

GAS PRESSURE REGULATOR SCHEDULE (REG)					
PLAN CODE	SYSTEM SERVED	GAS FLOW (CFH)	INLET PRESSURE (PSI)	OUTLET PRESSURE (IN. W.G.)	NOTES
REG-1	B-1	448	2	7	PROVIDE WITH VENT LIMITER
REG-2	B-2	448	2	7	PROVIDE WITH VENT LIMITER

EXPANSION TANK SCHEDULE (ET)			
PLAN CODE	MINIMUM TANK VOLUME (GAL)	MINIMUM ACCEPTANCE VOLUME (GAL)	MANUFACTURER & MODEL
ET-1	40	11.7	PATTERSON NTA-100

BOILER SCHEDULE (B)												
PLAN CODE	HEATING INPUT (BTU/HR)	EFFICIENCY (%)	FLOW (GPM)	PRESSURE DROP (FT. W.G.)	ENTERING WATER TEMPERATURE (°F)	LEAVING WATER TEMPERATURE (°F)	TURNDOWN	VOLTRH	FULL LOAD AMPS	WIDTH X LENGTH X HEIGHT (IN)	OPERATING WEIGHT (LB)	MANUFACTURER & MODEL
B-1	395,999	85.50%	28	2	155	180	5:01	115/1	5	36 X 22 X 51	850	ATH-KN4
B-2	395,999	85.50%	28	2	155	180	5:01	115/1	5	36 X 22 X 51	850	ATH-KN4

AIR SEPARATOR SCHEDULE (AS)				
PLAN CODE	FLOW (GPM)	PRESSURE DROP (FT. W.G.)	DIAMETER/HEIGHT (IN)	MANUFACTURER & MODEL
AS-1	56	0.4	5/27	PATTERSON TAS205

PUMP SCHEDULE (P)									
PLAN CODE	SYSTEM SERVED	FLOW (GPM)	HEAD PRESSURE (FT. W.G.)	FLUID	RPM	ELECTRICAL			MANUFACTURER & MODEL
						BHP	HP	VOLTRH	
P-3	B-1	28	15	WATER	3008	0.305	0.33	115/1	WILD TOP 5 1.5X20
P-4	B-2	28	15	WATER	3008	0.305	0.33	115/1	WILD TOP 5 1.5X20

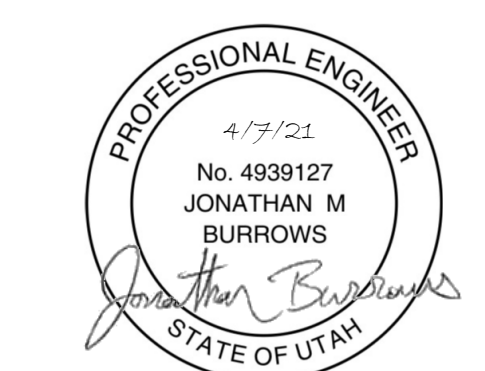
ABBREVIATIONS	
ADS	AIR & DIRT SEPARATOR
AH	AIR HANDLER
AS	AIR SEPARATOR
B	BOILER
BHP	BRAKE HORSE POWER
CA	COMBUSTION AIR COMPRESSED AIR
CHR	CHILLED WATER RETURN
CHS	CHILLED WATER SUPPLY
CV	CONTROL VALVE
ET	EXPANSION TANK
FT	FEET
GAL	GALLONS
GPM	GALLONS PER MINUTE
HP	HORSEPOWER
HWR	HEATING WATER RETURN
HWS	HEATING WATER SUPPLY
HX	HEAT EXCHANGER
IN	INCHES
P	PUMP
PPG	PROPYLENE GLYCOL
PSI	POUNDS PER SQUARE INCH
RPM	REVOLUTIONS PER MINUTE
VOLTRH	VOLTAGE / PHASE
W.G.	WATER GAUGE

SHEET INDEX	
#	SHEET NAME
MO.1	SHEET INDEX, GENERAL NOTES, SCHEDULES, AND DETAILS
MT.1	MECHANICAL DEMOLITION PLANS
MT.1	MECHANICAL REMODEL PLANS

GENERAL NOTES
A. PROVIDE A COMPLETE OPERATING SYSTEM ON COMPLETION OF THIS PROJECT. INSTALL EQUIPMENT PER THE MANUFACTURER'S REQUIREMENTS AND THE REQUIREMENTS OF THESE DOCUMENTS. SCOPE OF WORK REQUIRED TO MEET THE INSTALLATION REQUIREMENTS ARE TO BE PART OF THE WORK OF THIS CONTRACT WHETHER OR NOT THEY ARE SPECIFICALLY SHOWN ON THESE CONTRACT DOCUMENTS.
B. PROVIDE A ONE YEAR WARRANTY ON ALL LABOR AND MATERIAL PROVIDED FOR THIS PROJECT.
C. PROVIDE FACTORY STARTUP SERVICES ON ALL EQUIPMENT. TRAIN OWNER'S MAINTENANCE STAFF ON THE OPERATION AND MAINTENANCE ONCE SYSTEM ARE STARTED.
D. PROVIDE PIPE SUPPORTS A MAXIMUM OF 12' APART. PROVIDE SUPPORTS NEXT TO EACH ELBOW AND NEXT TO EQUIPMENT.
E. PROVIDE SCHEDULE 40 BLACK STEEL CONFORMING TO ASTM A53 WITH BLACK MALLEABLE THREADED FITTINGS FOR GAS PIPE. PROVIDE TYPE L COPPER LUBING WITH SOLDERED JOINTS FOR WATER PIPING.
F. DOMESTIC HOT WATER INSULATION: PIPE LARGER THAN 1-1/2" SHALL HAVE 1-1/2" INSULATION. PIPE SMALLER THAN 1-1/2" SHALL HAVE 1" INSULATION.
G. CONSTRUCT ALL DUCT ACCORDING TO SMACNA REQUIREMENTS. CONSTRUCT DUCT TO 2" PRESSURE CLASS REQUIREMENTS. SEAL ALL DUCT JOINTS.
H. PRESSURE TEST THE GAS PIPING AT 50% ABOVE OPERATING PRESSURE FOR 4 HOURS.
I. PROVIDE TEST AND BALANCE SERVICES TO SET ALL FLOWS AT THE DESIGN FLOWS INDICATED ON THESE DOCUMENTS.
J. PROVIDE 1" FIBERGLASS DUCT LINER IN NEW SUPPLY DUCT.
K. PROVIDE 1" FIBERGLASS DUCT LINER IN NEW SUPPLY DUCT.

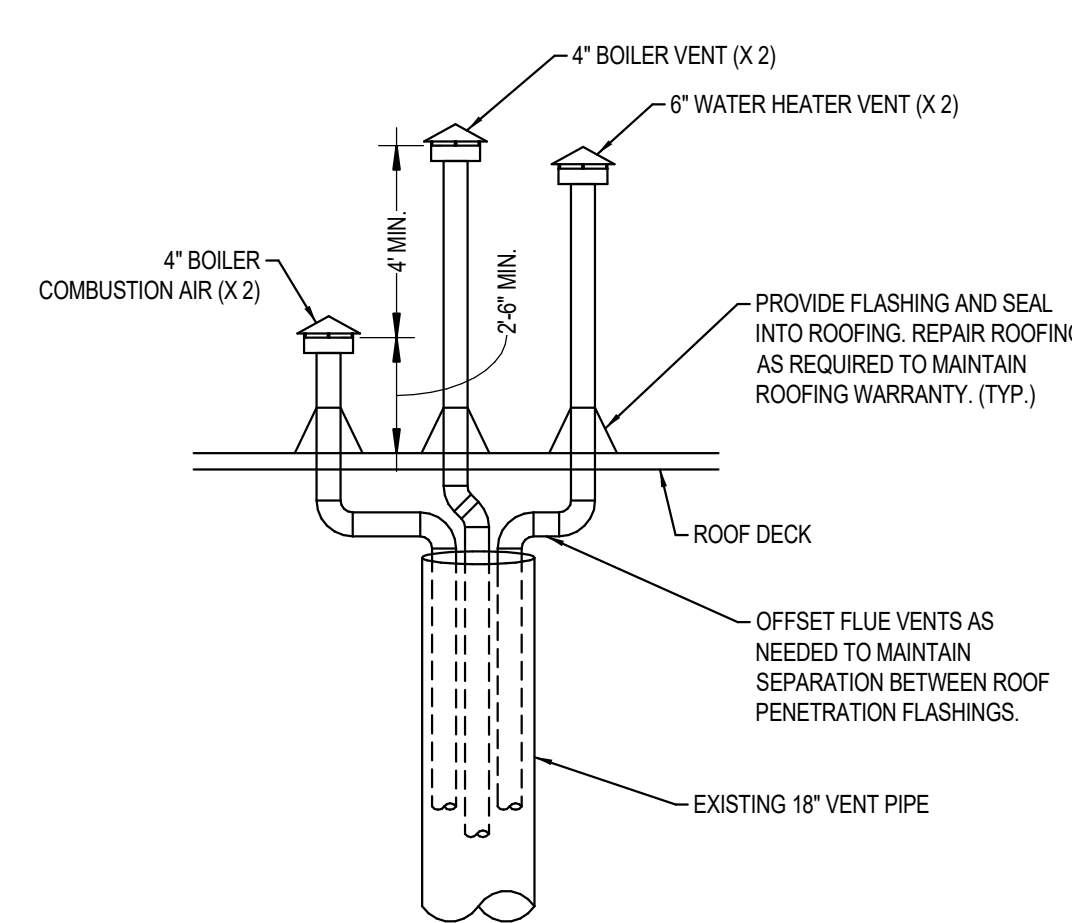


2310 South 1300 West
West Valley City, UT 84119
Phone: (801) 975-0227

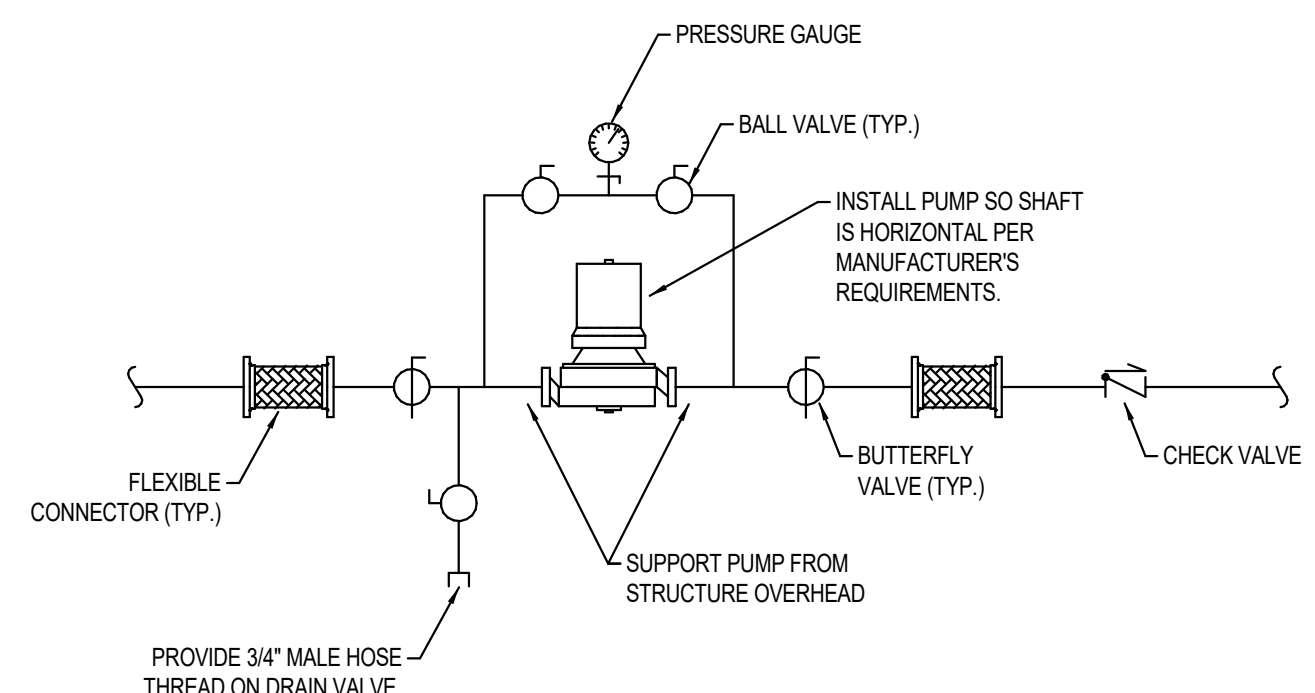


ISSUES _____ DATE _____

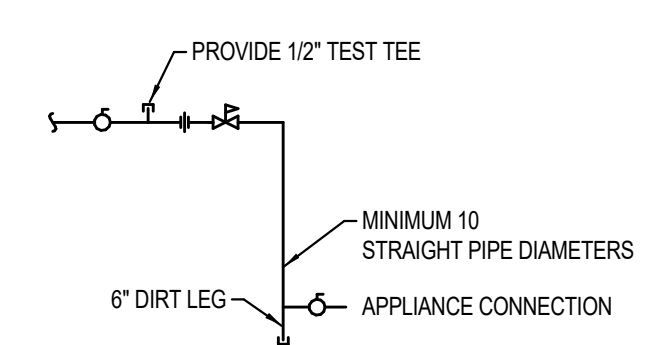
REVISION LIST _____ DATE _____



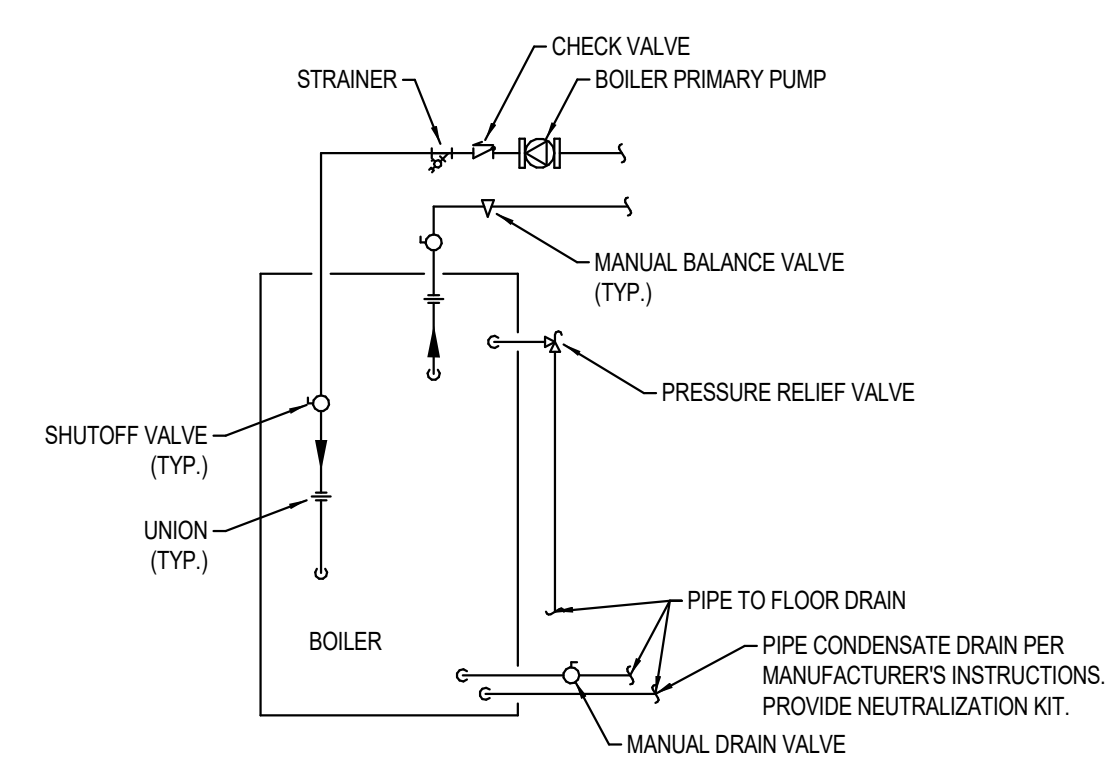
1 VENT AND COMBUSTION AIR ROOF TERMINATION DETAIL
SCALE: NONE



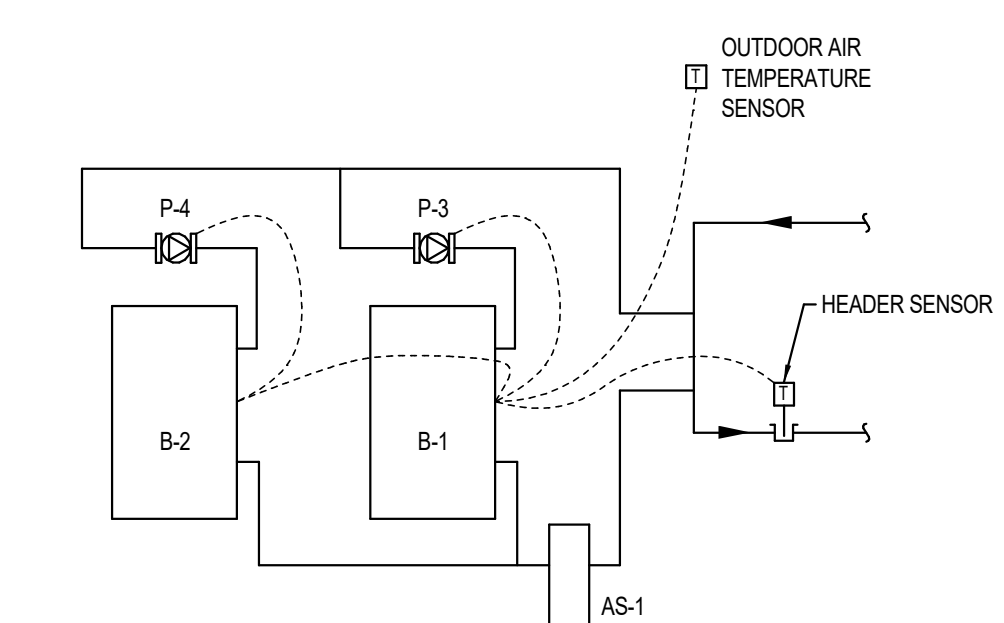
2 PRIMARY PUMP INSTALLATION DETAIL
SCALE: NONE



3 GAS PRESSURE REGULATOR PIPING DETAIL
SCALE: NONE



4 BOILER PIPING DETAIL
SCALE: NONE



5 BOILER CONTROL SCHEMATIC
SCALE: NONE

CONTROL SEQUENCE OF OPERATIONS:
A. EXISTING HEATING WATER CONTROLS WILL REMAIN IN PLACE. WHEN THERE IS A CALL FOR HEAT, START SECONDARY PUMPS AND ENABLE BOILERS.
B. LEAD BOILER CONTROLLER WILL MONITOR HEADER SENSOR AND STAGEMODULATE BOILERS TO MEET SETPOINT.
C. PROVIDE OUTSIDE AIR TEMPERATURE RESET SO HWS SETPOINT IS 180°F AT 30°F OR COLDER OUTSIDE AND 140°F AT 50°F OR WARMER OUTSIDE, WITH A LINEAR RESET BETWEEN THOSE POINTS.
D. EACH BOILER STARTS AND STOPS ITS PRIMARY PUMP VIA A RELAY PROVIDED BY CONTRACTOR.

WILLARD
ELEMENTARY
SCHOOL BOILER
REPLACEMENT
40 WEST 50 SOUTH
WILLARD, UTAH 84340

KEYPLAN

PROJECT NO.: ---
DATE: 04.07.2021
SCALE: NO SCALE

SHEET TITLE:
SHEET INDEX, GENERAL
NOTES, SCHEDULES,
AND DETAILS

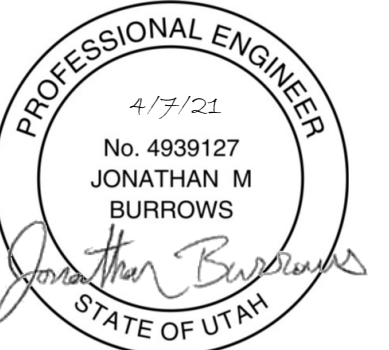
SHEET NO:

MO.1

4/6/2021 7:55:21 PM



2310 South 1300 West
West Valley City, UT 84119
Phone: (801) 975-0227

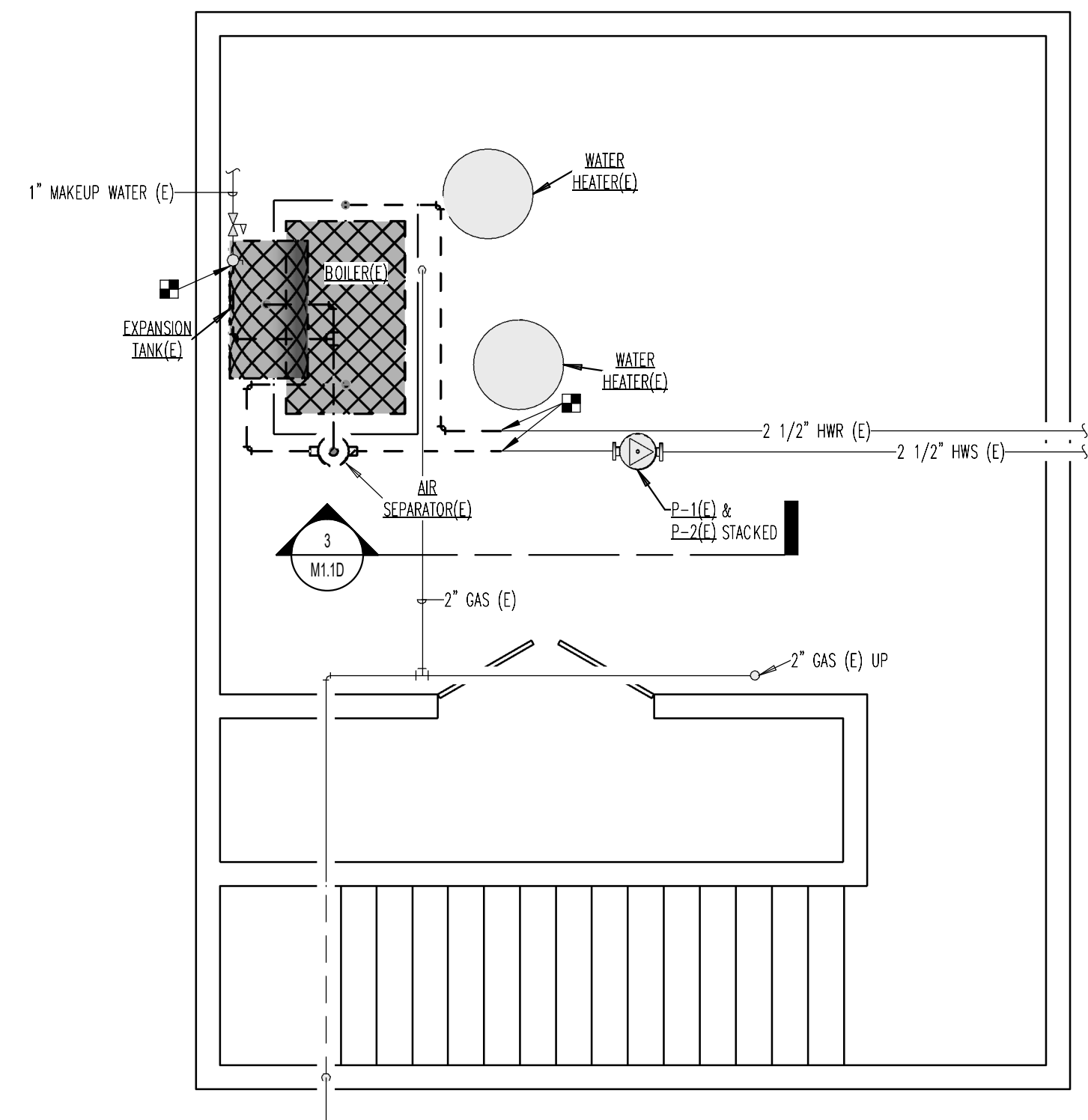


KEYED NOTES

- 1 LEAVE EXISTING 18" B-VENT IN PLACE STARTING AT THE FLOOR SLAB ABOVE THE BOILER ROOM. REMOVE BELOW THE SLAB.
- 2 DEMOLISH 18" B-VENT 2' BELOW THE ROOF ABOVE. REMOVE WEATHERCAP AND INFILL ROOF OPENING.

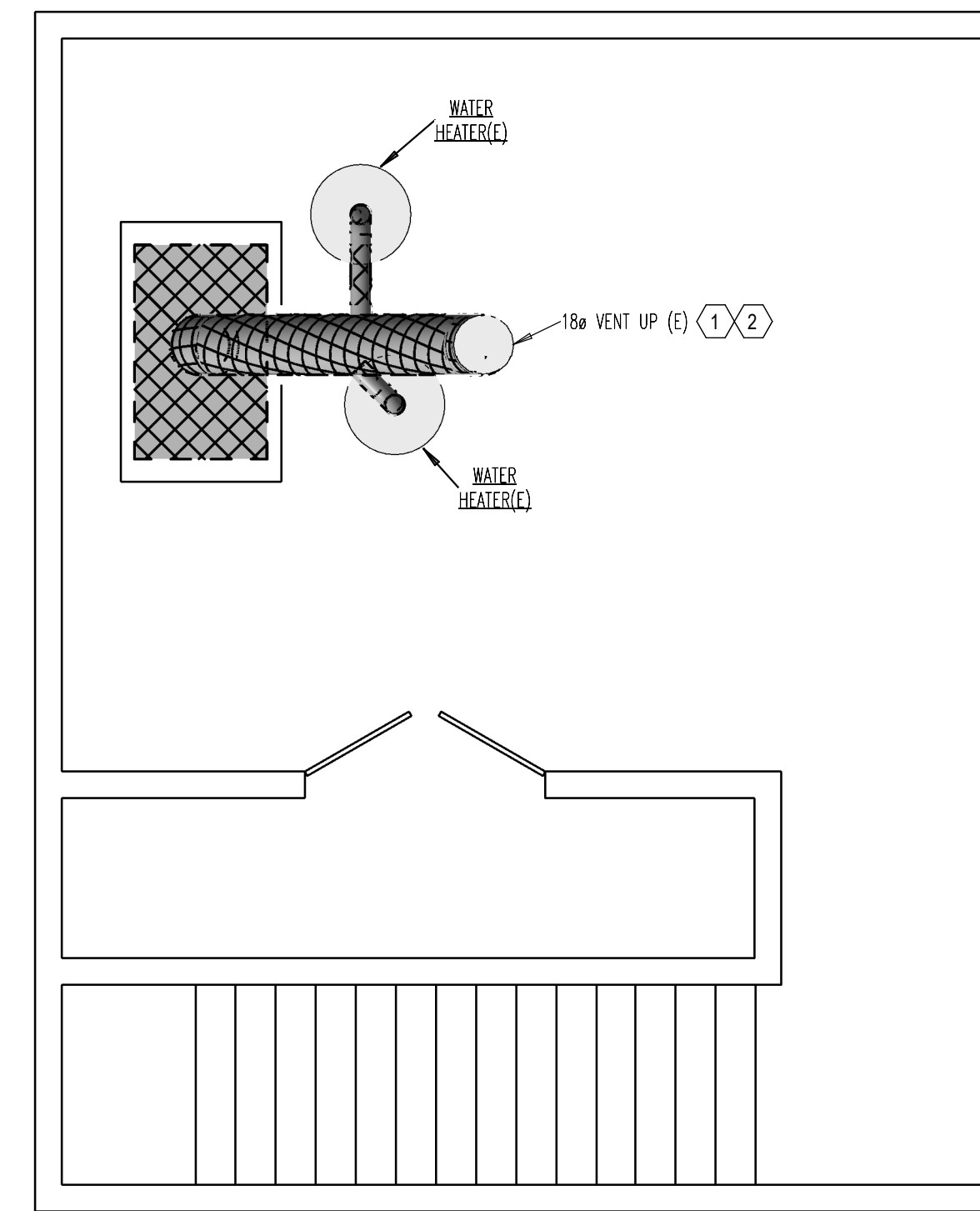
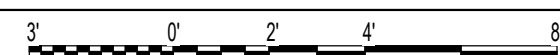
DEMOLITION GENERAL NOTES

A. ALL ITEMS SHOWN LIGHT AND SOLID ARE EXISTING. ALL ITEMS SHOWN DARK AND DASHED ARE TO BE DEMOLISHED.



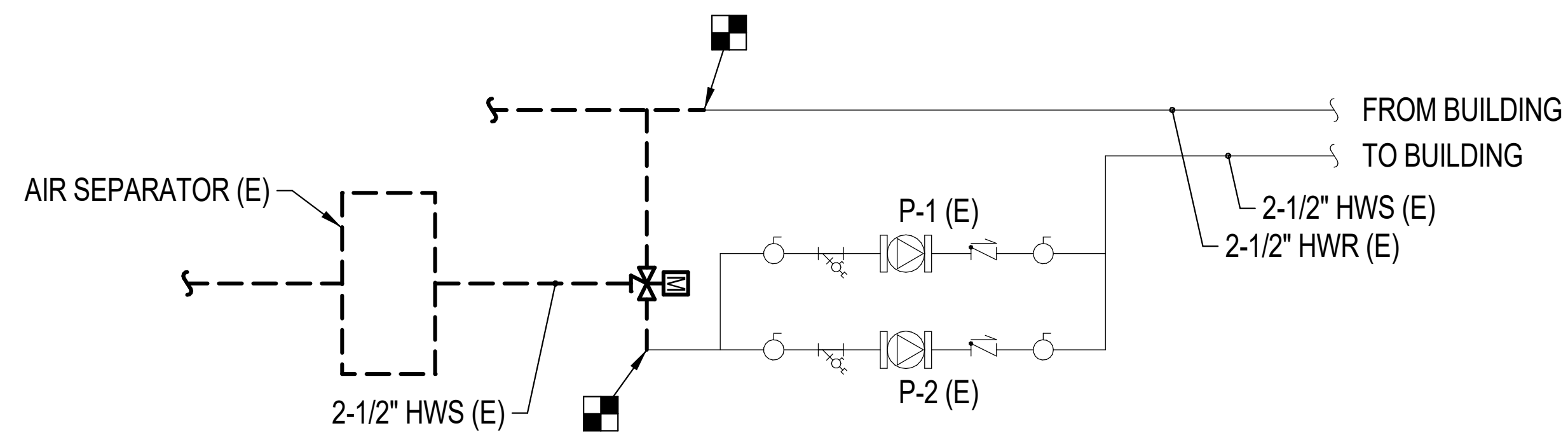
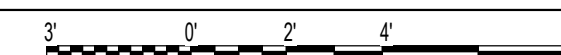
1 MECHANICAL DEMOLITION PLAN

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



2 BOILER ROOM FLUE DEMOLITION PLAN

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



3 DEMOLITION SECTION VIEW

SCALE: NONE

ISSUES _____ DATE _____

REVISION LIST _____ DATE _____

**WILLARD
ELEMENTARY
SCHOOL BOILER
REPLACEMENT**

40 WEST 50 SOUTH
WILLARD, UTAH 84340

KEYPLAN

PROJECT NO.: ---

DATE: 04.07.2021

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

SHEET TITLE:

**MECHANICAL
DEMOLITION PLANS**

SHEET NO:

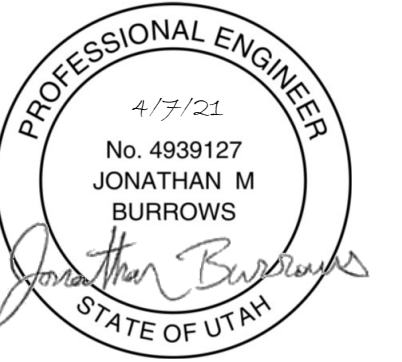
M1.1D

KEYED NOTES

1 ROUTE WATER HEATER FLUES, BOILER FLUES, AND COMBUSTION AIR UP INSIDE THE EXISTING 18" VENT PIPE.

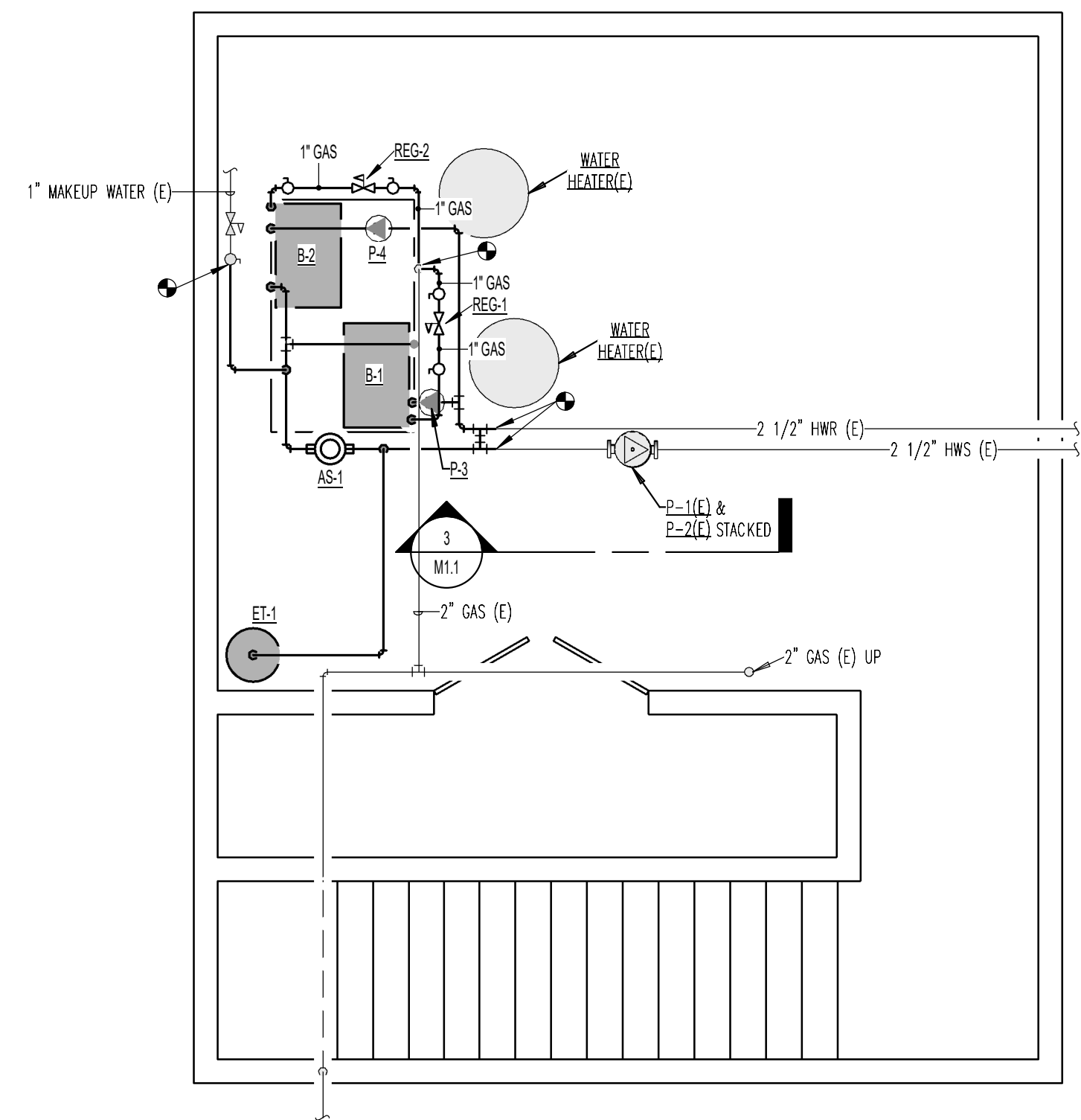


2310 South 1300 West
West Valley City, UT 84119
Phone: (801) 975-0227



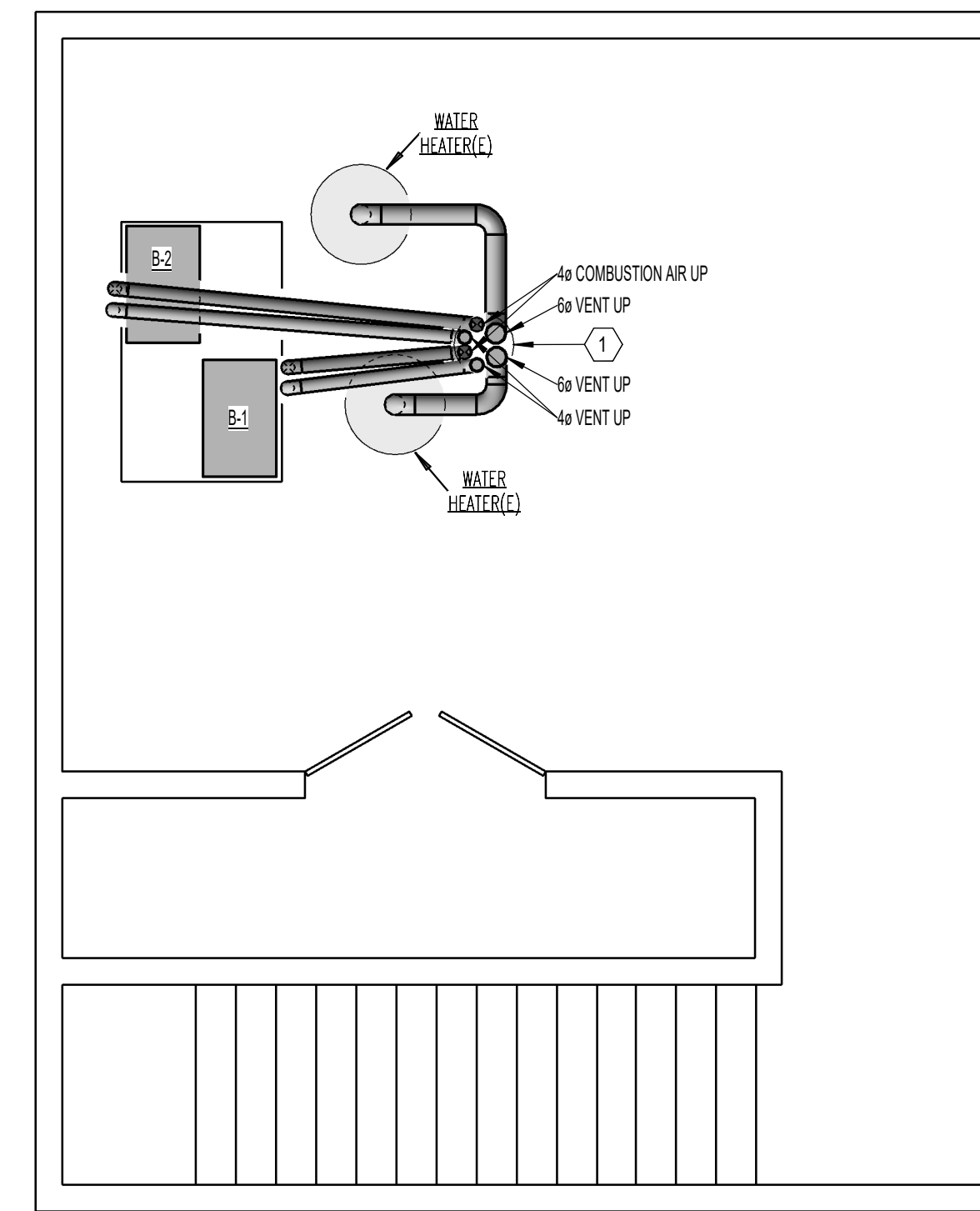
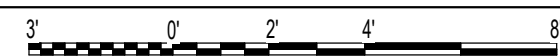
ISSUES _____ DATE _____

REVISION LIST _____ DATE _____



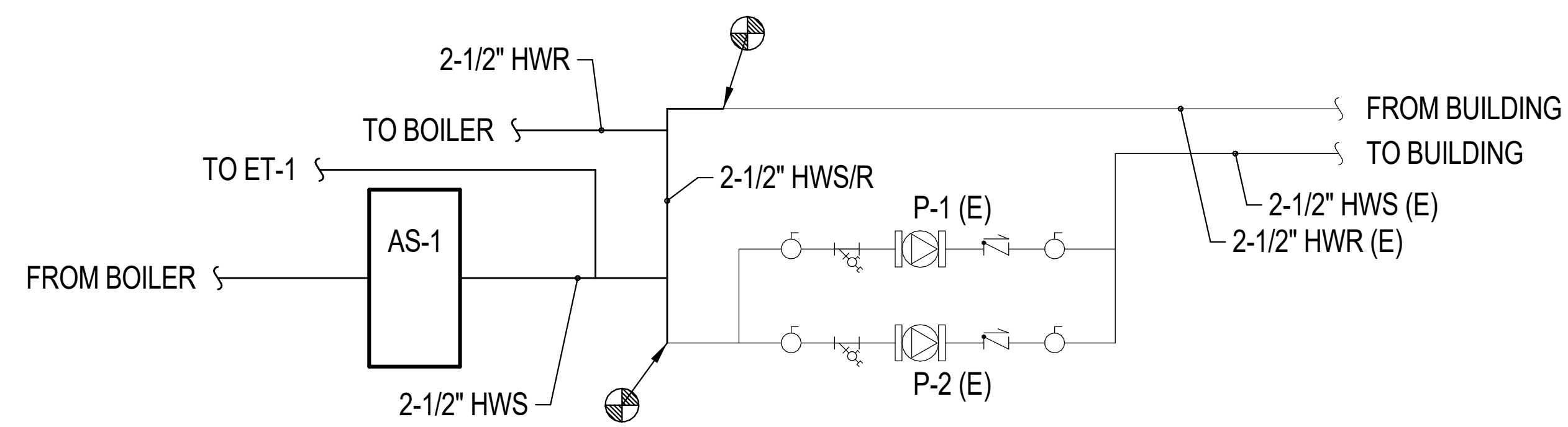
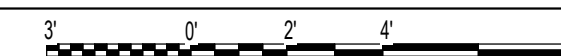
1 MECHANICAL REMODEL PLAN

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



2 BOILER ROOM FLUE INSTALLATION PLAN

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



3 REMODEL SECTION VIEW

SCALE: NONE

WILLARD
ELEMENTARY
SCHOOL BOILER
REPLACEMENT

40 WEST 50 SOUTH
WILLARD, UTAH 84340

KEYPLAN

PROJECT NO.: ---

DATE: 04.07.2021

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

SHEET TITLE:

MECHANICAL REMODEL
PLANS

SHEET NO:

M1.1