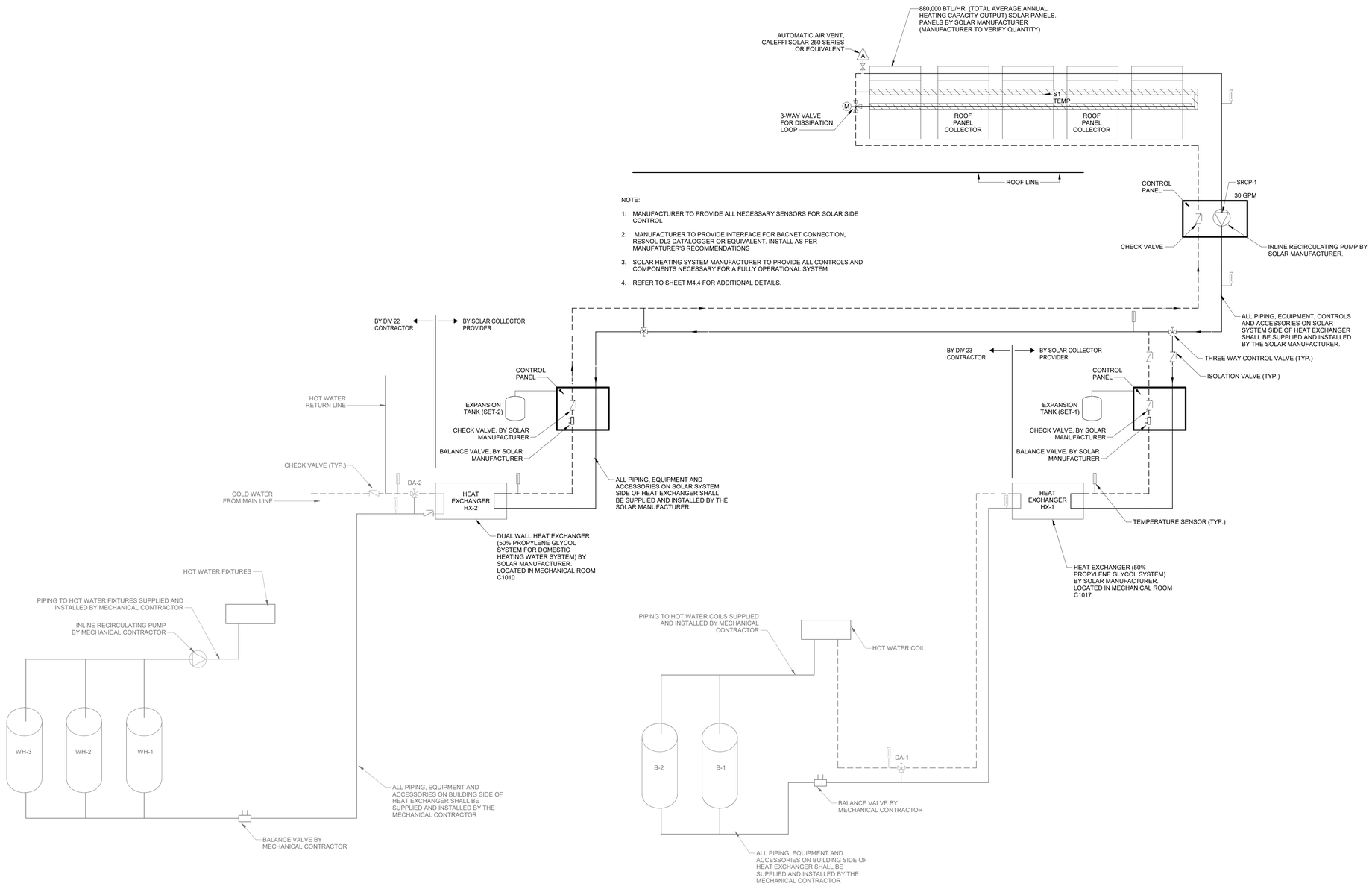
## HVAC KEYNOTES

| | |
|---|---|
| 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 | TANK ONE | EF-TET-4 | 40 | 150 | 200 °F | VERTICAL | DIAPHRAGM TYPE | 1,2 |
| SET | 2 | TANK ONE | EF-TET-4 | 40 | 150 | 200 °F | VERTICAL | DIAPHRAGM TYPE | 1,2 |

A3

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

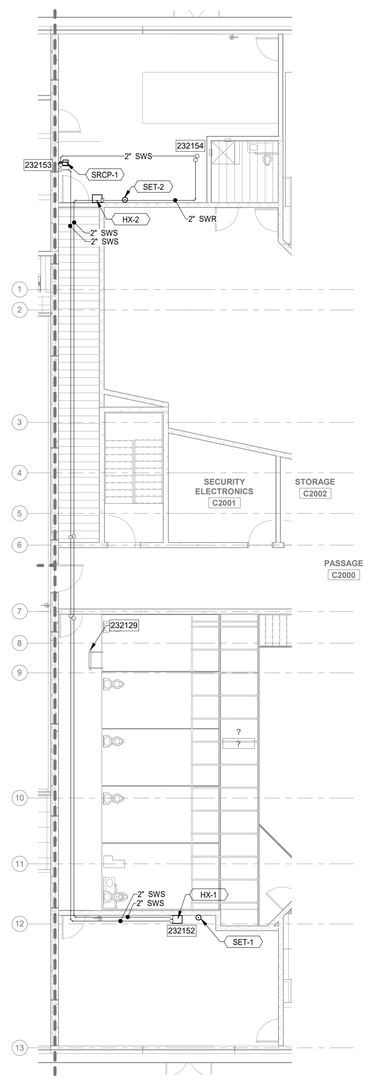
### SOLAR INLINE PUMP

| 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

2/16/22
JOSHUA R. APLING
REGISTERED
PE 10100224
STATE OF INDIANA
PROFESSIONAL ENGINEER

| NO. | REVISION | DATE |
|---|---|---|
| A3 | ADDENDUM 3 | 02/16/22 |

DRAWN: SSB
CHKD: ESA
DESIGNED: SSB
APPROV: 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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