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NET METERING
0-100kW

GENERAL NOTES

1. INSTALLATION SHALL MEET ALL APPLICABLE SAFETY AND PERFORMANCE STANDARDS ESTABLISHED BY THE NATIONAL ELECTRICAL CODE, THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, AND ACCREDITED TESTING LABORATORIES SUCH AS UNDERWRITERS LABORATORIES AND, WHERE APPLICABLE, RULES OF PUBLIC UTILITIES COMMISSION REGARDING SAFETY AND RELIABILITY, AS WELL AS MEET ALL MID REQUIREMENTS.

2. APPLICANT SHALL MAKE PROVISIONS FOR THE INSTALLATION OF A MID METER DEDICATED TO MEASURING THE OUTPUT(PERFORMANCE) OF THE SOLAR GENERATION. APPLICANT SHALL PROVIDE AND INSTALL MID-SPECIFIED PERFORMANCE METER SOCKET AND ASSOCIATED WIRING. MID WILL PROVIDE THE PERFORMANCE METER. APPLICANT SHALL BE RESPONSIBLE FOR ALL INSTALLATION COSTS. PERFORMANCE METER SOCKET TO BE INSTALLED IN FRONT OF ALL FENCING, GATES OR OTHER OBSTRUCTIONS AND BE LOCATED WITHIN 10ft OF THE MAIN SERVICE DISCONNECT.

3. INTERCONNECTIONS TO THE LOAD-SIDE OF THE CUSTOMER'S MAIN SERVICE DISCONNECT/PROTECTION DEVICE(BREAKER, FUSE, ETC.) INSTALLED IN ACCORDANCE WITH NEC ARTICLES 690.64(B) AND 240.21, ARE ALLOWED. INTERCONNECTIONS TO THE SUPPLY SIDE OF THE CUSTOMER'S MAIN SERVICE DISCONNECT/PROTECTION DEVICE(BREAKER, FUSE, ETC.) INSTALLED IN ACCORDANCE WITH NEC ARTICLES 230.82(6) AND 690.64(A), ARE ALLOWED. ALL INTERCONNECTIONS SHALL BE ON THE LOAD-SIDE OF THE NET METERING POINT.

4. APPLICANT SHALL PROVIDE AND INSTALL A LOCKABLE AC DISCONNECT SWITCH WITH VISIBLE OPEN TO PREVENT SOLAR GENERATION FROM ENTERING THE MID ELECTRIC SYSTEM IN THE EVENT OF AN EMERGENCY OR MID ELECTRIC SYSTEM MAINTENANCE. IF A HARD TAP INTERCONNECTION IS TO BE MADE ON THE SOURCE-SIDE OF CUSTOMER'S MAIN SERVICE DISCONNECT/PROTECTION DEVICE(BREAKER, FUSE, ETC.), A LOCKABLE AND FUSED DISCONNECT SWITCH WITH VISIBLE OPEN MUST BE INSTALLED. APPLICANT SHALL BE RESPONSIBLE FOR ALL INSTALLATION COSTS. AC DISCONNECT SWITCH TO BE INSTALLED IN FRONT OF ALL FENCING, GATES OR OTHER OBSTRUCTIONS AND BE LOCATED WITHIN 10ft OF MAIN SERVICE DISCONNECT.

5. PERMANENT LABELS DENOTING THE EXISTENCE OF DUAL POWER SUPPLIES SHALL BE AFFIXED TO AC DISCONNECT AND NET METER PANEL(SEE FIGURE 9, PAGE 6).

6. MID RESERVES THE RIGHT TO INSPECT ANY PORTION OF THE SOLAR GENERATION SYSTEM INTERCONNECTED TO ITS ELECTRIC SYSTEM. ANY INTERCONNECTED SOLAR GENERATION NOT MEETING MID's SAFETY REQUIREMENTS IS SUBJECT TO DISCONNECTION UNTIL SUCH TIME AS ALL SAFETY REQUIREMENTS ARE MET.

7. UNDER NO CIRCUMSTANCES SHALL SOLAR GENERATION BE CONNECTED TO MID ELECTRIC SYSTEM WITHOUT AUTHORIZATION.

8. ANY DEVIATION FROM THIS STANDARD WILL REQUIRE WRITTEN APPROVAL FROM MID ENGINEERING PRIOR TO CONSTRUCTION.

9. SYSTEMS LARGER THAN 100kW WILL BE REVIEWED BY MID ENGINEERING AND SPECIFIC INSTALLATION REQUIREMENTS WILL BE DETERMINED ON A CASE-BY-CASE BASIS.

10. A COMBINER PANEL SHALL NOT BE USED TO SUPPLY CUSTOMER LOAD.

11. ACCESSORY DWELLING UNIT (ADU) NET METERING EQUIPMENT LAYOUT EXAMPLE (SEE FIGURE 14, PAGE 13)

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FIGURE 3
NET METERING INSTALLATION DIAGRAM WITH HARD TAP AHEAD OF MAIN SERVICE BREAKER

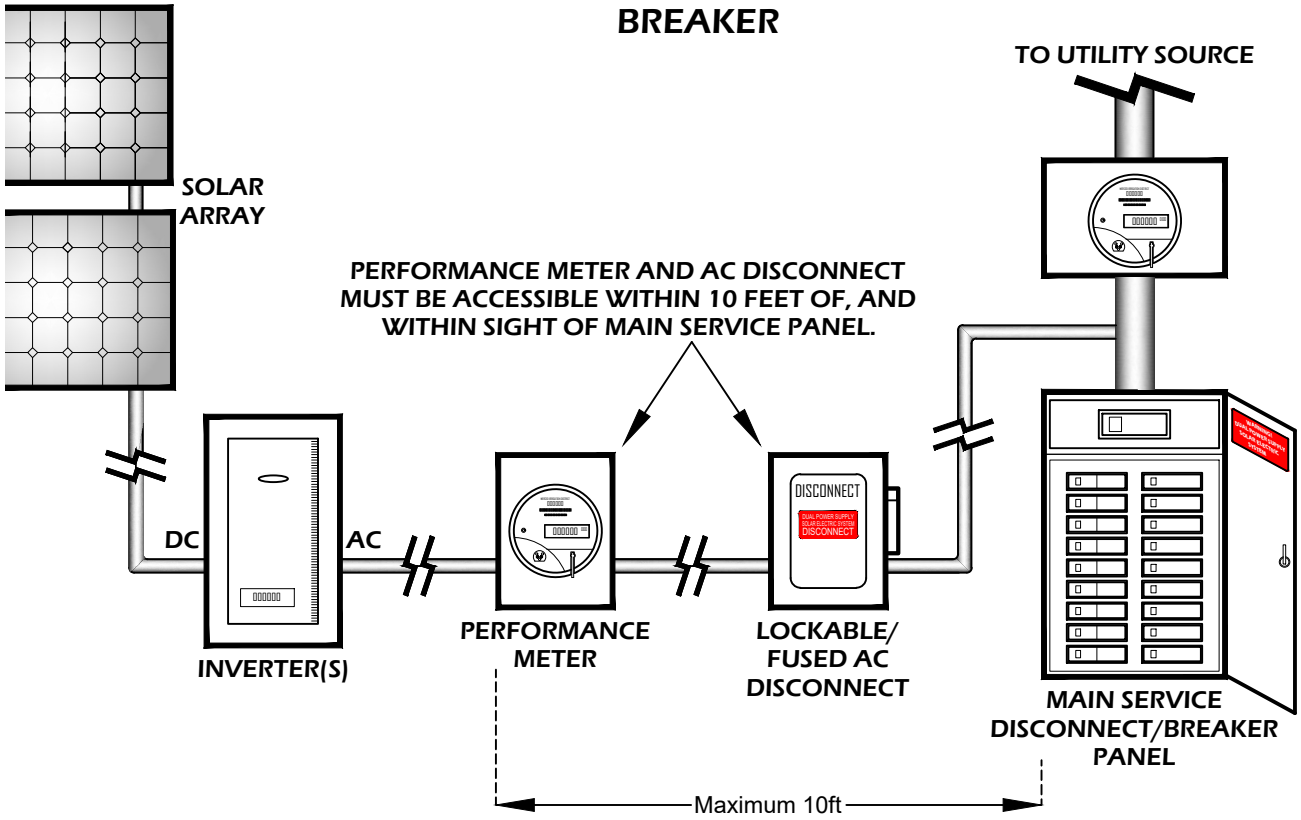
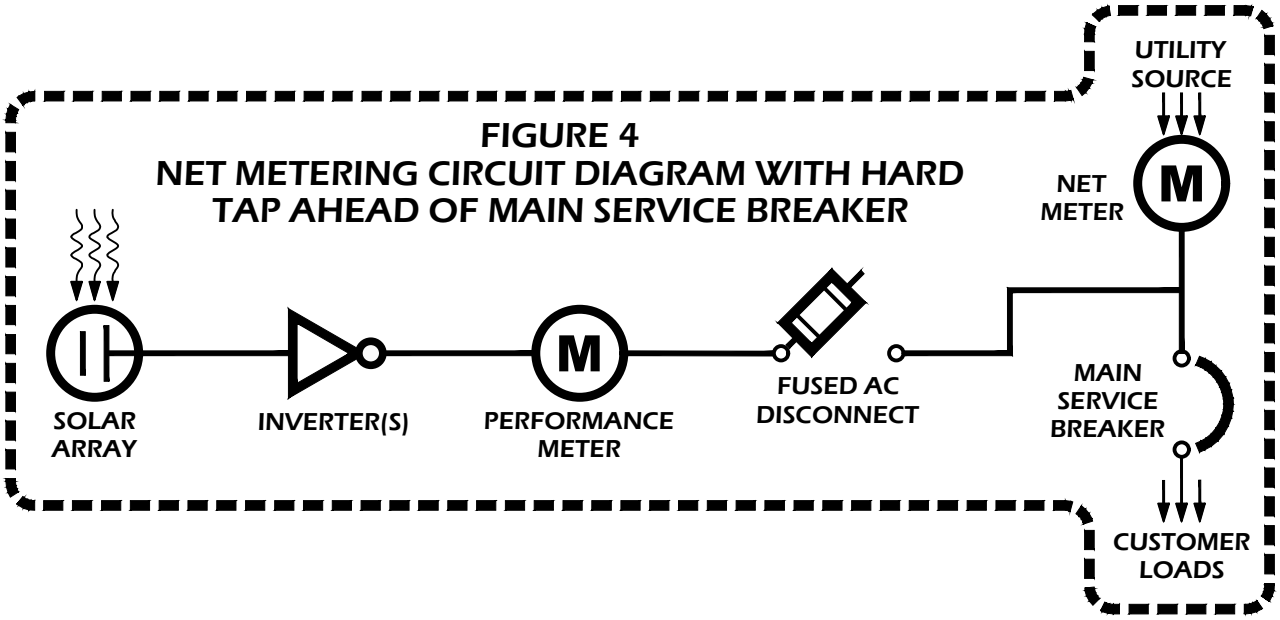


FIGURE 4
NET METERING CIRCUIT DIAGRAM WITH HARD TAP AHEAD OF MAIN SERVICE BREAKER



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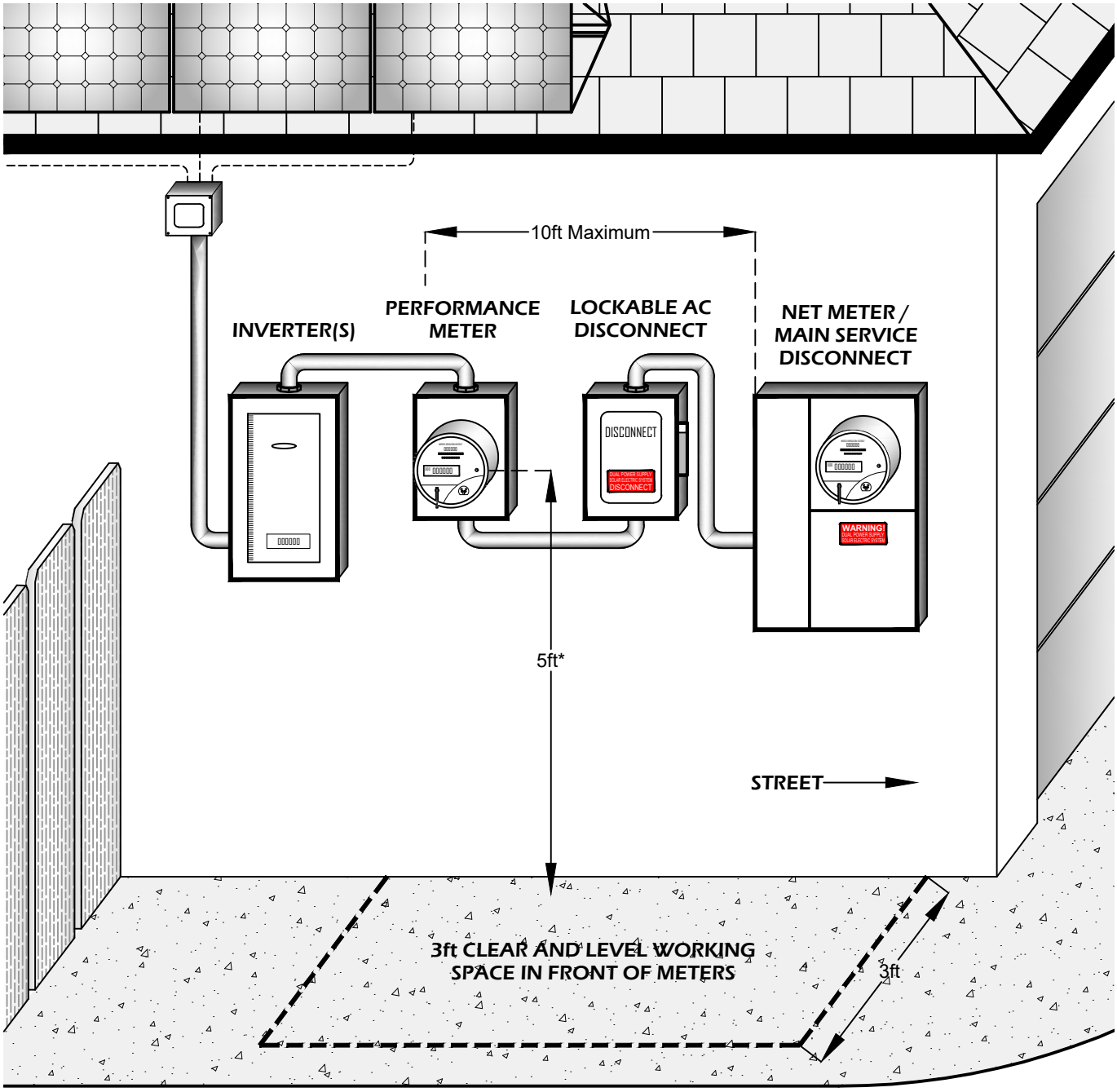

FIGURE 3
NET METERING EQUIPMENT LAYOUT
(EXAMPLE)

NOTES

1. ALL METERING EQUIPMENT TO BE LOCATED IN FRONT(ON STREET-SIDE) OF FENCES/GATES.
2. WORKING SPACE MUST BE CLEAR AND UNOBSTRUCTED AT ALL TIMES.
3. MAIN SERVICE DISCONNECT, AC DISCONNECT AND PERFORMANCE METER TO BE LOCATED WITHIN 10ft OF EACH OTHER.

*MIDDLE OF PERFORMANCE METER MUST BE LOCATED 4ft - 6ft FROM GROUND

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PERFORMANCE METER SOCKET WIRING CONFIGURATIONS

FIGURE 4
4-JAW METER

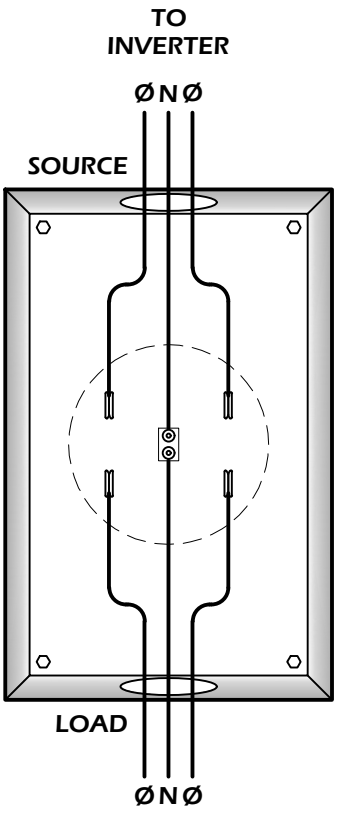


FIGURE 5
5-JAW METER

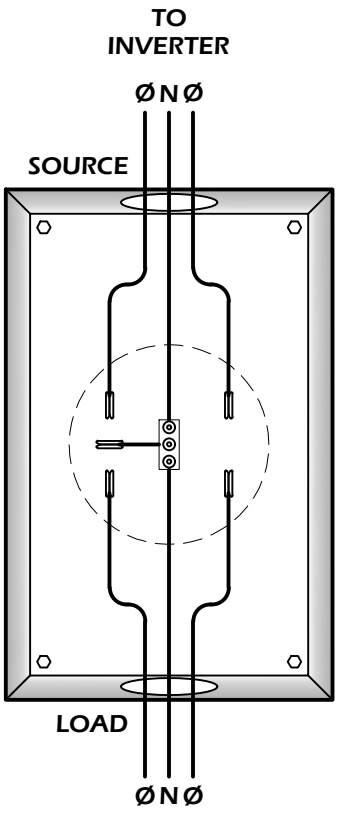
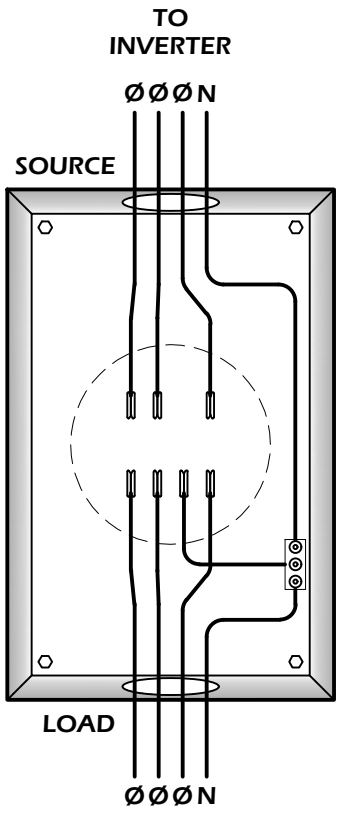


FIGURE 6
7-JAW METER



NOTE

1. TO ENSURE PROPER ORIENTATION OF METER, THE 'SOURCE' AND 'LOAD' SIDES OF THE ENCLOSURE MUST BE INSTALLED AS SHOWN.

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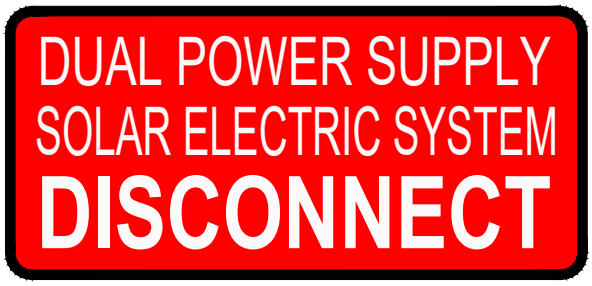
FIGURE 7
NET METERING SAFETY LABELS



ATTACH TO EXTERIOR OF NET METER PANEL



ATTACH TO EXTERIOR OF DISCONNECT ENCLOSURE

NOTES

1. LABELING SHALL BE MADE OF RED REFLECTIVE, WEATHER-RESISTANT MATERIAL WITH WHITE LETTERS.
2. LETTERING SHALL BE A MINIMUM OF 3/8in TALL.
3. LABELS SHALL BE PERMANENTLY ATTACHED TO APPROPRIATE PANEL.

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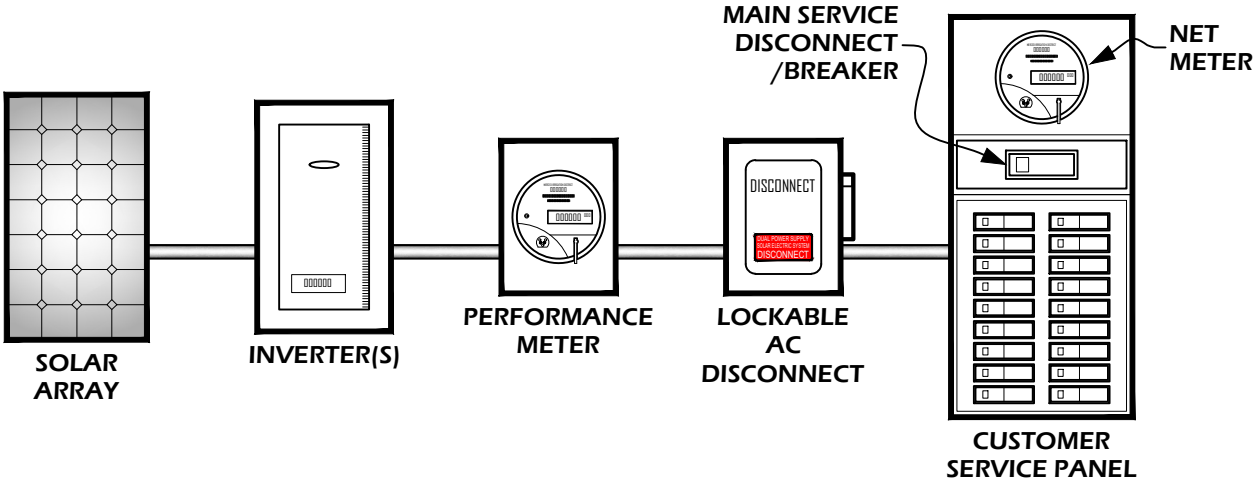
NET METERING EQUIPMENT SPECIFICATIONS

0-100kW



SOLAR SYSTEM

GENERAL

ANNUAL OUTPUT	kWH
CEC-AC RATING	W
BREAKER SIZE	A

MODULE(S)

MODULE MFR	
MODULE MODEL NO.	
OPERATING VOLTAGE	V
MAX SYSTEM VOLTAGE	V
OPERATING CURRENT	A
SHORT-CIRCUIT CURRENT	A
MAX SERIES FUSE (OCPD)	A
MAX POWER	W
NUMBER OF MODULES	

INVERTER(S)

INVERTER MFR	
INVERTER MODEL NO.	
MAX DC VOLTAGE	V
MAX POWER	W
NOMINAL AC VOLTAGE	V
MAX AC CURRENT	A
PROTECTION DEVICE RATING	A
INTEGRATED DC DISC. Y☐ N☐	

NET METERING

PERFORMANCE METER SOCKET

VOLTAGE RATING	V
CURRENT RATING	A
NUMBER OF JAWS	
WITHIN 10' OF MAIN SERVICE DISCONNECT Y☐ N☐	

AC DISCONNECT

VOLTAGE RATING	V
CURRENT RATING	A
FUSE SIZE (IF HARD-TAPPED)	A
LOCKABLE Y☐ N☐	

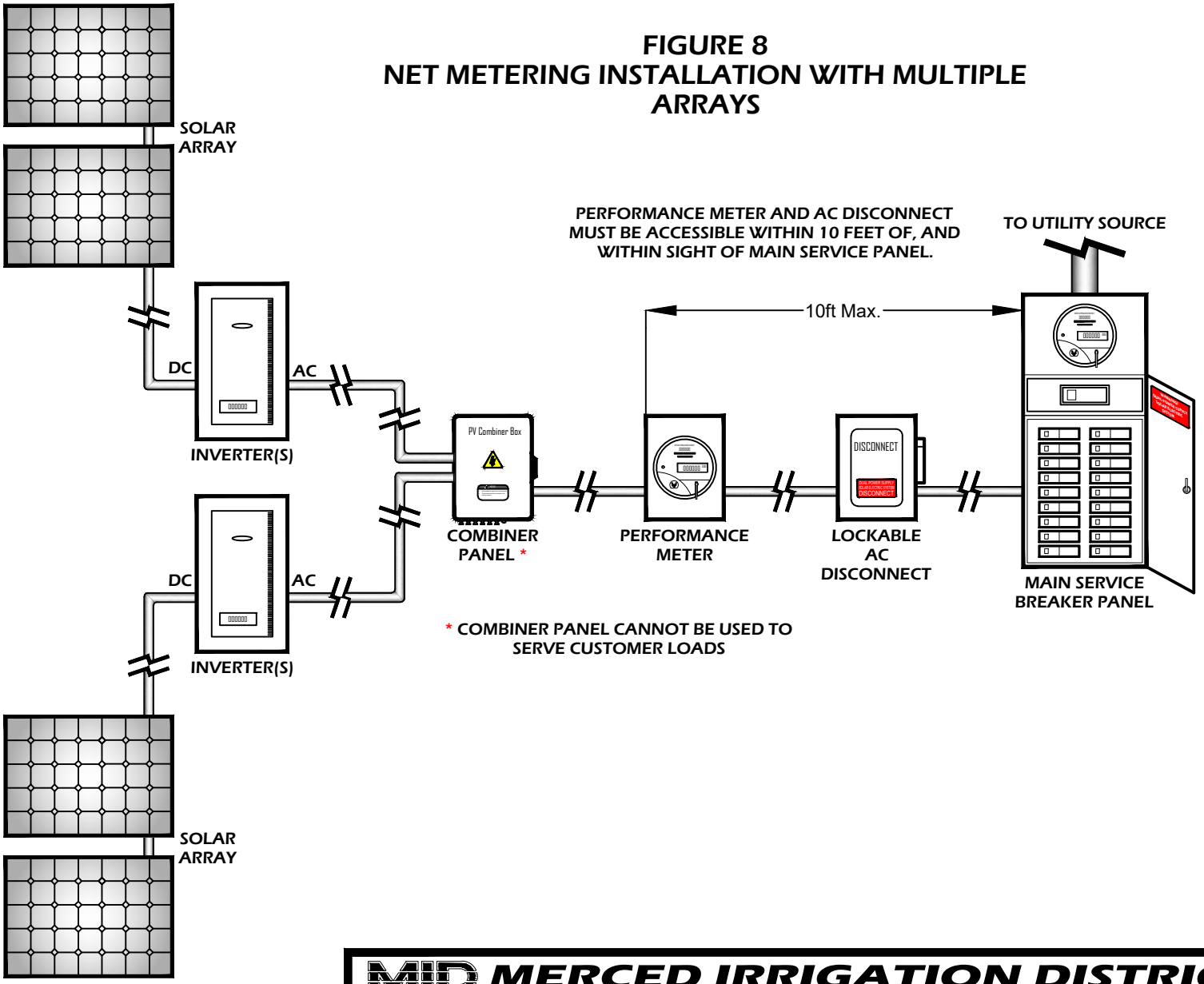
SERVICE PANEL

VOLTAGE RATING	V
MAIN BREAKER RATING	A

PROJECT INFORMATION

CUSTOMER NAME
PROJECT ADDRESS
VENDOR NAME
DESIGNER NAME
DESIGNER PHONE
DESIGNER EMAIL
EST. COMPLETION DATE

FIGURE 8
NET METERING INSTALLATION WITH MULTIPLE ARRAYS



* COMBINER PANEL CANNOT BE USED TO SERVE CUSTOMER LOADS

MERCED IRRIGATION DISTRICT

DESIGN:	REVISION:
LB	0

CONSTRUCTION STANDARD 0-100KW

NET METERING WITH MULTIPLE ARRAYS

SPECIFICATION# 55010

SHEET: 7 OF 13

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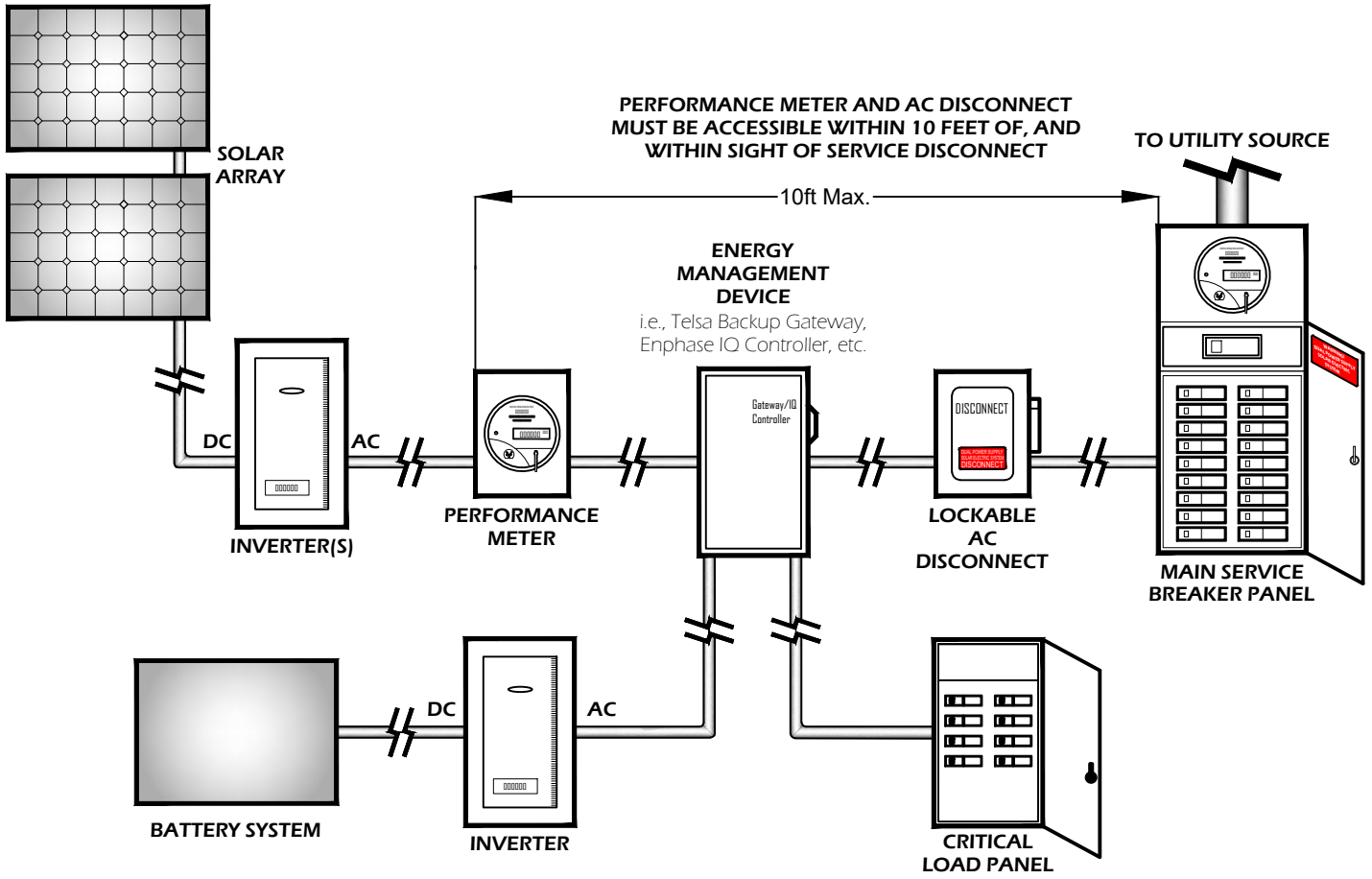
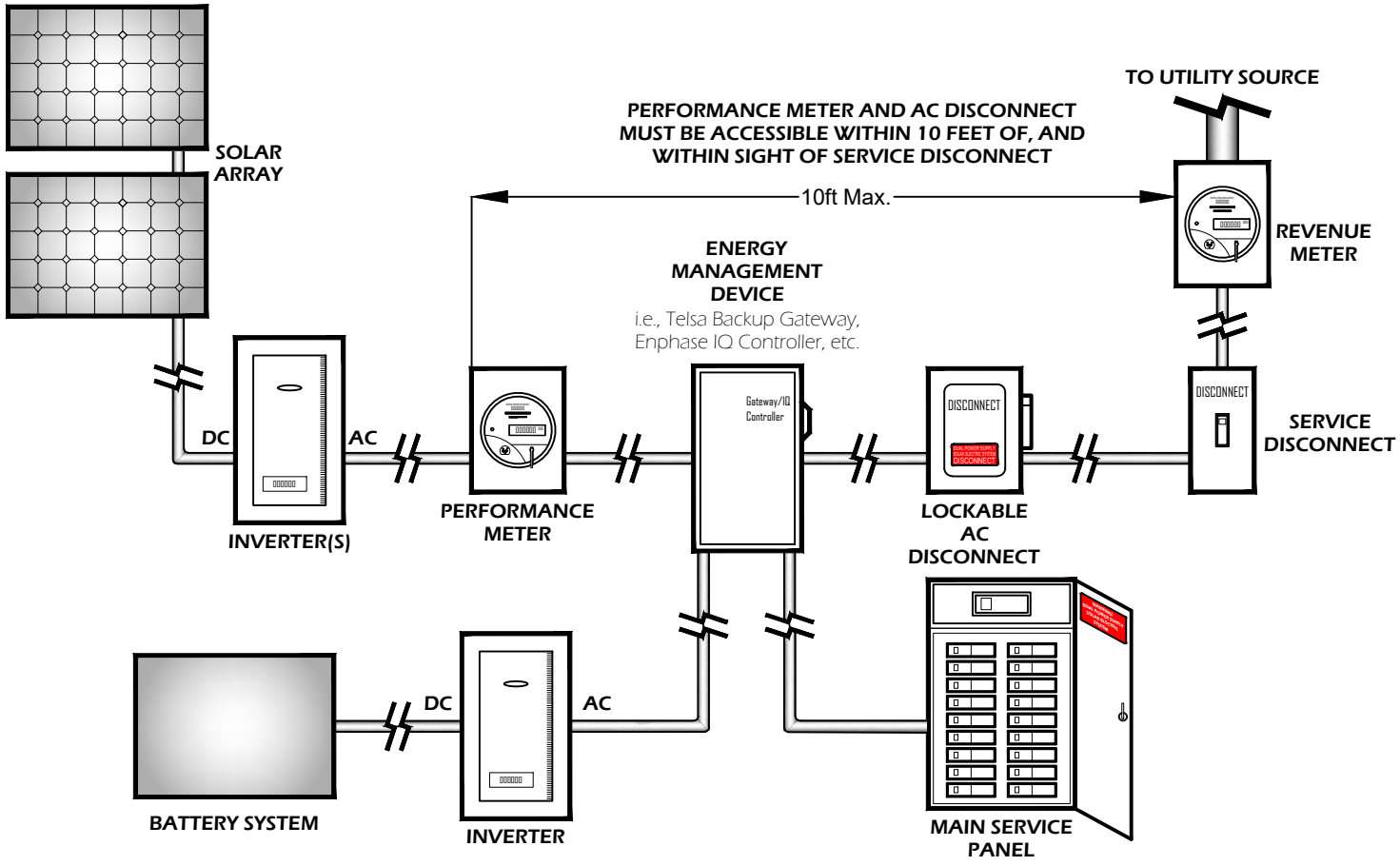
FIGURE 9
NET METERING INSTALLATION WITH ESS AS BACKUP FOR CRITICAL LOAD



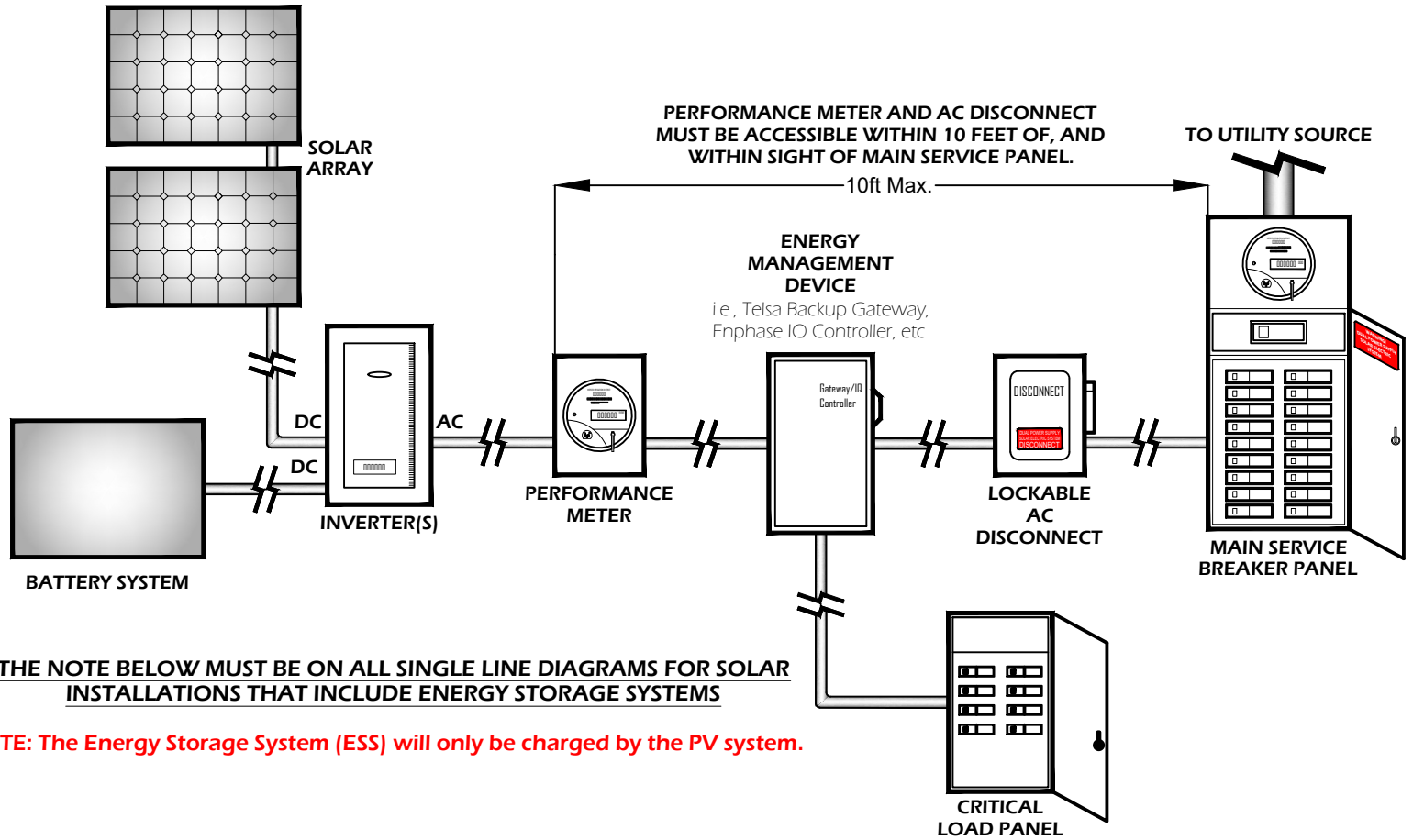
MERCED IRRIGATION DISTRICT	DESIGN: LB	REVISION: 0
CONSTRUCTION STANDARD 0-100KW NET METERING DIAGRAM W/ ESS AS BACKUP FOR CRITICAL LOAD	SPECIFICATION# 55010	SHEET: 8 OF 13

FIGURE 10
NET METERING INSTALLATION WITH ESS AS WHOLE HOME BACKUP



MERCED IRRIGATION DISTRICT	DESIGN: LB	REVISION: 0
CONSTRUCTION STANDARD 0-100KW NET METERING DIAGRAM W/ ESS AS WHOLE HOME BACKUP	SPECIFICATION# 55010	SHEET: 9 OF 13

FIGURE 11
NET METERING INSTALLATION WITH DC COUPLED ESS

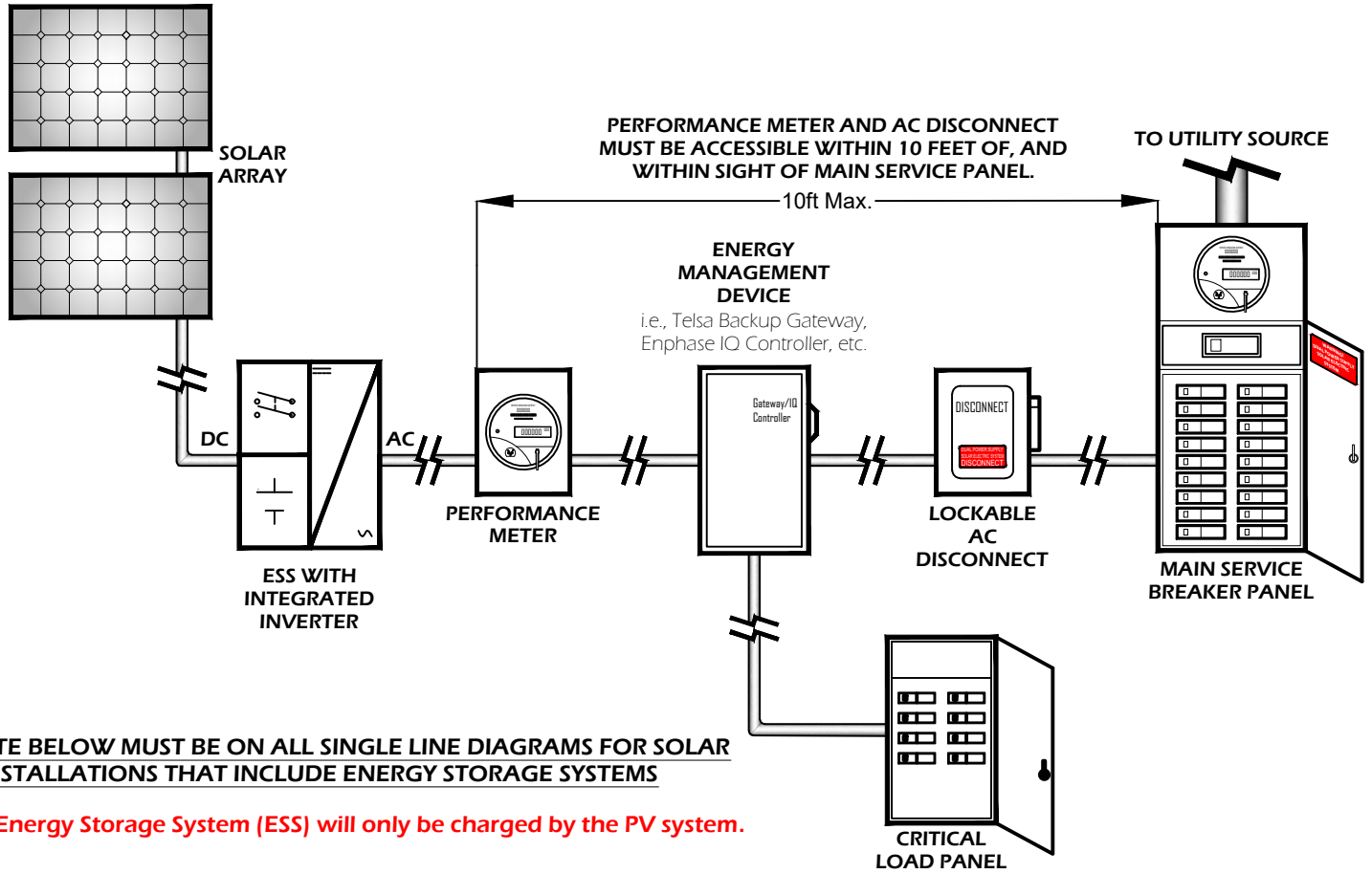


THE NOTE BELOW MUST BE ON ALL SINGLE LINE DIAGRAMS FOR SOLAR INSTALLATIONS THAT INCLUDE ENERGY STORAGE SYSTEMS

NOTE: The Energy Storage System (ESS) will only be charged by the PV system.

MERCED IRRIGATION DISTRICT	DESIGN: LB	REVISION: 0
CONSTRUCTION STANDARD 0-100KW NET METERING DIAGRAM WITH DC COUPLED ESS	SPECIFICATION# 55010	SHEET: 10 OF 13

FIGURE 12
NET METERING INSTALLATION WITH INTEGRATED ESS/INVERTER

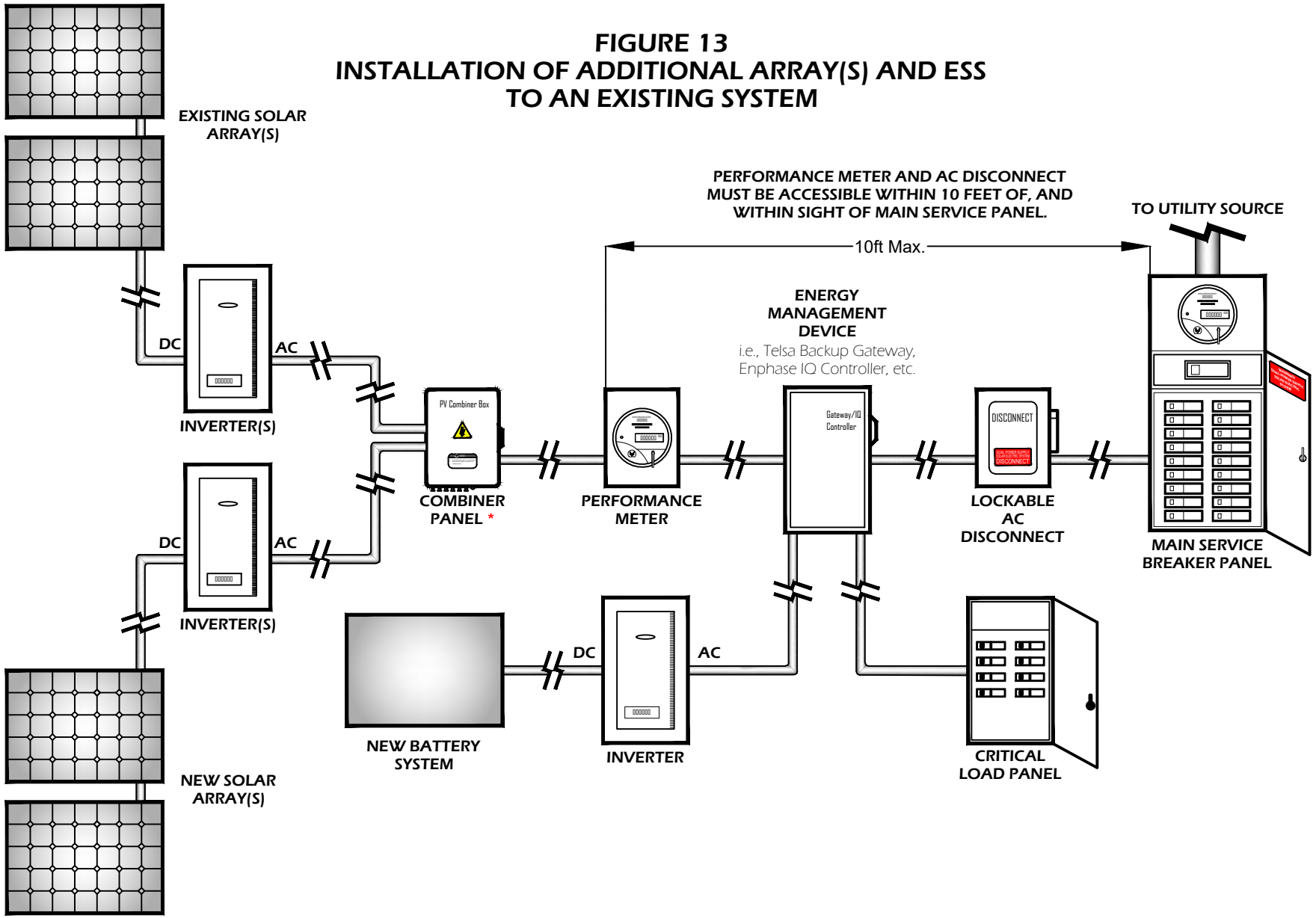


THE NOTE BELOW MUST BE ON ALL SINGLE LINE DIAGRAMS FOR SOLAR INSTALLATIONS THAT INCLUDE ENERGY STORAGE SYSTEMS

NOTE: The Energy Storage System (ESS) will only be charged by the PV system.

MERCED IRRIGATION DISTRICT	DESIGN: LB	REVISION: 0
CONSTRUCTION STANDARD 0-100KW NET METERING WITH INTEGRATED ESS/INVERTER	SPECIFICATION# 55010	SHEET: 11 OF 13

FIGURE 13
INSTALLATION OF ADDITIONAL ARRAY(S) AND ESS TO AN EXISTING SYSTEM



* COMBINER PANEL CANNOT BE USED TO SERVE CUSTOMER LOADS

MID MERCED IRRIGATION DISTRICT

DESIGN:	REVISION:
LB	0

CONSTRUCTION STANDARD 0-100KW

ADDING ARRAY(S) AND ESS TO EXISTING NET METERING SYSTEM

SPECIFICATION# 55010

SHEET: 12 OF 13

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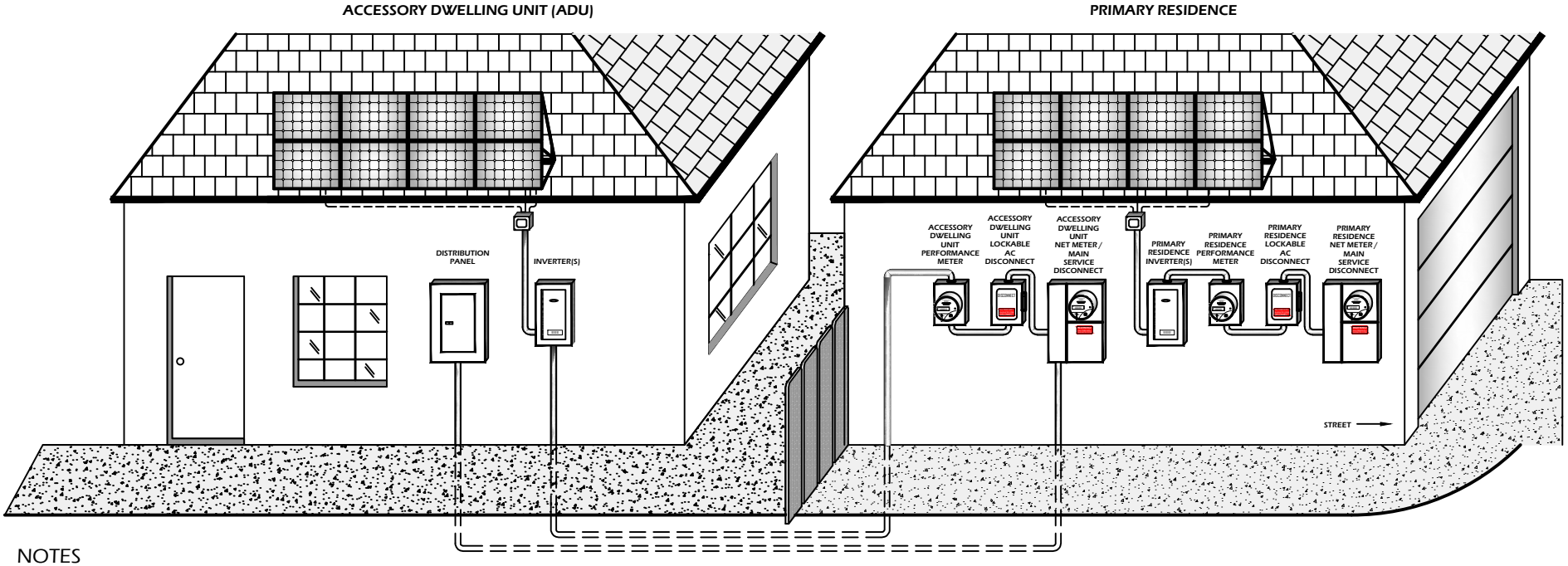
FIGURE 14
PRIMARY RESIDENCE
AND
ACCESSORY DWELLING UNIT (ADU)
NET METERING EQUIPMENT LAYOUT
(EXAMPLE)



NOTES

1. ALL METERING EQUIPMENT TO BE LOCATED IN FRONT (ON STREET-SIDE) OF FENCES/GATES.

2. WORKING SPACE MUST BE CLEAR AND UNOBSTRUCTED AT ALL TIMES.

3. ALL EQUIPMENT SHALL BE LABELED WITH THE CORRESPONDING ADDRESS PER MID PANEL LABELING STANDARD.

4. EQUIPMENT LAYOUTS THAT DIFFER FROM THIS EXAMPLE SHALL BE SUBMITTED TO THE SOLAR DEPARTMENT FOR REVIEW AND APPROVAL..

MERCED IRRIGATION DISTRICT	DESIGN: STAFF	REVISION: 0
CONSTRUCTION STANDARD 0-100KW PRIMARY RESIDENCE WITH ACCESSORY DWELLING UNIT (ADU) EQUIPMENT LAYOUT EXAMPLE	SPECIFICATION# 55010	SHEET: 13 OF 13