PROJECT TITLE

PROP D:

FAA:
https://www.sandiego.gov/sites/default/files/dsdib520.pdf

CODE & STANDARD

DESIGN COMPLYING WITH THE LATEST EDITION OF CALIFORNIA ELECTRICAL CODE, INC. THE SAN DIEGO AREA ELECTRICAL NEWSLETTERS AND ALL LOCAL ORDINANCES AND POLICIES.

GENERAL NOTES

SOLAR PHOTOVOLTAIC SYSTEM TO BE INSTALLED ON RESIDENTIAL STRUCTURE.

THIS PROJECT HAS BEEN DESIGNED IN COMPLIANCE WITH THE EBC SECTION 1609 TO WITHSTAND A MINIMUM 75 MPH WIND LOAD.

THE HOUSE IS . . . . . . STORY(IES) TALL.

THE RAFTERS ARE . . . . . . . . AND . . . . INCHES ON CENTER.

THIS SYSTEM WILL NOT BE INTERCONNECTED UNTIL APPROVAL FROM THE LOCAL JURISDICTION AND THE UTILITY IS OBTAINED.

WHEN A STORAGE BATTERY IS PROVIDED, THIS SYSTEM SHALL BE AN UTILITY INTERACTIVE SYSTEM WITH LISTED STORAGE BATTERIES PER EEC ARTICLE 51, AND CPC SECTION 620 REQUIREMENTS.

STATIONARY STORAGE BATTERY SYSTEMS SHALL COMPLY CFC, AND MAXING CAPACITIES NOT EXCEEDING THE VALUES SHOWN IN TABLE 608.1 2016 CPC.

THE SOLAR PHOTOVOLTAIC INSTALLATION SHALL NOT OBSTRUCT ANY PLUMBING, MECHANICAL OR BUILDING ROOF VENTS.

IF THE EXISTING MAIN SERVICE PANEL DOES NOT HAVE VERIFIABLE GROUNDED ELECTRODE, IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSTALL A SUPPLEMENTAL GROUNDED ELECTRODE.

EACH MODULE WILL BE GROUNDED USING THE SUPPLIED CONNECTIONS POINTS IDENTIFIED ON THE MODULE AND THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.

A LADDER SHALL BE IN PLACE FOR INSPECTION IN COMPLIANCE WITH CAL-OSHA REGULATIONS.

PROPER ACCESS AND WORKING CLEARANCE WILL BE PROVIDED AS PER SECTION 110.26 CEC.

THIS PROJECT HAS BEEN DESIGNED IN COMPLIANCE WITH THE CITY OF SAN DIEGO PROP D & FAA REQUIREMENTS.

PROP D:

FAA:

SCOPE OF WORK:

SHEET INDEX:

As the homeowner of the subject project, I certify that I am requesting to install the solar photovoltaic system shown on these plans.

_________________________________________ Home Owner Signature  ___________________________________ Home Owner's Name (Printed)
1. All plaques and signage required by the latest edition of California Electrical Code and the San Diego Area Electrical Newsletter, will be installed as required.

2. Alternate power source placard shall be metallic or plastic, engravied or machine printed letters in a contrasting color to the plaque. This plaque will be attached by pop rivets or screws, or other approved method. If exposed to sunlight, it shall be UV resistance.

3. Photovoltaic DC conductors entering the building shall be installed in metal conduit and the conduit shall be labeled, "Caution DC circuit" or equivalent every 10 ft.

4. Exposed non-current carrying metal parts of module frames, equipments, and conductor enclosures shall be grounded in accordance with 250.134 or 250.136 (A) regardless of voltage.

5. Each module shall be grounded using the supplied connection point identified on the module and the manufacturer's instructions.

6. If the existing grounding electrode system can not be verified or is only metallic water pipping, it is the contractor's responsibility to install a supplemental grounding electrode.

7. The inverter shall be listed as a utility interactive.

8. Unit installed on the same building as the modules but not on the roof.

9. The inverter output circuit conductors shall terminate within the service panel in accordance with CEC 690.11.

10. Backfeed breakers in the service panel shall be suitable for that use.

SCOPE: Use this plan ONLY for electrical review of utility-interactive central/string inverter systems not exceeding a combined system AC inverter output of 10kW on the roof of a single or duplex family dwelling or accessory building. The specific structural and fire requirements are covered under a separate permit. The photovoltaic system must interconnect to the load side of a single-phase AC service panel of 240 Vac or less with a busbar rating of 250A or less. This plan is not intended for bipolar systems, hybrid systems or systems that utilize storage batteries, charge controllers, trackers, ac modules, more than two inverters or more than one DC combiner (non-inverter-integrated) per inverter. Systems must be in compliance with current California Building Standards Codes and all applicable San Diego Codes. Other Articles of the California Electrical Code (CEC) shall apply as specified in 690.3.

MANUFACTURER'S SPECIFICATION SHEETS MUST BE PROVIDED for proposed inverters, modules, combiner/junction boxes, racking systems, and rapid shutdown system or equipment. Installation Instructions for bonding and grounding equipment and rapid shutdown systems shall be provided, and local AHS may require additional details. Listed and labeled equipment shall be installed and used in accordance with any instructions included in the listing or labeling (CEC 110.3). Equipment intended for use with PV system shall be listed for the PV application (CEC 690.4(b)).
1. All plaques and signage required by the latest edition of California Electrical Code and the San Diego Area Electrical Newsletter, will be installed as required.

2. Alternate power source placard shall be metallic or plastic, engraved or machine printed letters in a contrasting color to the plaque. This plaque will be attached by pop rivets or screws or other approved method. If exposed to sunlight, it shall be UV resistant.

3. Photovoltaic DC conductors entering the building shall be installed in metal conduit and the conduit shall be labeled, "CAUTION DC CIRCUIT" or equivalent every 10 ft.

4. Exposed non-current carrying metal parts of module frames, equipments, and conductor enclosures shall be grounded in accordance with 250.134 or 250.136 (A) regardless of voltage.

5. Each module shall be grounded using the supplied connection point identified on the module and the manufacturer's instructions.

6. If the existing grounding electrode system cannot be verified or is only metallic water piping, it is the contractor's responsibility to install a supplemental grounding electrode.

7. The inverter shall be listed as a utility interactive unit installed on the same building as the modules but not on the roof.

8. The inverter output circuit conductors shall terminate within the service panel in accordance with CEC 688.8(B)(1).

9. Backfeed breakers in the service panel shall be suitable for that use.

10. All equipment shall be installed in accordance with the manufacturer's approved installation instructions. A copy of these instructions are included as part of this plan.

11. All equipment and wiring shall be listed by national recognized testing agency.

12. Minimum 8 AWG equipment grounding conductor (EGC) when it is subject to physical damage, or install the EGC in an approved raceway.

13. All wiring shall be of copper material, and kept outside of the building.

14. All electrical equipment including the service shall have a legible, visible, and durable marking indicating the manufacturer name, current, voltage, frequency, and number of phases.

15. Each installed equipment, wiring and overcurrent protective device (OCPD) shall have a short circuit rating not less than the available short circuit current at their input terminals.

16. The inverter shall comply with CEC 688.11.

17. Manufacturer's specifications must be provided for proposed inverters, modules, combiner/junction boxes and racking systems. Installation instructions for bonding and grounding equipment shall be provided and local AHAs may require additional details.

Labeled and labeled equipment shall be installed and used in accordance with any instructions included in the listing or labeling (CEC 110.3). Equipment intended for use with PV system shall be identified and listed for the application (CEC 690.4(D)).
1. All plaques and signage required by the latest edition of California Electrical Code and the San Diego Area Electrical Newsletter, will be installed as required.

2. Alternate power source placard shall be metallic or plastic, engraved or machine printed letters in a contrasting color to the plaque. This plaque will be attached by pop rivets or screws or other approved method. If exposed to sunlight, it shall be UV resistance.

3. Photovoltaic DC conductors entering the building shall be installed in metal conduit and the conduit shall be labeled, “Caution DC Circuit” or equivalent every 10 ft.

4. Exposed non-current carrying metal parts of module frames, equipments, and conductor enclosures shall be grounded in accordance with 250.134 or 250.136 (A) regardless of voltage.

5. Each module shall be grounded using the supplied connection point identified on the module and the manufacturer’s instructions.

6. If the existing grounding electrode system cannot be verified or is only metallic water piping, it is the contractor’s responsibility to install a supplemental grounding electrode.

7. The inverter shall comply with the manufacturer’s approved installation instructions. A copy of these instructions are included as part of this plan.

8. All equipment and wiring shall be listed by National Recognized Testing Agency.

9. Use minimum 8 AWG equipment grounding conductor (EGC) when it is subject to physical damage, or install the EGC in an approved raceway.

10. All wiring shall be of copper material, and kept outside of the building.

11. All equipment including the service shall have a legible, visible, and durable marking indicating the manufacturer name, current, voltage, frequency, and number of phases.

12. Each installed equipment, wiring and overcurrent protective device (OCPD) shall have a short circuit rating not less than the available short circuit current at their input terminals.

13. The inverter shall comply with accordance with CEC 690.11.
1. ALL PLAQUES AND SIGNAGE REQUIRED BY THE LATEST EDITION OF CALIFORNIA ELECTRICAL CODE AND THE SAN DIEGO AREA ELECTRICAL NEWSLETTER, WILL BE INSTALLED AS REQUIRED.

2. ALTERNATE POWER SOURCE PLAQUE SHALL BE METALLIC OR PLASTIC, ENGRAVED OR MACHINE PRINTED LETTERS IN A CONTRASTING COLOR TO THE PLAQUE. THE PLAQUE WILL BE ATTACHED BY POP RIVETS OR SCREWS OR OTHER APPROVED METHOD. IF EXPOSED TO SUNLIGHT, IT SHALL BE UV RESISTANCE.

3. PHOTOVOLTAIC DC CONDUCTORS ENTERING THE BUILDING SHALL BE INSTALLED IN METAL CONDUIT AND THE CONDUIT SHALL BE LABELED, "CAUTION DC CIRCUIT" OR EQUIVALENT EVERY 10 FT.

4. EXPOSED NON-CURRENT CARRYING METAL PARTS OF MODULE FRAMES, EQUIPMENTS, AND CONDUCTOR ENCLOSURES SHALL BE GROUNDED IN ACCORDANCE WITH 250.134 OR 250.136 (A) REGARDLESS OF VOLTAGE.

5. EACH MODULE SHALL BE GROUNDED USING THE SUPPLIED CONNECTION POINT IDENTIFIED ON THE MODULE AND THE MANUFACTURER’S INSTRUCTIONS.

6. IF THE EXISTING GROUNDING ELECTRODE SYSTEM CAN NOT BE VERIFIED OR IS ONLY METALIC WATER PIPING, IT IS THE CONTRACTOR’S RESPONSIBILITY TO INSTALL A SUPPLEMENTAL GROUNDING ELECTRODE.

7. THE INVERTER SHALL BE LISTED AS A UTILITY INTERACTIVE UNIT INSTALLED ON THE SAME BUILDING AS THE MODULES BUT NOT ON THE ROOF.

8. THE INVERTER OUTPUT CIRCUIT CONDUCTORS SHALL TERMINATE WITHIN THE SERVICE PANEL IN ACCORDANCE WITH CEC 690.64(B)(7).

9. BACKFEED BREAKERS IN THE SERVICE PANEL SHALL BE SUITABLE AS SUCH.

10. ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER’S APPROVED INSTALLATION INSTRUCTIONS. A COPY OF THESE INSTRUCTIONS ARE INCLUDED AS PART OF THIS PLAN.

11. ALL EQUIPMENT AND WIRING SHALL BE LISTED BY NATIONAL RECOGNIZED TESTING AGENCY.

12. USE MINIMUM 8 AWG EQUIPMENT GROUNDING CONDUCTOR (EGC) WHEN IT IS SUBJECT TO PHYSICAL DAMAGE, OR INSTALL THE EGC IN AN APPROVED RACEWAY.

13. ALL WIRING SHALL BE OF COPPER MATERIAL, AND KEPT OUTSIDE OF THE BUILDING.

14. ALL ELECTRICAL EQUIPMENT INCLUDING THE SERVICE SHALL HAVE A LEGIBLE, VISIBLE, AND DURABLE MARKING INDICATING THE MANUFACTURER NAME, CURRENT, VOLTAGE, FREQUENCY, AND NUMBER OF PHASES.

15. EACH INSTALLED EQUIPMENT, WIRING AND OVERCURRENT PROTECTIVE DEVICE (OCPD) SHALL HAVE A SHORT CIRCUIT RATING NOT LESS THAN THE AVAILABLE SHORT CIRCUIT CURRENT AT THEIR INPUT TERMINALS.

16. THE INVERTER SHALL COMPLY ACCORDANCE WITH CEC 690.11.

17. ALL ELECTRICAL EQUIPMENT INCLUDING THE SERVICE SHALL HAVE A LEGIBLE, VISIBLE, AND DURABLE MARKING INDICATING THE MANUFACTURER NAME, CURRENT, VOLTAGE, FREQUENCY, AND NUMBER OF PHASES.

SCOPE: Use this plan ONLY for electrical review of utility interactive central/string inverter systems not exceeding a combined system AC Inverter output of 10kW on the roof of a single or duplex family dwelling or accessory building. The specific structural and fire requirements are covered under a separate permit. The photovoltaic system must interconnect to the load side of a single-phase AC service panel of 240Vac or less with a busbar rating of 225A or less. This plan is not intended for bipolar systems, hybrid systems or systems that utilize storage batteries, charge controllers, trackers, ac modules, more than two inverters or more than one DC combiner (non-inverter-integrated) per inverter. Systems must be in compliance with current California Building Standards Codes and all applicable San Diego Codes. Other Articles of the California Electrical Code (CEC) shall apply as specified in 690.3.

MANUFACTURER’S SPECIFICATION SHEETS MUST BE PROVIDED for proposed inverters, modules, combiner/junction boxes, racking systems, and rapid shutdown system or equipment. Installation instructions for bonding and grounding equipment and rapid shutdown systems shall be provided, and local AHUs may require additional details. Listed and labeled equipment shall be installed and used in accordance with all instructions included in the listing or labeling (CEC 110.3). Equipment intended for use with PV system shall be listed for the PV application (CEC 690.4(B)).
Emergency Escape and Rescue Opening Access

A 36 inch wide pathway shall be provided to the emergency escape and rescue opening.
Ridge Setbacks – <33% Total Roof Area

18” Setback from both sides of ridge above PV
Setbacks & Pathways w/ Hips, Valleys & Driveways

36” Setback from Both Sides of Ridge above PV

Pathway to Ridge Options

For each roof plane with a photovoltaic array, at least one 36 in. wide pathway from lowest roof edge to ridge shall be provided on the same roof plane as the photovoltaic array, or on an adjacent roof plane, or straddling the same and adjacent roof planes.

"At least one pathway shall be provided on the street or driveway side of the roof."

Matt Plass
Fire Captain - San Jose, CA
www.energysourcesolutions.com