

1 MECHANICAL BOILER ROOM DEMOLITION PLAN
SCALE: 1/2" = 1' - 0"

MECHANICAL GENERAL DEMOLITION NOTES

1. PRIOR TO SUBMITTING BID, VISIT SITE & IDENTIFY EXISTING CONDITIONS & DIFFICULTIES THAT WILL AFFECT WORK TO BE PERFORMED. NO COMPENSATION WILL BE GRANTED FOR ANY ADDITIONAL WORK CAUSED BY UNFAMILIARITY WITH SITE CONDITIONS THAT ARE VISIBLE OR READILY BY EXPERIENCED OVERSEERS. INCLUDE IN THE BID ALL DEMOLITION WORK REQUIRED.
2. REMOVE & DISPOSE OF MECHANICAL EQUIPMENT, DUCTWORK, & PIPING TO EXTENT INDICATED. REMOVAL SHALL BE COMPLETE INCLUDING HANGERS, BRACKETS, VALVES FITTINGS, & APPURTENANCES UNLESS OTHERWISE INDICATED.
3. DUCTWORK DIMENSIONS INDICATED ARE CLEAR INSIDE DIMENSIONS.
4. THESE PLANS ARE DIAGRAMMATIC & NOT INTENDED TO DEPICT THE ENTIRE SCOPE OF MECHANICAL DEMOLITION WORK. ADDITIONAL DEMOLITION & MODIFICATION WORK NOT SHOWN SHOULD BE ANTICIPATED.

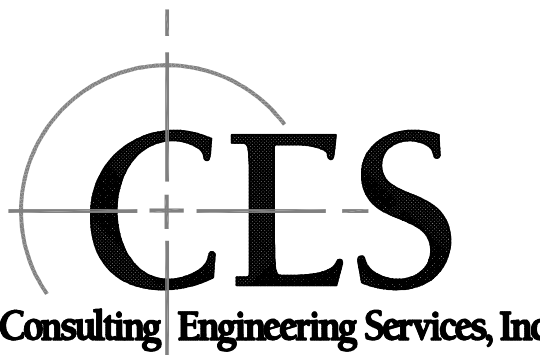
MECHANICAL DEMOLITION KEY NOTES

- MD1 EXISTING HOT WATER PIPING TO REMAIN.
- MD2 EXISTING DOMESTIC COLD WATER PIPING TO REMAIN.
- MD3 REMOVE EXISTING FUEL OIL PUMPS & ALL ASSOCIATED PIPING, VALVES, FITTINGS, & SUPPORTS; REMOVE ALL FUEL OIL PUMP CONTROLS & CONTROL WIRING.
- MD4 REMOVE EXISTING IN-LINE PUMP STARTER & DISCONNECT SWITCHES & ALL ASSOCIATED CONTROL WIRING.
- MD5 REMOVE EXISTING BURNER CONTROL PANEL & ASSOCIATED CONTROL WIRING.
- MD6 REMOVE EXISTING DOMESTIC COLD WATER ISOLATION VALVE.
- MD7 REMOVE SECTION OF EXISTING DOMESTIC COLD WATER PIPING FOR INSTALLATION OF NEW ISOLATION VALVE.
- MD8 REMOVE EXISTING 48"x24" MOTORIZED DAMPER SECTION, CONTROL WIRING & MESH SCREEN. (TYPICAL FOR 2); EXISTING DUCTWORK & INTAKE AIR LOUVERS TO REMAIN.
- MD9 EXISTING CO SENSOR TO REMAIN.
- MD10 REMOVE EXISTING 2" NAT. GAS BRANCH PIPE & CAP BACK AT MAIN.
- MD11 REMOVE EXISTING IN-LINE HOT WATER PUMP & ASSOCIATED PIPING, VALVES, CONTROLS, CONTROL WIRING & SUPPORTS. MEASURE WATER FLOW & DISCHARGE HEAD FOR EACH PUMP PRIOR TO REMOVALS; PRESENT WRITTEN REPORT OF RESULTS TO ARCHITECT & ENGINEER.
- MD12 REMOVE EXISTING 4" HWS PIPING & SUPPORTS; PROVIDE TEMPORARY PIPE CAPS DURING CONSTRUCTION. (TYPICAL)
- MD13 EXISTING 18"x48" MOTORIZED DAMPER SECTIONS DUCTWORK & MESH SCREEN TO REMAIN; REMOVE EXISTING ACTUATOR.
- MD14 REMOVE EXISTING DUCTWORK BACK TO THE EXISTING MOTORIZED DAMPER SECTION; EXISTING 30"x48" MOTORIZED DAMPER SECTION & DUCTWORK SHALL REMAIN; REMOVE EXISTING ACTUATOR.
- MD15 EXISTING HOT WATER UNIT HEATER, & ASSOCIATED PIPING & WIRING SHALL REMAIN;
- MD16 REMOVE EXISTING DUAL FUEL HOT WATER BOILER, BURNER, CONTROLS, & CONTROL WIRING; EXISTING SUPPLY & RETURN PIPING MAINS SHALL REMAIN FOR REUSE; REMOVE EXISTING HOUSEKEEPING PADS IN THEIR ENTIRETY.
- MD17 REMOVE EXISTING EXHAUST GRILLE.
- MD18 EXISTING FLOOR DRAIN TO REMAIN.
- MD19 REMOVE EXISTING 4" & 6" HOT WATER RETURN PIPE UP TO POINT SHOWN. REMOVE HANGERS & SUPPORTS.
- MD20 REMOVE EXISTING INDUCED DRAFT FAN & ASSOCIATED DUCTWORK, DAMPERS, CONTROLS, PNEUMATIC PIPING, HANGERS & SUPPORTS.
- MD21 REMOVE EXISTING 24"x24" BOILER BREECHING & ASSOCIATED HANGERS & SUPPORTS.
- MD22 EXISTING EMERGENCY SHOWER TO REMAIN.
- MD23 REMOVE EXISTING BOILER CONTROL PANEL & ASSOCIATED DISCONNECT SWITCHES & CONTROL WIRING.
- MD24 EXISTING DUAL WATER TEMPERATURE PIPING BRIDGE REMAIN.
- MD25 EXISTING EXHAUST FAN & ASSOCIATED MOTORIZED DAMPER SHALL REMAIN; REMOVE EXISTING ACTUATOR.
- MD26 EXISTING SUSPENDED AIR SEPARATOR SHALL REMAIN.
- MD27 EXISTING BASE MOUNTED DUAL TEMPERATURE WATER PUMP & VARIABLE FREQUENCY DRIVE, PIPING & CONTROLS SHALL REMAIN. MEASURE WATER FLOW & DISCHARGE HEAD FOR EACH PUMP PRIOR TO DEMOLITION OF HOT WATER BOILERS & ASSOCIATED IN-LINE PUMPS; PRESENT WRITTEN REPORT OF RESULTS TO ARCHITECT & ENGINEER.
- MD28 EXISTING CHILLED WATER PUMP & ASSOCIATED PIPING & CONTROLS TO REMAIN.
- MD29 DISCONNECT & REMOVE EXISTING FLOOR MOUNTED EXPANSION TANK; CHEMICAL SHOT FEEDER SHALL REMAIN FOR REUSE.
- MD30 REMOVE EXISTING 3/4" NAT. GAS VENT PIPING & SUPPORTS; (TYP FOR 3); REMOVE PORTION OF EXISTING 1" NAT. GAS VENT; COORDINATE WITH NEW VENT PIPING CONNECT REQUIREMENTS.



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CES #2018168.00

REVISIONS

NO.	DATE	DESCRIPTION

PRENDERGAST
SCHOOL HOT
WATER BOILER
REPLACEMENT

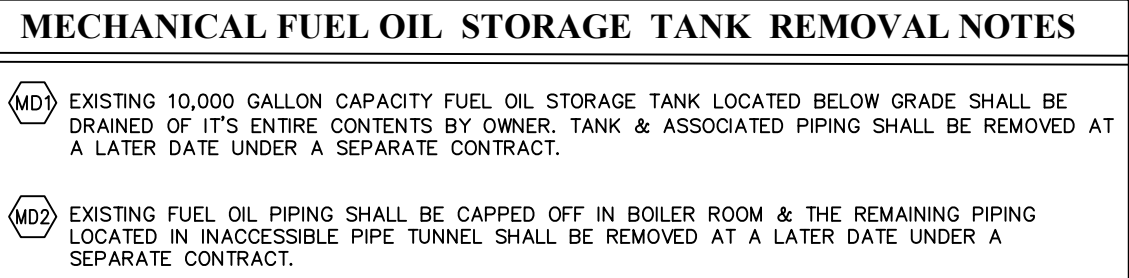
ANSONIA, CT

MECHANICAL
BOILER ROOM
DEMOLITION PLAN

DATE: 4/1/2020
PROJECT NO: 2018168.00
DRAWN: ADC
CHECKED: OHA
ISSUED FOR:
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SHEET NO.

MD-100



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PRENDERGAST SCHOOL HOT WATER BOILER REPLACEMENT

ANSONIA, CT

MECHANICAL FUEL OIL PIPING DEMOLITION PLAN

DATE: 4/1/2020
PROJECT NO: 2018168.00
DRAWN: ADC
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SHEET NO

MD-101

1 MECHANICAL FUEL OIL PIPING DEMOLITION PLAN
SCALE: 3/32" = 1'- 0"

HOT WATER BOILER SCHEDULE																									
UNIT NUMBER	MANUFACTURER	MODEL	LOCATION	SERVICE	BOILER TYPE	OUTPUT (MBH)	AHR EFFICIENCY (B1S-2000) (%)	WATER DATA						BURNER DATA			ELECTRICAL DATA		BURNER MOTOR HP	DIMENSIONS L x W x H (N)	UNIT OPERATING WEIGHT (LBS)	APPROVAL	REMARKS		
								MEDIA	BOILER CAPACITY (GAL)	RELIEF VALVE PRESSURE SETTING (PSIG)	BOILER PRESSURE RATING (PSIG)	EWI/LWT (DEG F)	DESIGN FLOW (GPM)	MIN/MAX WATER FLOW (GPM)	PRESSURE DROP	FUEL	GAS INPUT (CFH)	MIN-MAX GAS INLET PRESSURE (IN W.C.)						VOLT/PHASE/HZ	FLA
✕B-1	AERCO	BMK-3000	BOILER ROOM	BUILDING HEATING	CONDENSING FIRETUBE	2610-2880	93.5	WATER	55	50	160	157/180	240	25/350	3.0 PSIG @ 261 GPM	NATURAL GAS	3000	4 - 14	460/3/60	5	3.0	56 x 28 x 78	2580	UL/FM	ALL
✕B-2	AERCO	BMK-3000	BOILER ROOM	BUILDING HEATING	CONDENSING FIRETUBE	2610-2880	93.5	WATER	55	50	160	157/180	240	25/350	3.0 PSIG @ 261 GPM	NATURAL GAS	3000	4 - 14	460/3/60	5	3.0	56 x 28 x 78	2580	UL/FM	ALL
NOTES: 1. VENTLESS GAS TRAIN 2. MINIMUM TURNDOWN: 15:1 3. MAX NOX: 20 PPM, 3% O2 CORRECTED 4. COMBUSTION O2 LEVELS SHALL NOT EXCEED 7% THROUGHOUT ENTIRE FIRING RANGE 5. PROVIDE BOILER SEQUENCING WITH HW RESET 6. BOILER STAGING POINT NOT TO EXCEED 40% 7. BOILER MANUFACTURE TO PROVIDE 10-YEAR NON-PRORATED HEAT EXCHANGER WARRANTY 8. BOILER MANUFACTURE TO PROVIDE 2-YEAR NON-PRORATED CONTROLLER WARRANTY 9. BOILER MANUFACTURE TO PROVIDE LETTER OF GUARANTEE FOR AS BUILT FLUE AND COMBUSTION AIR INSTALLATION 10. PROVIDE CONDENSATE NEUTRALIZER FOR EACH BOILER AND COMMON FLUE DRAINS 11. ALTERNATE MANUFACTURES MUST COMPLY WITH ALL BASIS OF DESIGN PERFORMANCE, SAFETY, DURABILITY WARRANTY AND SYSTEM DESIGN REQUIREMENTS 12. SINGLE POINT POWER CONNECTION																									
✕ NEW BOILER SHALL BE PURCHASED BY OWNER; MECHANICAL CONTRACTOR SHALL COORDINATE DELIVERY TO SITE & RIGGING OF BOILER PLACEMENT. SEE NOTE M3 ON NEW WORK PLAN																									

EXPANSION TANK SCHEDULE							
SYMBOL	MANUFACTURER/ MODEL NUMBER	TYPE/ CONFIG.	LOCATION	TANK WEIGHT (LBS)	MIN.TANK VOLUME (GAL)	MIN. ACCEPTANCE VOLUME (GAL)	SIZE (DIA x H)
ET-1	THE JOHN WOOD COMPANY JBER-25-011	D/V	BOILER PUMP ROOM	380	158	158	30"x 58"
TYPES: C = COMPRESSION D = DIAPHRAGM		CONFIGURATION: H = HORIZONTAL V = VERTICAL					

PUMP SCHEDULE																
SYMBOL	MANUFACTURER/ MODEL NUMBER	TYPE	LOCATION	SYSTEM SERVING	MEDIA	FLOW RATE (GPM)	TDH (FT)	FLUID TEMP (°F)	PUMP EFF (%)	IMPELLER DIAMETER (INCHES)	BHP	MOTOR DATA				REMARKS
												HP	RPM	VOLTS	PHASE	
PHWP-1	TACO KV4007	IL	MECHANICAL ROOM	BUILDING HEATING SYSTEM	W	240	50	180	74	7.2	4.1	5.0	1760	460	3	ALL
PHWP-2	TACO KV4007	IL	MECHANICAL ROOM	BUILDING HEATING SYSTEM	W	240	50	180	74	7.2	4.1	5.0	1760	460	3	ALL
TYPE: ES = END SUCTION CC = CLOSE COUPLED HSC = HORIZONTAL SPLIT CASE IL = IN-LINE VSC = VERTICAL SPLIT CASE				MEDIA: EG = 30% ETHYLENE GLYCOL/WATER SOLUTION W = WATER PPG = 30% PROPYLENE GLYCOL/WATER SOLUTION												
REMARKS: 1. VERTICAL CLOSE COUPLED. 2. ANSI CLASS 125 FLANGE. 3. PREMIUM EFFICIENCY MOTOR. 4. CAST IRON HOUSING. 5. BRONZE IMPELLER. 6. CARBON STEEL SHAFT. 7. BRONZE SHAFT SLEEVE. 8. CERAMIC /EPT MECHANICAL SEAL. 9. COPPER & BRASS SEAL FLUSH LINE. 10. 4"x4" SUCTION DIFFUSER WITH DUCTILE IRON BODY, COVER & VANES & 304 STAINLESS STEEL PERMANENT STRAINER																

WATER TREATMENT PROCESS
STEPS TO CLEAN AND TREAT AN EXISTING HYDRONIC SYSTEM: 1. Flush the system o Sentinel X400 system flush should be dosed at 1% of the system's water volume. • Systems older than six months should be cleaned and flushed with X400 o Sentinel X400 system restorer should be circulated, preferably at normal operating temperature, with all valves open and the pump turned to the maximum allowable system flow for a minimum period of 2 hours or until satisfactory performance is restored. • Where systems are badly fouled, a longer period of circulation is recommended, up to four weeks. This product will not clear a completely blocked pipe. 2. Add Sentinel X100 inhibitor • Systems should be dosed at 1% of its total water volume. • Feeding - If the system is empty, add to any convenient point before filling. If full, use a dosing vessel to inject via the filling loop or other access point. INSTALLING WATER TREATMENT IN A NEW HYDRONIC SYSTEM: 1. Flush the system o Sentinel X300 system flush should be dosed at 1% of the system's water volume. • Systems up to 6 months old should be cleaned and flushed with X300 o The water should be circulated at normal operating temperature for between 1-2 hours with a maximum of 24 hours. • If it is not possible to heat the system water, extend the circulation time to a minimum of 24 hours but no longer than one week. o X300 actually passivates the metal surfaces in the system, which prevents copper deposits from forming. This is a common cause of pinhole corrosion. 2. Add Sentinel X100 inhibitor o Systems should be dosed at 1% of its total water volume. o Feeding - If the system is empty, add to any convenient point before filling. If full, use a dosing vessel to inject via the filling loop or other access point. X300 is a neutral formulation so it is safe for all system metals.

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TEMPERATURE CONTROL LEGEND	
SYMBOLS	DESCRIPTION
	AQUASTAT
	TEMPERATURE SENSOR
	THERMOSTAT
	RELATIVE HUMIDITY SENSOR
	CARBON DIOXIDE SENSOR
	CARBON MONOXIDE SENSOR
	CURRENT SENSING RELAY
	EMERGENCY SWITCH
	VARIABLE FREQUENCY DRIVE
	DIFFERENTIAL PRESSURE

HVAC DEMOLITION LEGEND	
SYMBOL	DESCRIPTION
	REMOVE EXISTING DUCTWORK/EQUIPMENT
	REMOVE EXISTING PIPING/EQUIPMENT
	EXISTING TO REMAIN
	REMOVE EXISTING
	RELOCATE EXISTING
	NEW LOCATION

HVAC DUCTWORK LEGEND	
SYMBOL	DESCRIPTION
	ACOUSTICAL LINED DUCTWORK (DOUBLE LINED)
	ACOUSTICAL LINED DUCTWORK (SINGLE LINED)
	EXISTING DUCTWORK
	NEW DUCTWORK (DOUBLE LINE)
	NEW DUCTWORK (SINGLE LINE)
	RETURN DUCT DROP (DOUBLE LINE)
	RETURN DUCT DROP (SINGLE LINE)
	RETURN DUCT RISE (DOUBLE LINE)
	RETURN DUCT RISE (SINGLE LINE)
	SUPPLY DUCT DROP (DOUBLE LINE)
	SUPPLY DUCT DROP (SINGLE LINE)
	SUPPLY DUCT RISE (DOUBLE LINE)
	SUPPLY DUCT RISE (SINGLE LINE)
	MOTORIZED DAMPER
	RETURN/EXHAUST/OUTSIDE AIR ARROW
	SUPPLY ARROW
	UNDERCUT DOOR
	ROOF MOUNTED EQUIPMENT
	POINT OF CONNECTION TO EXISTING
	POINT OF DEMOLITION OF EXISTING

PIPING LEGEND	
SYMBOL	DESCRIPTION
	HOT WATER SUPPLY
	HOT WATER RETURN
	DOMESTIC COLD WATER PIPE
	CONDENSATE DRAIN PIPE
	CHILLED WATER SUPPLY
	CHILLED WATER RETURN
	DUAL TEMPERATURE WATER SUPPLY
	DUAL TEMPERATURE WATER RETURN
	FUEL OIL SUPPLY
	FUEL OIL RETURN
	NATURAL GAS PIPE
	VENT TO ROOF
	GATE VALVE
	BALL VALVE
	BALANCE VALVE
	BUTTERFLY VALVE
	NON-SLAM CHECK VALVE
	UNION
	STRAINER WITH VALVED BLOWDOWN
	PRESSURE REGULATING GAS VALVE
	BOILER PRESSURE RELIEF VALVE
	PIPE RISE
	PIPE MOUNTED WATER THERMOMETER (IN THERMAL WELL)
	PIPE MOUNTED DIGITAL WATER TEMP. SENSOR (IN THERMAL WELL)



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**PRENDERGAST
SCHOOL HOT
WATER BOILER
REPLACEMENT**

ANSONIA, CT

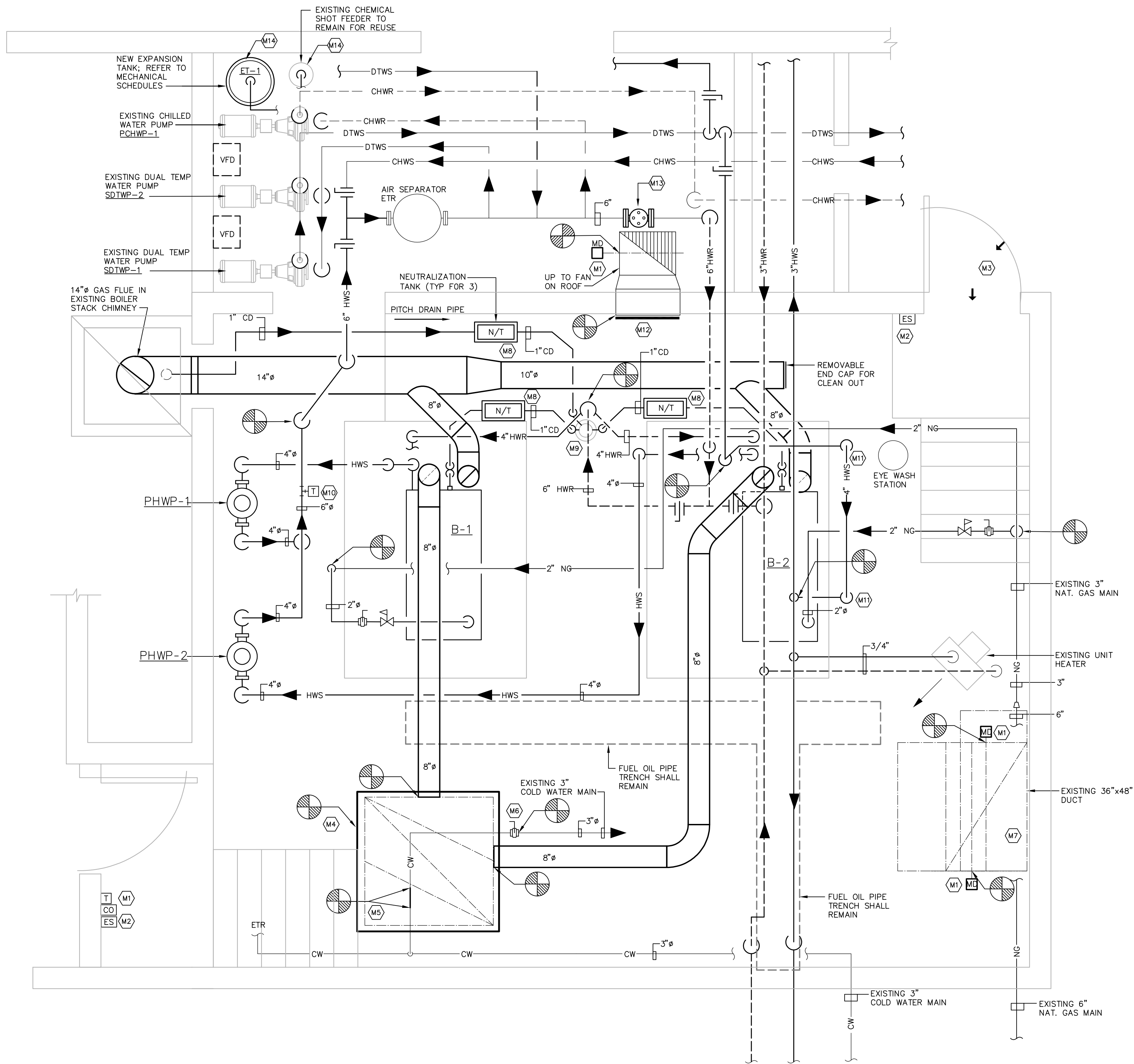
**MECHANICAL
LEGENDS &
SCHEDULES**

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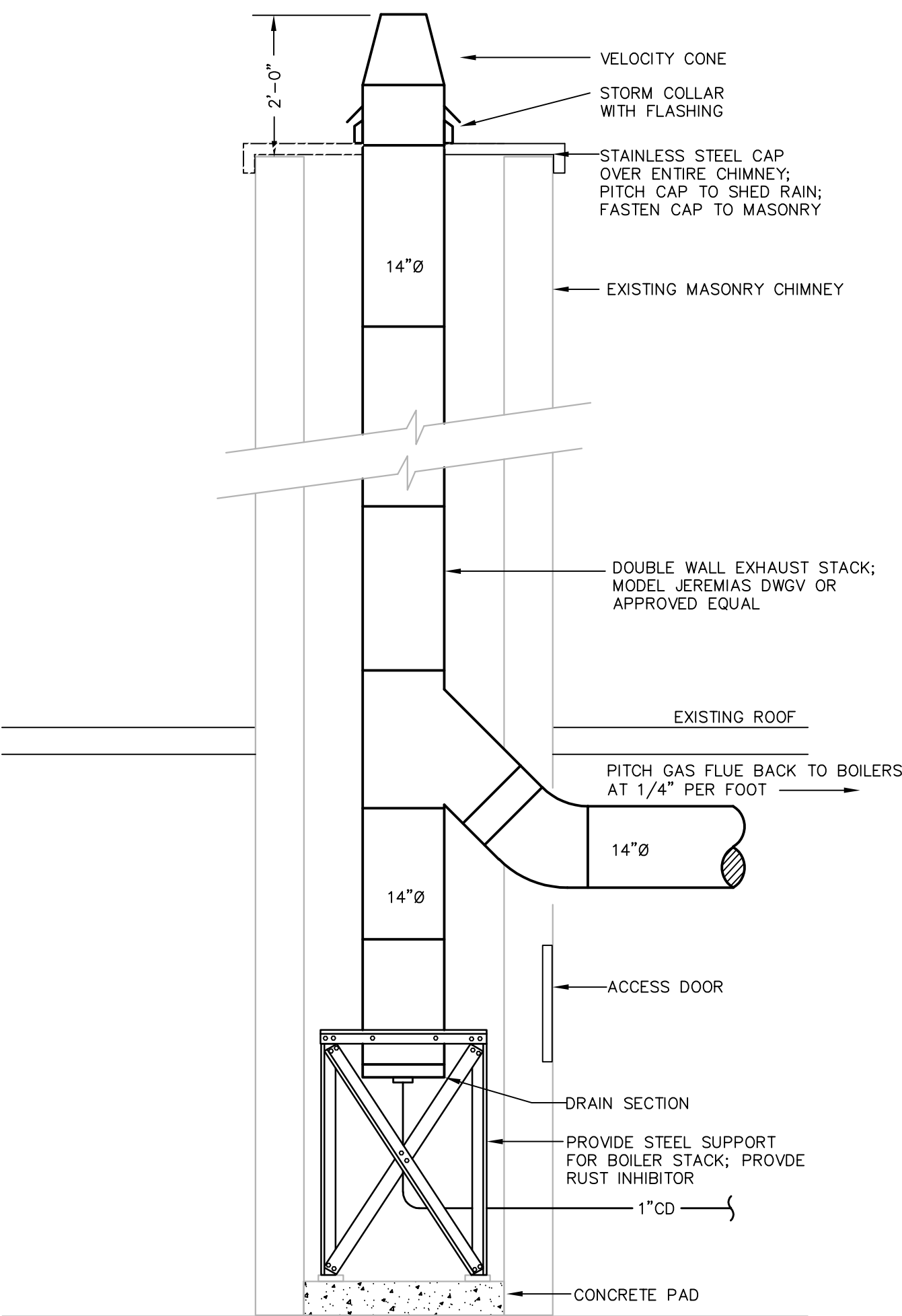
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1 MECHANICAL BOILER ROOM NEW WORK PLAN
SCALE: 1/2" = 1' - 0"

- MECHANICAL NEW WORK KEY NOTES**
- M1 PROVIDE NEW JOHNSON CONTROLS DDC THERMOSTAT TO OPEN/CLOSE THE EXISTING MOTORIZED DAMPERS & START/STOP THE EXISTING EXHAUST FAN TO MAINTAIN BOILER ROOM TEMPERATURE AT 80°F (ADJUSTABLE). PROVIDE CONTROL WIRING AND SPRING RETURN ACTUATORS.
 - M2 EMERGENCY SWITCH BY ELECTRICAL CONTRACTOR; EXISTING BMS SHALL GENERATE AN ALARM UPON ACTIVATION OF THE EMERGENCY SWITCH.
 - M3 BRING HOT WATER BOILERS THROUGH ADJACENT CORRIDOR & ENTER BOILER ROOM THROUGH EXISTING DOOR; BOILER SHALL BE BROUGHT DOWN THE BOILER ROOM STAIR & PLACE ON NEW 7"HL REINFORCED CONCRETE PADS; REMOVE & REINSTALL EXISTING STAIR STEEL RAILING AS TO ACCOMMODATE NEW BOILER ENTRY.
 - M4 CLEAN EXISTING 48"x48" COMBUSTION AIR INTAKE LOUVERS, BIRD SCREENS & DUCT. EXTEND DUCT TO 3" ABOVE THE EXISTING COLD WATER PIPING; CAP ENTIRE FLENUM & INSULATE WITH 2" RIDGED BOARD INSULATION; PROVIDE NEW 8"Ø COMBUSTION AIR INTAKE DUCTS TO CONNECT TO BOILERS; REFER TO BOILER MFR'S INSTRUCTIONS.
 - M5 PROVIDE NEW SECTION OF 3"CW PIPING AS SHOWN.
 - M6 PROVIDE NEW 3" ISOLATION VALVE ON EXISTING 3" CW PIPE; FIELD VERIFY EXACT SIZE.
 - M7 CLEAN EXISTING INTAKE AIR LOUVERS, BIRD SCREENS & DUCTWORK. PROVIDE 1"x1"x1/2" GALVANIZED MESH SCREEN IN REMOVABLE TRAY AT BOTTOM OF THE EXISTING 36"x48" DUCT.
 - M8 PROVIDE CONDENSATE NEUTRALIZER TANK & CONDENSATE PIPING; INSTALL NEUTRALIZER TANK & CONDENSATE PIPING IN STRICT ACCORDANCE WITH TANK MANUFACTURER'S RECOMMENDATIONS.
 - M9 CLEAN THE EXISTING FLOOR DRAIN & ASSOCIATED DRAIN PIPE. INSPECT DRAIN FOR PROPER OPERATION.
 - M10 NEW WATER TEMPERATURE SENSOR IN PIPE THERMO-WELL FURNISHED BY BOILER MANUFACTURER AND INSTALLED BY ATC CONTRACTOR.
 - M11 PROVIDE 4"HWS PIPING. COORDINATE PIPING WITH EXISTING CONDITIONS AND PROVIDE FINAL CONNECTIONS TO EXISTING PIPING.
 - M12 PROVIDE 1"x1"x1/2" GALVANIZED MESH SCREEN IN REMOVABLE TRAY; FIELD VERIFY EXACT SIZE.
 - M13 PROVIDE IN-LINE 6" HEATING HOT WATER MAGNETIC FILTER; BOILERMAG XT MODEL NO.BMXT/6 PART. NO.BMXT300HF OR APPROVED EQUAL FOR A MAXIMUM FLOW OF 440 GPM.
 - M14 PROVIDE NEW PIPING & ALL REQUIRED PIPE FITTINGS FOR NEW FLOOR MOUNTED EXPANSION TANK & CHEMICAL SHOT FEEDER; CONNECT INTO HEATING WATER SYSTEM AS PER MANUFACTURER'S RECOMMENDATIONS.



NOTE: INSTALL BOILERS STACK IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS

2 BOILER FLUE & STACK SECTION
SCALE: N.T.S.

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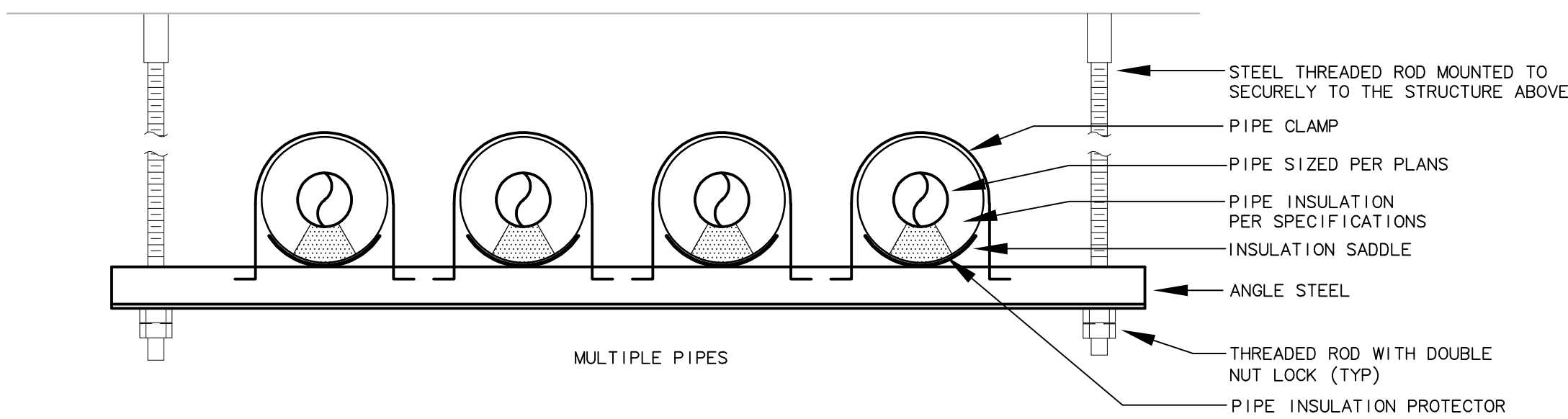
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PRENDERGAST SCHOOL HOT WATER BOILER REPLACEMENT
ANSONIA, CT

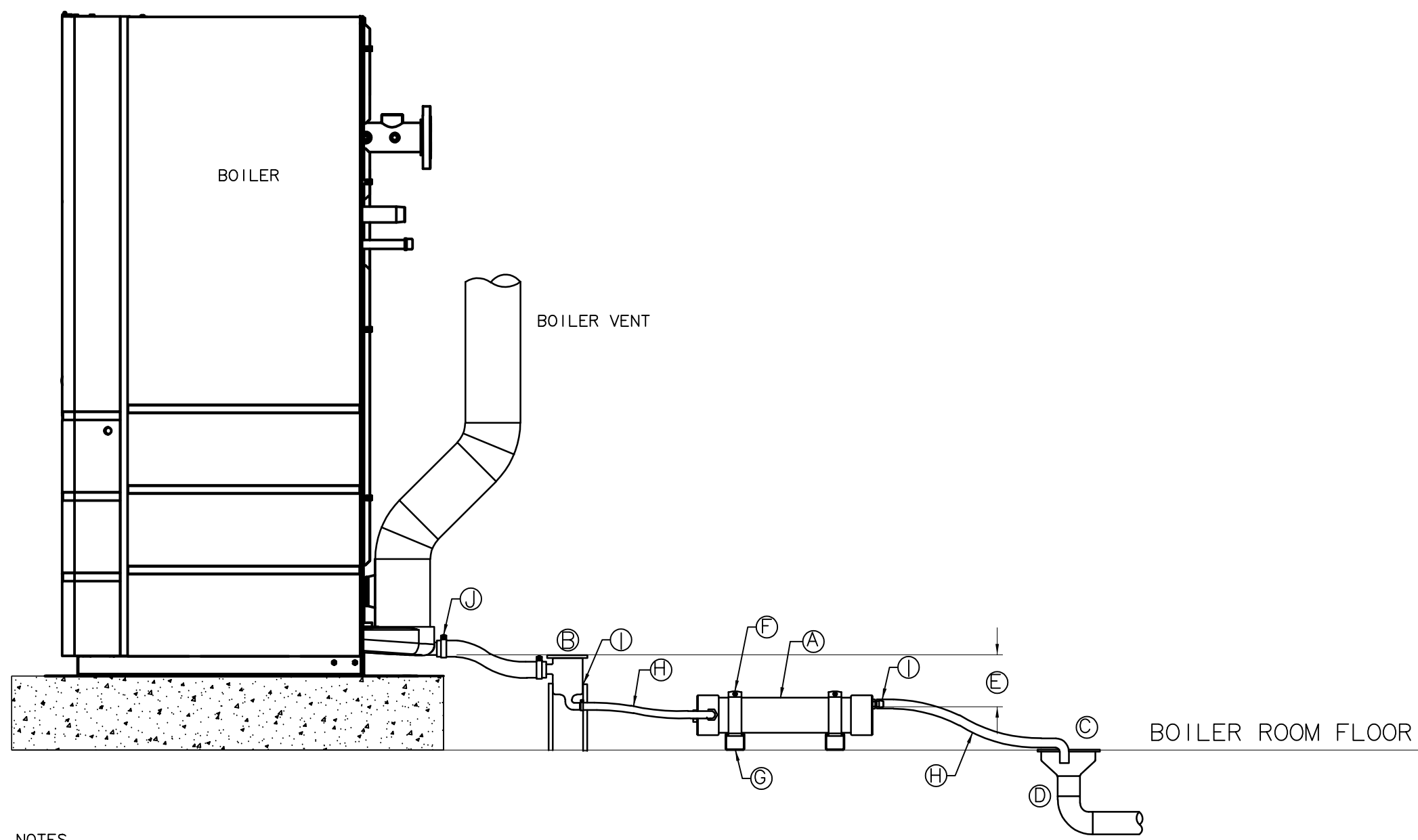
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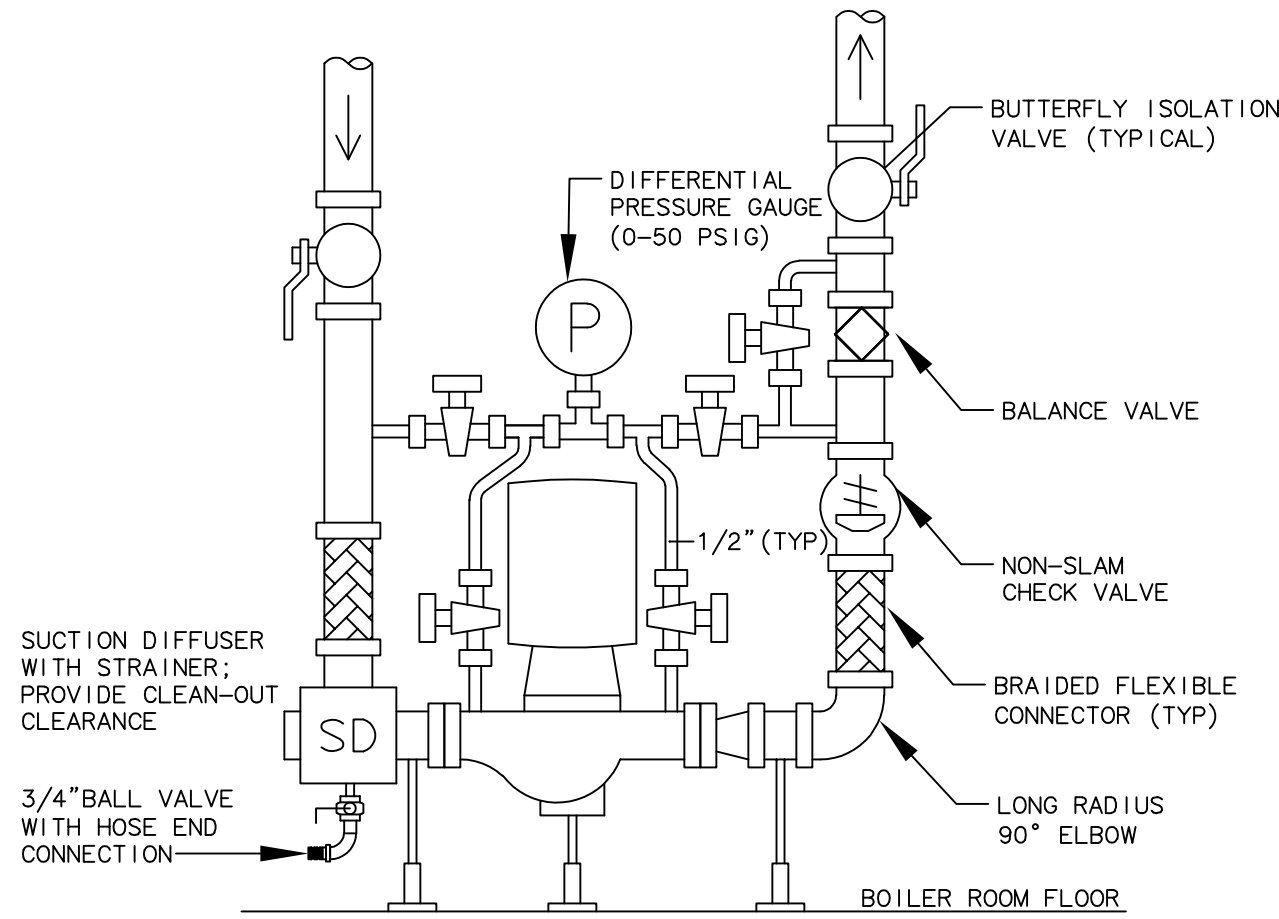


1 TYPICAL PIPE SUPPORT DETAILS
N.T.S.

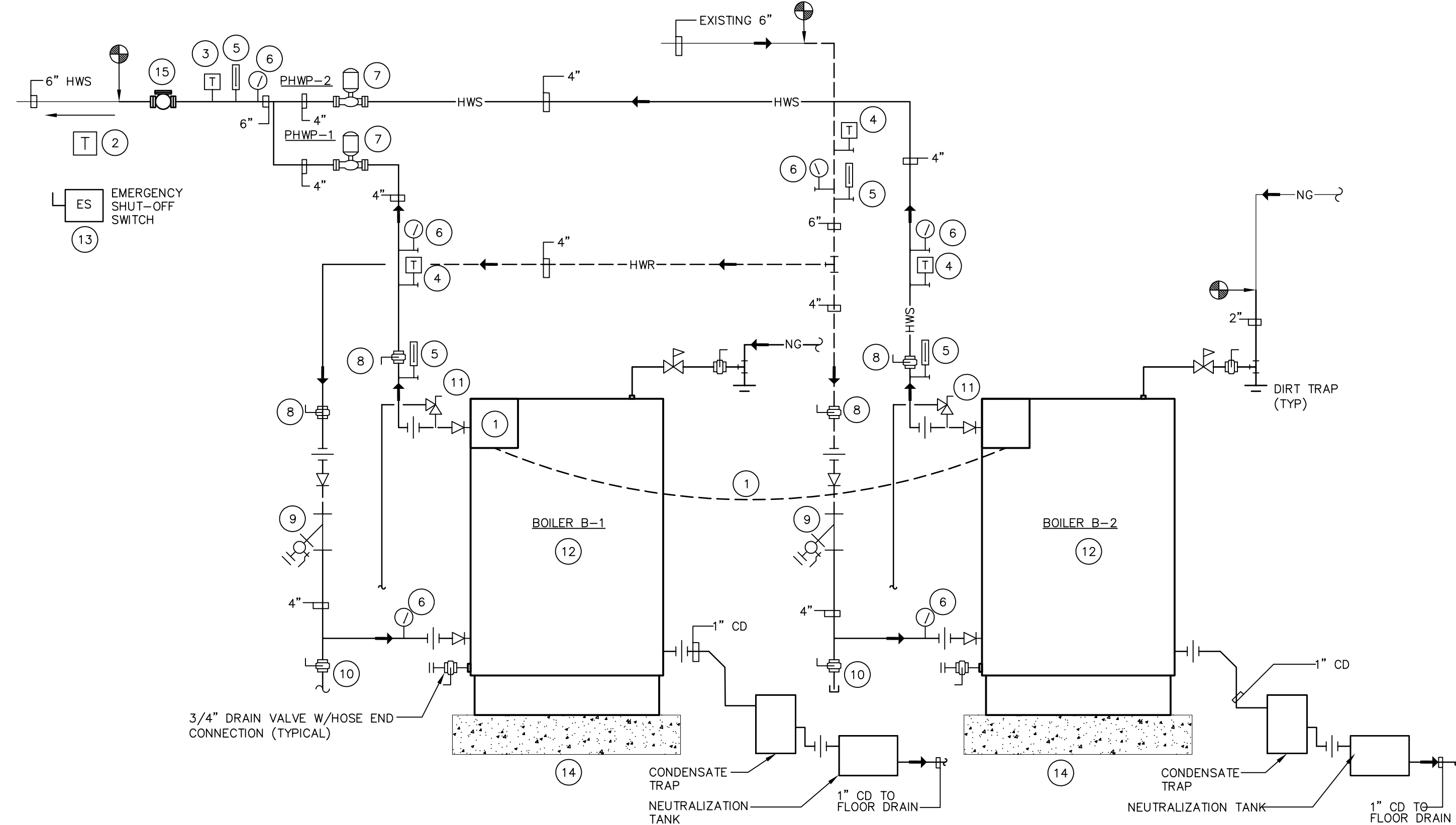


- NOTES
- A. CONDENSATE NEUTRALIZING TUBE
 - B. FACTORY SUPPLIED CONDENSATE TRAP. PROVIDE FIELD FABRICATED SUPPORTS AS REQUIRED.
 - C. CONDENSATE DRAIN TERMINATION AT FLOOR DRAIN.
 - D. SECURE IN PLACE AS REQUIRED.
 - E. FLOOR DRAIN.
 - F. BOTTOM OF BOILER CONDENSATE OUTLET MUST BE ABOVE THE THE BOTTOM OF THE CONDENSATE OUTLET.
 - G. UNISTRUT CLAMPS, SECURE TUBE IN POSITION AND SECURELY. CONDENSATE OUTLET MUST BE ORIENTED UP, WITH CONDENSATE INLET TO THE SIDE.
 - H. C-CHANNEL BASE, BOLT TO FLOOR OR MOUNTING PAD.
 - I. PLASTIC TUBING OR PVC PIPE.
 - J. USE HOSE CLAMPS AT ALL CONNECTIONS WHEN USING FACTORY SUPPLIED RUBBER HOSE.
 - K. PROVIDE 316 STAINLESS STEEL TUBING FROM BOILER/FLUE OUTLET TO CONDENSATE TRAP.

3 HEATING HOT WATER BOILER & FLUE STACK CONDENSATE PIPING DETAIL
N.T.S.



2 VERTICAL IN-LINE PUMP DETAIL
N.T.S.



4 HEATING HOT WATER BOILER PIPING DIAGRAM
N.T.S.

- HEATING HOT WATER PIPING DIAGRAM KEY NOTES
1. BOILER CONTROL PANEL PROVIDED BY BOILER MANUFACTURER; BACNET INTERFACE TO THE EXISTING BUILDING MANAGEMENT SYSTEM & CONTROL WIRING BY ATC CONTRACTOR; INTERLOCKING CONTROL WIRING BETWEEN BOILERS, CONTROL PANELS BY ATC CONTRACTOR.
 2. OUTSIDE AIR TEMPERATURE SENSOR FURNISHED BY BOILER MANUFACTURER & INSTALLED BY ATC CONTRACTOR ON NORTH WALL IN ULTRA-VIOLET SENSOR ENCLOSURE; 7'-0" ABOVE FINISHED GRADE.
 3. HOT WATER SUPPLY TEMPERATURE SENSOR IN PIPE THERMO-WELL SHALL BE FURNISHED BY BOILER MANUFACTURER & INSTALLED BY ATC CONTRACTOR. CONTROL WIRING BY ATC CONTRACTOR; PROVIDE THERMO-WELL FITTINGS.
 4. HOT WATER TEMPERATURE SENSORS SHALL BE PROVIDED BY ATC CONTRACTOR; PIPE THERMO-WELL FITTINGS FURNISHED BY ATC CONTRACTOR & INSTALLED BY MECHANICAL CONTRACTOR.
 5. THERMOMETER (0' F - 200' F RANGE) IN PIPE THERMO-WELL BY MECHANICAL CONTRACTOR (TYPICAL)
 6. HEATING HOT WATER PRESSURE GAUGE (0 - 50 PSIG RANGE) BY MECHANICAL CONTRACTOR.
 7. HEATING HOT WATER PUMP BY MECHANICAL CONTRACTOR. REFER TO "VERTICAL IN-LINE PUMP DETAIL" FOR ADDITIONAL REQUIRED VALVES, FITTINGS & ACCESSORIES.
 8. ISOLATION & SHUT-OFF BUTTERFLY VALVE BY MECHANICAL CONTRACTOR.
 9. WYE STRAINER WITH 3/4" BALL VALVE WITH HOSE END CONNECTION BY MECHANICAL CONTRACTOR.
 10. 3/4" BALL VALVE WITH HOSE END CONNECTION BY MECHANICAL CONTRACTOR.
 11. PRESSURE RELIEF VALVE (SET FOR 50 PSIG) BY MECHANICAL CONTRACTOR. TERMINATE PIPING FROM PRESSURE RELIEF VALVE 18" ABOVE FINISHED FLOOR.
 12. GAS FIRED HEATING HOT WATER BOILER BY MECHANICAL CONTRACTOR.
 13. EMERGENCY SHUT-OFF SWITCH & WIRING BY ELECTRICAL CONTRACTOR.(TYPICAL FOR 2)
 14. PLACE NEW BOILER(S) ON NEW 7" HL REINFORCED CONCRETE HOUSEKEEPING COORDINATE EXACT SIZE IN FIELD.
 15. PROVIDE IN-LINE 6" HEATING HOT WATER MAGNETIC FILTER; BOILERMAG XT MODEL NO.BMXT/6 PART. NO.BMXT300HF OR APPROVED EQUAL FOR A MAXIMUM FLOW OF 440 GPM.

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CES #2018168.00

REVISIONS		
NO.	DATE	DESCRIPTION

**PRENDERGAST
SCHOOL HOT
WATER BOILER
REPLACEMENT**

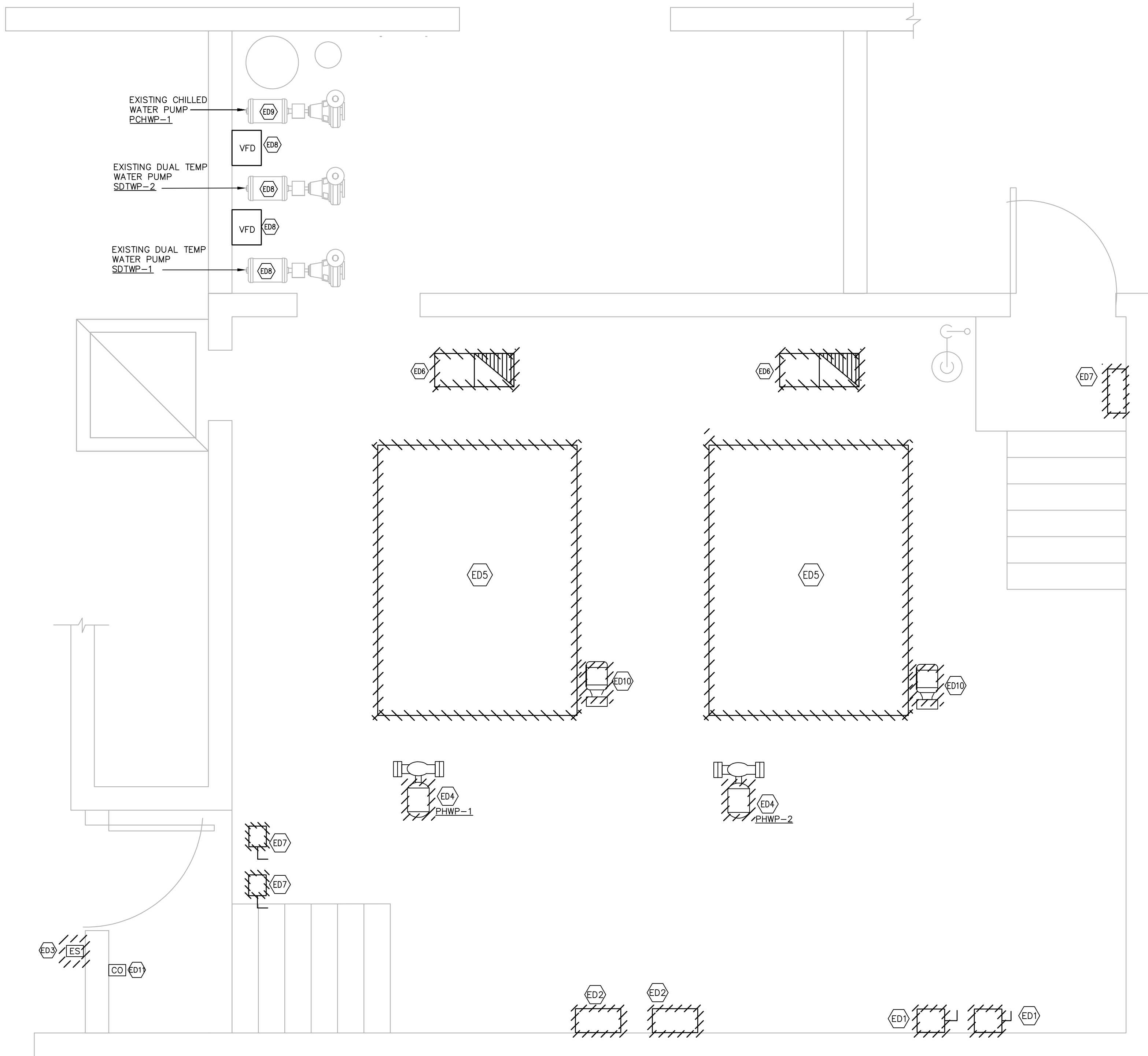
ANSONIA, CT

**MECHANICAL
DETAILS &
DIAGRAMS**

DATE: 4/1/2020
PROJECT NO: 2018168.00
DRAWN: ADC
CHECKED: OHA
ISSUED FOR:
REVISIONS:

SHEET NO.

M-200



ELECTRICAL DEMOLITION KEY NOTES

- ED1 EXISTING IN-LINE PUMP STARTER & DISCONNECT SWITCHES: REMOVE ALL ASSOCIATED CONDUIT AND WIRE.
- ED2 EXISTING BURNER CONTROL PANEL: REMOVE ALL ASSOCIATED CONDUIT AND WIRE.
- ED3 EXISTING EMERGENCY SHUTOFF SWITCH: REMOVE ALL ASSOCIATED CONDUIT AND WIRE.
- ED4 EXISTING IN-LINE HOT WATER PUMP: REMOVE ALL ASSOCIATED CONDUIT AND WIRE. REMOVE EXISTING STARTER IN ELECTRICAL ROOM & ALL ASSOCIATED CONDUIT AND WIRE.
PHWP-1 STARTER: ELECTRICAL 1234
PHWP-2 STARTER: ELECTRICAL 1289
REFER TO E-200 FOR APPROXIMATE LOCATIONS OF STARTERS.
- ED5 EXISTING DUAL FUEL HOT WATER BOILER: REMOVE ALL ASSOCIATED CONDUIT AND WIRE.
- ED6 EXISTING INDUCED DRAFT FAN: REMOVE ALL ASSOCIATED CONDUIT AND WIRE.
- ED7 EXISTING BOILER CONTROL PANEL: REMOVE PANEL AND ALL ASSOCIATED DISCONNECT SWITCHES, CONDUIT AND WIRE.
- ED8 EXISTING BASE MOUNTED DUAL TEMPERATURE WATER PUMP & VARIABLE FREQUENCY DRIVE, PIPING & CONTROLS SHALL REMAIN.
- ED9 EXISTING CHILLED WATER PUMP & ASSOCIATED PIPING & CONTROLS TO REMAIN.
- ED10 EXISTING FUEL OIL PUMPS: REMOVE ALL ASSOCIATED CONDUIT AND WIRE.
- ED11 EXISTING CARBON MONOXIDE DETECTOR TO REMAIN.



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REVISIONS

NO.	DATE	DESCRIPTION

**PRENDERGAST
SCHOOL HOT
WATER BOILER
REPLACEMENT**

ANSONIA, CT

**ELECTRICAL
DEMOLITION
PLAN**

DATE: 4/1/2020
PROJECT NO: 2018168.00
DRAWN: MFC
CHECKED: SAS
ISSUED FOR:
REVISIONS:

SHEET NO.

ED-100

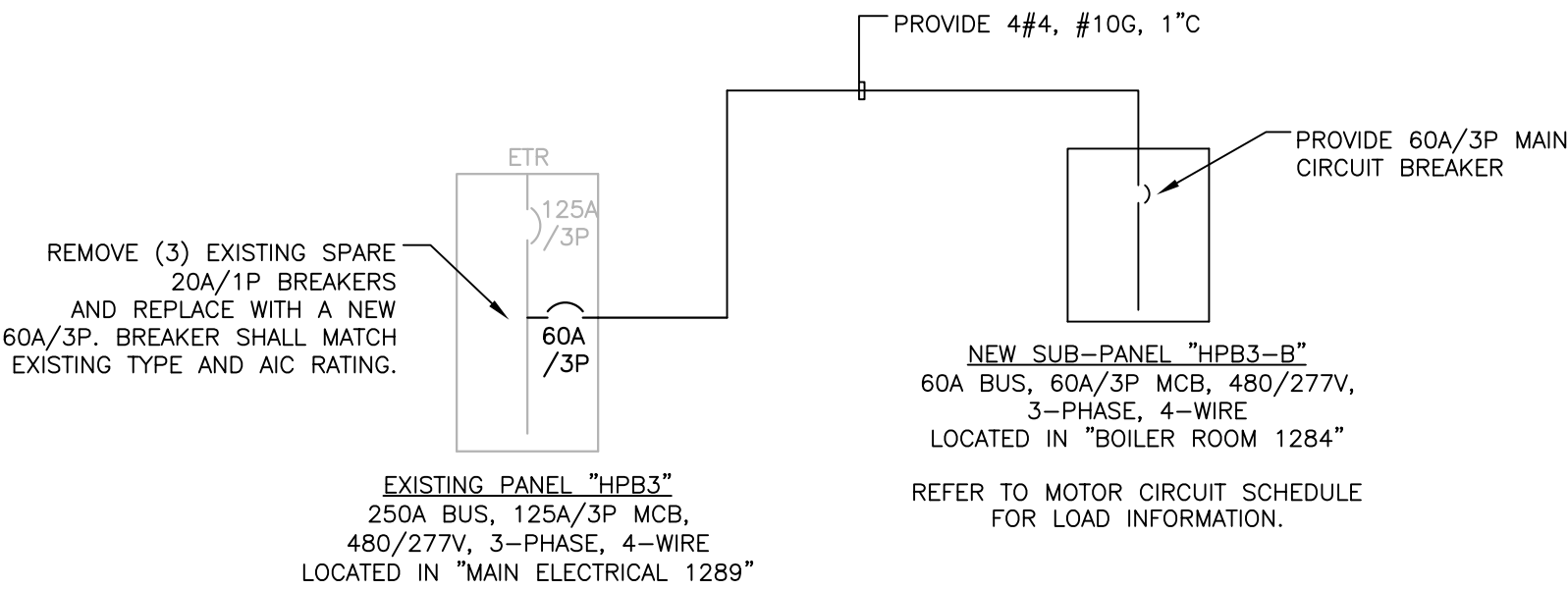
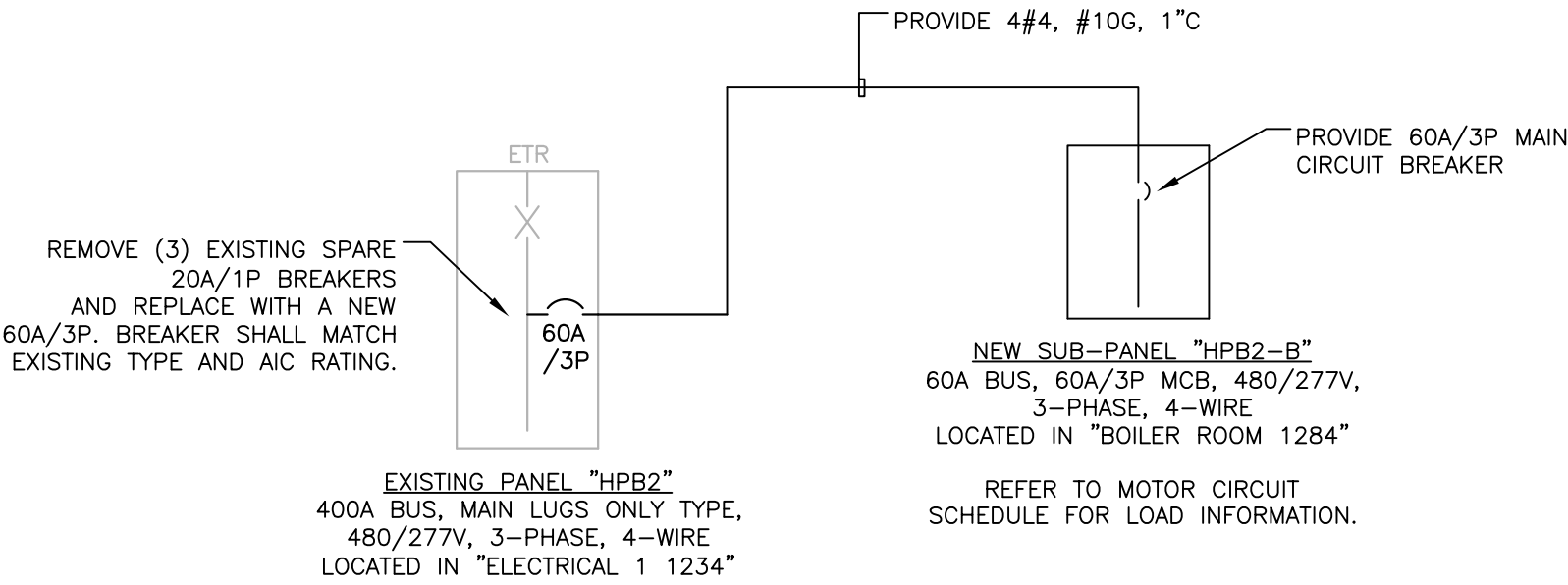
1 BOILER ROOM ELECTRICAL DEMOLITION PLAN

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

MOTOR CIRCUIT SCHEDULE												
EQUIPMENT	SOURCE PANEL	O.C.P. DEVICE	FEEDER SIZE	LOCAL DISC. SW.	MOTOR STARTER			LOAD			REMARKS	
					TYPE	SIZE	LOCATION	HP	MCA	PH VOLT		
B-1	HPB2-B	15A/3P	4#12, #12G, 3/4"C	30A/3P	DIV. 23	DIV. 23	DIV. 23	-	15	3 480	SEE NOTE #4	
B-2	HPB3-B	15A/3P	4#12, #12G, 3/4"C	30A/3P	DIV. 23	DIV. 23	DIV. 23	-	15	3 480	SEE NOTE #4	
PHWP-1	HPB2-B	15A/3P	3#12, #12G, 3/4"C	30A/3P	DIV. 23	DIV. 23	DIV. 23	5	-	3 480		
PHWP-2	HPB3-B	15A/3P	3#12, #12G, 3/4"C	30A/3P	DIV. 23	DIV. 23	DIV. 23	5	-	3 480		
NOTES:												
1. DISCONNECT SWITCHES SHALL BE HEAVY DUTY TYPE.												
2. ABBREVIATIONS:												
VFD - VARIABLE FREQUENCY DRIVE, FURNISHED & INSTALLED BY DIV. 23, WIRED BY DIV. 26												
STOL - 20A/1P OR 20A/2P THERMAL OVERLOAD SWITCH, PROVIDED BY DIV. 26 CONTRACTOR												
DIV. 23 - PROVIDED BY DIV. 23 CONTRACTOR												
3. O.C.P. DEVICE (OVERCURRENT PROTECTIVE) SHALL BE MOLDED CASE CIRCUIT BREAKER UNLESS NOTED WITH AN 'F' FOR FUSE.												
4. PROVIDE ALL CONTROL WIRING PER MANUFACTURERS REQUIREMENTS FROM EACH BOILER TO BOILER CONTROL PANEL (FURNISHED BY DIV. 23)												

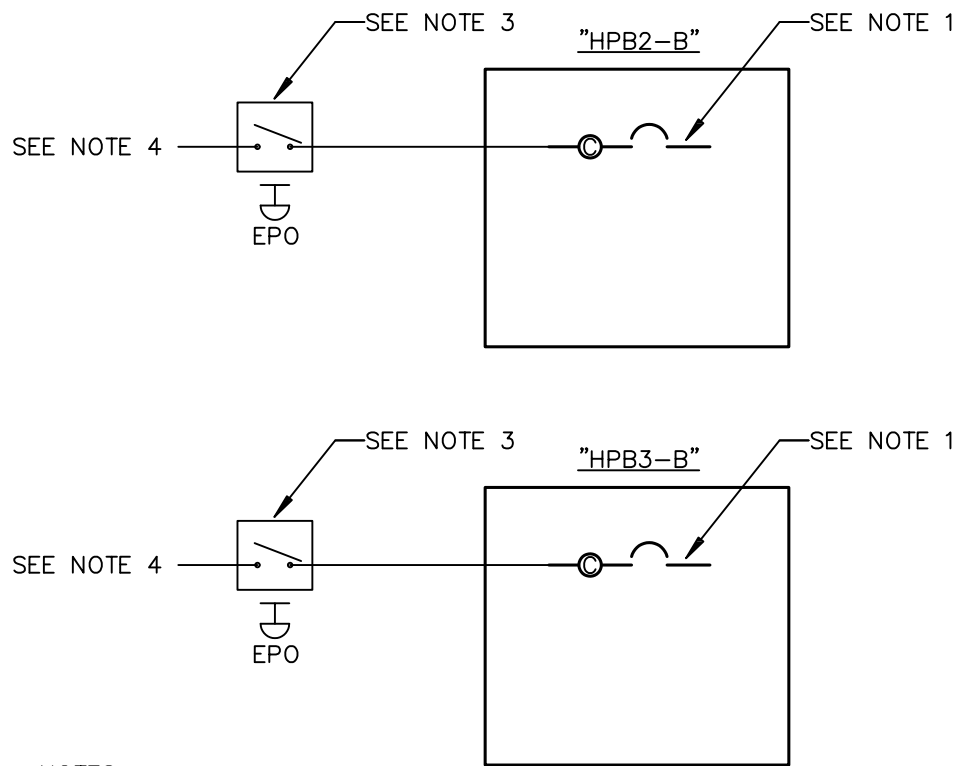
PANEL: HPB2-B			MAIN: 60A MCB			NOTES:								
PROJECT: ANSONIA PRENDERGAST - BOILER REPLACEMENT			VOLT: 480 V, L-L 277 V, L-N											
PROJECT NO.: 2018168.00			A.I.C. 42K											
LOCATION: BOILER ROOM 1284			FED FROM: HPB2											
MOUNTING: SURFACE - NEMA 1														
BREAKER						PHASE LOAD - KVA				BREAKER				
NO	A	P	DESCRIPTION		KVA	A	B	C	KVA	DESCRIPTION		A	P	NO
1	15	3	BOILER #1		1.38	3.48			2.10	PHWIP-1		15	3	2
3	"	"	"		1.38		3.48		2.10	"		"	"	4
5	"	"	"		1.38			3.48	2.10	"		"	"	6
7	"	"	SHUNT TRIP ACCESSORY			-				SPARE		15	3	8
9	15	3	SPARE			-				"		"	"	10
11	"	"	"				-			"		"	"	12
13	"	"	"					-		SPACE & BUSSING				14
15			SPACE & BUSSING				-			SPACE & BUSSING				16
17			SPACE & BUSSING					-		SPACE & BUSSING				18
TOTAL LOAD PER PHASE:						3.5	3.5	3.5						
TOTAL AMPS PER PHASE:						12.6	12.6	12.6						
TOTAL LOAD ON PANEL:						10.44	KVA							
TOTAL AMPS ON PANEL:						12.57	AMPS							

PANEL: HPB3-B			MAIN: 60A MCB				NOTES:						
PROJECT: ANSONIA PRENDERGAST - BOILER REPLACEMENT			VOLT: 480 V, L-L 277 V, L-N										
PROJECT NO.: 2018168.00			A.I.C. 65K										
LOCATION: BOILER ROOM 1284			FED FROM: HPB3										
MOUNTING: SURFACE - NEMA 1													
BREAKER			PHASE LOAD - KVA					BREAKER					
NO	A	P	DESCRIPTION		KVA	A	B	C	KVA	DESCRIPTION	A	P	NO
1	15	3	BOILER #2		1.38	3.48			2.10	PHWP-2	15	3	2
3	"	"	"		1.38		3.48		2.10	"	"	"	4
5	"	"	"		1.38			3.48	2.10	"	"	"	6
7	"	"	SHUNT TRIP ACCESSORY			-				SPARE	15	3	8
9	15	3	SPARE				-			"	"	"	10
11	"	"	"					-		"	"	"	12
13	"	"	"			-				SPACE & BUSSING			14
15			SPACE & BUSSING				-			SPACE & BUSSING			16
17			SPACE & BUSSING					-		SPACE & BUSSING			18
TOTAL LOAD PER PHASE:					3.5	3.5	3.5						
TOTAL AMPS PER PHASE:					12.6	12.6	12.6						
TOTAL LOAD ON PANEL:					10.44		KVA						
TOTAL AMPS ON PANEL:					12.57		AMPS						



1 PARTIAL ELECTRICAL ONE-LINE DIAGRAM

N.T.S.



- NOTES:
- PROVIDE SHUNT-TRIP CIRCUIT BREAKER FOR BOILER WITH 120V COIL.
 - COORDINATE CONNECTIONS TO EQUIPMENT/CONTROL PANELS IN FIELD.
 - STI MODEL #SS202-4-PO-EN PUSHBUTTON, QUANTITY SHOWN ON PLANS:
A. WITH (1) N.O. AND (1) N.C. CONTACT COMPATIBLE WITH CONTRACTOR
B. RED COLOR WITH "EMERGENCY POWER OFF" LEGEND
C. NON-ALARMED FLIP UP FLUSHED COVER
D. MOMENTARY OPERATION
 - POWER VIA SPARE 20A/1P CIRCUIT BREAKER IN PANEL "ELP1"

2 BOILER ROOM EMERGENCY SHUTOFF DETAIL

N.T.S.

ELECTRICAL SYMBOL LIST

SYMBOL	DESCRIPTION
	SURFACE MOUNTED PANELBOARD
	ELECTRICAL MOTOR LOAD: REFER TO MOTOR CIRCUIT SCHEDULE
	JUNCTION BOX
	EMERGENCY SHUTOFF FOR BOILERS. REFER TO DETAIL 2/E-100.

ELECTRICAL ABBREVIATIONS

A/AMP	AMPERE	JB	JUNCTION BOX
AC	ALTERNATING CURRENT	KCMIL	THOUSAND CIRCULAR MILS
ACU	AIR CONDITIONING UNIT	KVA	KILOVOLT AMPERE
AFF	ABOVE FINISHED FLOOR	KW	KILOWATT
AFG	ABOVE FINISHED GRADE	MAX	MAXIMUM
AHU	AIR HANDLING UNIT	MAU	MAKE UP AIR UNIT
AIC	AMPS INTERRUPTING CURRENT	MCC	MOTOR CONTROL CENTER
ATS	AUTOMATIC TRANSFER SWITCH	MCCB	MOLDED CASE CIRCUIT BREAKER
AWG	AMERICAN WIRE GAUGE	MH	METAL HALIDE
BSMT	BASEMENT	MIN	MINIMUM
C	CONDUIT	MLO	MAIN LUGS ONLY
CATV	CABLE TELEVISION	NA	NOT APPLICABLE
C/B	CIRCUIT BREAKER	NEC	NATIONAL ELECTRIC CODE
CKT	CIRCUIT	NIC	NOT IN CONTRACT
COMP	COMPRESSOR	NL	NEW LOCATION OF EXISTING RELOCATED
CP	CONDENSATE PUMP	NR	NEW TO REPLACE EXISTING
CT	CURRENT TRANSFORMER	NTS	NOT TO SCALE
CU	CONDENSING UNIT, COPPER	P	POLE
CUH	CABINET UNIT HEATER	PE	PRIMARY ELECTRICAL SERVICE
D	DEGREE	PF	POWER FACTOR
DIA/Ø	DIAMETER	PH/Ø	PHASE
DN	DOWN	PNL	PANEL
DWG	DRAWING	PVC	POLYVINYL CHLORIDE CONDUIT
E	EXISTING TO REMAIN	RE	REMOVE EXISTING
EF	EXHAUST FAN	RGS	RIGID GALVANIZED STEEL CONDUIT
ELEC	ELECTRICAL	RL	RELOCATE EXISTING
ELEV	ELEVATOR	RM	ROOM
EMT	ELECTRIC METALLIC TUBING	RR	REMOVE AND REPLACE ON NEW SURFACE
EUH	ELECTRIC UNIT HEATER	RTU	ROOFTOP UNIT
EWC	ELECTRIC WATER COOLER	SE	SECONDARY ELECTRICAL SERVICE
EWI	ELECTRIC WATER HEATER	SPEC	SPECIFICATION
F	FAHRENHEIT	SWBD	SWITCHBOARD
FA	FIRE ALARM	TELE	TELECOMMUNICATIONS/TELEPHONE
FACP	FIRE ALARM CONTROL PANEL	TV	TELEVISION
FC	FOOT CANDLE	TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
FCU	FAN COIL UNIT	T/TX	TRANSFORMER
G	GROUND	TYP	TYPICAL
GFI	GROUND FAULT INTERRUPTER	UH	UNIT HEATER
HP	HORSE POWER	V	VOLTS
HPS	HIGH PRESSURE SODIUM	VA	VOLT AMPERE
HR	HOUR	VAC	VOLTS ALTERNATING CURRENT
HZ	HERTZ	W	WATT, WIRE
IG	ISOLATED GROUND	WG	WIRE GUARD
IN	INCHES	WP	WEATHERPROOF

GENERAL NOTES - ELECTRICAL DEMOLITION

- ALL ELECTRICAL DEVICES, WIRING AND CONDUIT RELATED TO MECHANICAL EQUIPMENT BEING DEMOLISHED (AS INDICATED ON MD-100) SHALL BE REMOVED, UNLESS OTHERWISE NOTED. REMOVAL SHALL BE COMPLETE INCLUDING BOXES, BRACKETS, HANGERS, AND BRANCH CIRCUIT WIRING BACK TO SOURCE PANELBOARD.
- CONTRACTOR SHALL BE RESPONSIBLE FOR DISPOSAL OF ITEMS TO BE REMOVED IN A SAFE, LEGAL AND RESPONSIBLE MANNER.
- CONTRACTOR SHALL MODIFY EXISTING CIRCUITS, WHEN EXISTING DEVICES ARE REMOVED, AS REQUIRED TO MAINTAIN CIRCUIT CONTINUITY.
- THIS PLAN IS DIAGRAMMATIC AND NOT INTENDED TO DEPICT THE ENTIRE SCOPE OF ELECTRICAL DEMOLITION. ADDITIONAL DEMOLITION AND MODIFICATION WORK NOT SHOWN SHOULD BE ANTICIPATED.
- THIS PROJECT COMPRISES ALTERATIONS AND RENOVATIONS TO THE EXISTING BUILDING. THE EXISTING BUILDING IS CURRENTLY OCCUPIED AND THE PROJECT WILL PROCEED IN A MANNER WHICH WILL MINIMIZE ANY INCONVENIENCE TO THE BUILDING OCCUPANTS.
- PRIOR TO SUBMITTING BID, VISIT SITE AND IDENTIFY EXISTING CONDITIONS AND DIFFICULTIES THAT WILL AFFECT WORK TO BE PERFORMED. NO COMPENSATION WILL BE GRANTED FOR ADDITIONAL WORK CAUSED BY UNFAMILIARITY WITH SITE CONDITIONS THAT ARE VISIBLE OR READILY IDENTIFIED BY EXPERIENCED OBSERVERS. INCLUDE IN THE BID ALL DEMOLITION WORK REQUIRED.
- DEMOLITION IS TO BE PERFORMED IN A SELECTIVE FASHION AND PERFORMED TO MAINTAIN EXISTING SYSTEMS IN AREAS REMAINING OPERATIONAL. IT IS THE CONTRACTORS RESPONSIBILITY TO COORDINATE DISRUPTION OF SYSTEMS OR CIRCUITS AND TO INVESTIGATE ALL CIRCUITING AND DEVICES SCHEDULED FOR REMOVAL. PROVIDE TEMPORARY MEASURES TO MAINTAIN EXISTING SYSTEMS AND CIRCUITS AS REQUIRED.



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CES *2018168.00

REVISIONS

NO.	DATE	DESCRIPTION

PRENDERGAST SCHOOL HOT WATER BOILER REPLACEMENT

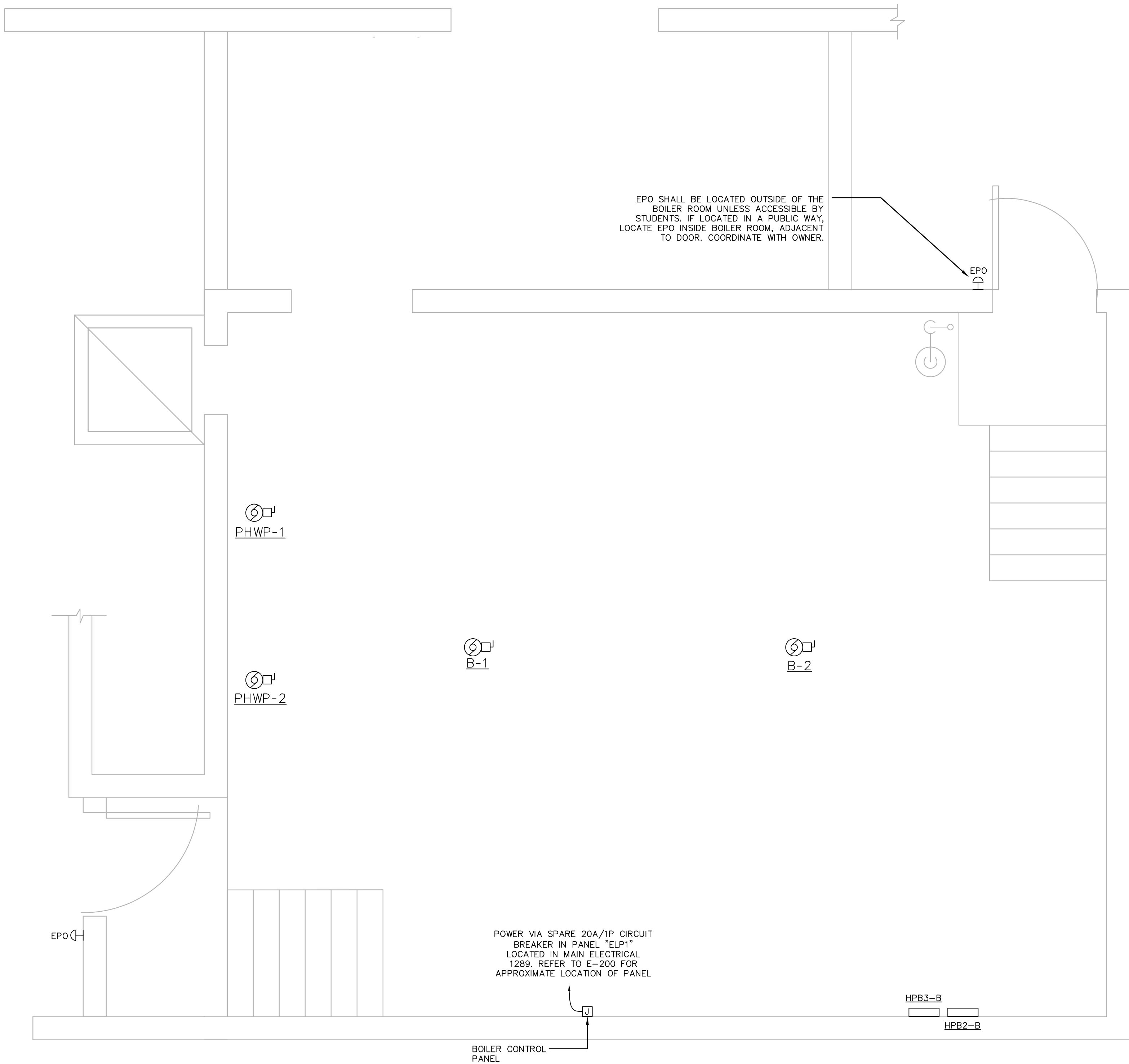
ANSONIA, CT

ELECTRICAL SYMBOLS, SCHEDULE, & RISER DIAGRAM

DATE: 4/1/2020
PROJECT NO: 2018168.00
DRAWN: MFC
CHECKED: SAS
ISSUED FOR:
REVISIONS:

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E-000



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



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**PRENDERGAST
SCHOOL HOT
WATER BOILER
REPLACEMENT**

ANSONIA, CT

**ELECTRICAL
PLAN**

DATE: 4/1/2020
PROJECT NO: 2018168.00
DRAWN: MFC
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ISSUED FOR:
REVISIONS:

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PRENDERGAST SCHOOL HOT WATER BOILER REPLACEMENT

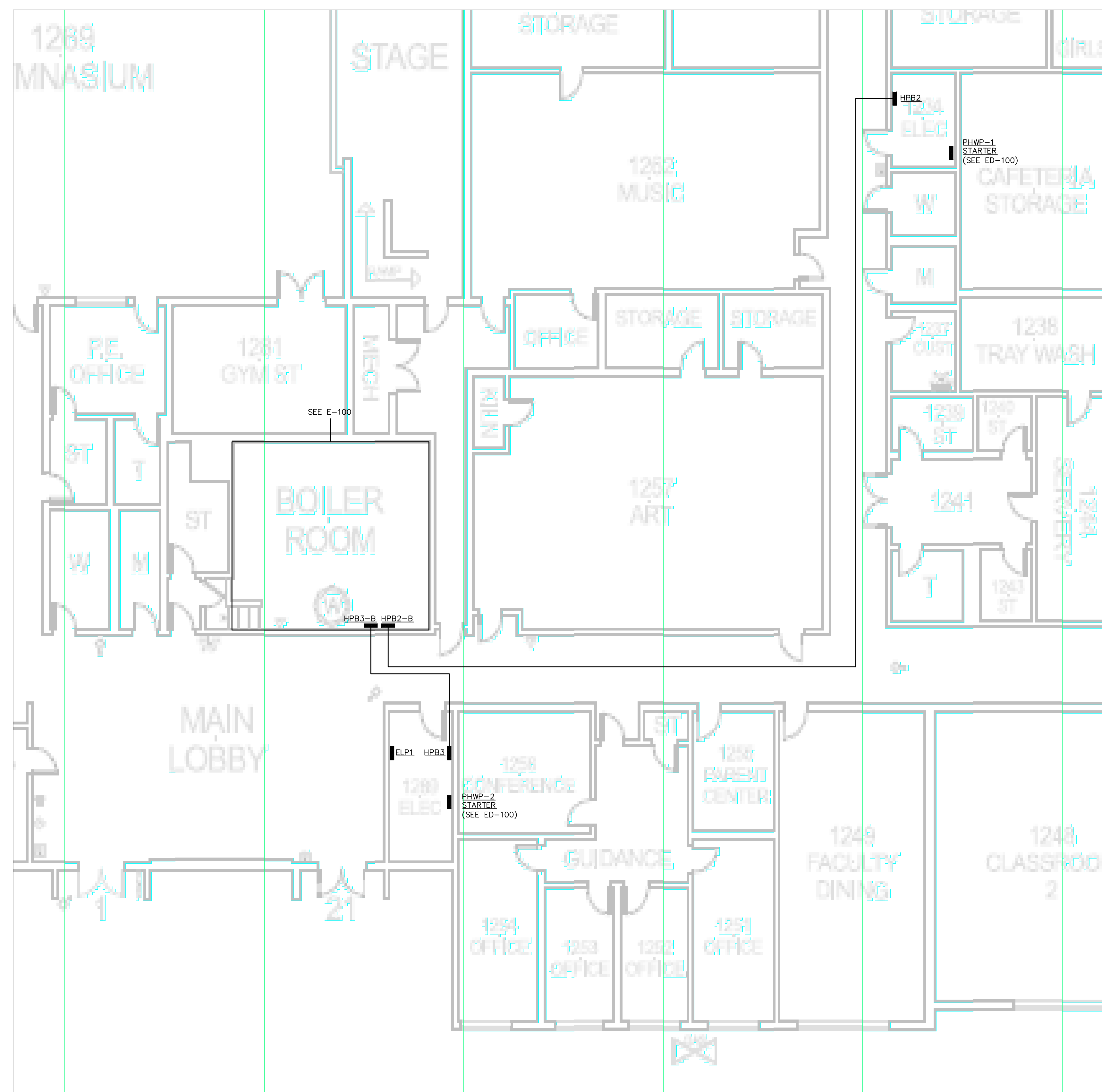
ANSONIA, CT

ELECTRICAL PARTIAL PLAN

DATE:	4/1/2020
PROJECT NO:	2018168.00
DRAWN:	MFC
CHECKED:	SAS
ISSUED FOR:	
REVISIONS:	

SHEET NO.

E-200



1 ELECTRICAL PARTIAL PLAN
SCALE: N.T.S.