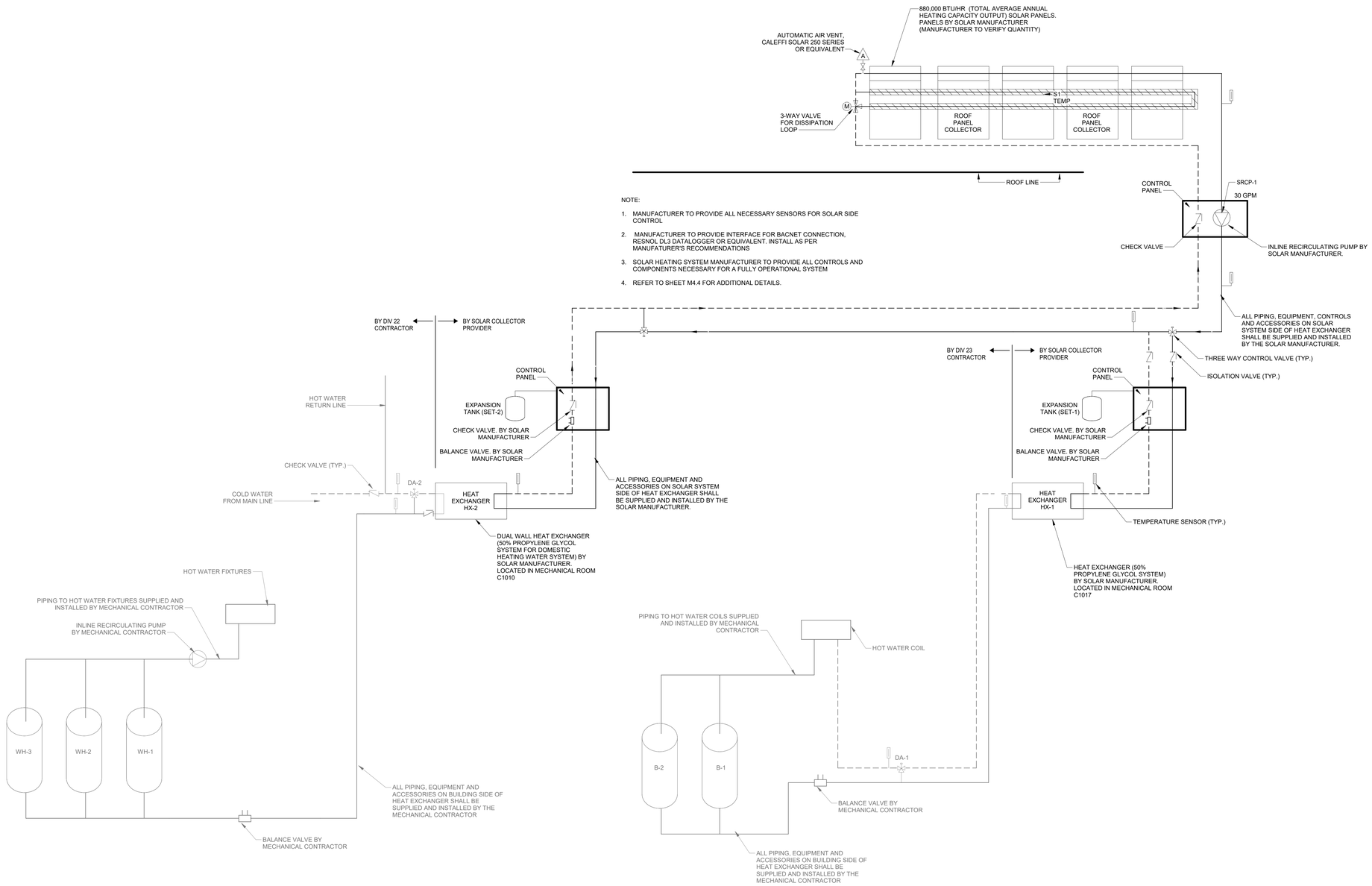
HVAC KEYNOTES

232129	ALL DUCTWORK AND PIPING LAYOUTS TO BE COORDINATED WITH LADDER TO MEET REQUIRED CLEARANCES FOR PERSONNEL ACCESS (TYP.).
232152	2" SOLAR WATER SUPPLY LINE DOWN TO HEAT EXCHANGER AND EXPANSION TANK SERVING HYDRONIC HOT WATER SYSTEM. REFER TO SHEET 1/M4.5 AND SHEET 2/M4.1 FOR ADDITIONAL INFORMATION ON INSTALLATION AND EQUIPMENT LOCATION.
232153	2" SOLAR WATER SUPPLY LINE DOWN TO HEAT EXCHANGER AND EXPANSION TANK SERVING DOMESTIC HOT WATER SYSTEM. REFER TO SHEET 1/M4.5 AND SHEET P4.1 FOR ADDITIONAL INFORMATION ON INSTALLATION AND EQUIPMENT LOCATION.
232154	2" SOLAR WATER SUPPLY LINE AND RETURN LINE UP TO SOLAR PANELS ON THE ROOF. REFER TO 1/M4.5 AND SHEET M1.3 FOR ADDITIONAL INFORMATION.



NOTE:

1. MANUFACTURER TO PROVIDE ALL NECESSARY SENSORS FOR SOLAR SIDE CONTROL
2. MANUFACTURER TO PROVIDE INTERFACE FOR BACNET CONNECTION, RESNOL DL3 DATALOGGER OR EQUIVALENT. INSTALL AS PER MANUFATURER'S RECOMMENDATIONS
3. SOLAR HEATING SYSTEM MANUFACTURER TO PROVIDE ALL CONTROLS AND COMPONENTS NECESSARY FOR A FULLY OPERATIONAL SYSTEM
4. REFER TO SHEET M4.4 FOR ADDITIONAL DETAILS.

1 SOLAR HEAT EXCHANGER PIPING DIAGRAM
SCALE: N.T.S.

SOLAR THERMAL COLLECTOR SCHEDULE

TAG	MAX NUMBER OF PANELS	AVERAGE HEATING CAPACITY OUTPUT PER PANEL (BTU/HR)	TOTAL AVERAGE HEATING CAPACITY OUTPUT (BTU/HR)	INDIVIDUAL PANELS								PRODUCT PERFORMANCE DATA	
				MANUFACTURER	MODEL	DIMENSIONS	DRY WEIGHT	NUMBER OF BULBS	ABSORPTION AREA (SF)	FLUID CAPACITY (GALLONS)	STAGNATION TEMPERATURE (F)	FLOW RATE (GPM)	MAX FLOW RATE (GPM)
STC	40	22,000	880,000	SOLAR AMERICA SOLUTION	SUNQUEST 250	81"W x 76"T	198 LBS	25	88	0.4	515	0.75	3

EXPANSION TANK SCHEDULE

TAG		MANUFACTURER	MODEL	TANK FILL PRESSURE	TANK MAX PRESSURE	TANK MAX. TEMPERATURE	TANK ORIENTATION	TANK TYPE	NOTES
SET	1	BELL & GOSSETT	P20	40	150	200 °F	VERTICAL	DIAPHRAGM TYPE	1,2
SET	2	BELL & GOSSETT	AP20-DW	40	150	200 °F	VERTICAL	DIAPHRAGM TYPE	1,2

NOTES:
1. TANK TO BE ASME RATED.
2. REFER TO 1/M4.5 FOR INSTALLATION REQUIREMENTS.

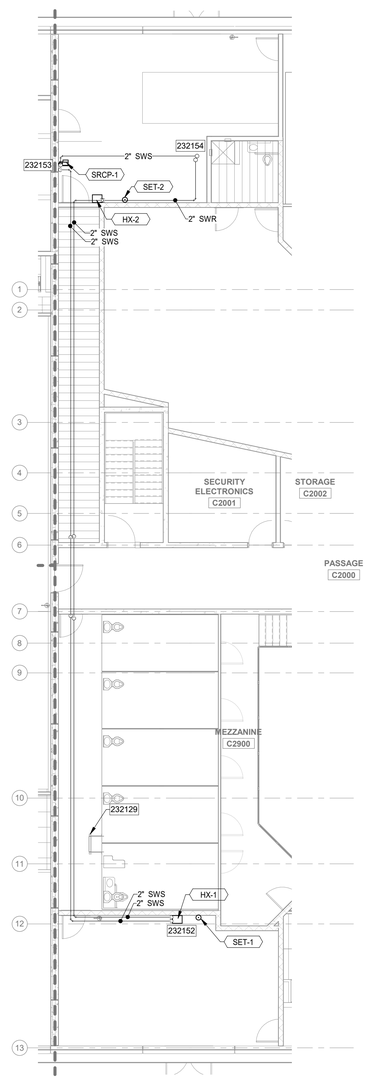
SOLAR INLINE PUMP

TAG		MANUFACTURER	MODEL	GPM	HEAD (FT)	SUCTION SIZE (IN)	DISCHARGE SIZE (IN)	MOTOR (RPM)	MOTOR (HP)	ELECTRICAL DATA				
										VOLT	PHASE	FREQUENCY (Hz)	WEIGHT (LBS)	NOTES
SRCP	1	BELL & GOSSETT	ECOCIRC 95-160 XL	30	45	2	2	2618	2	208	3	60	40	1,2

NOTES:
1. SOLAR MANUFACTURER TO PROVIDE STARTER AND DISCONNECT AS PER DIVISION 26 SPECIFICATIONS.
2. REFER TO DETAIL 1/M4.5, 2/M4.5 AND 10/M5.1.

HEAT EXCHANGER SCHEDULE

TAG		MANUFACTURER	MODEL	INLET SIDE				OUTLET SIDE					TOTAL HEAT EXCHANGED (BTU/HR)
				FLUID	GPM	TEMPERATURE (°F) ENTERING	TEMPERATURE (°F) LEAVING	PRESSURE DROP (PSIG)	FLUID	GPM	TEMPERATURE (°F) ENTERING	TEMPERATURE (°F) LEAVING	PRESSURE DROP (PSIG)	
HX	1	BELL & GOSSETT	P20	PROPYLENE GLYCOL 50%	30	180	120	2.6	WATER	30	100	154.2	2.5	880,000
HX	2	BELL & GOSSETT	AP20-DW	PROPYLENE GLYCOL 50%	30	180	120	5.73	WATER	30	55	108.6	4.64	880,000



2 SOLAR PIPING PLAN - ALTERNATE BID
SCALE: 1/8" = 1'-0"

DLZ
ARCHITECTURE • ENGINEERING • PLANNING
SURVEYING • CONSTRUCTION SERVICES
DLZ INDIANA, LLC

12/06/21
JOSHUA R. APLING
STATE OF INDIANA
PE 10800224
PROFESSIONAL ENGINEER

NO.	REVISION	DATE

DRAWN: SSB
CHK'D: ESA
DESIGNED: SSB
APPRV'D: JRA
DATE: DECEMBER 20, 2021
PROJECT NUMBER 2063-1048-90

SULLIVAN COUNTY SHERIFF'S OFFICE AND CORRECTIONAL FACILITY
2357 NORTH SECTION STREET SULLIVAN, INDIANA 47882

SOLAR THERMAL - HVAC - ALTERNATE BID

DRAWING NUMBER
M4.4

MECHANICAL

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