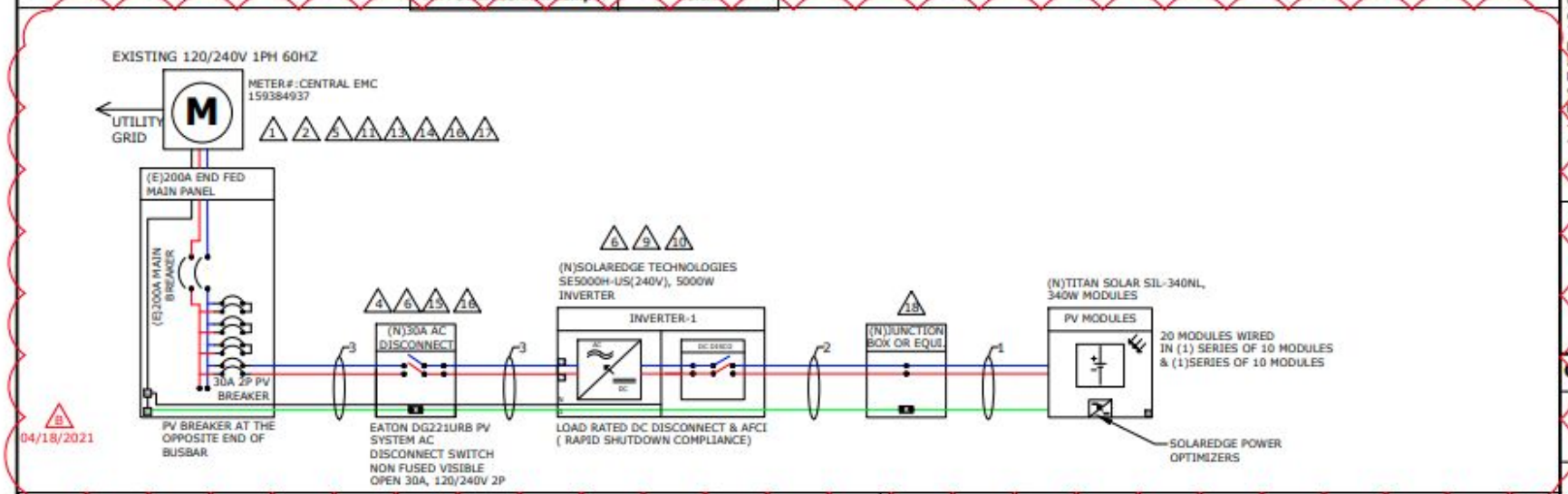
THREE LINE DIAGRAM: DC SYSTEM SIZE - 6800W, AC SYSTEM SIZE - 5000W

INVERTER-1 SPECIFICATIONS	
MODEL	SOLAREDGE TECHNOLOGIES SE5000H-US(240V)
POWER RATING	5000W
MAX OUTPUT CURRENT	21A
CEC WEIGHTED EFFICIENCY	99%
MAX INPUT CURRENT	13.5A
MAX DC VOLTAGE	480V

MODULE SPECIFICATION	
MODEL	TITAN SOLAR SIL-340NL
MODULE POWER @ STC	340W
OPEN CIRCUIT VOLTAGE:**Voc**	40.9V
MAX POWER VOLTAGE:**Vmp**	33.7V
SHORT CIRCUIT VOLTAGE:**Isc**	10.5A
MAX POWER CURRENT:**Imp**	10.1A

OPTIMIZER CHARACTERISTICS	
MODEL	**P340**
MIN INPUT VOLTAGE	8 VDC
MAX INPUT VOLTAGE	48 VDC
MAX INPUT CURRENT	11 ADC
MAX OUTPUT CURRENT	15 ADC

SYSTEM CHARACTERISTICS	
DC SYSTEM SIZE	6800 W
INVERTER STRING VOLTAGE:**Vmp**	380V
MAX INVERTER SYSTEM VOLTAGE: **Voc**	480V
MAX SHORT CIRCUIT CURRENT	15A
OPERATING CURRENT	8.95A



CONDUIT SCHEDULE

TAG ID	CONDUIT SIZE	CONDUCTOR	NEUTRAL	GROUND
1	NONE	(4) 10AWG PV WIRE	NONE	(1) 10 AWG BARE COPPER
2	3/4"EMT OR EQUIV	(4) 10AWG THHN/THWN-2	NONE	(1) 10 AWG THHN/THWN-2
3	3/4"EMT OR EQUIV	(2) 8 AWG THHN/THWN-2	(1) 8 AWG THHN/THWN-2	(1) 10 AWG THHN/THWN-2

NOTE:
MAIN PANEL RATING:200A, MAIN BREAKER RATING:200A
120% RULE: (200AX1.2)-200A=40A =>ALLOWABLE BACKFEED IS 40A

OCPD CALCULATIONS:
INVERTER OVERCURRENT PROTECTION= INVERTER O/P I X CONTINUOUS LOAD(1.25)
=21x1.25=26.25A=>PV BREAKER = 30A
ALLOWABLE BACKFEED 40A =>30A PV BREAKER
THE DESIGNED INTERCONNECTION MEETS THE 705.12(B)(2) REQUIREMENTS.

ELECTRICAL CALCULATIONS

DC WIRE SIZING CALCULATIONS BASED OF FOLLOWING EQUATIONS>>
- REQUIRED CONDUCTOR AMPACITY: 125% PER 690.8(A)(1) X Isc(A) X #OF PARALLEL STRINGS = MAX CURRENT PER 690.8(A)(1) X 125% PER 690.8(B)(2)(a)=MAX CURRENT PER 690.8(B)(2)(a)
- CORRECTED AMPACITY CALCULATIONS:AMPACITY X TEMPERATURE DERATE FACTOR X CONDUIT FILL DERATE = DERATED CONDUCTOR AMPACITY
- DERATED CONDUCTOR AMPACITY CHECK: MAX CURRENT PER 690.8(B)(2)(2) < DERATED CONDUCTOR AMPACITY

AC WIRE SIZING CALCULATIONS BASED OF FOLLOWING EQUATIONS >>
- REQUIRED CONDUCTOR AMPACITY: INVERTER OUTPUT CURRENT X #OF INVERTERSXMAX CURRENT PER 690.8(A)(3)X125% PER 690.8(B)(2)(A)
- CORRECTED AMPACITY CALCULATIONS:AMPACITY X TEMPERATURE DERATE FACTOR X CONDUIT FILL DERATE = DERATED CONDUCTOR AMPACITY
- DERATED CONDUCTOR AMPACITY CHECK: MAX CURRENT PER 690.8(B)(2)(2) <

DC WIRE CALCULATIONS:- MATERIAL:COPPER & TEMPERATURE RATING:90°C

TAG ID	REQUIRED CONDUCTOR AMPACITY											CORRECTED AMPACITY CALCULATION							DERATED CONDUCTOR AMPACITY CHECK			
1	1	X	15	X	1	=	15	X	1.25	=	18.75A	40	X	0.71	X	0.8	=	22.72A	18.75A	<	22.72A
2	1	X	15	X	1	=	15	X	1.25	=	18.75A	40	X	0.71	X	0.8	=	22.72A	18.75A	<	22.72A

AC WIRE CALCULATIONS:- MATERIAL:COPPER & TEMPERATURE RATING:90°C

TAG ID	REQUIRED CONDUCTOR AMPACITY									CORRECTED AMPACITY CALCULATION								DERATED CONDUCTOR AMPACITY CHECK		
3	21	X	1	=	21	X	1.25	=	26.25A	55	X	0.87	X	1	=	47.85A		26.25A	<	47.85A

ELECTRICAL NOTES

1.CONDUCTORS EXPOSED TO SUNLIGHT SHALL BE LISTED AS SUNLIGHT RESISTANT PER NEC 310.10(D).
2.CONDUCTORS EXPOSED TO WET LOCATIONS SHALL BE SUITABLE FOR USE IN WET LOCATIONS PER NEC 310.10(C).
3.MAXIMUM DC/AC VOLTAGE DROP SHALL BE NO MORE THAN 2%.
4.ALL CONDUCTORS SHALL BE IN CONDUIT UNLESS OTHERWISE NOTED.
5.BREAKER/FUSE SIZES CONFORMS TO NEC 240.6 CODE SECTION.
6.AC GROUNDING ELECTRODE CONDUCTOR SIZED PER NEC 250.66.
7.AMBIENT TEMPERATURE CORRECTION FACTOR IS BASED ON NEC 690.31(C).
8.AMBIENT TEMPERATURE ADJUSTMENT FACTOR IS BASED ON NEC 310.15(B)(2).
9.MAX. SYSTEM VOLTAGE CORRECTION IS PER NEC 690.7.
10.CONDUCTORS ARE SIZED PER WIRE AMPACITY TABLE NEC 310.15(B)(16).

TITAN SOLAR POWER
ADDRESS: 525W, BASELINE RD MESA AZ,85210

CUSTOMER INFORMATION

NAME:NANCY M HERRERA

ADDRESS:576 WORD CHURCH LN, LILLINGTON,NC 27546

35.310730, -78.997987
APN: 030-507-021-523

AHJ:NC- COUNTY HARNETT

UTILITY:CENTRAL EMC

PRN NUMBER: TPS-016754

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Because quality matters

THREE LINE DIAGRAM

DESIGNER /CHECKED BY: VK/SN	PAPER SIZE:17"X11"
SCALE:AS NOTED	REV:B
DATE:4/18/2021	E-2