

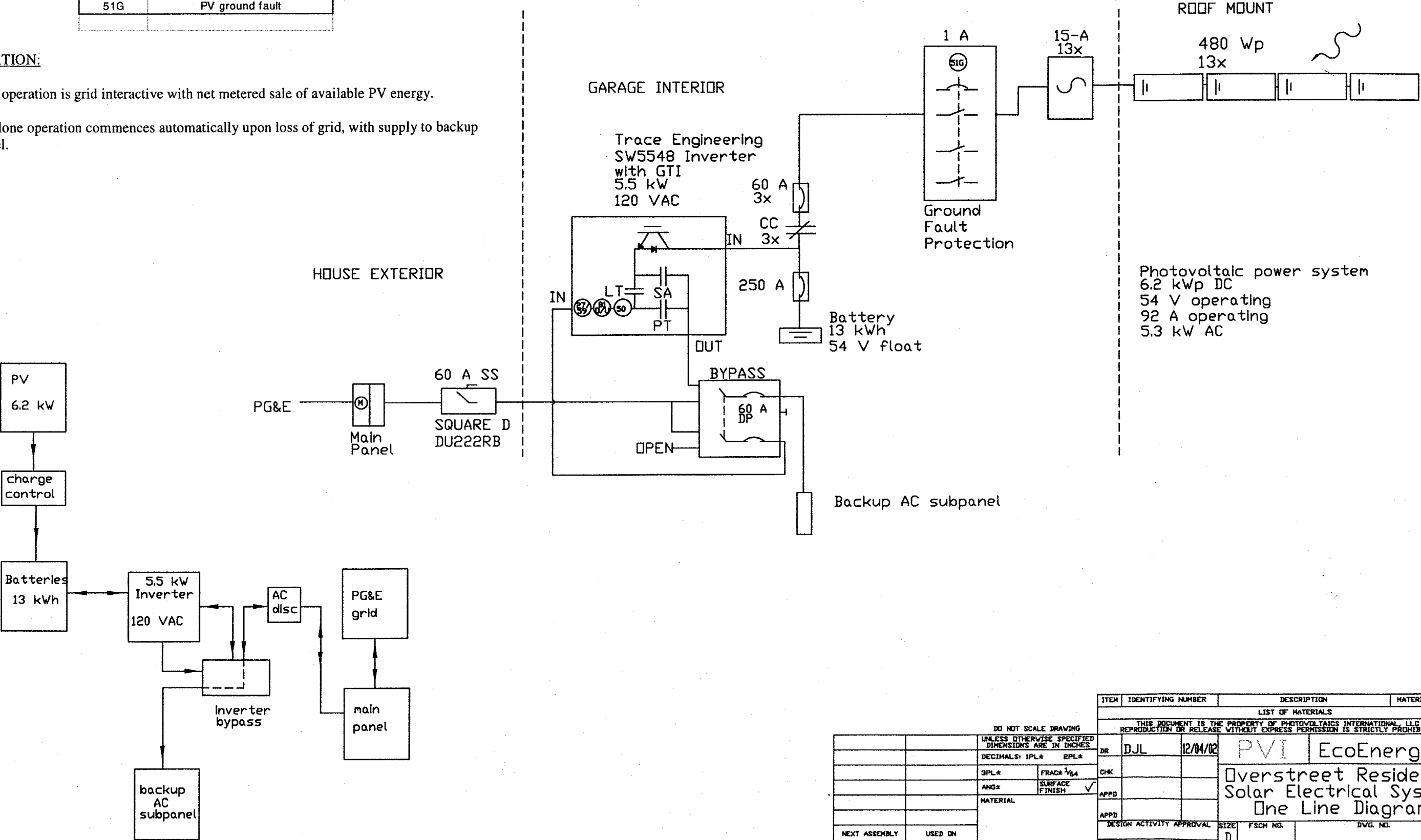
DEVICES	
27/59	under/over voltage
81 O/U	under/over frequency
50	Grid short
PT	Grid present and synchronous
SA	Loss of grid
CC	Vbat > Vflt
LT	Grid present and synchronous
51G	PV ground fault

REVISIONS				
ZONE	REV	DESCRIPTION	ECO	DATE

OPERATION:

Normal operation is grid interactive with net metered sale of available PV energy.

Stand-alone operation commences automatically upon loss of grid, with supply to backup subpanel.



DO NOT SCALE DRAWING	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	
DECIMALS: 1PL*	2PL*
3PL*	FRACTIONS: 1/64
ANG*	SURFACE FINISH
MATERIAL	
SPEC NO.	
NEXT ASSEMBLY	USED ON
APPLICATION	

ITEM	IDENTIFYING NUMBER	DESCRIPTION	MATERIAL	QTY
LIST OF MATERIALS				
THIS DOCUMENT IS THE PROPERTY OF PHOTOVOLTAICS INTERNATIONAL, LLC. REPRODUCTION OR RELEASE WITHOUT EXPRESS PERMISSION IS STRICTLY PROHIBITED.				
DR	DJL	12/04/02	PVI	EcoEnergies
CHK			Overstreet Residence Solar Electrical System One Line Diagram	
APPD				
APPD				
DESIGN ACTIVITY APPROVAL		SIZE	FSCH NO.	DWG. NO.
CUSTOMER APPROVAL		D		REV.
SCALE		SHEET OF		

REVISIONS				
ZONE	REV	DESCRIPTION	ECD	DATE

Conductor	Circuit	Voltage	Load (A)	Adjustment Factors			Ampacity	Size	Protection	EGC
				Duty	Tamb	Raceway				
PVx (13 tot)	PV source	95	9.6	0.8	0.71	0.45	38	XHHW-2 10	15	AWG 10
PV Out 1, 2	PV output	95	38.4	0.8	0.91	1	53	THWN-2 6	60	AWG 6
PV Out 3	PV output	95	48	0.8	0.91	1	66	THWN-2 6	60	AWG 6
Bat Out	Battery output	60	147	0.8	0.88	1	209	THW 4/0	250	Raceway
Inv In	Inverter input	120	60	1	0.91	1	66	THWN-2 6	60	AWG 10
Inv Out	Inverter output	120	60	1	0.91	1	66	THWN-2 6	60	AWG 10
GFP Bond	Neutral/Gnd bond, DC							THW 2		
GEC	Grounding Electrode Conductor, DC							AWG 8		

NOTES

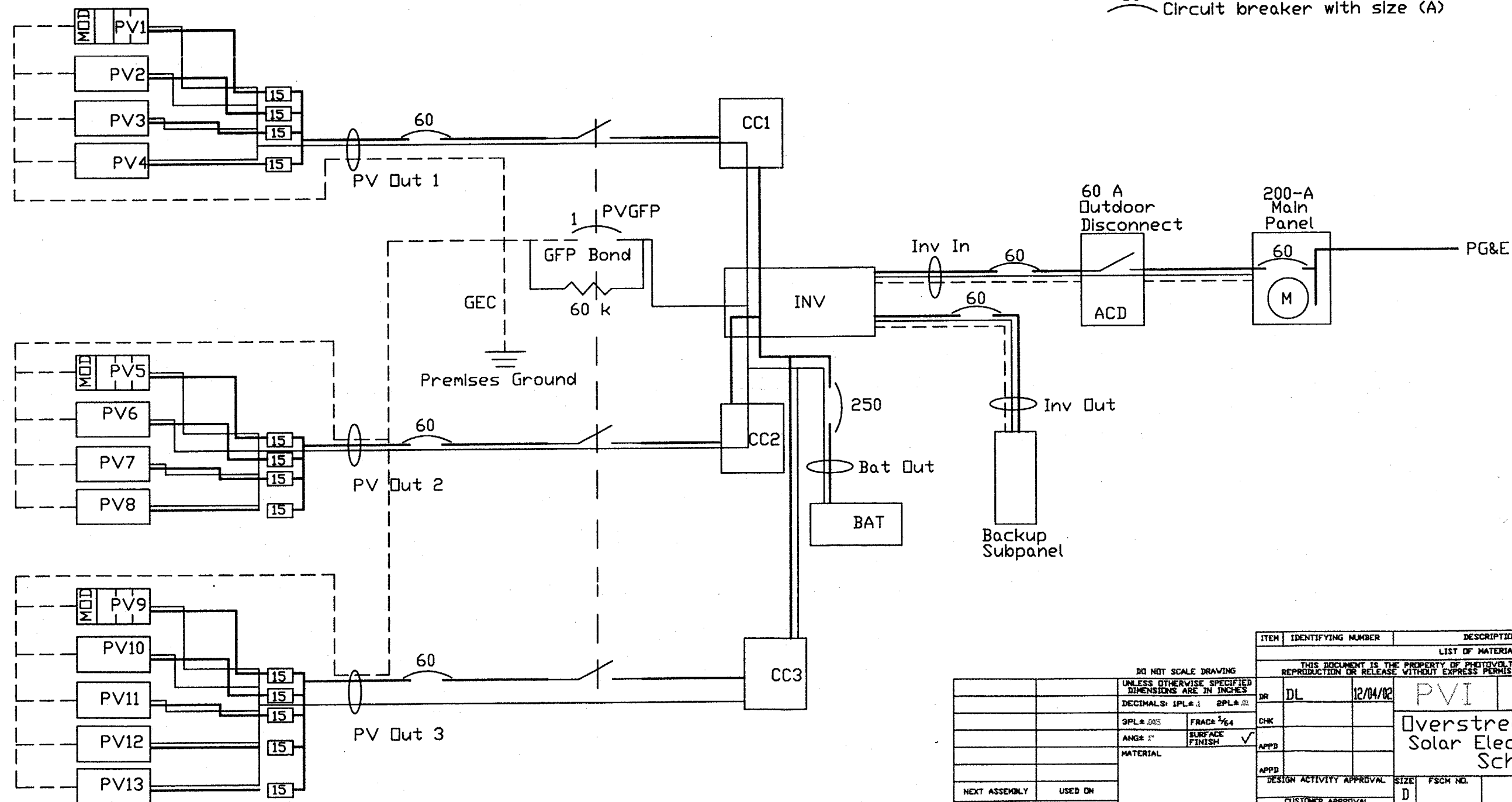
PV load currents are I_{sc} x 1.25

PV voltages derated for 0° ambient

Roof top conductors derated for 60° ambient, others for 40° ambient

Symbol	Equipment	Manufacturer	Model #
INV	Inverter	Xantrex	SW5548
MOD	Photovoltaic Module	Astropower	AP120
BAT	Battery	Concorde	PVX-12255
PVGFP	PV Ground Fault Protection	Xantrex	PVGFP-3
ACD	Outdoor Solar Disconnect	Square D	DU222RB
CC	Charge Controller	Xantrex	C40

----- Grounding conductor
 ————— Positive conductor
 ————— Grounded negative conductor
 [15] 15 A DC rated fuse
 60 Circuit breaker with size (A)



ITEM	IDENTIFYING NUMBER	DESCRIPTION	MATERIAL	QTY
LIST OF MATERIALS				
THIS DOCUMENT IS THE PROPERTY OF PHOTOVOLTAICS INTERNATIONAL, LLC. REPRODUCTION OR RELEASE WITHOUT EXPRESS PERMISSION IS STRICTLY PROHIBITED.				
DR	DL	12/04/02	PVI	EcoEnergies
CHK			Overstreet Residence Solar Electrical System Schematic	
APPD			SIZE	FSCM NO.
APPD			DWG. NO.	REV. 00
DESIGN ACTIVITY APPROVAL		CUSTOMER APPROVAL		
NEXT ASSEMBLY		USED ON		
APPLICATION		SPEC. NO.		
SCALE		SHEET 1 OF 1		