

Photovoltaic and Energy Storage System Submittal Checklist (CD-B218)

A permit is required for the installation, addition, or removal of Photovoltaic (PV) Panels and/or Energy Storage Systems (ESS). PV and ESS systems shall be installed in accordance with the current adopted edition of the California Electrical Code Article 690, Article 706, and California State Fire Marshall Photovoltaic Installation Guidelines and any other applicable articles or codes adopted by the City of Folsom. See below for the permitting process and items required for the review and approval of PV and ESS:

Permitting Process: PV and ESS are submitted via eTRAKiT system (permitting) then reviewed and approved using the ProjectDox (plan review). To learn more about the eTRAKiT and ProjectDox system, please visit the [Plan Review Webpage](#). Review and approval for qualifying PV and ESS may take 3 days if all information is provided and consistent with current code. Below are the basic steps to submitting PV and ESS:

1. Applicant applies for permit using the [eTRAKiT](#) system. No plans are uploaded at this step.
2. City staff reviews the electronic application for completeness.
 - a. If the application is incomplete, it will be noted as INCOMPLETE in eTRAKiT. The Applicant shall be notified via email and will log in to eTRAKiT to submit additional information or clarify existing information. City staff will be notified electronically that additional information was provided and the permit application will be in review again with City Staff for the completeness check.
3. Once the permit application is deemed complete, plan check fees will be calculated.
4. The Applicant will be notified via email when fees are due. The Applicant will log in to eTRAKiT to pay fees electronically or can pay in person at the CDD Building Counter.
5. Once fees are paid, City staff will open a portal in ProjectDox for the applicant to upload the plans and supporting documents. The Applicant will receive an email invitation from ProjectDox to create a user account and upload documents.
6. The Applicant will submit the plans and they will be reviewed for code compliance in ProjectDox.
7. Once the permit is approved, the Applicant will be notified via email when the issuance fees are confirmed.
8. The Applicant will log in to eTRAKiT to pay the issuance fees.
9. The fee will be processed by City Staff and the drawings and documents will be processed.
10. The Applicant will be notified via email the permit documents are ready for download. The Applicant will log in to eTRAKiT to view the permit card. The Applicant will find the stamped plans and documents in ProjectDox.
11. Inspections can now be scheduled for the issued building permit. To learn more about scheduling inspections, please visit the [Inspections Page](#). Typically, the only required inspection for PV and ESS is 989 FINAL SOLAR PV inspection.

How to Apply for a PV or ESS:

1. Log in to eTRAKiT and select Apply for a Permit
2. For PERMIT Type, select either ALTERATIONS-RESIDENTIAL or EXTERIOR MODIFICATIONS-COMMERCIAL depending on the type of project
3. For PERMIT Subtype, select SOLAR – PHOTOVOLTAIC
4. Fill out all Additional Information below that is pertinent to the scope of work
5. Search for and select the Address the PV or ESS will be installed or modified at
6. Select if you are the Property Owner and/or the Contractor
7. **Do not upload any attachments at this time. The drawings and documents will be uploaded to ProjectDox. To learn more, please visit the [Plan Review Webpage](#).**
8. Click on Next step and fill out the rest of the information and submit the permit application
9. Your permit application is now successfully submitted and in review with City Staff.

Documents and Plans required for EVSE:

Plot Plan showing:

- Location of the system with dimensions from edge of roof ridge, valley/hip and the access path (CRC R324.6.2)
- PV module array configuration and location of equipment
- Main service panel location and existing amperage

PV Equipment Manufacturer Specifications for at a minimum the following equipment:

- **Inverter** – Model Number and Integrated Disconnect (CEC 690.15)
- **Photovoltaic Panel Modules** – Open-circuit voltage, Short-circuit current, maximum system voltage, maximum fuse rating, maximum power-panel wattage
- **Micro-inverter**
- **Junction Box**
- **Disconnect Devices** - including Rapid Shutdown (CEC 690.56) and Manual Disconnect (within 5 ft of existing service panel)
- **ESS Equipment**

Electrical Single Line Drawing showing:

- System kW rating and notation if a battery backup is included
- PV array layout, number of modules, and power source
- Junction box per CEC Article 314
- DC to DC converter output circuit, if applicable
- Inverter or microinverter watt size compatible with the PV power source
- Circuit wiring size and material type in accordance with Table 310.15(B)(16) or (17)
- Energy storage batteries, if applicable, in accordance with Article 690.71 and Article 706
- Remote Manual Disconnect as required per FMC 8.36
- Controller devices including diversion charge controller device
- Rapid shutdown per Article 690.56
- Circuit breaker
- Service Panel – Note if existing or replacement, location and point of connect

Anchorage Details – Mounting system, number of bolts with location, diameter, and embedment information and details

Labels, Markings and Required Signage - per FMC Chapter 8.36 Section 1204 and CEC Article 690

Structural Calculations – Stamped and signed by a California Registered Civil or Structural Engineer for roof anchorage of the panels and check of the existing roof system for support

Provide the following Notes on the Plans:

Folsom Municipal Code Section 8.36: Photovoltaic circuits shall be equipped with a means for remote electrical disconnect located downstream from the photovoltaic array at the point where the photovoltaic circuit first enters the structure, or at another approved location. The manual control to operate the remote electrical disconnect shall be located within five feet of the building's main electrical panel. The remote electrical disconnect shall be listed and meet the requirements of the California Electrical Code.

2019 CEC 690.15 - Switch or Circuit Breaker. The disconnecting means for ungrounded conductors shall consist of a manually operable switch(es) or circuit breaker(s) complying with all the following requirements:

- Be within 5 ft of existing service panel and be readily accessible
- Externally operable without exposing the operator to contact with live parts
- Plainly indicating whether in the open or closed position
- Having an interrupting rating sufficient for the nominal circuit voltage and the current that is available at the line terminals of the equipment.

2019 CEC 250.122 - Size of Equipment Grounding Conductors. Copper, aluminum, or copper-clad aluminum equipment grounding conductors of the wire type shall not be smaller than shown in Table 250.122 but shall not be required to be larger than the circuit conductors supplying the equipment.

2019 CEC 705.12(B) - Load Side. A photovoltaic power source shall be permitted to be connected to the load side of the service disconnecting means of the other source(s) at any distribution equipment on the premises, provided that (exception) the sum of the ampere ratings of the overcurrent devices shall not exceed 120% of the rating of the busbar or conductor.



One Line Diagram Example for One- and Two-Family Dwellings
(from the Solar Permitting Guidebook)

SINGLE-LINE DIAGRAM #1 - LOAD SIDE CONNECTION

CHECK A BOX FOR WHETHER SYSTEM IS GROUNDED OR UNGROUNDED:
 GROUNDED (INCLUDE GEC)
 UNGROUNDED

REFER TO STEP 14 FOR RAPID SHUTDOWN DETAILS

FOR UNGROUNDED SYSTEMS:
 - DC OCPD MUST DISCONNECT BOTH CONDUCTORS OF EACH SOURCE CIRCUIT
 - UNGROUNDED CONDUCTORS MUST BE IDENTIFIED PER 210.5(C). WHITE-FINISHED CONDUCTORS ARE NOT PERMITTED.

* Consult with your local AHJ and /or Utility

VERIFY EXISTING BUSBAR IS MINIMUM 200 AMP

MAIN SERVICE PANEL BUSBAR RATING: _____

MAIN OCPD RATING: _____

PV OCPD RATING: _____

Inverter Make: _____
Inverter Model: _____

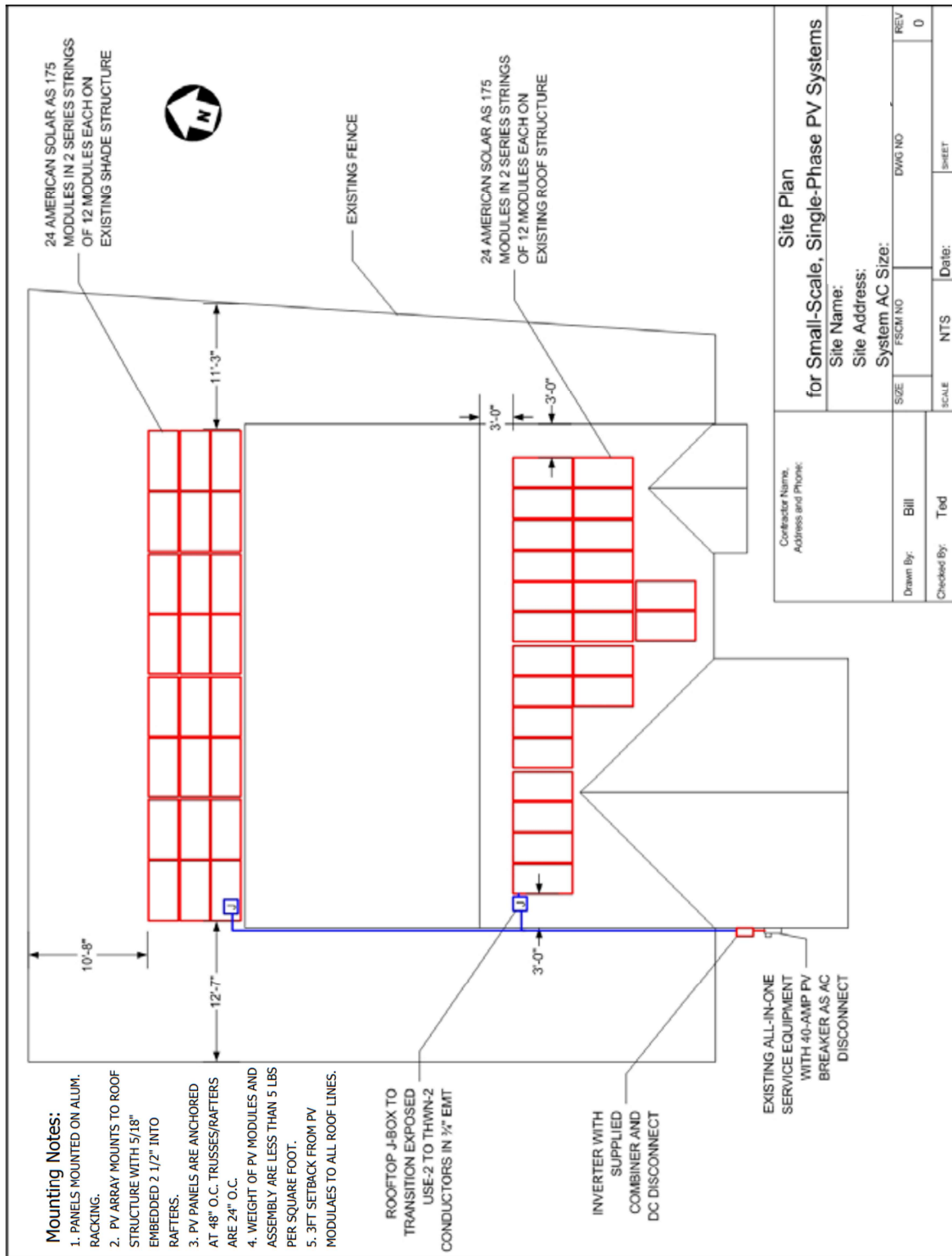
ENTER "N/A" WHERE SUITABLE FOR WHEN NOT USING CONDUIT OR CABLE AS PERMITTED BY CODE

NOTE: THE MANUAL DISCONNECT SHALL BE LOCATED WITHIN 5 FT OF THE EXISTING SERVICE PANEL, PER FOLSOM MUNICIPAL CODE SECTION 8.36.

TAG		CONDUCTOR/CONDUIT SCHEDULE		
DESCRIPTION AND CONDUCTOR TYPE	CONDUCTOR TYPE	NUMBER OF CONDUCTORS	CONDUIT/CABLE TYPE	CONDUIT SIZE
A USE-2 <input type="checkbox"/> OR PV-WIRE <input type="checkbox"/>				
EGC/GEC:				
B				
EGC/GEC:				
C				
EGC/GEC:				
D				
EGC/GEC:				



Standard PV Plan Example for One- and Two-Family Dwellings
(from the Solar Permitting Guidebook)

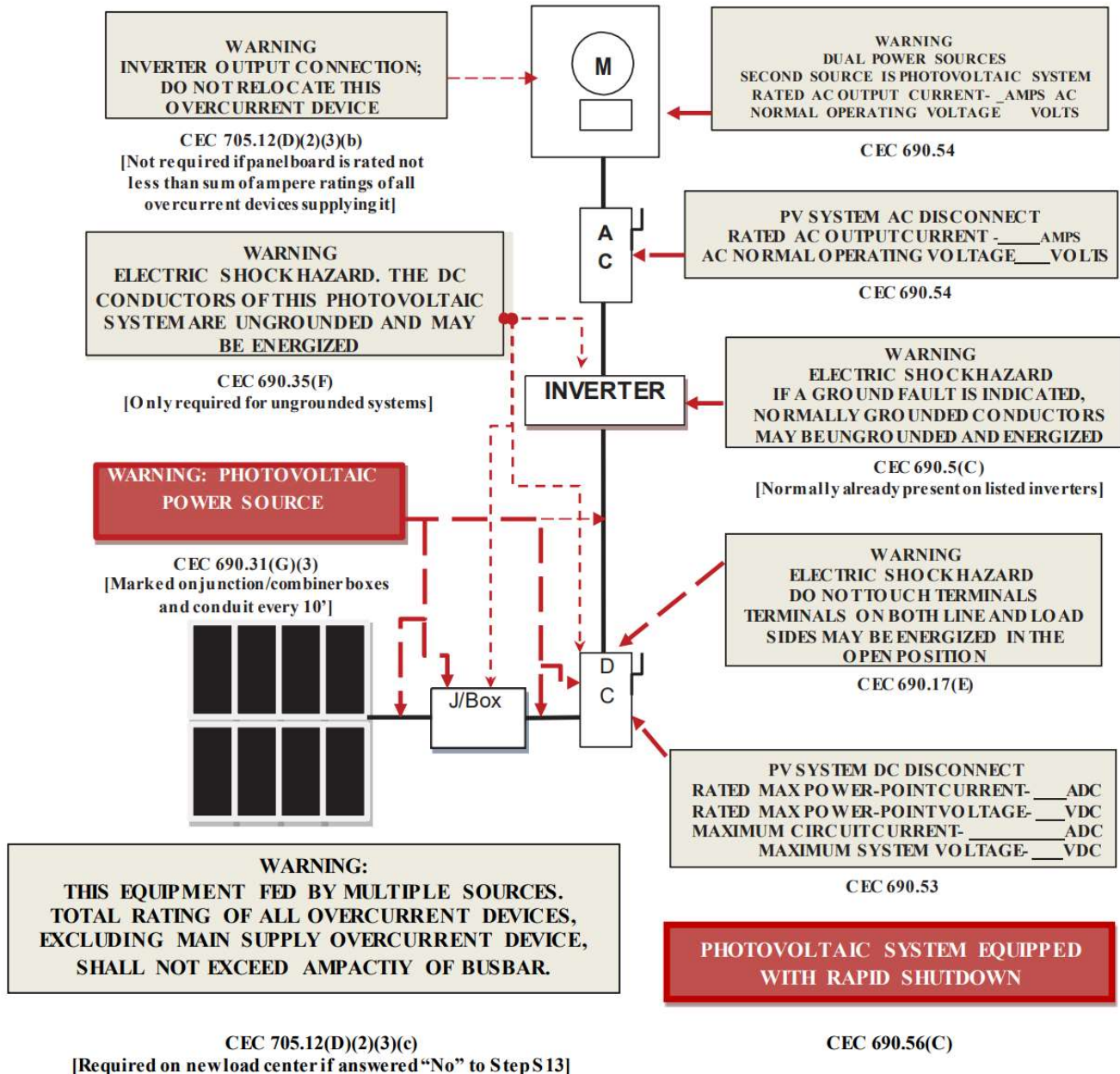


NOTE: This is a sample illustration. All building permit applications shall reflect site specific conditions.

Standard Required Markings Example for One- and Two-Family Dwellings

(from the Solar Permitting Guidebook)

CEC Articles 690 and 705 and CA Residential Code Section R324 require the following labels or markings be installed at these components of the photovoltaic system:



Informational note: ANSI Z535.4-2011 provides guidelines for the design of safety signs and labels for application to products. A phenolic plaque with contrasting colors between the text and background would meet the intent of the code for permanency. No type size is specified, but 20 point (3/8") should be considered the minimum.

CEC 705.12 requires a permanent plaque or directory denoting all electric power sources on or in the premises or rapid fire shutdown equipment.