MOUND FORT JUNIOR HIGH SCHOOL HVAC REPLACEMENT PROJECT **OGDEN SCHOOL DISTRICT** 1400 MOUND FORT DR., OGDEN, UTAH 84404 FEBRUARY 2023 **GENERAL NOTES BBREVIATIONS** A. DO NOT SCALE DRAWINGS. CLOSELY COORDINATE NEW MECHANICAL OLSEN AND PETERSC ELECTRICAL AND GENERAL CONSTRUCTION WORK WITH ALL NEW AND EXISTING MECHANICAL. ELECTRICAL AND STRUCTURAL TRADES. PIPE AND 14 East 2700 South DUCT ROUTING SHOWN IS APPROXIMATE AND IS NOT TO BE SCALED. PROVIDE TING OFFSETS AND TRANSITIONS AS REOLIIRED FOR Salt Lake City, Utah 84115 Phone: (801) 486-4646 CTRICAL ITEMS PRIOR TO COMMENCING NEW WORK. NO ADDITION Web: op-eng.com PAYMENT WILL BE ALLOWED FOR CONTRACTOR'S FAILURE TO BECOM FAMILIAR WITH EXISTING CONDITIONS C. ALL GENERAL. MECHANICAL AND ELECTRICAL WORK SHALL BE COORDINATE WITH THE WORK PERFORMED UNDER OTHER DIVISIONS TO AVOID BNA CONSULTING ELE INTERFERENCE. D. CONTRACTOR SHALL REMOVE FROM THE JOBSITE ANY DEMOLISHED MATERIALS NOT ECONOMICALLY RECOVERABLE AND TRANSPORT PROMPTLY 4225 Lake Park Blvd - Suite OFF-SITE TO AN APPROVED LANDFILL. SALVAGE RIGHTS TO DEMOLISHED MATERIALS BELONG TO THE CONTRACTOR. West Valley City, Utah 84120 E. INSTALL ALL EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS AND Phone: (801) 532-2196 INSTRUCTIONS F. ALL PIPING, CONDUIT, VENTS, ETC. EXTENDING THROUGH THE EXTERIOR Web: bnaconsulting.com WALLS AND/OR ROOF SHALL BE FLASHED AND COUNTER FLASHED IN A WATERPROOF MANNER G. CONTRACTOR SHALL FURNISH AND INSTALL ALL SUPPORTING ANGLES AND EXTRA SUPPORT BEAMS FOR MECHANICAL AND ELECTRICAL EQUIPMENT. H. CONTRACTOR SHALL CHANGE OUT THE PUMP STARTUP SCREENS AT THE TIME OF POSSESSION OF THE PROJECT BY THE OWNER. I. THE CONTRACTOR SHALL LEAVE HIS WORK AND EQUIPMENT IN AS NEW WORKING CONDITION AND SHALL GUARANTEE SAME FOR A PERIOD OF TWELVE (12) MONTHS FROM DATE OF FINAL ACCEPTANCE. PROVIDE IDENTIFICATION LABELS ON ALL EQUIPMENT, PIPING, VALVES, DEVICES, CONTROLS, ETC. TO MATCH EXISTING BUILDING LABELING STANDARDS. K. CURRENT OWNER SPECIFICATION AND STANDARDS ARE A PART OF THESE DOCUMENTS AND SHALL BE FOLLOWED. L. AT THE CONCLUSION OF THE PROJECT, PREPARE OPERATION AND MAINTENANCE MANUALS AND SUBMIT TO ENGINEER. M. PROVIDE AS-BUILT DRAWINGS AND SUBMIT TO ENGINEER. N. PROVIDE SUBMITTALS ON ITEMS LISTED IN MECHANICAL, PLUMBING AND ELECTRICAL EQUIPMENT SCHEDULES TO THE ENGINEER FOR REVIEW PRIOR TO ORDER, PURCHASE OR INSTALLATION. O. PROVIDE ISOLATION VALVES ON ALL PIPING TO EQUIPMENT. GENERAL DEMOLITION NOTES LOCATION -A. IT IS THE INTENT OF THIS CONTRACT TO REMOVE THE EXISTING STEAM BOILERS, HEAT EXCHANGERS AND OTHER ITEMS INDICATED ON THE DRAWINGS AND REPLACE THEM WITH NEW HOT WATER BOILERS, PUMPS, EQUIPMENT OF TYPE, STYLE AND CAPACITY INDICATED ON THE DRAWINGS OR NOTED IN THE SPECIFICATIONS B. IT IS THE INTENT OF THIS CONTRACT TO REMOVE PORTIONS OF EXISTING DUCTWORK INDICATED AND REPLACE WITH NEW DUCTWORK FOR THE PURPOSE OF COMPATIBLE HVAC ZONING. IT IS THE INTENT OF THIS CONTRACT TO REMOVE THE EXISTING PNEUMATIC CONTROLS THROUGHOUT THE BUILDING AND REPLACE WITH NEW DDC CONTROLS. CONTROL SYSTEMS TO BE PROVIDED AND INSTALLED BY UTAH-YAMAS CONTROLS INC. D. IT IS THE INTENT OF THIS CONTRACT TO REMOVE THE STEAM, CONDENSATE AND HEATING HOT WATER PIPING INDICATED ON THE DRAWINGS. WHERE PIPING IS INDICATED TO BE REMOVED, THE CONTRACTOR SHALL REMOVE THE PIPING SYSTEM COMPLETE INCLUDING ALL PIPING INSULATION, PIPE HANGERS AND PIPE SUPPORTS. E. IT IS THE INTENT OF THIS CONTRACT TO REMOVE THE STEAM/HOT WATER HEAT EXCHANGERS INDICATED ON THE DRAWINGS. REMOVE ALL ASSOCIATED EQUIPMENT SUPPORTS, CONTROL VALVES AND INSULATION COMPLETE. F. THE CONTRACTOR SHALL CAREFULLY COORDINATE WITH THEIR EQUIPMENT SUPPLIER TO PROVIDE THE NEW MECHANICAL EQUIPMENT. HOT WATER COILS, PIPING AND APPURTENANCES TO FIT WITHIN THE CONFINES OF THE EXISTING BOILER AND MECHANICAL ROOMS. GENERAL OPERATIONAL AND SERVICE CLEARANCES OF ALL MECHANICAL EQUIPMENT MUST BE MAINTAINED. TITLE SHEET IT IS THE INTENT OF THIS CONTRACT TO REMOVE THE EXISTING STEAM COILS FROM THE EXISTING AIR HANDLERS AND REPLACE WITH NEW HEATING HOT WATER COILS INDICATED ON THE DRAWINGS. THE MECHANICAL MECHANICAL CONTRACTOR SHALL FABRICATE CASINGS AND PANELS TO FACILITATE THE INSTALLATION OF THE NEW HOT WATER COILS. MECHANICAL DEMOLITIO H. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING THE EXISTING PIPING. DUCTWORK AND SUPPORT SYSTEMS TO FACILITATE REMOVAL AND MECHANICAL DEMOLITIO REPLACEMENT OF THE EQUIPMENT, DUCTWORK, PIPING, AND OTHER APPURTENANCES ASSOCIATED WITH THIS WORK. MECHANICAL DEMOLITIO THE CONTRACTOR SHALL CAREFULLY COORDINATE THE MECHANICAL MECHANICAL DEMOLITIO DEMOLITION WORK WITH THE AUTOMATIC TEMPERATURE CONTROLS (ATC) ENLARGED MECHANICAL CONTRACTOR TO IDENTIFY THE LOCATION AND DISPOSITION OF ALL DAMPERS, VALVES, ACTUATORS, THERMOSTATS, CONTROL PANELS AND MECHANICAL PLAN - ARE OTHER RELATED DEVICES THAT REQUIRE DEMOLITION, RELOCATION, MODIFICATION OR RE-INSTALLATION. **MECHANICAL PLAN - ARE** J. ABANDONMENT OF NON-FUNCTIONAL MECHANICAL EQUIPMENT, **MECHANICAL PLAN - ARE** DUCTWORK CONDUIT. OR PIPING IN MECHANICAL SPACES IS PROHIBITED **MECHANICAL PLAN - ARE** REMOVE ALL ACCESSIBLE AND UN-USED MECHANICAL AND ELECTRICAL EQUIPMENT, DUCTWORK AND PIPING SYSTEMS THAT ARE NOT RE-USED ENLARGED BOILER ROOM AS PART OF THE NEW WORK. **DESIGN CRITERIA** ENLARGED MECHANICAL STORAGE OF DEMOLISHED MATERIALS IS PROHIBITED. ALL MECHANICAL EQUIPMENT, PIPING, DUCTWORK, CONTROLS ETC. REMOVED AS PART OF OCATION: OGDEN, UTAH **BOILER ROOM VENTING F** THIS WORK SHALL BE PROMPTLY TRANSPORTED OFF SITE AND LEGALLY **LEVATION:** 4260 FT ASL 41 **LONGITUDE:** -111 DISPOSED OF AT AN EPA-APPROVED LANDFILL. AUDITORIUM FAN ROOM THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING EXISTING **MECHANICAL LEGEND & S** FLOORS, CEILINGS AND OTHER DEVICES FROM DAMAGE DURING SIGN CONDITIONS CONSTRUCTION. PROVIDE SUITABLE DUST COVERS, TARPS AND WORK MECHANICAL SCHEDULES 3/ 64 DEG F WB CLOTH AS NEEDED. MECHANICAL DETAILS SIGN CONDITIONS MECHANICAL DETAILS MECHANICAL DETAILS SIGN CONDITIONS ETPOINT: 75 DEG F +/- 1.5 DEG F ETPOINT: 72 DEG F +/- 1.5 DEG F MECHANICAL DETAILS 0% RELATIVE IEAT GAIN -----FDR------2 W/(SQ/FT 0.5 W/(SQ/FT OCCUPANTS: 255 BTUH SÉNSIBLE/ 250 BTUH LATENT

DESIGN TEA		<u>rs – mechanical</u>				AE
ECTRICAL ENGIN 275	NEERING -	- ELECTRICAL			Ø AD AF AFF ALT BI BOD BOP BTU/H CAP CFM CV	ROUND OR DIAMETER ACCESS DOOR AIRFOIL ABOVE FINISHED FLOOR ALTERNATE BACKWARD INCLINED BOTTOM OF DUCT BOTTOM OF PIPE BRITISH THERMAL UNITS PER CAPACITY CUBIC FEET PER MINUTE CONSTANT VOLUME
VICINITY M 1400 MOUND FORT DR - OGDE					DB DN DIA DCW DHW DHWC	DRY BULB DOWN DIAMETER DOMESTIC COLD WATER DOMESTIC HOT WATER CIRC
Mound Fort	Junior Hitein Ordere Botania				DSN DW (E) EA EAT EFF ELEV ENCL ESP ET EWC EWT FCO FD FO FD FO FPM FS	DOWN SPOUT NOZZLE DISHWASHER EXISTING EXHAUST AIR ENTERING AIR TEMPERATUR EFFICIENCY ELEVATION ENCLOSURE EXTERNAL STATIC PRESSUR EXTERNAL STATIC PRESSUR EXTERNAL STATIC PRESSUR EXTERNAL STATIC PRESSUR EXTERNAL STATIC PRESSUR EXTERNAL STATIC PRESSUR ENTERING WATER TEMPERAT FLOOR CLEANOUT FLOOR DRAIN FLAT OVAL FEET PER MINUTE
DR	AWING I	NDEX			FT FV GA GAL GD GPM	FEET FACE VELOCITY GAUGE GALLON GARAGE DRAIN GALLONS PER MINUTE
N PLAN - AREA A N PLAN - AREA B N PLAN - AREA C N PLAN - AREA D DEMOLITION PLANS A A A B A C A D M PLAN ROOM PLAN PLAN MECHANICAL PLAN SCHEDULES S	TS MD101A MD101B MD101C MD101D MD401 M101A M101B M101C M101D M401 M402 M403 M404 M501 M502 M601 M602 M603 M604	ELECTRICAL ELECTRICAL SYMBOLS, SCHEDI AND NOTES ELECTRICAL DEMOLITION PLAN ELECTRICAL DEMOLITION PLAN ELECTRICAL PLAN - OVERALL ELECTRICAL PLAN - BOILER ROU ELECTRICAL PLAN - ENLARGED ONE-LINE DIAGRAM PANEL BOARD SCHEDULES ELECTRICAL DIAGRAMS	I - OVERALL ED10 IS - ENLARGED ED10 EE10 OM EE10	01 02 01 02 03 01 02	HP HR HT IN INWC INWG L LAT LBS	HORSEPOWER HOUR HEIGHT INCH INCHES OF WATER COLUMN INCHES OF WATER GAUGE LAVATORY OR LOUVER LEAVING AIR TEMPERATURE POUNDS HVATCR DES POUNDS HVACC C PROJECT LC PROJECT LC PROJECT LC PROJECT EL LATITUDE: 4 SUMMER DES 3 DEG F DB WINTER DES 3 DEG F DB
						INTERNAL H LIGHTING 1.2 EQUIPMENT

	LWT	LEAVING WATER TEMPERATURE
	MAX	MAXIMUM
	MBH	THOUSAND BRITISH THERMAL UNITS/HOUR
	MECH	MECHANICAL
	MIN	MINIMUM
	NC	NOISE CRITERIA OR NORMALLY CLOSED
	NIC	NOT IN CONTRACT
	NO	NUMBER
HOUR	NOM	NOMINAL
	NSD	NEBD SCHOOL DISTRICT
	NTS	NOT TO SCALE
	OA	OUTSIDE AIR
	OBD	OPPOSED BLADE DAMPER
	OD	OVERFLOW DRAIN
	OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
	OFOI	OWNER FURNISHED, OWNER INSTALLED
	PD	PRESSURE DROP
	POC	POINT OF CONNECTION
	PDD	POINT OF DISCONNECT
	PRV	PRESSURE REDUCING VALVE
	PSI	POUNDS PER SQUARE INCH
	PSIG	POUNDS PER SQUARE INCH GAUGE
E	RA	RETURN AIR
	RAD	RADIUS
	RD	ROOF DRAIN
	RPBP	REDUCED PRESSURE BACKFLOW PREVENTER
	SA	SUPPLY AIR OR SHOCK ARRESTOR
	SEN	SENSIBLE
	SIM	SIMILAR
URE	SL	SEA LEVEL
	SP	STATIC PRESSURE
	SQ FT	SQUARE FEET
	SS	SERVICE SINK OR STAINLESS STEEL
	TOD	TOP OF DUCT
	TSP	TOTAL STATIC PRESSURE
	TYP.	TYPICAL
	U	URINAL
	V	VENT
	VAV	VARIABLE AIR VOLUME
	VD	VOLUME DAMPER
	VFD	VARIABLE FREQUENCY DRIVE
	VOL	VOLUME
	VTR	VENT THROUGH ROOF
	W/	WITH
	W/O	WITHOUT
	WB	WET BULB
	WC	WATER CLOSET
	MVD	MANUAL VOLUME DAMPER
	WCO	WALL CLEANOUT
	WPD	WATER PRESSURE DROP
	WT	WEIGHT
	-	

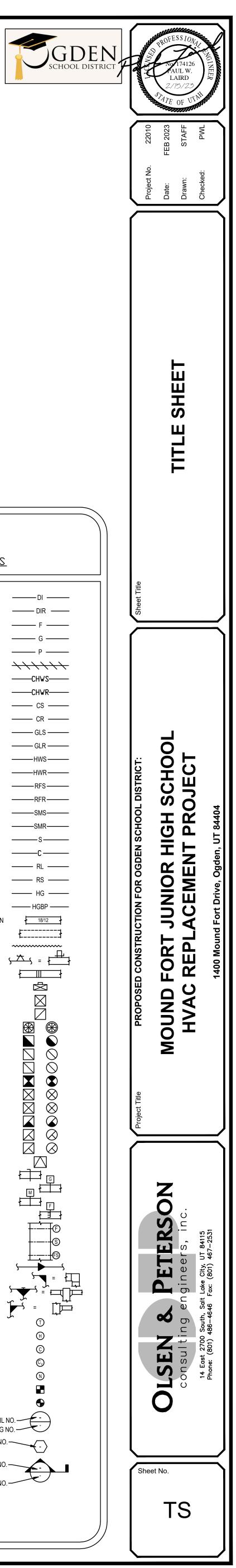
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	Δ	<u>NDTE:</u>
	GATE VALVE	
	OS & Y PATTERN GATE VALVE BALL VALVE	
	BUTTERFLY VALVE	
	MOTORIZED VALVE OPERATOR	
	GAS COCK	
	PLUG VALVE CHECK VALVE (SWING OR LIFT AS	
	SOLENOID VALVE	SILQD)
	AUTOMATIC CONTROL VALVE (2-)	WAY)
	AUTOMATIC CONTROL VALVE (3-)	NAY)
	PRESSURE REDUCING VALVE	
	AIR VENT (AUTOMATIC)	
	CURB COCK	
	THERMAL EXPANSION VALVE	
	STRAINER CALIBRATED BALANCE VALVE	
	VENTURI FLOW METER	
	REDUCER	
	PET COCK OR GAUGE COCK	• •
	PRESSURE GAUGE W/GAUGE CO	CK
	TEMPERATURE & PRESSURE TES	ST PLUG
	IN-LINE PUMP	
	FLOW SWITCH	
	AQUASTAT TEMPERATURE SENSING WELL	
	HOSE BIBB OR SILLCOCK	
	YARD HYDRANT	
	FLOOR DRAIN FLOOR SINK	
	MANHOLE	
	WALL CLEANOUT	
	FLOOR OR GRADE CLEANOUT	
	GRADE CLEANOUT W/ CONCRETE VENT THROUGH ROOF (ISOMETR	
	POST TYPE FDC CONNECTION	,
	WALL TYPE FDC CONNECTION	
	FIRE HOSE CABINET	
	EXPANSION JOINT	
	FLEXIBLE PIPE CONNECTION	
	REDUCED PRESSURE BACKFLOW DIRECTION OF FLOW	PREVENT
	ELBOW DOWN	
	ELBOW UP	
	TEE DOWN UNION	
	DOMESTIC COLD WATER	
	DOMESTIC HOT WATER	
	HOT WATER CIRC.	
	SANITARY (PLBG) VENT	
	SANITARY SEWER ABOVE GRADE	i
	SANITARY SEWER BELOW GRADE	-
	GREASE WASTE ABOVE GRADE GREASE WASTE BELOW GRADE	
	DRAIN	
	OVERFLOW DRAIN STORM DRAIN ABOVE GRADE	
	STORM DRAIN BELOW GRADE	
	COMPRESSED AIR	
	INDUSTRIAL WATER (NON-POTAB FUEL OIL SUPPLY	LE)
	FUEL OIL RETURN	
	X	

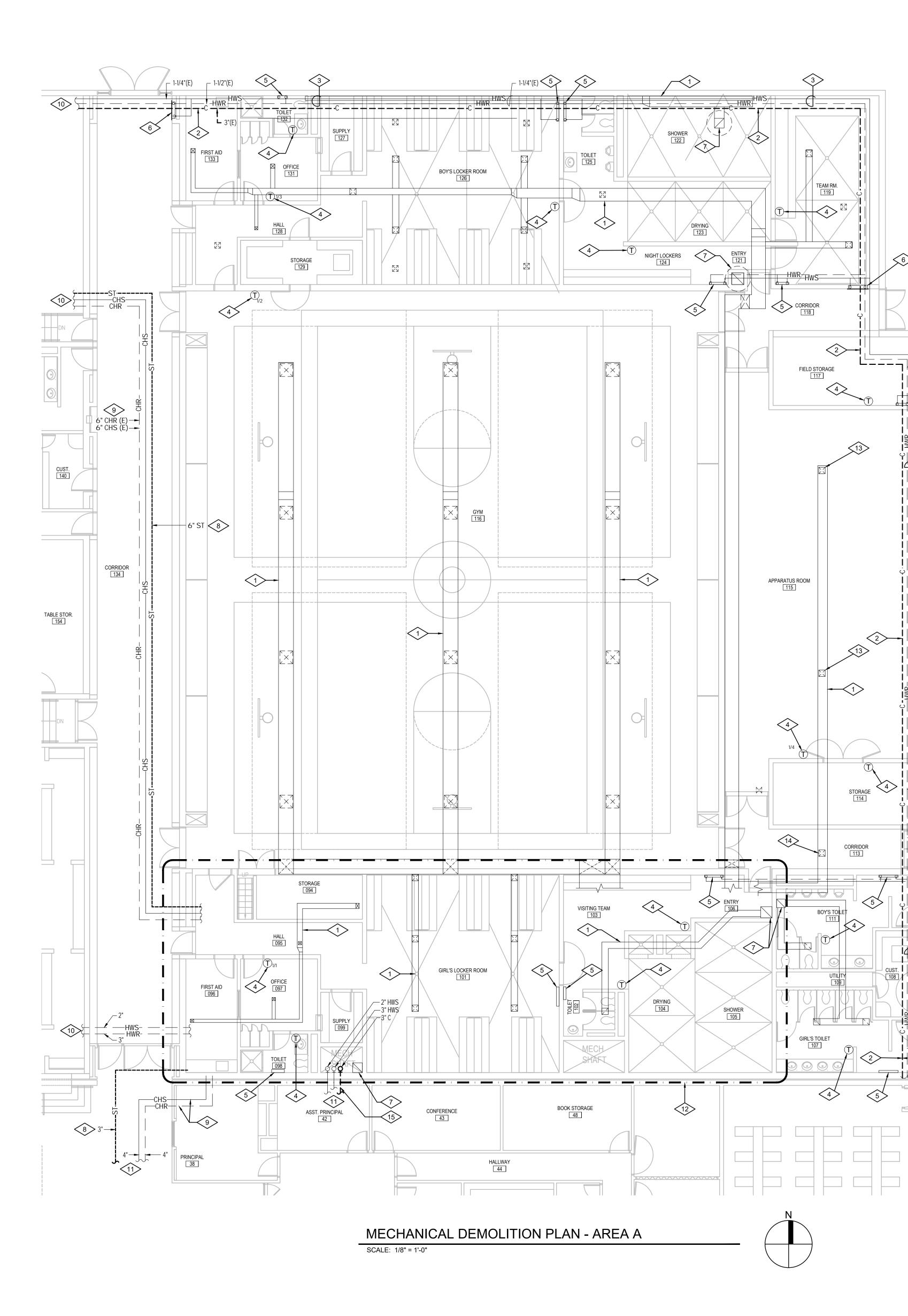
MECHANICAL LEGEND

ITEMS MAY NOT APPEAR ON DRAWINGS

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DEIONIZED WATER	
DEIONIZED WATER RETURN	
FIRE SERVICE	
NATURAL GAS	
PROPANE	
HEAT TRACING	
CHILLED WATER SUPPLY	
CHILLED WATER RETURN	
CONDENSER WATER SUPPLY	
CONDENSER WATER RETURN	
GROUND LOOP SUPPLY	
GROUND LOOP RETURN	
HEATING WATER SUPPLY	
HEATING WATER RETURN	
RADIANT FLOOR SUPPLY	
RADIANT FLOOR RETURN	
SNOW MELT SUPPLY SNOW MELT RETURN	
STEAM	
STEAM	
REFRIGERANT LIQUID	
REFRIGERANT SUCTION	
HOT GAS	
HOT GAS BYPASS	
DUCT SIZE (IN), FIRST FIGURE IS	SIDE SHOWN
BURIED OR UNDERFLOOR DUCT	
FLEXIBLE DUCT (HELICAL)	
SPIN-IN FITTING W/ MVD	
FLEXIBLE DUCT CONNECTION	
SUPPLY SLOT DIFFUSER	
SUPPLY DIFFUSER	
RETURN GRILLE	
RADIAL SUPPLY DIFFUSERS	
RETURN AIR DUCT SECTION	
RETURN AIR DUCT UP	
RETURN AIR DUCT DOWN	
SUPPLY AIR DUCT SECTION	
SUPPLY AIR DUCT UP	
SUPPLY AIR DUCT DOWN	
EXHAUST AIR DUCT SECTION	
EXHAUST AIR DUCT UP	
EXHAUST AIR DUCT DOWN	
MANUAL VOLUME DAMPER	
GRAVITY BACKDRAFT DAMPER	
MOTORIZED DAMPER	
AIR FLOW STATION	
FIRE DAMPER	
SMOKE DAMPER	
COMBINATION FIRE/SMOKE DAM	IPER
DUCT TRANSITION	
ELBOW W/ TURNING VANES	
TEE W/ 45° ENTRY	
WYE W/ 45° ENTRY	
THERMOSTAT OR TEMP SENSOR	۲
HUMIDISTAT OR HUMIDITY SENS	SOR
CARBON MONOXIDE SENSOR	
CARBON DIOXIDE SENSOR	
NITROGEN DIOXIDE SENSOR	
POINT OF REMOVAL FROM EXIS	-
POINT OF CONNECTION TO EXIS	STING
DETAIL TAG	DETAIL
	DRAWING NOTE NO.
KEYED NOTE	NUTE NU.
	SECTIONS NO.
SECTION CUT LINE	DRAWING NO.









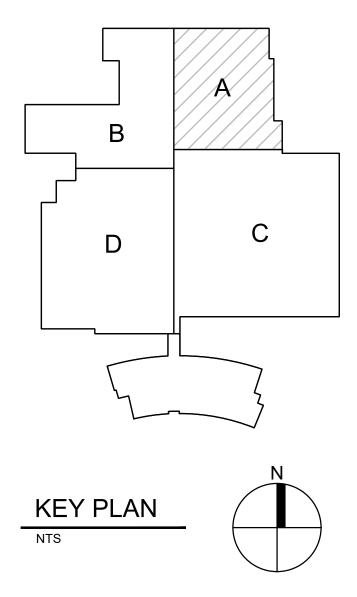
$\langle 1 \rangle$	EXISTING DUCTWORK TO REMAIN INTACT.
2>	EXISTING CONDENSATE PIPING IN UTILITY TUNNEL TO BE ABANDONED IN PLACE.
$\langle 3 \rangle$	EXISTING HEATING HOT WATER PIPING IN UTILITY TUNNEL TO REMAIN INTACT.
4	REMOVE EXISTING TEMPERATURE SENSOR. SEE DRAWING M101A FOR NEW CONTROL WORK.
5	REMOVE EXISTING PNEUMATIC CONTROLS SERVING CONVECTOR AND REPLACE WITH NEW DDC CONTROLS. SEE DRAWING M101A.
6	REMOVE EXISTING PNEUMATIC CONTROLS SERVING CABINET UNIT HEATER AND REPLACE WITH NEW DDC CONTROLS. SEE DRAWING M101A.
	REMOVE EXISTING PNEUMATIC CONTROLS SERVING EXHAUST FAN AND REPLACE WITH NEW DDC CONTROLS. SEE DRAWING M101A.
<u></u>	EXISTING STEAM PIPING ABOVE CEILING TO BE ABANDONED IN PLACE.
9>	EXISTING CHILLED WATER PIPING ABOVE CEILING TO REMAIN INTACT AND BE RE-USED AS PART OF THE NEW WORK. SEE DRAWING M101A.
	FOR CONTINUATION OF PIPING SEE DRAWING MD101B.
	FOR CONTINUATION OF PIPING SEE DRAWING MD101C
12>	FOR MECHANICAL WORK IN MEZZANINE AREA ABOVE LOCKER ROOM SEE DRAWINGS MD401 AND M401.
13>	REMOVE EXISTING DIFFUSER, SEE DRAWING M101A FOR NEW WORK.
14>	REMOVE EXISTING DIFFUSER AND CAP DIFFUSER OPENING. PATCH AND REPAIR CEILING TO MATCH EXISTING.

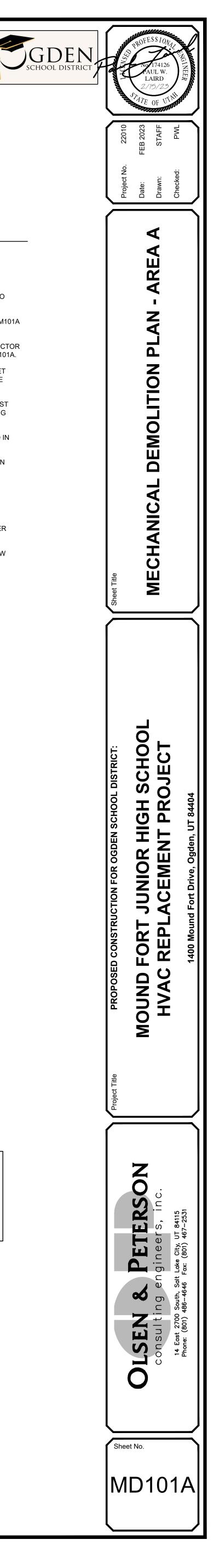
REMOVE EXISTING CONDENSATE PIPING COMPLETE.

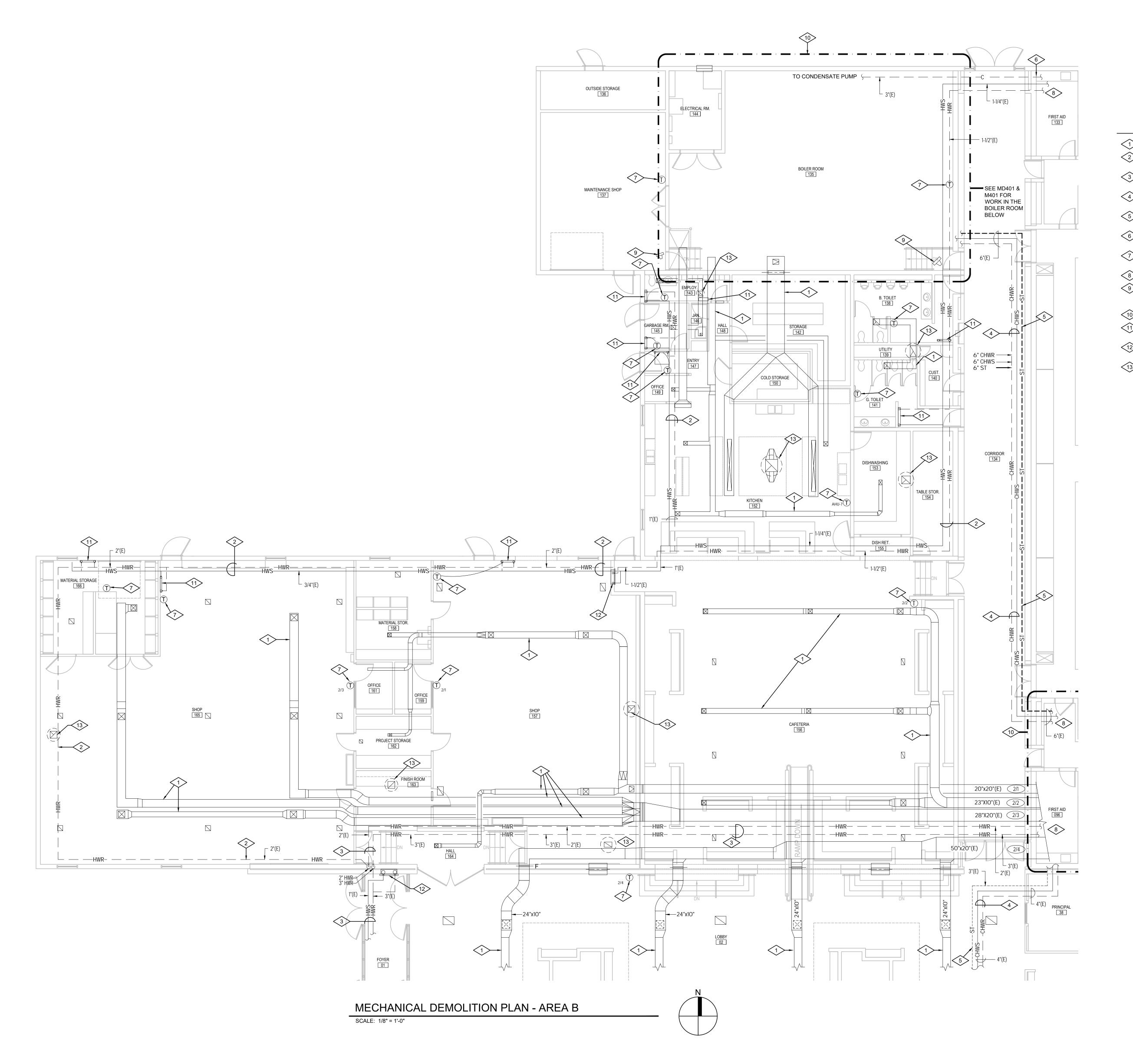
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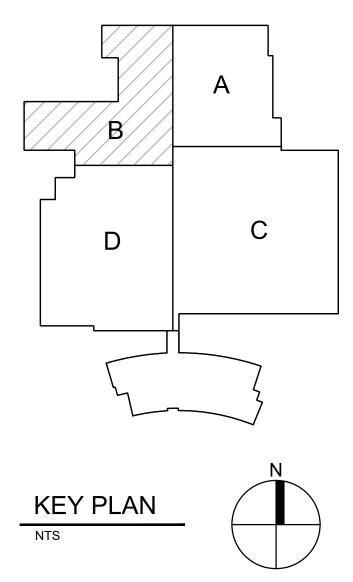


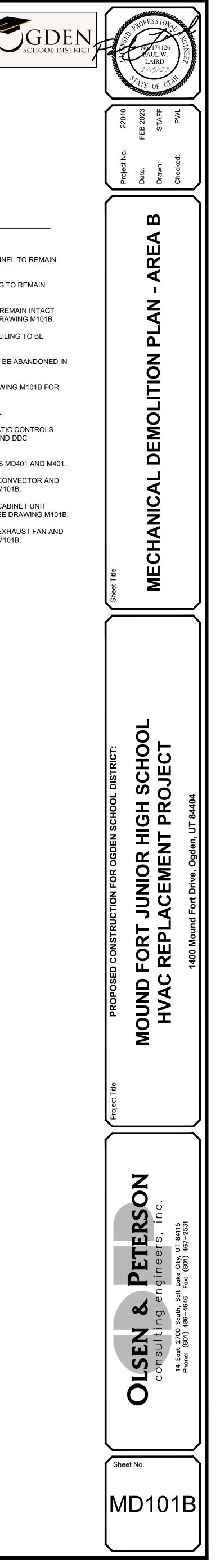


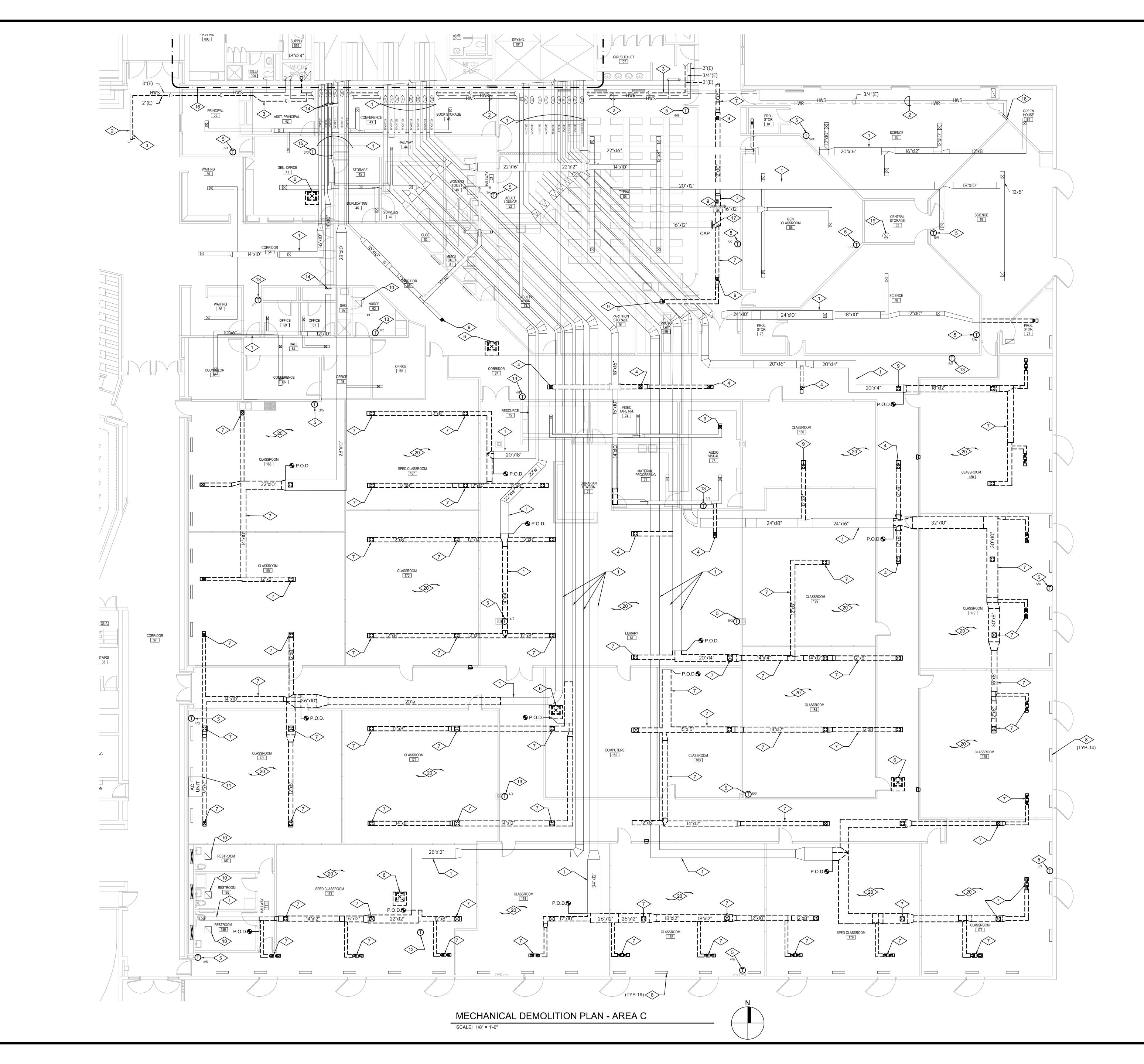




$\langle 1 \rangle$	EXISTING DUCTWORK TO REMAIN INTACT.
2>	EXISTING HEATING HOT WATER PIPING IN UTILITY TUNNEL TO REMAIN INTACT.
$\langle 3 \rangle$	EXISTING HEATING HOT WATER PIPING ABOVE CEILING TO REMAIN INTACT.
4	EXISTING CHILLED WATER PIPING ABOVE CEILING TO REMAIN INTACT AND BE RE-USED AS PART OF THE NEW WORK. SEE DRAWING M101B.
5	EXISTING STEAM AND CONDENSATE PIPING ABOVE CEILING TO BE ABANDONED IN PLACE.
6	EXISTING CONDENSATE PIPING IN UTILITY TUNNEL TO BE ABANDONED IN PLACE.
	REMOVE EXISTING TEMPERATURE SENSOR. SEE DRAWING M101B FOR NEW CONTROL WORK.
8	FOR CONTINUATION OF PIPING SEE DRAWING MD101A.
9	REMOVE EXISTING STEAM UNIT HEATER AND PNEUMATIC CONTROLS AND REPLACE WITH NEW HOT WATER UNIT HEATER AND DDC CONTROLS. SEE DRAWING M101B.
	FOR MECHANICAL WORK IN THIS AREA SEE DRAWINGS MD401 AND M401.
	REMOVE EXISTING PNEUMATIC CONTROLS SERVING CONVECTOR AND REPLACE WITH NEW DDC CONTROLS. SEE DRAWING M101B.
12>	REMOVE EXISTING PNEUMATIC CONTROLS SERVING CABINET UNIT HEATER AND REPLACE WITH NEW DDC CONTROLS. SEE DRAWING M101B.
13	REMOVE EXISTING PNEUMATIC CONTROLS SERVING EXHAUST FAN AND REPLACE WITH NEW DDC CONTROLS. SEE DRAWING M101B.

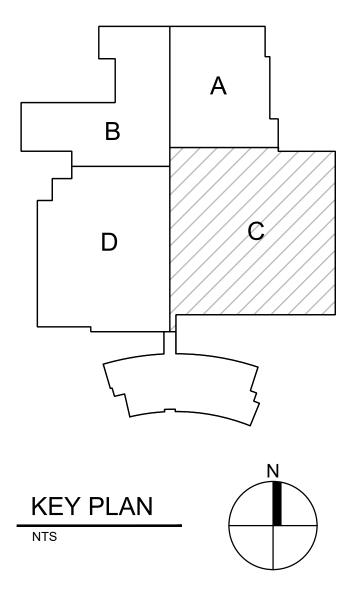


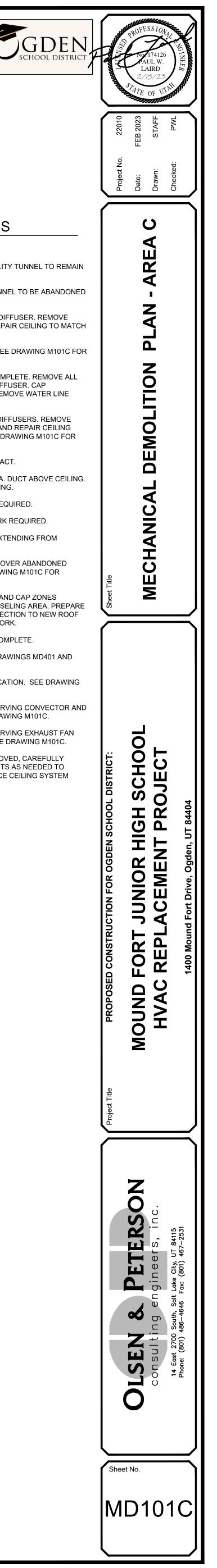


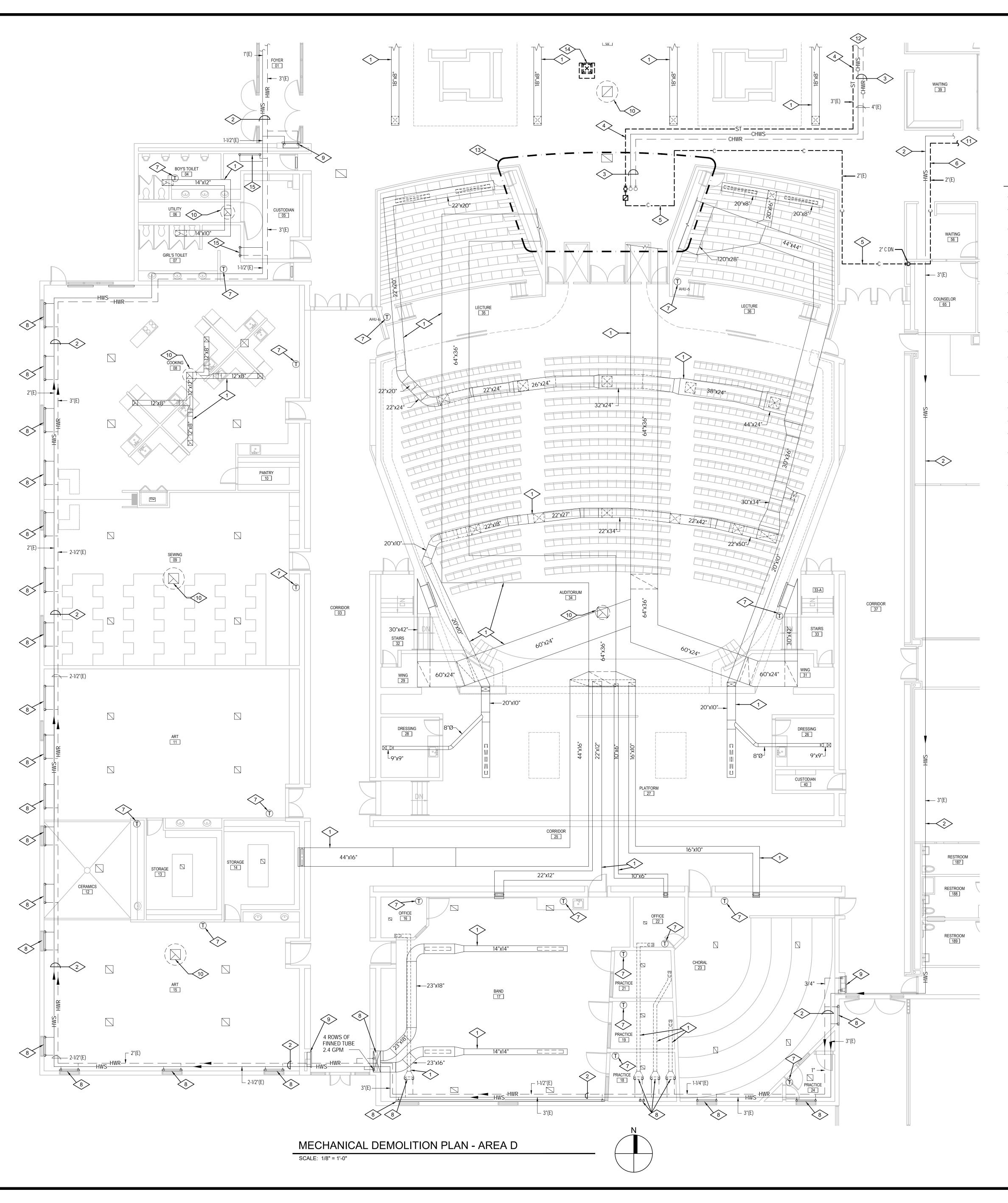




	EXISTING DUCTWORK TO REMAIN INTACT
2>	EXISTING HEATING HOT WATER PIPING IN UTILITY INTACT.
3	EXISTING CONDENSATE PIPING IN UTILITY TUNNE IN PLACE.
4	REMOVE EXISTING BRANCH DUCTWORK AND DIF DUCT BACK TO MAIN AND CAP. PATCH AND REPA EXISTING.
5	REMOVE EXISTING TEMPERATURE SENSOR. SEE NEW CONTROL WORK.
6	REMOVE EXISTING EVAPORATIVE COOLER COMP ASSOCIATED, CONTROLS, DUCTWORK AND DIFF ABANDONED ROOF OPENING WATERTIGHT. REM BACK TO MAIN AND CAP.
	REMOVE EXISTING DUCTWORK AND CEILING DIF DUCT BACK TO P.O.D. AS INDICATED. PATCH AND OPENINGS TO MATCH EXISTING CEILING. SEE DR NEW DUCTWORK.
8	EXISTING FLOOR R.A. GRILLES TO REMAIN INTAC
9	REMOVE EXISTING CEILING DIFFUSER. CAP S.A. I PATCH AND REPAIR CEILING TO MATCH EXISTING
	EXISTING CEILING EXHAUST FAN. NO WORK REQ
	EXISTING AC UNIT TO REMAIN INTACT NO WORK
12	REMOVE EXISTING TEMPERATURE SENSOR EXTE CEILING. DO NOT REPLACE.
13	REMOVE EXISTING TEMPERATURE SENSOR. COV WALL BOX WITH S.S. COVER PLATE. SEE DRAWIN LOCATION OF NEW DDC SENSOR.
14	CUT EXISTING DUCTWORK IN THIS LOCATION AN SERVING THE OFFICE ADMIN AREA AND COUNSE EXISTING DUCTWORK IN GENERAL FOR CONNEC TOP UNITS. SEE DRAWING M101C FOR NEW WOR
15	REMOVE EXISTING TEMPERATURE SENSOR COM
16	FOR MECHANICAL WORK IN THIS AREA SEE DRAV M401.
17	CUT AND CAP EXISTING S.A. DUCT IN THIS LOCAT M101C FOR NEW WORK.
18	REMOVE EXISTING PNEUMATIC CONTROLS SERV REPLACE WITH NEW DDC CONTROLS. SEE DRAW
19	REMOVE EXISTING PNEUMATIC CONTROLS SERV AND REPLACE WITH NEW DDC CONTROLS. SEE D
20>	WHERE DUCTWORK IS INDICATED TO BE REMOV REMOVE EXISTING CEILING SYSTEM AND LIGHTS FACILITATE REMOVAL OF DUCTWORK. REPLACE UPON COMPLETION OF WORK.

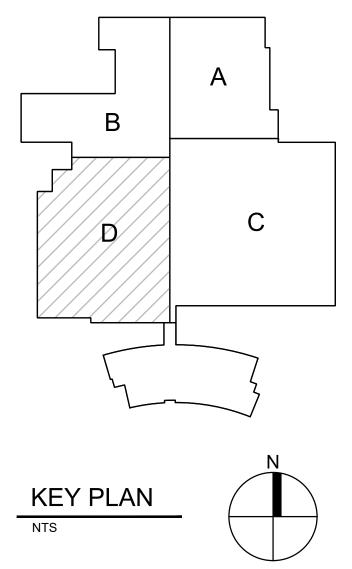


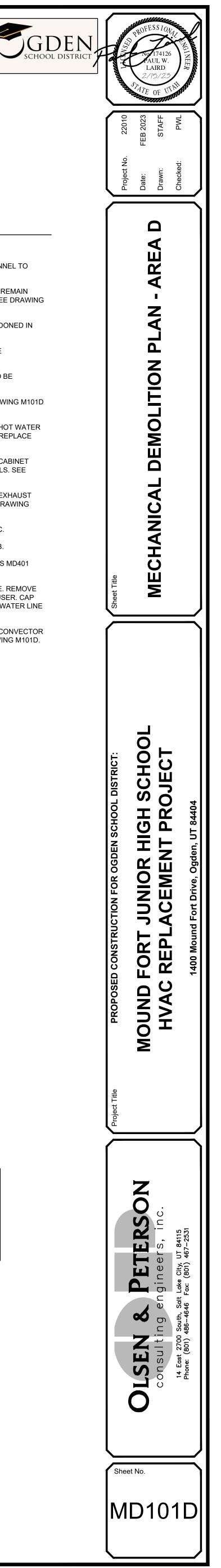


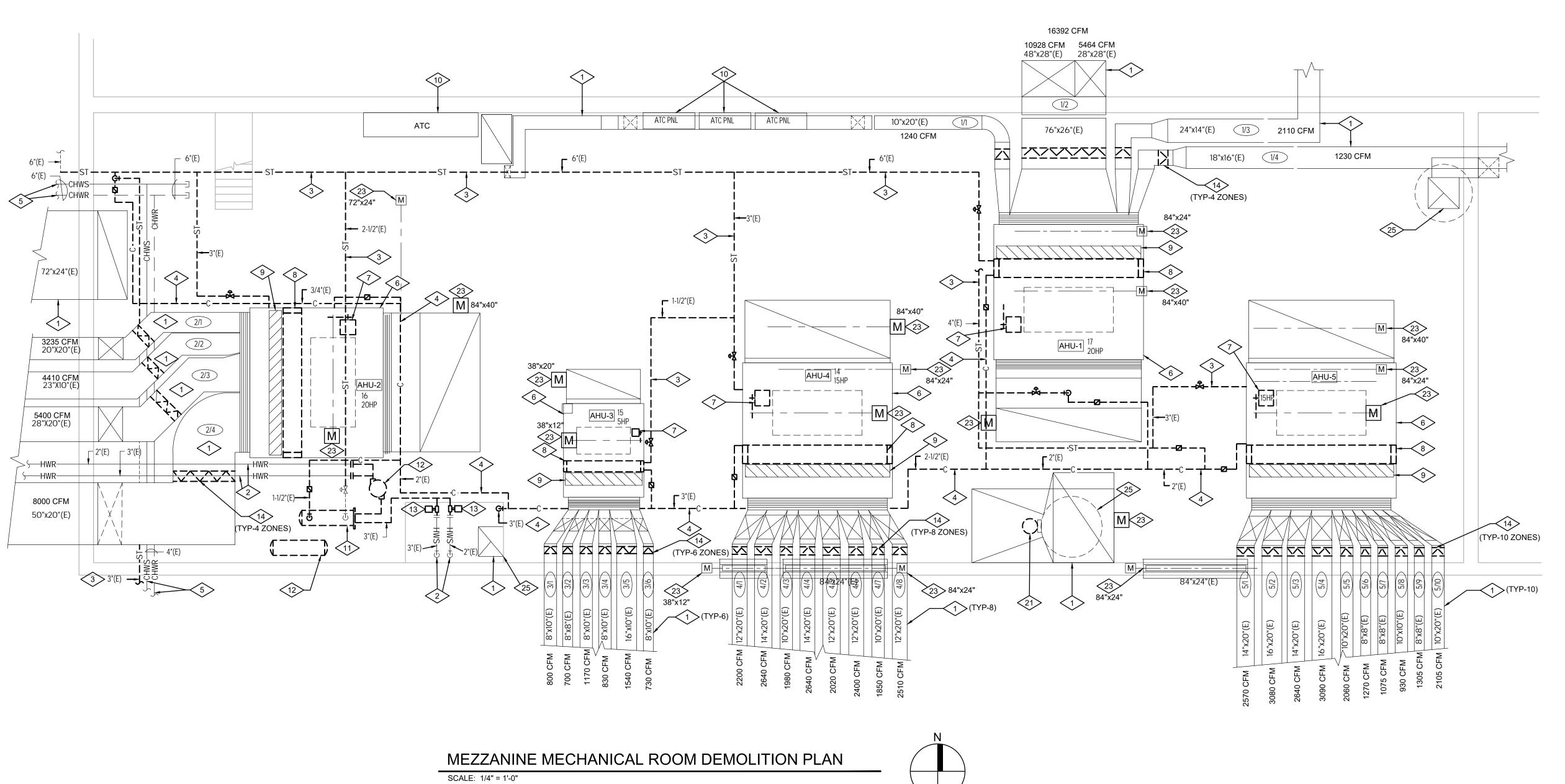


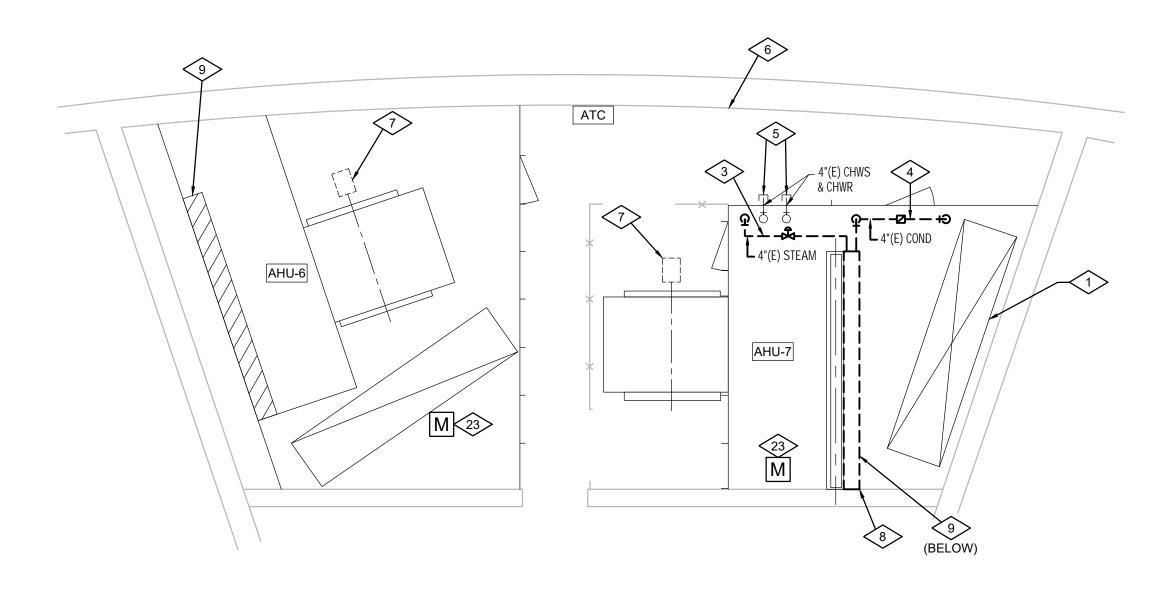


	EXISTING DUCTWORK TO REMAIN INTACT.
2>	EXISTING HEATING HOT WATER PIPING IN UTILITY TUNNEL TO REMAIN INTACT.
3	EXISTING CHILLED WATER PIPING ABOVE CEILING TO REMAIN INTACT AND BE USED AS PART OF THE NEW WORK. SEE DRAWING M101D.
4	EXISTING STEAM PIPING ABOVE CEILING TO BE ABANDONED IN PLACE.
5	EXISTING CONDENSATE PIPING ABOVE CEILING TO BE ABANDONED IN PLACE.
6	EXISTING CONDENSATE PIPING IN UTILITY TUNNEL TO BE ABANDONED IN PLACE.
	REMOVE EXISTING TEMPERATURE SENSOR. SEE DRAWING M101D FOR NEW CONTROL WORK.
8	REMOVE EXISTING PNEUMATIC CONTROLS SERVING HOT WATER COILS OR RADIANT HEATING IN UTILITY TUNNEL AND REPLACE WITH NEW DDC CONTROLS. SEE DRAWING M101D.
9	REMOVE EXISTING PNEUMATIC CONTROLS SERVING CABINET UNIT HEATER AND REPLACE WITH NEW DDC CONTROLS. SEE DRAWING M101D.
	REMOVE EXISTING PNEUMATIC CONTROLS SERVING EXHAUST FAN AND REPLACE WITH NEW DDC CONTROLS. SEE DRAWING M101A.
	FOR CONTINUATION OF PIPING SEE DRAWING MD101C.
12>	FOR CONTINUATION OF PIPING SEE DRAWING MD101B.
13	FOR MECHANICAL WORK IN THIS AREA SEE DRAWINGS MD401 AND M401.
<u>14</u>	REMOVE EXISTING EVAPORATIVE COOLER COMPLETE. REMOVE ALL ASSOCIATED, CONTROLS, DUCTWORK AND DIFFUSER. CAP ABANDONED ROOF OPENING WATERTIGHT. REMOVE WATER LINE BACK TO MAIN AND CAP.
15	REMOVE EXISTING PNEUMATIC CONTROLS SERVING CONVECTOR AND REPLACE WITH NEW DDC CONTROLS. SEE DRAWING M101D.

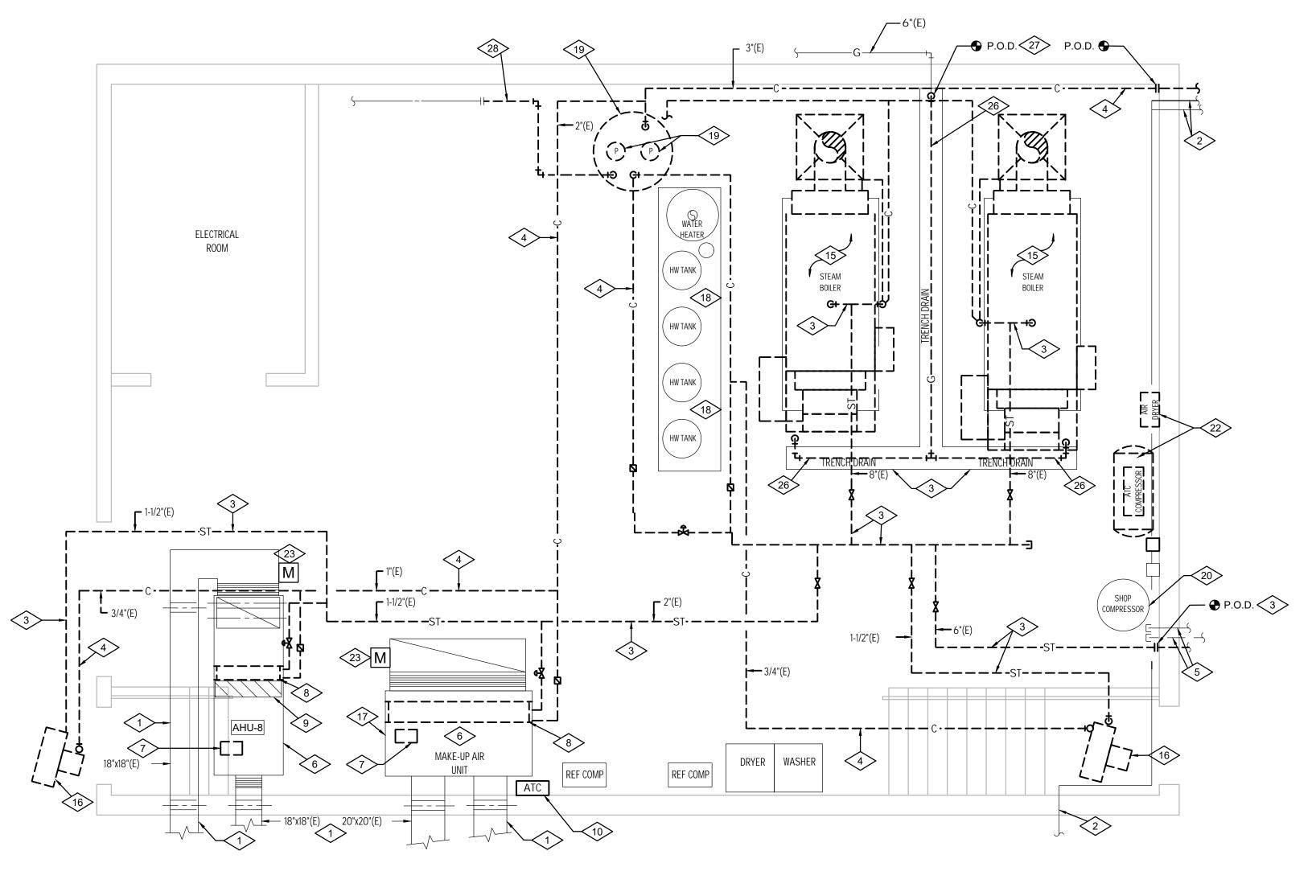


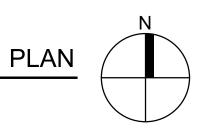






AUDITORIUM MEZZANINE MECHANICAL ROOM DEMOLITION PLAN SCALE: 1/4" = 1'-0"





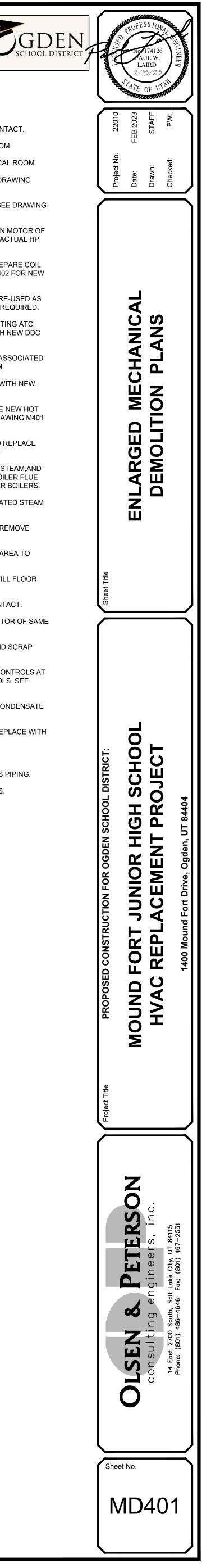
BOILER ROOM MECHANICAL DEMOLITION PLAN SCALE: 1/4" = 1'-0"

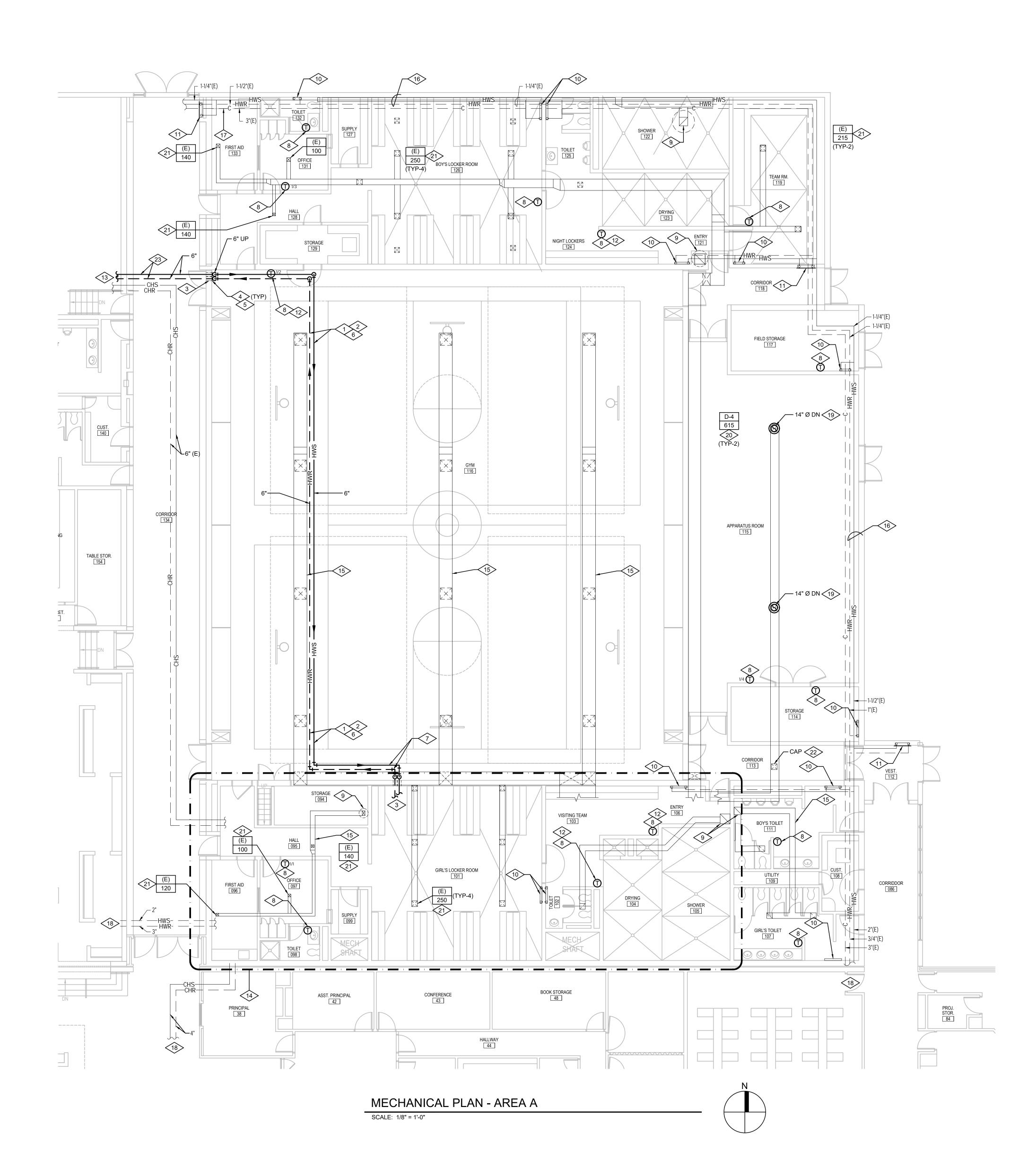


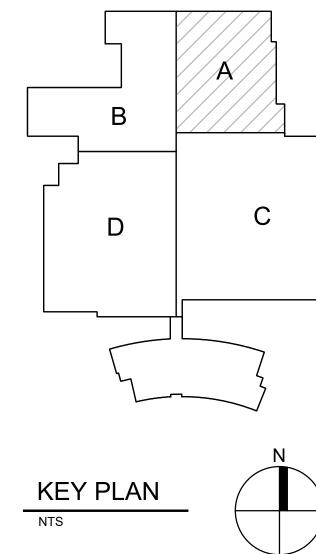
	REFERENCE NOTES
	EXISTING DUCTWORK TO REMAIN INTACT
2>	EXISTING HEATING HOT WATER SUPPLY AND RETURN PIPING TO REMAIN INTA
3>	CUT AND REMOVE ALL STEAM PIPING FROM BOILER AND MECHANICAL ROOM
4	CUT AND REMOVE ALL CONDENSATE PIPING FROM BOILER AND MECHANICAL
5	EXISTING CHILLED WATER SUPPLY AND RETURN PIPING TO REMAIN. SEE DRA M402 FOR NEW WORK.
6	EXISTING AIR HANDLING UNIT TO REMAIN INTACT AND BE REFURBISHED. SEE M401 FOR NEW WORK.
7>	REMOVE EXISTING AIR HANDLER FAN MOTOR AND REPLACE WITH NEW FAN M SAME HP AND ELECTRICAL CONFIGURATION FOR NEW VFD. FIELD VERIFY AC OF MOTOR.
8	REMOVE EXISTING AIR HANDLER STEAM COIL, CONTROLS AND PIPING. PREPA SPACE IN GENERAL FOR NEW HW HEATING COIL. SEE DRAWING M401 & M402 WORK.
9>	EXISTING AIR HANDLER CHILLED WATER COIL TO REMAIN INTACT AND BE RE- PART OF THE NEW WORK. SEE DRAWING M401 AND M402 FOR NEW WORK RE-
10	TEMPERATURE CONTROLS CONTRACTOR TO REMOVE AND REPLACE EXISTIN CONTROL PANEL. REMOVE ALL PNEUMATIC CONTROLS AND REPLACE WITH N CONTROLS AS PART OF THE NEW CONTROL WORK.
11>	REMOVE EXISTING STEAM / HOT WATER HEAT EXCHANGER. REMOVE ALL ASS AND ACCESSIBLE STEAM AND CONDENSATE PIPING IN MECHANICAL ROOM.
12>	REMOVE EXISTING AIR SEPARATOR AND EXPANSION TANK AND REPLACE WIT SEE DRAWING M402 FOR NEW WORK.
	REMOVE EXISTING HEATING HOT WATER PUMPS AND CONTROLS. PROVIDE N WATER PUMPS AND DDC CONTROLS AS PART OF THE NEW WORK. SEE DRAW & M402.
14	REMOVE EXISTING PNEUMATIC ZONE DAMPER CONTROLS COMPLETE AND REWITH NEW DDC DAMPER CONTROLS. SEE DRAWING M402 FOR NEW WORK.
15	REMOVE EXISTING STEAM BOILER COMPLETE. REMOVE ALL ASSOCIATED, ST CONDENSATE PIPING. REMOVE BOILER HOUSEKEEPING PAD. REMOVE BOILE THRU ROOF COMPLETE. PREPARE AREA IN GENERAL FOR NEW HOT WATER E
16	REMOVE EXISTING STEAM UNIT HEATER COMPLETE. REMOVE ALL ASSOCIATE AND CONDENSATE PIPING.
17>	EXISTING MAKE-UP AIR UNIT SERVING KITCHEN AREA TO REMAIN INTACT. REI EXISTING STEAM COIL AS DESCRIBED ABOVE.
18	EXISTING DOMESTIC HOT WATER HEATERS AND STORAGE TANKS IN THIS ARE REMAIN INTACT. NO WORK REQUIRED UNLESS OTHERWISE NOTED.
19	REMOVE EXISTING BOILER FEED TANK AND PUMP SYSTEM COMPLETE. INFILL WITH GRAVEL AND CAP WITH CONCRETE TO MATCH EXISTING FLOOR.
20>	EXISTING AIR COMPRESSOR SERVING GENERAL SHOP AREA TO REMAIN INTA
21>	REMOVE EXISTING RETURN FAN MOTOR AND REPLACE WITH NEW FAN MOTO HP AND ELECTRICAL CONFIGURATION
22>	REMOVE AND SALVAGE EXISTING ATC COMPRESSOR TO OSD. REMOVE AND SASSOCIATED AIR DRYER AND ALL CONTROLS.
23>	REMOVE EXISTING O.A., R.A. AND RELIEF AIR DAMPERS AND PNEUMATIC CON EACH AIR HANDLER AND REPLACE WITH NEW DAMPERS AND DDC CONTROLS DRAWING M402 FOR NEW WORK.
24>	EXISTING TRENCH DRAIN TO REMAIN INTACT. REMOVE ALL ASSOCIATED CON AND DRAIN PIPING.
25	REMOVE EXISTING PNEUMATIC CONTROLS SERVING EXHAUST FAN AND REPL NEW DDC CONTROLS. SEE DRAWING M401.
26>	REMOVE GAS LINE TO BOILER
27>	REMOVE GAS LINE TO THIS LOCATION. SEE DRAWINGS M401 FOR NEW GAS P

REMOVE WATER MAKE-UP LINE TO CONDENSATE FEED TANK AND BOILERS.





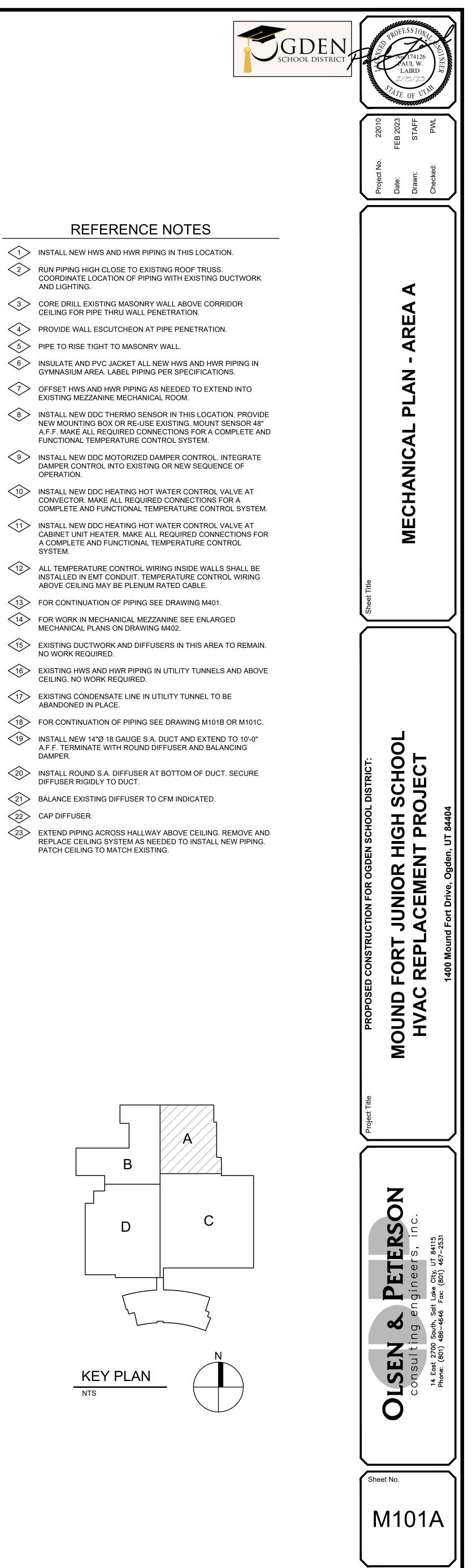


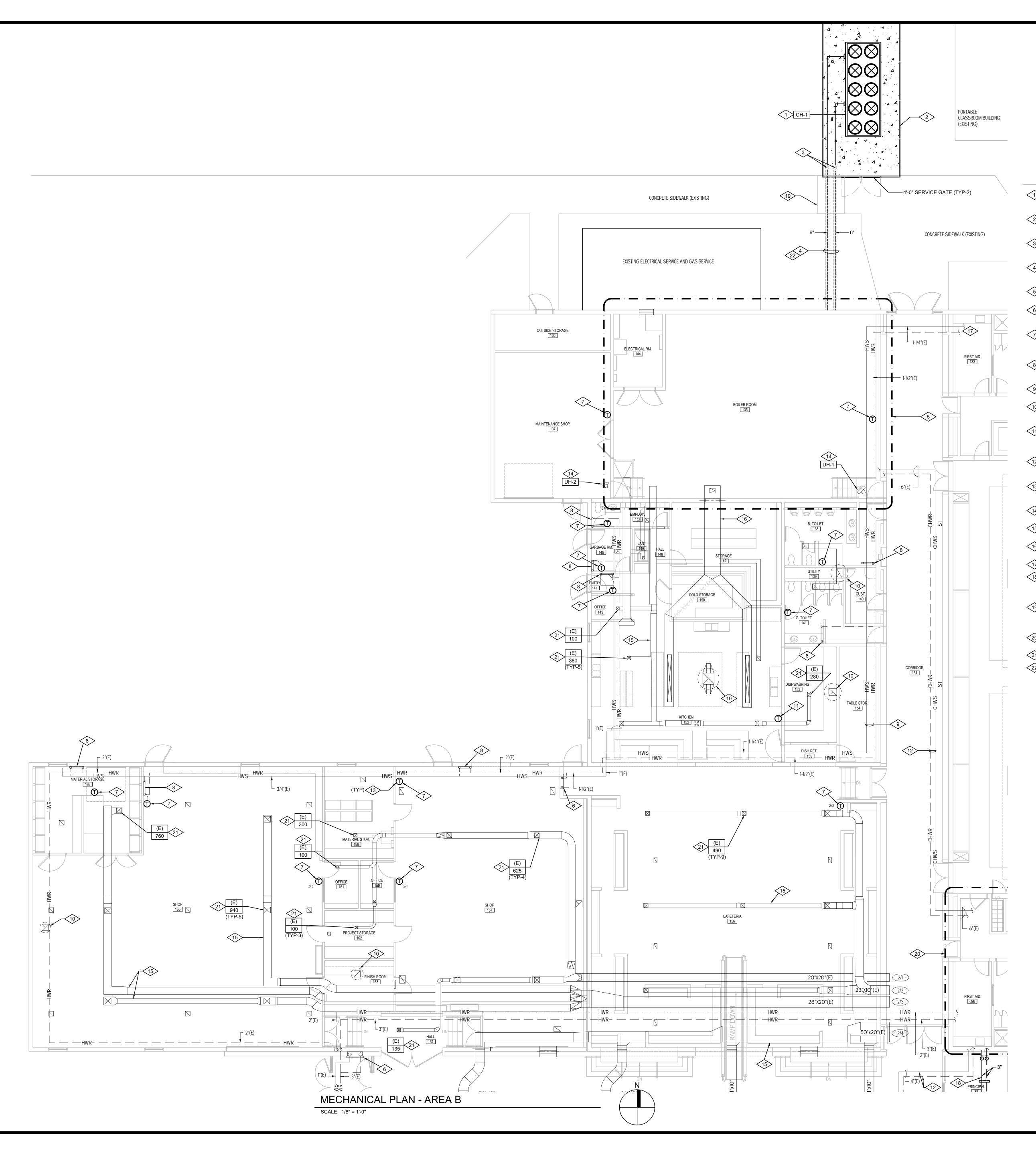


	NO WORK REQUIRED.
< <u>16</u>	EXISTING HWS AND HWR PIPING IN UTILITY TUNNELS AN CEILING. NO WORK REQUIRED.
	EXISTING CONDENSATE LINE IN UTILITY TUNNEL TO BE ABANDONED IN PLACE.
< <u>18</u> >	FOR CONTINUATION OF PIPING SEE DRAWING M101B OR
(19)	INSTALL NEW 14"Ø 18 GAUGE S.A. DUCT AND EXTEND TO A.F.F. TERMINATE WITH ROUND DIFFUSER AND BALANCI DAMPER.
20>	INSTALL ROUND S.A. DIFFUSER AT BOTTOM OF DUCT. SE DIFFUSER RIGIDLY TO DUCT.
<21>	BALANCE EXISTING DIFFUSER TO CFM INDICATED.
22>	CAP DIFFUSER.

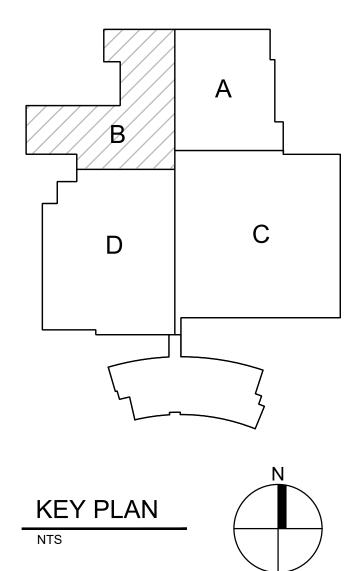
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2>	RUN PIPING HIGH CLOSE TO EXISTING ROOF TRUSS. COORDINATE LOCATION OF PIPING WITH EXISTING DUCTWORK AND LIGHTING.
$\langle 3 \rangle$	CORE DRILL EXISTING MASONRY WALL ABOVE CORRIDOR CEILING FOR PIPE THRU WALL PENETRATION.
4	PROVIDE WALL ESCUTCHEON AT PIPE PENETRATION.
$\overline{5}$	PIPE TO RISE TIGHT TO MASONRY WALL.
	INSULATE AND PVC JACKET ALL NEW HWS AND HWR PIPING IN GYMNASIUM AREA. LABEL PIPING PER SPECIFICATIONS.
	OFFSET HWS AND HWR PIPING AS NEEDED TO EXTEND INTO EXISTING MEZZANINE MECHANICAL ROOM.
< <u>8</u> >	INSTALL NEW DDC THERMO SENSOR IN THIS LOCATION. PROVIDE NEW MOUNTING BOX OR RE-USE EXISTING. MOUNT SENSOR 48" A.F.F. MAKE ALL REQUIRED CONNECTIONS FOR A COMPLETE AND FUNCTIONAL TEMPERATURE CONTROL SYSTEM.
9	INSTALL NEW DDC MOTORIZED DAMPER CONTROL. INTEGRATE DAMPER CONTROL INTO EXISTING OR NEW SEQUENCE OF OPERATION.
	INSTALL NEW DDC HEATING HOT WATER CONTROL VALVE AT CONVECTOR. MAKE ALL REQUIRED CONNECTIONS FOR A COMPLETE AND FUNCTIONAL TEMPERATURE CONTROL SYSTEM.
	INSTALL NEW DDC HEATING HOT WATER CONTROL VALVE AT CABINET UNIT HEATER. MAKE ALL REQUIRED CONNECTIONS FOR A COMPLETE AND FUNCTIONAL TEMPERATURE CONTROL SYSTEM.
12>	ALL TEMPERATURE CONTROL WIRING INSIDE WALLS SHALL BE INSTALLED IN EMT CONDUIT. TEMPERATURE CONTROL WIRING ABOVE CEILING MAY BE PLENUM RATED CABLE.
13	FOR CONTINUATION OF PIPING SEE DRAWING M401.
14	FOR WORK IN MECHANICAL MEZZANINE SEE ENLARGED MECHANICAL PLANS ON DRAWING M402.
15	EXISTING DUCTWORK AND DIFFUSERS IN THIS AREA TO REMAIN. NO WORK REQUIRED.
	EXISTING HWS AND HWR PIPING IN UTILITY TUNNELS AND ABOVE CEILING. NO WORK REQUIRED.
	EXISTING CONDENSATE LINE IN UTILITY TUNNEL TO BE ABANDONED IN PLACE.
	FOR CONTINUATION OF PIPING SEE DRAWING M101B OR M101C.
(19)	INSTALL NEW 14"Ø 18 GAUGE S.A. DUCT AND EXTEND TO 10'-0" A.F.F. TERMINATE WITH ROUND DIFFUSER AND BALANCING DAMPER.
~	

REFERENCE NOTES $\langle 1 \rangle$ INSTALL NEW HWS AND HWR PIPING IN THIS LOCATION.

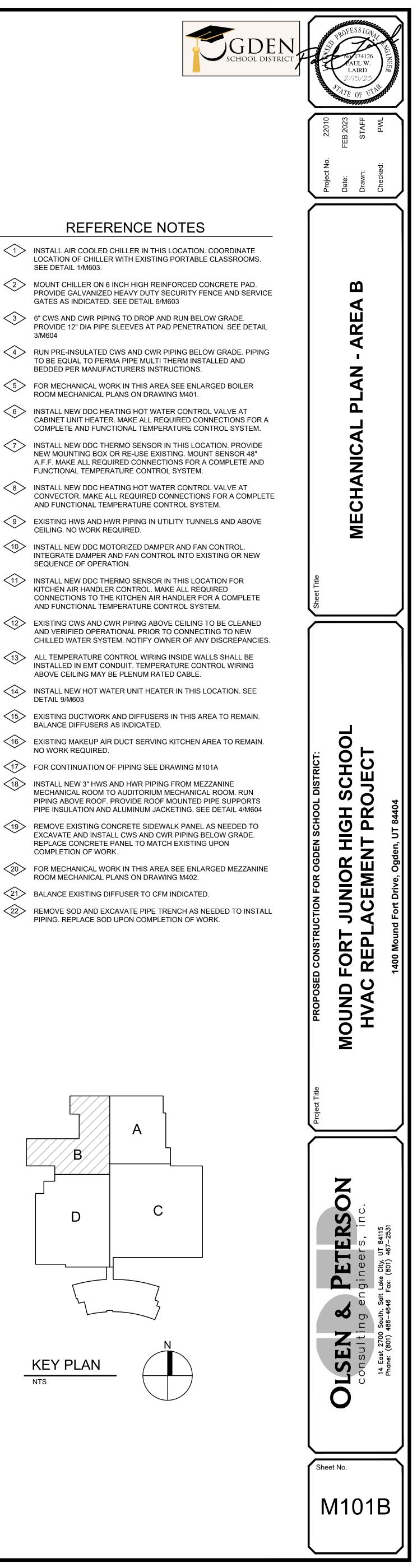


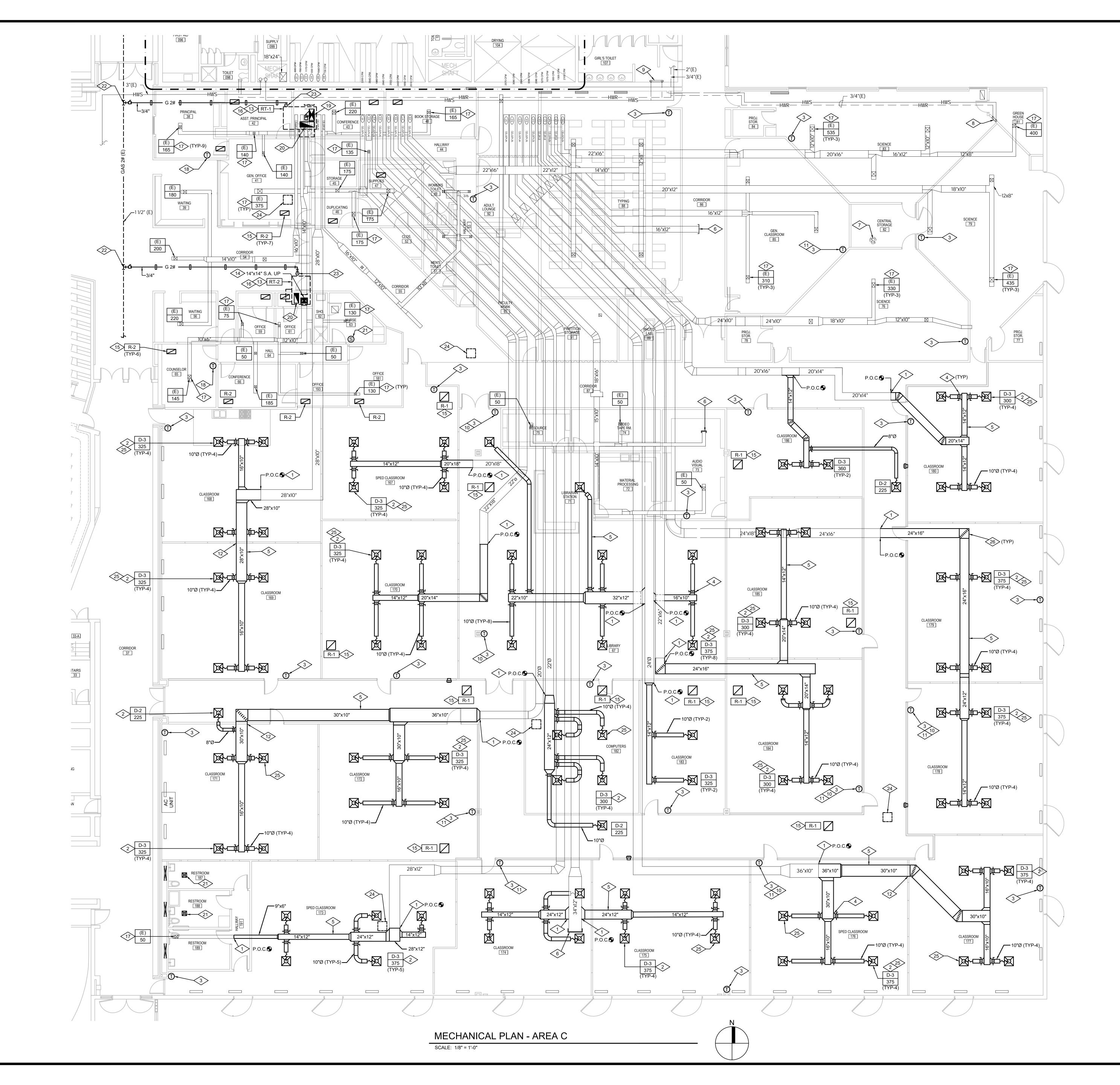


	REFERENCE NOTES
1>	INSTALL AIR COOLED CHILLER IN THIS LOCATION. CO LOCATION OF CHILLER WITH EXISTING PORTABLE CL SEE DETAIL 1/M603.
2>	MOUNT CHILLER ON 6 INCH HIGH REINFORCED CON PROVIDE GALVANIZED HEAVY DUTY SECURITY FENC GATES AS INDICATED. SEE DETAIL 6/M603
3>	6" CWS AND CWR PIPING TO DROP AND RUN BELOW PROVIDE 12" DIA PIPE SLEEVES AT PAD PENETRATIO 3/M604
4>	RUN PRE-INSULATED CWS AND CWR PIPING BELOW TO BE EQUAL TO PERMA PIPE MULTI THERM INSTALL BEDDED PER MANUFACTURERS INSTRUCTIONS.
5	FOR MECHANICAL WORK IN THIS AREA SEE ENLARGE ROOM MECHANICAL PLANS ON DRAWING M401.
6	INSTALL NEW DDC HEATING HOT WATER CONTROL V CABINET UNIT HEATER. MAKE ALL REQUIRED CONNE COMPLETE AND FUNCTIONAL TEMPERATURE CONTR
7>	INSTALL NEW DDC THERMO SENSOR IN THIS LOCATION NEW MOUNTING BOX OR RE-USE EXISTING. MOUNT S A.F.F. MAKE ALL REQUIRED CONNECTIONS FOR A CO FUNCTIONAL TEMPERATURE CONTROL SYSTEM.
8	INSTALL NEW DDC HEATING HOT WATER CONTROL V CONVECTOR. MAKE ALL REQUIRED CONNECTIONS F AND FUNCTIONAL TEMPERATURE CONTROL SYSTEM
9>	EXISTING HWS AND HWR PIPING IN UTILITY TUNNELS CEILING. NO WORK REQUIRED.
10>	INSTALL NEW DDC MOTORIZED DAMPER AND FAN CO INTEGRATE DAMPER AND FAN CONTROL INTO EXIST SEQUENCE OF OPERATION.
11>	INSTALL NEW DDC THERMO SENSOR IN THIS LOCATION KITCHEN AIR HANDLER CONTROL. MAKE ALL REQUIR CONNECTIONS TO THE KITCHEN AIR HANDLER FOR A AND FUNCTIONAL TEMPERATURE CONTROL SYSTEM
12>	EXISTING CWS AND CWR PIPING ABOVE CEILING TO AND VERIFIED OPERATIONAL PRIOR TO CONNECTING CHILLED WATER SYSTEM. NOTIFY OWNER OF ANY DI
13	ALL TEMPERATURE CONTROL WIRING INSIDE WALLS INSTALLED IN EMT CONDUIT. TEMPERATURE CONTRO ABOVE CEILING MAY BE PLENUM RATED CABLE.
14	INSTALL NEW HOT WATER UNIT HEATER IN THIS LOC DETAIL 9/M603
15	EXISTING DUCTWORK AND DIFFUSERS IN THIS AREA BALANCE DIFFUSERS AS INDICATED.
16	EXISTING MAKEUP AIR DUCT SERVING KITCHEN ARE NO WORK REQUIRED.
17>	FOR CONTINUATION OF PIPING SEE DRAWING M101A
18	INSTALL NEW 3" HWS AND HWR PIPING FROM MEZZA MECHANICAL ROOM TO AUDITORIUM MECHANICAL R PIPING ABOVE ROOF. PROVIDE ROOF MOUNTED PIPE PIPE INSULATION AND ALUMINUM JACKETING. SEE D
19	REMOVE EXISTING CONCRETE SIDEWALK PANEL AS EXCAVATE AND INSTALL CWS AND CWR PIPING BELC REPLACE CONCRETE PANEL TO MATCH EXISTING UP COMPLETION OF WORK.
20>	FOR MECHANICAL WORK IN THIS AREA SEE ENLARGI ROOM MECHANICAL PLANS ON DRAWING M402.
21>	BALANCE EXISTING DIFFUSER TO CFM INDICATED.
22>	REMOVE SOD AND EXCAVATE PIPE TRENCH AS NEED



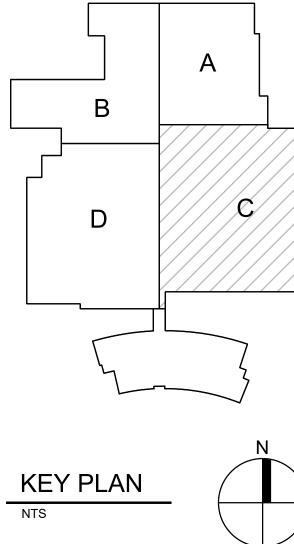








	REFERENCE NO
$\langle 1 \rangle$	CONNECT TO EXISTING DUCTWORK IN T COMPATIBLE TRANSITION FROM FIBERO DUCT.
2>	INSTALL DIFFUSERS AND GRILLES AS IN ARCHITECTURAL REFLECTED CEILING F LOCATION. (TYP)
3	INSTALL NEW DDC THERMO SENSOR IN NEW MOUNTING BOX OR RE-USE EXISTI A.F.F. MAKE ALL REQUIRED CONNECTIO FUNCTIONAL TEMPERATURE CONTROL
4	VOLUME DAMPER (TYP)
5	RUN DUCTWORK HIGH CLOSE TO STRUC
6	CAP EXISTING DUCT IN THIS LOCATION. CAP SECURED AND SEALED AIRTIGHT.
	INSTALL NEW DDC MOTORIZED DAMPER DAMPER CONTROL INTO EXISTING OR N OPERATION.
8	INSTALL NEW DDC HEATING HOT WATER CONVECTOR. MAKE ALL REQUIRED CON COMPLETE AND FUNCTIONAL TEMPERA
9>	INSTALL NEW DDC HEATING HOT WATER CABINET UNIT HEATER. MAKE ALL REQU A COMPLETE AND FUNCTIONAL TEMPER SYSTEM.
	WHERE MULTIPLE THERMO SENSORS A SERVED BY A SINGLE ZONE, THE ATC CO PROVIDE FOR TEMPERATURE AVERAGI
	ALL TEMPERATURE CONTROL WIRING IN INSTALLED IN EMT CONDUIT. TEMPERAT ABOVE CEILING MAY BE PLENUM RATED
12	WHERE NEW DUCTWORK PENETRATES NEW FRAMED OR SLEEVED WALL OPEN
13	INSTALL NEW ROOF TOP UNIT ON ROOF MOUNT UNIT ON 14 INCH HIGH ROOF CU AS NEEDED TO INSTALL NEW S.A. AND F 5/M604
14	EXTEND NEW S.A. DUCT FROM ROOF TO ATTIC SPACE AND CONNECT TO EXISTIN LOCATION. PROVIDE DUCT TRANSITION
15	INSTALL NEW R.A. GRILLE IN EXISTING O TO BE USED AS RETURN AIR PLENUM FO CUT EXISTING CEILING AS NEEDED TO I
	FLASH, PATCH AND REPAIR ROOFING S' ROOF TOP UNIT.
	BALANCE EXISTING CEILING DIFFUSER
18	INSTALL NEW DDC ROOF TOP UNIT SEN LOCATION. MAKE ALL REQUIRED CONNE UNIT.
19	EXTEND NEW 18"x30" S.A. DUCT FROM R THROUGH ATTIC SPACE AND CONNECT IN THIS LOCATION. PROVIDE DUCT TRAN
<20>	R.A. DUCT TO ROOF TOP UNIT TO BE OP
21>	PROVIDE NEW DDC OCCUPANCY SENSO EXISTING EXHAUST FAN.
22>	CONNECT TO EXISTING 1-1/2" GAS LINE LOCATION. EXTEND NEW GAS LINE TO N DETAIL 6/M604
23>	PIPE GAS LINE TO NEW ROOF TOP UNIT ROOF EVERY 6'-0" O.C. SEE DETAIL 7/M6 CONNECTION REQUIREMENTS.
24>	PATCH AND REPAIR CEILING AND ROOF EXISTING EVAPORATIVE COOLER WAS F
25>	BALANCE NEW AND EXISTING CEILING DINDICATED. (TYP)
26>	TURNING VANES (TYP)





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THIS LOCATION. PROVIDE RGLASS TO SHEETMETAL

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INDICATED. REFER TO **G PLANS FOR EXACT**

THIS LOCATION. PROVIDE TING. MOUNT SENSOR 48" IONS FOR A COMPLETE AND _ SYSTEM.

UCTURE. COORDINATE AND PLUMBING TRADES. . PROVIDE SHEET METAL

ER CONTROL. INTEGRATE R NEW SEQUENCE OF

ER CONTROL VALVE AT ONNECTIONS FOR A ATURE CONTROL SYSTEM. ER CONTROL VALVE AT UIRED CONNECTIONS FOR ERATURE CONTROL

ARE INSTALLED AND CONTRACTOR SHALL GING IN THOSE SPACES. INSIDE WALLS SHALL BE ATURE CONTROL WIRING ED CABLE.

EXISTING WALLS PROVIDE NING. (TYP) OF IN THIS LOCATION.

CURB. CUT EXISTING ROOF D R.A. DUCTS. SEE DETAIL

TOP UNIT DN THROUGH STING S.A. DUCT IN THIS ON AS NEEDED. G CEILING. CEILING SPACE FOR NEW ROOF TOP UNIT. INSTALL NEW R.A. GRILLE. SYSTEM AROUND NEW

TO CFM INDICATED (TYP). NSOR CONTROL IN THIS NECTIONS TO ROOF TOP

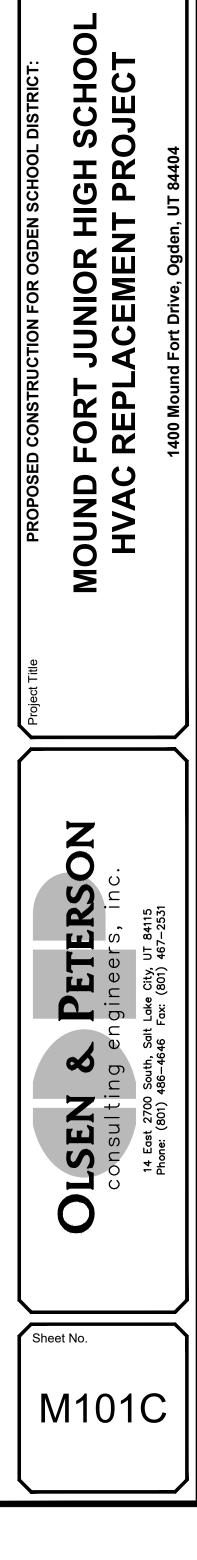
ROOF TOP UNIT DN TO EXISTING S.A. DUCTS ANSITIONS AS NEEDED. OPEN TO CEILING PLENUM. SOR CONTROL FOR

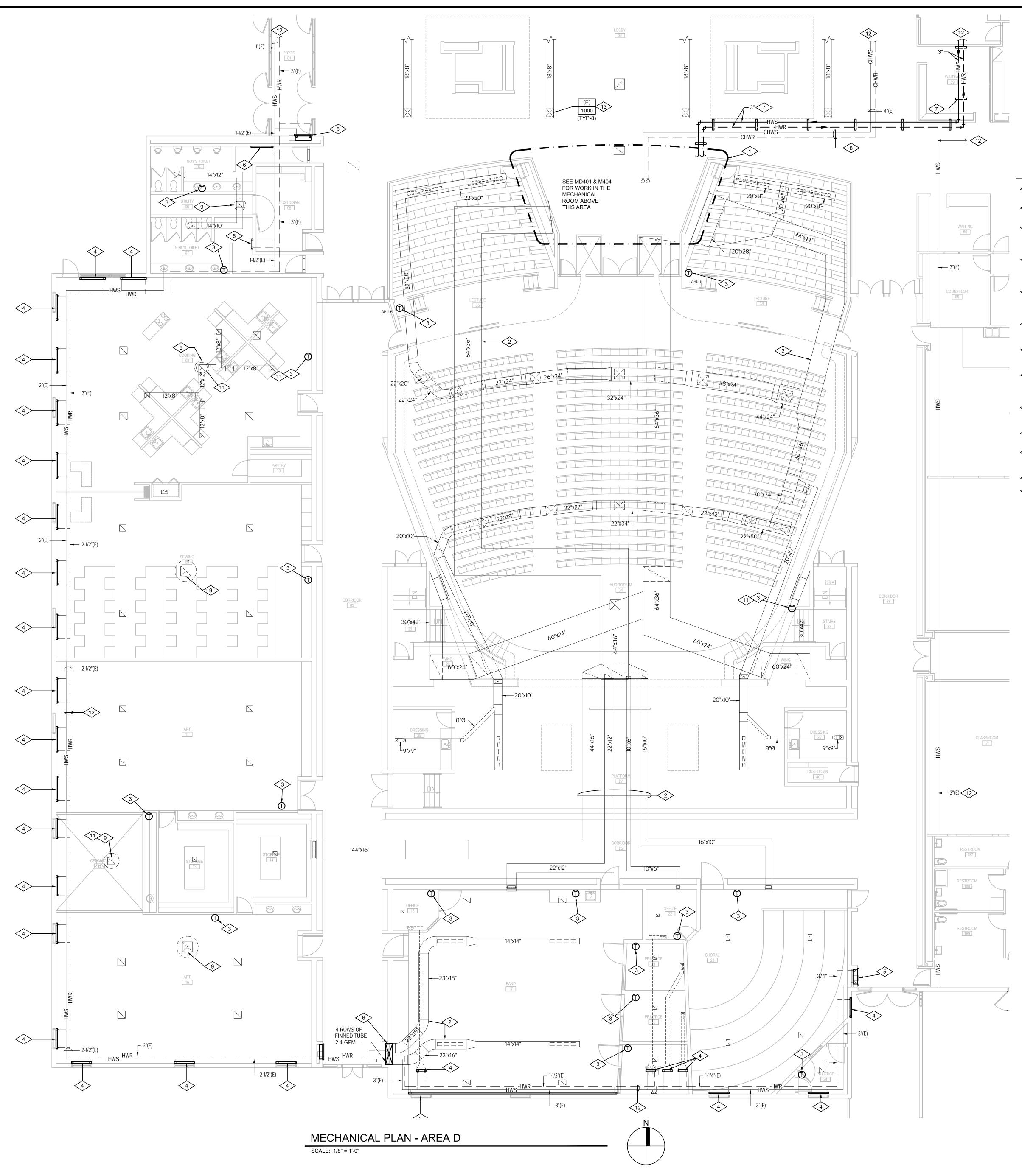
ON ROOF IN THIS NEW ROOF TOP UNIT. SEE

. SUPPORT GAS LINE ON 1604 FOR GAS LINE

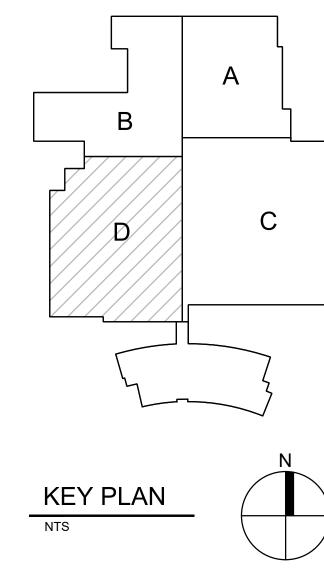
FING SYSTEM WHERE REMOVED. (TYP-6) DIFFUSERS TO CFM

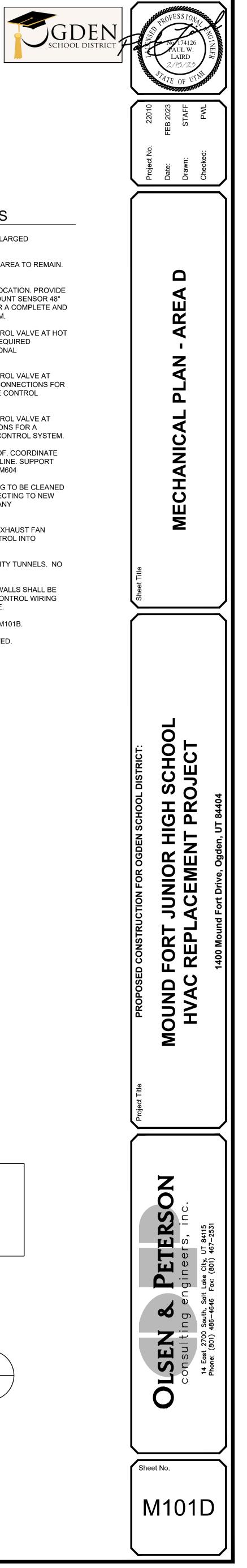


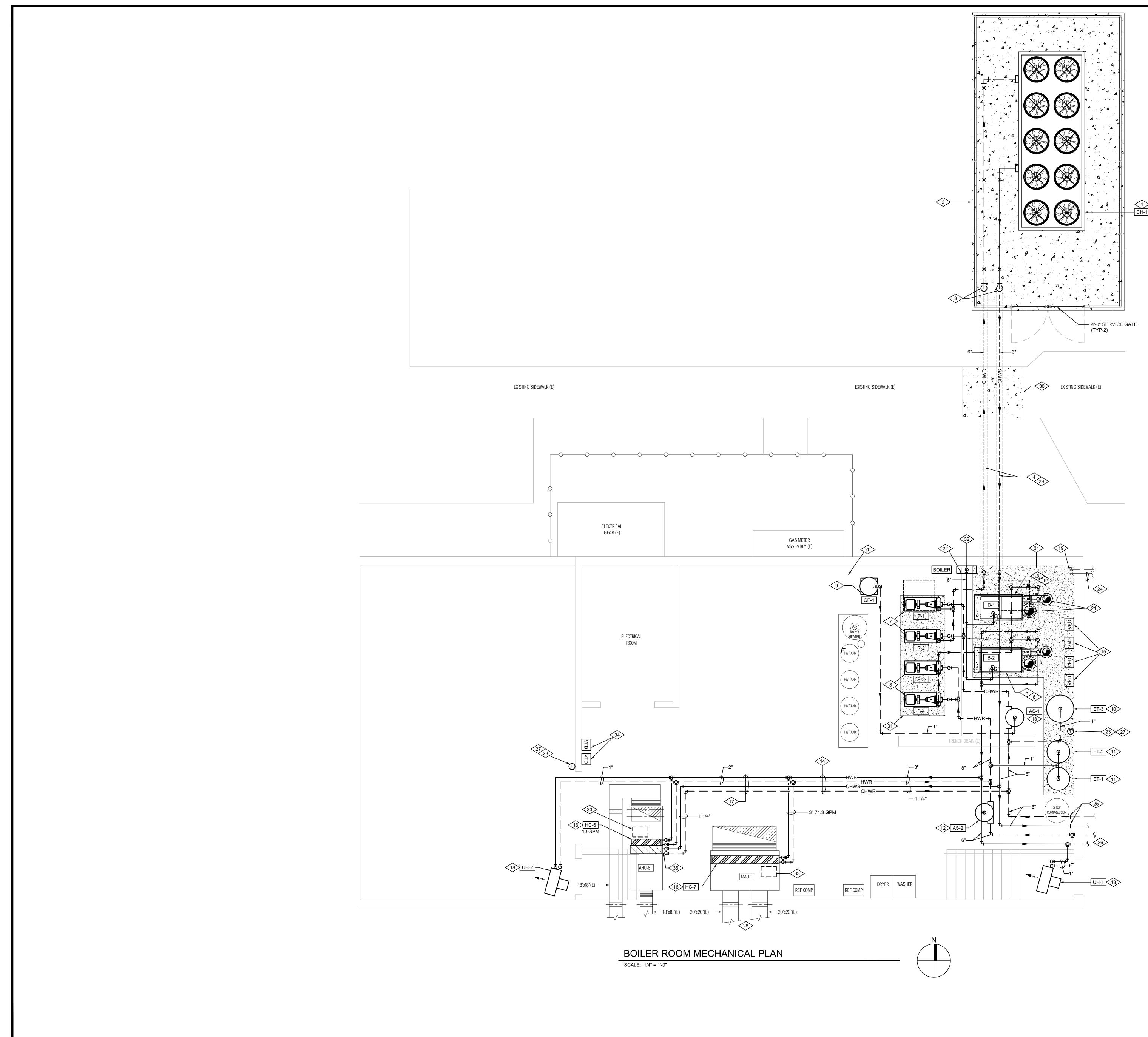




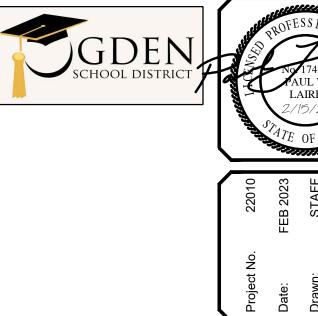
1>	FOR MECHANICAL WORK IN THIS AREA SEE ENLAI MECHANICAL PLANS ON DRAWING M404.
2>	EXISTING DUCTWORK AND DIFFUSERS IN THIS AR NO WORK REQUIRED.
3	INSTALL NEW DDC THERMO SENSOR IN THIS LOCANEW MOUNTING BOX OR RE-USE EXISTING. MOUNA.F.F. MAKE ALL REQUIRED CONNECTIONS FOR A FUNCTIONAL TEMPERATURE CONTROL SYSTEM.
4	INSTALL NEW DDC HEATING HOT WATER CONTRO WATER COILS IN UTILITY TUNNEL. MAKE ALL REQ CONNECTIONS FOR A COMPLETE AND FUNCTION, TEMPERATURE CONTROL SYSTEM.
5	INSTALL NEW DDC HEATING HOT WATER CONTRO CABINET UNIT HEATER. MAKE ALL REQUIRED CON A COMPLETE AND FUNCTIONAL TEMPERATURE C SYSTEM.
6	INSTALL NEW DDC HEATING HOT WATER CONTRO CONVECTOR. MAKE ALL REQUIRED CONNECTION COMPLETE AND FUNCTIONAL TEMPERATURE COM
7>	INSTALL NEW 3" HWS AND HWR PIPING ON ROOF. LOCATION WITH EXISTING SKYLIGHT AND GAS LIN HWS AND HWR PIPING 18" A.F.R. SEE DETAIL 4/M6
8	EXISTING CWS AND CWR PIPING ABOVE CEILING AND VERIFIED OPERATIONAL PRIOR TO CONNECT CHILLED WATER SYSTEM. NOTIFY OWNER OF ANY DISCREPANCIES.
9	INSTALL NEW DDC MOTORIZED DAMPER AND EXH CONTROL. INTEGRATE DAMPER AND FAN CONTRO EXISTING OR NEW SEQUENCE OF OPERATION.
10	EXISTING HWS AND HWR PIPING MAINS IN UTILITY WORK REQUIRED.
11>	ALL TEMPERATURE CONTROL WIRING INSIDE WAI INSTALLED IN EMT CONDUIT. TEMPERATURE CON ABOVE CEILING MAY BE PLENUM RATED CABLE.
12>	FOR CONTINUATION OF PIPING SEE DRAWING M1
13	BALANCE EXISTING DIFFUSER TO CFM INDICATED





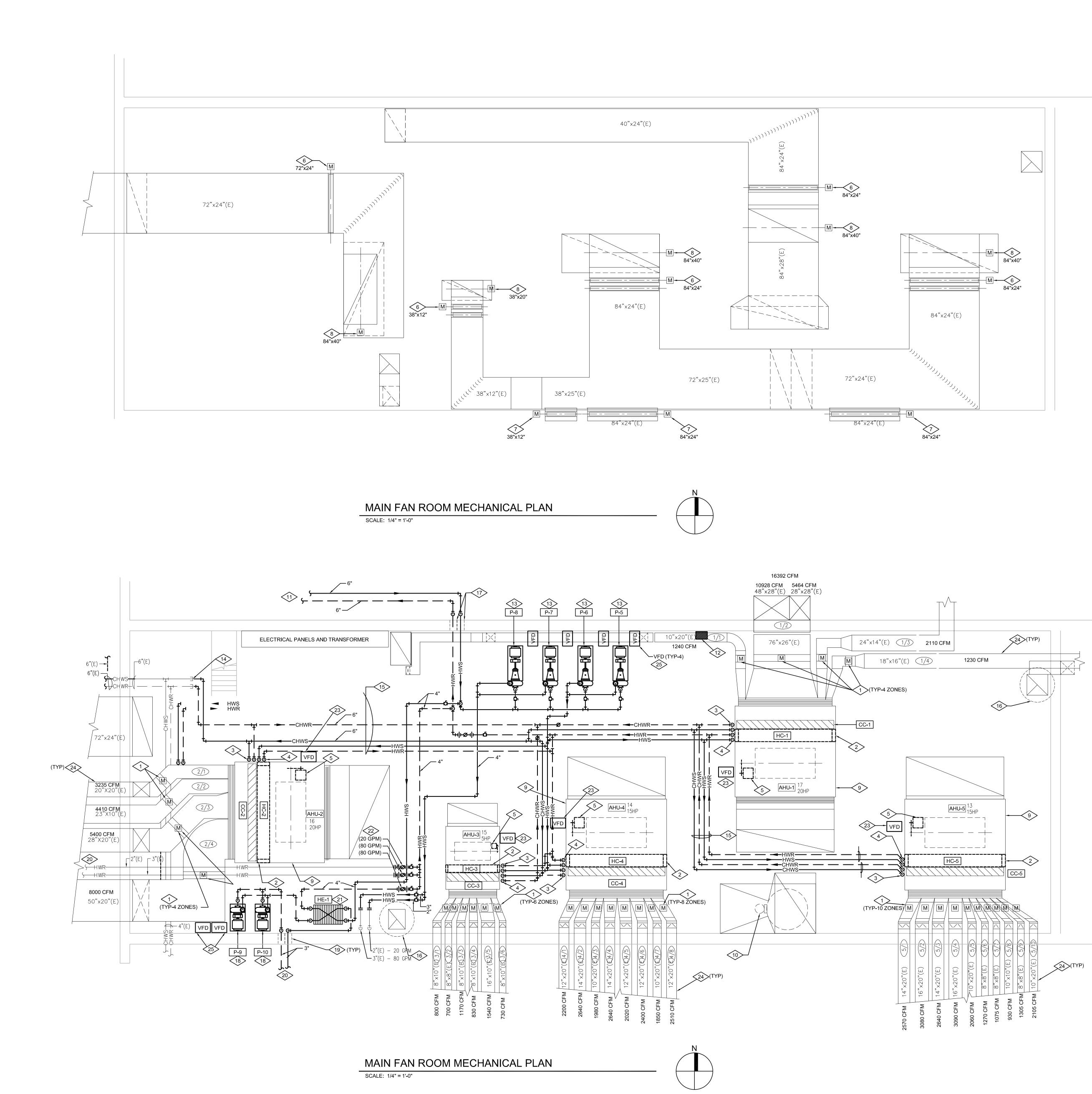


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		INSTALL NEW AIR COOLED CHILLER IN THIS LOCATION. COORDINATE LOCATION OF CHILLER WITH EXISTING PORTABLE CLASSROOMS AND OSD MAINTENANCE PERSONNEL. SEE DETAIL 1/M603
	2>	MOUNT CHILLER ON 6 INCH HIGH REINFORCED CONCRETE PAD. PROVIDE SECURITY FENCE AND SERVICE GATES AS INDICATED. SEE DETAIL 2/M604 & 6/M603
	$\langle 3 \rangle$	6" CWS AND CWR PIPING TO DROP AND RUN BELOW GRADE. PROVIDE 8" DIA PIPE SLEEVES AT PAD PENETRATION. SEE DETAIL 3/M604
	4	RUN PRE-INSULATED CWS AND CWR PIPING BELOW GRADE. PIPING TO BE EQUAL TO PERMA PIPE MULTI THERM INSTALLED AND BEDDED PER MANUFACTURERS INSTRUCTIONS. SEE NOTE 29
	5	INSTALL NEW HEATING HOT WATER BOILER IN THIS LCOATION. MOUNT BOILER ON 4 INCH HIGH CONCRETE PAD. SEE DETAIL 1/M602
	6	MAINTAIN MANUFACTURERS RECOMMENDED OPERATIONAL AND SERVICE CLEARANCES FOR THE BOILER. INSTALL BOILER PER STATE OF UTAH BOILER AND PRESSURE VESSEL REGULATIONS.
		INSTALL CHILLED WATER PUMPS IN THIS LOCATION. INSTALL PUMPS ON 4 INCH HIGH CONCRETE PAD. SEE DETAIL 2/M602
	8	INSTALL HEATING HOT WATER PUMPS IN THIS LOCATION, INSTALL PUMPS ON 4 INCH HIGH CONCRETE PAD. SEE DETAIL 2/M602
	9	INSTALL GLYCOL FEED UNIT FOR CHILLED WATER SYSTEM. SEE DETAIL 1/M604
		INSTALL CHILLED WATER EXPANSION TANK IN THIS LOCATION . SEE DETAIL 3/M602
		INSTALL HEATING HOT WATER EXPANSION TANKS IN THIS LOCATION. SEE DETAIL 3/M602
		INSTALL HEATING HOT WATER AIR SEPARATOR IN THIS LOCATION. MOUNT SEPARATOR HIGH CLOSE TO EXISTING ROOF STRUCTURE. SEE DETAIL 4/M602
		INSTALL CHILLED WATER AIR SEPARATOR IN THIS LOCATION. MOUNT SEPARATOR HIGH CLOSE TO EXISTING ROOF STRUCTURE. SEE DETAIL 4/M602
	<u>14</u>	PIPING TO RUN HIGH CLOSE TO ROOF STRUCTURE. COORDINATE LOCATION OF PIPING WITH EXISTING MECHANICAL, PLUMBING, LIGHTING, AND ELECTRICAL TRADES. MAKE OFFSETS IN PIPING AS NEEDED TO FACILITATE INSTALLATION. SEE DETAIL 12/M602
	15	INSTALL PUMP VFD'S ON WALL IN THIS LOCATION.VERIFY SUFFICIENT WALL SPACE PRIOR TO INSTALLATION.
		INSTALL NEW HEATING HOT WATER COIL IN EXISTING AIR HANDLER SERVING KITCHEN AREA. REFURBISH AIR HANDLER AS NEEDED TO ACCOMMODATE NEW COIL. FABRICATE COIL FRAME AS NEEDED FOR INSTALLATION. SEE DETAIL 8/M603
	17>	EXTEND NEW CWS AND CWR PIPING TO EXISTING CHILLED WATER COIL AT AIR HANDLER SERVING KITCHEN AREA. MAKE ALL REQUIRED CONNECTIONS FOR A COMPLETE COOLING SYSTEM.
	< <u>18</u> >	INSTALL NEW HOT WATER UNIT HEATER IN THIS LOCATION . SEE DETAIL 9/M603
	<19>	CAP EXISTING ABANDONED CONDENSATE PIPING IN THIS LOCATION.
	20>	INFILL ABANDONED CONDENSATE PUMP STATION WITH CONCRETE AND TROWEL LEVEL. PREPARE AREA IN GENERAL FOR NEW GLYCOL FEED TANKS AND PUMPS.
	<21>	FOR BOILER COMBUSTION AIR AND FLUE VENTING. SEE DRAWING M403.
	<22>	MOUNT BOILER CONTROL PANEL(S) IN THIS LOCATION.
	23>	INSTALL NEW DDC THERMO SENSOR IN THIS LOCATION. PROVIDE NEW MOUNTING BOX OR RE-USE EXISTING. MOUNT SENSOR 48" A.F.F. MAKE ALL REQUIRED CONNECTIONS FOR A COMPLETE AND FUNCTIONAL TEMPERATURE CONTROL SYSTEM.
	24>	EXISTING HWS AND HWR PIPING IN UTILITY TUNNEL. NO WORK REQUIRED.
	25	MAKE CONNECTION TO EXISTING CWS AND CWR PIPING IN THIS LOCATION. VERIFY THAT EXISTING PIPING IS CLEAN AND OPERATIONAL PRIOR TO CONNECTING TO NEW CHILLED WATER SYSTEM. NOTIFY OWNER OF ANY DISCREPANCIES.
	26>	EXTEND NEW HWS AND HWR PIPING THROUGH EXISTING WALL TO GYM. CORE DRILL WALL OPENINGS AND EXTEND PIPING ACROSS EXISTING CORRIDOR CEILING. SEE DRAWING M101 B FOR CONTINUATION OF PIPING.
	27>	ALL TEMPERATURE CONTROL WIRING INSIDE WALLS SHALL BE INSTALLED IN EMT CONDUIT. TEMPERATURE CONTROL WIRING ABOVE CEILING MAY BE PLENUM RATED CABLE.
	28>	EXISTING MAKEUP AIR DUCT SERVING KITCHEN AREA TO REMAIN. NO WORK REQUIRED.
	29>	PRIOR TO EXCAVATING, CONTRACT WITH BLUE STAKES UTILITY IDENTIFICATION PROGRAM TO VERIFY THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES IN THIS AREA. COORDINATE INSTALLATION OF UNDERGROUND PIPING WITH EXISTING UTILITIES. MAKE REQUIRED ROUTING ADJUSTMENTS AND OFFSETS AS NEEDED.
	30>	REMOVE CONC. SIDEWALK AS NEEDED TO INSTALL NEW PIPING. REPLACE SIDEWALK TO MATCH EXISTING.
	31>	PROVIDE NEW 4" HIGH CONCRETE EQUIPMENT PAD. SEE DETAIL 11/M602.
	32>	CONNECT TO EXISTING 6" GAS LINE IN THIS LOCATION. EXTEND NEW GAS LINES TO EACH BOILER.
	33>	INSTALL NEW SYNCHRONOUS FAN MOTOR MATCHED WITH NEW VFD.
	34>	INSTALL FAN VFD'S ON WALL IN THIS LOCATION. CONNECT NEW FAN MOTORS TO NEW VFD. INTERLINK CONTROLS TO NEW DDC CONTROL SYSTEM.
	35>	CONNECT NEW CWS & CWR PIPING TO EXISTING COOLING COIL. SEE DETAIL 5/M603.



LING COIL. SEE DETAIL

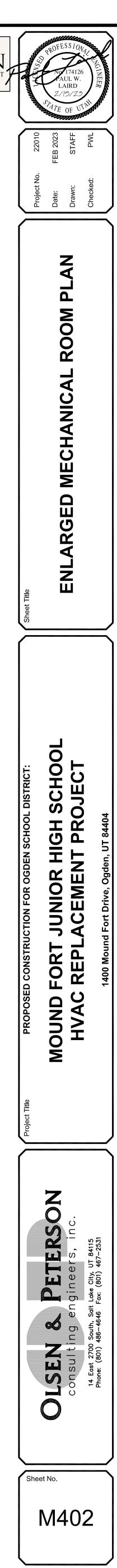


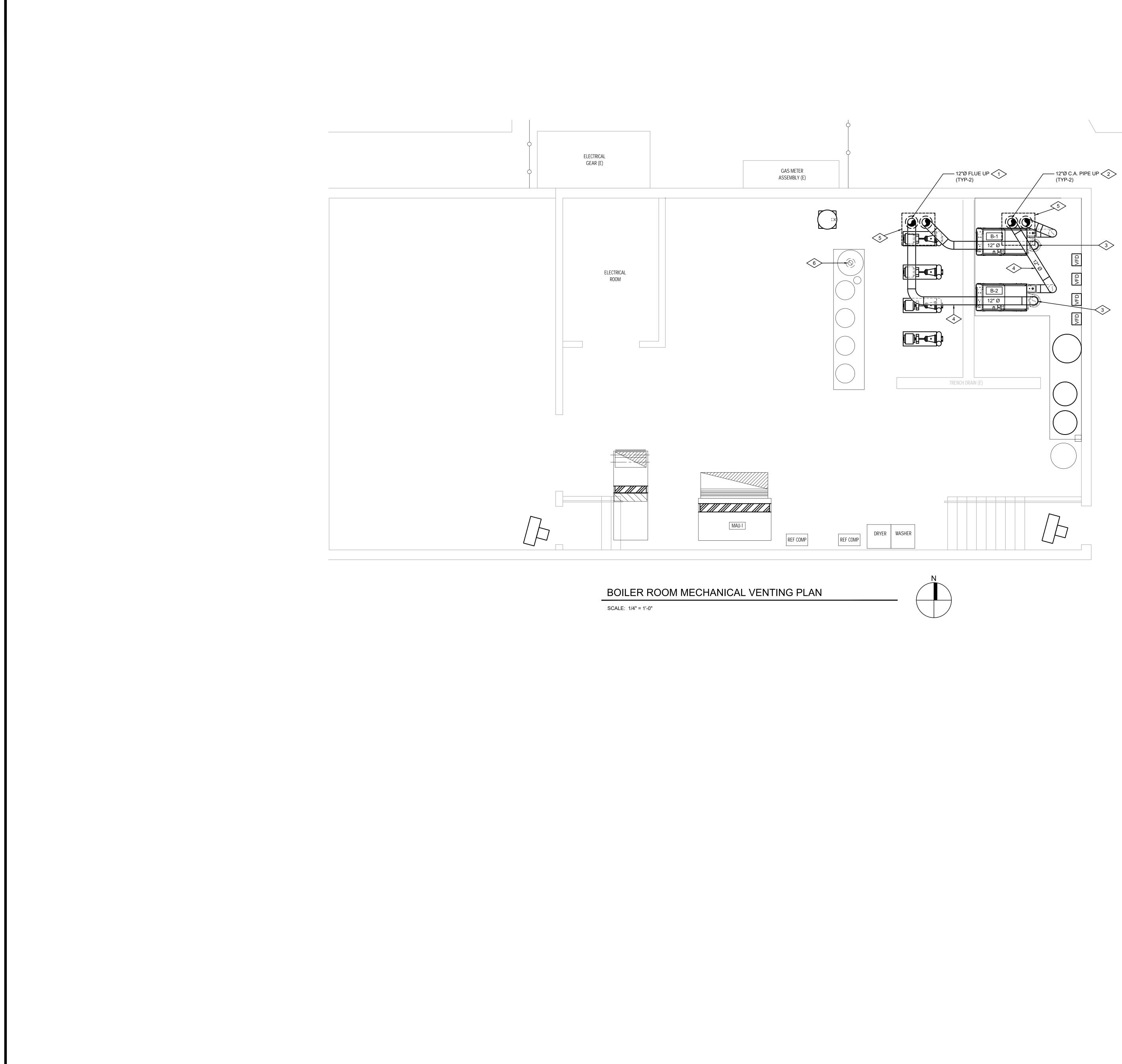


$\langle 1 \rangle$	INSTALL NEW DDC DAMPER ACTUATOR ON EXISTING HOT DECK/COLD DECK CONTROL SHAFT. INTEGRATE DAMPER CONTROL INTO NEW UTAH-YAMAS BUILDING TEMPERATURE CONTROLS. VERIFY OPERATION OF EXISTING DAMPERS. (TYP)
2>	INSTALL NEW HEATING HOT WATER COIL IN THIS LOCATION. COIL SPACE TO BE VERIFIED PRIOR TO SELECTING AND ORDERING COIL. REMOVE EXISTING AIR HANDLER SECTION CASING AS NEEDED TO INSTALL NEW COIL. PATCH AND REPAIR CASING UPON COMPLETION OF WORK.
$\langle 3 \rangle$	EXTEND NEW CHILLED WATER PIPING TO EXISTING COOLING COIL AT AIR HANDLER. MAKE CONNECTIONS TO EXISTING COIL. SEE DETAIL 5/M603.
4	EXTEND NEW HEATING HOT WATER PIPING TO NEW HOT WATER COIL AT AIR HANDLER. MAKE CONNECTIONS TO NEW COIL. SEE DETAIL 8/M603.
5	INSTALL NEW FAN MOTOR AND NEW FAN MOTOR BELTS. FAN BELTS TO BE SAME SIZE AND TYPE AS EXISTING.
	INSTALL NEW DDC ACTUATED RETURN AIR DAMPER IN THIS LOCATION. FIELD VERIFY SIZE OF DAMPER PRIOR TO CONSTRUCTION. INSTALL DAMPER USING EXISTING FRAME OR PROVIDE NEW AS NEEDED.
	INSTALL NEW DDC ACTUATED RELIEF AIR DAMPER IN THIS LOCATION. FIELD VERIFY SIZE OF DAMPER PRIOR TO CONSTRUCTION. INSTALL DAMPER USING EXISTING FRAME OR PROVIDE NEW AS NEEDED.
8	INSTALL NEW DDC ACTUATED OUTSIDE AIR DAMPER IN THIS LOCATION. FIELD VERIFY SIZE OF DAMPER PRIOR TO CONSTRUCTION. INSTALL DAMPER USING EXISTING FRAME OR PROVIDE NEW AS NEEDED.
9	INSTALL NEW AIR FILTERS IN EXISTING AIR HANDLER. INSTALL NEW 30% EFFICIENT MERV 8 FILTERS IN ALL EXISTING AIR HANDLERS.
	INSTALL NEW DDC CONTROL FOR EXISTING RETURN AIR FAN. INTEGRATE RETURN AIR FAN CONTROL INTO BUILDING SCHEDULE AND STATIC PRESSURE INPUT.
	FOR CONTINUATION OF PIPING SEE DRAWING M101A
12	INSTALL NEW ATC DDC CONTROL PANEL IN THIS LOCATION. EXTEND NEW DDC CONTROLS TO ALL EXISTING AIR HANDLERS, CHILLED WATER, HOT WATER AND DAMPERS CONTROLS.
13	INSTALL NEW BASE MOUNTED HEATING HOT WATER PUMP IN THIS LOCATION. SEE DETAIL 2/M602.
14	CONNECT NEW 6" CHILLED WATER SUPPLY (CWS) AND RETURN (CWR) PIPING TO EXISTING ROUGHED IN PIPING IN THIS LOCATION. EXTEND NEW CHILLED WATER PIPING TO EXISTING AIR HANDLER COILS AS INDICATED.
15	PIPING TO RUN HIGH IN MECHANICAL ROOM. COORDINATE LOCATION OF NEW CHILLED AND HEATING HOT WATER PIPING WITH EXISTING STRUCTURE, MECHANICAL AND ELECTRICAL TRADES.
	INSTALL NEW DDC CONTROLS SERVING EXHAUST FAN INTEGRATE EXHAUST FAN CONTROL INTO NEW BUILDING TEMPERATURE CONTROLS. VERIFY OPERATION OF EXISTING EXHAUST FAN (TYP)
17>	CORE DRILL EXISTING WALL FOR INSTALLATION OF NEW HWS AND HWR PIPING. GROUT PIPE PENETRATION SOLID UPON COMPLETION OF WORK.
18	INSTALL HEAT EXCHANGER BASE MOUNTED PUMPS IN THIS LOCATION. SEE DETAIL 2/M602.
19	EXTEND PIPING THROUGH EXTERIOR WALL. SEE DRAWING M101C FOR CONTINUATION. CORE DRILL WALL AS NEEDED.
<20>	FOR CONTINUATION OF PIPING SEE DRAWING M101C
21>	INSTALL PLATE & FRAME HEAT EXCHANGER IN THIS LOCATION. SEE DETAIL 8/M604.
22>	INSTALL BALANCING VALVE COMPETE WITH UNIONS AND SHUT-OFF VALVE. BALANCE WATER FLOW TO GPM INDICATED.
23>	INSTALL VFD ADJACENT TO EACH AIR HANDLER. LINK UFD CONTROL TO NEW FAN MOTOR.
24>	BALANCE ZONE AIR FLOW TO CFM INDICATED. MAKE CHANGES TO FAN SHEAVES AS NEEDED TO MEET CFM INDICATED (TYP).
25>	INSTALL PUMP VFD ON WALL IN THIS LOCATION. INTERLINK UFD CONTROL WITH NEW PUMP.



HOT DECK/COLD DECK O NEW UTAH-YAMAS ATION OF EXISTING DAMPERS.





INSTALL NEW 12" DIA. POLYPROPYLENE BOILER FLUE PER MANUFACTURES INSTRUCTION AND EXTEND TO ROOF. (TYP-2 FLUES). SEE DETAIL 5/M602 INSTALL NEW 12" DIA. POLYPROPYLENE COMBUSTION AIR (C.A.) PIPE PER MANUFACTURERS INSTRUCTION AND EXTEND TO ROOF. (TYP-2 C.A. PIPES). SEE DETAIL 7/M602 SLOPE BOILER FLUE PIPING BACK TO CONDENSATE RESERVOIR AT BOILER. (TYP FOR EACH BOILER FLUE) RUN BOILER FLUE AND C.A. PIPING HIGH CLOSE TO EXISTING ROOF STRUCTURE. COORDINATE LOCATION OF FLUE AND C.A. PIPING WITH NEW HYDRONIC PIPING, LIGHTING AND MECHANICAL TRADES.

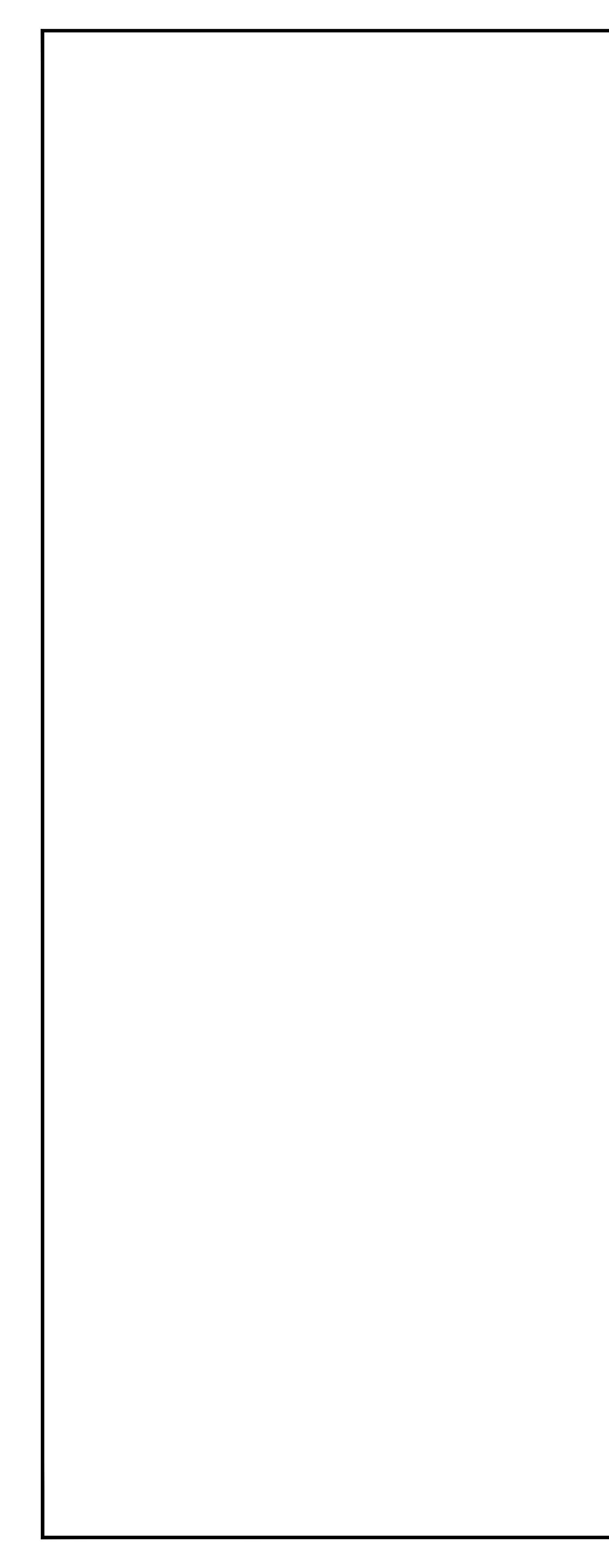
REFERENCE NOTES

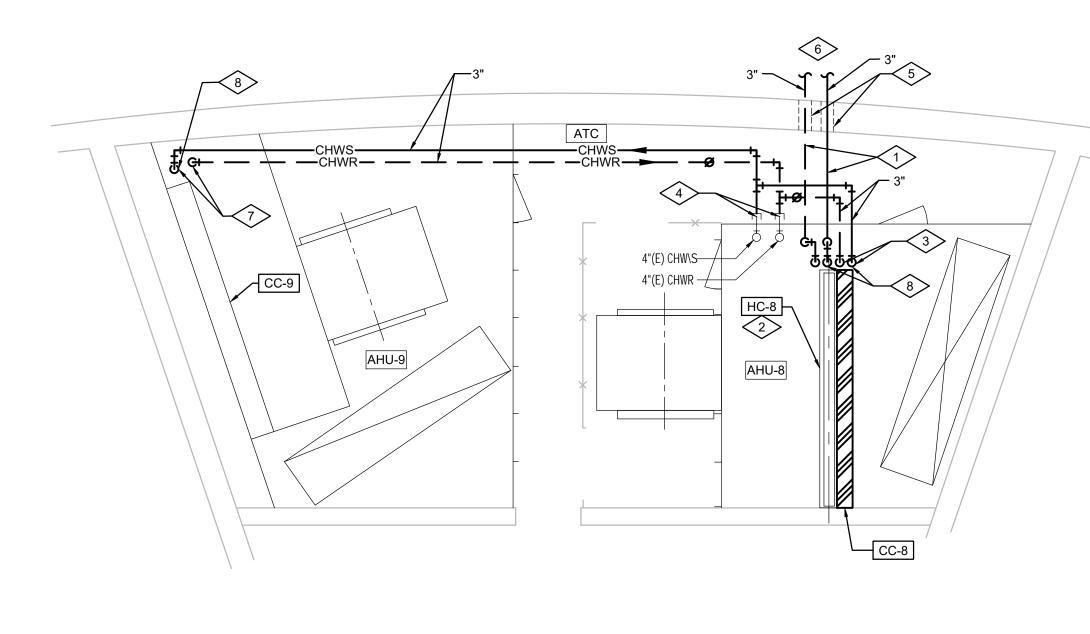
5 EXISTING ROOF OPENINGS TO BE RE-USED FOR NEW FLUE AND C.A. PIPING. REMOVE EXISTING ROOF COVERING AND EXTEND NEW FLUE OR C.A. PIPING UP THROUGH OPENING. PROVIDE NEW GALVANIZED STEEL OR ALUMINUM COVERING SEALED WATERTIGHT OVER REMAINING OPENING.

6 EXISTING WATER HEATER FLUE TO REMAIN INTACT. NO WORK REQUIRED.

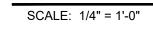








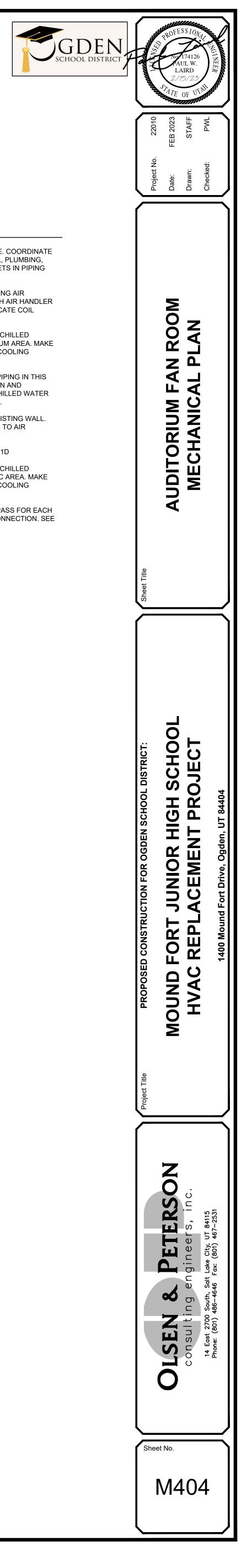
AUDITORIUM FAN ROOM MECHANICAL PLAN



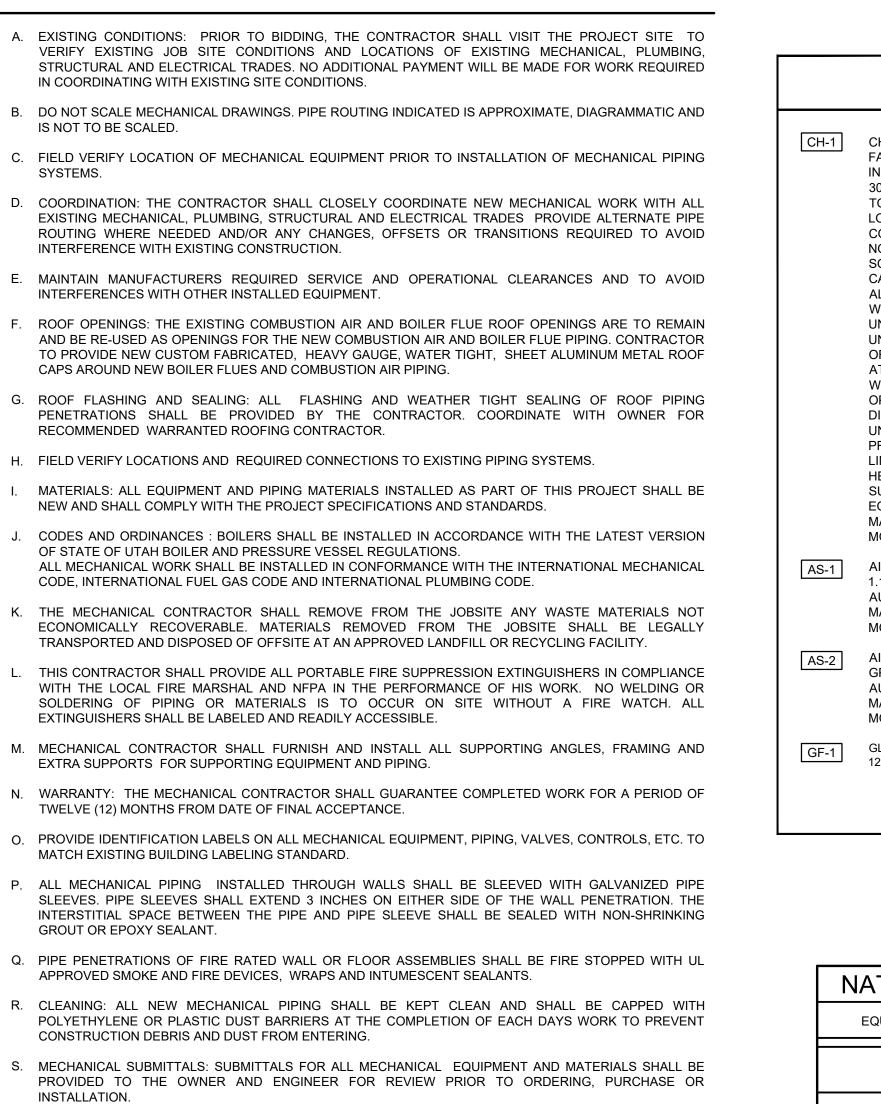


REFERENCE NOTES

	PIPING TO RUN HIGH CLOSE TO ROOF STRUCTURE. COORDINATE LOCATION OF PIPING WITH EXISTING MECHANICAL, PLUMBING, LIGHTING, AND ELECTRICAL TRADES. MAKE OFFSETS IN PIPING AS NEEDED TO FACILITATE INSTALLATION.
2>	INSTALL NEW HEATING HOT WATER COIL IN EXISTING AIR HANDLER SERVING AUDITORIUM AREA. REFURBISH AIR HANDLER AS NEEDED TO ACCOMMODATE NEW COIL. FABRICATE COIL FRAME AS NEEDED FOR INSTALLATION.
3>	EXTEND NEW CWS AND CWR PIPING TO EXISTING CHILLED WATER COIL AT AIR HANDLER SERVING AUDITORIUM AREA. MAKE ALL REQUIRED CONNECTIONS FOR A COMPLETE COOLING SYSTEM.
4	MAKE CONNECTION TO EXISTING CWS AND CWR PIPING IN THIS LOCATION. VERIFY THAT EXISTING PIPING IS CLEAN AND OPERATIONAL PRIOR TO CONNECTING TO NEW CHILLED WATER SYSTEM. NOTIFY OWNER OF ANY DISCREPANCIES.
5	EXTEND NEW HWS AND HWR PIPING THROUGH EXISTING WALL. CORE DRILL WALL OPENINGS AND EXTEND PIPING TO AIR HANDLER.
6	FOR CONTINUATION OF PIPING SEE DRAWING M101D
	EXTEND NEW CWS AND CWR PIPING TO EXISTING CHILLED WATER COIL AT AIR HANDLER SERVING ART MUSIC AREA. MAKE ALL REQUIRED CONNECTIONS FOR A COMPLETE COOLING SYSTEM.
8	PROVIDE 3-WAY COIL CONTROL VALVES WITH BYPASS FOR EACH COOLING COIL AND HEATING HOT WATER COIL CONNECTION. SEE DETAIL 5/M603







T. COMPLETION OF WORK: THE MECHANICAL CONTRACTOR SHALL LEAVE HIS WORK COMPLETE AND IN FUNCTIONAL WORKING ORDER. PATCH AND REPAIR FINISHED SURFACES DAMAGED BY THIS WORK TO MATCH EXISTING ADJACENT SURFACES, UNLESS OTHERWISE NOTED.

U. THE MECHANICAL CONTRACTOR SHALL FURNISH TO THE OWNER COMPLETE "AS CONSTRUCTED" DRAWINGS AND OPERATION AND SERVICE MANUALS. THE OWNER SHALL RECEIVE THE REQUIRED TRAINING, AS PROVIDED BY THE MECHANICAL CONTRACTOR, IN THE OPERATION AND MAINTENANCE OF ALL MECHANICAL EQUIPMENT AND TEMPERATURE CONTROLS.

ABBREVIATIONS NOTE: ALL ITEMS MAY NOT APPEAR ON DRAWINGS					
ASL AFF BOP BTU/H CAP DN DIA (E) ET EWT	ABOVE SEA LEVEL ABOVE FINISHED FLOOR BOTTOM OF PIPE BRITISH THERMAL UNITS PER HOUR CAPACITY DOWN DIAMETER EXISTING EXPANSION TANK ENTERING WATER TEMPERATURE	LWT MAX MBH MECH MIN NTS PD POC PRV PSI PSIG	LEAVING WATER TEMPERATURE MAXIMUM THOUSAND BRITISH THERMAL UNITS/HOUR MECHANICAL MINIMUM NOT TO SCALE PRESSURE DROP POINT OF CONNECTION PRESSURE REDUCING VALVE POUNDS PER SQUARE INCH POUNDS PER SQUARE INCH GAUGE		
T PP WS WR IWC IWG BS	FEET GALLONS PER MINUTE HORSEPOWER HOT WATER SUPPLY HOT WATER RETURN INCHES OF WATER COLUMN INCHES OF WATER GAUGE POUNDS	RPBP TYP. VFD WPD	REDUCED PRESSURE BACKFLOW PREVENTER TYPICAL VARIABLE FREQUENCY DRIVE WATER PRESSURE DROP		

MECHANICAL LEGEND							
NOTE: ALL ITEMS MAY NOT APPEAR ON DRAWINGS							
GATE VALVE	\longrightarrow	PRESSURE GAUGE W/GAUGE COCK	<u> </u>				
BALL VALVE	ð	THERMOMETER	₽				
MOTORIZED VALVE OPERATOR	М	TEMPERATURE & PRESSURE TEST PLUG	T				
CHECK VALVE (SWING OR LIFT AS REQ'D)	<u> </u>	IN-LINE PUMP					
SOLENOID VALVE		FLOW SWITCH	Ē				
AUTOMATIC CONTROL VALVE (2-WAY)		DIRECTION OF FLOW					
AUTOMATIC CONTROL VALVE (3-WAY)	—————————————————————————————————————	ELBOW DOWN					
PRESSURE REDUCING VALVE	\$	ELBOW UP	O				
P & T RELIEF VALVE	———·校	PIPE CAP					
AIR VENT (AUTOMATIC)	Y '	TEE DOWN					
STRAINER		UNION					
REDUCER	D	HEATING WATER SUPPLY	——HWS——				
		HEATING WATER RETURN	HWR				
		POINT OF CONNECTION TO EXISTING	•				
		DETAIL TAG DETAIL DRAWING					
		KEYED NOTE NOTE	0#				

<u>H-1</u>	CHILLER: PACKAGED AIR COOLE FACTORY ASSEMBLED AND WIRE INDEPENDENT SCREW COMPRES 30"Ø X 1.8 HP LOW NOISE VARIAB TO 45°F, STARTING CONTROL, SA LOUVER PACKAGE. COOLING CAPACITY: THE AIR COO NOT LESS THAN 150.8 TONS WHE SOLUTION FROM 54°F. TO 44°F. A CAPACITY SHALL BE BASED ON 0 ALTITUDE OF 4200 FEET. WATER WATER THROUGH THE COOLER. UNIT IS TO BE GIVEN A COMPLET UNDER FULL LOAD CONDITIONS, OF R-410A REFRIGERANT AND FU AT TIME OF DELIVERY TO JOB SIT WITH SCHOOL DISTRICT DDC COO OPERATION USING 460V/3 PH/60 F DISCONNECT. MCA CIRCUIT = 355 UNIT MOUNTED STARTERS AND C PROVIDE FULL SOUND ATTENUAT LINE TO 50 DB OR LESS. NOMINAL HEIGHT. WEIGHT = 10600 LBS. UN SUCTION SERVICE VALVES,ENER EQUIPMENT RAIL AND SHALL BE I MANUFACTURER: CARRIER MODEL: 30RB170
S-1	AIR SEPARATOR: CHILLED WATER 1.1 FT HEAD, 6" TANGENTIAL FLAN AUTOMATIC AIR VENT EQUAL TO MANUFACTURER: ROLAIRTROL MODEL: R-6F
S-2	AIR SEPARATOR: HEATING HOT V GPM @ 1.1 FT HEAD, 8" TANGENT AUTOMATIC AIR VENT EQUAL TO MANUFACTURER: ROLAIRTROL MODEL: R-8F
F-1	GLYCOL FEED TANK: CHILLED WATE 120/1/60 POWER REQUIRED.

NATURAL GAS PIPING SCHEDULE					
EQUIPMENT	INPUT (BTU)	INPUT (CFH)	GAS CONN (IN.)		
B-1 B-2	5,000,000 5,000,000	5800 5800	3" 3"		
TOTAL	10,000,000	11600			
* EXISTING GAS DELIVERY PRESSURE = 1 PSIG					

MECHANICAL EQUIPMENT SCHEDULE

AIR COOLED TYPE 170 NOMINAL TONS, UNIT IS TO BE COMPLETE. AND WIRED IN A SINGLE PACKAGE COMPLETE WITH TWO (2) V COMPRESSORS/CIRCUITS, AIR COOLED CONDENSER WITH (10) DISE VARIABLE SPEED CONDENSER FANS , LOW AMBIENT CONTROLS ONTROL, SAFETY AND OPERATION CONTROLS & FULL HAIL GUARD

THE AIR COOLED PACKAGED CHILLER SHALL HAVE A CAPACITY OF TONS WHEN COOLING 378 GPM OF 30% PROPYLENE GLYCOL TO 44°F. AT AN O.A. TEMPERATURE OF 95°F. THE FOREGOING BASED ON 0.00010 WATERSIDE FOULING FACTOR AND JOB SITE ET. WATER PRESSURE DROP SHALL NOT EXCEED 11.7 FEET OF E COOLER. EER = 10.17 OR BETTER A COMPLETE FACTORY OPERATING AND CONTROL SEQUENCE TEST

ONDITIONS, AND IS TO BE SHIPPED WITH FULL OPERATING CHARGE ANT AND FULL OIL CHARGE. CHARGE TO BE VERIFIED BY SUPPLIER (TO JOB SITE. PROVIDE BACNET CONTROL OPTION FOR INTERFACE CT DDC CONTROLS. THE UNIT SHALL BE FURNISHED FOR 0V/3 PH/60 HZ SINGLE POINT POWER CONNECTION WITH NON-FUSED RCUIT = 355.6 AMPS, MOCP = 400 AMPS. UNIT TO BE COMPLETE WITH FERS AND CONTROL PANEL. CHILLER MANUFACTURER SHALL D ATTENUATION PACKAGE TO LIMIT NC VALUE AT THE PROPERTY S. NOMINAL DIMENSIONS: 236" IN LENGTH. 89" IN WIDTH. AND 90" IN 600 LBS. UNIT SHALL BE COMPLETE WITH FREEZE PROTECTION, LVES, ENERGY MANAGEMENT MODULE, FACTORY FABRICATED SHALL BE MOUNTED ON 6 INCH HIGH REINFORCED CONCRETE PAD.

LLED WATER, IN-LINE TYPE, STAINLESS STEEL STRAINER, 500 GPM @ ENTIAL FLANGED INLET AND OUTLET, 2" AIR OUTLET WITH FEQUAL TO ARMSTRONG NO. 1-AV. 24" DIA., 48" HIGH.

TING HOT WATER, IN-LINE TYPE, STAINLESS STEEL STRAINER, 600 " TANGENTIAL FLANGED INLET AND OUTLET, 2" AIR OUTLET WITH FEQUAL TO ARMSTRONG NO. 1-AV. 24" DIA., 54" HIGH.

HILLED WATER. SEE SPECIFICATIONS AND REFER TO DRAWING DETAIL.

INPUT OUTPUT MANUFACTURER LOCATION SYMBOL FUEL (MBH) AND MODEL NO. (MBH) 5000 4800 NAT. GAS AERCO BENCHMARK BMK-5000 BOILER ROOM B-1 4800 NAT. GAS B-2 AERCO BENCHMARK BMK-5000 BOILER ROOM 5000

NOTES:

ISOLATION CONTROL VALVE TO OPEN WHEN BOILER IS ACTIVATED ON AND SHALL CLOSE WHEN BOILER IS OFF OR IN NEUTRAL OPERATING POSITION. (2) FURNISH BOILER WITH POLYPROPYLENE FLUE VENT PIPING OF SIZE INDICATED EQUAL TO DURAVENT POLY-PRO. PROVIDE BOILER WITH CONDENSATE NEUTRALIZATION TANK AND DRAIN KIT.

(3) BOILER SHALL BE FURNISHED WITH 439 STAINLESS STEEL FIRE TUBE HEAT EXCHANGER, 12:1 TURNDOWN RATIO AND FLOOR MOUNTING KIT FOR SIDE BY SIDE INSTALLATION. (4) PROVIDE FACTORY GAS TRAIN AND LB/OZ GAS REGULATOR FOR EACH BOILER. REGULATE GAS PRESSURE FROM TO 4 OUNCES (5) PROVIDE BOILER WITH BACNET PROTOCOL COMMUNICATIONS FOR CONNECTION AND INTEGRATION INTO UTAH-YAMAS BUILDING MANAGEMENT CONTROL SYSTEM. (6) PROVIDE SEISMIC BRACING OF BOILER PER IBC, IMC AND STATE OF UTAH BOILER AND PRESSURE VESSEL REQUIREMENTS.

							PUMP SC	HEDULE						
SYMBOL	MANUFACTURER	SERVICE	PUMP LOCATION	PUMP TYPE	PUMP WEIGHT	FLOW RATE	WORKING	PRESSURE DROP	PUMP EFF	MATERIAL			L PROPERTIES	
	AND MODEL				(LBS)	(GPM)	FLUID	(FT)	(%)	TYPE	MOTOR SIZE (HP)	MOTOR BHP (HP)	MOTOR RPM	POWER
P-1	B&G E-1510 3EB	CHILLED WATER	BOILER ROOM	BASE MTD END SUCTION	580	500	WATER	97	77.2	CAST IRON	20	19.1	1800	460V/3PH/60H
P-2	B&G E-1510 3EB	CHILLED WATER	BOILER ROOM	BASE MTD END SUCTION	580	500	WATER	97	77.2	CAST IRON	20	19.1	1800	460V/3PH/60F
P-3	B&G E-1510 3BD	HEATING HOT WATER	BOILER ROOM	BASE MTD END SUCTION	500	600	WATER	70	83.1	CAST IRON	15	14.2	1800	460V/3PH/60H
P-4	B&G E-1510 3BD	HEATING HOT WATER	BOILER ROOM	BASE MTD END SUCTION	500	600	WATER	70	83.1	CAST IRON	15	14.2	1800	460V/3PH/60F
P-5	B&G E-1531 1.25AD	HEATING HOT WATER	MEZZ AH ROOM	BASE MTD CLOSE COUPLED	135	80	WATER	30	65.8	CAST IRON	1.5	1.40	1800	460V/3PH/60F
P-6	B&G E-1531 1.25AD	HEATING HOT WATER	MEZZ AH ROOM	BASE MTD CLOSE COUPLED	135	80	WATER	30	65.8	CAST IRON	1.5	1.40	1800	460V/3PH/60F
P-7	B&G E-1531 1.25AD	HEATING HOT WATER	MEZZ AH ROOM	BASE MTD CLOSE COUPLED	135	20	WATER	30	42.8	CAST IRON	1.0	0.98	1800	460V/3PH/60F
P-8	B&G E-1531 1.25AD	HEATING HOT WATER	MEZZ AH ROOM	BASE MTD CLOSE COUPLED	135	20	WATER	30	42.8	CAST IRON	1.0	0.98	1800	460V/3PH/60F
P-9	B&G E-1531 1.25AD	HEATING HOT WATER	MEZZ AH ROOM	BASE MTD CLOSE COUPLED	155	80	30% PROP GLYCOL / WATER	42	66.2	CAST IRON	1.5	1.33	1800	460V/3PH/60H
P-10	B&G E-1531 1.25AD	HEATING HOT WATER	MEZZ AH ROOM	BASE MTD CLOSE COUPLED	155	80	30% PROP GLYCOL / WATER	42	66.2	CAST IRON	1.5	1.33	1800	460V/3PH/60H

NOTES:

(1) FURNISH PUMP WITH MATCHING SUCTION DIFFUSER. PREMIUM EFFICIENCY NON-OVER LOADING VED CONTROLLED MOTOR. MOUNTING BASE AND FLEX CONNECTORS. (2) PUMPS SHALL BE FURNISHED WITH INDIVIDUAL WALL MOUNTED VARIABLE FREQUENCY DRIVES. MANUFACTURER SHALL BE ABB, YASKAWA, MITSUBISHI OR APPROVED EQUAL. (3) INTEGRATE PUMP ON/OFF AND VFD MODULATION CONTROL WITH BOILER CONTROL PANEL AND SYSTEM PRESSURE TRANSDUCER CONTROL. (4) INTEGRATE PUMP ON/OFF AND VFD MODULATION CONTROL WITH CHILLER CONTROL PANEL AND SYSTEM PRESSURE TRANSDUCER CONTROL. (5) MOUNT PUMP ON 4 INCH HIGH CONCRETE CURB. SECURE PUMP TO CURB WITH ANCHOR BOLTS. (6) INTEGRATE PUMP ON/OFF CONTROL WITH BUILDING SCHEDULE.

	HEATING COIL SCHEDULE														
						HE	ATING COIL	CAPACITY							
SYMBOL	SERVES	CFM	SIZE FT2	ENT. AIR	LVG. AIR	M.B.H.	G.P.M.	COIL CONN	MAX. WATER PD	WATER ENTERS	WATER LEAVES	NOTES			
HC-1	MULTIZONE UNIT 01	20,300	TBD	60°	110°	830	83.0	3"	11.37	180°F.	160°F.	(1)(3)(4)			
HC-2	MULTIZONE UNIT 02	18,070	TBD	60°	110°	635	63.5	2-1/2"	10.05	180°F.	160°F.	(1)(3)(4)			
HC-3	MULTIZONE UNIT 03	5,400	TBD	60°	110°	182	18.2	1-1/2"	12.10	180°F.	160°F.	(1)(3)(4)			
HC-4	MULTIZONE UNIT 04	21,045	TBD	60°	110°	875	87.5	3"	9.86	180°F.	160°F.	(1)(3)(4)			
HC-5	MULTIZONE UNIT 05	21,180	TBD	60°	110°	1400	140	4"	13.25	180°F.	160°F.	(1)(3)(4)			
HC-6	SINGLE ZONE KITCHEN	2,800	TBD	60°	110°	100	10.0	1-1/4"	11.00	180°F.	160°F.	(1)(3)(4)			
HC-7	MAKE UP AIR KITCHEN	8,000	TBD	60°	110°	743	74.3	3"	14.10	180°F.	160°F.	(1)(3)(4)			
HC-8	SINGLE ZONE AUDITORIUM	22,400	TBD	60°	110°	765	76.5	3"	10.50	180°F.	160°F.	(1)(2)(4)			

NOTES:

(1) HEATING HOT WATER COILS TO BE FIELD MEASURED AND FACTORY FABRICATED FOR INSTALLATION IN EXISTING MULTI-ZONE AIR HANDLER. (2) COIL CAPACITY BASED ON 30% PROPYLENE GLYCOL / WATER SOLUTION. (3) COIL CAPACITY BASED ON WATER ONLY.

(4) PROVIDE COIL FRAMES AND SUPPORTS AS NEEDED FOR INSTALTION IN EXISTING AIR HANDLER.

	COOLING COIL SCHEDULE														
				COOLING COIL	CAPACITY										
SYMBOL	SERVES	CFM	SIZE FT2	ENT. AIR	LVG. AIR	M.B.H.	G.P.M.	COIL CONN	MAX. WATER PD	WATER ENTERS	WATER LEAVES				
CC-1	MULTIZONE UNIT 01	20,300	EXIST	80°	55°	655	131.0	2-1/2"	11.37	45°F.	55°F.				
CC-2	MULTIZONE UNIT 02	18,070	EXIST	80°	55°	635	63.5	2-1/2"	10.05	45°F.	55°F.				
CC-3	MULTIZONE UNIT 03	5,400	EXIST	80°	55°	182	18.2	1-1/2"	12.10	45°F.	55°F.				
CC-4	MULTIZONE UNIT 04	21,045	EXIST	80°	55°	875	87.5	3"	9.86	45°F.	55°F.				
CC-5	MULTIZONE UNIT 05	21,180	EXIST	80°	55°	1400	140	4"	13.25	45°F.	55°F.				
CC-6	SINGLE ZONE KITCHEN	2,800	EXIST	80°	55°	100	10.0	1-1/4"	11.00	45°F.	55°F.				
XX-X	MAKE UP AIR KITCHEN	EVAPORATIVE COOLED	NONE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A				
CC-8	SINGLE ZONE AUDITORIUM	22,400	EXIST	80°	55°	765	76.5	3"	10.50	45°F.	55°F.				
CC-9	SINGLE ZONE HOME ECON	17,400	EXIST	80°	55°	830	83.0	3"	10.50	45°F.	55°F.				

NOTES:

(1) COOLING COILS ARE EXISTING AND ORIGINAL TO THE BUILDING CONSTRUCTION AND AIR HANDLERS. MECHANICAL CONTRACTOR SHALL FIELD VERIFY LOCATION OF EXISTING COOLING COIL AND PROVIDE AIR OR WATER TEST ON EXISTING COOLING COIL PRIOR TO MAKING CHILLED WATER CONNECTIONS.

(2) COIL CAPACITY BASED ON 30% PROPYLENE GLYCOL / WATER SOLUTION.

(3) UPON COMPLETION OF WORK, FILL CHILLED WATER PIPING SYSTEM WITH 30% PROPYLENE GLYCOL / WATER SOLUTION. PROVIDE TEST REPORT TO OWNER VERIFYING PERCENTAGE OF GLYCOL IN THE PIPING SYSTEM.

HIGH EFFICIENCY BOILER SCHEDULE

	GAS SUPPLY PRESSURE (MIN-MAX)	SUPPLY WATER TEMP (°F)	RETURN WATER TEMP (°F)	WATER FLOW RATE (GPM) (MIN-MAX)	WATER VOLUME (GAL)	VENT SIZE (IN)	COMB SIZE (IN)	TURNDOWN RATIO	NOx EMMISIONS	ELECTRICAL	THERMAL EFFICIENCY
S	4" W.C 2 PSI	180	160	75-600	110	12"	12"	12:1	< 13 PPM	460V/3PH/60HZ	96.8%
S	4" W.C 2 PSI	180	160	75-600	110	12"	12"	12:1	< 13 PPM	460V/3PH/60HZ	96.8%

(1) BOILER TO BE PROVIDED WITH FACTORY BOILER MANAGEMENT CONTROL SYSTEM FOR BOILER SEQUENCING AND ENERGY MANAGEMENT. BOILER SHALL BE FURNISHED WITH MOTORIZED

			EXPANS	SION TAN	K SCHEI	DULE		
SYMBOL	MEDIUM	TYPE	TANK VOL (GAL)	MAX ACCEPT VOLUME (GAL)	CONN (IN)	DIAM (IN)	HEIGHT (IN)	MANU
ET-1	HYDRONIC HOT WATER	DIAPHRAGM	80	80	1	24	49	BE
ET-2	HYDRONIC HOT WATER	DIAPHRAGM	80	80	1	24	49	BE
ET-1	HYDRONIC CHILLED WATER	DIAPHRAGM	106	106	1	30	57	BE

NOTES

NOTES:

(2) PROVIDE WALL MOUNTED THERMOSTAT.

(1) ASME RATED. MAX WORKING PRESSURE = 125 PSI. 12 PSI FACTORY CHARGE.

(2) PROVIDE 4 INCH HIGH CONCRETE PAD FOR MOUNTING. (3) STEEL SHELL AND HEAVY DUTY BUTYL DIAPHRAGM. PROVIDE DRAIN COCK AND STAINLESS STEEL CONNECTOR.

(4) QUALITY STANDARD: BELL & GOSSETT OR APPROVED EQUAL BY TACO OR AMTROL

	P	IPING INSUL	_ATION \$	SCHEDU	LE	
	INSULATION COND	UCTIVITY	≥ NOMINAL	PIPE OR TUBE S	IZE, IN.	
FLUID OPERATING TEMPERATURE RANGE	CONDUCTIVITY,	MEAN RATING	< 1	1 TO < 1-1/2	1-1/2 TO < 4	4 TO <
(°F) AND USAGE	BTU IN/ FT ² °F	TEMPERATURE, °F	INSULATION T	HICKNESS, IN.		
> 350	0.32 TO 0.34	250	4.5	5.0	5.0	5.0
251 TO 350	0.29 TO 0.32	200	3.0	4.0	4.5	4.5
201 TO 250	0.27 TO 0.30	150	2.5	2.5	2.5	3.0
141 TO 200	0.25 TO 0.29	125	1.5	1.5	2.0	2.0
105 TO 140	0.22 TO 0.28	100	1.0	1.0	1.5	1.5
40 TO 104	0.21 TO 0.27	75	0.5	0.5	1	1.5
< 40	0.20 TO 0.29	50	0.5	1.0	1.5	2.0

TABLE APPLIES TO ALL HEATING HOT WATER SYSTEMS AND DOMESTIC HOT AND COLD WATER SYSTEMS.

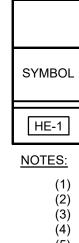
	HOT WATER UNIT HEATER SCHEDULE														
SYMBOL	TYPE	MOUNTING	CFM	HE	EATING C	OIL	RPM		OTOR 0/1/60	MAKE & I					
				MBH	GPM	ΔΡ.		H.P.	SERVICE						
UH-1	HOT WATER HORIZONTAL	CEILING/WALL	1100	43.6	6.1	.24	1000	1/12	120/1/60	VULCAN					
UH-2	HOT WATER HORIZONTAL	CEILING/WALL	750	34.8	3.5	.12	1000	1/20	120/1/60	VULCAN					

(1) HEATING CAPACITY BASED ON 180 DEG. F. E.W.T., 140 DEG. F. L.W.T., 30% PROPYLENE GLYCOL SOLUTION.

GDEN	PROFESSIONAL
SCHOOL DISTRICT	AUL W. LAIRD
	2/15/23
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	SEN & PETERSC onsulting engineers, inc. 14 East 2700 South, Salt Lake City, UT 84115 Phone: (801) 486-4646 Fax: (801) 467-2531
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DIFFUSER SCHEDUI	_
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			DIFFUSE	R SCHEDULE	
SYMBOL	TYPE	NECK SIZE	LOCATION	AIR PATTERN	MAKE & MODEL
D-1 CFM	LAY-IN	6"Ø	CEILING	4-WAY	PRICE SPD (1)(12 x12 FACE
D-2 CFM	LAY-IN	8"Ø	CEILING	4-WAY	PRICE SPD (1) 24 x 24 FACE
D-3 CFM	LAY-IN	10"Ø	CEILING	4-WAY	PRICE SPD (1)(24 x 24 FACE
D-4 CFM	CONICAL	14"Ø	DUCT MTD	CONICAL	PRICE RCD (2 4-CONE
(E) CFM	EXISTING	EXISTING	CEILING	EXISTING	EXISTING DIFFUSER TO BE RE-BALANCED TO CFM INDICATED



<u>NOTES:</u> (1) PROVIDE REQUIRED CEILING FRAMES FOR MOUNTING IN LAY-IN OR GYP. BOARD CEILING. FIELD VERIFY LOCATION OF DIFFUSER. (2) TO HAVE BRIGHT WHITE POWDER COAT FINISH.

		RETURN GR	ILLE SCHED	ULE
SYMBOL	NECK SIZE	LOCATION	TYPE	MAKE & MODEL
R-1	24" x 24"	CEILING	RETURN AIR	PRICE 535 (1)
R-2	24" x 12"	CEILING	RETURN AIR	PRICE 535 (1)

NOTES: (1) TO HAVE BRIGHT WHITE POWDER COAT FINISH.

ROOFTOP UNIT SCHEDULE

SYMBOL	SERVES	CFM	EXTERNAL	MINIMUM OUTSIDE			EXHAUST FAN				COOLING CAPA	ACITY			HEATING CA	PACITY		ELEC	MCA	MCA MFS	FS WEIGHT	SIZE	MANUFACTURER & MODEL
STMBOL	SERVES	CFM	STATIC PRESS.			DRIVE	H.P.	DRIVE		EDB EWB	TOTAL MBH	SENSIBLE MBH	SEER / EER	TYPE	GAS CONN.	MBH IN	MBH OUT		MCA	WIF 3	LBS.	SIZE	(1)(2)(3)(4)(5)
RT-1	ADMIN	1865	0.8	240	1.5	BELT	-	-	95	80 62	66.1	65.8	15.4	INDIRECT GAS	1/2"	90 82	72 66	208 V/3 /60	35.7	50.0	740	74" x 49" x 41"	YORK ZYG06E2C1AK2B324A3 (5 TON)
RT-2	ADMIN & COUNCILING	790	0.8	60	1.0	BELT	-	-	95	⁸⁰ 62	36.2	30.0	15.2	INDIRECT GAS	1/2"	90 -	72 -	208 V/3 /60	21.0	25.0	580	74" x 49" x 41"	YORK ZYG04E2C1AK2B324A3 (3 TON)

NOTES:

(1) FURNISH ROOF TOP UNIT COMPLETE WITH FULL ECONOMIZER, BACNET CARD CONTROLS, MOTORIZED R.A. & O.A. DAMPERS WITH GRAVITY RELIEF, WEATHERHOODS FOR O.A AND RELIEF AIR, HAIL GUARDS, POWERED CONVENIENCE OUTLET, SINGLE POINT POWER CONNECTION W/ NON-FUSED DISCONNECT, STAINLESS STEEL DRAIN PAN, HIGH ALTITUDE KIT, LB/OZ GAS REGULATOR, MERV 8 AIR FILTERS, 2 STAGE MEDIUM GAS HEAT & LOCKING HINGED SERVICE ACCESS DOORS.

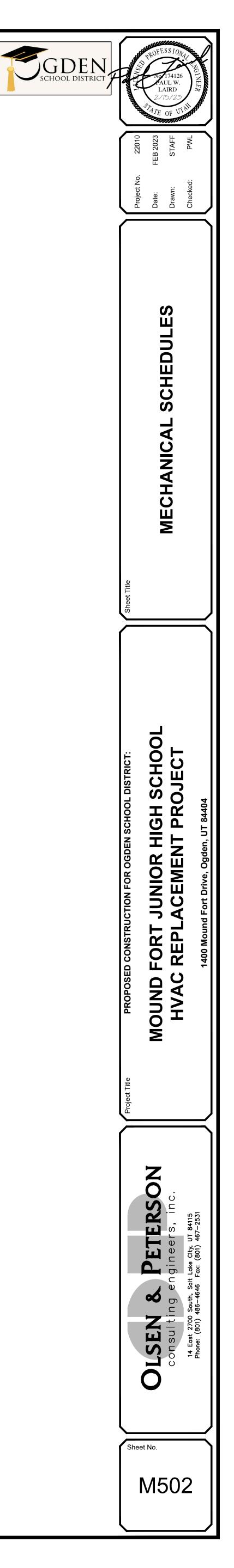
(2) INSTALL NEW ROOF-TOP UNIT LEVEL AND PLUMB PER MANUFACTURERS INSTRUCTIONS. MAINTAIN MANUFACTURERS RECOMMENDED SERVICE AND OPERATIONAL CLEARANCES AROUND UNIT. (3) PROVIDE 14 INCH HIGH FACTORY FABRICATED AND INSULATED ROOF CURB. VERIFY LOCATION OF ROOF CURB AND ROOF OPENINGS WITH ENGINEER PRIOR TO INSTALLING. ROOF OPENINGS FOR SUPPLY AND RETURN AIR DUCTWORK TO BE STRUCTURALLY FRAMED TO MATCH DUCTWORK SIZES INDICATED OR NEEDED.

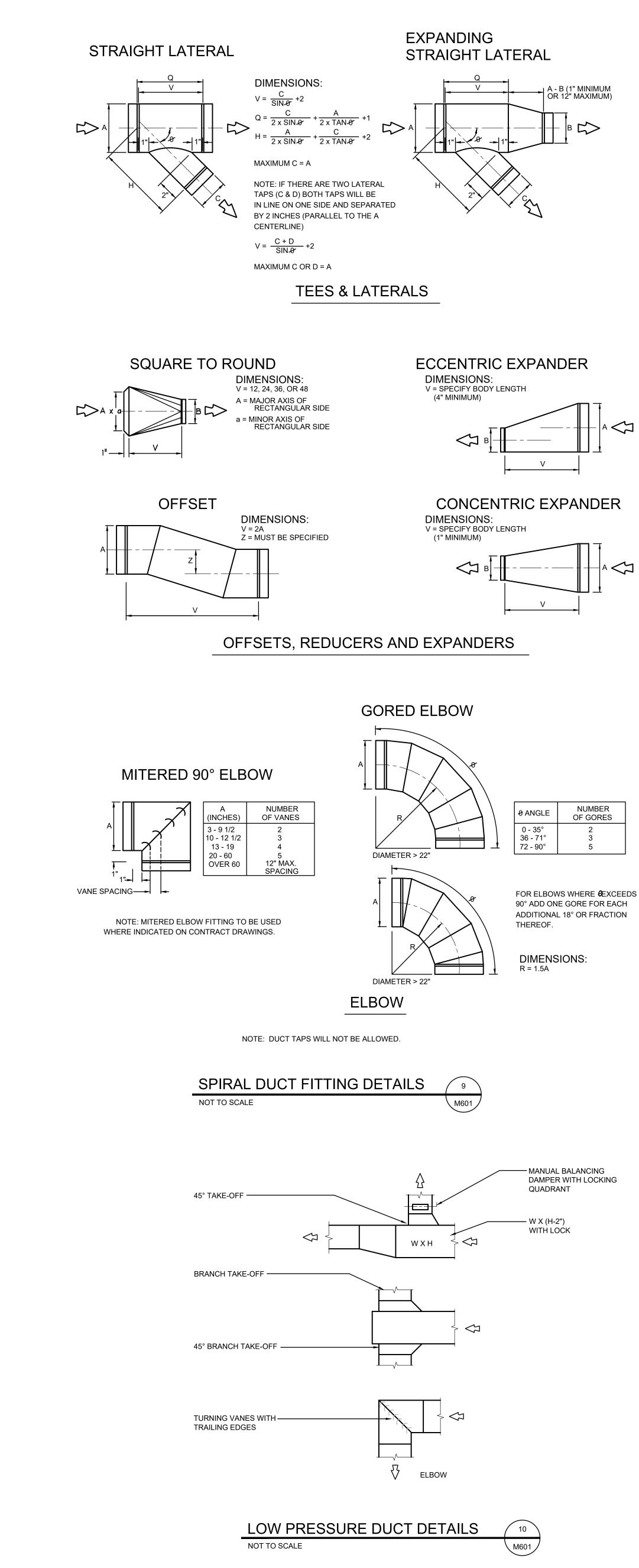
(4) AIRFLOW, HEATING AND COOLING CAPACITIES ARE MINIMUM ACCEPTABLE. CONTRACTOR TO SELECT EQUIPMENT FOR PROJECT SITE ALTITUDE OF 4300 FT ASL. 95 DEG F DB AND 62 DEG F WB.

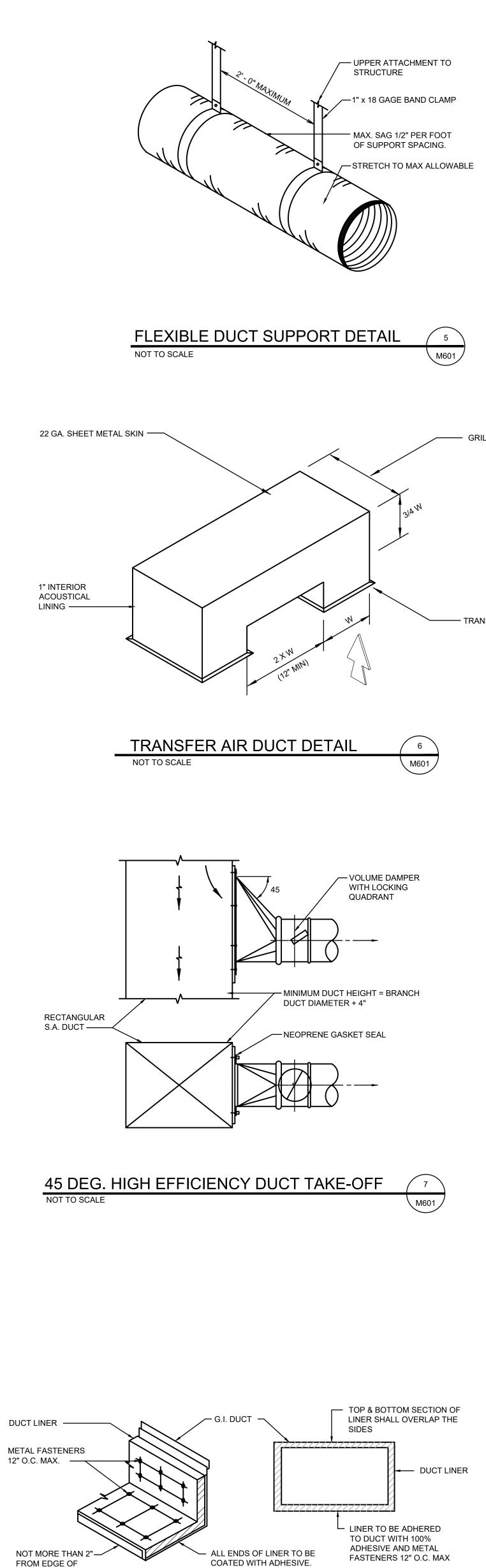
(5) PROVIDE TEST AND BALANCE SERVICES TO BALANCE ROOF TOP UNIT TO CFM INDICATED. MECHANICAL CONTRACTOR TO PROVIDE SHEAVES, DRIVES AND BELTS AS NEEDED TO CONFIGURE THE FAN DRIVE SYSTEM TO MEET THE AIRFLOW REQUIREMENTS INDICATED.

						HEAT	EXC	HANG		CHED	ULE		
BOL	SYSTEM SERVED	SC GPM	URCE HOT EWT/ LWT	WATER SI MAX PD (FT)	DE PPG %	LC EWT/ LWT	GPM	WATER SID MAX PD (PSI)		HEAT LOAD (MBH)	HEAT TRANSFER (SQ. FT.)	TYPE	MANUFACTURER & MODEL NO
-1	AUDITORIUM HW COIL	82	180/160	10	0	158/179	80	10	30	800	429.48	PLATE & FRAME	TACO PF 71-59-4-NH

ASME RATED. 150 PSIG DESIGN PRESSURE 230 DEG F MAX WORKING TEMPERATURE.
 59 TOTAL PLATES
 3" FLANGED NOZZLE CONNECTIONS
 PROVIDE 4" HIGH CONCRETE PAD FOR MOUNTING
 WEIGHT = 2260 LBS





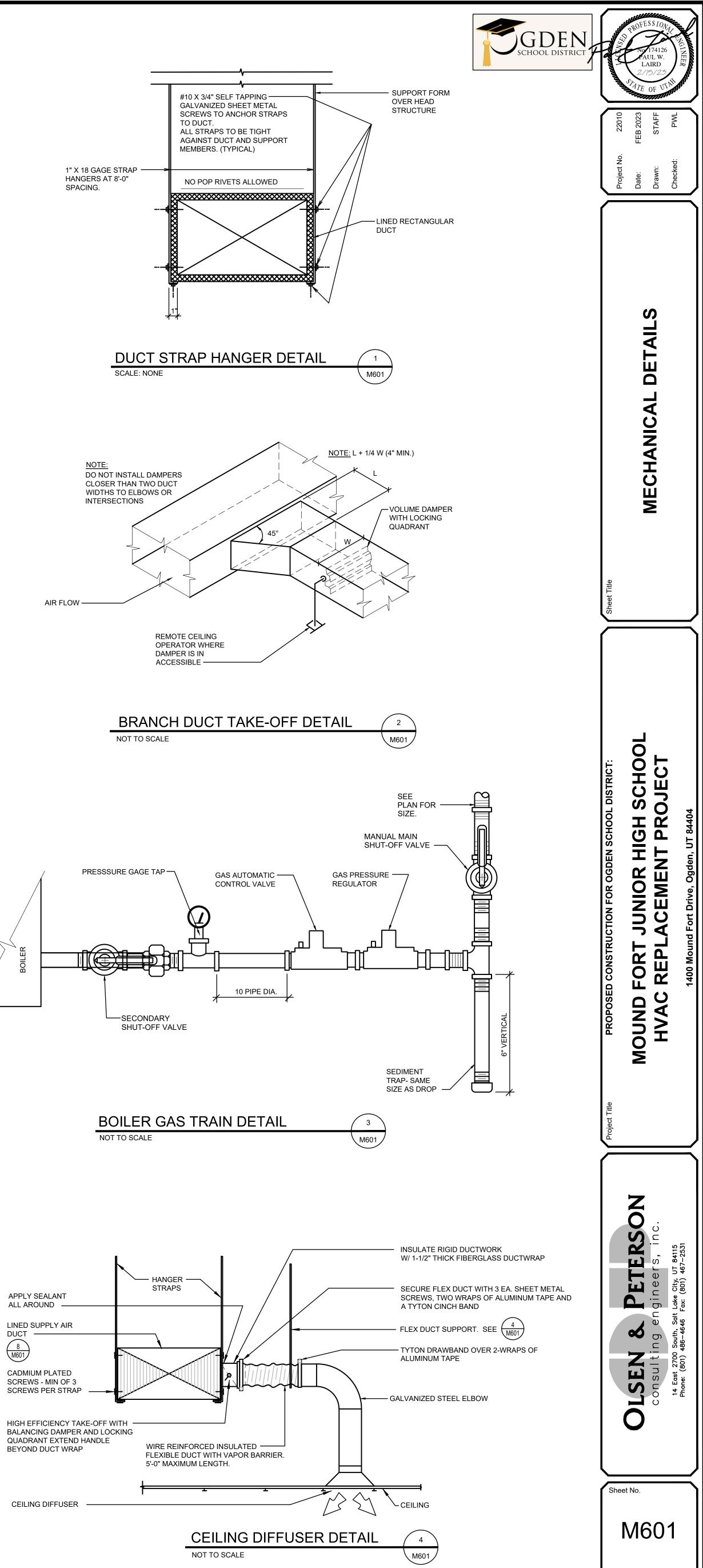


LINER

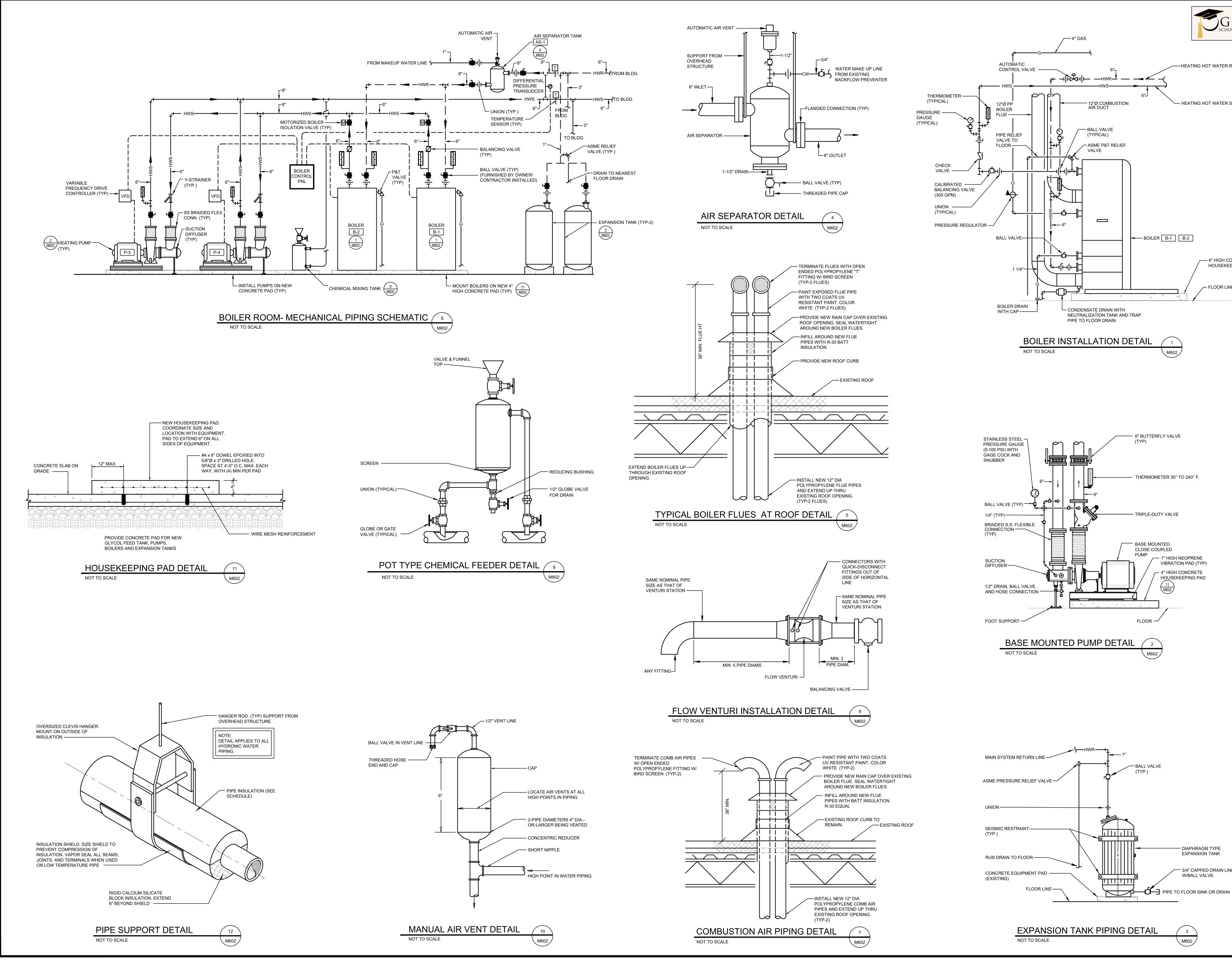


ENDS OF LINER SHALL BE BUTTED FIRMLY TOGETHER

AND TAPED OVER



- GRILLE LENGTH





W/BALL VALVE.

- 3/4" CAPPED DRAIN LINE

- DIAPHRAGM TYPE EXPANSION TANK

- FLOOR LINE

4" HIGH CONCRETE HOUSEKEEPING PAD

- HEATING HOT WATER SUPPLY

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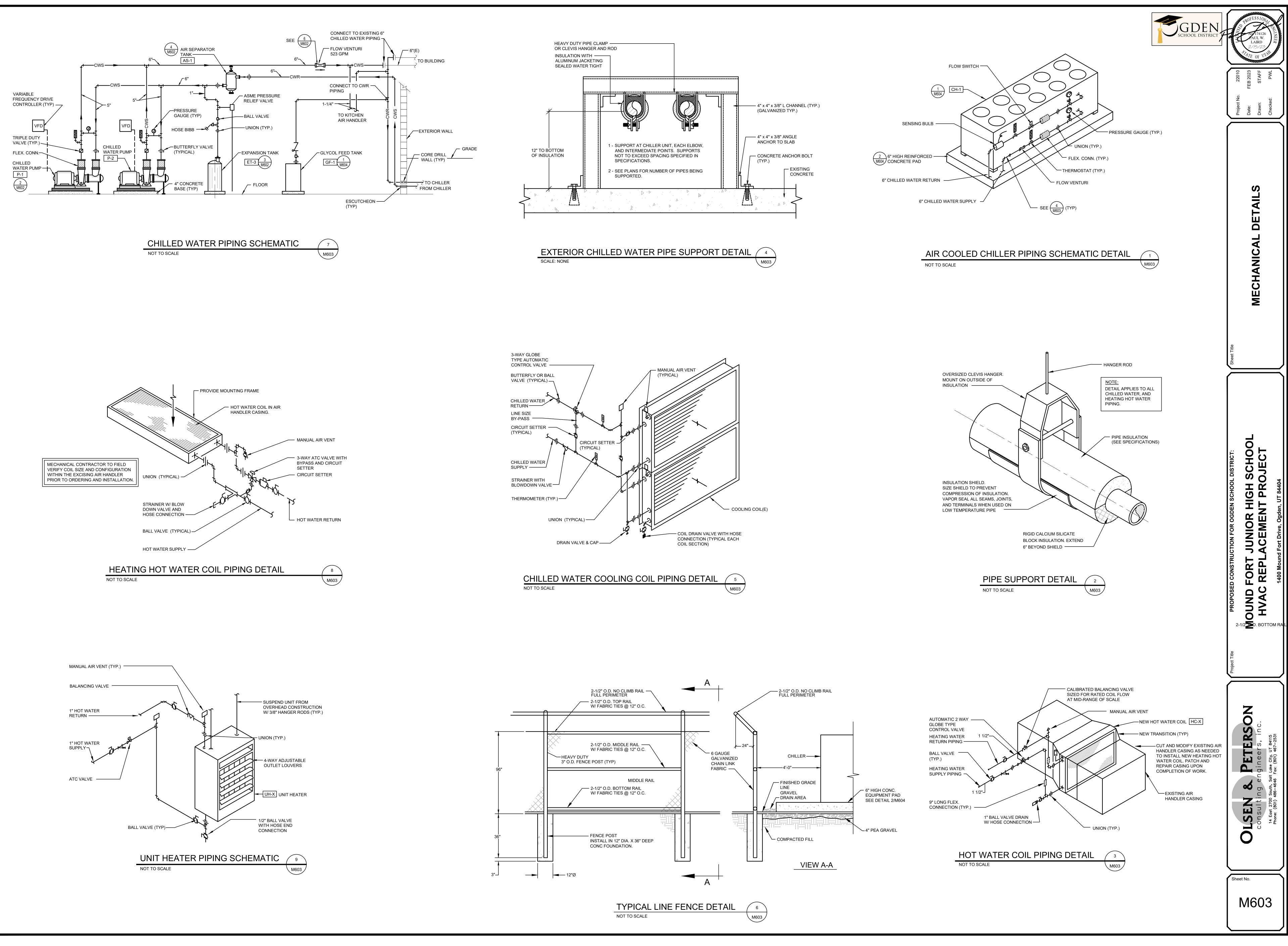
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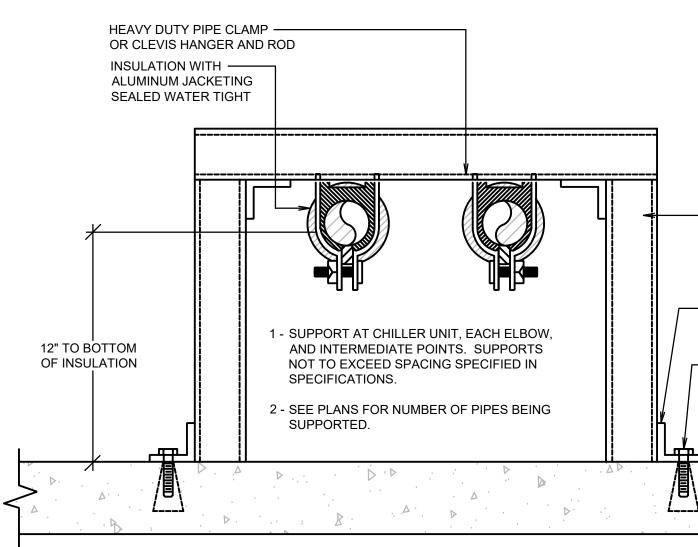
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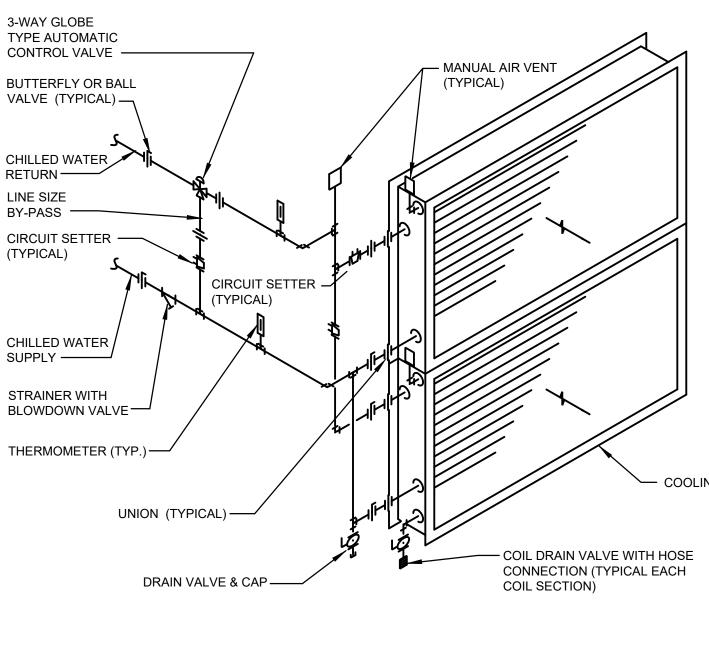
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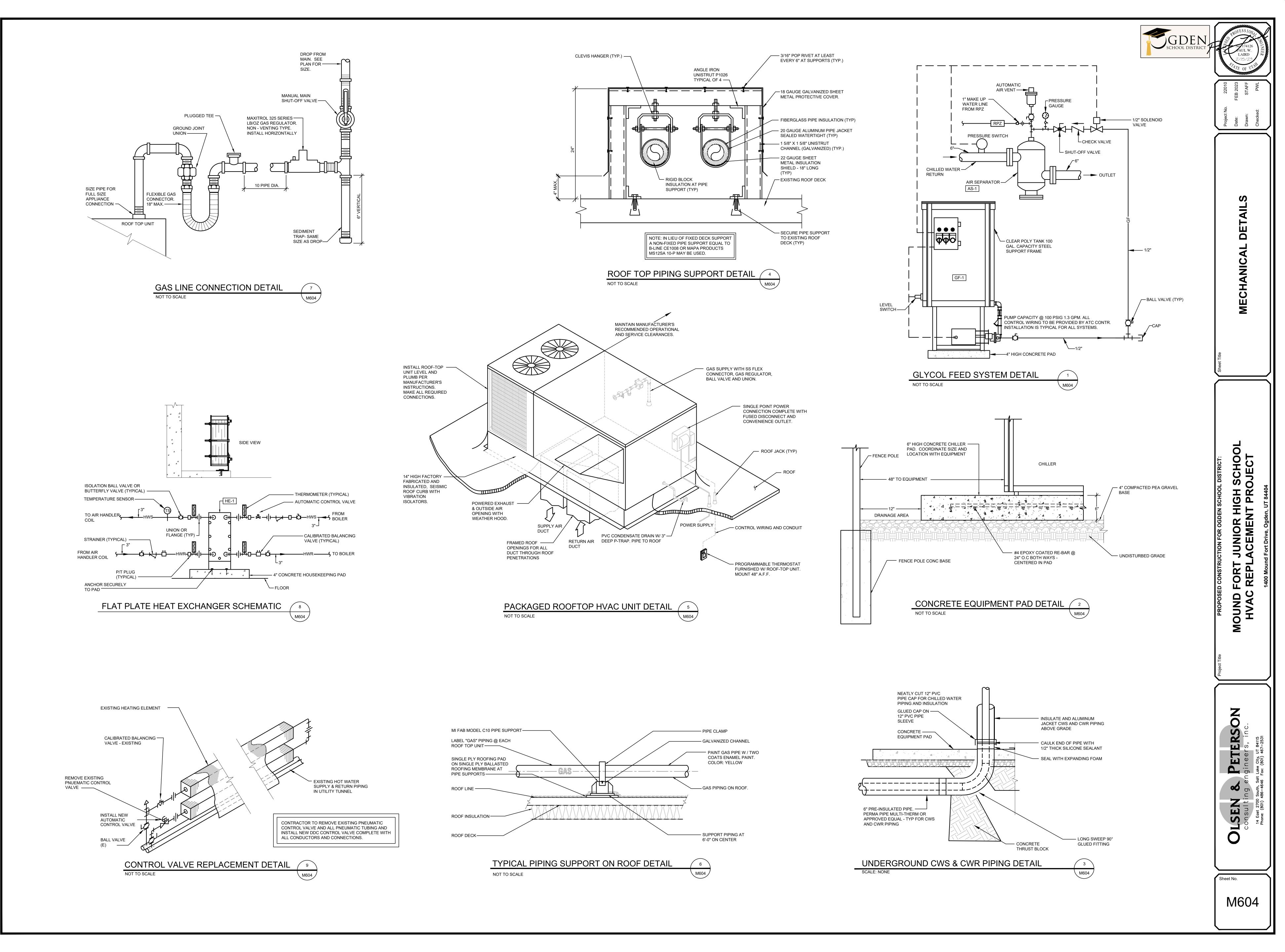
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			S INDEX
ABBREV.	DESCRIPTION	ABBREV.	DESCRIPTION
#	NUMBER	MH	MANHOLE
٩C	ALTERNATING CURRENT	MIC	MICROPHONE
A.F.F.	ABOVE FINISH FLOOR	MIN	MINIMUM
AIC	AMPS INTERRUPTING CAPACITY	MTG	MOUNTING
AM	AMPS METER	MTR	MOTOR
AMP	AMPERE	N/A	NOT APPLICABLE
ANN	ANNUNCIATOR	NC	NORMALLY CLOSED
ATS	AUTOMATIC TRANSFER SWITCH	NEC	NATIONAL ELECTRICAL CODE
AUX	AUXILIARY	NEMA	NATIONAL ELECT. MANUFAC. ASSOC.
AWG	AMERICAN WIRE GAUGE	NFC	NATIONAL FIRE CODE
BC	BARE COPPER	NFPA	NATIONAL FIRE PROTECTION ASSOC.
BFG	BELOW FINISH GRADE	N.I.C.	NOT IN CONTRACT
С	CONDUIT	NO	NORMALLY OPENED
CAB	CABINET	NTS	NOT TO SCALE
CATB	COMMUNITY ANTENNA TELEVISION	OS & Y	OUTSIDE SCREW & YOKE
CATV	CABLE TELEVISION	PB	PUSHBUTTON
CKT	CIRCUIT	PF	POWER FACTOR
CLG	CEILING	PFR	PHASE FAILURE RELAY
	CONTRACTOR	PNL	PANEL
C.O.	CONDUIT ONLY	PT	POTENTIAL TRANSFORMER
CRT	COMPUTER TERMINAL	PVC	POLYVINYL CHLORIDE CONDUIT
СТ	CURRENT TRANSFORMER	(R)	RELOCATE
	COPPER	RECEP	RECEPTACLE
C/W		REQ	REQUIREMENT
DB	DECIBEL	RLA	RATED LOAD AMPS
		RMS	ROOT MEAN SQUARE
DWG	DRAWING	SE	SERVICE ENTRANCE
	EXISTING	SPEC	SPECIFICATIONS
(E) EC		SPKR	
		SPKR	SPEAKER SELECTOR SWITCH
EG			
EMT EX		SWBD	SWITCH SWITCHBOARD
FACP		SWGR	
FC	FOOT CANDLE	TTB	
FT		TTC	
GFI	GROUND FAULT INTERRUPTER	TV	TELEVISION
GND	GROUND	TYP	TYPICAL
GRC	GALVANIZED RIGID CONDUIT	UG	
HP	HORSE POWER	UPS	
HZ	HERTZ	V	VOLT (KV-KILOVOLT)
FC		VA/R	VOLT-AMPS/REACTIVE
G	ISOLATED GROUND	VM	VOLT METER
MC	INTERMEDIATE METALLIC CONDUIT	W	WATTS
N	INCH	W/	WITH
J-BOX		WH	WATTHOUR METER
۲V	KILOVOLT	W/O	WITHOUT
(VA	KILOVOLT AMPERES	WP	WEATHERPROOF
(VAR	KILOVARS	XFMR	TRANSFORMER
<w< td=""><td>KILOWATT</td><td>XFMR SW</td><td>TRANSFER SWITCH</td></w<>	KILOWATT	XFMR SW	TRANSFER SWITCH
_RA	LOCKED ROTOR AMPS	XP	EXPLOSION PROOF
TG	LIGHTING	1P	SINGLE-PHASE
ИNF	MANUFACTURER	2P	TWO-POLE
MAX	MAXIMUM	3P	THREE-POLE
ИВ	MAIN BUS	4P	FOUR-POLE
MCC	MOTOR CONTROL CENTER	Ø	PHASE
МСМ	1000 CIRCULAR MILLS		

GENERAL NOTES

FIXTURES. 2. VERIFY ALL EQUIPMENT DIMENSIONS AND LOCATIONS BEFORE BEGINNING ROUGH IN. CONSULT ALL APPLICABLE CONTRACT DRAWINGS AND SHOP DRAWINGS TO INSURE NEC CODE CLEARANCES REQUIRED AROUND ALL ELECTRICAL EQUIPMENT.

1. CONSULT ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATION OF ALL LIGHTING

- 3. CONTRACTOR SHALL VERIFY ALL ELECTRICAL LOADS (VOLTAGE, PHASE, CONNECTION REQUIREMENTS, ETC.) OF ALL EQUIPMENT FURNISHED UNDER ALL DIVISIONS, INCLUDING ALL EXISTING EQUIPMENT TO BE RE-USED. REVIEW ALL SHOP DRAWINGS AND EXISTING EQUIPMENT BEFORE BEGINNING ROUGH IN.
- 4. SEE SECTION 265100 (16510) OF THE SPECIFICATION REQUIRED COORDINATION MEETINGS WITH MECHANICAL AND CEILING CONTRACTORS.
- 5. SEE APPLICABLE SHOP DRAWINGS FOR ROUGH IN LOCATION OF ALL EQUIPMENT, WIRING DEVICES. ETC. WHERE APPLICABLE MOUNT ALL WIRING DEVICES ABOVE BACK SPLASH EXCEPT THOSE SERVING UNDER COUNTER EQUIPMENT.
- 6. SEE SPECIFICATION FOR ENERGY SAVING LAMP AND BALLAST REQUIREMENTS.
- 7. FINISHES OF ALL LIGHT FIXTURES SHALL BE AS SELECTED BY ARCHITECT.
- 8. THE ELECTRICAL CONTRACTOR SHALL NOTIFY AND COOPERATE WITH THE MECHANICAL CONTRACTOR SUCH THAT NO PIPING, DUCTS, OR EQUIPMENT FOREIGN TO THE OPERATION OF THE ELECTRICAL EQUIPMENT SHALL BE PERMITTED TO BE INSTALLED IN, ENTER OR PASS THRU ELECTRICAL ROOMS OR SPACES, OR ABOVE OR BELOW ELECTRICAL EQUIPMENT IN OTHER AREAS.
- 9. ELECTRICAL BOXES SHALL NOT BE LOCATED IN MASONRY COLUMNS IN BRICK WALLS OR IN GROUTED CELLS ADJACENT TO OPENINGS. COORDINATE LOCATION OF BOXES WITH MASONRY CONTRACTOR. 10. ALL PENETRATIONS OF FIRE RATED FLOORS, WALLS, AND CEILINGS SHALL BE SEALED WITH
- APPROVED MATERIAL TO MAINTAIN FIRE RATING OF SURFACE PENETRATED. 11. CONTRACTOR SHALL VERIFY FURNITURE LAYOUT PRIOR TO ANY FLOORBOX OR POKE-THRU
- INSTALLATION. COORDINATE EXACT LOCATION OF FLOOR BOX OR POKE-THRU WITH OWNER AND FURNITURE PROVIDER PRIOR TO ROUGH-IN.
- 12. CIRCUITS EXTENDING OVER 70' FOR 120 VOLT AND 115' FOR 277 VOLT 20 AMP CIRCUITS SHALL BE RUN WITH CONDUCTORS PER TABLE BELOW.

20 AMP MINIMUM BRA	NCH CIRCUIT CO	NDUCTOR SIZING
MAXIMUM LENGTH	BRANCH CIR	CUIT VOLTAGE
CONDUCTOR LENGTH (FT)	120 VOLT	277 VOLT
<70	MIN. #12 AWG	MIN. #12 AWG
70 - 115	MIN. #10 AWG	MIN. #12 AWG
115 - 170	MIN. #8 AWG	MIN. #10 AWG
170 - 270	MIN. #6 AWG	MIN. #8 AWG
271 - 380	NOTE B	MIN. #8 AWG
>380	NOTE B	NOTE B

- A. THESE ARE BASED ON MAXIMUM LENGTH OF CIRCUIT.
- B. PERFORM VOLTAGE DROP CALCULATIONS AND PROVIDE CONDUCTOR SIZE TO KEEP BRANCH CIRCUIT VOLTAGE DROP LESS THAN 3% WITH A 15 AMP LOAD.
- C. CONTRACTOR SHALL ENSURE THAT THE INSTALLATION OF EACH BRANCH CIRCUIT STAYS WITHIN 3% VOLTAGE DROP FOR A 15 AMP LOAD. IF NECESSARY, CONTRACTOR SHALL INCREASE WIRE AND CONDUIT SIZE TO MEET THE STANDARD AT NO ADDITIONAL COST TO OWNER.

DEMOLITION NOTES

- COORDINATE ALL NEW ELECTRICAL EQUIPMENT REQUIREMENTS AND MAKE CONNECTION TO EXISTING SYSTEMS. THIS INCLUDES LIGHTING, POWER, SIGNAL, RACEWAY AND OTHER SYSTEMS INCLUDED UNDER DIVISION 26 (16).
- RELOCATE, REWIRE AND/OR RECONNECT EXISTING ELECTRICAL DEVICES AND/OR EQUIPMENT THAT FOR ANY REASON
- OBSTRUCTS CONSTRUCTION. CONCEAL ALL RACEWAY AND WIRING IN EXISTING WALLS, CEILINGS, FLOORS, ETC. EXCEPT WHERE THE USE OF SURFACE
- METAL RACEWAYS (E.G. WIRE MOLD) IS INDICATED ON DRAWINGS OR IN SPEC. 4. LEAVE ALL EXISTING EQUIPMENT, IN PORTIONS OF THE BUILDING NOT BEING REMODELED, IN WORKING CONDITION. RESTORE
- ALL INTERRUPTED BRANCH CIRCUITS, FEEDERS, ETC. TO WORKING CONDITION.
- 5. EXISTING RACEWAYS MAY BE REUSED (IN PLACE) WHERE POSSIBLE, AND WHERE IN COMPLIANCE WITH THE SPECIFICATIONS AND THE INTENT OF THE CONTRACT DOCUMENTS. INSURE INTEGRITY OF EXISTING RACEWAY BEFORE REUSE.
- 6. REMOVE ALL RACEWAYS, CONDUCTORS, BOXES, DEVICES, EQUIPMENT, ETC. THAT ARE NOT TO BE REUSED.
- REMOVE EXISTING LIGHT FIXTURES WHICH ARE NOT TO BE REUSED, PLACE IN CARTON, LABEL APPROPRIATELY, AND RETURN TO OWNER, OR PROPERLY DISPOSE OF FIXTURES THAT THE OWNER CHOOSES NOT TO KEEP.
- 8. DO NOT PENETRATE STRUCTURAL ELEMENTS OF FLOORS, WALLS, CEILINGS, ROOFS, ETC.
- 9. DISCONNECT AND RECONNECT ANY/ALL FIXTURES, DEVICES, EQUIPMENT, ETC. REQUIRED FOR PROPER COMPLETION OF THE WORK.

EQUIPMENT SCHEDULE WIRES OCPD

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UNIT #	FUNCTION	LOAD	VOLT	PHASE	Full Load Amps	CONDUIT	NO. SETS	NO.	SIZE	EQUIP. GND(1)	TYPE	AMPS	STARTER/DISC/VF (SEE NOTES)	REMARKS
B-1	BOILER	12 FLA	480	3	12.00	3/4"	1	3	12	12	CB	20	11A	
B-2	BOILER	12 FLA	480	3	12.00	3/4"	1	3	12	12	CB	20	11A	
CH-1	CHILLER	355.6 MCA	480	3	284.48	3-1/2"	1	3	500	3	CB	400	2A	
GF-1	GLY COL FEED TANK	5.0 FLA	120	1	5.00	3/4"	1	2	12	12	CB	20	12A	
P-1	CHILLED WAER PUMP	20 HP	480	3	27.00	3/4"	1	3	8	10	CB	50	9B	
P-2	CHILLED WAER PUMP	20 HP	480	3	27.00	3/4"	1	3	8	10	CB	50	9B	
P-3	HOT WATER PUMP	15 HP	480	3	21.00	3/4"	1	3	10	10	CB	40	9B	
P-4	HOT WATER PUMP	15 HP	480	3	21.00	3/4"	1	3	10	10	CB	40	9B	
P-5	HOT WATER PUMP	1.5 HP	480	3	3.00	3/4"	1	3	12	12	CB	15	9B	
P-6	HOT WATER PUMP	1.5 HP	480	3	3.00	3/4"	1	3	12	12	CB	15	9B	
P-7	HOT WATER PUMP	1 HP	480	3	2.10	3/4"	1	3	12	12	CB	15	9B	
P-8	HOT WATER PUMP	1 HP	480	3	2.10	3/4"	1	3	12	12	CB	15	9B	
P-9	HOT WATER PUMP	1.5 HP	480	3	3.00	3/4"	1	3	12	12	CB	15	9B	
P-10	HOT WATER PUMP	1.5 HP	480	3	3.00	3/4"	1	3	12	12	CB	15	9B	
RT-1	ROOF TOP UNIT	35.7 MCA	208	3	28.56	3/4"	1	3	8	10	CB	50	2A	
RT-2	ROOF TOP UNIT	21.0 MCA	208	3	16.80	3/4"	1	3	10	10	CB	25	2A	
UH-1	UNIT HEATER	2.2 FLA	120	1	2.20	3/4"	1	2	12	12	CB	20	4A	
UH-2	UNIT HEATER	1.5 FLA	120	1	1.50	3/4"	1	2	12	<mark>1</mark> 2	CB	20	4A	

1. NON-FUSED DISCONNECT SWITCH 2. FUSED DISCONNECT SWITCH

3. BREAKER IN ENCLOSURE 4. MANUAL STARTER W/THERMAL OVERLOAD

- 5. MAGNETIC STARTER
- 6. MAGNETIC STARTER/NON-FUSED DISCONNECT COMBINATION 7. MAGNETIC STARTER/FUSED DISCONNECT COMBINATION
- 8. MAGNETIC STARTER/BREAKER COMBINATION

9. VARIABLE FREQUENCY DRIVE

10. REDUCED VOLTAGE STARTER 11. DIRECT CONNECTION

- 12. RECEPTACLE/SPECIAL PURPOSE OUTLET/ETC. 13. TWO-SPEED STARTER, COORDINATE W/MOTOR TYPE
- 14. SOLID STATE SOFT STARTER
- A. FURNISHED, INSTALLED, AND CONNECTED UNDER DIVISION 26 B. FURNISHED AND INSTALLED UNDER ANOTHER DIVISION REQUIRING
- CONNECTION UNDER DIVISION 26. C. FURNISHED UNDER ANOTHER DIVISION BUT INSTALLED AND
- CONNECTED UNDER DIVISION 26. D. FURNISHED, INSTALLED AND CONNECTED UNDER ANOTHER DIVISION.

CB = CIRCUIT BREAKER - THERMAL MAGNETIC

NOTE 1: PER 250.122(A), EQUIPMENT GROUND IS NOT REQUIRED TO BE

- LARGER THAN PHASE CONDUCTOR. NOTE 2: OV ERCURRENT PROTECTION DEVICE (OCPD) SHOWN IS LOCATED AT POWER PANEL. ALL FUSING TO BE SIZED IN ACCORDANCE WITH FUSE MFR RECOMMENDATION FOR MOTOR NAME PLATE RATING. SEE SECTION 26 2815.
- NOTE 3: ALL EQUIPMENT TO BE RATED FOR THE ENVIRONMENT FOR WHICH IT IS INSTALLED.

7. PROVIDE 8. DOUBLE 9. DEVICES WITH MIL	H.O.A. AND S.S. PUSHBUTTONS AS REQUIRED. ARROWS INDICATE A DOUBLE FACE UNIT. NOTED WITH AN "A" ADJACENT TO IT INDICATES TO COOR LWORK SHOP DRAWINGS AND ELEVATIONS FOR HEIGHT.	DINATE		16. MOUNT O DOOR IS I 17. INSTALL [N CAMERA TAGS. ON TRACK OF OVERHEAD DOOR 6" FROM TOP OF DOOR UN ROLL UP DOOR, THEN MOUNT PER MANUFACTURER'S INS ⁻ DEVICES PER MANUFACTURER'S INSTALLATION INSTRUCT LINE INDICATES EQUIPMENT CLEARANCES. ARROW DENO	TRUCTIONS. IONS.	
11. SOLID B	IPT INDICATES NEMA CONFIGURATION. OX AROUND DEVICE INDICATES INSTALLED IN FLOOR, BOX AROUND DEVICE INDICATES INSTALLED IN CEILING.			19. SPEAKER 20. MOUNTIN	TO BE MOUNTED IN HORIZONTAL POSITION. IG HEIGHTS IS TO BOTTOM OF DISPLAY.		RANK.
STANDARD M	OUNTING HEIGHT UNLESS OTHERWISE NOTED ON PLANS			* TYPICAL SYMI	BOL SCHEDULE. SOME SYMBOLS MAY NOT BE USED IN THIS SET OF DRA	WINGS.	
GENERAL							
SYMBOL		MOUNTING HEIGHT	NOTES	SYMBOL	DESCRIPTION	MOUNTING HEIGHT	NOTES
	ONE CIRCUIT, HOME RUN TO PANEL				JUNCTION BOX ('F' IN FLOOR) EQUIPMENT PANEL SEE DRAWINGS	AS NOTED +72"	6.
	THREE CIRCUIT, HOME RUN TO PANEL				CABLE TRAY (BASKET/LADDER)	AS NOTED	
	CONDUIT RUN CONCEALED IN WALL OR CEILING			JT	GROUND BUS BAR	+18"	6.
	CONDUIT RUN CONCEALED IN FLOOR OR GROUND				LIGHT FIXTURE (LETTER DESIGNATES TYPE)		
O	CONDUIT UP				EQUIPMENT NUMBER		
	CONDUIT DOWN CONDUIT STUB LOCATION	САР		842 X	ARCHITECTURAL ROOM NUMBER DEVICE/EQUIPMENT (TEXT DESIGNATES TYPE) SEE SCHEDULE		
د کـــــــ	CONDUIT/CIRCUIT CONTINUATION				DEVICE/EQUIPMENT (TEXT DESIGNATES TYPE) SEE SCHEDULE/LEGEND	+	
LIGHTING							
0	CEILING LIGHT FIXTURE	CEILING	1.	P	EMERGENCY LIGHTING CONTROL UNIT	ABOVE CEILING	SEE DIAGRAM, SPEC.
Ю	WALL LIGHT FIXTURE	AS NOTED	1.	\$	SINGLE POLE SWITCH	+46"	2. 4.
		CEILING	1.	\$ ³ \$ ⁴	THREE-WAY SWITCH	+46"	2.4.
	RECESSED WALL-WASH DOWNLIGHT FIXTURE	CEILING AS NOTED	1.	¢к ⊅.	FOUR-WAY SWITCH KEY OPERATED SWITCH	+46"	2. 4. 2. 4.
	EGRESS LIGHT FIXTURE	AS NOTED	1.	↓ \$₽	SWITCH WITH PILOT LIGHT	+46"	2. 4.
•	AREA LIGHT POLE AND FIXTURE	CONCRETE BASE	1., SEE DIAGRAM	\$ ^D	VARIABLE INTENSITY SWITCH	+46"	2. 4.
۲	BOLARD	CONCRETE BASE	1.	\$ TM	TIMER SWITCH	+46"	2. 4.
	STEP LIGHT FIXTURE	AS NOTED	1.	\$	MOMENTARY CONTACT SWITCH LOW VOLTAGE WALLSTATION (SUBSCRIPT INDICATES	+46"	2. 4. 2., SEE
	IN-GRADE LIGHT FIXTURE	BASE	1.	<u> </u>	CONFIGURATION & CONTROL SEQUENCE) DUAL TECH CEILING MOUNTED OCCUPANCY SENSOR	+46"	DÍAGRAM, SPEC. SEE
$\bigcirc \\ \otimes \\ $	FLOOD OR TRACK FIXTURE	AS NOTED	1. 1. 3. 8.		(PROVIDE WITH ALL PP AND ROOM CONTROLLERS) DUAL TECH WALL MOUNTED OCCUPANCY SENSOR	CEILING +46"	DIAGRAM, SPEC. 2. 4., SEE DIAGRAM, SPEC.
	EMERGENCY LIGHT FIXTURE	AS NOTED AS NOTED	1.	P	(SUBSCIPT D = DIMMING AND DAY-LIGHT CONTROL) PHOTO-ELECTRIC CONTROL (LOCATE ON ROOF, FACE NORTH)	AS NOTED	MOUNT AS PER MFR.
	COMBO EXIT / EMERGENCY LIGHT FIXTURE	AS NOTED	1		DIGITAL DAYLIGHT SENSOR	CEILING	SEE DIAGRAM, SPEC.
P	POWER PACK	ABOVE CEILING	SEE DIAGRAM, SPEC.	ТС	TIME CLOCK	+60"	2.
®x	DIGITAL ROOM CONTROLLER (SUBSCRIPT INDICATES NUMBER OF RELAYS)	ABOVE CEILING	SEE DIAGRAM. SPEC.	R	RECEPTACLE SWITCH PACK	ABOVE CEILING	
POWER		+18" OR				ABOVE	
ф Ф	DUPLEX RECEPTACLE SWITCH CONTROLLED SIMPLEX RECEPTACLE SWITCH CONTROLLED	AS NOTED +18" OR	2. 9. 2. 9.	R	RECEPTACLE SWITCH PACK POWER POLE	CEILING	
⊖ ⊕⊤	TAMPER-PROOF RECEPTACLE	AS NOTED +18" OR AS NOTED	2. 9.		PLUGMOLD/SURFACE RACEWAY	+46" OR AS NOTED	2. SEE SPEC.
Ð	DUPLEX RECEPTACLE	+18" OR AS NOTED	2. 9. 11.	©P	FLAT PANEL DISPLAY WALL BOX, TVSS RECEPT., DATA AND OTHER DEVICES, REFER TO DIAGRAMS	AS NOTED	SEE DIAGRAM & SPEC. 26 2726
€u	DUPLEX RECEPTACLE WITH USB OUTLET	+18" OR AS NOTED	2. 9.	CP	CEILING PROJECTION SYSTEM CEILING BOX	ABOVE CEILING	SEE DIAGRAM AND SPEC.
-©	CONTROLLED DUPLEX RECEPTACLE	+18" OR AS NOTED	2. 9.	Н© Д	CLOCK OUTLET	+90"	2.
\square			9.			+90"	2.
=€ _G =€ _{WP}	5mA GFCI CIRCUIT BREAKER PROTECTED RECEPTACLE WEATHERPROOF RECEPTACLE	+24" OR	13. 2. 9.	FB P	FLOOR BOX - SEE SCHEDULE	FLOOR	SEE DIAGRAM, SPEC.
	ISOLATED GROUND RECEPTACLE	AS NOTED +18" OR AS NOTED	2. 9.		MOTOR OUTLET	TO SUIT EQUIP.	
H	GROUND FAULT INTERRUPTER DUPLEX RECEPTACLE	+18" OR AS NOTED	2. 9.		PUSHBUTTON	+46"	2.
-•	DUPLEX RECEPTACLE EMERGENCY POWER (RED)	+18" OR AS NOTED	2. 9. 11.		NON-FUSED DISCONNECT SWITCH	+60"	5. 6.
	FOURPLEX RECEPTACLE	+18" OR AS NOTED +18" OR	2. 9. 11.		FUSED DISCONNECT SWITCH	+60"	5. 6.
 	GROUND FAULT INTERRUPTER FOURPLEX RECEPTACLE FOURPLEX RECEPTACLE EMERGENCY POWER (RED)	AS NOTED +18" OR	2. 9. 2. 9. 11.	<u> </u>	BREAKER DISCONNECT SWITCH MANUAL STARTER THERMAL OVERLOAD SWITCH WITH PILOT LIGHT	+60"	5. 6. 2.
- \	CONTROLLED FOURPLEX RECEPTACLE	AS NOTED +18" OR	2. 9.	\rightarrow	MAROAL STARTER THERMAL OVERLOAD SWITCH WITH FILOT LIGHT MAGNETIC STARTER	+40"	6.7.
	TVSS PROTECTED RECEPTACLE	AS NOTED +18" OR AS NOTED	2. 9.		MAGNETIC STARTER / DISCONNECT COMBINATION	+60"	6. 7.
	SPECIAL PURPOSE OUTLET	+18" OR AS NOTED	2. 10. W/CAP.	VFD	VARIABLE FREQUENCY DRIVE	+66"	6.
•	CORD DROP		SEE DIAGRAM		PANEL BOARD	+72"	6.
$\square \bigoplus_{i \in \mathcal{I}}$	CORD REEL		SEE DIAGRAM		MAIN DISTRIBUTION PANEL		
					UTILITY METER	+72"	6.
	WALL PHONE	+60" OR AS NOTED	2.		TELEPHONE TERMINAL BOARD	T	
	DATA OUTLET , ONE CABLE	+18" OR AS NOTED	2. 9. 11.		EQUIPMENT CEILING RACK	CEILING	
	DATA OUTLET, TWO CABLES	+18" OR AS NOTED	2. 9. 11.		EQUIPMENT 4-POST RACK/CABINET	AS NOTED	18. SEE SPEC.
	DATA OUTLET, THREE CABLES	+18" OR AS NOTED	2. 9. 11.		EQUIPMENT 2-POST	AS NOTED	18. SEE SPEC.
×	DATA OUTLET, "X" INDICATES QUANTITY	+18" OR AS NOTED	2. 9. 11.	SPL)	SPLITTER	ABOVE CEILING ABOVE	
	DATA OUTLET , CEILING WIRELESS ACCESS POINT, TWO CABLES SOLID = WALL, DASHED = CEILING	AS NOTED	11.	(BDA)	VIA FIBER BDA	CEILING ABOVE	
	SOLID = WALL, DASHED = CEILING TELEVISION OUTLET	+18" OR AS NOTED	2. 9. 11.	ANT XX	ANTENNA PS = PUBLIC SERVICE COM = CELLULAR/COMMERCIAL	CEILING	
FIRE ALARM							
	BELL	+94"	2.	© s	SMOKE DETECTOR	CEILING	
	CHIME/STROBE	+94"/ CEILING	2.	© sc	SMOKE/CARBON MONOXIDE DETECTOR	CEILING	
E D	FIRE ALARM MANUAL STATION	+46" +94"/	2.	<u>©</u> c			
H [H] CLG	FIRE ALARM SIGNAL HORN / STROBE	CEILING	2.	<u> </u>	HEAT DETECTOR DUCT SMOKE DETECTOR	CEILING	MTD. IN DUCT
Цн	CONCEALED FIRE ALARM SIGNAL HORN / STROBE WALL	+94"	2.		FIRE/SMOKE DAMPER	+	
Ē	FIRE ALARM SIGNAL SPEAKER / STROBE	+94"/ CEILING	2.	$\overline{\bigcirc}$	DOOR HOLDER	AS NOTED	
[E]CLG	CONCEALED FIRE ALARM SIGNAL SPEAKER / STROBE	CEILING		FS	FLOW SWITCH		
[]E	CONCEALED FIRE ALARM SIGNAL SPEAKER / STROBE WALL	+94"	2.	TS	TAMPER SWITCH		
S		+94"/ CEILING	2.	WF A			
[s] ^{CLG}	CONCEALED FIRE ALARM SIGNAL STROBE	CEILING +94"	2.	R	O.S. & Y. VALVE FIRE ALARM RELAY OR SECURITY RELAY	+	SEE DIAGRAM
Цs L	FIRE ALARM SPEAKER ONLY	+94"/	2.		FIRE ALARM RELAY OR SECURITY RELAY		
B	FIRE ALARM SIGNAL STROBE WITH BLUE COLORED LENS (CO VISUAL ALARM)	CEILING +94"/ CEILING	2.	MM	FIRE ALARM MONITOR MODULE		
	FIRE ALARM ANNUNCIATOR PANEL	+58"	2. SEE DIAGRAM	TWZ	TWO-WAY COMMUNICATION SYSTEM CONTROL PANEL	+46"	2.
©ν	ASPIRATING SMOKE DETECTION SYSTEM	CEILING	MOUNT AS PER MFR.	TW	TWO-WAY COMMUNICATION SYSTEM CALL STATION	+46"	2.
⊚в	BEAM DETECTOR		MOUNT AS PER MFR.				

SYMBOL SCHEDULE

- SEE FIXTURE SCHEDULE FOR TYPE, MOUNTING AND WATTAGE.
 HEIGHT MEASURED TO CENTER LINE OF THE BOX FROM THE FINISHED FLOOR. 3. REFER TO DRAWINGS FOR DIRECTIONAL ARROWS.
- SUBSCRIPT INDICATES FIXTURES TO BE CONTROLLED.
 NEMA TYPE 'ND' NON-FUSED UNLESS NOTED 'F' (FUSED). USE 'HD' 480V.
- 6. HEIGHT MEASURED TO TOP OF THE BOX FROM FINISHED FLOOR.
 7. PROVIDE H.O.A. AND S.S. PUSHBUTTONS AS REQUIRED.

NOTES:

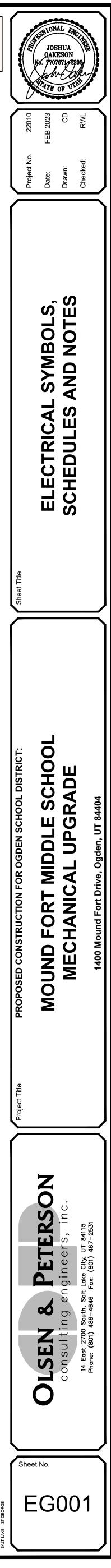
12. COORDINATE WITH DOOR HARDWARE SUPPLIER. 13. FOR WATER COOLER LOCATION, SEE DIAGRAM R002. FOR ALL OTHER LOCATIONS

- MOUNT AT +16" TO BOTTOM OF THE BOX FROM FINISHED FLOOR, OR AS NOTED. 14. ARROWS SHOWN ON DEVICE INDICATE THE SENSOR AIMING LOCATION.
- 15. CAMERA NUMBERS ARE SHOWN INSIDE THE CAMERA SYMBOL. CAMERA TYPES ARE SHOWN IN CAMERA TAGS. 16 MOUNT ON TRACK OF OVERHEAD DOOR 6" FROM TOP OF DOOR LINESS OVERHEAD

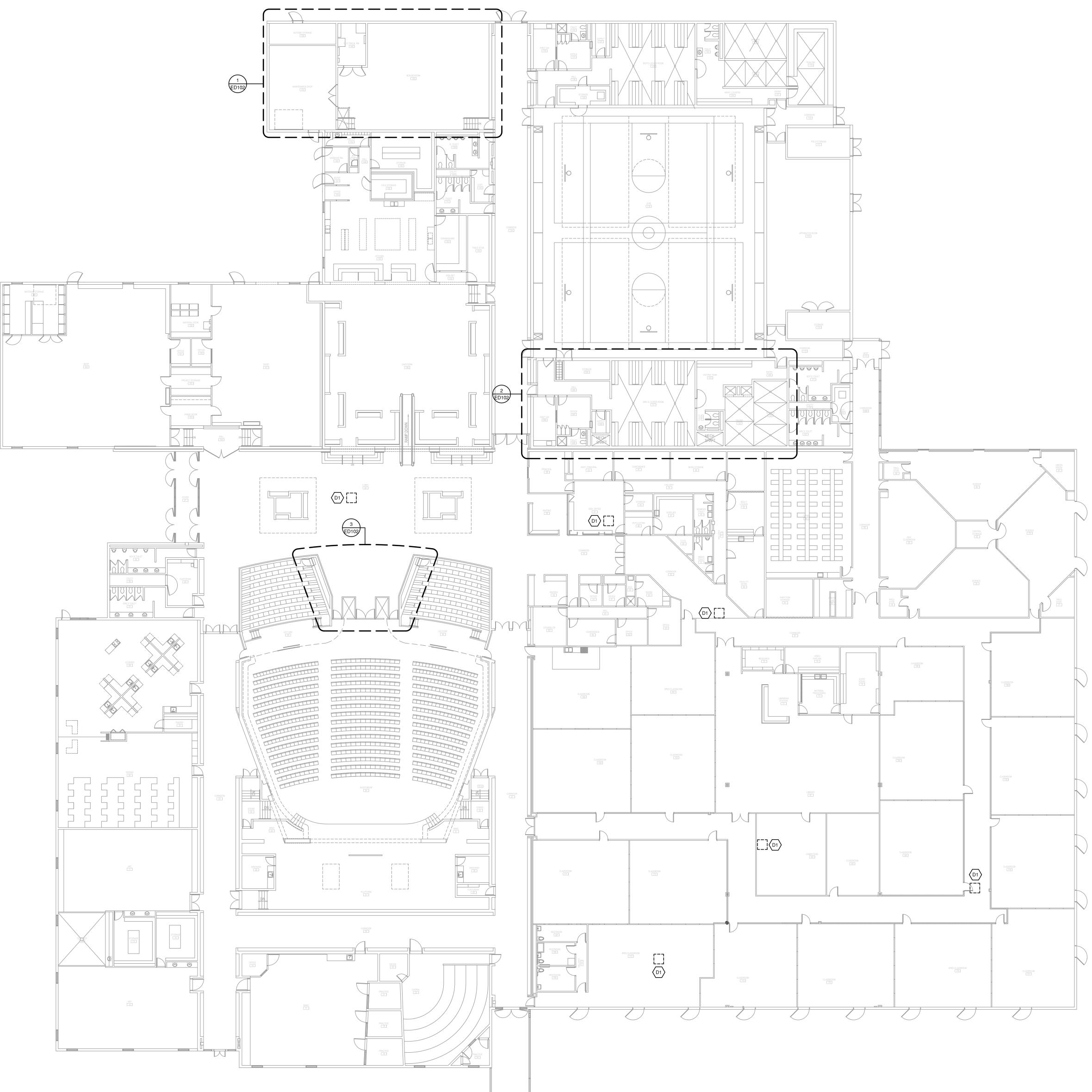
INDEX OF ELECTRICAL DRAWINGS

- EG001 ELECTRICAL SYMBOLS, SCHEDULES AND NOTES ED101 ELECTRICAL DEMOLITION PLAN - OVERALL ED102 ELECTRICAL DEMOLITION PLANS - ENLARGED EE101 ELECTRICAL PLAN - OVERALL EE102 ELECTRICAL PLAN - BOILER ROOM EE103 ELECTRICAL PLAN - ENLARGED FAN ROOMS EX401 ONE-LINE DIAGRAM
- EX402 PANELBOARD SCHEDULES
- EX501 ELECTRICAL DIAGRAMS



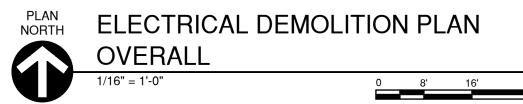








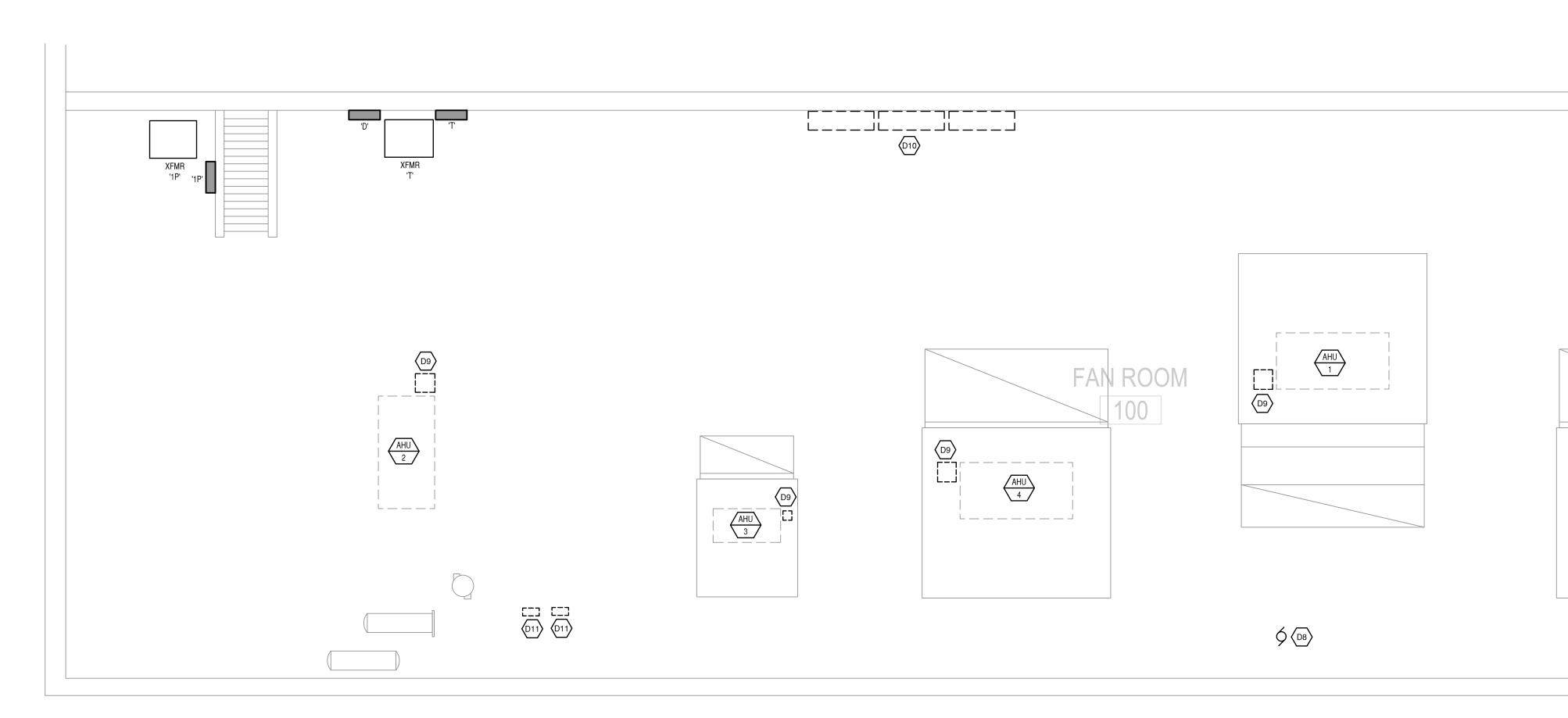
D1 EXISTING EVAPORATIVE COOLER TO BE REMOVED BY MECHANICAL CONTRACTOR. DISCONNECT POWER AND REMOVE ASSOCIATED CONDUIT AND WIRING BACK TO PANEL.

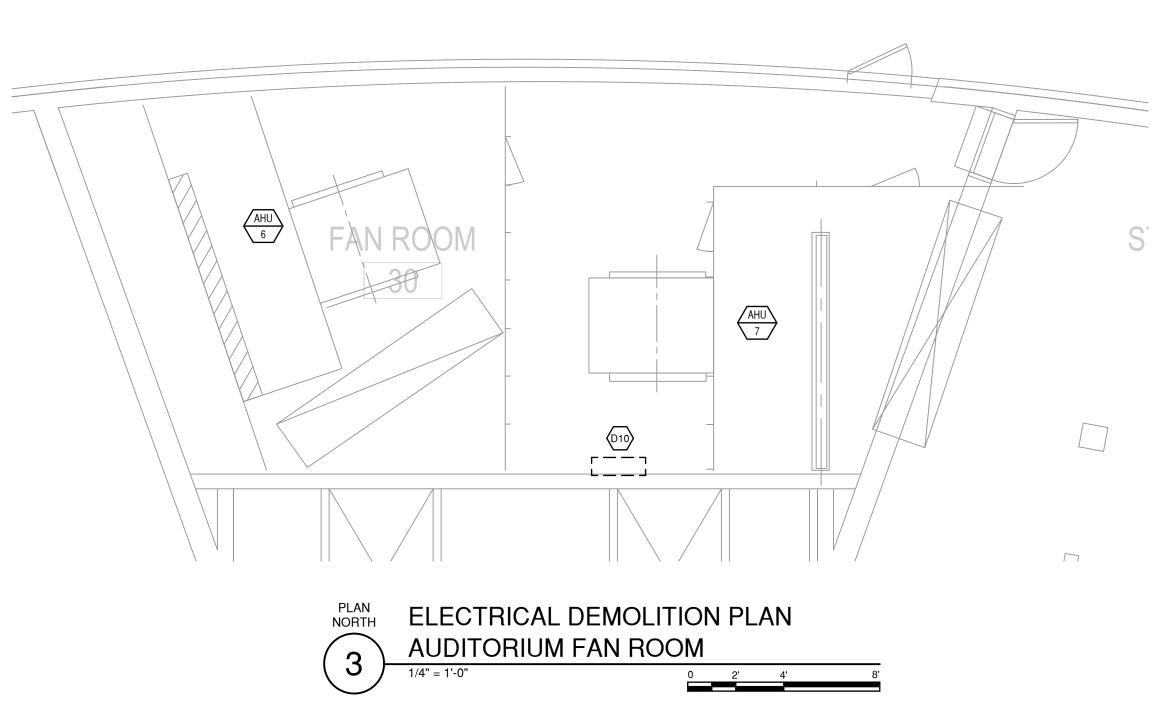


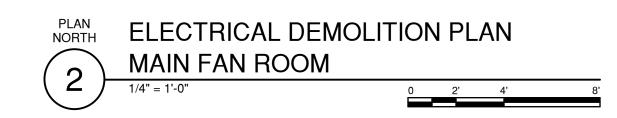


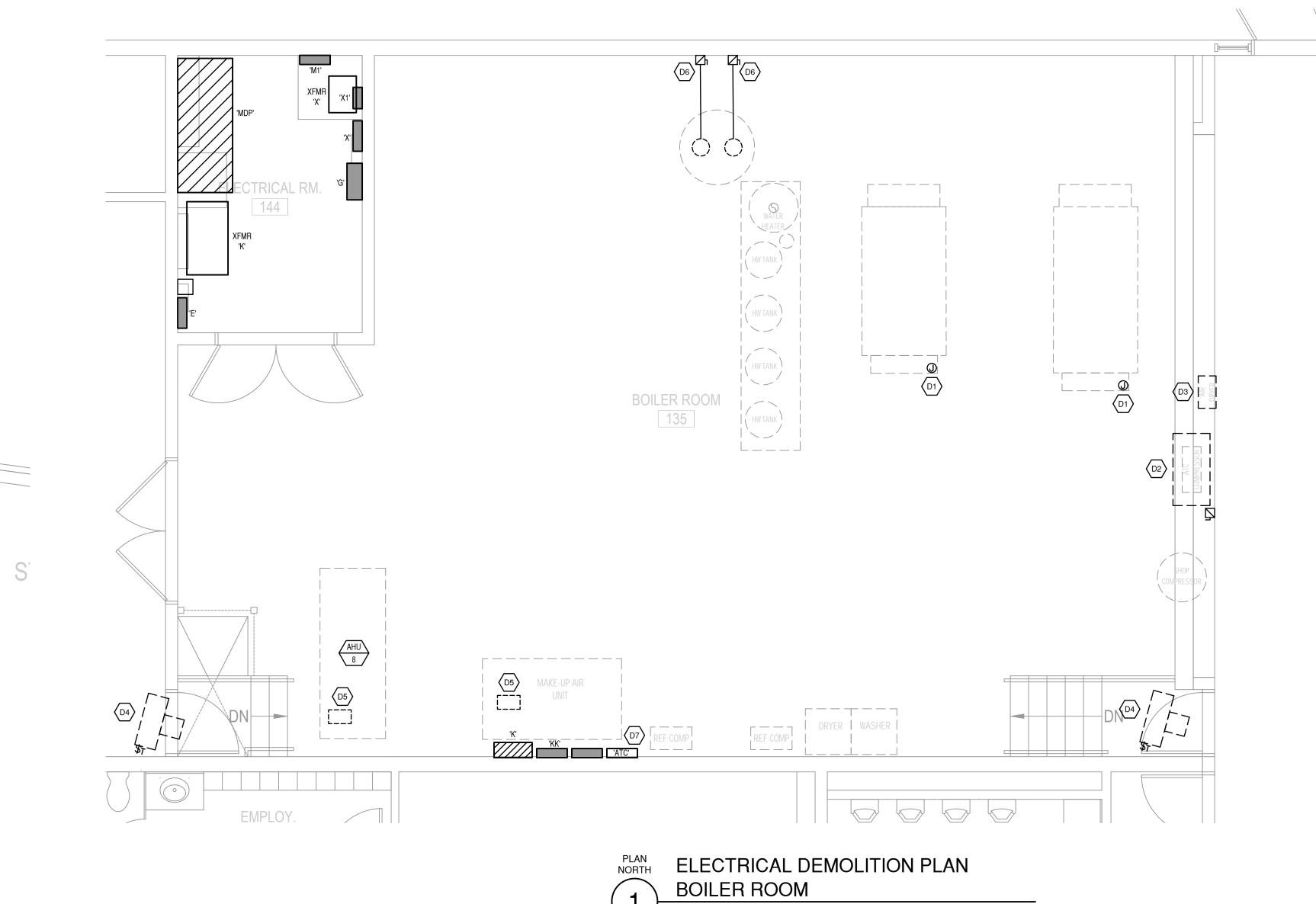


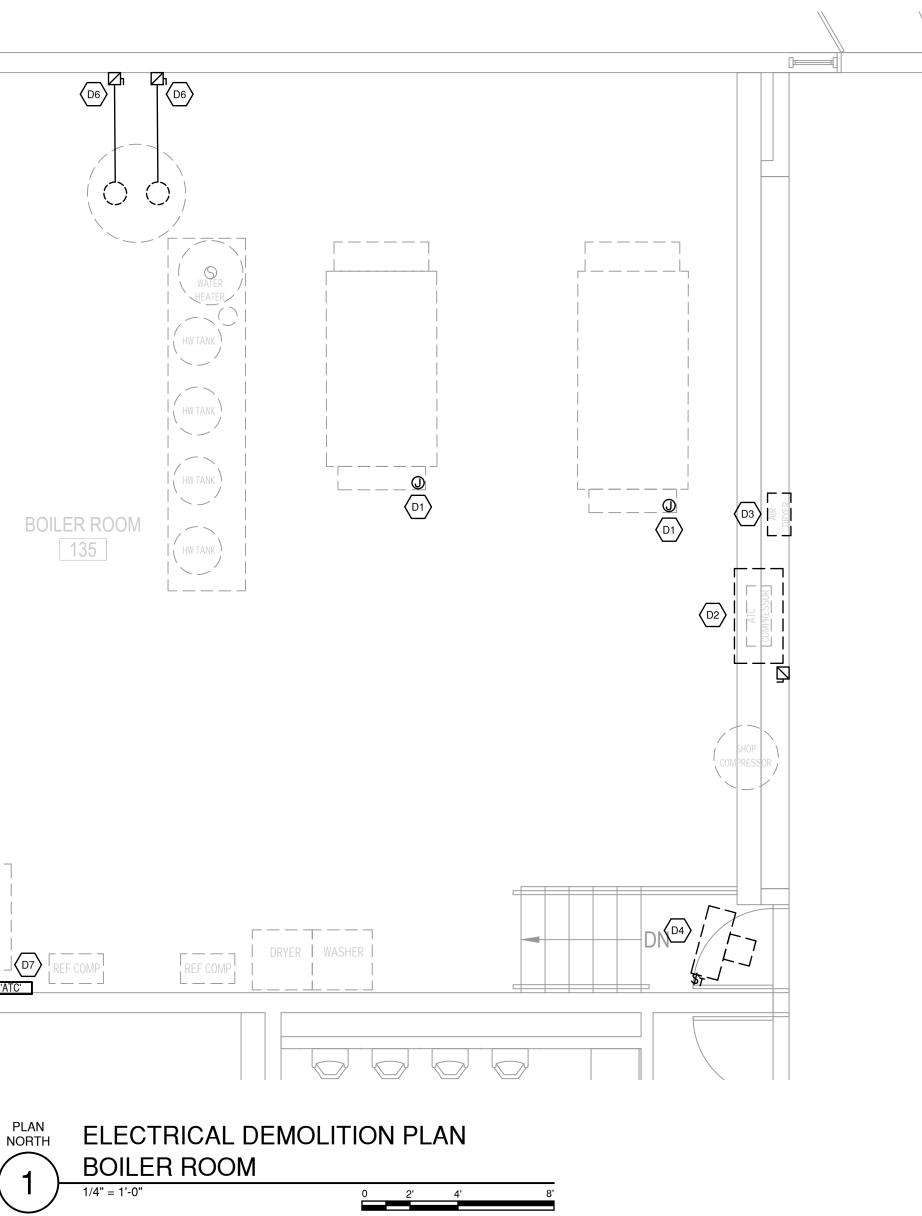


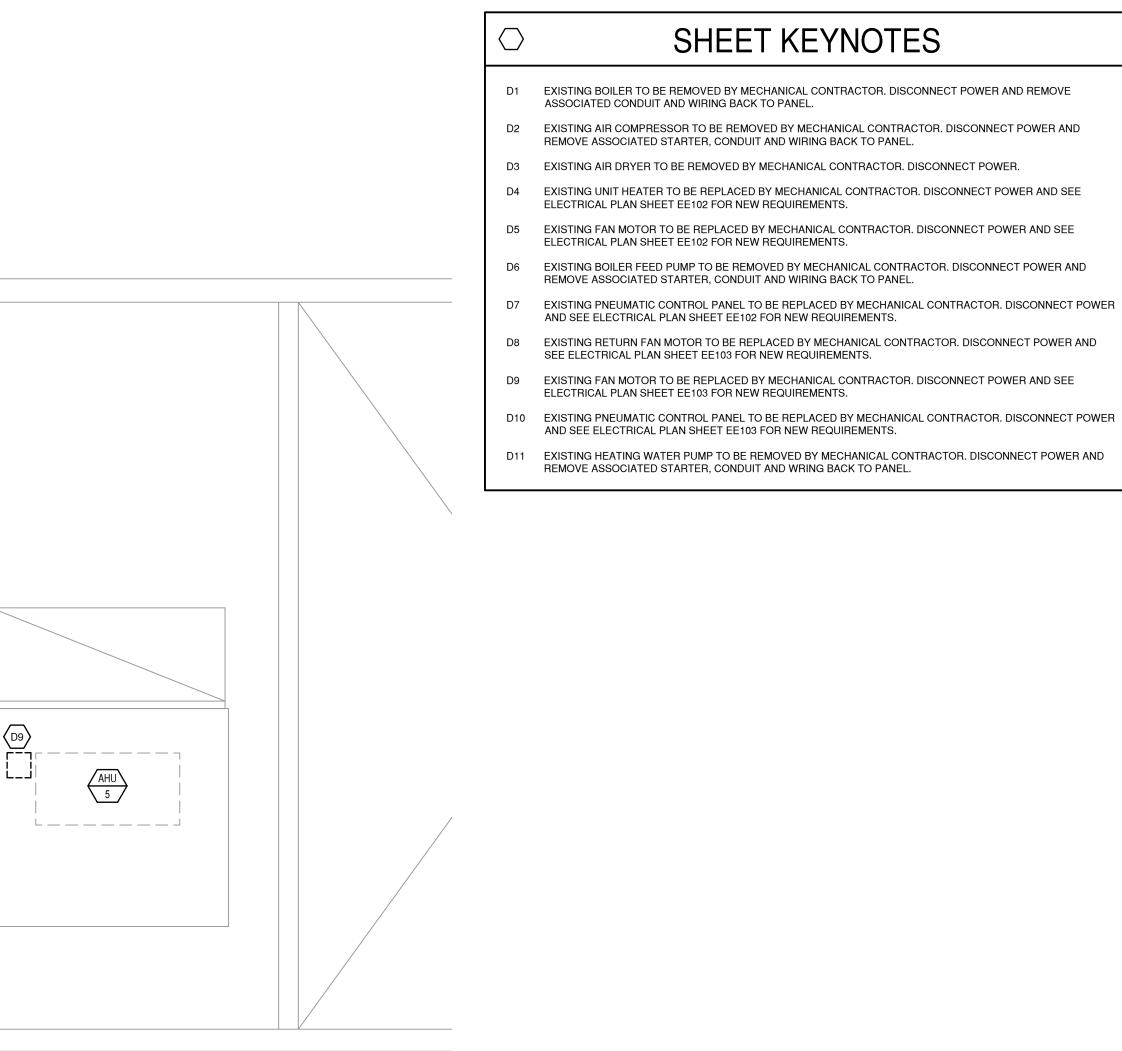




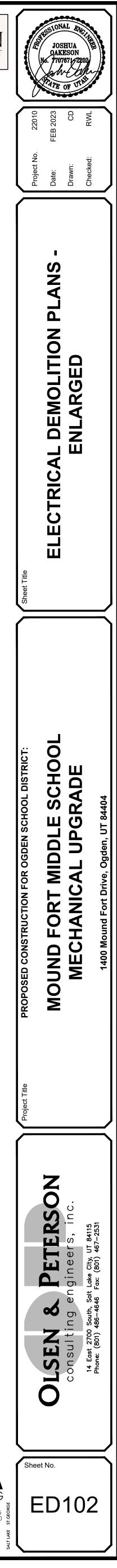




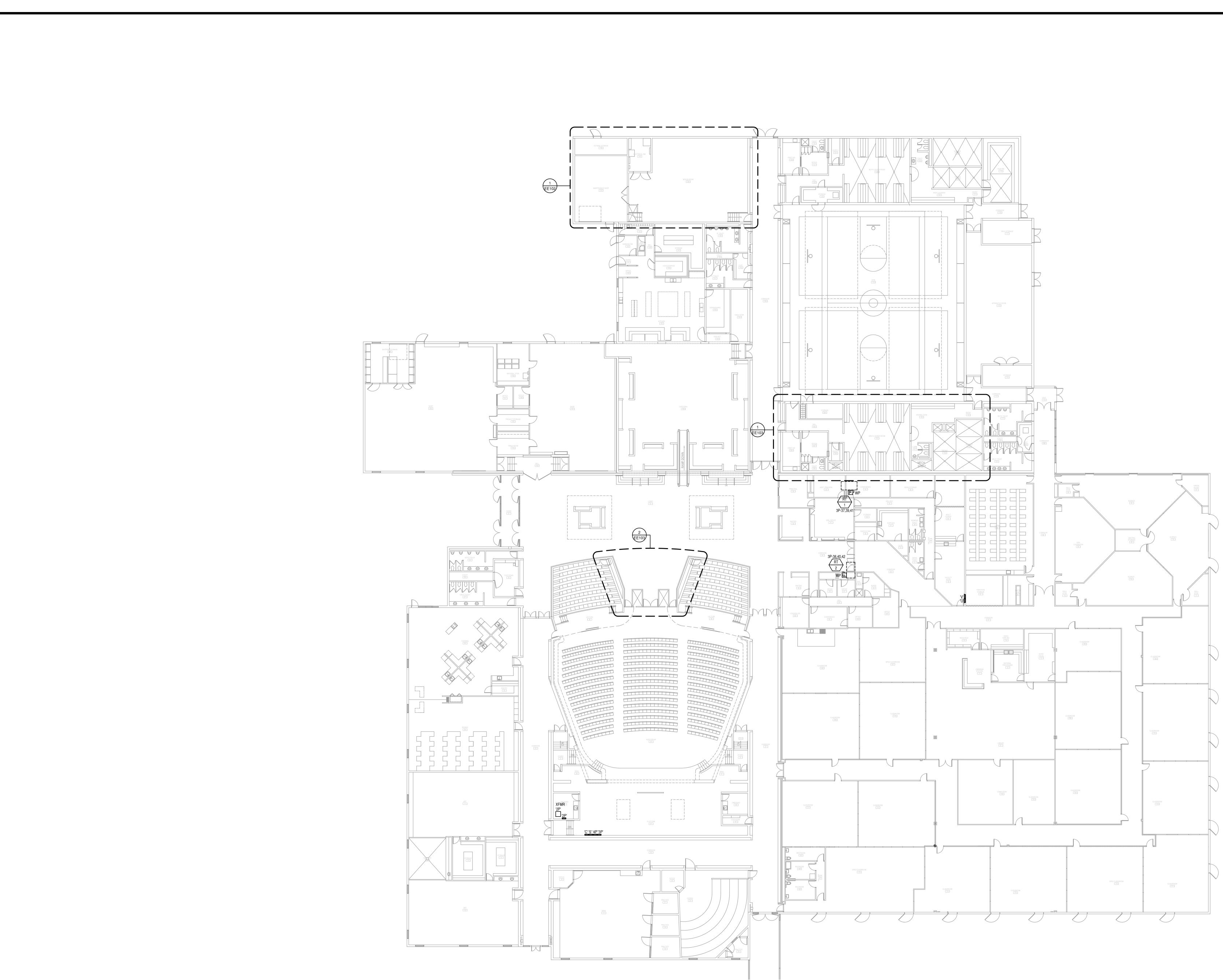


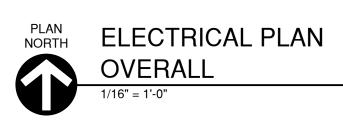






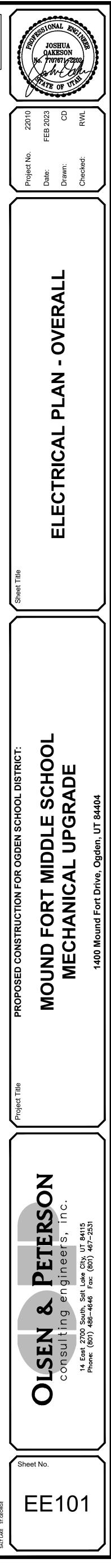




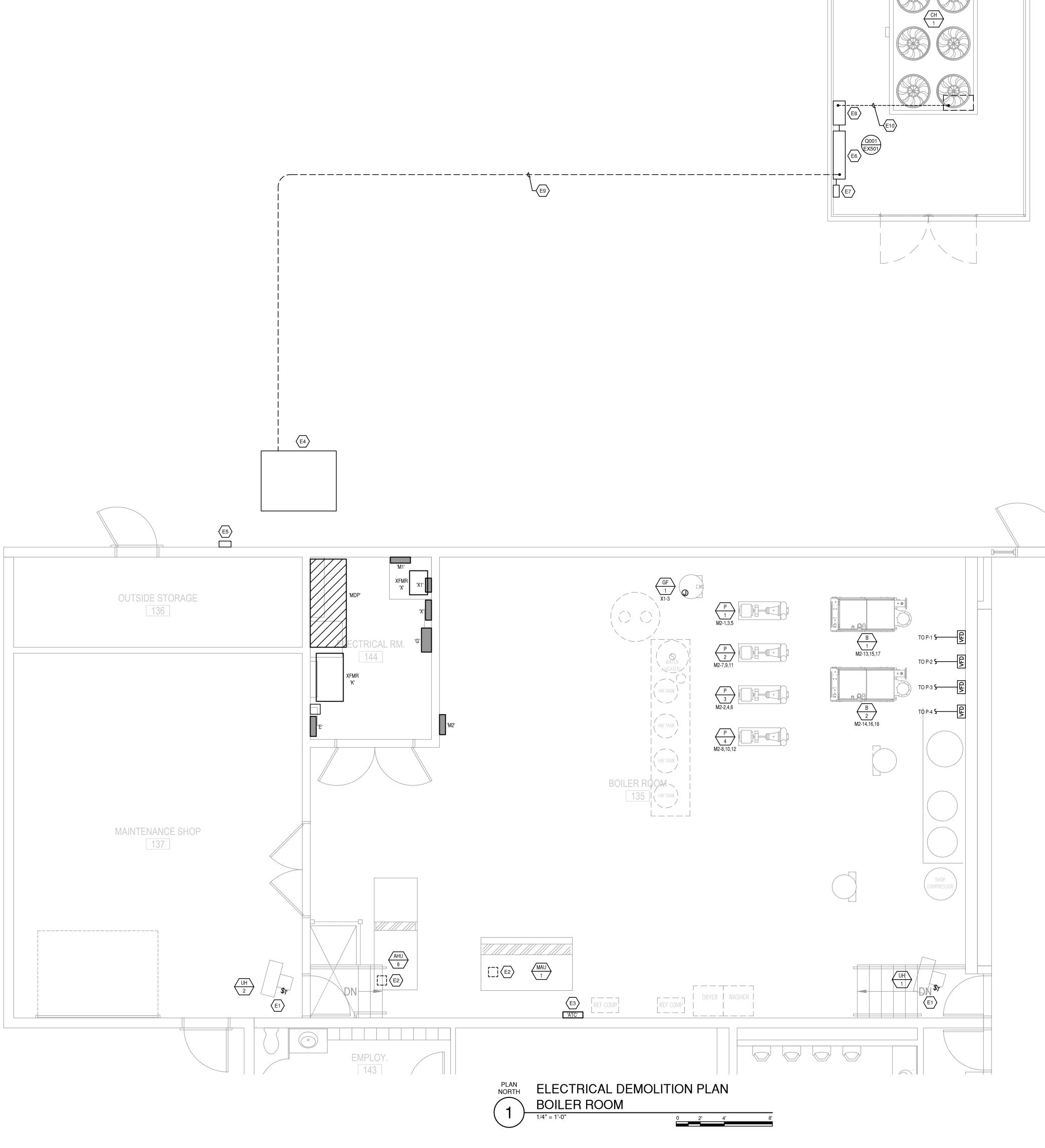


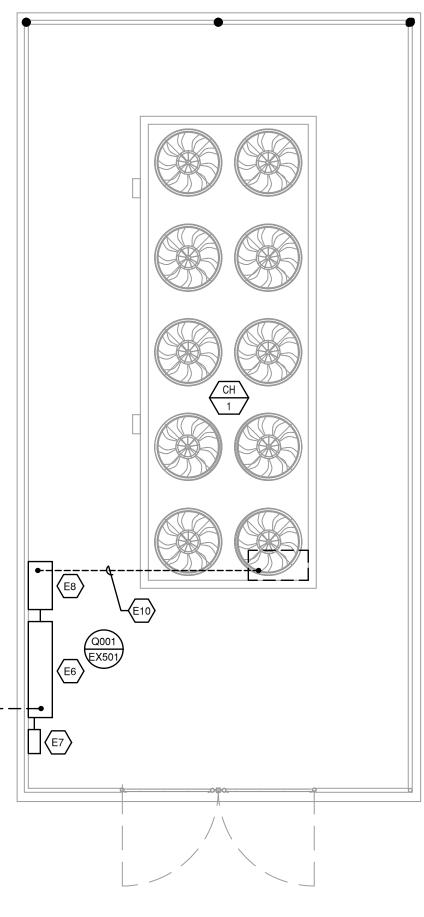
0 8' 16' 32'





A225 Lake Park Blvd Ste 275 West Valley City, Utah 84120 P:801.532.2196

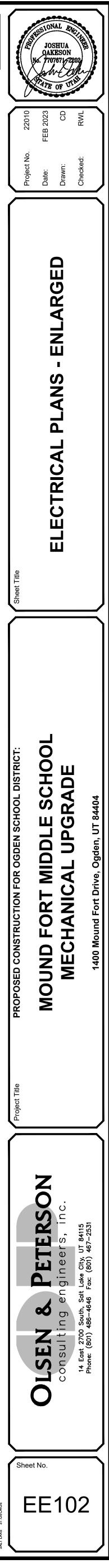




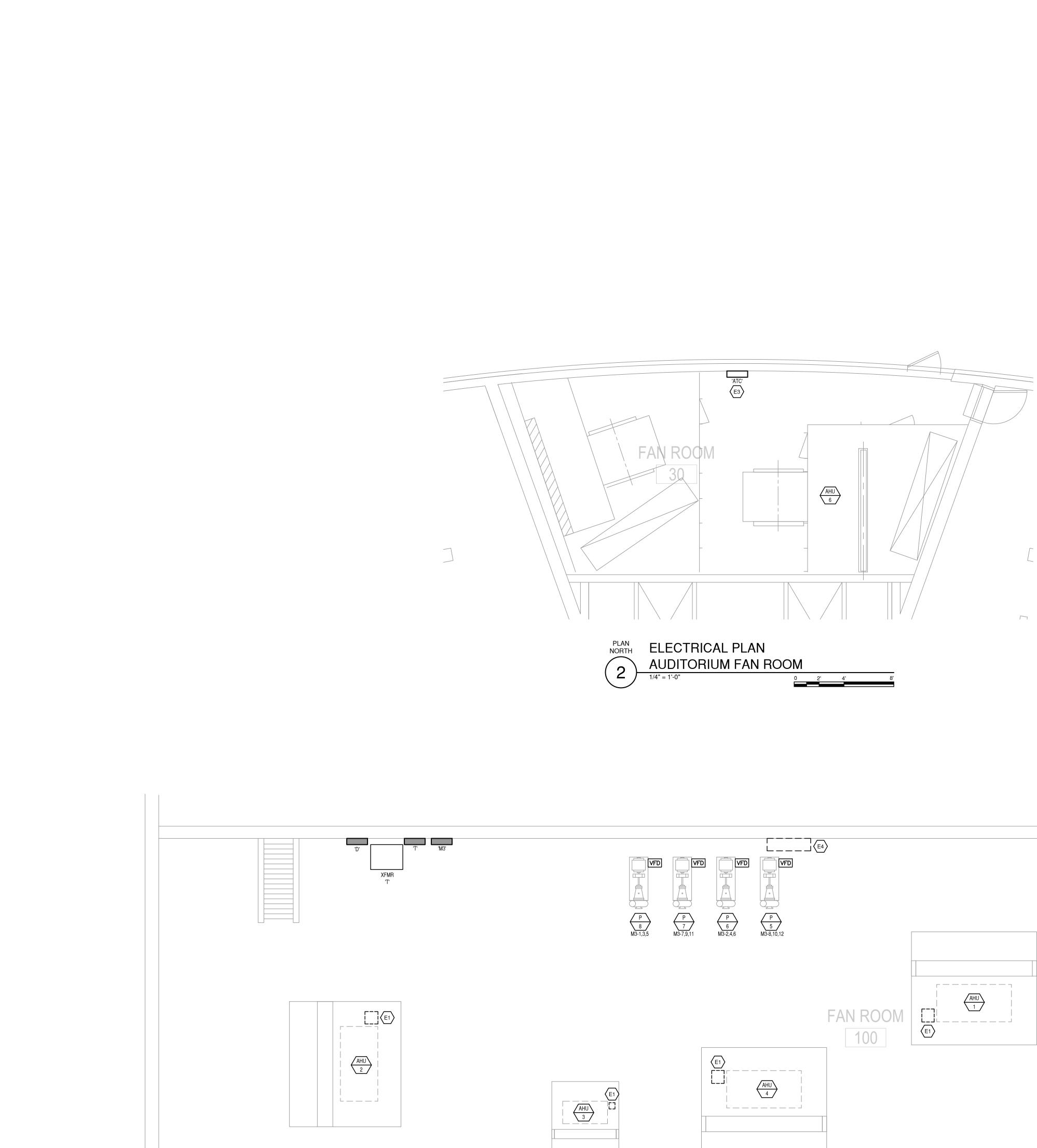
SHEET KEYNOTES

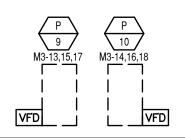
- E1 NEW UNIT HEATER AT EXISTING LOCATION. RECONNECT EXISTING POWER.
- E2 NEW FAN MOTOR AT EXISTING LOCATION. RECONNECT EXISTING POWER.
- E3 NEW DDC ATC PANEL AT EXISTING CONTROL PANEL LOCATION. RECONNECT EXISTING POWER. E4 EXISTING ROCKY MOUNTAIN POWER TRANSFORMER.
- E5 EXISTING ROCKY MOUNTAIN METER FOR SCHOOL SERVICE.
- E6 NEW CT CABINET. SEE ONE-LINE DIAGRAM SHEET EX401 FOR ADDITIONAL REQUIREMENTS.
- E7 NEW METER BASE. SEE ONE-LINE DIAGRAM SHEET EX401 FOR ADDITIONAL REQUIREMENTS.
- E8 NEW FUSED DISCONNECT FOR SERVICE DISCONNECT. SEE ONE-LINE DIAGRAM SHEET EX401 FOR ADDITIONAL REQUIREMENTS.
- E9 PROVIDE (1) 4" CONDUIT FOR CONDUCTORS BY ROCKY MOUNTAIN POWER.
- E10 SERVICE TO CHILLER. SEE ONE-LINE DIAGRAM SHEET EX401 FOR ADDITIONAL REQUIREMENTS.



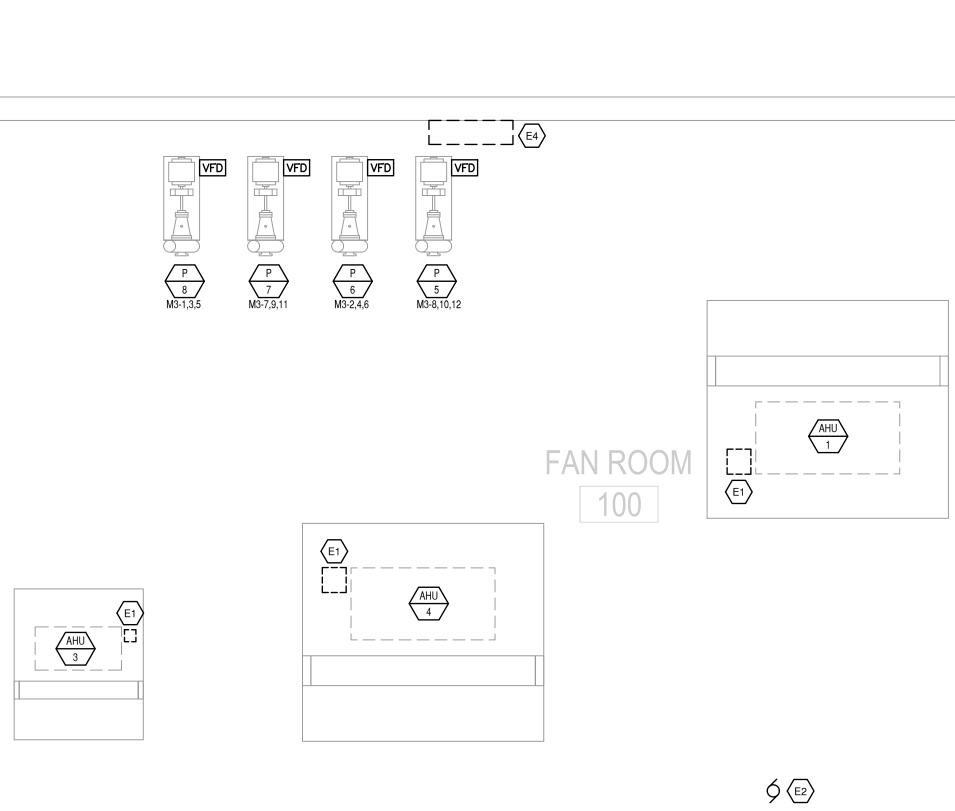










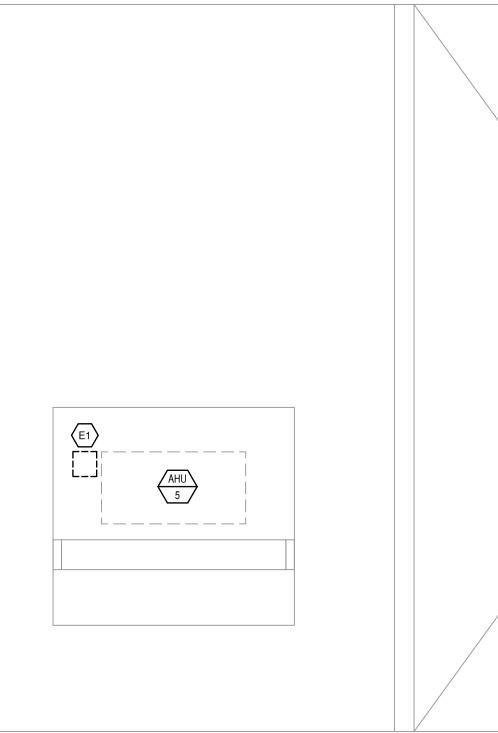


SHEET KEYNOTES

E1 NEW FAN MOTOR AT EXISTING LOCATION. RECONNECT EXISTING POWER.

E2 NEW RETURN FAN MOTOR AT EXISTING LOCATION. RECONNECT EXISTING POWER.

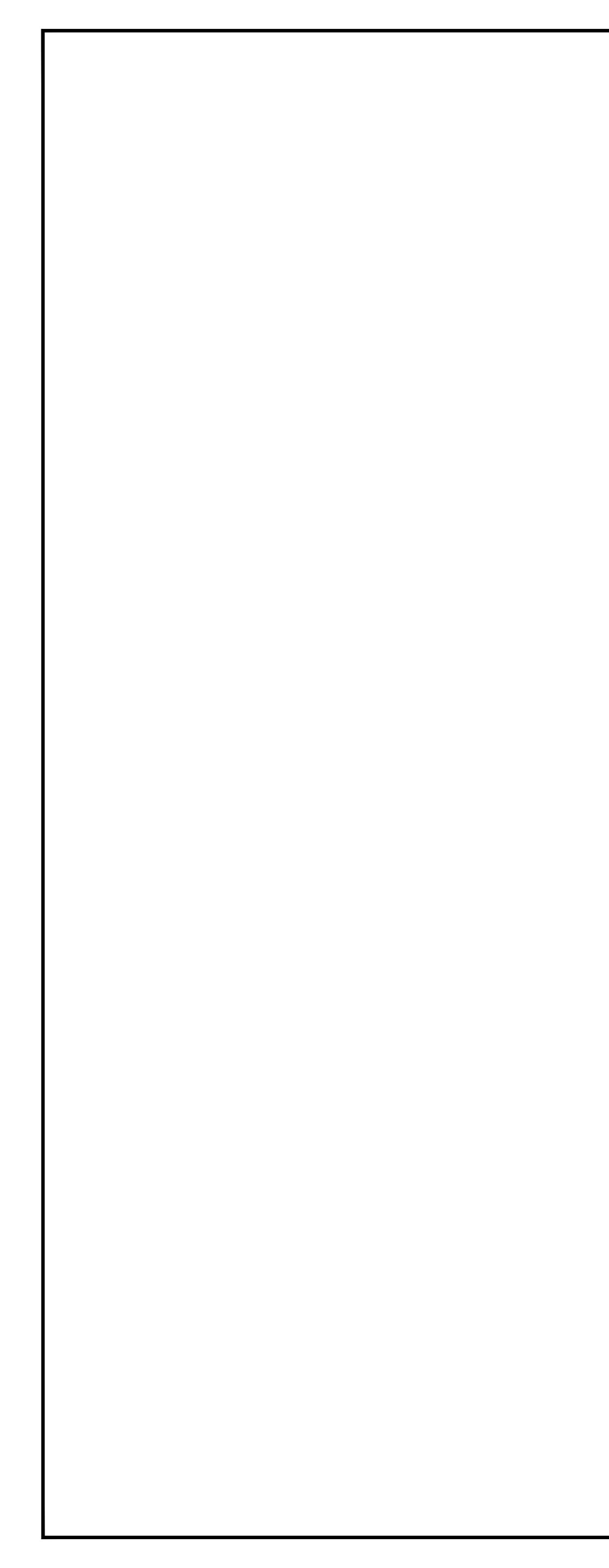
- E3 NEW ATC PANEL BY MECHANICAL CONTRACTOR. EXTEND EXISTING 120 VOLT CIRCUIT FROM EXISTING LOCATION TO NEW LOCATION.
- E4 NEW ATC PANEL BY MECHANICAL CONTRACTOR. RECONNECT EXISTING POWER.

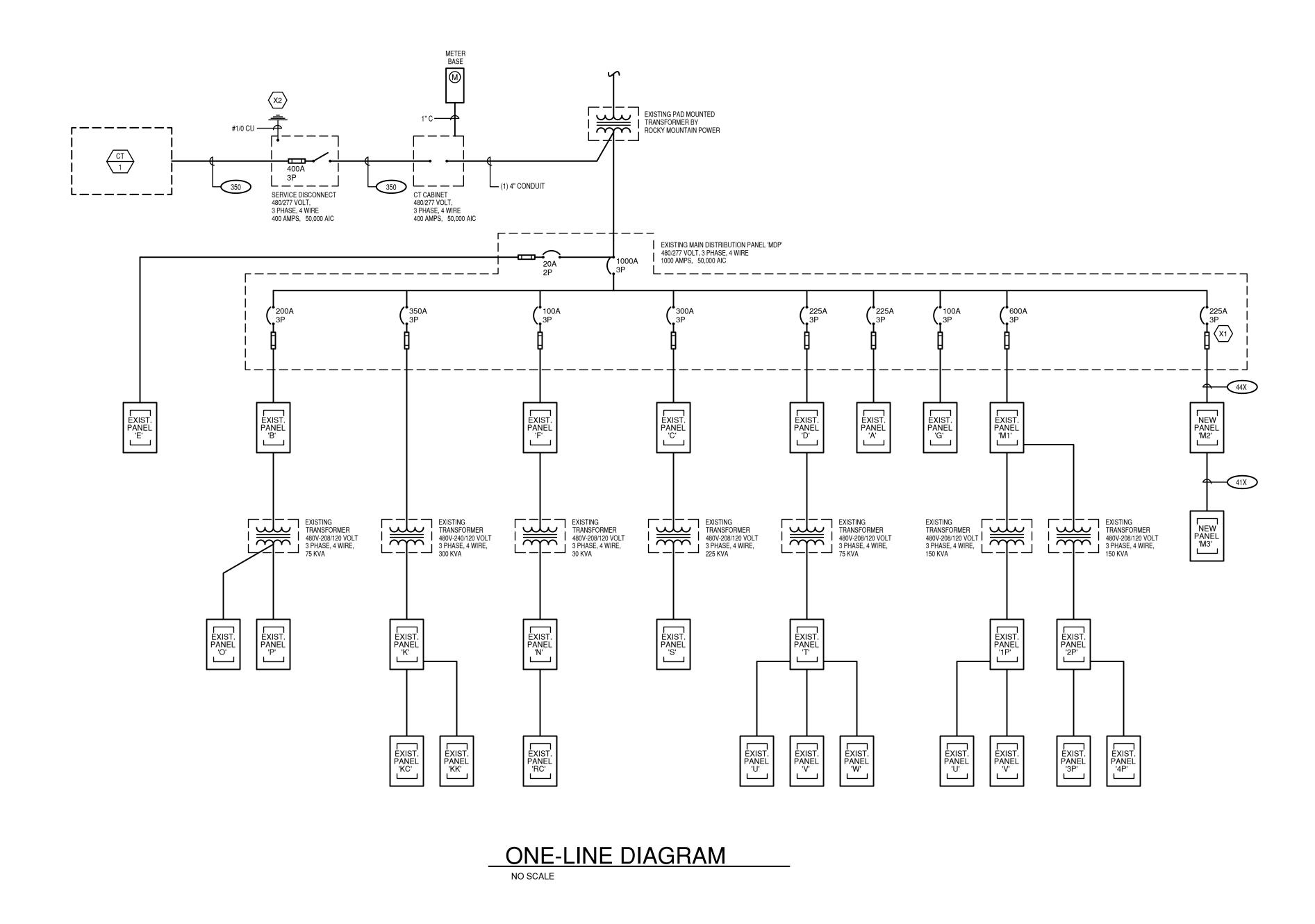












SHEET KEYNOTES

X1 MOUNT OWNER FURNISHED BREAKER IN EXISTING SWITCHBOARD.

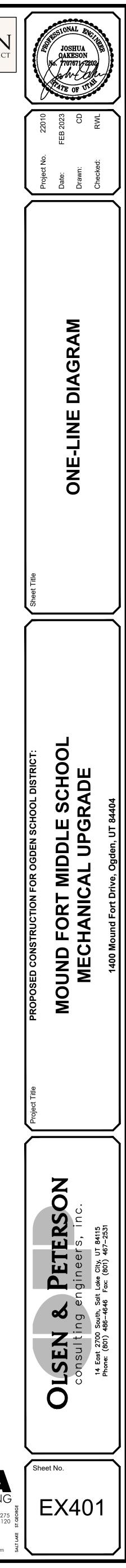
X2 PROVIDE (2) 3/4"x10'-0" COPPER WELD GROUND RODS DRIVEN 6'-0" APART TIED TO GROUND BUS.

CON	IDUCTO		COF CON			SCI	ΗE	DUL	Е	
TYPE	AMP.	COND. SIZE		CONDU)r Ize	INSU	JLATION		eq. GND. Cond.
20	30	3/4"		2		10		THHN THWN		10
30	30	3/4"		3		10	٦	THHN THWN		10
40	30	3/4"		4		10		fhhn Thwn		10
28	40	1"		2		8	1	rhhn Thwn		10
38	40	1"		3		8	1	rhhn Thwn		10
48	40	1"		4		8	1	rhhn Thwn		10
26	55	1"		2		6	1	THHN THWN		8
36	55	1"		3		6	1	THHN THWN		8
46	55	1"		4		6	1	fhhn <u>Thwn</u> fhhn		8
	70	1"		2		4	1	THUN THWN THHN		8
	70	1-1/4"	_	3		4	1	THWN		8
	70	1-1/4"	_	4		4	1	THWN THHN		8
23	85	1-1/4"	_	2		3		THWN THHN		8
33	85 85	1-1/4"	_	3		3		THWN THHN		8
43 32	95	1-1/2	_	4		3		THWN THHN		6
42	95	1-1/2"	_	3 4		2 2		THWN THHN		6
31	110	1-1/2"	_	4 3		2	T	THWN THHN		6
	110	2"	_	3		1	٦	THWN THHN	┝	6
	88	2"	_	4 5 *		1		THWN THHN	┝	6
31X	150	2"	_	3		1/0		<u>Thwn</u> Thhn Thwn	⊢	6
41X	150	2"	_	4		1/0	T	<u>hwn</u> Thhn Thwn	┝	6
51X	120	2"	_	5 *		1/0	٦	hwn Thhn Thwn	┢	6
32X	175	2"		3		2/0	٦	HWN FHHN FHWN	\vdash	6
42X	175	2"		4	2	2/0		THHN THWN	\vdash	6
52X	140	2"		5 *	2	2/0	٦	THHN THWN		6
33X	200	2"		3	3	3/0		THHN THWN		6
(43X)	200	2"		4	3	3/0		Thhn Thwn		6
53X	160	2-1/2"		5 *	3	3/0		fhhn Thwn		6
34X	230	2-1/2"		3	2	1/0		fhhn Thwn		4
(44X)	230	2-1/2"		4	2	1/0	٦	Thhn Thwn		4
54X	184	2-1/2"		5 *	2	1/0	٦	rhhn Thwn		4
325	255	3"		3	2	50	٦	THHN THWN		4
425	255	3"		4	2	250	٦	THHN THWN		4
525	204	3"		5 *	2	250	٦	fhhn <u>Thwn</u> fhhn		4
	310	3"		3	3	50	٦	THWN THHN		3
435	310	3"	_	4		50	٦	THWN THHN		3
<u>535</u> <u>350</u>	248 380	3" 4"		5 *		50		HWN HHW		3
450	380	4"	_	3 4	-	600 600		HHW		3
550	304	4"	_	- 5 *		i00 i00		ннพ		3
										_
C		or P						ιΕŊ	JL	E
TYPE	MAX. O.C. PROT.	COND. AMPS	SETS	C(QU/		UCTOF SIZ	-			EQ. GND COND
(44X-2)	400	460	2	QU/ 4		51Z 4/(_	2-1/2		3
54X-2	400	368	2		*	4/0		3"		3
335-2	600	620	2	3		35		3"		1
435-2	600	620	2	4		35	-	3"		1
433-2	600	608	2		*	50		3"		1
350-2	800	760	2	3		50		3		1/0
450-2				3		50		4" 4"		
\ge	800	760	2				-	-		1/0
535-3	800	744	3		*	35	-	4"		1/0
350-3	1000	1140	3	3		50		4"		2/0
450-3	1000	1140	3	4		50		4"		2/0
550-4	1000	1216	4		*	50		4"		2/0
335-4	1200	1240	4	3		35	-	3"		3/0
(435-4)	1200	1240	4	4		35		3"		3/0
\sim	1200	1216	4	5	*	35	0	3"		3/0
550-4	1600	1675	5	3		40	0	3"		4/0
550-4 340-5	1600	1675	5	4		40	0	3"		4/0
\ge	,000		6	5	*	40	0	4"		4/0
340-5	1600	1675				40	0	4"		250
340-5 440-5		1675 2010	6	4			_			
340-5 440-5 540-6	1600		6 7	4		50	0	4"		350
340-5 440-5 540-6 440-6	1600 2000	2010				50) 50)		4" 4"		350 400
340-5 440-5 540-6 440-6 450-7	1600 2000 2500	2010 2665	7	4			0			

GND. CONDUCTOR MAY BE DELETED ON SERVICE ENTRANCE CONDUCTORS

* 200% NEUTRAL, DERATED TO 80% BASED ON NEC 310.15.B(5)(C)



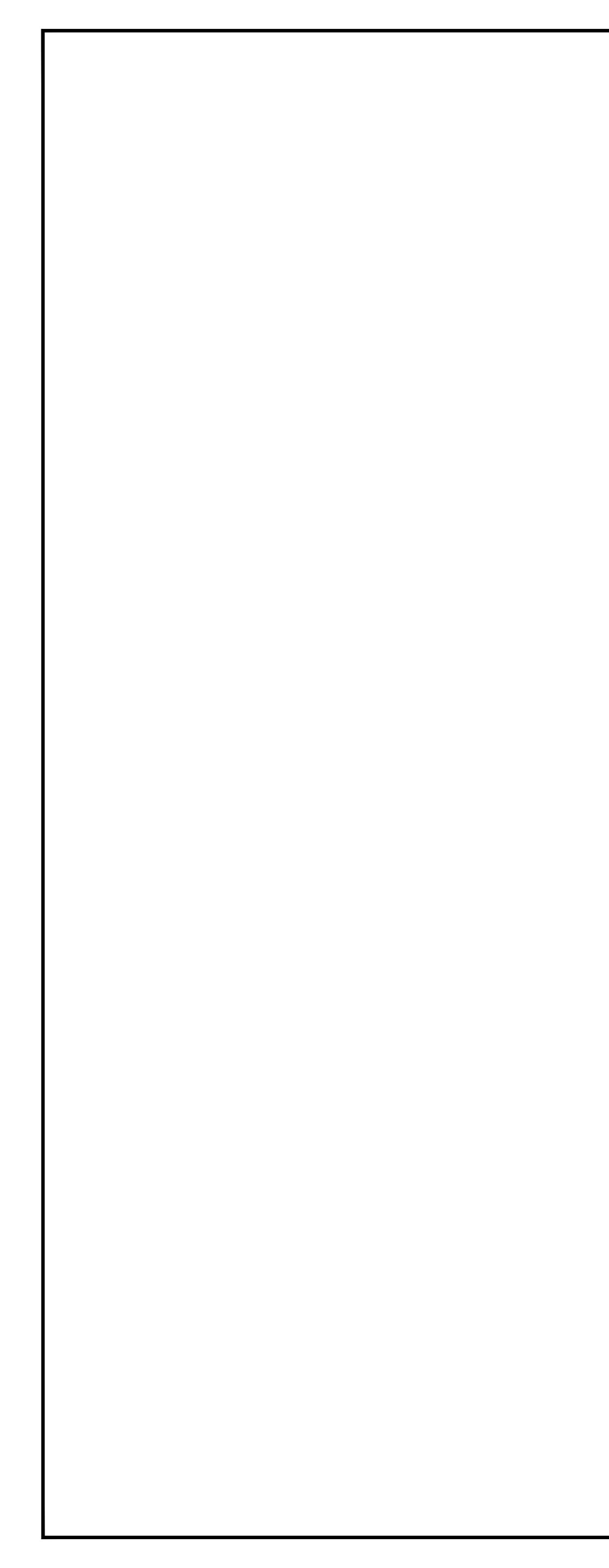


BNA CONSULTING

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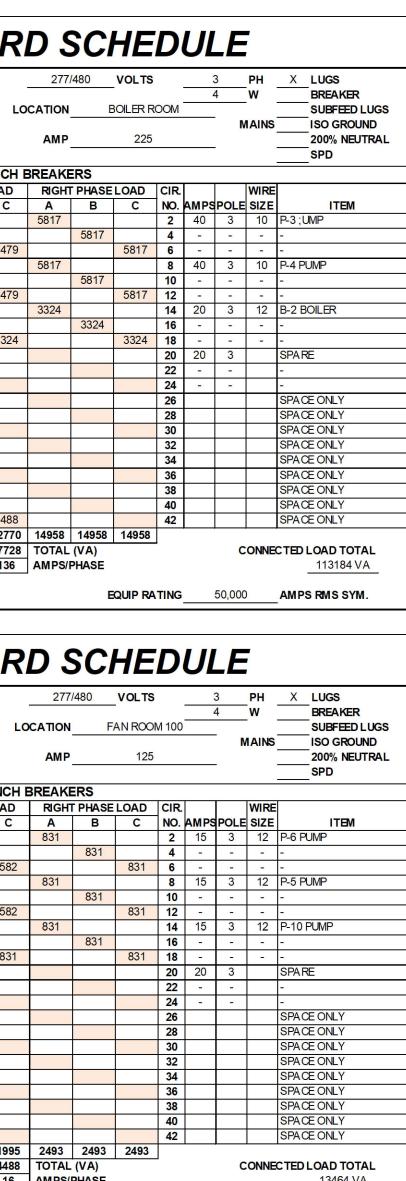
P:801.532.2196

www.bnaconsulting.com



PANEL M2	2	_	1	TYPE	N	F		277	480	1
MOUNTING			DIME	ISION	IS		10	CATION	F	30
FLUSH	li -					w	20	CATION		_
X_SURFA	CE				6	D (in.) H		AMP		
								BREAKE	RS	
			WIRE		LEFT	PHASEL		-	PHASE	L
ITEM P-1 PUMP	AMPS 50	POLE 3	SIZE 8		A 7479	В	С	A 5817	В	
P-1 PUIVIP -	- 50	<u> </u>	•	1	1419	7479		1100	5817	-
-	-	-	-	5			7479			F
P-2 PUMP	50	3	8	7	7479			5817		
-	-	-	-	9		7479	7.170		5817	
- B-1 BOILER	20	- 3	- 12	11 13	3324		7479	3324		┝
	-	-	-	15	3324	3324		3324	3324	┝
-	12	12	-	17		0021	3324		0021	┝
SPARE	20	3		19						F
-	-	-		21						
-	-	-		23						
SPACE ONLY				25						
SPACE ONLY				27						
				29						Ļ
SPACE ONLY SPACE ONLY				31 33						╞
SPACEONLY				35						┝
PANEL M3	100	3	1/0	37	4488					┢
-	-	-	-	39		4488				F
-	-	-	-	41			4488			
					22770	22770	22770	14958	14958	
* Provide 5 mA GF PROJECT:					37728 136	37728 136	37728 136	TOTAL AMPS/I	PHASE	
* Provide 5 mA GF PROJECT:				IE	136	136	136		PHASE	
			4۸		136	136	136	DS	PHASE	
PROJECT:	13		4٨		136	136 BO	136 A R	AMPS/I D S 277 277	рназе Е БС/ /480 Г	
PROJECT:	13		4٨	TYPE	136 LE	136 8 0 /	136 A R	AMPS/I	рназе Е БС/ /480 Г	1
PROJECT:	13				136 ELE NS 20 6	136 80 / ⊮F D (in.) H BR		AMPS/I 277 277 CATION AMP BREAKE	PHASE E SC /480 F ERS	
PROJECT: PANEL M MOUNTING X SURFA	13 H ACE	P /			136 LEE	136 I IF W D (in.) H BR, PHASE		AMPS/I 277 277 CATION AMP BREAKI RIGH	PHASE E SC/ /480 F ERS T PHASE	
PROJECT:	13 H ACE				136 ELE NS 20 6	136 80 / ⊮F D (in.) H BR		AMPS/I 277 277 CATION AMP BREAKE	PHASE E SC /480 F ERS	
PROJECT: PANEL M MOUNTING TEM	I3 H ACE			TYPE NSIO	136 LEFT A	136 I IF W D (in.) H BR, PHASE		AMPS/I	PHASE E SC/ /480 F ERS T PHASE	
PROJECT: PANELM MOUNTING FLUSH 	I3 H ACE			TYPE NSIO	136 LEFT A	136 I IF W D (in.) H BR, PHASE B		AMPS/I	PHASE E SC /480 F ERS F PHASE B	
PROJECT: PANEL M MOUNTING TEM	13 H ACE AMP: 15 -	P - spole 3 -	DIME SIZE 12 -	CIR NO. 1 3 5 7	136 LEFT A	136 I I I I I I I I I I I I I I I I I I I		AMPS/I	PHASE E SC /480 F ERS F PHASE B 831	
PROJECT: PANELM MOUNTING FLUSH 	13 ACE AMP: 15 -	P - spole 3 -	DIME SIZE 12 -	CIR NO. 1 3 5 7 9	136 LEFT A 582	136 I IF W D (in.) H BR, PHASE B		AMPS/I	PHASE E SC /480 F ERS F PHASE B	
PROJECT: PANELM MOUNTINGFLUSIK SURF/ ITEM P-8 PUMP P-7 PUMP	13 H ACE 15 - 15 - 15 - - 15 - -	P SPOLE 3 - - - 3 - - - - -	DIME DIME SIZE 12 - 12 - 12 -	TYPE NSIOI NSIOI 1 3 5 7 9 11	136 LEFT A 582 582	136 I I I I I I I I I I I I I I I I I I I		AMPS/I	PHASE E SC /480 F ERS F PHASE B 831	
PROJECT: PANELM MOUNTING FLUSH 	13 ACE AMP: 15 - 15 - 15	P / - 3 - 3 -	DIME SIZE 12 -	TYPE NSIOI NO. 1 3 5 7 9 111 13	136 LEFT A 582	136		AMPS/I	PHASE E SC /480 F ERS F PHASE B 831 831	
PROJECT: PANELM MOUNTINGFLUSIK SURF/ ITEM P-8 PUMP P-7 PUMP	13 H ACE 15 - 15 - 15 - - 15 - -	P SPOLE 3 - - - 3 - - - - -	DIME DIME SIZE 12 - 12 - 12 -	TYPE NSIOI 1 3 5 7 9 11 13 15	136 LEFT A 582 582	136 I I I I I I I I I I I I I I I I I I I	136	AMPS/I	PHASE E SC /480 F ERS F PHASE B 831	
PROJECT: PANELM MOUNTING FLUSH SURFA P-8 PUMP - - - P-7 PUMP - - - P-9 PUMP - - - - - - - - - - - - -	13 H ACE 15 - 15 - 15 - 15 - - 15 - - - - - - -	P 	DIME DIME SIZE 12 - 12 - 12 -	TYPE NSIOI 1 3 5 7 9 11 13 15 17	136 LEFT A 582 582	136		AMPS/I	PHASE E SC /480 F ERS F PHASE B 831 831	
PROJECT: PANELM MOUNTING FLUSH FUSH	13 H ACE 15 - 15 - 15 - - 15 - -	P SPOLE 3 - - - 3 - - - - -	DIME DIME SIZE 12 - 12 - 12 -	TYPE NSIOI 1 3 5 7 9 11 13 15	136 LEFT A 582 582	136	136	AMPS/I	PHASE E SC /480 F ERS F PHASE B 831 831	
PROJECT: PANELM MOUNTINGFLUSH SURF/ P-8 PUMP - - - P-7 PUMP - - - P-9 PUMP - - - - - - - - -	13 H ACE 15 - 15 - 15 - 15 - 15 - 20	P SPOLE 3 - - 3 - - 3 - - 3 - - 3 - - 3 - - 3 - - 3 - - - 3 - - - -	DIME DIME SIZE 12 - 12 - 12 -	TYPE NSIOI NSIOI 1 3 5 7 9 111 13 15 17 19	136 LEFT A 582 582	136	136	AMPS/I	PHASE E SC /480 F ERS F PHASE B 831 831	
PROJECT: PANELM MOUNTINGFLUSH SURFA P-8 PUMP - - - P-7 PUMP - - - P-9 PUMP - - - - P-9 PUMP - - - -	13 H ACE 15 - 15 - 15 - 15 - 15 - 20	P S POLE 3 - - - 3 - - 3 - - - 3 - - - 3 - - - 3 - - - - 3 - -	DIME DIME SIZE 12 - 12 - 12 -	TYPE NSIOI 1 3 5 7 9 111 13 15 17 19 21	136 LEFT A 582 582	136	136	AMPS/I	PHASE E SC /480 F ERS F PHASE B 831 831	
PROJECT:	13 H ACE 15 - 15 - 15 - 15 - 15 - 20	P S POLE 3 - - - 3 - - 3 - - - 3 - - - 3 - - - 3 - - - - 3 - -	DIME DIME SIZE 12 - 12 - 12 -	TYPE NSIOI NSIOI 1 3 5 7 9 111 13 15 17 19 21 23 25 27	136 LEFT A 582 582	136	136	AMPS/I	PHASE E SC /480 F ERS F PHASE B 831 831	
PROJECT:	13 H ACE 15 - 15 - 15 - 15 - 15 - 20	P S POLE 3 - - - 3 - - 3 - - - 3 - - - 3 - - - 3 - - - - 3 - -	DIME DIME SIZE 12 - 12 - 12 -	TYPE NSIOI NO. 1 3 5 7 9 111 13 15 17 19 21 23 25 27 29	136 LEFT A 582 582	136	136	AMPS/I	PHASE E SC /480 F ERS F PHASE B 831 831	
PROJECT:	13 H ACE 15 - 15 - 15 - 15 - 15 - 20	P S POLE 3 - - - 3 - - 3 - - - 3 - - - 3 - - - 3 - - - - 3 - -	DIME DIME SIZE 12 - 12 - 12 -	TYPE NSIOI NO. 1 3 5 7 9 111 13 15 17 19 21 23 25 27 29 31	136 LEFT A 582 582	136	136	AMPS/I	PHASE E SC /480 F ERS F PHASE B 831 831	
PROJECT:	13 H ACE 15 - 15 - 15 - 15 - 15 - 20	P S POLE 3 - - - 3 - - 3 - - - 3 - - - 3 - - - 3 - - - - 3 - -	DIME DIME SIZE 12 - 12 - 12 -	TYPE NSIOI NSIOI 1 3 5 7 9 111 13 15 17 19 21 23 25 27 29 31 33	136 LEFT A 582 582	136	136	AMPS/I	PHASE E SC /480 F ERS F PHASE B 831 831	
PROJECT:	13 H ACE 15 - 15 - 15 - 15 - 15 - 20	P S POLE 3 - - - 3 - - 3 - - - 3 - - - 3 - - - 3 - - - - 3 - -	DIME DIME SIZE 12 - 12 - 12 -	TYPE NSIOI NSIOI 1 3 5 7 9 111 13 15 17 19 21 23 25 27 29 31 33 35	136 LEFT A 582 582	136	136	AMPS/I	PHASE E SC /480 F ERS F PHASE B 831 831	
PROJECT:	13 H ACE 15 - 15 - 15 - 15 - 15 - 20	P S POLE 3 - - - 3 - - 3 - - - 3 - - - 3 - - - 3 - - - - 3 - -	DIME DIME SIZE 12 - 12 - 12 -	TYPE NSIOI NSIOI 1 3 5 7 9 111 13 15 17 19 21 23 25 27 29 31 33	136 LEFT A 582 582	136	136	AMPS/I	PHASE E SC /480 F ERS F PHASE B 831 831	
PROJECT:	13 H ACE 15 - 15 - 15 - 15 - 15 - 20	P S POLE 3 - - - 3 - - 3 - - - 3 - - - 3 - - - 3 - - - - 3 - -	DIME DIME SIZE 12 - 12 - 12 -	TYPE NSIOI NO. 1 3 5 7 9 111 13 15 17 19 21 23 25 27 29 31 33 35 37	136 LEFT A 582 582	136	136	AMPS/I	PHASE E SC /480 F ERS F PHASE B 831 831	
PROJECT:	13 H ACE 15 - 15 - 15 - 15 - 15 - 20	P S POLE 3 - - - 3 - - 3 - - - 3 - - - 3 - - - 3 - - - - 3 - -	DIME DIME SIZE 12 - 12 - 12 -	TYPE NSIOI NO. 1 3 5 7 9 111 13 15 17 19 21 23 25 27 29 31 33 35 37 39	136 LEFT A 582 582	136	136	AMPS/I	PHASE E SC /480 F ERS F PHASE B 831 831 831	
PROJECT:	I3 HACE AMP: 15 - 15 - 15 - 20 - - 20 - - 10 - - 10 - - - - - - - - - - - - -	P/	WIRE SIZE 12 - 12 - 12 - 12 -	TYPE NSIOI NO. 1 3 5 7 9 111 13 15 17 19 21 23 25 27 29 31 33 35 37 39	136	136 W D (in.) H BR 582 582 582 582 0 582 0 0 0 0 0 0 0 0 0 0 0 0 0	136	AMPS/I	PHASE E SC /480 F ERS PHASE B 831 831 831 831 831 831 831 831 831 831	

PROJECT:



13464 VA

EQUIP RATING 42,000 AMPS RMS SYM.

				DIDE	EVIO.			077/	400				2	DU	V LUCO
PANEL G		•		TYPE_	EXIS	IING	-	277/-	480	VOLTS			3 4	PH	X LUGS BREAKER
MOUNTING			DIMEN	SION	5		LO	CATION	ELE	CTRICAL	ROO				
FLUSH				_		W				-			N	IAINS	
X_SURFA	CE			-		D (in.)		AMP_		225					200% NEUTRAL
						Н									SPD
					·			BREAKE							
ITEM	AMPS		WIRE	NO.		PHASE L B		A	PHASE		CIR.	AMPS		WIRE SIZE	ITEM
EXISTING LOAD	20		JILL	1	~		- C	_			2	20	1	SIZE	EXISTING LOAD
EXISTING LOAD	20	1		3							4	20	1		EXISTING LOAD
EXISTING LOAD	20	1		5							6	20	1		EXISTING LOAD
EXISTING LOAD	20	3		7							8	20	3		EXISTING LOAD
	-	-		9							10	-	-		-
-	-	-		11							12	-	-		-
EXISTING LOAD	20	3		13							14	20	3		EXISTING LOAD
-	-	-		15							16	-	-		-
	-	-		17		I					18	-	-		
EXISTING LOAD	20	3	\vdash	19							20	20	3		EXISTING LOAD
-	-	-	<u> </u>	21				└────┦			22	-	-		-
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	- 20	- -		25							26	- 20	- -		
-	-	-		29							30	-	-		-
EXISTING LOAD	20	3		31		 					32	50	3		EXISTING LOAD
-	-	-		33							34	-	-		-
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SPACEONLY				37							38				SPACEONLY
SPACEONLY				39				· · · · · ·		1	40				SPACEONLY
SPACEONLY				41							42				SPACE ONLY
* Provide 5 mA GF		JIEan	'	L	1	1		AMPS/P		QUIP RA	TING				AMPS RMS SYM.
PANEL 3		P/		IE Type			4 <i>R</i>	D S 120/	SCI				LE	PH	
		P/		TYPE	EXIS		-	120/	SC /208	VOLTS	D		3		BREAKER
PANEL3 MOUNTING FLUSH SURFA	P	P /			EXIS I S		- LC	120/	SC /208	VOLTS	D		3 4	PH	
MOUNTING	P	P /		TYPE	EXIS IS 20	W D (in.)	- LC	120/	SCI /208 F	VOLTS	D		3 4	PH W	BREAKER SUBFEED LUGS ISO GROUND 200% NEUTRAL
MOUNTING	P H ACE	-			EXIS IS 20 6	W D (in.)			SCI /208 F	VOLTS PLATFOR 250	D M 27 CIR.		3 4 - N	PH W IAINS	BREAKER SUBFEED LUGS ISO GROUND 200% NEUTRAL SPD
	P H ACE	-	DIME		EXIS S 20 6 LEFT	W D (in.) H PHASE		120/ CATION AMP BREAKE RIGHT	SCI /208 F	VOLTS PLATFOR 250	D M 27 CIR.		3 4 - N	PH W IAINS	BREAKER SUBFEED LUGS ISO GROUND 200% NEUTRAL SPD
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MOUNTING FLUSH X SURFA ITEM SPARE SPARE SPARE	P ACE 20 20 20 20	SPOLE 1 1 1	DIME	TYPE NSION CIR NO. 1 3 5	EXIS S 20 6 LEFT	W D (in.) H PHASE		120/ CATION AMP BREAKE RIGHT	SCI /208 F	VOLTS PLATFOR 250	D M 27 CIR. NO. 2 4 6	AMPs 20 -	3 4 - N - POLE 3 -	PH W IAINS	BREAKER SUBFEED LUGS ISO GROUND 200% NEUTRAL SPD ITEM EXISTING LOAD -
MOUNTING FLUSI X SURFA ITEM SPARE SPARE SPARE SPARE SPARE	P ACE 20 20 20 20 20 20	SPOLE 1 1 1	DIME	TYPE NSION CIR NO. 1 3 5 7	EXIS S 20 6 LEFT	W D (in.) H PHASE		120/ CATION AMP BREAKE RIGHT	SCI /208 F	VOLTS PLATFOR 250	D M 27 CIR. NO. 2 4 6 8	AMPS 20 - - 20	3 4 - N 	PH W IAINS	BREAKER SUBFEED LUGS ISO GROUND 200% NEUTRAL SPD ITEM EXISTING LOAD - - SPARE
MOUNTING FLUSI X SURFA ITEM SPA RE SPA RE SPA RE SPA RE SPA RE SPA RE	P ACE 20 20 20 20 20 20 20 20	SPOLE 1 1 1 1	DIME	TYPE NSION CIR NO. 1 3 5 7 9	EXIS S 20 6 LEFT	W D (in.) H PHASE		120/ CATION AMP BREAKE RIGHT	SCI /208 F	VOLTS PLATFOR 250	D M 27 CIR. NO. 2 4 6 8 10	AMPS 20 - 20 20 20	3 4 - N - N - N - N - N - N - N - 1 1 1	PH W IAINS	BREAKER SUBFEED LUGS ISO GROUND 200% NEUTRAL SPD ITEM EXISTING LOAD - - SPARE SPARE
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PROJECT: Equip rating AMPS RMS SYM. PANELBOARD SCHEDULE
 3
 PH
 X
 LUGS

 4
 W
 BREAKER

 SUBFEED LUGS
 SUBFEED LUGS

 MAINS
 ISO GROUND
 X1 TYPE EXISTING 120/208 VOLTS PANEL ELECTRICAL LOCATION MOUNTING DIM ENSIONS FLUSH X SURFACE AMP 200% NEUTRAL 100 6 D (in.) _____ SPD H

 BRANCH BREAKERS

 BRANCH BREAKERS

 WIRE
 CIR
 WIRE

 AMPSPOLE
 SIZE
 NO.
 A
 B
 C
 A
 B
 C
 NO.
 AMPSPOLE
 SIZE

 ITEM 2 40 3 4 - -EXISTING LOAD 20 1
 6

 8
 40
 3
 EXISTING LOAD
 SPACE ONLY SPACE ONLY SPACE ONLY SPACE ONLY
 10

 12

 14
 SPACE ONLY

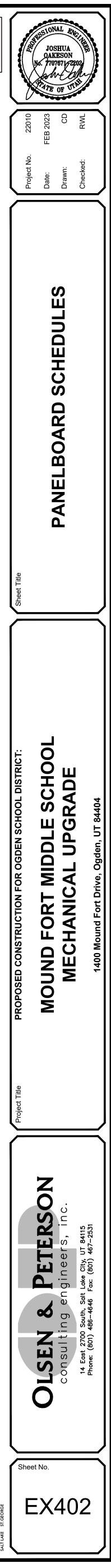
 16
 SPACE ONLY

 0
 600
 0
 0
 0

 0
 600
 0
 TOTAL (VA)

 0
 5
 0
 AMPS/PHASE
 0 0 0 CONNECTED LOAD TOTAL 600 VA * Provide 5 mA GFCI Circuit Break PROJECT: EQUIP RATING AMPS RMS SYM.





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