City of Banning Electric Utility

Self-Generating Facility Application for Residential Photovoltaic Systems

Customer Information

Name (As it appears on the Utility Bill)

Installation Address of System	Banning, City	CA State	92220 Zip Code

Phone Number | Customer Account Number **(Required)** | E-mail address **(Required)**

Retailer/Seller (seller of solar photovoltaic equipment) Information

Name of Company | Address | Federal Tax ID No.

Business Phone | Purchase Date | Seller e-mail address

Installer Information

Name of Company/Contractor | Address | Federal Tax ID No.

Business Phone | Contractor License Type & Number | Installer e-mail address

Generating System Information

PV Module Manufacturer_____ PV Module Model # _____ Quantity _____

STC Power rating per Module_____ Watts Total Model Output_____ Watts

Projected Annual kWh Output _____ Watts (Number of modules x STC rating per module)

Inverter Manufacturer_____ Inverter Model Number _____

System Rated Output_____ Watts (CEC A/C) Number of Inverters_____

Array Tilt (degrees) _____ Array Azimuth (degrees) _____ Mounting Method _____

Energy Storage Manufacturer_____ Model_____

Quantity_____ Power Rating per Module_____ Total Power Rating_____

The undersigned declare under penalty of perjury that the information provided and stated in this form is true and correct to the best of my knowledge, that the above-described self-generating system is intended primarily to offset part, or all of the electrical needs at the site of the installation, and the **required contributions in aid of construction of $500.00 is paid at the time of submission**. I understand and agree that the choice of improvements, the selection of contractors, the purchase of items and acceptance of materials used and work performed, and the payments thereof, is my responsibility. I understand that the City of Banning does not endorse, recommend or make any representations as to specific brands, products, contractors or dealers; nor does it guarantee material or workmanship. I also agree to allow the City of Banning Public Utilities to access my premises for verification purposes.

_____ _____

Applicant (Customer) Signature Date

For office use only:

Check / Money Order #: _____ Project #: _____

Date received: _____ Date Approved: _____

_____ _____

Signature (Public Benefits Coordinator) Date

City of Banning Electric Utility

Self-Generating Facility Calculation Worksheet for Residential Photovoltaic Systems

PV Module Information

Provide Complete information

1. PV Module Manufacturer _____
2. PV Module Model # _____
3. PV Module Quantity _____
4. PV STC Power Rating per Module _____
5. Total Module Output (STC Rating x Quantity) _____
6. Projected Annual kWh Output _____

Inverter Information

Provide Complete information

1. Type of Inverter used ☐ Central Inverter ☐ Micro-Inverter
2. Inverter Manufacturer _____
3. Inverter Model # _____
4. Inverter Quantity _____
5. PV Module Quantity per Inverter _____
6. System Rated Output (EPBB Calculation - CEC A/C Value) _____
7. Maximum Inverter Output Current _____

Inverter Output Conductors & PV Breaker Sizing

1. Maximum AC Output Current _____
(Inverter Quantity x Max Inverter Output Current x 125%)
2. Inverter Output OCPD Rating (PV back feed breaker) _____
*PV Back feed breaker must be rounded to next available size per Table 1
3. Inverter Output Circuit Conductor size _____

Table 1. Minimum Inverter Output OCPD and Circuit Conductor Size									
Minimum OCPD (Breaker) Size	15	20	25	30	35	40	45	50	60
Minimum Conductor Size (AWG) at 90° C, Copper	14	12	10	10	8	8	6	6	6

Point of Interconnection

*Only Load Side Connections are permitted

*The PV Back feed breaker MUST be positioned furthest from the input feeder or Main Breaker location

* The maximum combined PV back feed breaker and Main breaker cannot exceed 120% of the bus bar rating (Reference Table 2)

1. Current Main Service Panel Bus Rating _____ A

2. Current Main Service Panel Main Breaker Size _____ A

3. Will the Main Service Panel be Upgraded? ☐ Yes ☐ No

4. If Yes, have you completed the Main Service Panel Change Out/Upgrade Questionnaire? ☐ Yes ☐ No

5. Proposed New Electric Service Panel Bus Rating _____ A

6. Proposed New Electric Service Panel Main Breaker Size _____ A

7. If No, will the current main breaker be De-rated*? ☐ Yes ☐ No

***De-rating of the Main Breaker requires Electrical Load Calculations to be submitted for justification and MUST be approved by City of Banning Electric Utility. City of Banning Electric Utility MUST be scheduled to disconnect service for approved de-rating of the main breaker.**

Maximum Combined Supply OCPDs based on Bus Bar Rating									
Bus Bar Rating	100	125	125	200	200	200	225	225	225
Main Breaker Size*	100	100	125	150	175	200	175	200	225
Maximum allowable PV back feed breaker size combined with Main breaker at 120% of Bus Bar Rating	20	50	25	90	65	40	95	70	45

City of Banning Electric Utility - Residential Self Generating Facility Program Photovoltaic Systems

Program Description:

1. This program is designed to allow the interconnection and operation of a self-generating facility in parallel with the City of Banning Electric Utility's ("Electric Utility" or "Utility) electric grid. The intent of the generating facility is to offset the participant's annual electrical usage supplied by the Electric Utility at the address where electric service is provided.

   ***NOTE: Participant MUST be a City of Banning electric service customer**

2. A complete Photovoltaic (PV) system typically consists of one or more modules connected to an inverter that changes direct current (DC) to alternating current (AC) and is interconnected with the Electric Utility's electric grid at a dedicated circuit breaker located in the participant's electrical main service panel.

   ***NOTE: The Electric Utility reserves the right to inspect and verify all interconnected systems at any time**

3. This program requires PV modules meet the requirements of the Underwriters Laboratories (UL) Standard 1703 and PV inverter(s) meet the requirements of the Underwriters Laboratories (UL) Standard 1741. The PV system must use components that are listed on the California Energy Commission's list of "Eligible Equipment" as found on their website.

4. This program requires all PV systems to have a UL listed alternating current, full load break knife blade disconnect switch and/or switches with a lockable handle. The handle shall be capable of locking in the open position and the switch and/or switches must provide a "visible open". The disconnect switch MUST be located within ten feet (10') AND line of sight of the electrical main service panel. This requirement assures that no electricity can back feed into the electrical main service panel which could result in personal injury or damage to the equipment. The Electric Utility must be able to isolate the electric meter(s) to perform maintenance in a safe manner.

5. This program requires that the generating facility shall at all times comply with the applicable provisions of federal, state and local law including, without limitation, the City of Banning Municipal Code and City of Banning's Electric Rates, Rules and Regulations or successor provision as the same may be amended from time to time. The generating facility shall at all times conform to all applicable generating system safety and performance standards established by the National Electrical Code (NEC), the Institute of Electrical and Electronics Engineers (IEEE), and accredited testing laboratories such as Underwriters Laboratories, and applicable building codes.

6. This program requires that the Electric Utility shall not be obligated to accept or pay for and may, without any penalty to the Electric Utility, require the generating facility to interrupt or reduce deliveries of available energy (i) When necessary in order to construct, install, maintain, repair, replace, remove, investigate, or inspect any of its equipment or part of its system, or (ii) If it determines that curtailment, interruption, or reduction is necessary because of emergencies, forced or scheduled outages, force majeure, or compliance with prudent electrical practices.

7. This program requires that whenever reasonably possible and consistent with prudent electrical practices, the Electric Utility will give the participant reasonable notice of the possibility that interruption or reduction of deliveries may be required.

8. This program requires that if at any time the Electric Utility, in its sole discretion, determines that either (i) the Generating Facility, or its operation, may endanger Electric Utility personnel, or (ii) the continued operation of Generating Facility may endanger the integrity of the Electric Utility's electric grid, the Electric Utility may disconnect the Generating Facility from the Electric Utility's grid. The Generating Facility shall remain disconnected until such time as the Electric Utility determines that the condition(s) referenced in (i) or (ii) have been corrected to its satisfaction.

Program Description cont.:

9. This program requires that the Electric Utility may enter the participant's premises (a) to inspect, as the Electric Utility deems necessary, the protective devices and to read or test meters, and (b) to disconnect, without notice, the interconnection facilities if, in the Electric Utility's opinion, a hazardous condition exists and such immediate action is necessary to protect persons, or the Electric Utility's facilities, or property of others from damage or interference caused by the participant's generating facility, or lack of properly operating protective devices.

10. This program requires PV systems to be sized according to the Electric Utility "Sizing Your Photovoltaic System" and shall not exceed one hundred percent (100%) of the participant's annual electrical usage. Energy Storage Systems to be sized according to the PV system. Although the Electric Utility reserves the right to assign the final system size, the Electric Utility will make every effort to ensure sizing is mutually agreed upon while adhering to all requirements.

    ***NOTE: An addition to an existing system will require participants to submit a new application including the current system and proposed new system information.**

11. This program requires participants to receive approval from the Electric Utility and the City of Banning Building and Safety Department through an application, plan check, and inspection process before the generating facility can be interconnected and begin operation in parallel with the Electric Utility's electric grid.

12. This program will require participants to have a City owned Production Meter installed to monitor the PV system's production.

    ***NOTE: The cost of the Production Meter and/or any associated charge(s) (plan check, permit, installation, inspection, etc.) are the responsibility of the participant and/or the participant's contractor**

13. This program requires a contribution in aid of construction payment at the time of application submission in the amount of **Five Hundred Dollars ($500.00)** for the following associated costs:

    - $245.00 the current cost of the Production Meter
    - $255.00 the current cost of reviewing, processing, approving the application, up to a total of three (3) plan checks, and up to three (3) inspections by the Utility.
        - Any additional plan check and/or inspection will result in an additional service charge of $60.00 minimum per plan check/inspection.

    ***NOTE: The cost of the Production Meter is subject to refund under the following two (2) situations: A) the location currently has the appropriate meter installed from a previous PV project, or B) at the request of the participant in the event the project is cancelled and/or not installed within one (1) year of application approval. Refund request made outside of the one (1) year period, will not be processed.**

14. This program requires the Electric Utility to inspect and approve prior to receiving notice from the City of Banning Building and Safety Department of approval for the installed generating facility via email. Upon receiving the approval notice, the Electric Utility will schedule to set the production meter and activate the self-generating facility.

    ***NOTE: The Electric Utility will set the production meter and activate the self-generating facility within two (2) billing cycles, but not to exceed sixty (60) days, from the date the approval notice from the Building and Safety Department was received.**

Program Description cont.:

15. This program requires the City of Banning Public Benefits Department to receive notice via email from the Electric Utility once the production meter is set and the self-generating facility activated. Upon receiving the notice, the City of Banning Public Benefits Department will generate a notice of completion and/or a Permission to Operate ("PTO") Letter for the participant.

    ***NOTE: The City of Banning Public Benefits Department will generate and send a notice of completion and/or PTO Letter to the participant within two (2) weeks from the date the approval notice from the Electric Utility is received.**

16. This program requires the City of Banning to utilize the production meter to measure the kWh generated by the generating facility each billing cycle. To offset the participant's electrical usage, the City of Banning shall credit the participant's account one hundred percent of their generating facility's kWh returned to the utilty at the current Distributed Self-Generation Production Rate.

17. This program may include generating facilities that may produce less than expected based on contractor installed equipment at participant's request. (i.e. monitoring system, etc.)

18. Any person who diverts utility services, prevents any utility meter from performing its measuring functions, tampers with property owned by the utility, or makes any connection or reconnection with property owned by the utility without authorization is in violation of California Penal Code, Section 498 resulting in a minimum **two hundred fifty dollars ($250.00)** service charge with a maximum of **nine hundred seventy-five dollars ($975.00)** per occurrence and may result in misdemeanor or felony charges up to and including imprisonment.

    ***NOTE: All charges MUST be paid PRIOR to any action being made by the Electric Utility (review, inspection, approval, service/system restore/activation, etc.)**

19. This program requires the participant to submit a completed application, including all required documentation, and sign in person at 176 E Lincoln St Banning, CA 92220 as acknowledgment of the program description, guidelines, and all related requirements.

    ***NOTE: Submission of signed application, including all required documentation, will initiate the application process with the Electric Utility.**

Program Guidelines:

A. ELECTRIC UTILITY APPLICATION PROCESS

1. City of Banning Electric Utility Self-Generating Facility Application for Photovoltaic Systems ("Application") MUST be completed in full, including the Self-Generating Facility Calculation Worksheet for Photovoltaic Systems ("Worksheet")

   ***NOTE: Customer account number AND a valid email address for the customer are required**

2. The following documents must be attached with the Application in order to submit for approval:

   a. A copy of the contract, purchase agreement, and/or invoice between the customer and the contractor with the following information listed:

      i. Contractor's name and address

      ii. PV manufacturer's name, complete module number, and quantity

      iii. Inverter manufacturer's names, complete module number, and quantity

      iv. Total system capacity and/or total projected output

      v. Total purchase price

   b. Completed Worksheet

      ***NOTE: Main Service Panel Change Out/Upgrade Questionnaire MUST be included if the current electric service panel will be upgraded/changed out.**

3. Application **MUST** be signed in person by the City of Banning electric service customer at 176 E Lincoln St, Banning, CA 92220.

4. Submit all signed documents and payment of $500.00 to the Electric Utility by Check or Money Order.

5. The Electric Utility will review the application, including all supporting documents to ensure all requirements are met and will notify the customer and/or contractor via email either:

   a. An approval indicating that the Application has been approved by the Electric Utility and authorizing the customer and/or contractor to submit plans for Electric Utility plan check; or

   b. An email requesting necessary revisions, corrections and/or documentation to meet Electric Utility requirements.

      ***NOTE: The Electric Utility makes every effort to manage projects in a timely manner, the application review process can take up to forty-five (45) days from the date a completed application, including all required supporting documents are received.**

Program Guidelines cont.:

B. ELECTRIC UTILITY PLAN CHECK PROCESS

1. In order to minimize installation problems, plans must be provided that show compliance with all applicable codes. Due to the inherent complexities and potential hazards associated with photovoltaic (PV) systems, a California Registered Electrical Engineer, a California Licensed Electrical (C-10), Solar (C-46), General Building (B), or General Engineering (A) Contractor is required to prepare and sign the plans.

2. Working clearances around existing and new electrical equipment will be maintained in accordance with NEC 110.26, Electric Utility Standard Drawings, and EUSERC Drawing 501 must be stated.

3. Line Side Taps into the busbar(s) or conductor(s) on the supply side (between the service entrance conductors and the main breaker) are NOT ALLOWED by the Electric Utility. All incoming current from the PV system must be back fed through a circuit breaker on the load side of the service main breaker.

4. All plans and specifications or reports must be legible. Minimum recommended font size is equal to or larger than #12 Times New Roman.

5. The sum of the ampere ratings of the main service breaker supplying power to the busbar from the Electric Utility and the ampere rating of the back-fed breaker supplying power to the busbar from the PV system shall not exceed one hundred twenty percent (120%) of the rating of the busbar or conductor.

6. Main Breaker may only be downsized (de-rated) when supporting electrical load calculations are provided to show that downsizing (de-rating) the main breaker will remain adequate for the loads at the main service panel.

   ***NOTE: Downsizing (de-rating) the main breaker MUST be scheduled with the Electric Utility to de-energize the main service panel.**

7. PV system back feed breaker shall be sized to carry not less than one hundred twenty-five percent (125%) of the maximum output current.

8. AC Disconnect and Production Meter Socket MUST be installed within 10' AND Line of Sight of the Main Service Panel.

9. Production Meter Socket MUST be installed within 48" to 75" to the center of the glass above grade level and must be wired per Electric Utility Standard Drawings.

10. Plans to be submitted to the Electric Utility for plan check upon application approval

    1. Residential requirements are: Four (4) sets of 11" x 17" plans

Program Guidelines cont.:

2. Plans submitted must contain the following:

    a. Site Plan

        i. Provide fully dimensioned site plan showing property lines and all structures including fences/gates, gas meter, windows, etc.

        ii. Solar Panel layout

        iii. Location of Main Service Panel

        iv. Location of AC Disconnect(s)

        v. Location of Production Meter Socket

        vi. Location of Inverter(s)

    b. Side Elevation

        i. All PV equipment and location

        ii. All grounded surfaces including fences/gates, gas meter, plumbing, etc.

    c. Roof Plan

        i. Location of solar panels and any required walkways

        ii. Location of any roof mounted equipment (A/C units, vents, etc.)

        iii. Identify size and spacing of existing roof framing members and slope plus any required roof framing alterations needed.

    d. Attachment Details

        i. Identify how solar panels will be secured to the roof.

    e. Engineering Calculations

        i. Showing existing roof can support added weight of system.

Program Guidelines cont.:

f. Electrical Diagram

   i. Show Main Service Panel with Bus and Main Breaker ratings indicated

   ii. Show Interconnection location and PV back feed breaker rating – Breaker to be located furthest from the Main Breaker as possible

   iii. Show AC Disconnect(s)

   iv. Show City Owned Production Meter Socket with listed ratings (minimum NEMA 3R and UL 414 listed)

   v. Show Inverter(s) with complete manufacture, model information, and quantity

   vi. Show conductor size and type and conduit size(s)

   vii. Show ALL other electrical equipment

g. Signage Specifications

   i. Must meet requirements listed in National Electric Code (NEC) and the California Electrical Code (CEC) Articles 690 and 705

   ii. Must meet requirements listed in the Electric Utility Standard Drawings

h. Product Specifications and Literature

   i. Provide specifications (cut-sheets) on electrical equipment to be installed including PV modules, inverter(s), disconnect(s), etc.

3. The Electric Utility will review the plans submitted to ensure all requirements are met and will notify the customer and/or contractor via email either:

   a. An approval indicating that the plans submitted have been approved by the Electric Utility and authorizing the customer and/or contractor to pick up and submit approved plans to City of Banning Building and Safety Department for plan check and permitting; or

   b. An email requesting necessary revisions, corrections and/or documentation to meet the Electric Utility requirements.

   ***NOTE 1: The Electric Utility makes every effort to manage projects in a timely manner, the plan check process can take up to forty-five (45) days from the date completed plans are received.**

   ***NOTE 2: A cost of sixty dollars ($60.00) will apply to any additional Plan Check exceeding three (3) – One (1) initial and two (2) correction revision plan checks.**

Program Guidelines cont.:

C. ELECTRIC UTILITY INSPECTION PROCESS

1. Customer and/or Contractor MUST obtain Job Card / Permit BEFORE construction begins

   ***NOTE: Construction prior to obtaining job card / permit may result in additional charges**

2. Job Card / Permit MUST be onsite at the time of the inspection

3. Any person who diverts utility services, prevents any utility meter from performing its measuring functions, tampers with property owned by the utility, or makes any connection or reconnection with property owned by the utility without authorization is in violation of California Penal Code, Section 498 resulting in a minimum **two hundred fifty dollars ($250.00)** service charge with a maximum of **nine hundred seventy-five dollars ($975.00)** per occurrence and may result in misdemeanor or felony charges up to and including imprisonment.

   ***NOTE: All charges MUST be paid PRIOR to any action being made by the Electric Utility (review, inspection, approval, service/system restore/activation, etc.)**

   1. The Electric Utility MUST be contacted **FIRST** for inspection at (951) 922-3260.

   2. The Electric Utility will inspect the complete PV System with emphasis on the following:

      a. Confirming the quantity of PV modules and location are per approved plans

      b. Confirming Inverter size, model number, and location are per approved plans

      c. Inspecting lockable DC/AC Disconnect and appropriate placarding per approved plans and Electric Utility requirements

      d. Inspecting Directory Placard per approved plans and Electric Utility requirements

      e. Inspecting PV back feed breaker location, size and placarding per approved plans and Electric Utility requirements

      f. Inspecting Production Meter socket for any obstructions, location, continuity, and tightness of wire terminals.

      g. Confirming back feed voltage from PV breaker to Production Meter (Load Side) is 120V/240V.

      h. Confirming adequate spacing and clearance requirements are met.

   3. Upon completion of the inspection, the Electric Utility will either:

      a. Sign off on the Job Card / Permit and advise City of Banning Building and Safety that the PV system has passed the Electric Utility's inspection via email and the customer/contractor can schedule an inspection with Building and Safety; or,

      b. Send an email to the customer and/or contractor advising of the necessary corrections to meet the Electric Utility requirements.

Program Guidelines cont.:

D. ELECTRIC UTILITY INTERCONNECTION PROCESS

1. Once approved by the Electric Utility and then upon receiving email confirmation from City of Banning Building and Safety advising the PV system has passed inspection, the Electric Utility's Meter Test Technician (Meter Tech) will be notified to install the Production Meter

2. The Production Meter will be set, and the system will be activated within two (2) billing cycles, but not to exceed sixty (60) days, from the date the approval notice from the Building and Safety Department was received

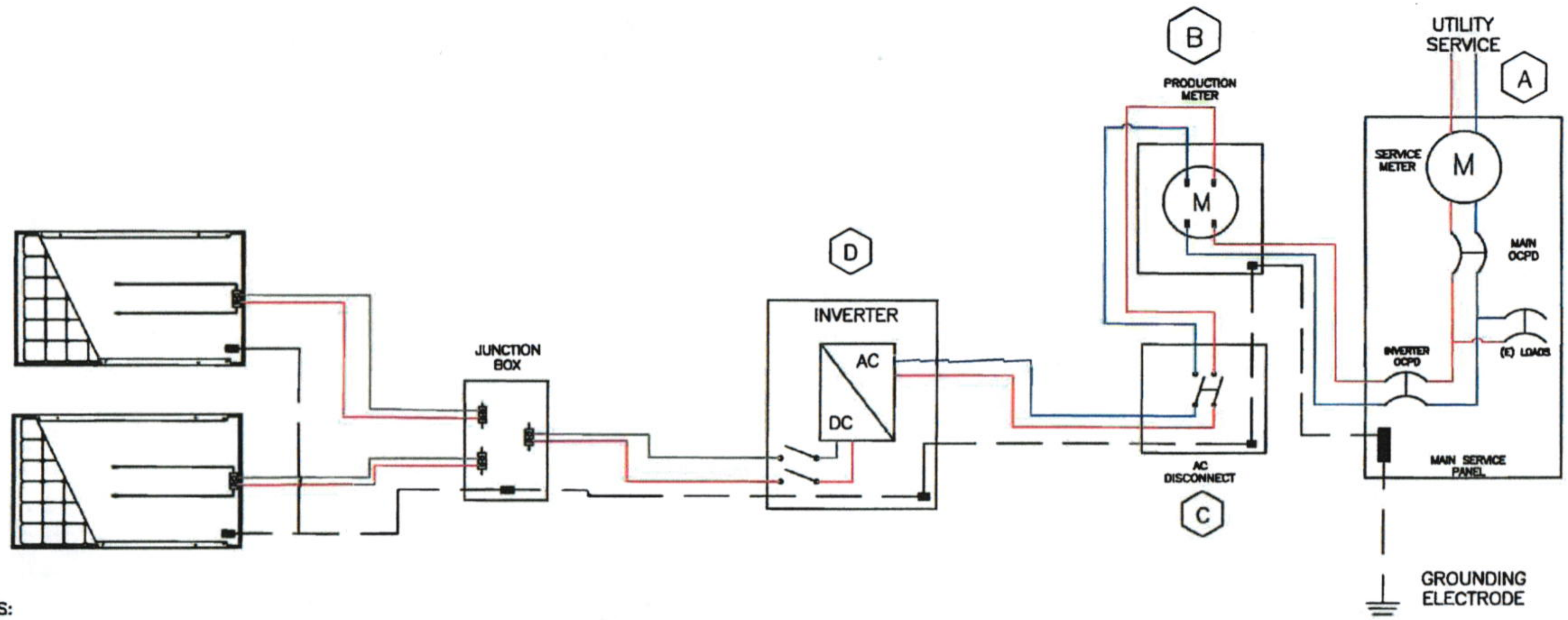
3. Once the Production Meter has been installed, the Electric Utility's Meter Tech will notify the City of Banning Public Benefits Department (Public Benefits) that the meter has been installed and the system has been activated.

4. Upon receiving the notice, Public Benefits will generate a notice of completion and/or a Permission to Operate ("PTO") Letter and send to the customer and/or contractor within two (2) weeks from the date the notification from the Meter Tech is received.

5. The City of Banning will utilize the production meter to measure the kWh generated by the generating facility each billing cycle. To offset the participant's electrical usage, the City of Banning shall credit the participant's account one hundred (100%) of their generating facility's kWh produced at the current Distributed Self-Generation Production Rate.

Thank you for your interest in Solar Power!

CITY OF BANNING ELECTRIC UTILITY	THIS STANDARD SHOWS THE REQUIREMENTS FOR A PHOTOVOLTAIC SINGLE-PHASE BASIC SYSTEM WITH A CENTRAL INVERTER



NOTES:

A. MAIN SERVICE PANEL MUST COMPLY WITH CEC LATEST REVISION AND OPERATE IN A SAFE MANNER.

1. C.O.B. ELECTRIC UTILITY WILL NOT ALLOW INTERCONNECTION WITH ANY UNSAFE CONDITIONS.

B. PRODUCTION METER PROVIDED AND INSTALLED BY C.O.B. ELECTRIC UTILITY AT CUSTOMERS EXPENSE, METER SOCKET PROVIDED BY INSTALLER. C.O.B. ELECTRIC UTILITY WILL ACTIVATE THE PV SYSTEM AFTER IT MEETS ALL REQUIREMENTS, AND PASSES ALL INSPECTIONS.

1. CENTER OF METER MUST BE INSTALLED BETWEEN 4'0" AND 6'3" ABOVE FINAL GRADE.

C. LOCKABLE KNIFE-BLADE UTILITY A.C. DISCONNECT TO BE LOCATED WITHIN 10' AND LINE OF SIGHT OF SERVICE PANEL AND MUST COMPLY WITH EUSERC DWG 501.

D. INVERTER MUST COMPLY WITH UL1741 REQUIREMENTS. GROUNDING ELECTRODE SYSTEM MUST COMPLY WITH LATEST REVISION OF CEC ARTICLE 690.47.

1. SEPARATE D.C. DISCONNECT AT GRADE LEVEL REQUIRED ONLY IF INVERTER DOES NOT HAVE AN INTEGRATED D.C. DISCONNECT

NOTE. A LEASED SYSTEM MAY INCLUDE A SEPARATE METER PROVIDED AND INSTALLED BY THE LEASING COMPANY.

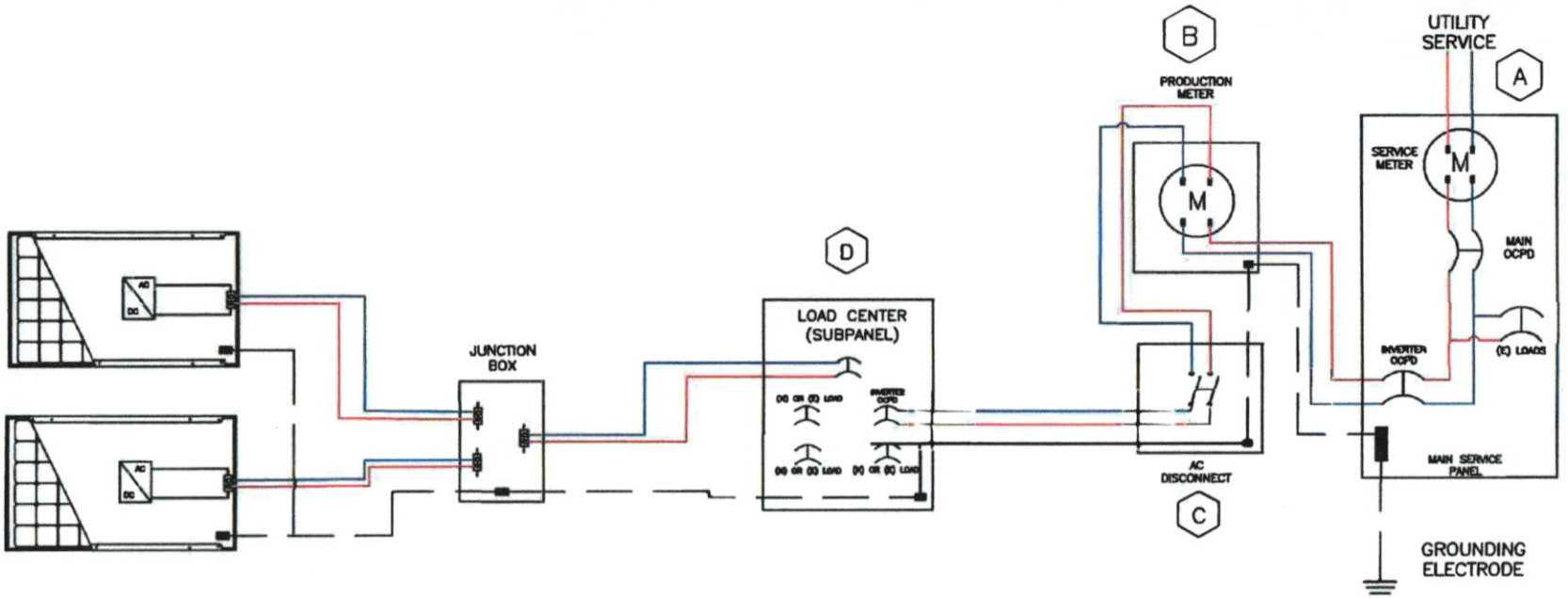
1. LEASED METER WILL NOT BE INSTALLED BETWEEN PRODUCTION METER AND MAIN SERVICE PANEL.

- ALL PV SYSTEMS MUST COMPLY WITH THE LATEST REVISION TO CEC ARTICLES 690 AND 705.
- ALL NECESSARY CLEARANCES SHALL COMPLY WITH CEC ARTICLE 110.26.
- ALL SIGNS OR DIRECTORIES SHALL BE ATTACHED TO THE ELECTRIC EQUIPMENT OR LOCATED ADJACENT TO THE IDENTIFIED EQUIPMENT (AS APPROVED BY THE AHJ).
- ALL SIGNS SHALL BE OF SUFFICIENT DURABILITY TO WITHSTAND THE ENVIRONMENT.
- ALL SIGNS SHALL BE PERMANENTLY ATTACHED BY MEANS OF EPOXY OR EQUIVALENT SUITABLE FOR THE ENVIRONMENT (SCREWS OR RIVETS ARE NOT ALLOWED).
- ALL SIGNS SHALL BE EITHER METAL OR PLASTIC WITH ENGRAVED LETTERS, MACHINE PRINTED LETTERS, OR ELECTRO-PHOTO PLATING LETTERS IN RED WITH WHITE LETTERING.

APPROVED: [signature] DATE: 9/19/19

PHOTOVOLTAIC SINGLE-PHASE SYSTEM DIAGRAM CENTRAL INVERTER (RESIDENTIAL)	SD	600-80.1

CITY OF BANNING ELECTRIC UTILITY	THIS STANDARD SHOWS THE REQUIREMENTS FOR A PHOTOVOLTAIC SINGLE–PHASE BASIC SYSTEM WITH MICRO INVERTERS



NOTES:

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1. C.O.B. ELECTRIC UTILITY WILL NOT ALLOW INTERCONNECTION WITH ANY UNSAFE CONDITIONS.

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1. CENTER OF METER MUST BE INSTALLED BETWEEN 4'0" AND 6'3" ABOVE FINAL GRADE.

C. LOCKABLE KNIFE–BLADE UTILITY A.C. DISCONNECT TO BE LOCATED WITHIN 10' AND LINE OF SIGHT OF SERVICE PANEL AND MUST COMPLY WITH EUSERC DWG 501.

D. INVERTER MUST COMPLY WITH UL1741 REQUIREMENTS. GROUNDING ELECTRODE SYSTEM MUST COMPLY WITH LATEST REVISION OF CEC ARTICLE 690.47.

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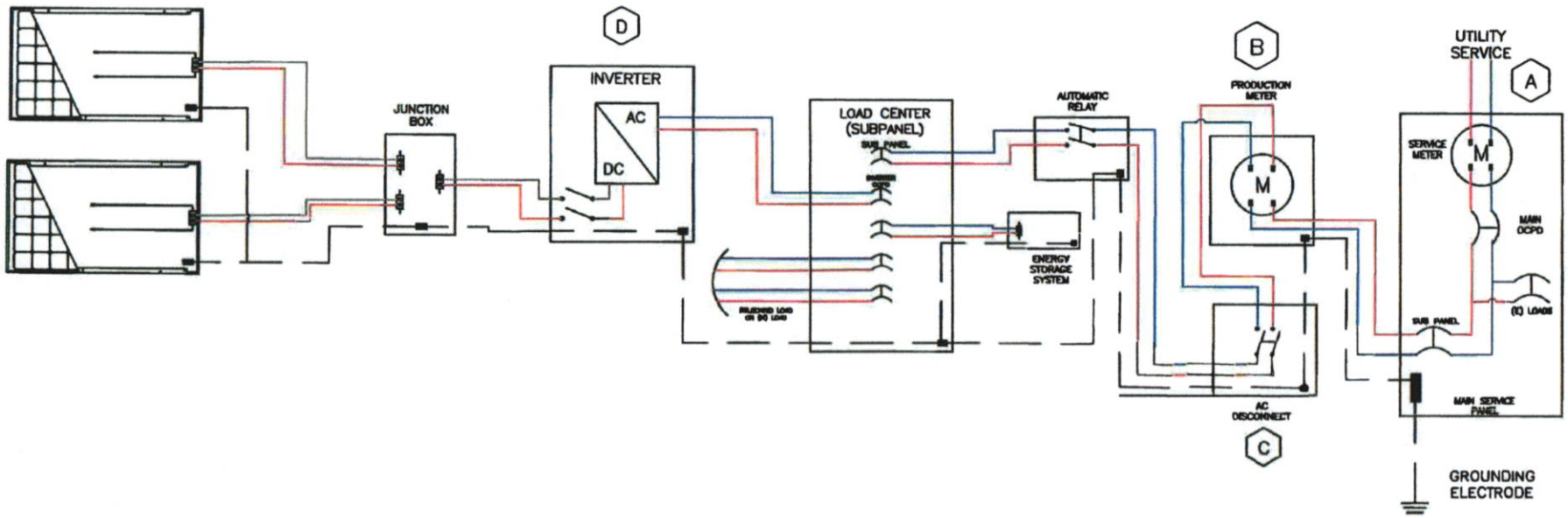
- ALL SIGNS OR DIRECTORIES SHALL BE ATTACHED TO THE ELECTRIC EQUIPMENT OR LOCATED ADJACENT TO THE IDENTIFIED EQUIPMENT (AS APPROVED BY THE AHJ).
- ALL SIGNS SHALL BE OF SUFFICIENT DURABILITY TO WITHSTAND THE ENVIRONMENT.
- ALL SIGNS SHALL BE PERMANENTLY ATTACHED BY MEANS OF EPOXY OR EQUIVALENT SUITABLE FOR THE ENVIRONMENT (SCREWS OR RIVETS ARE NOT ALLOWED).
- ALL SIGNS SHALL BE EITHER METAL OR PLASTIC WITH ENGRAVED LETTERS, MACHINE PRINTED LETTERS, OR ELECTRO–PHOTO PLATING LETTERS IN RED WITH WHITE LETTERING.

APPROVED: Brad Kofis	DATE: 9/19/19		
PHOTOVOLTAIC SINGLE–PHASE SYSTEM DIAGRAM MICRO INVERTER (RESIDENTIAL)		**SD**	600-80.2

CITY OF BANNING
ELECTRIC UTILITY

THIS STANDARD SHOWS THE REQUIREMENTS FOR A PHOTOVOLTAIC SINGLE-PHASE SYSTEM WITH ENERGY STORAGE (CENTRAL INVERTER)



NOTES:

A. MAIN SERVICE PANEL MUST COMPLY WITH CEC LATEST REVISION AND MUST OPERATE IN A SAFE MANNER.

1. C.O.B. ELECTRIC UTILITY WILL NOT ALLOW INTERCONNECTION WITH ANY UNSAFE CONDITIONS.

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1. CENTER OF METER MUST BE INSTALLED BETWEEN 4'0" AND 6'3" ABOVE FINAL GRADE.

C. LOCKABLE KNIFE-BLADE UTILITY A.C. DISCONNECT TO BE LOCATED WITHIN 10' AND LINE OF SIGHT OF SERVICE PANEL AND MUST COMPLY WITH EUSERC DWG 501.

D. INVERTER MUST COMPLY WITH UL1741 REQUIREMENTS. GROUNDING ELECTRODE SYSTEM MUST COMPLY WITH LATEST REVISION OF CEC ARTICLE 690.47.

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1. LEASED METER WILL NOT BE INSTALLED BETWEEN PRODUCTION METER AND MAIN SERVICE PANEL.

- ALL PV SYSTEMS MUST COMPLY WITH THE LATEST REVISION TO CEC ARTICLES 690 AND 705.
- ALL NECESSARY CLEARANCES SHALL COMPLY WITH CEC ARTICLE 110.26.
- ALL SIGNS OR DIRECTORIES SHALL BE ATTACHED TO THE ELECTRIC EQUIPMENT OR LOCATED ADJACENT TO THE IDENTIFIED EQUIPMENT (AS APPROVED BY THE AHJ).
- ALL SIGNS SHALL BE OF SUFFICIENT DURABILITY TO WITHSTAND THE ENVIRONMENT.
- ALL SIGNS SHALL BE PERMANENTLY ATTACHED BY MEANS OF EPOXY OR EQUIVALENT SUITABLE FOR THE ENVIRONMENT (SCREWS OR RIVETS ARE NOT ALLOWED).
- ALL SIGNS SHALL BE EITHER METAL OR PLASTIC WITH ENGRAVED LETTERS, MACHINE PRINTED LETTERS, OR ELECTRO-PHOTO PLATING LETTERS IN RED WITH WHITE LETTERING.

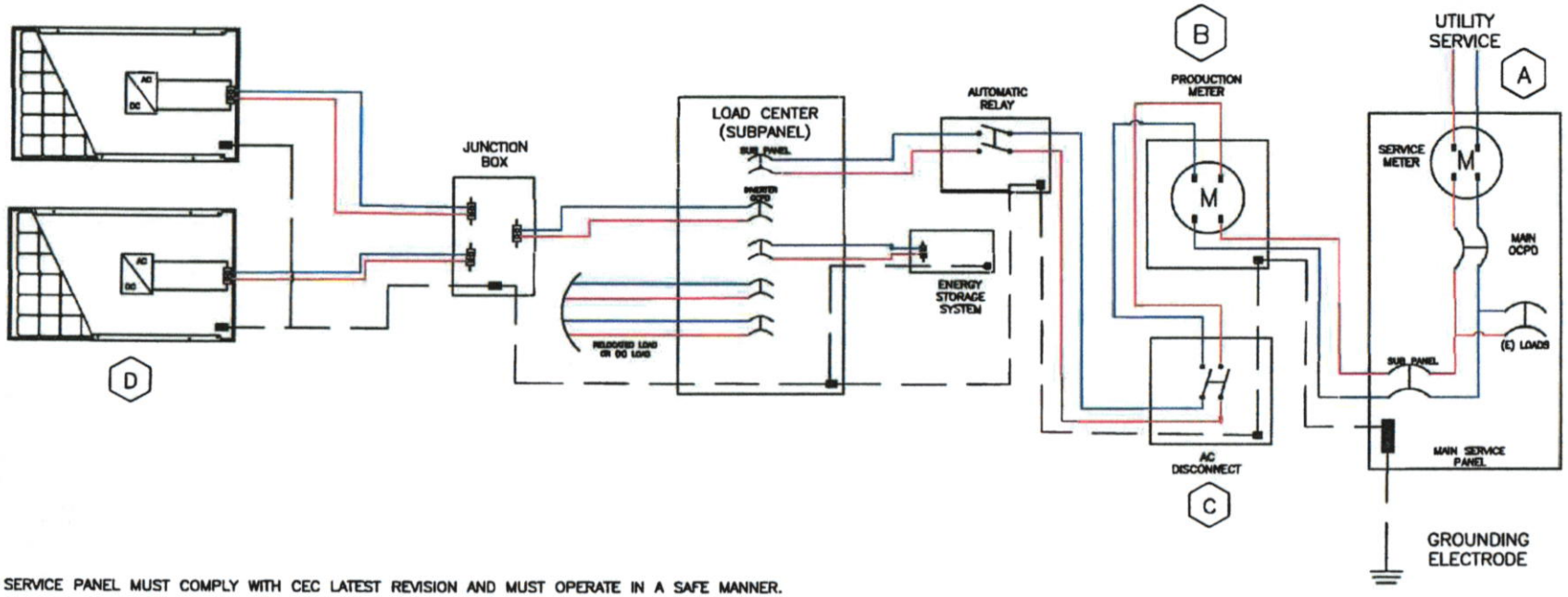
APPROVED: Brian Nakis DATE: 9/19/19

PHOTOVOLTAIC SINGLE-PHASE SYSTEM DIAGRAM ENERGY STORAGE (RESIDENTIAL)

SD

600-80.3

CITY OF BANNING ELECTRIC UTILITY	THIS STANDARD SHOWS THE REQUIREMENTS FOR A PHOTOVOLTAIC SINGLE-PHASE SYSTEM WITH ENERGY STORAGE (MICRO INVERTER)



NOTES:

A. MAIN SERVICE PANEL MUST COMPLY WITH CEC LATEST REVISION AND MUST OPERATE IN A SAFE MANNER.

1. C.O.B. ELECTRIC UTILITY WILL NOT ALLOW INTERCONNECTION WITH ANY UNSAFE CONDITIONS.

B. PRODUCTION METER PROVIDED AND INSTALLED BY C.O.B. ELECTRIC UTILITY AT CUSTOMERS EXPENSE, METER SOCKET PROVIDED BY INSTALLER. C.O.B. ELECTRIC UTILITY WILL ACTIVATE THE PV SYSTEM AFTER IT MEETS ALL REQUIREMENTS, AND PASSES ALL INSPECTIONS.

1. CENTER OF METER MUST BE INSTALLED BETWEEN 4'0" AND 6'3" ABOVE FINAL GRADE.

C. LOCKABLE KNIFE-BLADE UTILITY A.C. DISCONNECT TO BE LOCATED WITHIN 10' AND LINE OF SIGHT OF SERVICE PANEL AND MUST COMPLY WITH EUSERC DWG 501.

D. INVERTER MUST COMPLY WITH UL1741 REQUIREMENTS. GROUNDING ELECTRODE SYSTEM MUST COMPLY WITH LATEST REVISION OF CEC ARTICLE 690.47.

1. SEPARATE D.C. DISCONNECT AT GRADE LEVEL REQUIRED ONLY IF INVERTER DOES NOT HAVE AN INTEGRATED D.C. DISCONNECT

NOTE. A LEASED SYSTEM MAY INCLUDE A SEPARATE METER PROVIDED AND INSTALLED BY THE LEASING COMPANY.

1. LEASED METER WILL NOT BE INSTALLED BETWEEN PRODUCTION METER AND MAIN SERVICE PANEL.

- ALL PV SYSTEMS MUST COMPLY WITH THE LATEST REVISION TO CEC ARTICLES 690 AND 705.
- ALL NECESSARY CLEARANCES SHALL COMPLY WITH CEC ARTICLE 110.26.
- ALL SIGNS OR DIRECTORIES SHALL BE ATTACHED TO THE ELECTRIC EQUIPMENT OR LOCATED ADJACENT TO THE IDENTIFIED EQUIPMENT (AS APPROVED BY THE AHJ).
- ALL SIGNS SHALL BE OF SUFFICIENT DURABILITY TO WITHSTAND THE ENVIRONMENT.
- ALL SIGNS SHALL BE PERMANENTLY ATTACHED BY MEANS OF EPOXY OR EQUIVALENT SUITABLE FOR THE ENVIRONMENT (SCREWS OR RIVETS ARE NOT ALLOWED).
- ALL SIGNS SHALL BE EITHER METAL OR PLASTIC WITH ENGRAVED LETTERS, MACHINE PRINTED LETTERS, OR ELECTRO-PHOTO PLATING LETTERS IN RED WITH WHITE LETTERING.

APPROVED: Bill Kobis	DATE: 9/19/19	
PHOTOVOLTAIC SINGLE-PHASE SYSTEM DIAGRAM ENERGY STORAGE (RESIDENTIAL)	**SD**	600-80.4

CITY OF BANNING ELECTRIC UTILITY	THIS STANDARD SHOWS THE LABELING REQUIREMENTS FOR A PHOTOVOLTAIC SYSTEM'S AC AND DC DISCONNECT DEVICES.

UTILITY INTERACTION POINT AC DISCONNECT	PV POWER SOURCE DC DISCONNECT
RATED AC OUTPUT CURRENT = NOMINAL OPERATING AC VOLTAGE =	RATED MAXIMUM POWER-POINT CURRENT = RATED MAXIMUM POWER-POINT VOLTAGE = MAXIMUM SYSTEM VOLTAGE = SHORT-CIRCUIT CURRENT =

NOTES:

A. REQUIRED PLACARDS SHALL BE ATTACHED TO THE ELECTRIC EQUIPMENT WITHOUT COVERING MANUFACTURER LABELING OR LOCATED ADJACENT TO THE IDENTIFIED EQUIPMENT (PER AHJ APPROVAL)

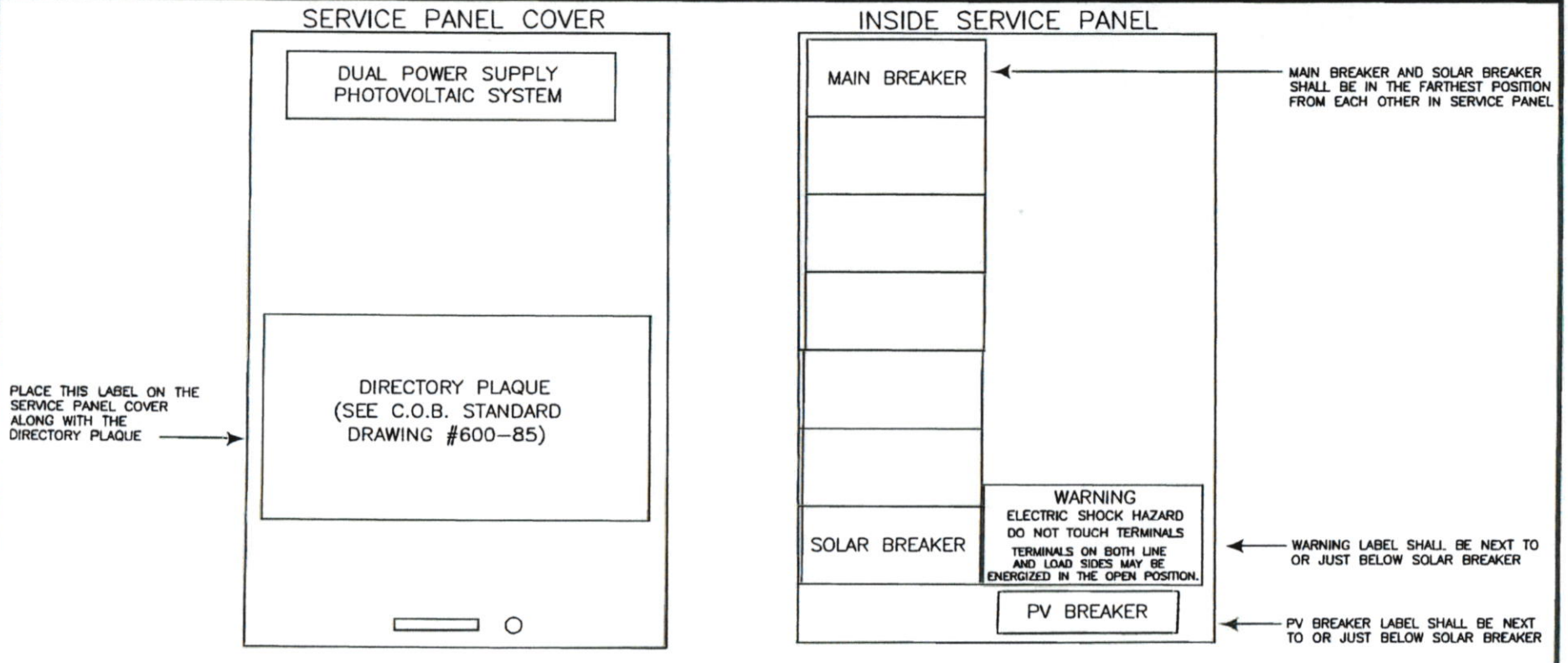
1. ALL PLACARDS SHALL BE OF SUFFICIENT DURABILITY TO WITHSTAND THE ENVIRONMENT.
2. ALL PLACARDS SHALL BE PERMANENTLY ATTACHED TO THE SURFACE OF THE ELECTRICAL EQUIPMENT BY MEANS OF EPOXY OR EQUIVALENT SUITABLE FOR THE ENVIRONMENT (SCREWS OR RIVETS ARE NOT ALLOWED)
3. ALL PLACARDS SHALL BE EITHER METAL OR PLASTIC WITH ENGRAVED OR MACHINE PRINTED LETTERS OR ELECTRO-PHOTO PLATING IN RED WITH WHITE LETTERING.
4. ALL PLACARDS SHALL NOT BE SMALLER THAN 2"X5" AND NO LARGER THAN 3"X6" (WITH THE EXCEPTION OF THE DIRECTORY PLACARD)
5. ALL PLACARDS FONT STYLE SHALL BE ARIAL WITH THE FONT SIZE NO SMALLER THAN SIZE 12 OR NO LARGER THAN SIZE 28.

B. EACH A.C. DISCONNECT SHALL HAVE ITS OWN PLACARD AND MUST COMPLY WITH NEC 690.15(A), CEC ARTICLES 690.13, 690.17, AND 690.54

C. EACH D.C. DISCONNECT SHALL HAVE ITS OWN PLACARD AND MUST COMPLY WITH CEC ARTICLES 690.53, AND 690.7

REVISED: 03/22/2018	APPROVED: 7/19/18	STANDARD DRAWINGS
PV DISCONNECT LABELS	**SD**	600-83

CITY OF BANNING ELECTRIC UTILITY	THIS STANDARD SHOWS THE WARNING LABEL REQUIREMENTS FOR THE PV SERVICE PANEL.



NOTES:

A. REQUIRED PLACARDS SHALL BE ATTACHED TO THE ELECTRIC EQUIPMENT WITHOUT COVERING MANUFACTURER LABELING OR LOCATED ADJACENT TO THE IDENTIFIED EQUIPMENT (PER AHJ APPROVAL)
   1. ALL PLACARDS SHALL BE OF SUFFICIENT DURABILITY TO WITHSTAND THE ENVIRONMENT.
   2. ALL PLACARDS SHALL BE PERMANENTLY ATTACHED TO THE SURFACE OF THE ELECTRICAL EQUIPMENT BY MEANS OF EPOXY OR EQUIVALENT SUITABLE FOR THE ENVIRONMENT (SCREWS OR RIVETS ARE NOT ALLOWED)
   3. ALL PLACARDS SHALL BE EITHER METAL OR PLASTIC WITH ENGRAVED OR MACHINE PRINTED LETTERS OR ELECTRO-PHOTO PLATING IN RED WITH WHITE LETTERING.
   4. ALL PLACARDS SHALL NOT BE SMALLER THAN 2"X5" AND NO LARGER THAN 3"X6" (WITH THE EXCEPTION OF THE DIRECTORY PLACARD)
   5. ALL PLACARDS FONT STYLE SHALL BE ARIAL WITH THE FONT SIZE NO SMALLER THAN SIZE 12 OR NO LARGER THAN SIZE 28.

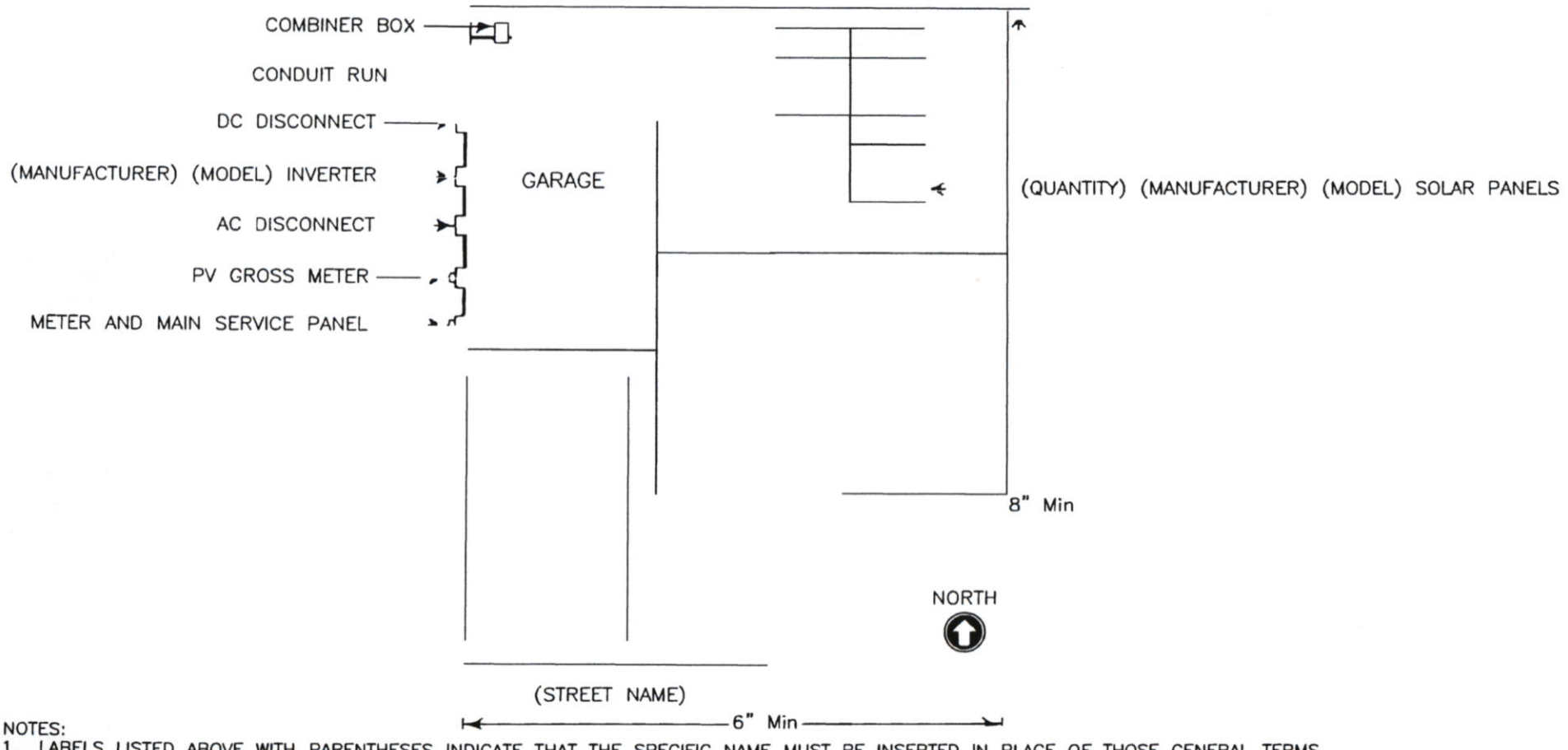
REVISED: 03/22/2018	APPROVED: 7/19/18	STANDARD DRAWINGS

PV SERVICE PANEL WARNING LABELS

SD	600-84

CITY OF BANNING
ELECTRIC UTILITY

THIS STANDARD SHOWS THE REQUIREMENTS FOR THE PV DIRECTORY PLAQUE THAT MUST BE PLACED ON THE SERVICE PANEL IN PLAIN VIEW.



NOTES:
1. LABELS LISTED ABOVE WITH PARENTHESES INDICATE THAT THE SPECIFIC NAME MUST BE INSERTED IN PLACE OF THOSE GENERAL TERMS.
2. DIRECTORY PLACARD MUST BE PLACED ON THE CUSTOMER SIDE OF THE SERVICE PANEL IN CLEAR VIEW WITHOUT COVERING MANUFACTURER LABELING.
3. DIRECTORY PLACARD MUST BE UNIQUE TO EACH HOUSE IT REPRESENTS (I.E. ROOF LAYOUT, EQUIPMENT LOCATION, ETC.)
4. DIRECTORY PLACARD MUST BE A MINIMUM SIZE OF 6" x 8".
5. FONT STYLE SHALL BE ARIAL AND FONT SIZE SHALL NOT BE SMALLER THAN SIZE 12 AND NO LARGER THAN SIZE 28.
6. PLACARD SHALL BE RED WITH WHITE LETTERING.
7. PLACARDS SHOULD BE OF SUFFICIENT DURABILITY TO WITHSTAND THE ENVIRONMENT, PERMANENTLY ATTACHED TO SURFACE OF ELECTRICAL EQUIPMENT BY MEANS OF EPOXY OR EQUIVALENT SUITABLE FOR THE ENVIRONMENT (SCREWS OR RIVETS ARE NOT ALLOWED), AND SHALL BE EITHER METAL OR PLASTIC WITH ENGRAVED OR MACHINE PRINTED LETTERS.

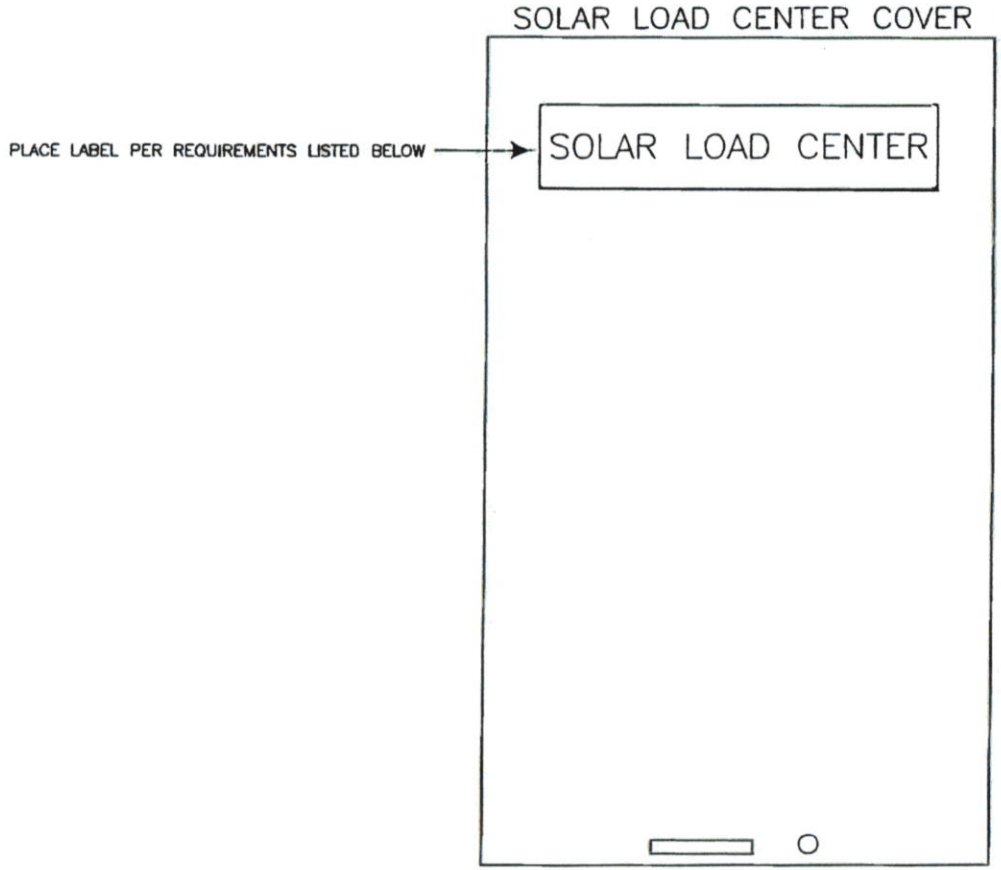
REVISED: 03/22/2018

APPROVED: [signature] 7/19/18 | STANDARD DRAWINGS

PV DIRECTORY PLAQUE

SD 600-85

CITY OF BANNING ELECTRIC UTILITY	THIS STANDARD SHOWS THE LABELING REQUIREMENTS FOR A PHOTOVOLTAIC SYSTEM'S SOLAR LOAD CENTER (WHEN APPLICABLE.)



NOTES:

1. SOLAR LOAD CENTER LABEL SHOULD BE LOCATED CENTRALLY ON THE TOP HALF OF THE PANEL'S FRONT COVER.
2. PLACARD SHALL BE PLACED IN CLEAR VIEW ON ELECTRICAL EQUIPMENT WITHOUT COVERING MANUFACTURER LABELING.
3. FONT STYLE SHALL BE ARIAL AND FONT SIZE SHALL NOT BE SMALLER THAN SIZE 12 AND NO LARGER THAN SIZE 28.
4. PLACARD SHALL BE RED WITH WHITE LETTERING.
5. PLACARDS SHOULD BE OF SUFFICIENT DURABILITY TO WITHSTAND THE ENVIRONMENT. ALL PLACARDS SHALL BE PERMANENTLY ATTACHED TO SURFACE OF ELECTRICAL EQUIPMENT BY MEANS OF EPOXY OR EQUIVALENT SUITABLE FOR THE ENVIORNMENT (SCREWS OR RIVETS ARE NOT ALLOWED). OUTDOOR SIGNS SHALL BE EITHER METAL OR PLASTIC WITH ENGRAVED OR MACHINE PRINTED LETTERS.

REVISED: 03/22/2018	APPROVED: 7/19/18	STANDARD DRAWINGS

SOLAR LOAD CENTER LABEL

SD 600-86

Sizing Your Photovoltaic System

Senate Bill 1 allows a utility customer to offset up to 100% of their historical load with a photovoltaic (PV) system. In order to verify that a proposed PV system is sized properly to comply with this legislation, the following rules will be used by the City of Banning Electric Utility:

1. In order to install a PV system that will offset up to 100% of the customer's annual usage, the customer must have 12 months of electric usage history at the location where the proposed PV system is to be installed.

2. If the customer does not have 12 months of historical usage but does have usage history that includes at least one full summer month (June through September) and at least one full winter month (October through May), then the Electric Utility will use this data to estimate the missing months. Any missing summer months will be estimated at the lowest value of the full summer months that are available. Any other missing months will be estimated at the lowest value of the full winter months that are available.

3. If the customer does not meet the historical usage requirements described above, and the customer does not want to wait to acquire this usage history, the customer will be permitted to install a PV system that is sized up to 2.8 kilowatts (kW), based on Climate Zone 10.

4. In order for a customer to modify and/or increase the size of a PV system that has been previously approved and/or installed, the customer must have 12 months of electric usage history with the current size system at the location where the proposed PV system size will be modified and/or increased.