

UHL RESIDENCE

PHOTOVOLTAIC SYSTEM
40343 COUNTY ROAD 68,
STEAMBOAT SPRINGS, CO 80487

SYSTEM SIZE: 3.30 KW-DC | 3.80 KW-AC

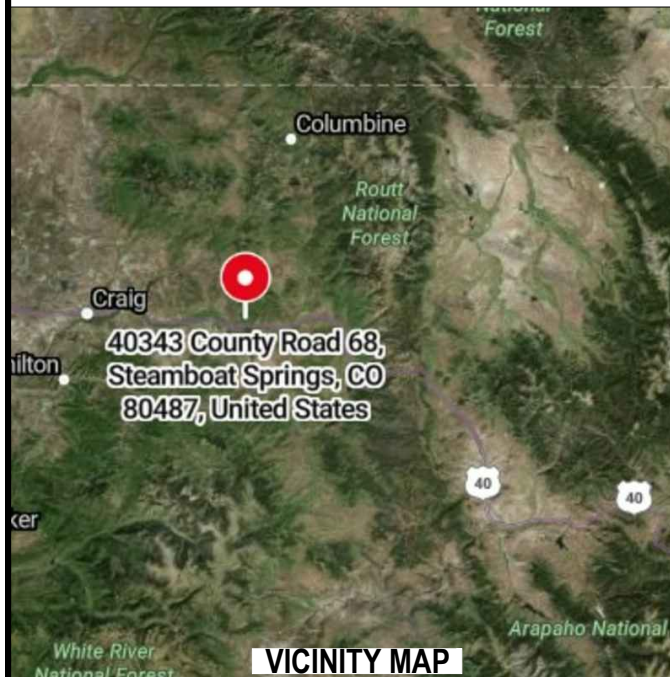
MODULE: (6) ZNSHINE SOLAR: ZXM7-SHDB144-550 [550W]

INVERTER: (1) SCHNEIDER SW CONEXT INVERTER 3800W [240V] INVERTER

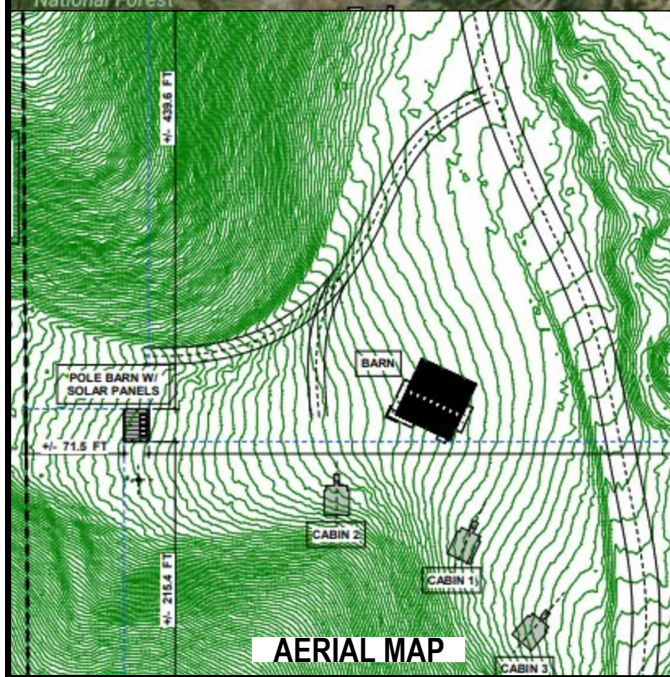
BATTERY: (1) EVO 48V CONDOR ELITE 11.8KW 230AH BATTERY

GOVERNING CODES

- ALL MATERIALS, EQUIPMENT, INSTALLATION AND WORK SHALL COMPLY WITH THE FOLLOWING APPLICABLE CODES:
- 2020 COLORADO ELECTRIC CODE
 - 2021 COLORADO BUILDING CODE
 - 2021 COLORADO RESIDENTIAL CODE
 - 2021 COLORADO PLUMBING CODE
 - 2021 COLORADO FIRE CODE
 - 2021 COLORADO MECHANICAL CODE
 - 2023 INTERNATIONAL ELECTRIC CODE"
 - IEEE STANDARD 929
 - OSHA 29 CFR 1910.269
 - WHERE APPLICABLE, RULES OF THE PUBLIC UTILITIES COMMISSION REGARDING SAFETY AND RELIABILITY
 - THE AUTHORITY HAVING JURISDICTION
 - MANUFACTURERS' LISTINGS AND INSTALLATION INSTRUCTIONS
 - ANY OTHER LOCAL AMENDMENTS



VICINITY MAP



AERIAL MAP

GENERAL

1. UTILITY SHALL BE NOTIFIED BEFORE ACTIVATION OF PHOTOVOLTAIC SYSTEM.
2. 110.2 APPROVAL: ALL ELECTRICAL EQUIPMENT SHALL BE LABELED, LISTED, OR CERTIFIED BY A NATIONALLY RECOGNIZED TESTING LABORATORY ACCREDITED BY THE UNITED STATES OCCUPATIONAL SAFETY HEALTH ADMINISTRATION
3. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS PRIOR TO INITIATING CONSTRUCTION.
4. CONTRACTOR SHALL REVIEW ALL MANUFACTURER INSTALLATION DOCUMENTS PRIOR TO INITIATING CONSTRUCTION.
5. ALL EQUIPMENT AND ASSOCIATED CONNECTIONS, ETC, AND ALL ASSOCIATED WIRING AND INTERCONNECTIONS SHALL BE INSTALLED ONLY BY QUALIFIED PERSONNEL.
6. THE CONTRACTOR OR OWNER MUST PROVIDE ROOF ACCESS (LADDER TO ROOF) FOR ALL THE REQUIRED INSPECTIONS. LADDERS MUST BE OSHA APPROVED, MINIMUM TYPE I WITH A 250LB. RATING, IN GOOD CONDITION AND DESIGNED FOR ITS INTENDED USE.
7. CONTRACTOR SHALL VERIFY THAT THE ROOF STRUCTURE WILL WITHSTAND THE ADDITIONAL LOADS.
8. LAG SCREWS SHALL PENETRATE A MINIMUM 2" INTO SOLID SAWN STRUCTURAL MEMBERS AND SHALL NOT EXCEED MANUFACTURER RECOMMENDATIONS FOR FASTENERS INTO ENGINEERED STRUCTURAL MEMBERS.
9. AN ACCESS POINT SHALL BE PROVIDED THAT DOES NOT PLACE THE GROUND LADDER OVER OPENINGS SUCH AS WINDOWS OR DOORS ARE LOCATED AT STRONG POINTS OF BUILDING CONSTRUCTION AND IN LOCATIONS WHERE THE ACCESS POINT DOES NOT CONFLICT WITH OVERHEAD OBSTRUCTIONS SUCH AS TREE LIMBS, WIRES, OR SIGNS.
10. WHERE DC CONDUCTORS ARE RUN INSIDE BUILDING, THEY SHALL BE CONTAINED IN A METAL RACEWAY; THEY SHALL NOT BE INSTALLED WITHIN 10" OF THE ROOF DECKING OR SHEATHING EXCEPT WHERE COVERED BY THE PV MODULES AND EQUIPMENT.

11. ALL FIELD -INSTALLED JUNCTION, PULL AND OUTLET BOXES LOCATED BEHIND MODULES SHALL BE ACCESSIBLE DIRECTLY OR BY DISPLACEMENT OF A MODULE SECURED BY REMOVABLE FASTENERS.

ELECTRICAL

1. WIRING MATERIALS SHALL COMPLY WITH MAXIMUM CONTINUOUS CURRENT OUTPUT AT 25°C AND MAXIMUM VOLTAGE AT 600V; WIRE SHALL BE WET RATED AT 90°C.
2. EXPOSED PHOTOVOLTAIC SYSTEM CONDUCTORS ON THE ROOF WILL BE USE 2 OR PV-TYPE WIRE.
3. PHOTOVOLTAIC SYSTEM CONDUCTORS SHALL BE IDENTIFIED AND GROUPED. THE MEANS OF IDENTIFICATION SHALL BE PERMITTED BY SEPARATE COLOR-CODING, MARKING TAPE, TAGGING OR OTHER APPROVED MEANS.
4. ALL EXTERIOR CONDUIT, FITTINGS, AND BOXES SHALL BE RAIN-TIGHT AND APPROVED FOR USE IN WET LOCATIONS.
5. ALL METALLIC RACEWAYS AND EQUIPMENT SHALL BE BONDED AND ELECTRICALLY CONTINUOUS.
6. WHERE SIZES OF JUNCTION BOXES, RACEWAYS, AND CONDUITS ARE NOT SPECIFIED, CONTRACTOR SHALL SIZE THEM ACCORDING TO APPLICABLE CODES.
7. REMOVAL OF A UTILITY-INTERACTIVE INVERTER OR OTHER EQUIPMENT SHALL NOT DISCONNECT THE BUILDING CONNECTION BETWEEN THE GROUNDING ELECTRODE CONDUCTOR AND THE PV SOURCE AND/OR OUTPUT CIRCUIT GROUNDED CONDUCTOR.
8. FOR GROUNDED SYSTEMS, THE PHOTOVOLTAIC SOURCE AND OUTPUT CIRCUITS SHALL BE PROVIDED WITH A GROUND-FAULT PROTECTION DEVICE OR SYSTEM THAT DETECTS A GROUND FAULT, INDICATES THAT FAULT HAS OCCURED AND AUTOMATICALLY DISCONNECTS ALL CONDUCTORS OR CAUSES THE INVERTER TO AUTOMATICALLY CEASE SUPPLYING POWER TO OUTPUT CIRCUITS.

9. FOR UNGROUNDED SYSTEMS, THE INVERTER IS EQUIPPED WITH GROUND FAULT PROTECTION AND A GFI FUSE PORT FOR GROUND FAULT INDICATION.
10. PV MODULE FRAMES SHALL BE BONDED TO RACKING RAIL OR BARE COPPER GEC/GEC PER THE MODULE MANUFACTURER'S LISTED INSTRUCTION SHEET.
11. PV MODULE RACKING RAIL SHALL BE BONDED TO BARE COPPER GEC VIA WEEB LUG, ILSCO GBL-4DBT LAY-IN LUG, OR EQUIVALENT LISTED LUG.
12. THE PHOTOVOLTAIC INVERTER WILL BE LISTED AS UL 1741 COMPLIANT.
13. RACKING AND BONDING SYSTEM TO BE UL2703 RATED.
14. ANY REQUIRED GROUNDING ELECTRODE CONDUCTOR WILL BE CONTINUOUS, EXCEPT FOR SPLICES OR JOINTS AS BUS BARS WITHIN LISTED EQUIPMENT.
15. WHEN BACKFED BREAKER IS THE METHOD OF UTILITY INTERCONNECTION, THE BREAKERS SHALL NOT READ "LINE AND LOAD".
16. WHEN APPLYING THE 120% RULE, THE SOLAR BREAKER TO BE POSITIONED AT THE OPPOSITE END OF THE BUS BAR FROM THE MAIN BREAKER.
17. THE WORKING CLEARANCE AROUND THE EXISTING ELECTRICAL EQUIPMENT AS WELL AS THE NEW ELECTRICAL EQUIPMENT WILL BE MAINTAINED.

SHEET INDEX:

- PV-1 - COVER PAGE
- PV-2 - PROPERTY PLAN
- PV-3 - SITE PLAN
- PV-3.1 - ROOF MOUNT PLAN
- PV-4 - 1-LINE DIAGRAM
- PV-5 - MOUNTING DETAILS AND BOM
- PV-6 - LABELS
- PV-7 - STRING MAP
- PV-8 - DATASHEETS
- PV-9 - PLACARD

UHL, BILL

40343 COUNTY ROAD 68,
STEAMBOAT SPRINGS, CO 80487

AHJ: ROUTT COUNTY

OZARK MOUNTAIN OFFGRID LLC
3401 RENO HOLLOW ROAD,
REEDS SPRING, MO 65737
TEL. NO. 4178159005
LIC. NO. LC1806461

COVER PAGE

DATE: 4/10/2024
DRAWN BY: KK

REV #1:
REV #2:
REV #3:

PV-1



LEGEND:

PROPERTY LINE: — — — — —

DRIVEWAY: - - - - -

POLE BARN

SMALL BARN

BIG BARN

1319'-5"

439'-11"

673'-8"

89'-5"

1226'-7"

753'-2"

215'-4"

1317'

PROPERTY LINE

DRIVEWAY

CONSTRUCTION AREA

----COUNTY ROAD 68----

CABIN 2

CABIN 1

CABIN 3

NOTE: PROPERTY LINE ON SOUTH
BORDER IS >1000'

SCALE: 1/128" = 1'-0"

UHL, BILL
40343 COUNTY ROAD 68,
STEAMBOAT SPRINGS, CO 80487

AHJ: ROUTT COUNTY

OZARK MOUNTAIN OFFGRID LLC
3401 RENO HOLLOW ROAD,
REEDS SPRING, MO 65737
TEL. NO. 4178159005
LIC. NO. LC1806461

PROPERTY PLAN

DATE: 4/10/2024
DRAWN BY: KK

PV-2