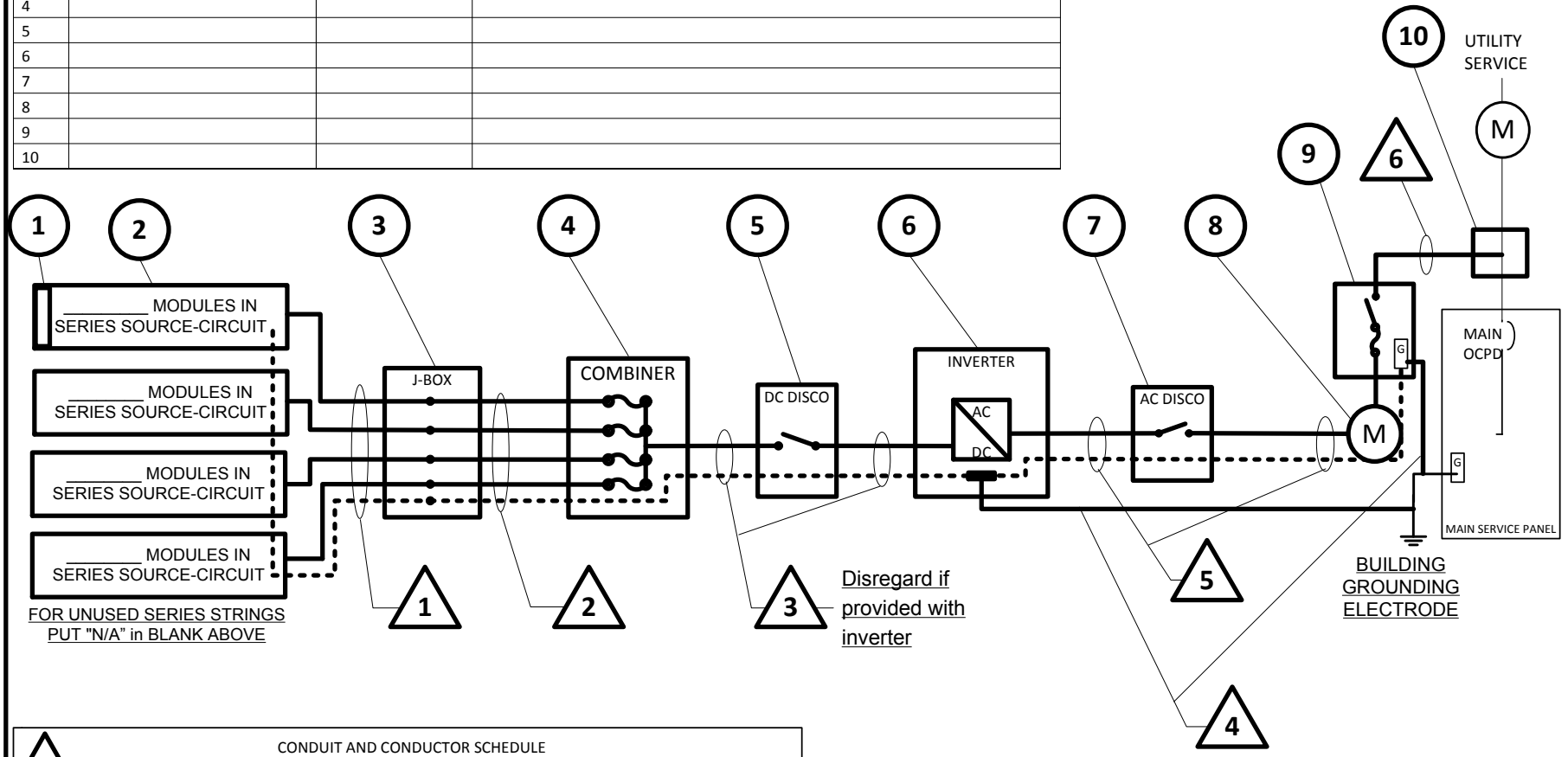
# Supply-Side Connection Site Plan

| | |
|---|---|
| Contractor Name,<br>Address and Phone: | Site Plan<br>for Small-Scale, Single-Phase PV Systems<br>Site Name:<br>Site Address<br>System AC Size |
| Drawn By: | SIZE / FSCM NO / DWG NO / REV |
| Checked By: | SCALE NTS / Date: / SHEET |

# Supply-Side Connection Electrical Diagram

| ○ | EQUIPMENT SCHEDULE | | |
|---|---|---|---|
| TAG | DESCRIPTION | PART NUMBER | NOTES |
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |
| 9 | | | |
| 10 | | | |




| △ | CONDUIT AND CONDUCTOR SCHEDULE | | | | |
|---|---|---|---|---|---|
| TAG | DESCRIPTION OR CONDUCTOR TYPE | COND. GAUGE | NUMBER OF CONDUCTORS | CONDUIT TYPE | CONDUIT SIZE |
| 1 | USE-2 ☐ or PV WIRE ☐ | | | | |
| | BARE COPPER EQ. GRD. COND. (EGC) | | | | |
| 2 | THWN-2 ☐ or XHHW-2 ☐ or RHW-2 ☐ | | | | |
| 3 | THWN-2 ☐ or XHHW-2 ☐ or RHW-2 ☐ | | | | |
| | INSULATED EGC | | | | |
| 4 | GROUNDING ELECTRODE COND. | | | | |
| 5 | THWN-2 ☐ or XHHW-2 ☐ or RHW-2 ☐ | | | | |
| | INSULATED EGC | | | | |
| 6 | THWN-2 ☐ or XHHW-2 ☐ or RHW-2 ☐ | | | | |

| Contractor Name, Address and Phone: | One-Line Electrical Diagram for Supply-Side Connected Single-Phase PV Systems | | | |
|---|---|---|---|---|
| | Site Name: | | | |
| | Site Address: | | | |
| | System AC Size: | | | |
| Drawn By: | SIZE | FSCM NO | DWG NO | REV |
| Checked By: | SCALE NTS | Date: | SHEET | |

# Notes for Supply-Side Connection Electrical Diagram

## PV MODULE RATINGS @ STC

| | |
|---|---|
| MODULE MAKE | |
| MODULE MODEL | |
| MAX POWER-POINT CURRENT ($I_{MP}$) | A |
| MAX POWER-POINT VOLTAGE ($V_{MP}$) | V |
| OPEN-CIRCUIT VOLTAGE ($V_{OC}$) | V |
| SHORT-CIRCUIT CURRENT ($I_{SC}$) | A |
| MAX SERIES FUSE (OCPD) | A |
| MAXIMUM POWER ($P_{MAX}$) | W |
| MAX VOLTAGE (TYP 600$V_{DC}$) | V |
| VOC TEMP COEFF (mV/ºC ☐ or %/ºC ☐) | |
| IF COEFF SUPPLIED, CIRCLE UNITS | |

## NOTES FOR ALL DRAWINGS:

OCPD = OVERCURRENT PROTECTION DEVICE

NATIONAL ELECTRICAL CODE® REFERENCES SHOWN AS *(NEC XXX.XX)*

## INVERTER RATINGS

| | |
|---|---|
| INVERTER MAKE | |
| INVERTER MODEL | |
| MAX DC VOLT RATING | V |
| MAX POWER @ 40ºC | W |
| NOMINAL AC VOLTAGE | V |
| MAX AC CURRENT | A |
| MAX OCPD RATING | A |

## SIGNS

### SIGN FOR DC DISCONNECT

| PHOTOVOLTAIC POWER SOURCE | |
|---|---|
| RATED MPP CURRENT | A |
| RATED MPP VOLTAGE | V |
| MAX SYSTEM VOLTAGE | V |
| MAX CIRCUIT CURRENT | A |

WARNING: ELECTRICAL SHOCK HAZARD–LINE AND LOAD MAY BE ENERGIZED IN OPEN POSITION

### SIGN FOR INVERTER OCPD AND AC DISCONNECT (IF USED)

| SOLAR PV SYSTEM AC POINT OF CONNECTION | |
|---|---|
| AC OUTPUT CURRENT | A |
| NOMINAL AC VOLTAGE | V |

THIS PANEL FED BY MULTIPLE SOURCES (UTILITY AND SOLAR)

## NOTES FOR ARRAY CIRCUIT WIRING

1.) LOWEST EXPECT AMBIENT TEMPERATURE BASED ON ASHRAE MINIMUM MEAN EXTREME DRY BULB TEMPERATURE FOR ASHRAE LOCATION MOST SIMILAR TO INSTALLATION LOCATION. LOWEST EXPECTED AMBIENT TEMP _____ºC

2.) HIGHEST CONTINUOUS AMBIENT TEMPERATURE BASED ON ASHRAE HIGHEST MONTH 2% DRY BULB TEMPERATURE FOR ASHRAE LOCATION MOST SIMILAR TO INSTALLATION LOCATION. HIGHEST CONTINUOUS TEMPERATURE _____ºC

2.) 2005 ASHRAE FUNDEMENTALS 2% DESIGN TEMPERATURES DO NOT EXCEED 47ºC IN THE UNITED STATES (PALM SPRINGS, CA IS 44.1ºC). FOR LESS THAN 9 CURRENT-CARRYING CONDUCTORS IN ROOF-MOUNTED SUNLIT CONDUIT AT LEAST 0.5" ABOVE ROOF AND USING THE OUTDOOR DESIGN TEMPERATURE OF 47ºC OR LESS (ALL OF UNITED STATES),

a) 12 AWG, 90ºC CONDUCTORS ARE GENERALLY ACCEPTABLE FOR MODULES WITH Isc OF 7.68 AMPS OR LESS WHEN PROTECTED BY A 12-AMP OR SMALLER FUSE.

b) 10 AWG, 90ºC CONDUCTORS ARE GENERALLY ACCEPTABLE FOR MODULES WITH Isc OF 9.6 AMPS OR LESS WHEN PROTECTED BY A 15-AMP OR SMALLER FUSE.

## NOTES FOR INVERTER CIRCUITS

1) IF UTILITY REQUIRES A VISIBLE-BREAK SWITCH, DOES THIS SWITCH MEET THE REQUIREMENT? YES ☐ NO ☐ N/A ☐

2) IF GENERATION METER REQUIRED, DOES THIS METER SOCKET MEET THE REQUIREMENT? YES ☐ NO ☐ N/A ☐

3) SIZE PHOTOVOLTAIC POWER SOURCE (DC) CONDUCTORS BASED ON MAX CURRENT ON NEC 690.53 SIGN OR OCPD RATING AT DISCONNECT

4) SIZE INVERTER OUTPUT CIRCUIT (AC) CONDUCTORS ACCORDING TO INVERTER OCPD AMPERE RATING. (See Guide Section 9)

5) TOTAL OF _____ INVERTER OCPD(s), ONE FOR EACH INVERTER. DOES TOTAL SUPPLY BREAKERS COMPLY WITH 120% BUSBAR EXCEPTION IN 690.64(B)(2)(a)? YES ☐ NO ☐

Contractor Name, Address and Phone:

_____

_____

_____

_____

Drawn By:

Checked By:

**Notes for One-Line Standard Electrical Diagram for Single-Phase PV Systems**

Site Name: _____

Site Address: _____

System AC Size: _____

| SIZE | FSCM NO | DWG NO | REV |
|---|---|---|---|
| | | | |

| SCALE | NTS | Date: | SHEET |
|---|---|---|---|