



[K33-00155]

ADDENDUM NO. 1

TO THE HVAC Improvements Project AT THE BARAGA COUNTY DHHS BUILDING

ADDENDUM NO. 1 is issued August 10, 2022 to clarify, modify, and/or change the original plans and specifications issued by U.P. Engineers & Architects, Inc. This ADDENDUM NO. 1 is hereby made part of the Contract Documents.

Please acknowledge receipt of this ADDENDUM NO. 1 on the appropriate blank on the Bid Form.

1. Contractor shall provide temporary heat to the existing air handler heating coil via a temporary connection to a boiler. Temporary heat from the boiler can be with one of the new boilers or with a boiler from the contractor. Provide temporary pump(s), expansion tank, combustion air, exhaust air, gas connection, electrical, etc. as necessary. Leave existing heating system in place as long as possible while doing preliminary work. Once the temporary boiler is operating, reconfigure the system as shown on the drawings. Coordinate shut-down of the system with the owner 1-week in advance. Owner shall provide temporary electric heat in offices as needed.
2. Sheet M101: Mechanical Plan Attached
Proposed Boiler/Heat Pump Piping Details: Add pump P-6
Enlarged Basement Proposed Hydronic Plan: Add pump P-6

Sheet M601: Mechanical Schedules

Pump Schedule: Change pump P-5 model number to VR20M, Head (FT) to 20, Suction and discharge size to 2".

Pump Schedule: Add pump P-6: Taco VR25H, 59 GPM, 40 feet of head, 2.5" suction and discharge size.

Sheet E101: Electrical Plan:

Add keynote 10 "Provide new 20A single pole breaker and 120V circuit for pump P-6. Provide new disconnect."

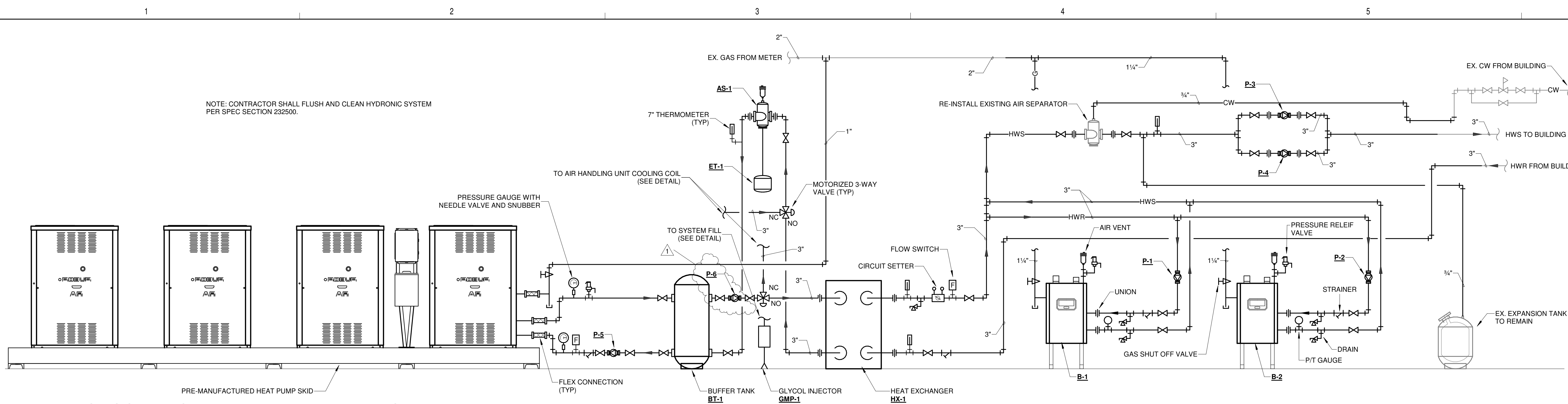
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End of Addendum #1
Prepared by:
U.P. Engineers & Architects, Inc

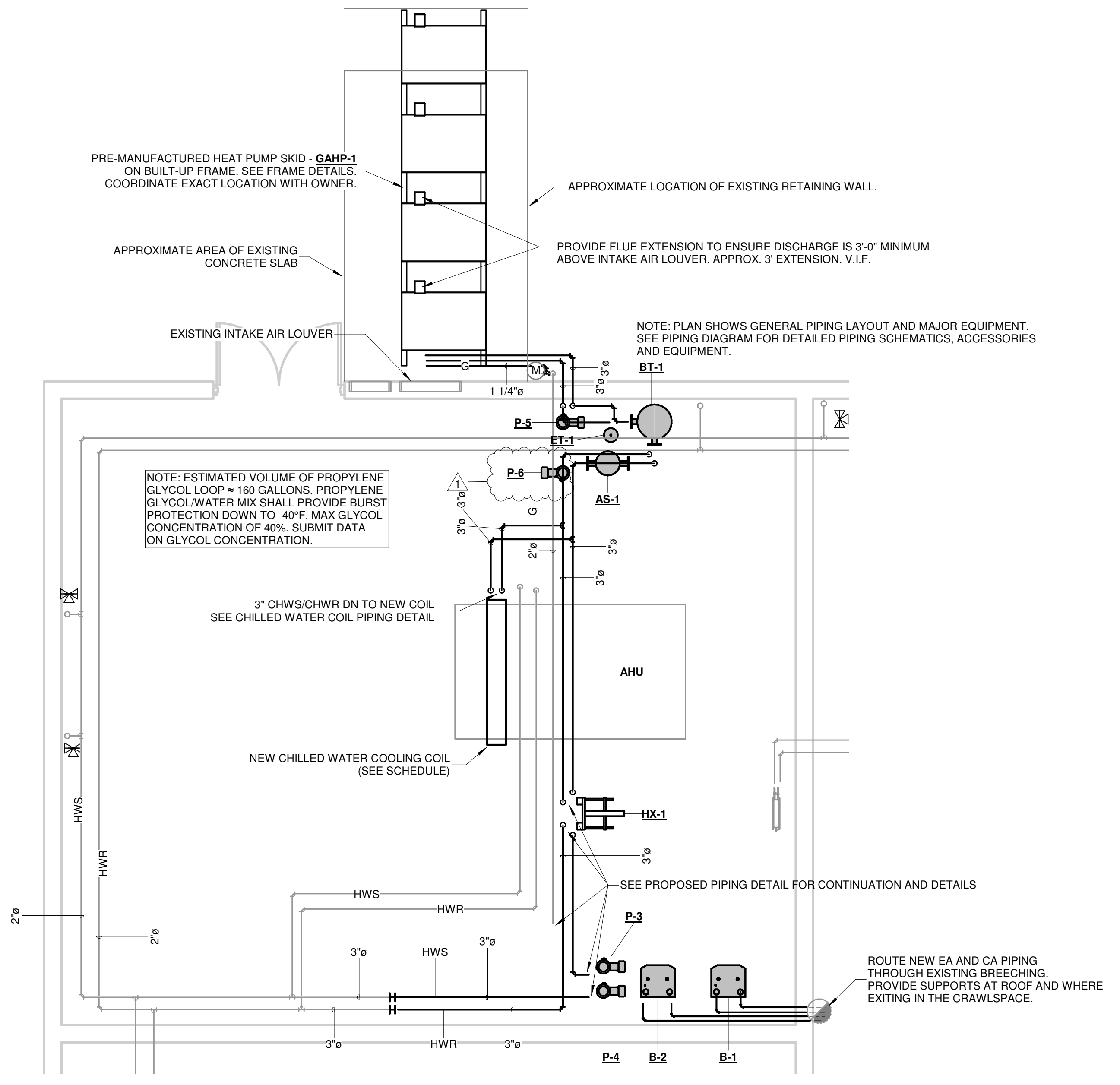
Offices also in:
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C1 PROPOSED BOILER/HEAT PUMP PIPING DETAIL
NOT TO SCALE



A2 ENLARGED BASEMENT PROPOSED HYDRONIC PLAN
1/4" = 1'-0"



HVAC IMPROVEMENTS
BARAGA COUNTY DHHS BUILDING
108 MAIN ST., BARAGA, MI 49908

ISSUED FOR:	BID SET	DATE:	7/19/2022
	ADDENDUM #1		8/3/2022

HVAC IMPROVEMENTS	BARAGA COUNTY DHHS BUILDING	DESIGNED BY: SP
	PROJECT NO: K39-00155	
		CHECKED: DL
		APPROVED: KD

MECHANICAL PLAN

M101

BUFFER TANK SCHEDULE							
MARK	MANUFACTURER	MODEL	HEIGHT (IN)	WIDTH (IN)	CAPACITY (GAL)	PIPE SIZE (IN)	WEIGHT (LBS)
BT-1	TACO	MPT0075F03-125G1BN	63	24	75	3	320

EXPANSION TANK SCHEDULE							
ID	MANUFACTURER	MODEL NUMBER	GALLON CAPACITY (GAL)	ACCEPTANCE CAPACITY (GAL)	DIMENSIONS (IN)	SHIPPING WEIGHT (LBS)	NOTES
ET-1	TACO	PAX25-150	6.6	4	12"Wx20"H	52	1

1. PROVIDE WITH ISOLATION VALVE.

AIR SEPARATOR SCHEDULE								
MARK	MANUFACTURER	MODEL	HEIGHT (IN)	WIDTH (IN)	GPM (OPTIMAL)	PIPE SIZE (IN)	DRY WEIGHT (LBS)	NOTES
AS-1	TACO	AC03-125	34	14	230	3	90	1

1. PROVIDE WITH BASE RING SUPPORT.

GLYCOL MAKEUP PACKAGE SCHEDULE										
MARK	MANUFACTURER	MODEL	MAKE-UP CAPACITY (GAL)	HEIGHT (IN)	WIDTH (IN)	GPM	CONN. SIZE (IN)	WET WEIGHT (LBS)	ELEC.	NOTES
GMP-1	CALEFACTIO	GMP18	68.1	39.25	12	1.6	1/2	30	120V	1.2

1. PROVIDE WITH REMOTE ALARM KIT (#GMPAL)
2. SYSTEM TO BE FILLED WITH PROPYLENE GLYCOL/ WATER MIX FOR BURST PROTECTION DOWN TO -40°F. MAX 40% PROPYLENE GLYCOL CONCENTRATION.

PUMP SCHEDULE												
ID	DESCRIPTION	MANUF.	MODEL NUMBER	FLOW (GPM)	HEAD (FT)	SUCTION SIZE (IN)	DISCHARGE SIZE (IN)	ELECTRICAL				NOTES
								VOLTS	PH	HP	AMPS	
P-1	BOILER CIRCULATOR	TACO	VR15M	20	15	1.5"	1.5"	120	1	0.6	4	1.3
P-2	BOILER CIRCULATOR	TACO	VR15M	20	15	1.5"	1.5"	120	1	0.6	4	1.3
P-3	SYSTEM CIRCULATOR	TACO	VR15M	37	30	1.5"	1.5"	120	1	0.6	4	2.3
P-4	SYSTEM CIRCULATOR	TACO	VR15M	37	30	1.5"	1.5"	120	1	0.6	4	2.3
P-5	HEAT PUMP CIRCULATOR	TACO	VR20M	59	20	2"	2"	120	1	0.8	4.7	2.3,4
P-6	SYSTEM CIRCULATOR	TACO	VR25H	59	40	2.5"	2.5"	120	1	2.1	13	2.3,4

1. PROVIDE CONTROL SYSTEM TO INTERLOCK WITH CORRESPONDING BOILER. COORDINATE WITH BAY ELECTRIC.
2. PROVIDE CONTROL SYSTEM TO INTERLOCK WITH BOILER AND HEAT PUMP SYSTEM. COORDINATE WITH BAY ELECTRIC.
3. COORDINATE ELECTRICAL REQUIREMENTS WITH ELECTRICAL CONTRACTOR.
4. PROVIDE CONTROL SYSTEM TO INTERLOCK WITH HEAT PUMP. COORDINATE WITH BAY ELECTRIC.

PLUMBING PIPE INSULATION SCHEDULE			
SYSTEM TYPE	INSUL. TYPE	PIPE SIZES	INSULATION THICKNESS
DOMESTIC COLD WATER	P-1 P-2	1-1/4" AND SMALLER 1-1/2" AND LARGER	1" 1-1/2"

BOILER SCHEDULE															
ID	MANUFACTURER	MODEL NUMBER	INPUT CAPACITY MAX/MIN (MBH)	OUTPUT CAPACITY (MBH)	WATER CONNECT (IN)	GAS CONNECT (IN)	VENT (IN)	COMB. AIR (IN)	EWT/LWT (°F)	OPERATING WEIGHT	ELECTRICAL				NOTES
											VOLTS	PH	HP	AMPS	
B-1	NTI	TFT250	250/31	230	1 1/4"	1/2"	3"	3"	153/180	180	120	1	-	-	1,2,3

1. PROVIDE WITH CONDENSATE NEUTRALIZER KIT, CONCENTRIC VENT KIT, AND LOW-WATER CUT-OFF W/ MANUAL RESET.
2. PROVIDE PRIMARY/SECONDARY PIPING PER DETAIL.
3. COORDINATE ELECTRICAL REQUIREMENTS WITH ELECTRICAL CONTRACTOR.

HEAT EXCHANGER SCHEDULE																
ID	MANUFACTURER	MODEL NUMBER	CAPACITY BTU/HR	PHYSICAL				HOT SIDE (PROPYLENE GLYCOL 40% WATER 60%)				COLD SIDE (WATER)				
				LENGTH (IN)	WIDTH (IN)	HEIGHT (IN)	NO. OF PLATES	PIPE CONN. (IN)	INLET TEMP. (°F)	OUTLET TEMP. (°F)	WATER FLOW (GPM)	PRESS. DROP (FT)	INLET TEMP. (°F)	OUTLET TEMP. (°F)	WATER FLOW (GPM)	PRESS. DROP (FT)
HX-1	TACO	PF 31-41-4-NH	494,000	27.3	18.5	53.2	41	3	140	119	52	3,759	108	135	37	1.69

GAS ABSORPTION HEAT PUMP SCHEDULE																
ID	MANUFACTURER	MODEL NUMBER	GAS INPUT CAPACITY (MBH)	HEATING CAPACITY (MBH)	COOLING CAPACITY (MBH)	WATER CONNECT (IN)	GAS CONNECT (IN)	EWT/LWT (HEATING) (°F)	EWT/LWT (COOLING) (°F)	TOTAL WEIGHT (LBS)	ELECTRICAL					NOTES
											VOLTS	PH	KW	MCA	MOP	
GAHP-1	ROBUR	RTAR 240-480	382	481.6	230.8	2"	1"	140/113	50/38	4027	208	1	3	32	45	1,2

1. PROVIDE AS PACKAGED UNIT WITH 3 CONNECTION POINTS AND SKID.
2. COORDINATE ELECTRICAL REQUIREMENTS WITH ELECTRICAL CONTRACTOR.

HEATING PIPE INSULATION SCHEDULE			
SYSTEM TYPE	INSUL. TYPE	PIPE SIZES	INSULATION THICKNESS
MED TEMPERATURE HEATING WATER SUPPLY AND RETURN (105 TO 140 DEGREES F)	P-1	1-1/4" AND SMALLER 1-1/2" AND LARGER	1" 1-1/2"
HIGH TEMPERATURE HEATING WATER SUPPLY AND RETURN (141 TO 200 DEGREES F)	P-1	1-1/4" AND SMALLER 1-1/2" AND LARGER	1-1/2" 2"

COOLING COIL SCHEDULE																							
ID	MANUFACTURER	MODEL NUMBER	FLUID	AIRFLOW (CFM)	TOTAL CAPACITY (MBH)	SENSIBLE CAPACITY (MBH)	EADB (°F)	EAWB (°F)	LADB (°F)	LAWB (°F)	FACE VELOCITY (FPM)	AIR PRESS. DROP (IN)	ENTER WATER TEMP (°F)	LEAVING WATER TEMP (°F)	FLUID FLOW (GPM)	FLUID PRESS. DROP (IN)	FIN HEIGHT (IN)	FIN LENGTH (IN)	FINS PER INCH SPACING	FIN MATERIAL	SUPPLY/RETURN CONNECTION SIZE (IN)	OPERATING WEIGHT (LBS)	NOTES
CC-1	GREENHECK	CW58S06S14-36x64-RH	40% PROPYLENE GLYCOL, 60% WATER	7900	254.3	113.1	70.0	67.0	57.1	57.0	494	1.04	38	48.7	52.0	19.2	36.0	64.0	14	AI	2	459	1,2

1. INSTALL PROPOSED COIL IN EXISTING AIR HANDLING UNIT. SEE DETAILS FOR PIPING REQUIREMENTS.
2. CONTRACTOR SHALL VERIFY EXISTING COIL DIMENSIONS WITH NEW COIL DIMENSIONS TO ENSURE COIL FITS IN EXISTING AIR HANDLER.

EXISTING BOOSTER COIL SCHEDULE				
ID	AIRFLOW (CFM)	TOTAL CAPACITY (MBH)	WATER ΔT (°F)	GPM
BC-1	580	21.0	27	1.55
BC-2	600	21.7	27	1.61
BC-3	520	18.8	27	1.39
BC-4	650	23.6	27	1.74
BC-5	1300	47.0	27	3.48
BC-6	675	24.4	27	1.81
BC-7	1055	38.1	27	2.82
BC-8	235	8.5	27	0.63
BC-9	275	10.0	27	0.74
BC-10	1000	36.1	27	2.68
BC-11	460	16.6	27	1.23

1. CFM'S ARE SHOWN AS REFERENCE AND ARE TO REMAIN.
2. REBALANCE ALL EXISTING BOOSTER COILS AS INDICATED ON THIS SCHEDULE



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HVAC IMPROVEMENTS

BARAGA COUNTY DHHS BUILDING
108 MAIN ST., BARAGA, MI 49908

ISSUED FOR:
DATE: 7/19/2022
ADDENDUM #1: 8/3/2022

PROJECT NO: K33-00155

DESIGNED BY: SP
DRAWN BY: SP
CHECKED: DL
APPROVED: KD

MECHANICAL SCHEDULES

M601

1

2

3

4

5

D

C

B

A

D

C

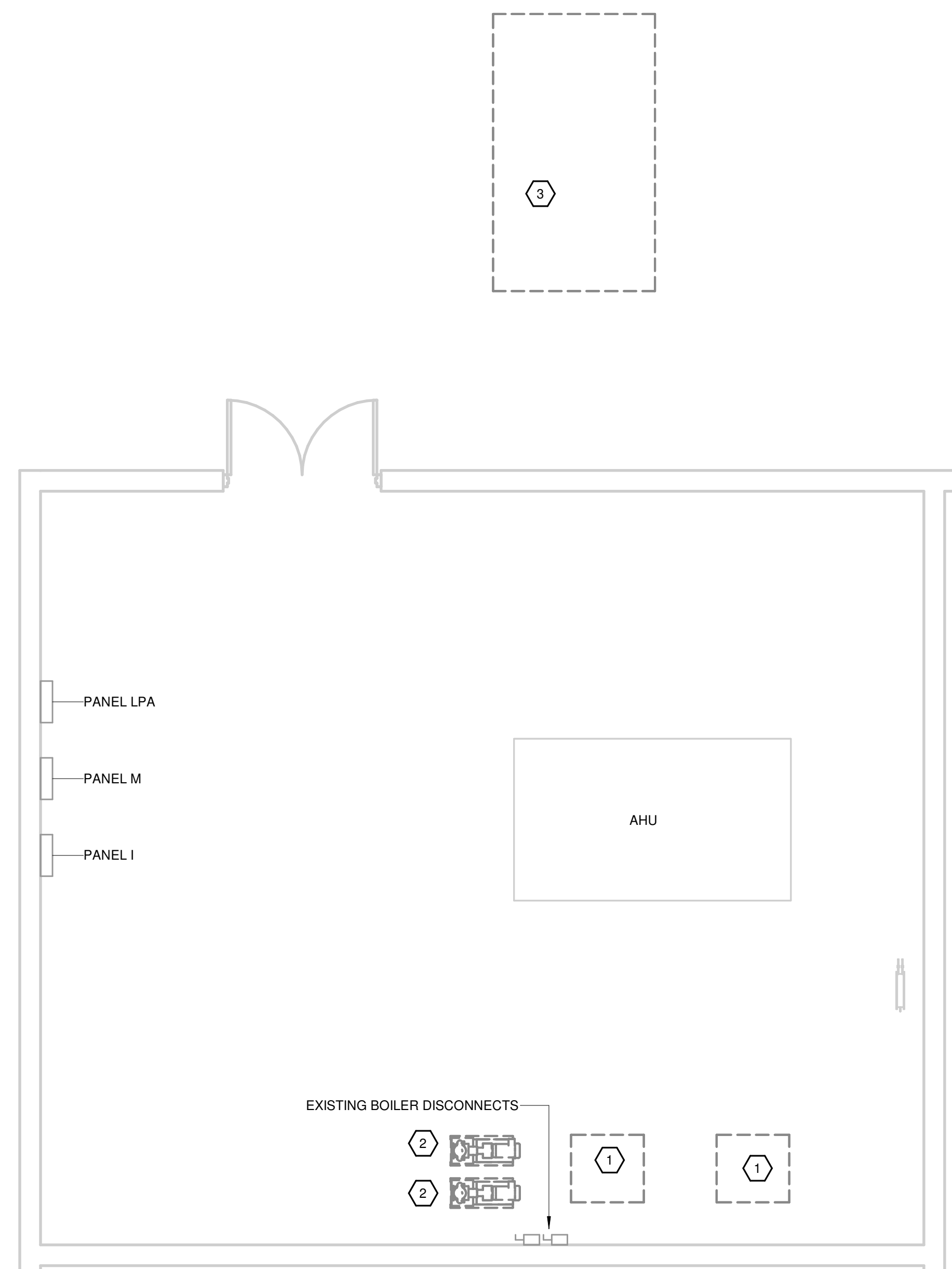
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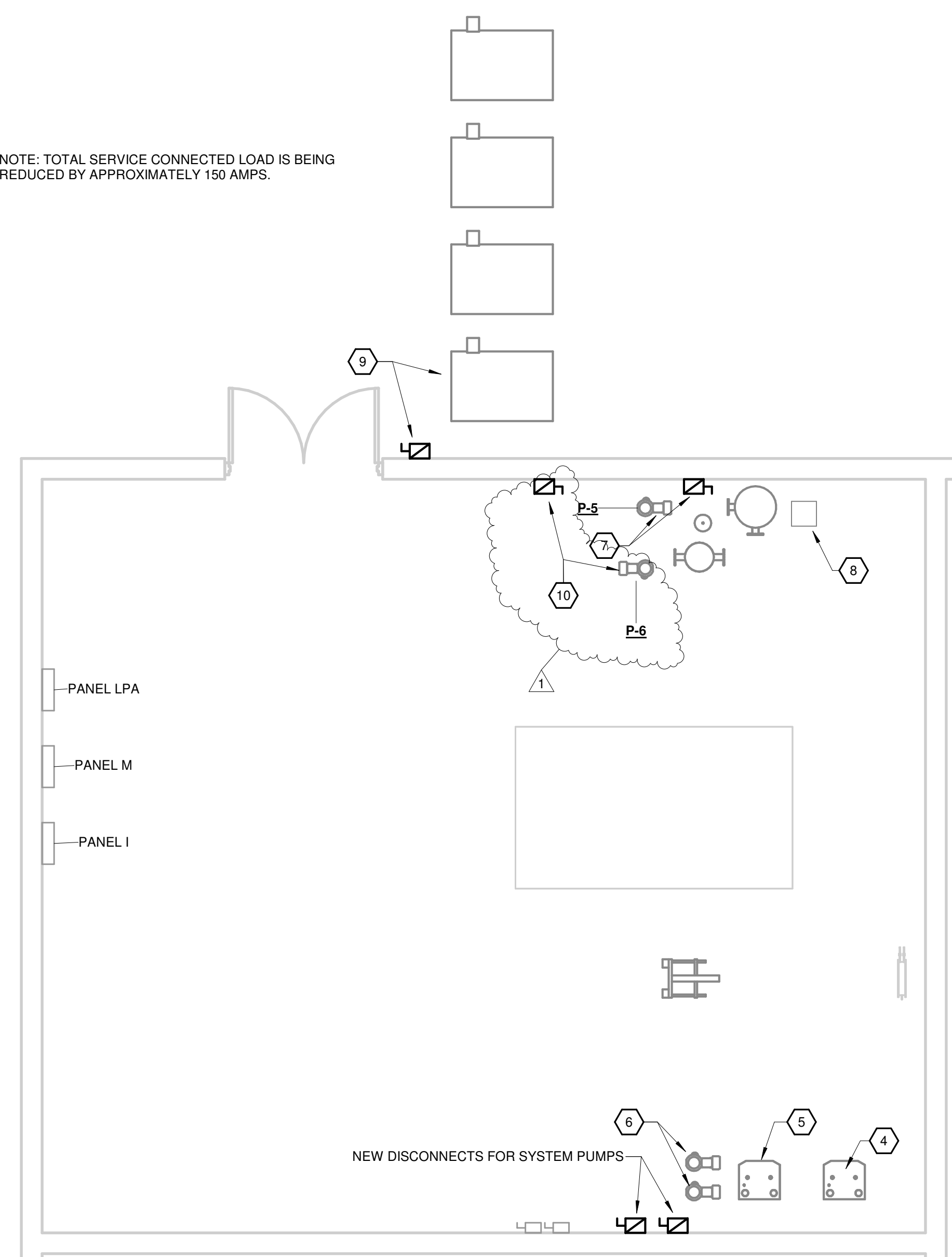
KEYNOTES

- 1 DISCONNECT EXISTING BOILER AND REMOVE ASSOCIATED CONDUIT, WIRING, AND BOXES BACK TO THE DISCONNECT. SALVAGE CIRCUIT FOR RE-USE
- 2 DISCONNECT EXISTING PUMP AND REMOVE ASSOCIATED CONDUIT AND WIRING BACK TO J-BOX ON WALL. SALVAGE WIRING FOR RE-USE. REMOVE 3-POLE BREAKER FROM PANEL "M" ASSOCIATED WITH THE 2 PUMPS.
- 3 DISCONNECT EXISTING 200A 3-PHASE CONDENSING UNIT AND REMOVE ASSOCIATED CONDUIT, WIRING AND BOXES BACK TO PANEL "M".
- 4 RE-USE EXISTING DISCONNECT AND CIRCUIT TO FEED NEW BOILER AND ASSOCIATED BOILER CIRCULATION PUMP.
- 5 PROVIDE NEW 20A SINGLE POLE BREAKER AND 120V CIRCUIT FROM PANEL "M" FOR NEW BOILER AND ASSOCIATED BOILER CIRCULATION PUMP. RE-USE EXISTING DISCONNECT.
- 6 RE-USE EXISTING WIRING FROM PUMPS TO FEED NEW SYSTEM PUMPS. PROVIDE NEW DISCONNECTS FOR EACH PUMP. PROVIDE NEW 20A 2-POLE BREAKER FOR PUMPS.
- 7 PROVIDE NEW 20A SINGLE POLE BREAKER AND 120V CIRCUIT FOR PUMP P.5. PROVIDE NEW DISCONNECT.
- 8 PROVIDE 120V CONNECTION FOR GLYCOL MAKE-UP PACKAGE FROM NEAREST UNSWITCHED 120V POWER. COORDINATE WITH MECHANICAL CONTRACTOR.
- 9 PROVIDE 2-POLE 45A BREAKER AND CIRCUIT FROM PANEL "M" TO GAS ABSORPTION HEAT PUMP. PROVIDE NEW DISCONNECT. USE #6 COPPER CONDUCTORS AND #8 COPPER GROUND FOR NEW FEED.
- 10 PROVIDE NEW 20A SINGLE POLE BREAKER AND 120V CIRCUIT FOR PUMP P.6. PROVIDE NEW DISCONNECT.

NOTE: TOTAL SERVICE CONNECTED LOAD IS BEING REDUCED BY APPROXIMATELY 150 AMPS.



A1 BASEMENT EXISTING ELECTRICAL PLAN
1/4" = 1'-0"



A4 BASEMENT PROPOSED ELECTRICAL PLAN
1/4" = 1'-0"



HVAC IMPROVEMENTS
BARAGA COUNTY DHHS BUILDING
108 MAIN ST., BARAGA, MI 49908

ISSUED FOR:	BID SET	DATE:	7/18/2022
	ADDENDUM #1		8/3/2022

HVAC IMPROVEMENTS	PROJECT NO.:	K39-00155	DESIGNED BY:	SP
	BARAGA COUNTY DHHS BUILDING		DRAWN BY:	SP
			CHECKED:	KD
			APPROVED:	KD

ELECTRICAL PLAN

E101

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