

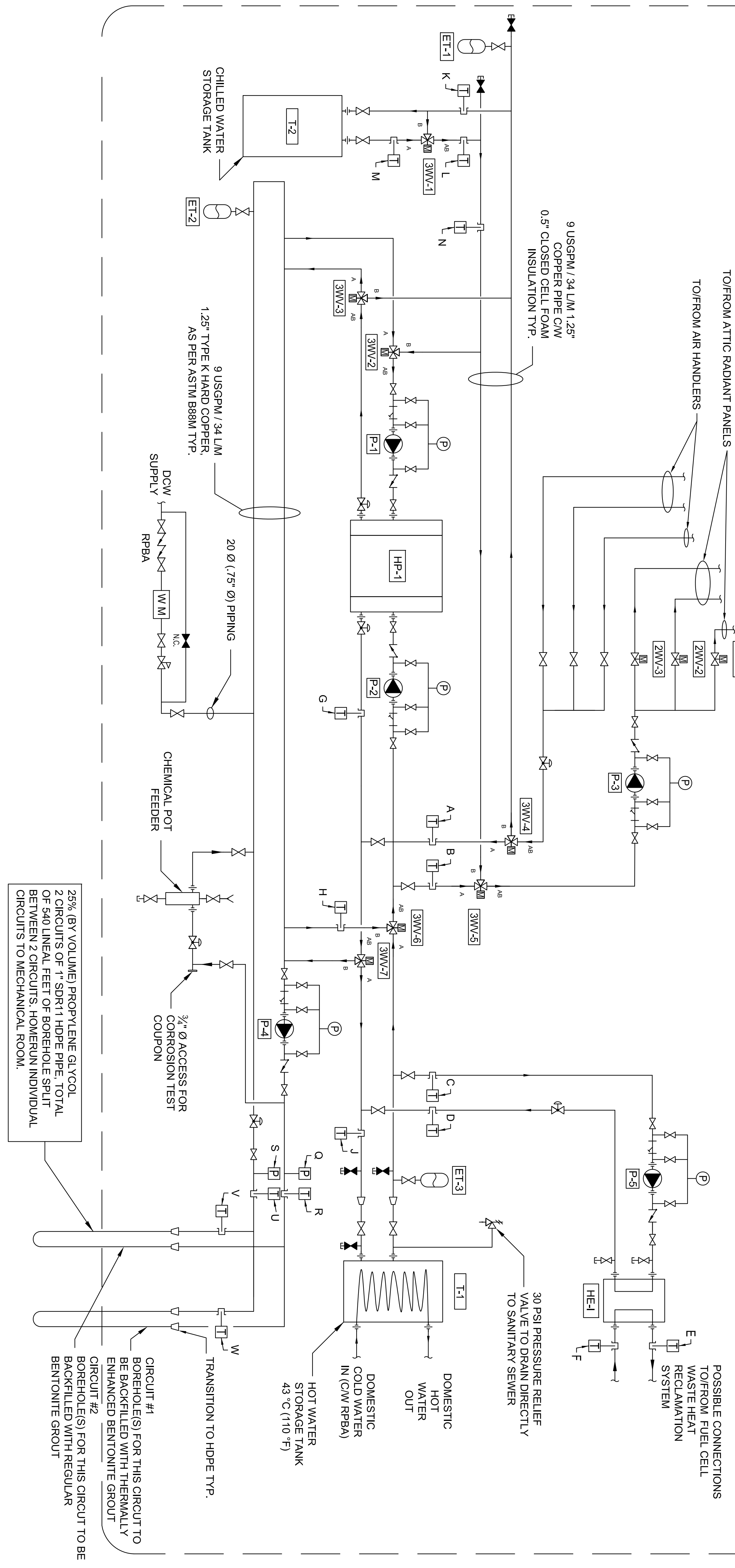
CALLS: X INDICATES CALL FROM APPLICATION BELOW										SYSTEM RESPONSES															
MODE	MODE DESCRIPTION	T-1	T-2	AHU AND/OR RADIANT SYSTEM	HP-1	P-1	P-2	P-3	P-4	P-5	3WV-1 IN	3WV-1 OUT	3WV-2 IN	3WV-2 OUT	3WV-3 IN	3WV-3 OUT	3WV-4 IN	3WV-4 OUT	3WV-5 IN	3WV-5 OUT	3WV-6 IN	3WV-6 OUT	3WV-7 IN	3WV-7 OUT	
1	HEATING FROM GROUND	X		X	ON	ON	ON	ON	ON	OFF	B	AB	AB	AB	AB	A	AB	A	AB	AB	AB	AB	AB	AB	A
2	HEATING WHILE STORING CHW	X	X	X	ON	ON	ON	ON	OFF	OFF	A	AB	B	AB	B	B	B	B	B	B	B	B	B	B	A
3	MAKE CHW WHILE REJECTING HEAT	X			ON	ON	ON	OFF	ON	OFF	A	AB	B	AB	B	B	B	B	B	B	B	B	B	B	B
4	COOLING WHILE HEATING DHW		X	X	ON	ON	ON	ON	OFF	OFF	A	AB	B	AB	B	B	B	B	B	B	B	B	B	B	A
5	COOLING WHILE REJECTING HEAT		X	X	ON	ON	ON	ON	OFF	OFF	B	AB	B	AB	B	B	B	B	B	B	B	B	B	B	B
6	PASSIVE COOLING USING GROUND			X	OFF	ON	OFF	ON	ON	OFF	B	AB	A & B	AB	AB	A & B	AB	B	B	B	B	B	B	B	A
7	PASSIVE HEATING FROM GROUND			X	OFF	OFF	ON	ON	OFF	OFF	A	AB	B	AB	B	B	B	B	B	B	B	B	B	B	B
8	HEATING FROM FUEL CELL	X		X	OFF	OFF	ON	ON	OFF	ON	A	AB	B	AB	B	B	B	B	B	B	B	B	B	B	A
9	REJECTING HEAT FROM FUEL CELL				OFF	OFF	ON	OFF	ON	ON	A	AB	B	AB	B	B	B	B	B	B	B	B	B	B	A&B

LEGEND

ISOLATION VALVE	☒	CHECK VALVE	↳/1	ELECTRONIC TEMPERATURE GAUGE	⊥
2 WAY VALVE	⊘	STRAINER	⊥	ELECTRONIC PRESSURE GAUGE	⊥
3 WAY VALVE	⊘	PRESSURE RELIEF VALVE	⊥	MANUAL TEMPERATURE GAUGE	⊥
BALANCING VALVE	⊘	DIGITAL FLOW METER	FMI	MANUAL PRESSURE GAUGE	⊥
PRESSURE REDUCING VALVE	⊘	REDUCER/DIFFUSER	∇	DIGITAL WATER METER	WM
CAP/PLUG	⊥	UNION	+		
NAME OF POINT	XX XXX				

SENSOR TYPE (L-T LIQUID TEMP, LP-LIQUID PRESS)
 INPUT (I) OR OUTPUT (O)
 ANALOG (A) OR DIGITAL (D)

MECHANICAL ROOM



- NOTES FOR SENSORS A-W:
- A: HHW RETURN TEMP AI LT
 - B: HHW SUPPLY TEMP AI LT
 - C: HE-1 SUPPLY TEMP AI LT
 - D: HE-1 RETURN TEMP AI LT
 - E: FUEL CELL SUPPLY TEMP AI LT
 - F: FUEL CELL RETURN TEMP AI LT
 - G: CONDENSER LWT AI LT
 - H: CONDENSER EWT-GHX AI LT
 - J: TANK EWT AI LT
 - K: CHW TANK EWT AI LT
 - L: CHW TANK MIXED LWT AI LT
 - M: CHW TANK UNMIXED LWT AI LT
 - N: MIXED CHW SUPPLY TEMP AI LT
 - O: GRD. LOOP SUPPLY PRESS AI LP
 - R: GRD. LOOP SUPPLY TEMP AI LT
 - S: GRD. LOOP RETURN PRESS AI LP
 - U: GRD. LOOP RETURN TEMP AI LT
 - V: GHX CIRCUIT #2 LWT AI LT
 - W: GHX CIRCUIT #1 LWT AI LT

- NOTES:
- ALL ELECTRONIC CONTROL SYSTEM MEASUREMENT POINTS SHOWN ON DRAWING TO BE AVAILABLE FOR MONITORING VIA INTERNET CONNECTION.
 - IN MODES 2,3,4 & 5, 3WV-1 WILL SWITCH TO DIRECTING FLOW INTO PORT A AND OUT OF PORT AB IF THE EVAPORATOR EWT DROPS BELOW THE CHILLED WATER STORAGE TANK TEMPERATURE. (HEAT PUMP SERVES LOAD BEFORE CHILLED WATER STORAGE).
 - HP-1 CAN BE MODIFIED/SWITCHED OUT TO MAKE ICE IN T-2 IN THE FUTURE. MODES 2, 3, 4 & 5 WOULD THEN BE USED TO MAKE ICE IN T-2 ONCE THE LOAD IS SATISFIED AND IF THE TIME OF DAY IS RIGHT. (THE ICE WOULD BE USED FOR OFF-PEAK COOLING).

NO.	REVISION / ISSUE	DATE
1	ISSUED FOR REVIEW	07.05.17
2	ISSUED FOR REVIEW	07.10.31

SCALE: NTS
 DRAWN BY: JCB/DJB
 CHECKED BY: DJB/RCT
 PROJECT NUMBER: 07-001
 DRAWING NAME: HYDRONIC SCHEMATIC

PROJECT: BCIT AFRESH HOME GEOTHERMAL RETROFIT

GEO-XERGY SYSTEMS INC.
M-1