGS.			
4.	ALL PATCHING OF WALLS SHALL MATCH MATERIALS AND WHEN COMPLETE SHALL NOT LOOK LIKE A PATCH.			
5.	TOOTH-IN NEW BRICK/ BLOCK WITH FULL UNITS. DO NOT CUT FILLER PIECES.			
6.	PRIOR TO CUTTING EXISTING SLAB ON GRADE, CONTRACTOR SHALL VERIFY EXISTENCE OF EXISTING UTILITIES SUCH AS PIPING, CONDUIT, WIRE, ETC. BY MEANS OF GROUND PENETRATING RADAR TO LOCATE AND DETERMINE DEPTH OF BURY. TAKE PRECAUTIONS TO DE-ENERGIZE POWER TO CIRCUITS AND CAREFULLY CUT AND REMOVE SLAB. ANY UTILITIES THAT WERE LOCATED AND SUBSEQUENTLY DAMAGED SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDED COST TO THE OWNER.			

GENERAL MECHANICAL NOTES				
1.	DUCT AND PIPING LAYOUTS ARE SCHEMATIC IN NATURE. ADDITIONAL TRANSITIONS, ELBOWS, OFFSETS, AND FITTINGS SHALL BE ADDED AS REQUIRED TO COORDINATE WITH OBSTRUCTIONS AND OTHER TRADES.			
2.	COORDINATE ALL WORK WITH OTHERS TRADES AND EXISTING WORK TO PERMIT ACCESS AND SERVICE CLEARANCES TO ALL SYSTEMS. COORDINATE DUCT WITH ELECTRICAL J-BOXES TO PREVENT OBSTRUCTIONS.			
3.	DO NOT SCALE DRAWINGS FOR DIMENSIONS. REFER TO DIMENSIONED DRAWINGS.			
4.	ALL GRILLES, DIFFUSERS, AND REGISTERS SHALL HAVE A VOLUME CONTROL DAMPER UNLESS NOTED OTHERWISE. DAMPER SHALL BE IN AN ACCESSIBLE LOCATION.			
5.	REFER TO DETAIL SHEETS FOR ADDITIONAL INFORMATION ON INSTALLATION METHODS.			
6.	DEVIATIONS FROM BASIS OF DESIGN THAT AFFECT OTHER TRADES ARE THE RESPONSIBILITY OF THIS CONTRACTOR. ADDITIONAL COSTS TO PROVIDE LARGER ELECTRICAL CIRCUITS, MORE FLOOR SPACE, ADDITIONAL SUPPORTS, ADDITIONAL MATERIALS, ETC. SHALL BE BORNE BY THIS CONTRACTOR. COORDINATE WITH OTHER TRADES.			
7.	ALL THERMOSTAT/HUMIDITY SENSORS WITH ADJUSTMENT BUTTONS/ SLIDERS/ KNOBS/ DISPLAYS, ETC. SHALL BE MOUNTED WITH THE TOP OF THE DEVICE NO MORE THAN 48" AFF. IN COMPLIANCE WITH LOCAL AND FEDERAL ADA WHEELCHAIR REACH DISTANCE GUIDELINES. PROVIDE ADDITIONAL SURFACE RACKWAY, BOXES, CONDUIT, ETC AS REQUIRED TO OFFSET AROUND EXISTING DEVICES IN RENOVATION WORK.			
8.	ALL DUCT SIZES LISTED ARE FOR INTERIOR FREE AREA. ANY DUCTS DESIGNATED OR SPECIFIED TO BE DOUBLE WALL OR INTERNALLY LINED SHALL HAVE OUTER DIMENSIONS ENLARGED TO ACCOMMODATE THE LINER OR INTERSTITIAL INSULATION.			

GAS WATER HEATER SCHEDULE																						
TAG	MFR.	MODEL	TANK MODEL	TANK VOL (GAL)	TANK DIM (DIA x HT)	EFF (%)	GAS INPUT (MBH)	RECOVERY (GPH)	BURNER TURNDOWN	NAT GAS PRES. (IN W.C.)	GAS CONN (IN)	WATER CONN (IN)	FLUE CONN (IN)	FLUE MATERIAL	WT. (LB)	ELEC (V/PH)	ELEC (MCA)	PUMP FLOW (GPM)	PUMP MOTOR (HP)	PUMP ELEC (V/PH)	PUMP ELEC (MCA)	REMARKS
GWH-1	LOCHINVAR	AWN288PM	RGAG318	318	40 x 80	96	285	332	5:1	4 - 11	3/4	2	4	POLYPROP	236	120/1	15	38	3/4	208/3	-	1, 2, 3, 4, 5, 6, 7, 8
GWH-2	LOCHINVAR	AWN288PM		-	-	96	285	332		4 - 11	3/4			POLYPROP	236	120/1	15	38	3/4	208/3	-	1, 2, 3, 4, 5, 6, 7, 8
REMARKS: 1. PROVIDE AND INSTALL WITH T&P RELIEF VALVE. 2. ALL TANKS SHALL BE ASME STAMPED. 3. PROVIDE AND INSTALL WITH CONDENSATE NEUTRALIZATION KIT. 4. PROVIDE AND INSTALL WITH CON-X-US REMOTE CONNECTIVITY KIT. 5. PROVIDE AND INSTALL WITH TANK RECIRCULATION PUMP SELECTED FOR 12 TO 15 GRAINS RANGE FROM MFR, WIRED TO PUMP CONTROL RELAY ON WATER HEATER. 6. PROVIDE AND INSTALL WITH FLUSHING PIPE CONNECTION FITTINGS AT INLET AND OUTLET OF HEATER TO ALLOW DESCALING WITHOUT BREAKING PIPE CONNECTIONS. 7. PROVIDE AND INSTALL WITH DESCALING/FLUSHING KIT WITH 5 GAL BUCKET, SUMP PUMP, (2) STAINLESS BRAIDED HOSES WITH HOSE CONNECTIONS, (1) GALLON DESCALER SOLUTION. 8. PROVIDE AND INSTALL WITH SKID MOUNTED PRE-PIPED AND FACTORY WIRED SYSTEM WITH PACKAGED CONTROLS AND BACNET MS/TP INTERFACE.																						

GAS REGULATOR SCHEDULE											
TAG	MFR.	MODEL	CAPACITY (CFM)	TURNDOWN	INLET (PSI)	INLET SIZE (IN)	OUTLET (IN WC)	OUTLET SIZE (IN)	EQUIP SERVED	REGULATOR LOCATION	REMARKS
GR-1	PIETRO FIORENTINI	3105TOPD	570	500:1	5	1/2	11	1/2	GWH-1, GWH-2	INTERIOR	1, 2, 3
REMARKS: 1. PROVIDE AND INSTALL WITH VENT PIPED TO EXTERIOR. 2. VERIFY EXACT REGULATOR SIZE BASED ON ACTUAL EQUIPMENT INSTALLED PRIOR TO ORDERING. 3. PROVIDE WITH EXTERNAL DOWNSTREAM CONTROL LINE, FIELD INSTALLED.											

LOUVER SCHEDULE											
TAG	MFR.	MODEL	FACE SIZE (IN)	FREE AREA (SF)	AIRFLOW (CFM)	FACE VELOCITY (FPM)	THICKNESS (IN)	WATER PEN EFF (%)	FINISH	SERVICE	REMARKS
L-1	GREENHECK	ETH-601	120x120	51.6	27000	524	6	98.4	2.0 mil 70% KYNAR	INTAKE	1, 2, 3
REMARKS: 1. PROVIDE AND INSTALL WITH FLANGED FRAME. 2. PROVIDE AND INSTALL WITH CHANNEL FRAME AND EXTENDED SILL. 3. COLOR SELECTION BY ARCHITECT.											
NOTE: PRIOR TO ORDERING ANY LOUVER, CONTRACTOR SHALL FIELD VERIFY ANY EXISTING OPENINGS THAT LOUVERS MUST BE INSTALLED IN.											
** WATER PENETRATION EFFECTIVENESS WITH 3 IN/HR RAINFALL AND 29 MPH WIND.											

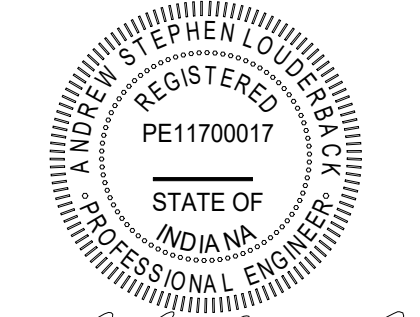
PLUMBING THERMAL EXPANSION TANK SCHEDULE											
TAG	MFR.	MODEL	TOTAL VOL (GAL)	MAX ACCEPT VOL (GAL)	DIA (IN)	HEIGHT (IN)	PRECHARGE (PSIG)	CONN. SIZE (IN)	TANK WT (LBS)	TANK MAX OR WT (LBS)	REMARKS
DET-1	AMTROL	ST-210VC	30	35	24	57	55	1 1/4	405	1155.6	1, 2, 3
REMARKS: 1. ALL TANKS SHALL BE ASME RATED AND SHALL BE PROVIDED WITH A LINE SIZE T&P RELIEF VALVE ON THE INLET PIPING. 2. PROVIDE WITH INTEGRAL INLET TURBULATOR TO PREVENT STAGNANT WATER IN THE TANK AS WELL AS ANTI-MICROBIAL LINER IN TANK. 3. CONTRACTOR SHALL VERIFY SYSTEM STATIC WATER PRESSURE PRIOR TO INSTALLING TANK AND ADJUST PRE-CHARGE AS REQUIRED.											

HOT WATER UNIT HEATER SCHEDULE												
TAG	MFR.	MODEL	TYPE	CAPACITY (MBH)	AIRFLOW (CFM)	EAT (DEG F)	EWTLWT (DEG F)	FLOW (GPM)	MOTOR (HP)	CONTROL VALVE	ELEC (V/PH)	REMARKS
UH-1	STERLING	HS-48	HORIZONTAL	30	750	60	180 / 180	3.5	1/20	3-WAY	120/1	1
UH-2	STERLING	HS-48	HORIZONTAL	30	750	60	180 / 180	3.5	1/20	3-WAY	120/1	1
REMARKS:												
1. PROVIDE AND INSTALL WITH OSHA APPROVED FAN GUARD.												

NEEDLEPOINT BIPOLAR IONIZER SCHEDULE											
TAG	MFR.	MODEL	SERVICE	COIL AIRFLOW (CFM)	COIL DIM WxL (IN)	ION OUTPUT (ions/cc/sec/inch)	OUTPUT VOLTAGE	ELEC	MAX CIR. AMPS	MAX FUSE	REMARKS
NPI-1	GLOBAL PLASMA SOLUTIONS	GPS-IMOD	AHU-1	27,000	126x89	140 M	5 KV RMS	24 V	0.5	-	1, 2, 3, 4
NPI-2	GLOBAL PLASMA SOLUTIONS	GPS-IMOD	AHU-2	4,000	62x42	140 M	5 KV RMS	24 V	0.5	-	1, 2, 3, 4
NPI-3	GLOBAL PLASMA SOLUTIONS	GPS-IMOD	AHU-3	18,000	113x71	140 M	5 KV RMS	24 V	0.5	-	1, 2, 3, 4
NPI-4	GLOBAL PLASMA SOLUTIONS	GPS-IMOD	AHU-4	19,000	113x71	140 M	5 KV RMS	24 V	0.5	-	1, 2, 3, 4
REMARKS: 1. SYSTEM SHALL COMPLY WITH UL2098, UL 867, AND IAQP STANDARDS WITH INDEPENDENT TEST DATA. 2. PROVIDE AND INSTALL WITH PACKAGED CONTROLS. 3. PROVIDE AND INSTALL MODULAR BARS AND ALL ASSOCIATED CABLING REQUIRED TO SERVE THE COIL SIZE LISTED. INCLUDE ALL REQUIRED MOUNTING HARDWARE. MOUNT ALL DEVICES INSIDE UNIT. DOWNSTREAM OF FILTER. 4. TCC SHALL INSTALL NPI AND PROVIDE LOW-VOLTAGE POWER.											

AIR HANDLER SCHEDULE					
TAG	MFR.	MODEL	UNIT B	UNIT A	REMARKS
SUPPLY FAN					
AIRFLOW (CFM)	27000	4000	18000	19000	
OUTSIDE AIR (CFM)	12570	960	10450	10645	
TSP (IN W.C.)	4.76	2.53	2.7	3.6	
ESP (IN W.C.)	2.25	1.25	1.00	1.75	
FAN RPM	2323	2019	1981	2440	
MOTOR SYNCH RPM	1800	1800	1800	1800	
WHEEL DIAMETER (IN)	20	18.25	18.25	18.25	
FAN TYPE	PL	PL	PL	PL	
FAN QUANTITY	4	1	4	4	
DRIVE TYPE	DIRECT	DIRECT	DIRECT	DIRECT	
MOTOR (HP EA)	10.0	3.0	5.0	5.0	
MOTOR (BHP)	32.24	2.7	12.67	18.77	
ELECTRICAL (V / PH)	460/3	460/3	460/3	460/3	
MODULATION	ECM	ECM	ECM	ECM	
HOT WATER COIL					
AIRFLOW (CFM)	27000	4000	18000	19000	
TOTAL CAP (MBH)	1259	125	1228	1243	
EAT / LAT (DEG F)	32 / 75	50 / 78	22 / 85	25 / 75	
EWTL / LWT (DEG F)	180 / 180	180 / 180	180 / 180	180 / 180	
WATER					
COIL FLOW (GPM)	126	13	123	124	
FLUID VELOCITY (FPS)	6.4	1.5	3.8	3.81	
WPD (FT)	13.8	0.5	6.1	6.2	
APD (IN W.C.)	0.08	0.05	0.11	0.12	
ROWS	1	1	2	2	
FINS/FT	86	80	80	80	
CONTROL VALVE	3-WAY	2-WAY	3-WAY	3-WAY	
CHILLED WATER COIL					
AIRFLOW (CFM)	27000	-	18000	19000	
TOTAL CAP (MBH)	1325	-	1168	1180	
SENS CAP (MBH)	865	-	639	672	
EAT DBWB (DEG F)	84 / 70	-	87 / 74	87 / 72	
LAT DBWB (DEG F)	55 / 54	-	55 / 54	55 / 54	
EWTL / LWT (DEG F)	45 / 55	-	45 / 55	45 / 55	
FLUID WATER		-	WATER	WATER	
COIL FLOW (GPM)	265	-	233	215	
FLUID VELOCITY (FPS)	3.1	-	3.5	3.2	
WPD (FT)	6.6	-	9.2	8.0	
APD (IN W.C.)	0.69	-	0.69	0.75	
ROWS	6	-	6	6	
FINS/FT	120	-	120	120	
CONTROL VALVE	3-WAY	-	3-WAY	3-WAY	
DX COOLING COIL					
AIRFLOW (CFM)	-	4000	-	-	
TOTAL CAP (MBH)	-	180	-	-	
SENS CAP (MBH)	-	92	-	-	
EAT DBWB (DEG F)	-	80 / 71	-	-	
LAT DBWB (DEG F)	-	59 / 58	-	-	
SST / SCD (DEG F)	-	45 / 115	-	-	
REFRIGERANT	-	R410A	-	-	
NUMBER OF CIRCUITS	-	2	-	-	
CONDENSING UNIT	-	ACCU-C2 (EXISTING)	-	-	
SUCTION LINE LOSS (DDEG F)	-	8	-	-	
APD (IN W.C.)	-	0.4	-	-	
ROWS	-	4	-	-	
FINS/FT	-	116	-	-	
REMARKS: 1. CASING SHALL BE 2" THICK DOUBLE WALL INSULATED R-13 MINIMUM. 2. 1 1/2" R/W.C. STATIC PRESSURE CLASS, L240 DEFLECTION, 1% LEAKAGE. 3. PROVIDE AND INSTALL ON MINIMUM 6" HIGH FULL LENGTH BASE RAIL. 4. PROVIDE AND INSTALL WITH ELECTRONICALLY COMMUTATED MOTOR FAN ARRAY WITH PACKAGED CONTROLS FOR SPEED CONTROL INPUT SIGNAL BY TCC. 5. REFER TO DRAWING DETAILS FOR MODULE CONFIGURATIONS. 6. CHILLED WATER COIL CASING SHALL BE STAINLESS STEEL. 7. ALL HYDRONIC COIL HEADERS SHALL BE RED BRASS. 8. DRAIN PAN SHALL BE 1/4" SLOPE DOUBLE WALL INSULATED STAINLESS STEEL. 9. PROVIDE AND INSTALL WITH NEEDLEPOINT BIPOLAR IONIZER. REFER TO NEEDLEPOINT BIPOLAR IONIZER SCHEDULE. 10. PROVIDE AND INSTALL INTERNAL FACE AND BYPASS DAMPERS. RETURN AIR AND OUTSIDE AIR DAMPERS FURNISHED BY TCC FOR FIELD INSTALLATION BY MC.					
** REFER TO DRAWINGS FOR DETAILS ON MODULE CONFIGURATIONS **					
RL=PLENUM, AF=AIRFOIL, FC=FORNARD CURVE, BI=BACKWARD INCLINED TPFT=TOP FRONT, TPBK=TOP BACK, FTTP=FRONT TOP, FTBT=FRONT BOTTOM BTFT=BOTTOM FRONT, BTBK=BOTTOM BACK, SD=SIDE					

SUNMAN-DEARBORN COMMUNITY SCHOOL CORP.
BRIGHT ELEMENTARY SCHOOL EARLY
MECHANICAL PACKAGE
22593 STATE LINE RD, LAWRENCEBURG, IN 47025



15/5/2024

REVISIONS:	#	DATE	DESCRIPTION
	1	15/5/2024	ADDENDUM #1

100% CONSTRUCTION DOCUMENTS
PROJECT: #19150
DATE: 07/24/2024
DRAWN BY: ASL

MECHANICAL SCHEDULES

M501

PRIMARY JOB # 24586



North Dearborn Elementary

8 / 5 / 24

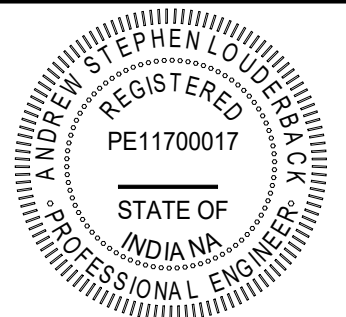
MECHANICAL SYMBOL SCHEDULE						
PIPING SYMBOLS			MECHANICAL LINE TYPES		ABBREVIATIONS	
	AUTOMATIC FLOW CONTROL VALVE		PAT RELIEF VALVE		ACCU AIR COOLED CONDENSING UNIT	
	AIR SEPARATOR		PAT PORT		A.F.F. ABOVE FINISHED FLOOR	
	AUTOMATIC AIR VENT		PIPE BREAK		AFMS AIR FLOW MEASURING STATION	
	BALL VALVE		PIPE CAP		AHJ AIR HANDLER	
	BUTTERFLY VALVE		PIPE DROP		AS AIR SEPARATOR	
	CHECK VALVE		PIPE RISE		ADS AIR DIRT SEPARATOR	
	DOUBLE CHECK BACKFLOW PREVENTER		PIPE THERMOMETER		B BOILER	
	FLOW METER		PRESSURE GAUGE		CF CEILING FAN	
	GAS OUTLET TURRET		PRESSURE INDEPENDENT CONTROL VALVE		CHLR CHILLER	
	GAS COOK		PRESSURE REDUCING VALVE		CHWR CHILLED WATER RETURN	
	GATE VALVE		PRESSURE REGULATING VALVE		CHWS CHILLED WATER SUPPLY	
	GLOBE VALVE		STRAINER		CO CARBON MONOXIDE	
	HOSE THREAD END WITH CAP		STRAINER WITH BLOWDOWN		CO2 CARBON DIOXIDE	
	INLINE PIPE DROP		STEAM TRAP		COND CONDENSATE DRAIN	
	INLINE PIPE RISE		TEMPERATURE SENSOR		CUNH CUPBOARD UNIT HEATER	
	MANUAL FLOW CONTROL VALVE		THERMOSTATIC MIXING VALVE		CWR CONDENSER WATER RETURN	
	MANUAL AIR VENT		2-WAY CONTROL VALVE		CWS CONDENSER WATER SUPPLY	
	METER		3-WAY CONTROL VALVE		D DIFFUSER	
			UNION		DC DUCT COIL	
MECHANICAL SYMBOLS			GENERAL LINE TYPES			
	BACKDRAFT DAMPER		FLEXIBLE DUCT		EF EXHAUST FAN	
	COMBINATION SMOKE/FIRE DAMPER		INLINE PUMP		EG EXHAUST GRILLE	
	CONTROL DAMPER ACTUATOR		MANUAL AIR VENT		ET EXPANSION TANK	
	DOUBLE WALL DUCTWORK		OPPOSED BLADE BALANCE DAMPER		F FURNACE	
	DUCT CAP		RETURN/EXHAUST TRANSFER AIR GRILLE		FD FIRE DAMPER	
	DUCT MOUNTED COIL		SHUTOFF VAV BOX WITH REHEAT		FM FLOW METER	
	DUCTWORK WITH DUCT LINER		SINGLE BLADE BALANCE DAMPER		FTR FINNED TUBE RADIATION	
	DUCTWORK WITHOUT DUCT LINER		STRAINER		HPSR HIGH PRESSURE STEAM RETURN	
	FAN POWERED VAV BOX WITH REHEAT		STRAINER WITH BLOWDOWN		HPSS HIGH PRESSURE STEAM SUPPLY	
	FIRE DAMPER		SUPPLY AIR DIFFUSER		HVAC HEATING VENTILATING AND COOLING UNIT	
	FIRE DAMPER		TEMPERATURE SENSOR		HWR HOT WATER RETURN	
	FIRE DAMPER		THERMOMETER		HWS HOT WATER SUPPLY	
	FIRE DAMPER		UNIT HEATER		L LOWER	
	FIRE DAMPER		WALL MOUNTED PRESSURE GAUGE		LPSS LOW PRESSURE STEAM RETURN	
					LPSS LOW PRESSURE STEAM SUPPLY	
					LRP LINEAR RADIANT PANEL	
					MAU MAKE-UP AIR UNIT	
					OA OUTSIDE AIR	
					OAC OPENING ABOVE CEILING	
					P PUMP	
					RA RETURN AIR	
					RAD RADIANT HEATER	
					REL RELIEF AIR	
					RET RETURN AIR	
					RC ROOF CAP	
					RF RELIEF FAN	
					RG RETURN GRILLE	
					RTU ROOF TOP UNIT	
					RV RELIEF VENT	
					SA SUPPLY AIR	
					SFD SMOKE FIRE DAMPER	
					SR SUPPLY REGISTER	
					TG TRANSFER GRILLE	
					UH UNIT HEATER	
					UV UNIT VENTILATOR	
					VAV VARIABLE AIR VOLUME BOX	
GENERAL SYMBOLS			GENERAL SYMBOLS			
				EXTENT OF DEMOLITION		TIE-IN OF NEW TO EXISTING
MECHANICAL CONTROL SYMBOLS			MECHANICAL CONTROL SYMBOLS			
	CARBON DIOXIDE SENSOR		T THERMOSTAT			
	CARBON MONOXIDE SENSOR		T _L THERMOSTAT (LINE VOLTAGE)			
	DUCT OR PIPE PRESSURE SENSOR		T _H THERMOSTAT WITH HUMIDISTAT AND CO2 SENSOR			
	SECURITY TYPE THERMOSTAT		H HUMIDISTAT			
	PNEUMATIC THERMOSTAT		DP DIFFERENTIAL PRESSURE SENSOR			

CONTROLS RESPONSIBILITY CHART				
ITEM	MECHANICAL CONTRACTOR	ELECTRICAL CONTRACTOR	REMARKS	
1. INSTALL INTERIOR AND EXTERIOR LOW VOLTAGE CABLING AND CONDUIT	X			
2. ROUGH-IN OF THERMOSTAT WALL BOXES	X			
3. FURNISH CONTROL VALVES	X	X		
4. FURNISH PIPE WELLS FOR SENSORS	X			
5. INSTALL PIPE WELLS FOR SENSORS		X		
6. PROVIDE 120 VOLT POWER FOR CONTROL PANELS	X		X	
7. PROVIDE 120 VOLT POWER BETWEEN SLAVE PANELS				
8. PROVIDE INTERLOCK WIRING BETWEEN DEVICES, PANELS, BOILERS, CHILLERS, ETC	X	X		1
9. FURNISH VARIABLE SPEED DRIVES	X		X	2
10. INSTALL VARIABLE SPEED DRIVES			X	2
11. PROVIDE LINE AND LOAD WIRING TO VARIABLE SPEED DRIVES			X	
12. PROVIDE CONTROL WIRING TO VSD	X			
13. PROGRAM AND STARTUP VSD	X			
14. PROVIDE 120 VOLT POWER TO CONTROLS	X		X	
15. FURNISH CONTROL DAMPERS	X	X		3
16. INSTALL CONTROL DAMPERS		X		
17. FURNISH DAMPER ACTUATORS	X			
18. INSTALL DAMPER ACTUATORS	X			
19. WIRE LOW VOLTAGE ACTUATORS	X		X	
20. PROGRAM AND COMMISSION BOILER SEQUENCER		X		
21. PROGRAM AND COMMISSION CHILLER SEQUENCER		X		
22. COORDINATE PROJECT SCHEDULE WITH ALL TRADES	X	X	X	
23. PROVIDE SHOP DRAWINGS TO ALL TRADES	X	X		
24. VERIFY AND TEST SEQUENCE OF OPERATIONS	X			
25. TERMINATE DUCT DETECTORS	X			
26. ROOF PENETRATIONS FOR TEMPERATURE CONTROLS	X	X		4
27. EXTERIOR WALL PENETRATIONS FOR TEMPERATURE CONTROLS	X			
28. PROVIDE DUCT DETECTORS		X		
29. PROVIDE 120 VOLT POWER TO SOLENOID VALVES		X		5
30. PROVIDE LOW VOLTAGE CABLING TO SOLENOID VALVES	X			5
31. PROVIDE AND INSTALL REFRIGERANT MONITORING SYSTEM	X			
REMARKS:				
1. MECHANICAL CONTRACTOR/MANUFACTURER SHALL PROVIDE AND INSTALL ALL ASSOCIATED INTERLOCK WIRING AND DEVICES FOR A COMPLETE UNIT.				
2. PACKAGED VSDS INTEGRAL TO HVAC EQUIPMENTED SHALL BE FURNISHED BY EQUIPMENT MANUFACTURER UNLESS NOTED OTHERWISE. REFER TO EQUIPMENT SCHEDULES FOR VSDS TO BE FURNISHED BY EQUIPMENT MANUFACTURER.				
3. PACKAGED CONTROL DAMPERS INTEGRAL TO HVAC EQUIPMENT SHALL BE FURNISHED BY EQUIPMENT MANUFACTURER UNLESS NOTED OTHERWISE. REFER TO EQUIPMENT SCHEDULES AND DETAILS FOR MORE INFORMATION.				
4. COORDINATE WITH GC FOR ROOF PENETRATIONS.				
5. COORDINATE WITH MC FOR REFRIGERANT AND GAS PIPING SOLENOID VALVE LOCATIONS.				

GENERAL MECHANICAL NOTES			
1.	DUCT AND PIPING LAYOUTS ARE SCHEMATIC IN NATURE. ADDITIONAL TRANSITIONS, ELBOWS, OFFSETS, AND FITTINGS SHALL BE ADDED AS REQUIRED TO COORDINATE WITH OBSTRUCTIONS AND OTHER TRADES.		
2.	COORDINATE ALL WORK WITH OTHERS TRADES AND EXISTING WORK TO PERMIT ACCESS AND SERVICE CLEARANCES TO ALL SYSTEMS. COORDINATE DUCT WITH ELECTRICAL JOBOXES TO PREVENT OBSTRUCTIONS.		
3.	DO NOT SCALE DRAWINGS FOR DIMENSIONS. REFER TO DIMENSIONED DRAWINGS.		
4.	ALL GRILLES, DIFFUSERS, AND REGISTERS SHALL HAVE A VOLUME CONTROL DAMPER UNLESS NOTED OTHERWISE. DAMPER SHALL BE IN AN ACCESSIBLE LOCATION.		
5.	REFER TO DETAIL SHEETS FOR ADDITIONAL INFORMATION ON INSTALLATION METHODS.		
6.	DEVIATIONS FROM BASIS OF DESIGN THAT AFFECT OTHER TRADES ARE THE RESPONSIBILITY OF THIS CONTRACTOR. ADDITIONAL COSTS TO PROVIDE LARGER ELECTRICAL CIRCUITS, MORE FLOOR SPACE, ADDITIONAL SUPPORTS, ADDITIONAL MATERIALS, ETC. SHALL BE BORNE BY THIS CONTRACTOR. COORDINATE WITH OTHER TRADES.		
7.	ALL THERMOSTAT/HUMIDITY SENSORS WITH ADJUSTMENT BUTTONS, SLIDERS, KNOBS/DISPLAYS, ETC. SHALL BE MOUNTED WITH THE TOP OF THE DEVICE NO MORE THAN 48" AFF. IN COMPLIANCE WITH LOCAL AND FEDERAL ADA REQUIREMENTS. DISTANCE GUIDELINES: PROVIDE ADDITIONAL SURFACE RACEWAY, BOXES, CONDUIT, ETC AS REQUIRED TO OFFSET AROUND EXISTING DEVICES IN RENOVATION WORK.		
8.	ALL DUCT SIZES LISTED ARE FOR INTERIOR FREE AREA. ANY DUCTS DESIGNATED OR SPECIFIED TO BE DOUBLE WALL OR INTERNALLY LINED SHALL HAVE OUTER DIMENSIONS ENLARGED TO ACCOMMODATE THE LINER OR INTERSTITIAL INSULATION.		

GENERAL DEMOLITION NOTES			
1.	ALL EXISTING PENETRATIONS FROM DUCT/PIPE/WIRE/CONDUIT THAT IS REMOVED SHALL BE PATCHED BY PROPER TRADES TO MATCH SURROUNDINGS UNLESS PENETRATION IS TO BE REUSED. PATCH ALL FLOOR AND WALL PENETRATIONS TO MAINTAIN FIRE RATED CONSTRUCTION.		
2.	ALL ROOF PENETRATIONS NOT BEING REUSED SHALL BE PATCHED TO MAINTAIN EXISTING ROOF WARRANTY. EXISTING CURBS TO BE ABANDONED SHALL BE CAPPED WITH ALUMINUM HOOD PAINTED WITH "N.I.S." (NOT IN SERVICE). INSULATE CAVITY BELOW CAP WITH TIGHT FITTING 3" FOAM BOARD WRAPPED WITH SHEET METAL.		
3.	ALL PIPE SHALL BE REMOVED TO WITHIN AREAS THAT ARE INACCESSIBLE SUCH AS WALL CAVITIES AND BELOW SLAB. IN FINISHED SPACES REMOVE BELOW SURFACE. CAP WATER TIGHT, AND PATCH SURFACE TO MATCH SURROUNDINGS.		
4.	ALL PATCHING OF WALLS SHALL MATCH MATERIALS AND WHEN COMPLETE SHALL NOT LOOK LIKE A PATCH.		
5.	TOOTH-IN NEW BRICK/ BLOCK WITH FULL UNITS. DO NOT CUT FILLER PIECES.		
6.	PRIOR TO CUTTING EXISTING SLAB ON GRADE, CONTRACTOR SHALL VERIFY EXISTENCE OF EXISTING UTILITIES SUCH AS PIPING, CONDUIT, WIRE, ETC. BY MEANS OF GROUND PENETRATING RADAR TO LOCATE AND DETERMINE DEPTH OF BURIAL. TAKE PRECAUTIONS TO DE-ENERGIZE POWER TO CIRCUITS AND CAREFULLY CUT AND REMOVE SLAB. ANY UTILITIES THAT WERE LOCATED AND SUBSEQUENTLY DAMAGED SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDED COST TO THE OWNER.		

SUNMAN-DEARBORN COMMUNITY SCHOOL CORP.
NORTH DEARBORN ELEM SCHOOL RENOVATION
27650 SAWMILL RD, WEST HARRISON, IN 47060



11/11/2024

REVISIONS:	DATE	DESCRIPTION
1	05/20/24	ADDendum #1

100% CONSTRUCTION DOCUMENTS

PROJECT: #17087
DATE: 07/24/2024
DRAWN BY: ASL

MECHANICAL INFORMATION SHEET

M001

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- PLAN NOTES
1. PROVIDE AND INSTALL NEW CONTROLS FOR EXISTING EQUIPMENT. REFER TO DRAWING SHEET M601 FOR MORE INFORMATION.
 2. PROVIDE AND INSTALL NEW CONDENSING UNIT ON EXISTING EQUIPMENT RAILS. ROUTE REFRIGERANT PIPING TO NEW EVAPORATOR COIL IN EXISTING AIR HANDLING UNIT.
 3. PROVIDE AND INSTALL NEW MAKEUP AIR UNIT ON NEW ROOF CURB. RECONNECT TO EXISTING DUCTWORK AND NATURAL GAS PIPING.
 4. PROVIDE AND INSTALL NEW EXHAUST FAN ON NEW ROOF CURB.
 5. PROVIDE AND INSTALL NEW BOILER VENT TERMINATION.
 6. CUT/CORE THROUGH EXISTING ROOF DECK AS REQUIRED FOR NEW PENETRATIONS. MAINTAIN EXISTING ROOF WARRANTY.

LANCER ASSOCIATES
ARCHITECTURE

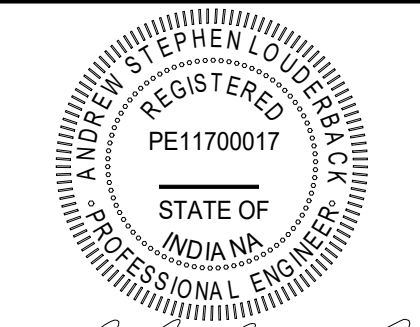
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15/05/2024

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MECHANICAL
PLAN - ROOF
PLAN

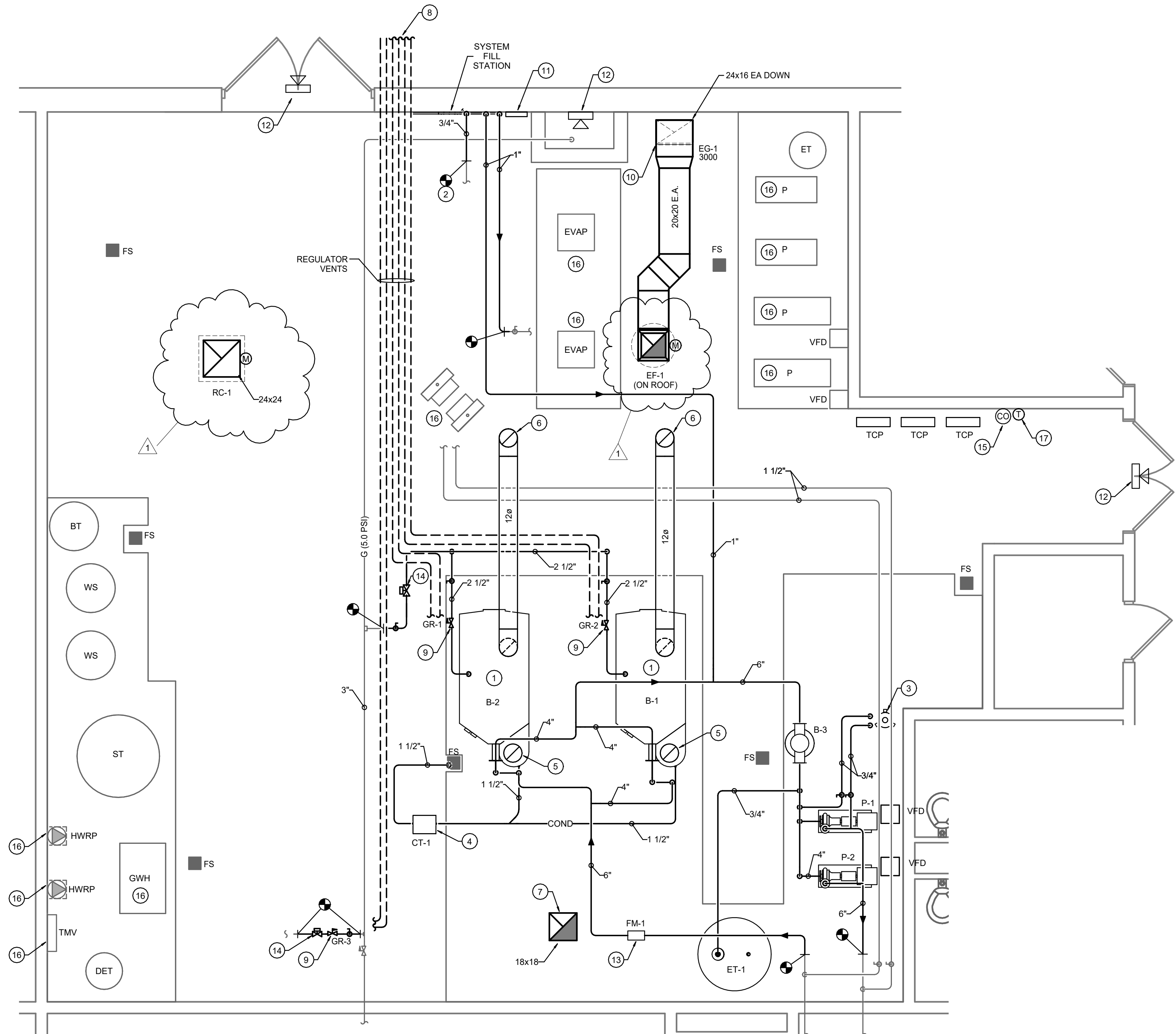
M203

PRIMARY JOB # 24587



THIS MONOCHROME PRINT SHOULD DISPLAY GRAPHICAL NOTES BELOW IF PRINTED PROPERLY WITH 256 SHADES OF GRAY

0 16 32 48 0 8 16 24 32 0 8 16 24 0 4 8 12 0 2 4 6 0 2 4 8 0 1 2 3
SCALE: 1/16" = 1'-0" SCALE: 3/32" = 1'-0" SCALE: 1/8" = 1'-0" SCALE: 1/4" = 1'-0" SCALE: 1/2" = 1'-0" SCALE: 3/4" = 1'-0" SCALE: 1" = 1'-0"



MECHANICAL PLAN - FIRST FLOOR -
2 BOILERROOM
1/4" = 1'-0"

- PLAN NOTES**
1. PROVIDE AND INSTALL NEW MODULAR CONDENSING BOILER. REFER TO DETAILS ON DRAWING SHEET M402 FOR MORE INFORMATION. INSTALL PER MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR CLEARANCE, PIPING, AND VENTING.
 2. TIE-IN TO EXISTING DOMESTIC COLD WATER PIPING AND ROUTE NEW TO NEW SYSTEM FILL STATION. REFER TO SYSTEM FILL STATION DETAIL ON DRAWING SHEET M401 FOR MORE INFORMATION.
 3. PROVIDE AND INSTALL NEW BYPASS FILTER FEEDER, FURNISHED BY CHEMICAL TREATMENT PROVIDER. REFER TO WATER TREATMENT SPECIFICATIONS FOR MORE INFORMATION.
 4. ROUTE BOILER FLUE CONDENSATE DRAIN TO NEW FLOOR MOUNTED CONDENSATE NEUTRALIZATION TANK CT-1. MODIFY CT-1 INLET AND OUTLET CONNECTIONS AS REQUIRED FOR TRAP DEPTH AND CONDENSATE PIPE FALL. DISCHARGE DIRECTLY INTO NEAREST FLOOR DRAIN.
 5. PROVIDE AND INSTALL NEW POLYPROPYLENE BOILER FLUE. VERIFY VENTING REQUIREMENTS WITH BOILER MANUFACTURER.
 6. PROVIDE AND INSTALL NEW BOILER COMBUSTION AIR INTAKE. VERIFY VENTING REQUIREMENTS WITH BOILER MANUFACTURER. MAINTAIN MINIMUM 18" TO FLUE TERMINATION.
 7. ROUTE NEW 18x18 COMBUSTION AIR INTAKE UP THROUGH CAPPED ROOF CURB TO NEW GOOSENECK FOR EXISTING WATER HEATER COMBUSTION AIR.
 8. CORE DRILL EXISTING MASONRY FROM EXTERIOR AS REQUIRED TO ROUTE NEW VENT PIPING. PATCH AND SEAL WALL PENETRATION WITH GROUT.
 9. PROVIDE AND INSTALL NEW GAS REGULATOR. REFER TO DETAIL ON DRAWING SHEET M402 FOR MORE INFORMATION.
 10. PROVIDE AND INSTALL REFRIGERANT EXHAUST GRILLE APPROX. 12" AFF.
 11. REFRIGERANT MONITORING PANEL. FURNISHED AND INSTALLED BY TCC. REFER TO REFRIGERANT MONITORING DETAIL ON DRAWING SHEET M401 FOR MORE INFORMATION.
 12. REFRIGERANT MONITOR A/V ALARM WITH ENGRAVED PLASTIC LABEL, INSTALLED IN BOILER ROOM AND AT EACH ENTRANCE TO THE BOILER ROOM. FURNISHED AND INSTALLED BY TCC. REFER TO REFRIGERANT MONITORING DETAIL ON DRAWING SHEET M401 FOR MORE INFORMATION.
 13. FLOW METER FURNISHED BY TCC. INSTALLED BY MC. INSTALL PER MANUFACTURER'S INSTALLATION REQUIREMENTS FOR CLEARANCE AND UPSTREAM/DOWNSTREAM STRAIGHT PIPE LENGTHS.
 14. TIE-IN TO EXISTING GAS PIPING AND INSTALL AUTOMATIC CONTROL VALVE. FURNISHED BY TCC.
 15. BOILER ROOM CARBON MONOXIDE MONITOR FURNISHED AND INSTALLED BY TCC.
 16. PROVIDE AND INSTALL NEW CONTROLS FOR EXISTING EQUIPMENT. REFER TO DRAWING SHEET M401 FOR MORE INFORMATION.
 17. PROVIDE AND INSTALL NEW THERMOSTAT FOR EXISTING EQUIPMENT. ROUTE NEW WIRING THROUGH SURFACE RACEWAY TO NEW THERMOSTAT AT ADA ACCESSIBLE MOUNTING HEIGHT.

- GENERAL NOTES**
1. UNLESS NOTED OTHERWISE, IN BOILER ROOM AND MECHANICAL MEZZANINE, PROVIDE AND INSTALL ALUMINUM JACKETING ON ALL PIPE INSULATION BELOW 6'-0" AFF. EXTEND JACKETING TO NEAREST FITTING ABOVE 6'-0" AFF.

SUNMAN-DEARBORN COMMUNITY SCHOOL CORP.
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MECHANICAL -
BOILER ROOM
PLAN

GAS FIRED MAKE-UP AIR UNIT SCHEDULE														
TAG	MFR.	MODEL	SERVICE	INPUT (MBH)	OUTPUT (MBH)	AIRFLOW (CFM)	EAT/LAT (DEG F)	ESP (IN WC)	MOTOR (HP)	MOTO (RPM)	FILTER	ELEC (V/PH)	REMARKS	
MAU-1	RUPP AIR	R3-IBT-1000	KITCHEN HOOD	800	481	7300	0 / 60	1.0	5.0	4.15	840	2" MERV 8	208/3	1, 2, 3, 4, 5, 6
REMARKS: 1. PROVIDE AND INSTALL WITH STAINLESS STEEL BURNER AND DRAIN PAN. 2. PROVIDE AND INSTALL WITH REMOTE SETPOINT CONTROLLER AND SPACE SENSOR WITH SUMMER/WINTER SWITCH. 3. PROVIDE AND INSTALL WITH PACKAGED CONTROLS, MODULATING GAS VALVE, AND DUCT MOUNTED THERMOSTAT. 4. PROVIDE AND INSTALL WITH PACKAGED VARIABLE SPEED DRIVE WITH HEATED AND VENTILATED OUTDOOR ENCLOSURE. 5. PROVIDE AND INSTALL WITH OUTSIDE AIR WEATHER HOOD WITH BIRD SCREEN AND SPRING RETURN MOTORIZED CONTROL DAMPER. 6. PROVIDE AND INSTALL WITH 24" TALL INSULATED METAL ROOF CURB.														

GENERAL MECHANICAL EQUIPMENT SCHEDULE														
TAG: CT-1 TYPE: CONDENSATE NEUTRALIZATION TANK MFR: TOWN & COUNTRY PLASTICS MODEL: NT-1 PERFORMANCE: 1. GALLON HPSE DILUTION TANK REMARKS: 1. PROVIDE AND INSTALL WITH POLYPROPYLENE COVER. 2. PROVIDE AND INSTALL WITH 1-1/2" INLET AND OUTLET CONNECTIONS.														

PLUMBING FIXTURE SCHEDULE														
TAG	MFR.	MODEL	COLOR	TRIM MFR.	TRIM MODEL	TRIM FINISH	FLOW RATE (GPF OR GPM)	TRIM TYPE	WASTE	VENT	CW	HW	REMARKS	
WC-1H L-1H	AMERICAN STANDARD	2287.101 0395.012	WHITE	SLOAN CHICAGO	111 SFSM-1.6-TMO 802 ESM-1000XWABCP	CHROME CHROME	1.6 1.5	FLUSH VALVE DUAL HANDLE	3" 1-1/4"	2" 1-1/4"	1" 1/2"	- 1/2"	1, 2 1, 3, 4, 5, 6	
REMARKS: 1. PROVIDE AND INSTALL WITH FLOOR MOUNTED FIXTURE CARRIER. 2. PROVIDE AND INSTALL WITH HEAVY DUTY, WHITE, ELONGATED, SOLID PLASTIC OPEN FRONT SEAT. 3. PROVIDE AND INSTALL WITH 17 GA. CAST BRASS P-TRAP W/ CO. GRID STRAINER, CHICAGO #1017-CP LOOSE KEY ANGLE STOP, AND SUPPLY RISERS. 4. PROVIDE AND INSTALL WITH CERAMIC CARTRIDGES. 5. PROVIDE AND INSTALL WITH OFFSET DRAIN AND INSULATION KIT ON ALL WASTE AND SUPPLY PIPING. TRUEBRO OR APPVD EQUAL. 6. COORDINATE NUMBER OF HOLES IN SINK/LAV WITH FAUCET. NOTES: 1. "H" DESIGNATES HANDICAP ACCESSIBLE FIXTURES.														

HYDRONIC PUMP SCHEDULE														
TAG	MFR.	MODEL	FRAME SIZE	IMPELLER DIA (IN)	FLUID	FLOW (GPM)	HEAD (FT)	MOTOR (HP)	MOTOR (BHP)	EFF (+/- %)	MOTOR RPM	DESIGN RPM	SPEED CONTROL	ELEC (V/PH)
P-1	BELL & GOSSETT	E-1510 2AD	21ST	6.75	WATER	230	145	15	11.3	74.1	3600	3403	VSD	460/3
P-2	BELL & GOSSETT	E-1510 2AD	21ST	6.75	WATER	230	145	15	11.3	74.1	3600	3403	VSD	460/3
REMARKS: 1. ALL MOTORS SHALL BE NON-OVERLOADING. 2. MOTOR SHALL BE MULTI-TAP 460/240/208 BALDOR SUPER-E WITH INTEGRAL SHAFT GROUNDING RING AND COMPLY WITH NEMA MG1 FOR VARIABLE SPEED OPERATION. 3. MOTOR SHALL HAVE CLASS F INSULATION FOR USE WITH VARIABLE SPEED DRIVE. 4. MFR SHALL ALIGN PUMP SHAFT IN THE FIELD, PRIOR TO START-UP. PROVIDE WRITTEN REPORT OF ALIGNMENT AND STARTUP. 5. PROVIDE WITH IMPELLER SIZE LISTED. VSD WILL BE USED TO BALANCE FLOW TO DESIGN POINT. 6. LEAD-LAG PARALLEL PUMPING OPERATION FOR COMINED FLOW OF 460 GPM AT 145 FEET OF HEAD.														

VARIABLE SPEED DRIVE SCHEDULE									
TAG	MFR.	MODEL	EQUIPMENT SERVED	MOTOR SIZE (HP)	ELEC (V/PH)	BYPASS	ENCLOSURE	REMARKS	
VSD-1	ABB	ACH580	P-1	15	460/3	NONE	NEMA 1	1, 2, 3, 4, 5	
VSD-2	ABB	ACH580	P-1	15	460/3	NONE	NEMA 1	1, 2, 3, 4, 5	
REMARKS: 1. REFER TO SPECIFICATIONS FOR FURTHER REQUIREMENTS AND INFORMATION. 2. COORDINATE EXACT MOTOR DATA WITH EQUIPMENT BEING SERVED BY THIS DRIVE. 3. PROVIDE WITH MANUAL LOCKABLE DISCONNECT SWITCH INTEGRAL TO DRIVE. 4. PROVIDE WITH BACNET INTERFACE FOR FULL INTEGRATION INTO BMS. 5. STARTUP AND OWNER TRAININGS SHALL BE PROVIDED BY THE FACTORY AUTHORIZED REPRESENTATIVE TO ENABLE FULL FACTORY WARRANTY. TCC SHALL NOT PERFORM STARTUP.									

ROOF CAP SCHEDULE									
TAG	MFR.	MODEL	THROAT SIZE (IN X IN)	FUNCTION	AIRFLOW / MAX P.D. (CFM) (IN)	MAX HOOD VEL (FPM)	MATERIAL	REMARKS	
RC-1	GREENHECK	FGI	24x24	INTAKE	3000	0.13	364	ALUMINUM	1, 2, 3, 4
REMARKS: 1. PROVIDE AND INSTALL WITH ALUMINUM WIRE MESH BIRD SCREEN. 2. PROVIDE AND INSTALL WITH HINGED TOP AND LOCKDOWN FASTENER. 3. PROVIDE AND INSTALL WITH 24" TALL INSULATED METAL ROOF CURB. 4. PROVIDE AND INSTALL LOW-LEAKAGE INSULATED AUTOMATIC CONTROL DAMPER. DAMPER ACTUATOR FURNISHED BY TCC.									

AIR AND SEDIMENT SEPARATOR SCHEDULE									
TAG	MFR.	MODEL	SERVICE	PIPE CONN. (IN)	MAX FLOW (GPM)	TANK DIA (IN)	TANK HEIGHT (IN)	OPERATING WEIGHT (LBS)	REMARKS
ADS-1	BELL & GOSSETT	CRS-6F MAG	HOT WATER	6	550	12/75	41	499	1, 2, 3
REMARKS:									
1. PROVIDE WITH REMOVABLE BOTTOM FLANGE, SKIMMER VALVE, DRAIN PORT, AND HIGH CAPACITY AUTOMATIC AIR VENT EQUAL TO B&G MODEL 107A.									
2. PROVIDE WITH STRAINER, FLANGED BOTTOM DRAIN PORT, AND HIGH CAPACITY AUTOMATIC AIR VENT EQUAL TO B&G MODEL 107A.									
3. PROVIDE WITH INTEGRAL NEODYMIUM MAGNETIC INSERT ROD WITH SLEEVE TO ALLOW REMOVAL OF IRON FLAKES USING BLOW DOWN PORT.									

BOILER SCHEDULE														
TAG	MFR.	MODEL	HEATING INPUT (MBH)	HEATING OUTPUT (MBH)	THERMAL EFF (%)	FUEL	BURNER TURNDOWN	T&P RELIEF (PSI)	FUEL PRESS. (W.C.)	GAS CONN. (IN)	WATER CONN. (IN)	FLUE OUTLET (IN)	FLUE MATERIAL	DESIGN FLOW (GPM)
B-1	LOCHINVAR	FB-4001	3999	3479	87.0%	NAT. GAS	12:1	50	4 - 14	2-1/2	4	12	POLYPRO	230
B-2	LOCHINVAR	FB-4001	3999	3479	87.0%	NAT. GAS	12:1	50	4 - 14	2-1/2	4	12	POLYPRO	230
REMARKS: 1. PROVIDE AND INSTALL WITH LOW WATER CUT-OFF. 2. PROVIDE AND INSTALL WITH PACKAGED CONTROLS. 3. PROVIDE AND INSTALL WITH INTEGRAL SEQUENCER TO CONNECT ALL BOILERS INTO A COMMON TEAM. PROVIDE ALL ASSOCIATED CONTROLLERS, WIRING, PROGRAMMING, SETUP, ETC. FOR A FULLY FUNCTIONAL SYSTEM. 4. BOILER MANUFACTURER AND VENTING MANUFACTURER SHALL VERIFY ALL FLUE/INTAKE SIZING AND ROUTING. 5. PROVIDE AND INSTALL BACNET MSTR INTERFACE. 6. PROVIDE AND INSTALL WITH SAFETY RELIEF VALVE. 7. PROVIDE AND INSTALL WITH 2-WAY AUTOMATIC CONTROL VALVE TO ISOLATE INACTIVE BOILER.														

DX COOLING COIL SCHEDULE														
TAG	AIRFLOW (CFM)	TOTAL CAP. (MBH)	SENS CAP. (MBH)	EAT DB/WB (DEG F)	LAT DB/WB (DEG F)	FACE VELOCITY (FPM)	REFRIG.	SST (DEG F)	CIRCUITS	APD (IN. W.C.)	ROWS	FINS/FT	REMARKS	
CC-ACCU-A1	2250	76.3	53.7	78.5 / 64.2	55 / 52.7	500	R410A	45	1	0.6	4	96	1, 2, 3	
CC-ACCU-B1	7700	275	200	78.5 / 65.8	55 / 54	500	R410A	45	2	0.8	6	132	1, 2, 3	
REMARKS: 1. PROVIDE WITH STAINLESS STEEL COIL CASING AND STAINLESS STEEL DOUBLE SLOPE 1/4" INSULATED DRAIN PAN. 2. TUBE WALL THICKNESS SHALL BE 0.024". 3. EXISTING AIR HANDLING UNIT REPLACEMENT COIL. FIELD VERIFY EXISTING DIMENSIONS AND CONDITIONS.														

CONDENSING UNIT SCHEDULE														
TAG	MFR.	MODEL	EQUIP. SERVED	REFRIG	TOTAL CAP. (MBH)	SENS CAP. (MBH)	N TEMP (DEG F)	TEMP (DEG F)	EVAP CFM	EMV EDB/EWB (DEG F)	CAPACITY STEPS	EER	ELEC (V/PH)	MCA
ACCU-A1	CARRIER	35ALD026	CSAC-A1	R410A	76.3	53.7	45	95	2250	78.5 / 64.2	2	11.2	460/3	20
ACCU-B1	CARRIER	35APD025	CSAC-D1	R410A	275	200	45	95	7700	78.5 / 65.8	4	11	460/3	47.7
REMARKS: 1. PROVIDE AND INSTALL WITH LOUVERED HAIL GUARDS ON ALL SIDES. 2. PROVIDE AND INSTALL WITH TERMINAL STOP FOR CONTROL BY TCC. 3. PROVIDE AND INSTALL WITH HINGED ACCESS PANELS. 4. PROVIDE AND INSTALL WITH PHASE LOSS PROTECTION. 5. PROVIDE AND INSTALL WITH SINGLE POINT ELECTRICAL POWER CONNECTION AND FACTORY WIRED ELECTRICAL DISCONNECT SWITCH. 6. PROVIDE AND INSTALL WITH VIBRATION ISOLATORS.														

DIFFUSER AND GRILLE SCHEDULE											
TAG	MFR.	MODEL	NECK SIZE (IN)	FACE SIZE (IN)	THROW PATTERN	MAX CFM	MAX APD (IN)	THROW (FT)	MAX NC	MATERIAL	REMARKS
D-1	TITUS	TMS	6	12x12	4-WAY	100	0.03	6	20	STEEL	1, 2
EG-1	TITUS	33RL	24x48	26x50	38 DEG. DEFL.	3050	0.01	-	23	STEEL	1, 2
REMARKS: 1. COLOR SHALL BE WHITE. 2. PROVIDE AND INSTALL WITH FRAME FOR SURFACE INSTALLATION.											

EXHAUST FAN SCHEDULE														
TAG	AREA SERVED	MFR.	MODEL	CFM	TSP (IN W.C.)	MOTOR (HP)	MOTOR (BHP)	MOTOR (W)	RPM	DRIVE TYPE	SONES	ELEC (V/PH)	CONTROL	REMARKS
EF-1	REFRIGERANT EXHAUST	GREENHECK	CLUE-160-V3	3000	1.0	2	0.98	181	1390	DIRECT	2.5	208/1	TCC	1, 2, 3, 4, 5, 6
EF-2	NEW RESTROOM	GREENHECK	SP-B150	150	0.1	-	-	128	1050	DIRECT	2.5	115/1	EC	5, 7
REMARKS: 1. PROVIDE AND INSTALL WITH FACTORY WIRED NEMA-3R ELECTRICAL DISCONNECT SWITCH. 2. PROVIDE AND INSTALL WITH 18" TALL INSULATED METAL ROOF CURB WITH HINGED BASE KIT, RESTRAINING CABLES, AND SOUND ATTENUATING Baffles. 3. PROVIDE AND INSTALL WITH ALUMINUM BIRDSCREEN. 4. PROVIDE AND INSTALL WITH ELECTRONICALLY COMMUTATED MOTOR WITH SPEED ADJUSTMENT DIAL ON MOTOR AND WIRING DIGITAL FOR SPEED CONTROL BY TCC. 5. PROVIDE AND INSTALL WITH FACTORY WIREDMAN, JEE ELECTRICAL DISCONNECT SWITCH. 6. REFER TO DRAWING DETAILS FOR MORE INFORMATION. 7. PROVIDE AND INSTALL WITH NEOPRENE VIBRATION ISOLATORS. 8. PROVIDE AND INSTALL WITH LOW-LEAKAGE INSULATED TWO-POSITION AUTOMATIC CONTROL DAMPER WITH LINKAGE FOR ACTUATOR IN AIRSTREAM ACCESSIBLE FROM ROOF. DAMPER ACTUATOR FURNISHED BY TCC. NOTES: TCC - TEMPERATURE CONTROL CONTRACTOR EC - ELECTRICAL CONTRACTOR														

EXPANSION TANK SCHEDULE														
TAG	MFR.	MODEL	SERVICE	APPROX SYS VOL (GAL)	RELIEF VALVE (PSIG)	MAX SYS PRESS (PSIG)	PRE-CHARGE (PSIG)	CALC. ACCEPT. FACTOR	TANK VOL (GAL)	ACCEPT. VOL (GAL)	DIA. (IN)	HEIGHT (IN)	CONN. SIZE (IN)	TANK FULL WT (LBS)
ET-1	BELL & GOSSETT	B-2000	HOT WATER	5000	75	60	30	0.618	528	326	48	86	1 1/2	5548
REMARKS: 1. PROVIDE AND INSTALL WITH LINE SIZE T&P RELIEF VALVE ON INLET. 2. ALL TANKS SHALL BE ASME STAMPED. 3. CONTRACTOR SHALL VERIFY THE SYSTEM STATIC WATER PRESSURE PRIOR TO INSTALLING TANK AND ADJUST PRE-CHARGE AS REQUIRED.														

WATER FLOW/ENERGY METER SCHEDULE														
TAG	MFR.	FLOW METER	SENSOR TYPE	DISPLAY	SYSTEM SERVED	FLUID	PIPE SIZE (IN)	DESIGN FLOW (GPM)	MIN / MAX FLOW (GPM)	REG PIPE DIA UP/DOWN STREAM	ACCURACY (% OF FLOW RATE)	ELEC (V/PH)	REMARKS	
FM-1	ONICON	F-3500	ELECTROMAG	SYSTEM 10	HOT WATER	WATER	6	460	15 / 1800	300 / SD	1.0 %	24 VDC	1, 2, 3, 4, 5, 6	
REMARKS: 1. BODY SHALL BE EPoxy COATED CARBON STEEL WITH PTFE LINER. 2. PROVIDE WITH DISPLAY UNIT. 3. CONTRACTOR SHALL VERIFY REQUIRED UPSTREAM AND DOWNSTREAM MINIMUM STRAIGHT PIPE REQUIREMENTS DURING INSTALL. 4. PROVIDE FACTORY AUTHORIZED TECHNICIAN TO CALIBRATE AND CONFIGURE METER FOR SPECIFIC PIPE/FLUID PARAMETERS. 5. PROVIDE WITH HOT TAP ADAPTER. 6. TCC SHALL PROVIDE POWER TRANSFORMER DEDICATED TO POWER FLOWMETER.														

GAS REGULATOR SCHEDULE											
TAG	MFR.	MODEL	CAPACITY (CFH)	TURNDOWN	INLET (PSI)	INLET SIZE (IN)	OUTLET (IN WC)	OUTLET SIZE (IN)	EQUIP SERVED	REGULATOR LOCATION	REMARKS
GR-1	PIETRO FIORENTINI	31153OPD	3969	500:1	5	1 1/4	14	1 1/4	B-1	INTERIOR	1, 2, 3
GR-2	PIETRO FIORENTINI	31153OPD	3969	500:1	5	1 1/4	14	1 1/4	B-2	INTERIOR	1, 2, 3
GR-3	PIETRO FIORENTINI	31053OPD	750	500:1	5	1	14	1	GWH	INTERIOR	1, 2, 3
REMARKS: 1. PROVIDE AND INSTALL WITH VENT PIPED TO EXTERIOR. 2. VERIFY EXACT REGULATOR SIZE BASED ON ACTUAL EQUIPMENT INSTALLED PRIOR TO ORDERING. 3. PROVIDE WITH EXTERNAL DOWNSTREAM CONTROL LINE. FIELD INSTALLED.											

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Point Description	Co	Fc	Ss	Pn	El	k-z	Pri	Fic	Sp	Co	Do	Ph	Al	Ku	Ta	Re	Se	Ca	Ca	Lg	Pri	Pic	El	Tro	Eg	Fr	Ma	Hg	Lo	Ru	Sc	Oi	To	Pa	Lu	Co		
CSAC-E1, F1, F2																																						
Enable/disable																																						
Supply fan VSD Enable																																						
Supply fan VSD speed																																						
Supply fan VSD alarm																																						
OA damper																																						
OA airflow AFMS																																						
RA damper																																						
Heating coil valve																																						
Chilled water cooling valve																																						
Return air																																						
Mixed air																																						
Discharge air																																						
Freeze/stop sensor																																						
Supply air duct static pressure																																						
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Exhaust fan VSD alarm																																						
Exhaust air duct static pressure																																						
ERV Wheel VSD Enable																																						
ERV Wheel VSD speed																																						
ERV Wheel VSD alarm																																						
Exhaust air entering																																						
Exhaust air leaving																																						
Outside air entering																																						
Outside air leaving																																						

[illegible]

1. EXISTING CONTROL DAMPERS AND CONTROL VALVES SHALL REMAIN. CONTRACTOR SHALL REMOVE EXISTING ACTUATORS. PROVIDE AND INSTALL NEW ACTUATORS ON EXISTING CONTROL DAMPERS AND CONTROL VALVES. MODIFY EXISTING CONTROL VALVE STEM AND CONTROL DAMPER LINAGE AS REQUIRED.
2. EXISTING VARIABLE SPEED DRIVES AND AIRFLOW MEASURING STATIONS SHALL REMAIN.
3. CONTRACTOR SHALL REMOVE EXISTING TEMPERATURE CONTROLS/CABLING, CONDUIT, WIRING, TUBING, SURFACE RACEWAY, WIREMOLD, AND ASSOCIATED MOUNTING DEVICES.
4. CONTRACTOR SHALL REMOVE ALL EXISTING TEMPERATURE CONTROLS/SENSORS, THERMOSTATS, RELAYS, CONTROL PANELS, CONTROL UNITS, UNITARY CONTROLLERS, AND POWER SUPPLIES.
5. CONTRACTOR SHALL REMOVE ALL EXISTING EQUIPMENT LABELS. PROVIDE AND INSTALL NEW EQUIPMENT LABELS ON ALL EXISTING EQUIPMENT. ALL EQUIPMENT IDENTIFICATION AND TAGS SHALL BE UNIQUE. UPDATE EQUIPMENT LABELS AND GRAPHICS INFORMATION AS REQUIRED.
6. CONTRACTOR SHALL CLEAN EXISTING VAV TERMINAL FLOW RING AND TUBING TO REMOVE ALL DUST AND DEBRIS.
7. CONTRACTOR SHALL ENGAGE AISC OR NEBB TAG SPECIALIST TO TEST AND BALANCE ALL EXISTING VAV TERMINALS AND ALL EXISTING CENTRAL STATION AIR HANDLING UNITS.
8. CONTRACTOR SHALL CAREFULLY SALVAGE EXISTING LAY-IN CEILING TILES AND WORK THROUGH EXISTING GRID AS REQUIRED TO GAIN ACCESS FOR WORK. CONTRACTOR SHALL INSTALL SALVAGED CEILING TILES AFTER WORK IS COMPLETE.
9. CONTRACTOR SHALL INCLUDE FURNISH AND INSTALLATION OF MINIMUM 10" 16"x18" CEILING JOISTS TO ACCESS DOORS EQUAL TO, TO VENTRYMINT MET SERIES AS REQUIRED FOR ACCESS TO WORK ABOVE EXISTING GYPSUM AND PLASTER CEILING. REFER TO ACCESS DOOR DETAIL.

27650 SAWMILL RD, WEST HARRISON, IN 47060

**145 NORTH EAST STREET
INDIANAPOLIS, IN 46204**

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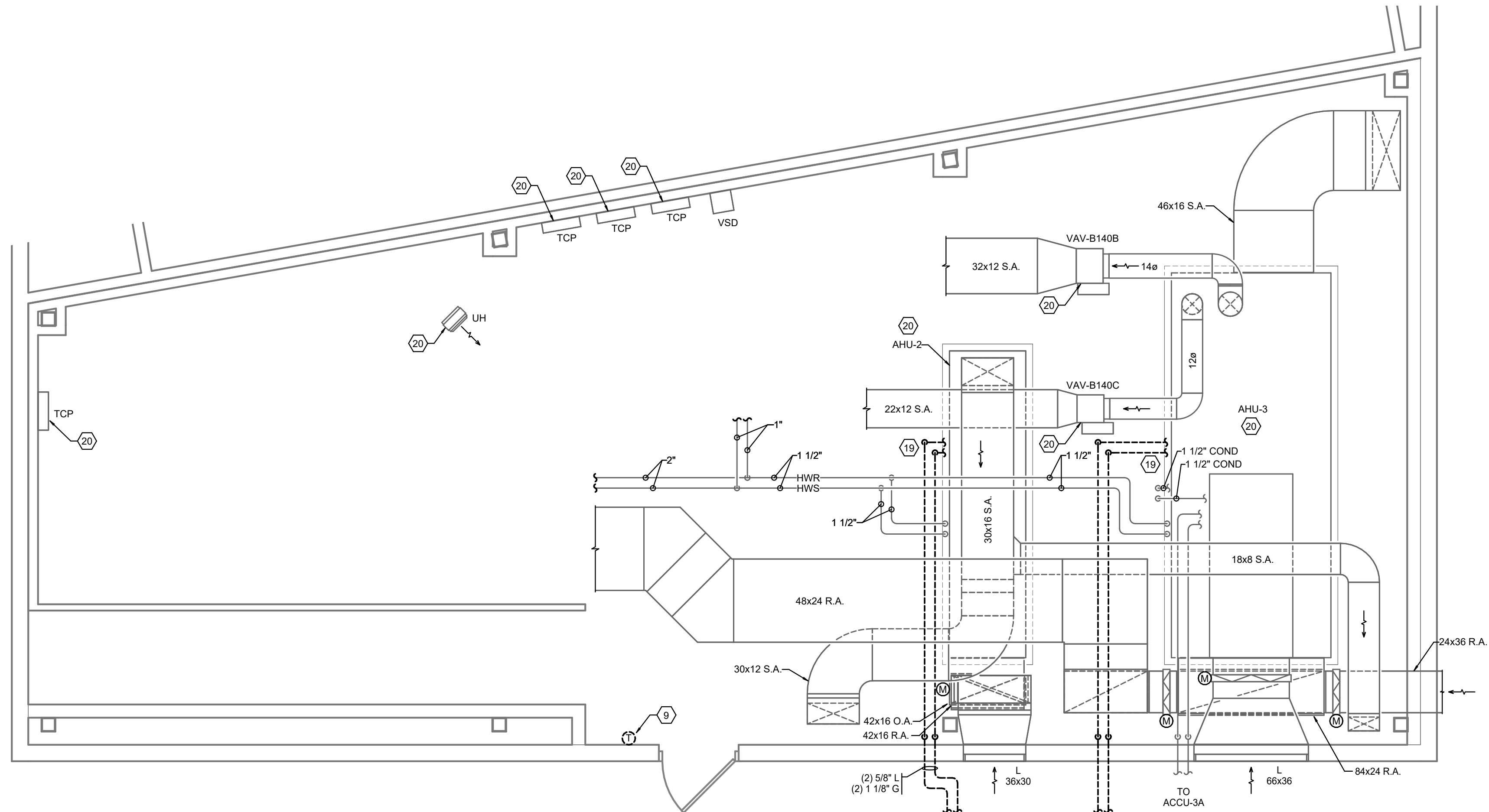
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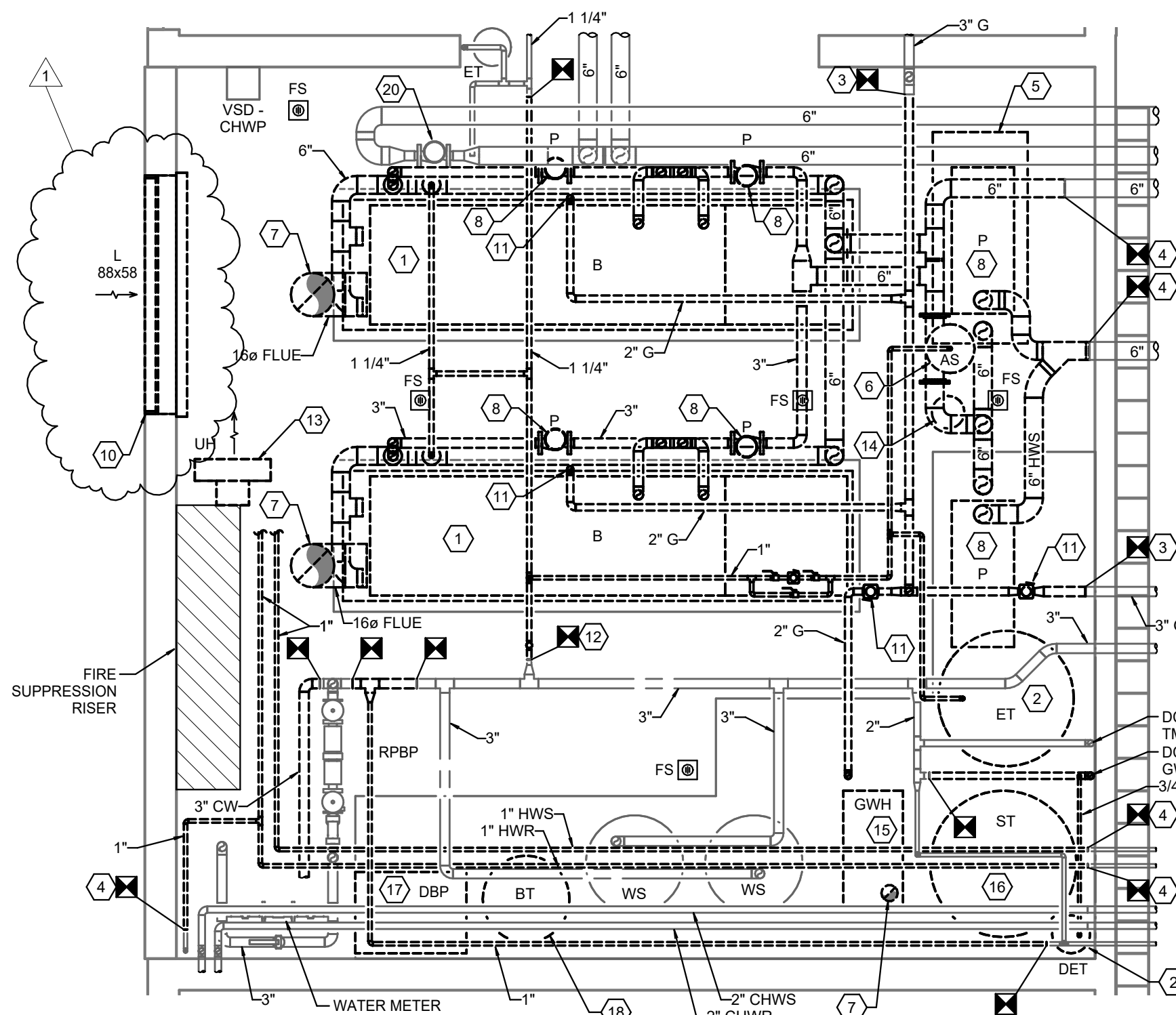


Sunman Elementary School

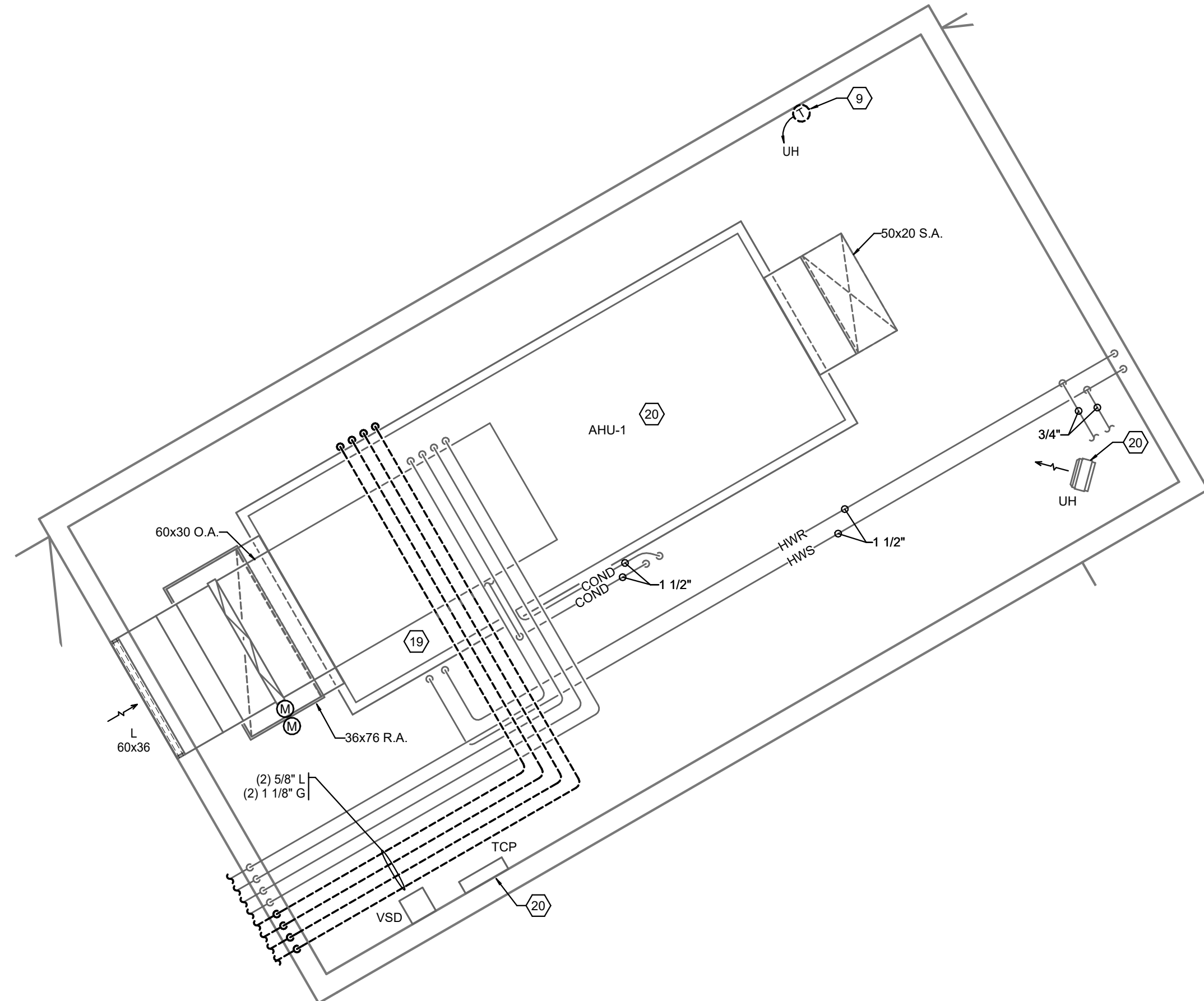
8 / 5 / 24



**MECHANICAL DEMOLITION PLAN -
MEZZANINE - UNIT B**
SCALE: 1/4" = 1'-0"



**MECHANICAL DEMOLITION PLAN -
BOILER ROOM**
SCALE: 1/4" = 1'-0"

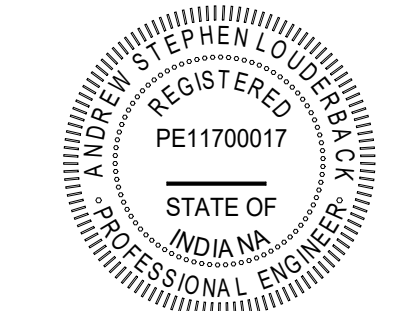


**MECHANICAL DEMOLITION PLAN -
MEZZANINE - UNIT A**
SCALE: 1/4" = 1'-0"

- DEMOLITION PLAN NOTES**
1. REMOVE EXISTING BOILER COMPLETE INCLUDING ASSOCIATED FLUES, PIPING, DRAINS, MOUNTING DEVICES, ACCESSORIES, AND CONTROLS.
 2. REMOVE EXISTING EXPANSION TANK COMPLETE INCLUDING ASSOCIATED PIPING AND MOUNTING DEVICES.
 3. REMOVE EXISTING NATURAL GAS PIPING COMPLETE INCLUDING ASSOCIATED HANGERS. PREPARE REMAINING PIPING FOR RECONNECT WITH NEW.
 4. REMOVE EXISTING PIPING COMPLETE INCLUDING ASSOCIATED HANGERS. PREPARE REMAINING PIPING FOR RECONNECT WITH NEW.
 5. REMOVE EXISTING CONCRETE HOUSEKEEPING PAD COMPLETE. PATCH FLOOR TO MATCH EXISTING.
 6. REMOVE EXISTING AIR SEPARATOR COMPLETE INCLUDING ASSOCIATED PIPING AND MOUNTING DEVICES.
 7. REMOVE EXISTING FLUES COMPLETE INCLUDING ASSOCIATED HANGERS. CAP AND ABANDON FLUE ROOF PENETRATION.
 8. REMOVE EXISTING PUMP COMPLETE INCLUDING ASSOCIATED PIPING, MOUNTING DEVICES, AND CONTROLS.
 9. REMOVE EXISTING THERMOSTAT COMPLETE INCLUDING ASSOCIATED WIRING, WIREMOLD, AND MOUNTING DEVICES.
 10. REMOVE EXISTING LOUVER COMPLETE INCLUDING ASSOCIATED COMBUSTION AIR INTAKE DAMPER, MOUNTING DEVICES, AND CONTROLS.
 11. REMOVE EXISTING PUMP COMPLETE INCLUDING ASSOCIATED PIPING AND ASSOCIATED HANGERS. CAP AND ABANDON VENT PIPING ROOF PENETRATION.
 12. REMOVE EXISTING SYSTEM FILL COMPLETE INCLUDING ASSOCIATED PIPING AND MOUNTING DEVICES. PREPARE REMAINING PIPING FOR RECONNECT WITH NEW.
 13. REMOVE EXISTING UNIT HEATER COMPLETE INCLUDING ASSOCIATED PIPING, MOUNTING DEVICES, AND CONTROLS.
 14. REMOVE EXISTING CHEMICAL FEEDER COMPLETE INCLUDING ASSOCIATED PIPING AND MOUNTING DEVICES.
 15. REMOVE EXISTING DOMESTIC GAS WATER HEATER COMPLETE INCLUDING ASSOCIATED CIRCULATOR PUMP, FLUES, PIPING, MOUNTING DEVICES, AND CONTROLS.
 16. REMOVE EXISTING DOMESTIC HOT WATER STORAGE TANK COMPLETE INCLUDING ASSOCIATED PIPING AND MOUNTING DEVICES.
 17. DISCONNECT AND REMOVE EXISTING DOMESTIC WATER BOOSTER PUMP COMPLETE INCLUDING ASSOCIATED PIPING, MOUNTING DEVICES, AND CONTROLS. PREPARE REMAINING PIPING FOR...
 18. CAREFULLY DISCONNECT AND SALVAGE EXISTING BRINE TANK.
 19. CAREFULLY DISCONNECT AND REMOVE EXISTING EVAPORATOR COIL. PREPARE REMAINING AIR HANDLING UNIT TO RECEIVE NEW COIL.
 20. PREPARE REMAINING EQUIPMENT TO RECEIVE NEW CONTROLS. REFER TO CONTROLS DETAILS ON M001 FOR MORE INFORMATION.

SUNMAN-DEARBORN COMM. SCHOOL CORP.
RENOVATIONS TO SUNMAN ELEMENTARY SCHOOL

925 N Meridian St, Sunman, IN 47041



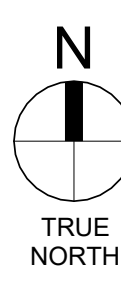
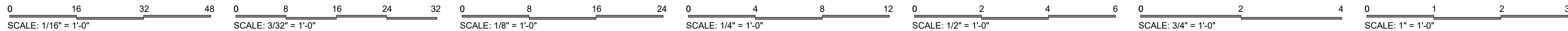
[Signature]

REVISIONS:		
#	DATE	DESCRIPTION
1	05/20/24	ADDENDUM #1

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PROJECT: #23138
DATE: 07/24/2024
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**MECHANICAL DEMO PLAN -
ENLARGED PLANS**

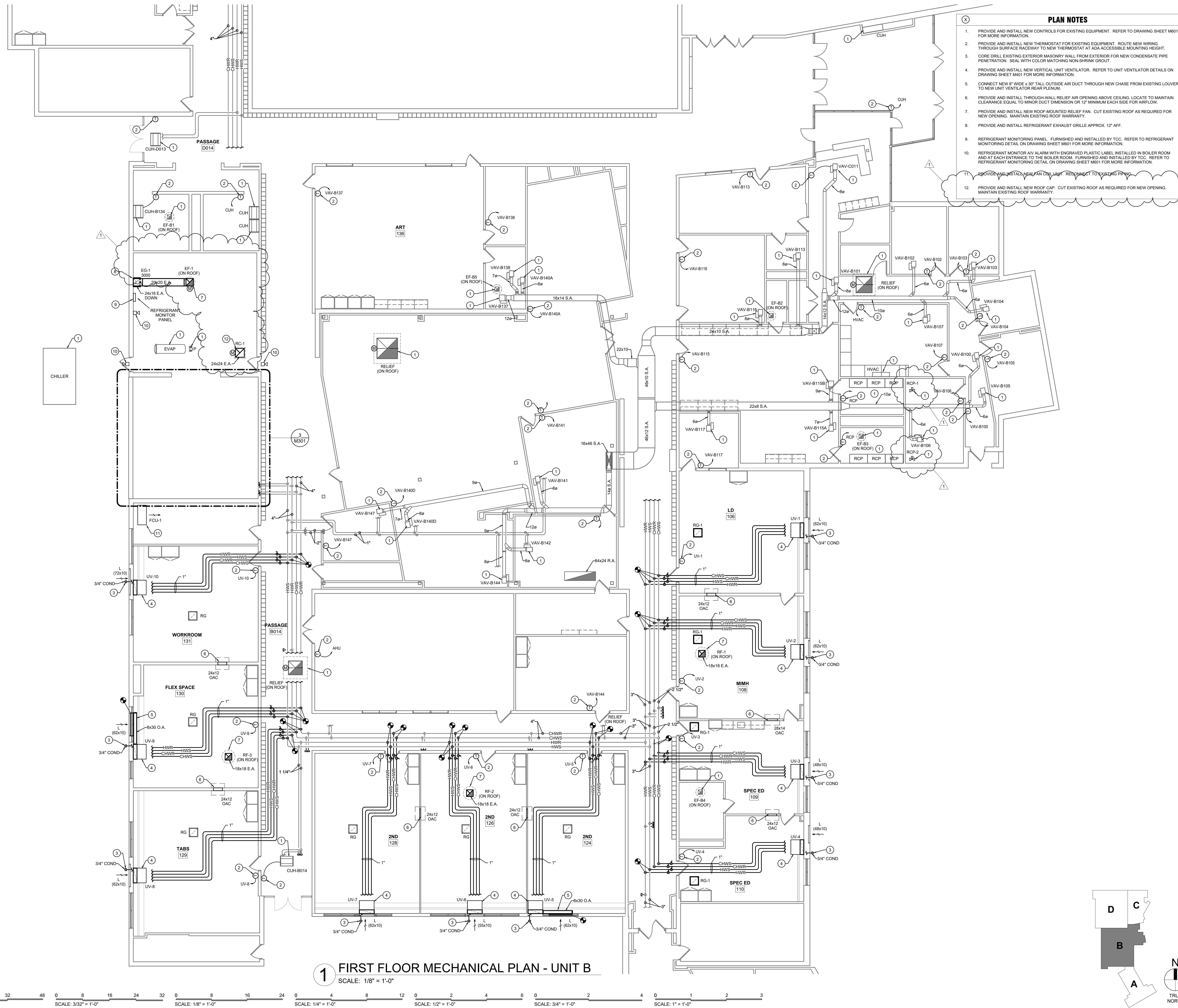
MD103
PRIMARY JOB # 24588



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- PLAN NOTES**
1. PROVIDE AND INSTALL NEW CONTROLS FOR EXISTING EQUIPMENT. REFER TO DRAWING SHEET M801 FOR MORE INFORMATION.
 2. PROVIDE AND INSTALL NEW THERMOSTAT FOR EXISTING EQUIPMENT. ROUTE NEW WIRING THROUGH SURFACE RACEWAY TO NEW THERMOSTAT AT ADA ACCESSIBLE MOUNTING HEIGHT.
 3. CORE DRILL EXISTING EXTERIOR MASONRY WALL FROM EXTERIOR FOR NEW CONDENSATE PIPE PENETRATION. SEAL WITH COLOR MATCHING NON-SHRINK GROUT.
 4. PROVIDE AND INSTALL NEW VERTICAL UNIT VENTILATOR. REFER TO UNIT VENTILATOR DETAILS ON DRAWING SHEET M801 FOR MORE INFORMATION.
 5. CONNECT NEW 8" WIDE x 30" TALL OUTSIDE AIR DUCT THROUGH NEW CHASE FROM EXISTING LOUVER TO NEW UNIT VENTILATOR REAR PLENUM.
 6. PROVIDE AND INSTALL THROUGH-WALL RELIEF AIR OPENING ABOVE CEILING. LOCATE TO MAINTAIN CLEARANCE EQUAL TO MINOR DUCT DIMENSION OR 12" MINIMUM EACH SIDE FOR AIRFLOW.
 7. PROVIDE AND INSTALL NEW ROOF-MOUNTED RELIEF FAN. CUT EXISTING ROOF AS REQUIRED FOR NEW OPENING. MAINTAIN EXISTING ROOF WARRANTY.
 8. PROVIDE AND INSTALL REFRIGERANT EXHAUST GRILLE APPROX. 12" AFF.
 9. REFRIGERANT MONITORING PANEL. FURNISHED AND INSTALLED BY TCC. REFER TO REFRIGERANT MONITORING DETAIL ON DRAWING SHEET M801 FOR MORE INFORMATION.
 10. REFRIGERANT MONITOR ALARM WITH ENGRAVED PLASTIC LABEL INSTALLED IN BOILER ROOM AND AT EACH ENTRANCE TO THE BOILER ROOM. FURNISHED AND INSTALLED BY TCC. REFER TO REFRIGERANT MONITORING DETAIL ON DRAWING SHEET M801 FOR MORE INFORMATION.
 11. PROVIDE AND INSTALL NEW FAN ON UNIT. REFER TO EXISTING PIPING.
 12. PROVIDE AND INSTALL NEW ROOF CAP. CUT EXISTING ROOF AS REQUIRED FOR NEW OPENING. MAINTAIN EXISTING ROOF WARRANTY.

1 FIRST FLOOR MECHANICAL PLAN - UNIT B
SCALE: 1/8" = 1'-0"



THIS MONOCHROME PRINT SHOULD DISPLAY GRAPHICAL NOTES BELOW IF PRINTED PROPERLY WITH 25% SHADES OF GRAY

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MECHANICAL PLAN - FIRST FLOOR - UNIT B

M101B

PRIMARY JOB # 24588

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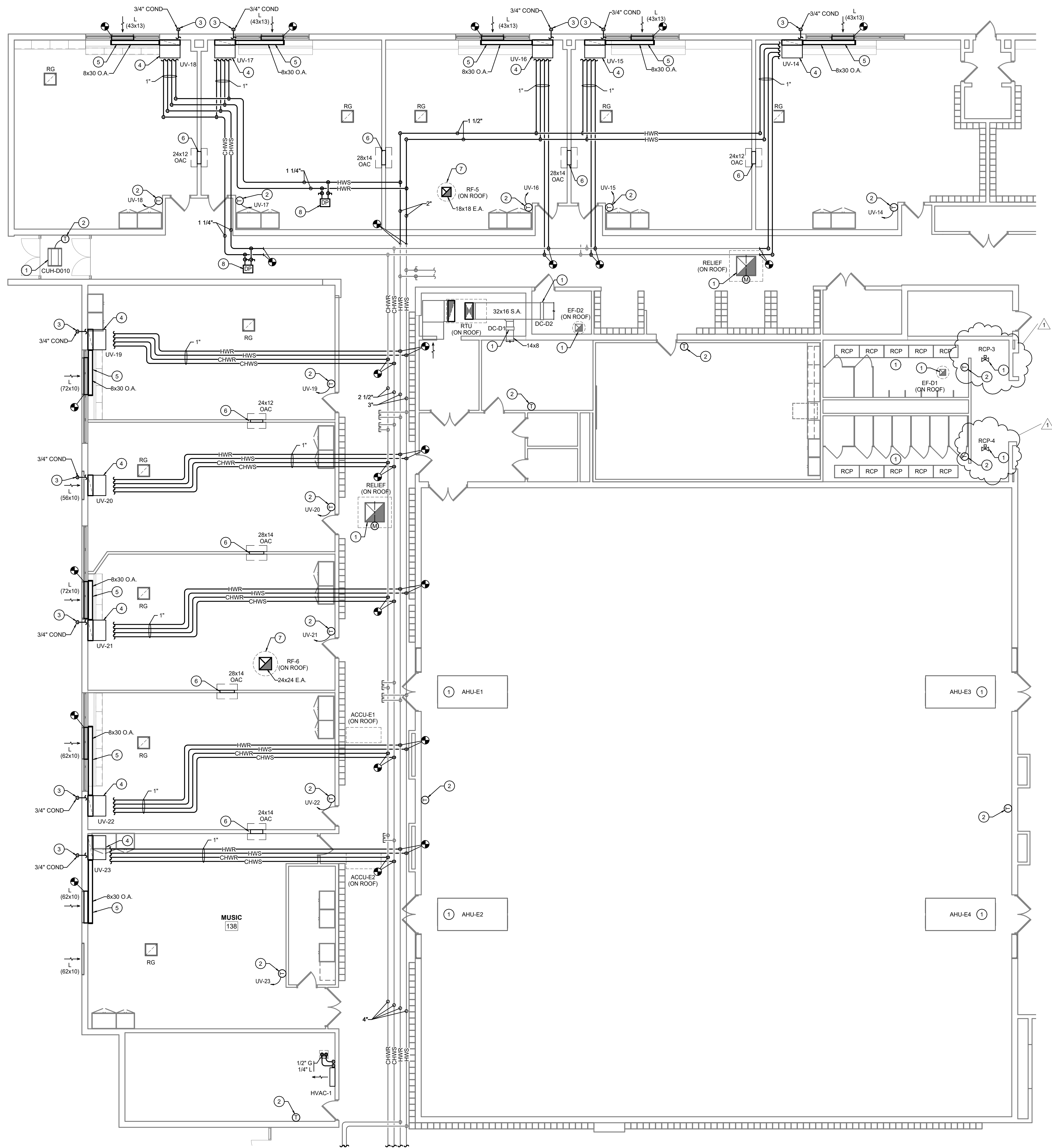
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MECHANICAL PLAN - FIRST FLOOR - UNIT B

M101B

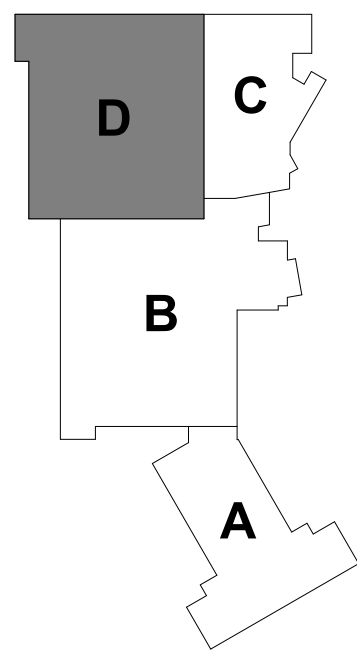
TRUE NORTH



- PLAN NOTES**
1. PROVIDE AND INSTALL NEW CONTROLS FOR EXISTING EQUIPMENT. REFER TO DRAWING SHEET M101 FOR MORE INFORMATION.
 2. PROVIDE AND INSTALL NEW THERMOSTAT FOR EXISTING EQUIPMENT. ROUTE NEW WIRING THROUGH SURFACE RACEWAY TO NEW THERMOSTAT AT ADA ACCESSIBLE MOUNTING HEIGHT.
 3. CORE DRILL EXISTING EXTERIOR MASONRY WALL FROM EXTERIOR FOR NEW CONDENSATE PIPE PENETRATION. SEAL WITH COLOR MATCHING NON-SHRINK GROUT.
 4. PROVIDE AND INSTALL NEW VERTICAL UNIT VENTILATOR. REFER TO UNIT VENTILATOR DETAILS ON DRAWING SHEET M101 FOR MORE INFORMATION.
 5. CONNECT NEW 8\"/>
 6. PROVIDE AND INSTALL THROUGH-WALL RELIEF AIR OPENING ABOVE CEILING. LOCATE TO MAINTAIN CLEARANCE EQUAL TO MINOR DUCT DIMENSION OR 12\"/>
 7. PROVIDE AND INSTALL NEW ROOF-MOUNTED RELIEF FAN. CUT EXISTING ROOF AS REQUIRED FOR NEW OPENING. MAINTAIN EXISTING ROOF WARRANTY.
 8. NEW DIFFERENTIAL PRESSURE SENSOR FOR VARIABLE SPEED PUMP CONTROL.

1 FIRST FLOOR MECHANICAL PLAN - UNIT D
SCALE: 1/8\"/>

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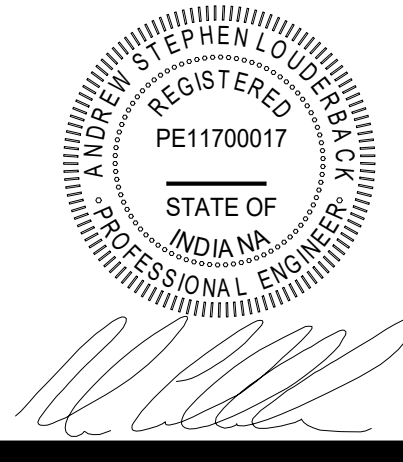


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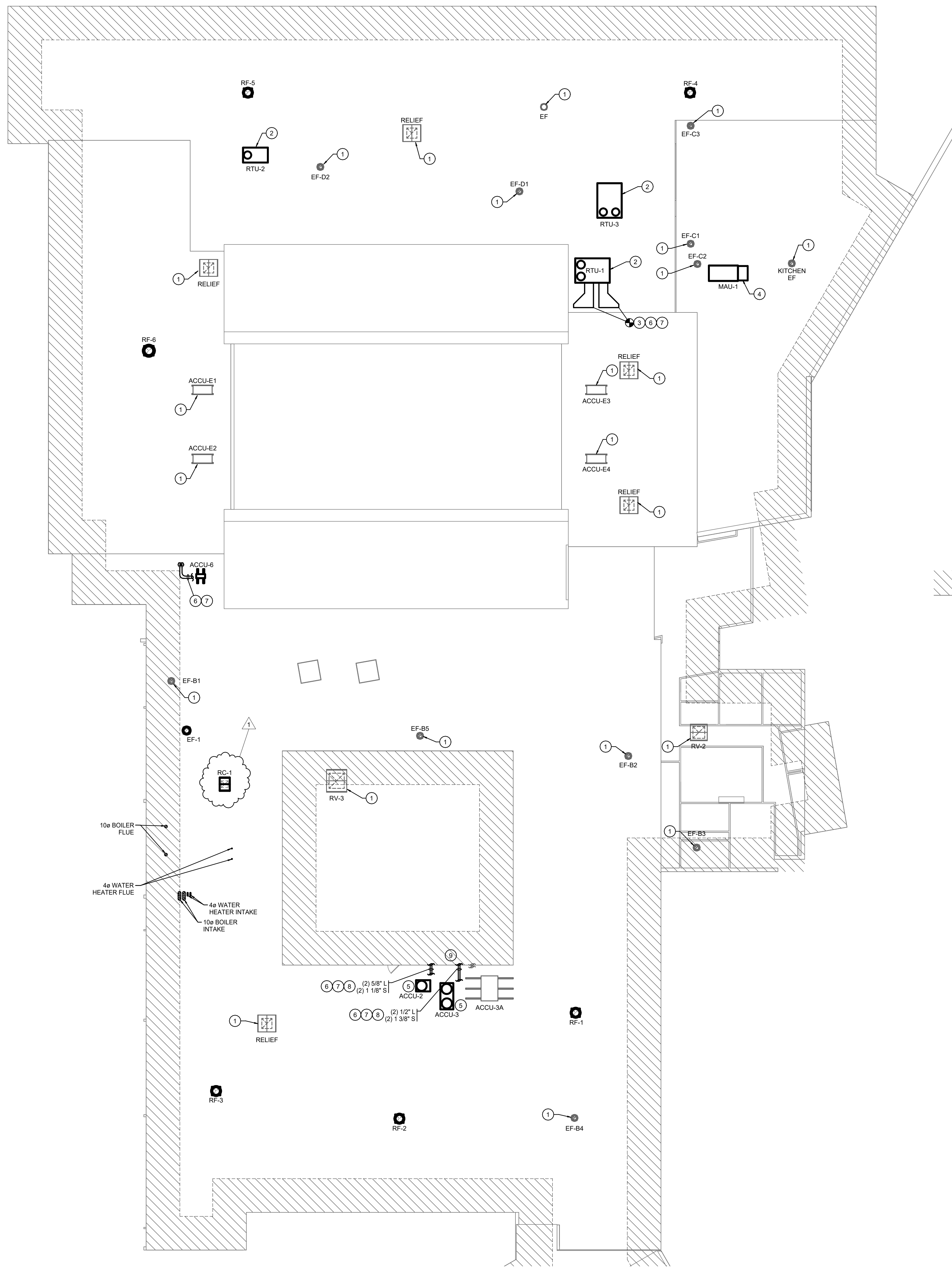
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MECHANICAL
PLAN - FIRST
FLOOR - UNIT D

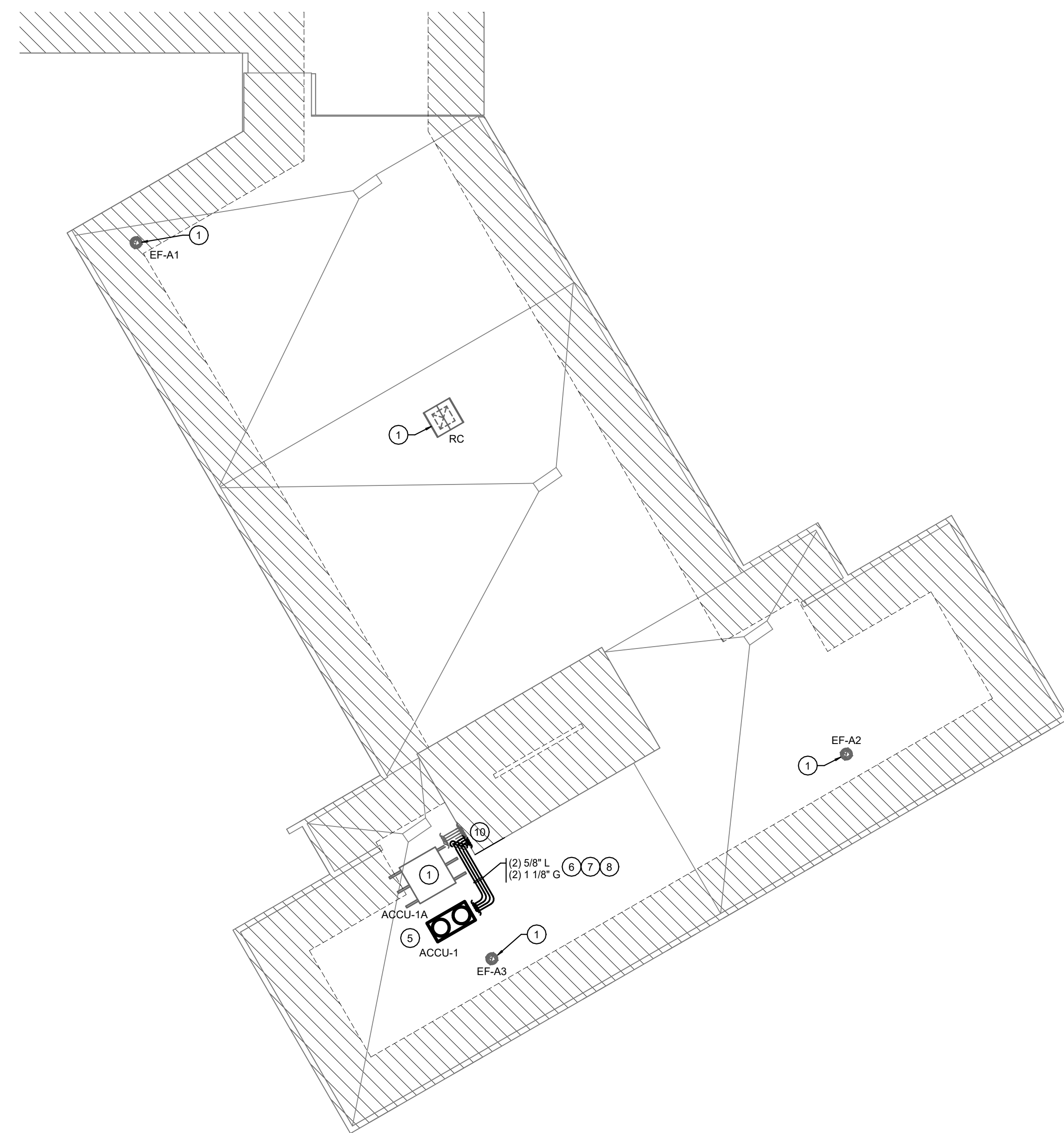
M101D

PRIMARY JOB # 24588



**MECHANICAL PLAN - ROOF -
UNITS B, C, AND D**

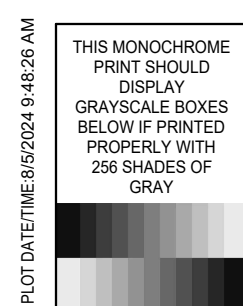
1 SCALE: 1/16" = 1'-0"



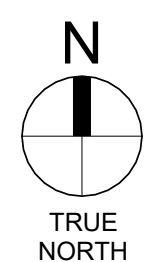
**MECHANICAL PLAN - ROOF -
UNIT A**

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

PLAN NOTES	
1.	PROVIDE AND INSTALL NEW CONTROLS FOR EXISTING EQUIPMENT. REFER TO DRAWING SHEET M001 FOR MORE INFORMATION.
2.	PROVIDE AND INSTALL NEW ROOFTOP UNIT ON EXISTING CURB. RECONNECT TO EXISTING DUCTWORK AND PIPING. PROVIDE AND INSTALL CURB ADAPTER AS REQUIRED.
3.	RECONNECT TO EXISTING THROUGH-WALL DUCTWORK TO CAFETERIA.
4.	PROVIDE AND INSTALL NEW MAKEUP AIR UNIT. RECONNECT TO EXISTING DUCTWORK AND PIPING. PROVIDE AND INSTALL NEW ROOF CURB. MAINTAIN EXISTING ROOF WARRANTY.
5.	PROVIDE AND INSTALL NEW CONDENSING UNIT ON EXISTING EQUIPMENT RAILS. ROUTE NEW REFRIGERANT PIPING TO NEW EVAPORATOR COIL IN EXISTING AIR HANDLING UNIT.
6.	EXTERIOR PIPING AND DUCTWORK SHALL BE INSULATED WITH 2" THICK FLEXIBLE ELASTOMERIC INSULATION WITH ALUMINUM JACKETING.
7.	SUPPORT NEW PIPING AND DUCTWORK FROM ROOF USING B-LINE DURA-BLOK ROOF SUPPORTS WITH STAINLESS STEEL HARDWARE. MAINTAIN EXISTING ROOF WARRANTY.
8.	VERIFY PIPE ROUTING, SIZES, QUANTITIES, AND ALL PIPING REQUIREMENTS WITH MANUFACTURER.
9.	REFER TO UNIT B MEZZANINE PLAN ON DRAWING SHEET M301 FOR CONTINUATION.
10.	REFER TO UNIT A MEZZANINE PLAN ON DRAWING SHEET M301 FOR CONTINUATION.

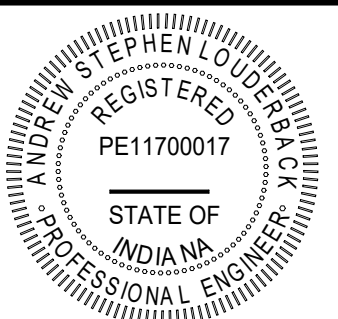


SCALE: 1/16" = 1'-0" SCALE: 3/32" = 1'-0" SCALE: 1/8" = 1'-0" SCALE: 1/4" = 1'-0" SCALE: 1/2" = 1'-0" SCALE: 3/4" = 1'-0" SCALE: 1" = 1'-0"



SUNMAN-DEARBORN COMM. SCHOOL CORP.
RENOVATIONS TO SUNMAN ELEMENTARY SCHOOL

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Stephen Coulter

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MECHANICAL
PLAN - ROOF

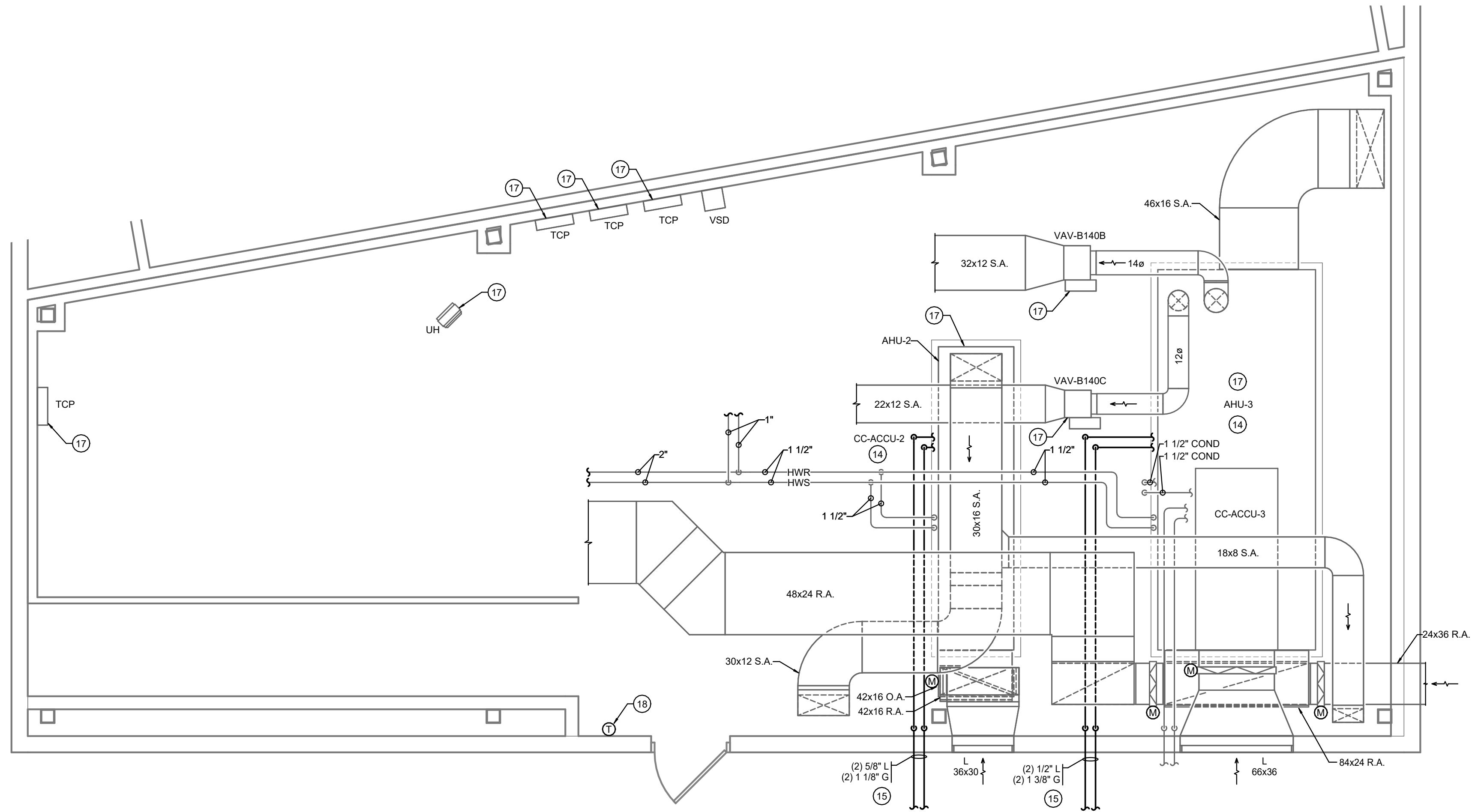
M102

PRIMARY JOB # 24588

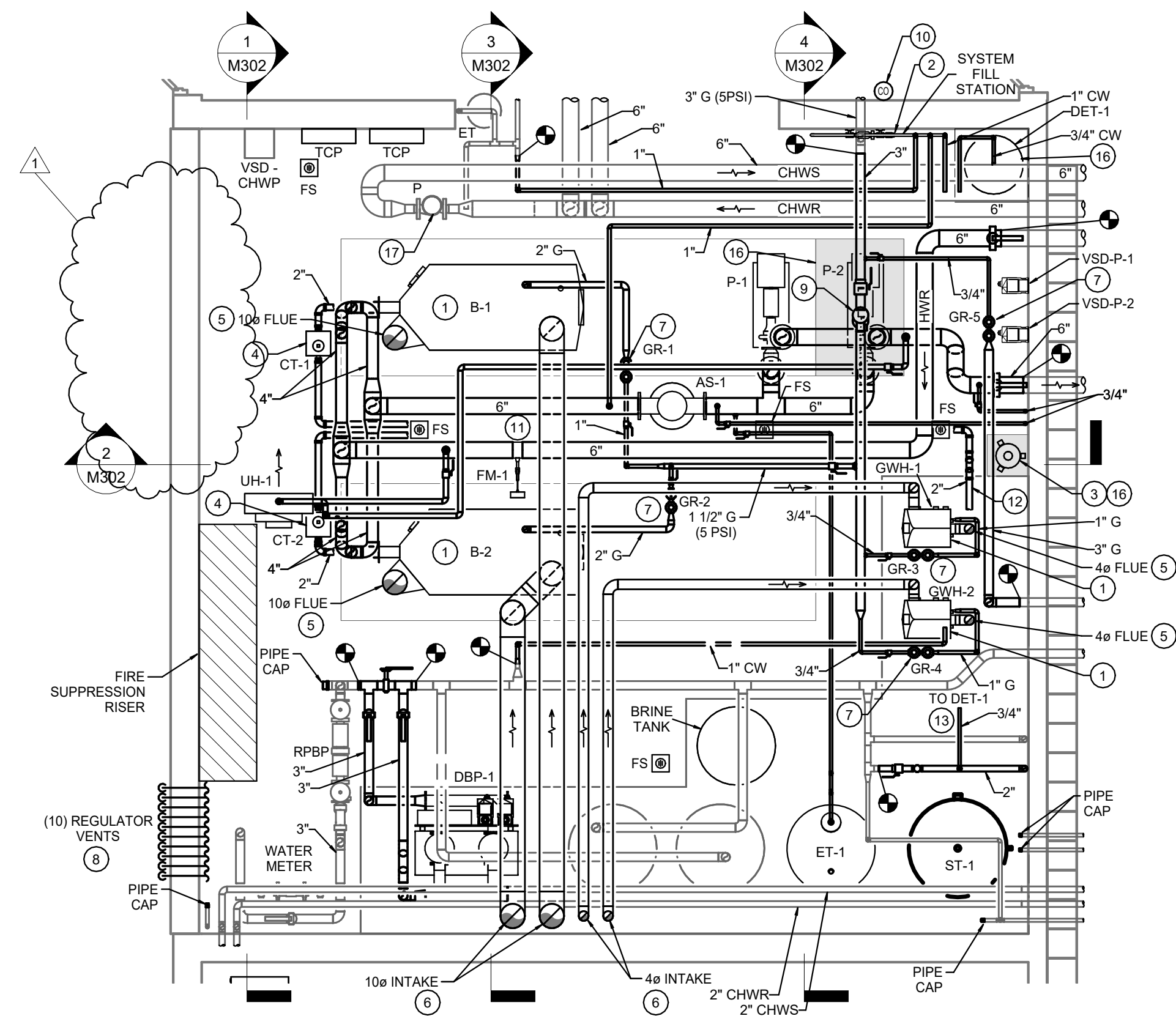


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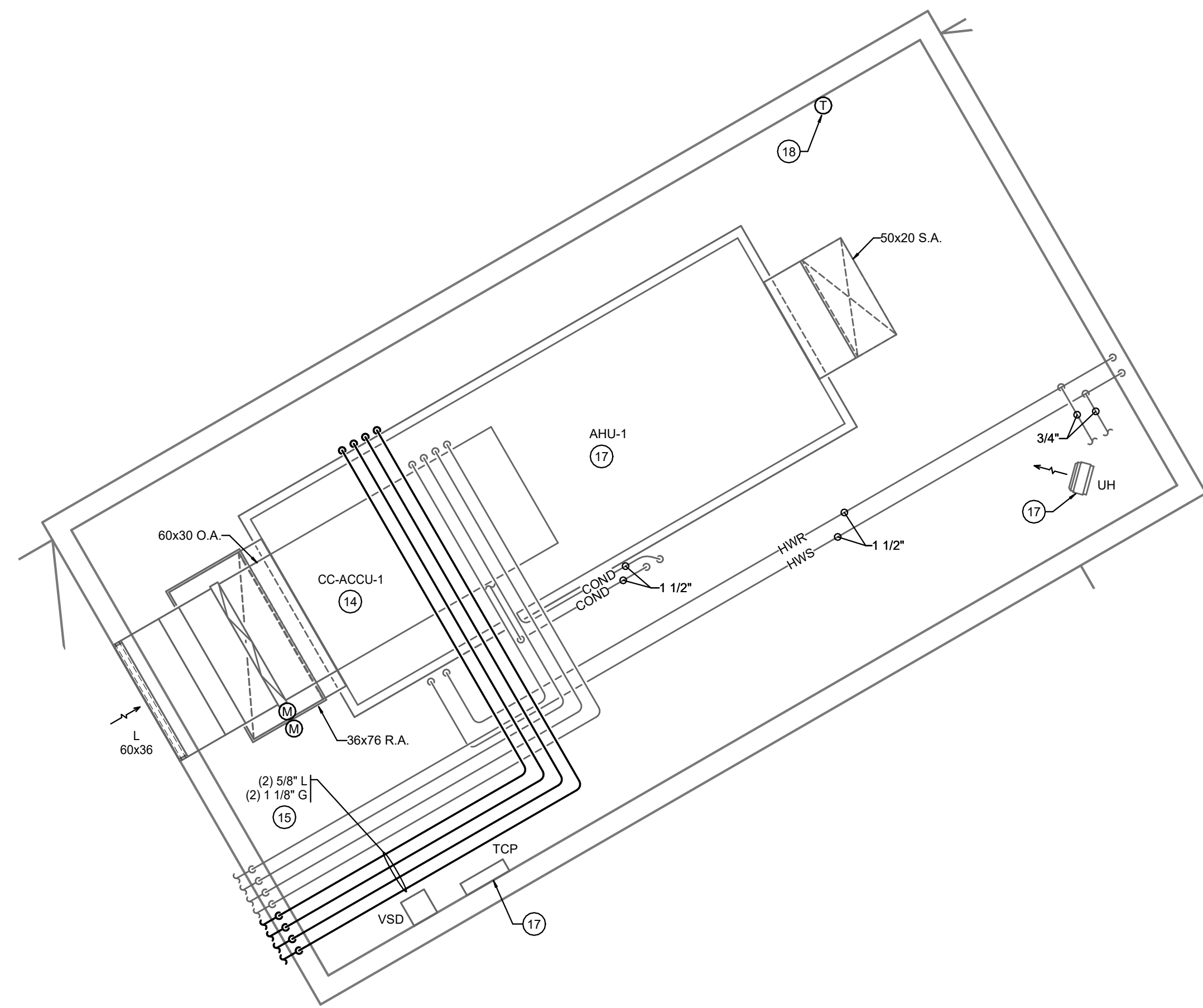
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2 UNIT B MEZZANINE LEVEL MECHANICAL PLAN
SCALE: 1/4" = 1'-0"



3 BOILER ROOM MECHANICAL PLAN
SCALE: 1/4" = 1'-0"



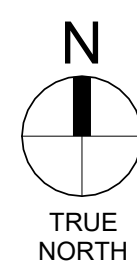
1 UNIT A MEZZANINE LEVEL MECHANICAL PLAN
SCALE: 1/4" = 1'-0"

- PLAN NOTES**
1. PROVIDE AND INSTALL NEW MODULAR CONDENSING BOILERWATER HEATER. REFER TO DETAILS ON DRAWING SHEET M402 FOR MORE INFORMATION. INSTALL PER MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR CLEARANCE, PIPING, AND VENTING.
 2. TIE-IN TO EXISTING DOMESTIC COLD WATER PIPING AND ROUTE NEW TO NEW SYSTEM FILL STATION. REFER TO SYSTEM FILL STATION DETAIL ON DRAWING SHEET M402 FOR MORE INFORMATION.
 3. PROVIDE AND INSTALL NEW BYPASS FILTER FEEDER, FURNISHED BY CHEMICAL TREATMENT PROVIDER. REFER TO WATER TREATMENT SPECIFICATIONS FOR MORE INFORMATION.
 4. ROUTE BOILER FLUE CONDENSATE DRAIN TO NEW FLOOR MOUNTED CONDENSATE NEUTRALIZATION TANK. MODIFY INLET AND OUTLET CONNECTIONS AS REQUIRED FOR TRAP DEPTH AND CONDENSATE PIPE FALL. DISCHARGE DIRECTLY INTO NEAREST FLOOR DRAIN.
 5. PROVIDE AND INSTALL NEW POLYPROPYLENE FLUE. VERIFY VENTING REQUIREMENTS WITH BOILER MANUFACTURER.
 6. PROVIDE AND INSTALL NEW COMBUSTION AIR INTAKE. VERIFY VENTING REQUIREMENTS WITH BOILER MANUFACTURER. MAINTAIN MINIMUM 15' TO FLUE TERMINATION.
 7. PROVIDE AND INSTALL NEW GAS REGULATOR. REFER TO DETAIL ON DRAWING SHEET M403 FOR MORE INFORMATION.
 8. CORE DRILL EXISTING MASONRY FROM EXTERIOR AS REQUIRED TO ROUTE NEW VENT PIPING. PATCH AND SEAL WALL PENETRATION WITH GROUT.
 9. TIE-IN TO EXISTING GAS PIPING AND INSTALL AUTOMATIC CONTROL VALVE, FURNISHED BY TCC.
 10. BOILER ROOM CARBON MONOXIDE MONITOR FURNISHED AND INSTALLED BY TCC.
 11. FLOW METER FURNISHED BY TCC, INSTALLED BY MC. INSTALL PER MANUFACTURER'S INSTALLATION REQUIREMENTS FOR CLEARANCE AND UPSTREAM/DOWNSTREAM STRAIGHT PIPE LENGTHS.
 12. ROUTE WATER HEATER CONDENSATE DRAIN TO CONDENSATE NEUTRALIZATION KIT AND DISCHARGE DIRECTLY INTO NEAREST FLOOR DRAIN.
 13. REFER TO PLUMBING FLOW DIAGRAMS ON DRAWING SHEET M403 FOR MORE INFORMATION.
 14. PROVIDE AND INSTALL NEW CUSTOM EVAPORATOR COIL SECTION IN EXISTING AIR HANDLING UNIT AND ROUTE NEW REFRIGERANT PIPING TO NEW CONDENSING UNIT.
 15. VERIFY PIPE ROUTINGS, SIZES, QUANTITIES, AND ALL PIPING REQUIREMENTS WITH MANUFACTURER.
 16. PROVIDE AND INSTALL EQUIPMENT ON NEW 4" TALL CONCRETE HOUSEKEEPING PAD.
 17. PROVIDE AND INSTALL NEW CONTROLS FOR EXISTING EQUIPMENT. REFER TO DRAWING SHEET M401 FOR MORE INFORMATION.
 18. PROVIDE AND INSTALL NEW THERMOSTAT FOR EXISTING EQUIPMENT. ROUTE NEW WIRING THROUGH SURFACE RACEWAY TO NEW THERMOSTAT AT ADA ACCESSIBLE MOUNTING HEIGHT.

- GENERAL NOTES**
1. UNLESS NOTED OTHERWISE, IN BOILER ROOM AND MECHANICAL MEZZANINE, PROVIDE AND INSTALL ALUMINUM JACKETING ON ALL PIPE INSULATION BELOW 6'-0" AFF. EXTEND JACKETING TO NEAREST FITTING ABOVE 6'-0" AFF.

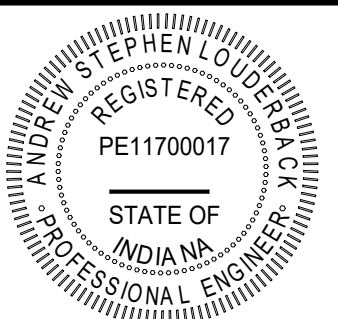
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0 16 32 48 0 8 16 24 32 0 8 16 24 0 4 8 12 0 2 4 6 0 2 4 0 1 2 3
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[Signature]

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PROJECT: #23138
DATE: 07/24/2024
DRAWN BY: ASL

MECHANICAL PLANS - ENLARGED

M301

PRIMARY JOB # 24588

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GAS REGULATOR SCHEDULE												
TAG	MFR.	MODEL	CAPACITY (CFH)	TURNDOWN	INLET (PSI)	INLET SIZE (IN WC)	OUTLET (IN)	OUTLET SIZE (IN)	EQUIP SERVED	REGULATOR LOCATION	REMARKS	
GR-1	PIETRO FIORENTINI	31153OPD	3000	500:1	5	1 1/4	14	1 1/4	B-1	INTERIOR	1, 2, 3	
GR-2	PIETRO FIORENTINI	31153OPD	3000	500:1	5	1 1/4	14	1 1/4	B-1	INTERIOR	1, 2, 3	
GR-3	PIETRO FIORENTINI	31051OPD	285	500:1	5	1/2	14	1/2	GW-1	INTERIOR	1, 2, 3	
GR-4	PIETRO FIORENTINI	31051OPD	285	500:1	5	1/2	14	1/2	GW-2	INTERIOR	1, 2, 3	
GR-5	PIETRO FIORENTINI	31052OPD	606.8	500:1	5	3/4	14	3/4	EXISTING BUILDING	INTERIOR	1, 2, 3	
REMARKS:												
1. PROVIDE AND INSTALL WITH VENT PIPED TO EXTERIOR.												
2. VERIFY EXACT REGULATOR SIZE BASED ON ACTUAL EQUIPMENT INSTALLED PRIOR TO ORDERING.												
3. PROVIDE WITH EXTERNAL DOWNSTREAM CONTROL LINE, FIELD INSTALLED.												

EXHAUST FAN SCHEDULE													
TAG	AREA SERVED	MFR.	MODEL	CFM	TSP (IN W.C.)	MOTOR (HP)	MOTOR (BHP)	RPM	DRIVE TYPE	SONES	ELEC (V/PH)	CONTROL	REMARKS
EF-1	REFRIGERANT EXHAUST	GREENHECK	CUE-160-VG	3000		2.0	0.98	1380	DIRECT	16.1	208/1	TCC	1, 2, 3, 4, 5, 6
RF-1	UV RELIEF	GREENHECK	G-200-VG	3600	0.5	1.0	0.69	840	DIRECT	11.6	115/1	TCC	1, 2, 3, 4, 5, 6
RF-2	UV RELIEF	GREENHECK	G-200-VG	2700	0.5	1.0	0.44	730	DIRECT	8.5	115/1	TCC	1, 2, 3, 4, 5, 6
RF-3	UV RELIEF	GREENHECK	G-200-VG	2700	0.5	1.0	0.44	730	DIRECT	8.5	115/1	TCC	1, 2, 3, 4, 5, 6
RF-4	UV RELIEF	GREENHECK	G-200-VG	3600	0.5	1.0	0.69	840	DIRECT	11.6	115/1	TCC	1, 2, 3, 4, 5, 6
RF-5	UV RELIEF	GREENHECK	G-200-VG	3600	0.5	1.0	0.69	840	DIRECT	11.6	115/1	TCC	1, 2, 3, 4, 5, 6
RF-6	UV RELIEF	GREENHECK	G-200-VG	4800	0.5	2.0	0.82	680	DIRECT	11.8	208/1	TCC	1, 2, 3, 4, 5, 6
REMARKS:													
1. PROVIDE AND INSTALL WITH FACTORY WIRE NEMA-3R ELECTRICAL DISCONNECT SWITCH.													
2. PROVIDE AND INSTALL WITH 1/2" TALL INSULATED METAL ROOF CURB WITH HINGED BASE KIT, RESTRAINING CABLES, AND SOUND ATTENUATING Baffles.													
3. PROVIDE AND INSTALL WITH ALUMINUM BIRD SCREEN.													
4. PROVIDE AND INSTALL WITH ELECTRONICALLY COMMUTATED MOTOR WITH SPEED ADJUSTMENT DIAL ON MOTOR AND WIRING INSTALLED FOR SPEED CONTROL BY TCC.													
5. PROVIDE AND INSTALL WITH LOW-LEAKAGE INSULATED TWO-POSITION AUTOMATIC CONTROL DAMPER WITH LINKAGE FOR ACTUATOR IN AIRSTREAM ACCESSIBLE FROM ROOF. DAMPER ACTUATOR FURNISHED BY TCC.													
6. REFER TO DRAWING DETAILS FOR MORE INFORMATION.													
NOTES:													
TCC = TEMPERATURE CONTROL CONTRACTOR.													
EC = ELECTRICAL CONTRACTOR.													

GENERAL MECHANICAL EQUIPMENT SCHEDULE												
TAG: CT-1												
TYPE: CONDENSATE NEUTRALIZATION TANK												
MFR: TOWN & COUNTRY PLASTICS												
MODEL: NT-1												
PERFORMANCE: 2 GALLON HPDE DILUTION TANK												
REMARKS:												
1. PROVIDE AND INSTALL WITH POLYPROPYLENE COVER.												
2. PROVIDE AND INSTALL WITH 1-1/2" INLET AND OUTLET CONNECTIONS.												
TAG: CT-2												
TYPE: CONDENSATE NEUTRALIZATION TANK												
MFR: TOWN & COUNTRY PLASTICS												
MODEL: NT-1												
PERFORMANCE: 2 GALLON HPDE DILUTION TANK												
REMARKS:												
1. PROVIDE AND INSTALL WITH POLYPROPYLENE COVER.												
2. PROVIDE AND INSTALL WITH 1-1/2" INLET AND OUTLET CONNECTIONS.												

DX COOLING COIL SCHEDULE													
TAG	AIRFLOW (CFM)	TOTAL CAP (MBH)	SENS CAP (MBH)	EAT DB/WB (DEG F)	LAT DB/WB (DEG F)	FACE VELOCITY (FPM)	REFRIG.	SST (DEG F)	CIRCUITS	APD (in w.c.)	ROWS	FINS/FT	REMARKS
CC-ACCU-1	15000	255	225	75 / 63	62 / 58	440	R410A	50	2	0.25	4	72	1, 2, 3
CC-ACCU-2	2700	103	70	80 / 67	56 / 55	460	R410A	43	2	0.71	6	106	1, 2, 3
CC-ACCU-3	13500	197	197	75 / 63	62 / 58	470	R410A	50	2	0.24	4	72	1, 2, 3
REMARKS:													
1. PROVIDE WITH STAINLESS STEEL COIL CASING AND STAINLESS STEEL DOUBLE SLOPE 1/4" INSULATED DRAIN PAN.													
2. TUBE WALL THICKNESS SHALL BE 0.024".													
3. EXISTING AIR HANDLING UNIT REPLACEMENT COIL. FIELD VERIFY EXISTING DIMENSIONS AND CONDITIONS.													

AIR AND SEDIMENT SEPARATOR SCHEDULE												
TAG	MFR.	MODEL	SERVICE	PIPE CONN. (IN)	MAX FLOW (GPM)	TANK DIA (IN)	TANK HEIGHT (IN)	OPERATING WEIGHT (LBS)	REMARKS			
ADS-1	BELL & GOSSETT	CRS-6F MAG	HOT WATER	6	550	12.75	41	499	1, 2, 3			
REMARKS:												
1. PROVIDE WITH REMOVABLE BOTTOM FLANGE, SIGAMER VALVE, DRAIN PORT, AND HIGH CAPACITY AUTOMATIC AIR VENT EQUAL TO B&G MODEL 107A.												
2. PROVIDE WITH STRAINER, FLANGED BOTTOM, DRAIN PORT, AND HIGH CAPACITY AUTOMATIC AIR VENT EQUAL TO B&G MODEL 107A.												
3. PROVIDE WITH INTEGRAL NEODYMIUM MAGNETIC INSERT ROD WITH SLEEVE TO ALLOW REMOVAL OF IRON FLAKES USING BLOW DOWN PORT.												

DIFFUSER AND GRILLE SCHEDULE												
TAG	MFR.	MODEL	NECK SIZE (IN)	FACE SIZE (IN)	THROW PATTERN	MAX CFM	MAX APD (IN)	THROW (FT)	MAX NC	MATERIAL	REMARKS	
D-1	TITUS	TMS	8	24x24	4-WAY	245	0.05	9	15	STEEL	1, 3	
RG-1	TITUS	45F	-	24x24	45 DEG. EGG	1600	0.04	-	15	ALUMINUM	1, 3	
EG-1	TITUS	33RL	24x48	26x50	38 DEG. DEFL	3050	0.01	-	23	STEEL	1, 2	
REMARKS:												
1. COLOR SHALL BE WHITE.												
2. PROVIDE AND INSTALL WITH FRAME FOR SURFACE INSTALLATION.												
3. PROVIDE AND INSTALL WITH FRAME FOR LAY-IN INSTALLATION.												

ROOF CAP SCHEDULE												
TAG	MFR.	MODEL	THROAT SIZE (IN x IN)	FUNCTION	AIRFLOW (CFM)	MAX P.D. (IN)	MAX HOOD VEL (FPM)	MATERIAL	REMARKS			
RC-1	GREENHECK	FGI	24x24	INTAKE	3000	0.13	364	ALUMINUM	1, 2, 3, 4			
REMARKS:												
1. PROVIDE AND INSTALL WITH ALUMINUM WIRE MESH BIRD SCREEN.												
2. PROVIDE AND INSTALL WITH HINGED TOP AND LOCKDOWN FASTENER.												
3. PROVIDE AND INSTALL WITH 24" TALL INSULATED METAL ROOF CURB.												
4. PROVIDE AND INSTALL LOW-LEAKAGE INSULATED AUTOMATIC CONTROL DAMPER. DAMPER ACTUATOR FURNISHED BY TCC.												

FAN COIL SCHEDULE																															
COOLING													HEATING																		
TAG	MFR.	MODEL	AIRFLOW (CFM)	SPEED	O.A. (CFM)	ESP (IN WC)	HP	TOTAL (MBH)	SENS. (MBH)	EDB / EWB (DEG F)	LDB / LWB (DEG F)	EWI / LWT (DEG F)	FLOW GPM	WPD (FT)	ROWS	CONTROL VALVE	TOTAL (MBH)	EAT (DEG F)	LAT (DEG F)	EWI / LWT (DEG F)	FLOW (GPM)	WPD (FT)	ROWS	CONTROL VALVE	ELEC (V/PH)	MCA	FLA	MFS	REMARKS		
FCU-1	IEC	CXB08	255	L			1/12	7.3	5.8	75/63	54/53	45/55	1.5	1.9	4	2-WAY	13.2	70		118	180/160	1.5	1.5	1	2-WAY	115/1	-	1.58		1, 2, 3, 4, 5, 7	
REMARKS:																															
1. PROVIDE AND INSTALL WITH ELECTRONICALLY COMMUTATED MOTOR WITH 0-10VDC INPUT FOR EXTERNAL SPEED CONTROL SIGNAL.																															
2. PROVIDE AND INSTALL WITH STAINLESS STEEL INSULATED CONDENSATE PAN WITH OVERFLOW SWITCH WIRED TO SHUT DOWN FAN.																															
3. PROVIDE AND INSTALL WITH 1/2" THICK PREMIUM IAQ FIBERGLASS INSULATION.																															
4. PROVIDE AND INSTALL WITH FACTORY WIRED ELECTRICAL DISCONNECT SWITCH.																															
5. PROVIDE AND INSTALL WITH 0.035" COIL TUBE THICKNESS.																															
6. PROVIDE AND INSTALL WITH 14 GA CABINET.																															
7. PROVIDE AND INSTALL WITH 14 GA CABINET.																															
NOTES:																															
1. PROVIDE AND INSTALL ALL FAN COIL UNITS WITH 1" THICK MERV 8 PLEATED FILTER AND (2) SPARES.																															
2. PROVIDE AND INSTALL ALL FAN COIL UNITS WITH HOT WATER COILS IN REHEAT POSITION DOWNSTREAM OF CHILLED WATER COILS.																															

[illegible]

LANCER ASSOCIATES
ARCHITECTURE

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REMARKS:

1. PROVIDE AND INSTALL WITH MOTORIZED OUTSIDE AIR DAMPER AND BAROMETRIC RELIEF WITH PACKAGED DAMPER CONTROLS.
2. PROVIDE AND INSTALL WITH PHASE LOSS PROTECTION.
3. PROVIDE AND INSTALL WITH SINGLE POINT ELECTRICAL POWER CONNECTION.
4. PROVIDE AND INSTALL WITH OUTSIDE INTAKE HOOD WITH INLET SCREEN.
5. PROVIDE AND INSTALL WITH FACTORY INSTALLED ELECTRICAL DISCONNECT SWITCH.
6. PROVIDE AND INSTALL WITH HINGED ACCESS DOORS.
7. PROVIDE AND INSTALL WITH LOUVERED HALL GUARDS ON ALL CONDENSER COILS. SHIP WITH COIL PROTECTION PALLS TO PREVENT DAMAGE DURING SHIPPING, RIGGING, INSTALLATION.
8. PROVIDE AND INSTALL WITH MODULARIZATION PACKAGED WITH PACKAGED RELIEF WITH DAMPER CONTROLS.
9. PROVIDE AND INSTALL WITH INSULATED METAL CURB ADAPTER. EXISTING CURB DIMENSIONS SHOWN FOR REFERENCE ONLY. FIELD VERIFY EXISTING DIMENSIONS.
10. PROVIDE WITH TERMINAL STRIP FOR CONTROL BY TCC.
11. PROVIDE WITH BACKET CONTROLLER FOR INTEGRATION OF DATA INTO BMS.
12. PROVIDE AND INSTALL WITH FACTORY MOUNTED CONVENIENCE RECEPTACLE FOR FIELD WIRING BY EC.
13. PROVIDE AND INSTALL WITH INSULATED STAINLESS STEEL DRAIN PAN.

[illegible]

YAW-1	TTUS	DESIG 04	SO	100	200	100	200	1"	0.25"	4	1.0

REMARKS:

1. PROVIDE AND INSTALL WITH DISCHARGE PLENUM SAME SIZE AS COIL. DISCHARGE, 3' LONG (MIN).
2. PROVIDE AND INSTALL WITH FACTORY WIRED CONTROL TRANSFORMER (TD 24 VDC).
3. PROVIDE WITH CONTROL ENCLOSURE. FACTORY WIRED DISCONNECT SWITCH, RELAYS FOR HEAT STAGES, AND PILOT LIGHTS FOR EACH STAGE OF HEAT.
4. COILS RATED WITH 55 DEG EAT, 95 DEG LAT AT 90% MAX COOLING AIR CFM.

[illegible]

UH-1	STERLING	HS-240	HORIZONTAL	(Wt)(lb)	(Wt)(lb)	(Lc)(ft)	(Dc)(ft)	(Df)(ft)	(V)(ft)	(V)(ft)	2-WAY
				106.8	3500	60	130 / 110	18	1/3	20/1	
REMARKS: 1. PROVIDE AND INSTALL WITH OSHA APPROVED FAN GUARD.											

DWG	TBR	MFR.	MODEL	(EA)	(GPM)	HEAD (FT)	PRESS. (PSI)	PRESS. (PSI)	RPM	(V/PH)	FLA	REMARKS
089-1	BELL & GOSSETT	TECHNOFLOW E-MT		10.0	150	127	20	70	3600	4600	28	1, 2, 3, 4, 5, 6, 7, 8
REMARKS:												
1. PROVIDE AND INSTALL WITH SKID MOUNTED PRE-PIPED AND FACTORY WIRED SYSTEM WITH PACKAGED CONTROLS AND BACNET MS/TIP INTERFACE.												
2. PROVIDE INDIVIDUAL ISOLATION VALVES AND PRVs FOR EACH PUMP.												
3. PROVIDE IN ADDITION TO FACTORY WIRED CONTROL PANEL, FAN UNIT, PRESSURE SENSORS, PRESSURE GAUGES, STARTERS, STATUS LIGHTS, AND DISCONNECT...												
4. PANEL SHALL BE WIRED FOR A SINGLE POINT OF ELECTRICAL CONNECTION.												
5. PROVIDE AND INSTALL WITH WESSELX FXA-500 ASME DRAW DOWN TANK.												
6. PROVIDE AND INSTALL WITH DUPLEX 100' RESIDUAL PUMP.												
7. PROVIDE AND INSTALL WITH FACTORY VARIABLE SPEED DRIVE AND CONTROLS.												
8. PROVIDE AND INSTALL WITH SUCTION HEADER LOW SUCTION PRESSURE SWITCH TO MAINTAIN SUCTION PRESSURE ABOVE 20 PSIG.												


TAG	MFR.	MODEL	SIZE	DIA (N)	FLUID	(GPM)	(FT)	(HP)	(BHP)	(+/--%)	RPM	RPM	VRD	CONTROL
P-1	BELL & GOSSETT	E-1510.25AC	2157	6	WATER	226	110	15	8.31	74.8	3600	3168	VSD	
P-2	BELL & GOSSETT	E-1510.25AC	2157	6	WATER	226	110	15	8.31	74.8	3600	3168	VSD	

REMARKS:

1. ALL MOTORS SHALL BE NON-OVERLOADING.
2. MOTOR SHALL BE MULTI-TAP 460/240/208 BALDOR SUPER-E WITH INTEGRAL SHAFT GROUNDING RING AND COMPLY WITH NEMA MG-1 FOR VARIABLE SPEED OPERATION.
3. MOTOR SHALL HAVE CLASS F INSULATION FOR USE WITH VARIABLE SPEED DRIVE.
4. MFR SHALL CALL PUMPING AT THE HEAD END, PRIOR TO START-UP. PROVIDE WRITTEN REPORT OF ALIGNMENT AND STRAIN.
5. PROVIDE WITH IMPELLER SIZE LISTED. VSD WILL BE USED TO BALANCE FLOW TO DESIGN POINT.
6. LEAD-LEG PARALLEL PUMPING OPERATION FOR COMINED FLOW OF 450 GPM AT 110 FEET OF HEAD.

[illegible][illegible]

SUNMAN-DEARBORN COMM. SCHOOL CORP.
RENOVATIONS TO SUNMAN ELEMENTARY SCHOOL
925 N Meridian St, Sunman, IN 47041



#	Date	Desc.
1	8/5/2024	ADDENDUM #1

PROJECT: #23138
DATE: 07/24/2024
DRAWN BY: ASL


MECHANICAL SCHEDULES

M502

PRIMARY JOB # 24588

PLOT DATE/TIME 8/15/2024 9:48:38 AM

THIS MONOCHROME
PRINT SHOULD
DISPLAY
GRAYSCALE BOXES
BELOW IF PRINTED
PROPERLY WITH
256 SHADES OF
GRAY



CONTROLS POINT LIST SCHEDULE														
Point Description	SUNMAN-DEARBORN COMM. SCHOOL CORP.		HARDWARE											
	SUNMAN ELEMENTARY		OUTPUT (O)		DIGITAL		INPUT (T, D, V, C)		ANALOG		ALARMS		SOFTWARE	
			DGTAL	ANALOG							DGTAL	ANALOG	BMS FUNCTIONS	
Control Relay/Contactor														
Floating Point Control														
Solenoid Valve														
Pneumatic Transducer														
Electrical Transducer														
4-20 ma or 0-10 VDC														
Pressure Switch														
Flow Switch														
Space Occupancy Sensor														
Over-ride button														
Contact Closure														
Protocol														
Auxiliary Contact														
KW Meter Contact														
Temperature														
Relative Humidity														
Set Point Adjustment														
Carbon Dioxide Level (ppm)														
Carbon Monoxide (ppm)														
Lighting Level (Foot Candles)														
Pressure (in H2O, 1 H2O DP)														
Flow Measurement (gpm/lpm)														
Electrical Current Flow (amps)														
Position Feedback														
Trending														
Equipment Alarm														
Freeze/Stat Alarm														
Maintenance Notification														
High Limit (Temperature)														
Low Limit (Temperature)														
Run Time Alarm														
Scheduled On/Off														
Optimum Start/Stop														
Totalization														
O.A. Reset														
Lead/Lag Control														
BACNET software point														
Lighting Control Integration														
Color Graphics Item														

CONTROLS POINT LIST SCHEDULE														
Point Description	SUNMAN-DEARBORN COMM. SCHOOL CORP.		HARDWARE											
	SUNMAN ELEMENTARY		OUTPUT (O)		DIGITAL		INPUT (T, D, V, C)		ANALOG		ALARMS		SOFTWARE	
			DGTAL	ANALOG							DGTAL	ANALOG	BMS FUNCTIONS	
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CONTROLS POINT LIST SCHEDULE														
Point Description	SUNMAN-DEARBORN COMM. SCHOOL CORP.		HARDWARE											
	SUNMAN ELEMENTARY		OUTPUT (O)		DIGITAL		INPUT (T, D, V, C)		ANALOG		ALARMS		SOFTWARE	
			DGTAL	ANALOG							DGTAL	ANALOG	BMS FUNCTIONS	
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Optimum Start/Stop														
Totalization														
O.A. Reset														
Lead/Lag Control														
BACNET software point														
Lighting Control Integration														
Color Graphics Item														

CONTROLS INFORMATION

- EXISTING CONTROL DAMPERS SHALL REMAIN. CONTRACTOR SHALL REMOVE EXISTING ACTUATORS. PROVIDE AND INSTALL NEW ACTUATORS ON EXISTING CONTROL DAMPERS. MODIFY EXISTING CONTROL DAMPER LINKAGE AS REQUIRED.
- EXISTING VARIABLE SPEED DRIVES AND AIRFLOW MEASURING STATIONS SHALL REMAIN.
- CONTRACTOR SHALL REMOVE EXISTING DAMPER/VALVE CONTROLS, COILS, CONDUIT, WIRING, TUBING, SURFACE RACEWAY, WIREMOLD, AND ASSOCIATED MOUNTING DEVICES.
- CONTRACTOR SHALL REMOVE ALL EXISTING TEMPERATURE CONTROLS SENSORS, THERMOSTATS, RELAYS, CONTROL PANELS, CONTROL UNITS, UNITARY CONTROLLERS, AND POWER SUPPLIES.
- CONTRACTOR SHALL REMOVE ALL EXISTING EQUIPMENT LABELS. PROVIDE AND INSTALL NEW EQUIPMENT LABELS ON ALL EXISTING EQUIPMENT. ALL EQUIPMENT IDENTIFICATION AND TAGS SHALL BE UNIQUE. UPDATE EQUIPMENT LABELS AND GRAPHICS INFORMATION AS REQUIRED.
- CONTRACTOR SHALL CLEAN EXISTING VAV TERMINAL FLOW RING AND TUBING TO REMOVE ALL DUST AND DEBRIS.
- CONTRACTOR SHALL ENGAGE AABC OR NEBB TAG SPECIALIST TO TEST AND BALANCE ALL EXISTING VAV TERMINALS AND ALL EXISTING CENTRAL STATION AIR HANDLING UNITS.
- CONTRACTOR SHALL CAREFULLY SALVAGE EXISTING LAY-IN CEILING TILES AND WORK THROUGH EXISTING GRID AS REQUIRED TO GAIN ACCESS FOR WORK. CONTRACTOR SHALL INSTALL SALVAGED CEILING TILES AFTER WORK IS COMPLETE.
- CONTRACTOR SHALL INCLUDE FURNISH AND INSTALLATION OF MINIMUM 1/2" TO 1 1/2" CEILING MOUNTED ACCESS DOORS EQUAL TO HYSTROM MNT SERIES AS REQUIRED FOR ACCESS TO WORK ABOVE EXISTING GYPSUM AND PLASTER CEILINGS. REFER TO ACCESS DOOR DETAIL.
- CONTRACTOR SHALL REMOVE ALL EXISTING PNEUMATIC CONTROL VALVES INCLUDING ASSOCIATED TUBING. PROVIDE AND INSTALL NEW CONTROL VALVE WITH DDC ACTUATOR. TIE-IN TO EXISTING HYDRONIC PIPING. REFER TO CONTROL VALVE SCHEDULE FOR MORE INFORMATION.

CONTROL VALVE SCHEDULE

TAG	SYSTEM	FLOW (GPM)	CONTROL VALVE	LINE SIZE NPS
DUCT COILS				
D1	HOT WATER	1.58	2-WAY	3/4
D2	HOT WATER	6.65	3-WAY	3/4
C1	HOT WATER	22.00	3-WAY	1 1/2
C2	HOT WATER	3.50	3-WAY	3/4
C3	HOT WATER	1.75	2-WAY	3/4
C4	HOT WATER	0.82	2-WAY	3/4
C5	HOT WATER	20.00	2-WAY	1 1/2
AIR HANDLING UNITS				
AHU-1	HOT WATER	20.00	3-WAY	1 1/2
AHU-2	HOT WATER	9.80	3-WAY	1
AHU-3	HOT WATER	15.00	3-WAY	1 1/4
REHEAT VAV TERMINALS				
VAV-A1A	HOT WATER	1.20	2-WAY	3/4
VAV-A1B	HOT WATER	1.20	2-WAY	3/4
VAV-A2A	HOT WATER	1.20	2-WAY	3/4
VAV-A103	HOT WATER	2.00	2-WAY	3/4
VAV-A104	HOT WATER	2.00	2-WAY	3/4
VAV-A105	HOT WATER	2.00	2-WAY	3/4
VAV-A106	HOT WATER	2.75	2-WAY	3/4
VAV-A107	HOT WATER	1.00	2-WAY	3/4
VAV-A111	HOT WATER	2.75	2-WAY	3/4
VAV-A112	HOT WATER	2.75	2-WAY	3/4
VAV-A113	HOT WATER	1.00	2-WAY	3/4
VAV-A117	HOT WATER	2.75	2-WAY	3/4
VAV-A118	HOT WATER	2.00	2-WAY	3/4
VAV-A119	HOT WATER	2.00	2-WAY	3/4
VAV-A120	HOT WATER	2.00	2-WAY	3/4
VAV-A121	HOT WATER	2.25	2-WAY	3/4
VAV-B100	HOT WATER	1.00	2-WAY	3/4
VAV-B101	HOT WATER	2.00	2-WAY	3/4
VAV-B101	HOT WATER	2.00	2-WAY	3/4
VAV-B102	HOT WATER	1.00	2-WAY	3/4
VAV-B103	HOT WATER	1.00	2-WAY	3/4
VAV-B104	HOT WATER	1.00	2-WAY	3/4
VAV-B105	HOT WATER	1.00	2-WAY	3/4
VAV-B106	HOT WATER	1.00	2-WAY	3/4
VAV-B107	HOT WATER	1.00	2-WAY	3/4
VAV-B113	HOT WATER	1.25	2-WAY	3/4
VAV-B114	HOT WATER	1.00	2-WAY	3/4
VAV-B115B	HOT WATER	1.75	2-WAY	3/4
VAV-B116	HOT WATER	1.00	2-WAY	3/4
VAV-B117	HOT WATER	1.00	2-WAY	3/4
VAV-B123	HOT WATER	1.00	2-WAY	3/4
VAV-B137	HOT WATER	3.00	2-WAY	3/4
VAV-B138	HOT WATER	1.00	2-WAY	3/4
VAV-B140A	HOT WATER	1.50	2-WAY	3/4
VAV-B140B	HOT WATER	3.75	2-WAY	3/4
VAV-B140C	HOT WATER	2.50	2-WAY	3/4
VAV-B140D	HOT WATER	1.50	2-WAY	3/4
VAV-B141	HOT WATER	1.25	2-WAY	3/4
VAV-B142	HOT WATER	1.00	2-WAY	3/4
VAV-B144	HOT WATER	1.00	2-WAY	3/4
VAV-B147	HOT WATER	1.00	2-WAY	3/4
VAV-G011	HOT WATER	1.50	2-WAY	3/4
CABINET UNIT HEATERS				
CUH-A110	HOT WATER	1.00	2-WAY	3/4
CUH-A111	HOT WATER	1.00	2-WAY	3/4
CUH-A112	HOT WATER	1.50	2-WAY	3/4
CUH-A124	HOT WATER	2.50	2-WAY	3/4
CUH-A125	HOT WATER	2.50	2-WAY	3/4
CUH-B104	HOT WATER	2.50	2-WAY	3/4
CUH-B108	HOT WATER	1.00	2-WAY	3/4
CUH-B110	HOT WATER	1.50	2-WAY	3/4
CUH-C010	HOT WATER	6.00	2-WAY	1
CUH-C011	HOT WATER	2.50	2-WAY	3/4
CUH-C013	HOT WATER	2.50	2-WAY	3/4
UNIT HEATERS				
UHA	HOT WATER	4.40	2-WAY	3/4
UHB	HOT WATER	6.10	2-WAY	3/4
UHC115	HOT WATER	1.90	2-WAY	3/4
RADIANT CEILING PANELS				
RCR-1	HOT WATER	6.00	2-WAY	1
RCR-2	HOT WATER	6.00	2-WAY	1
RCR-3	HOT WATER	10.00	2-WAY	1
RCR-4	HOT WATER	10.00	2-WAY	1