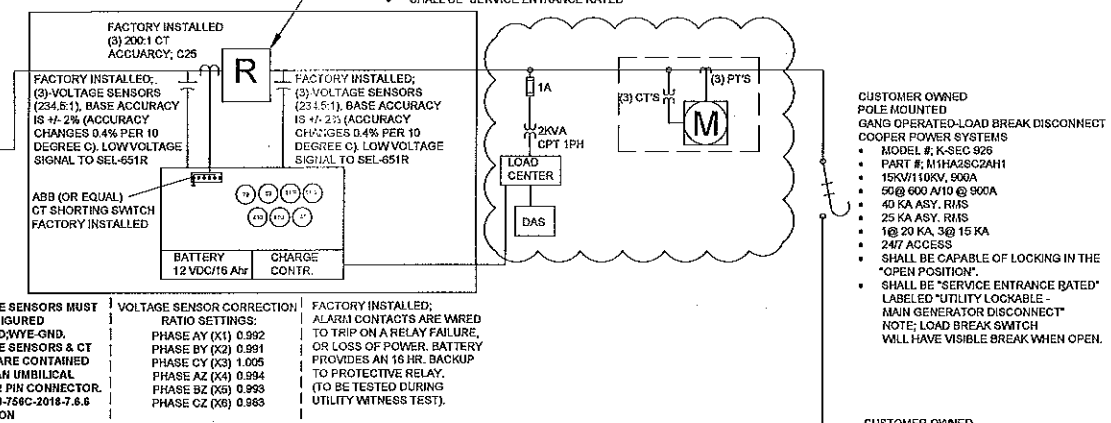
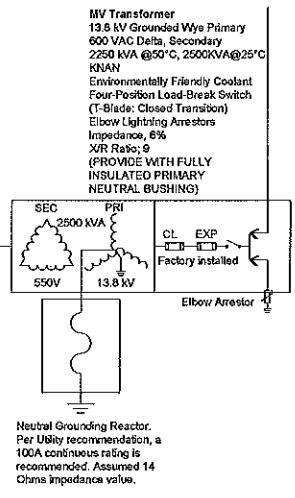
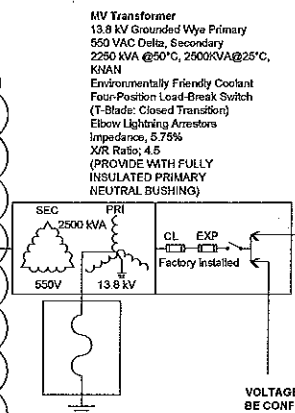
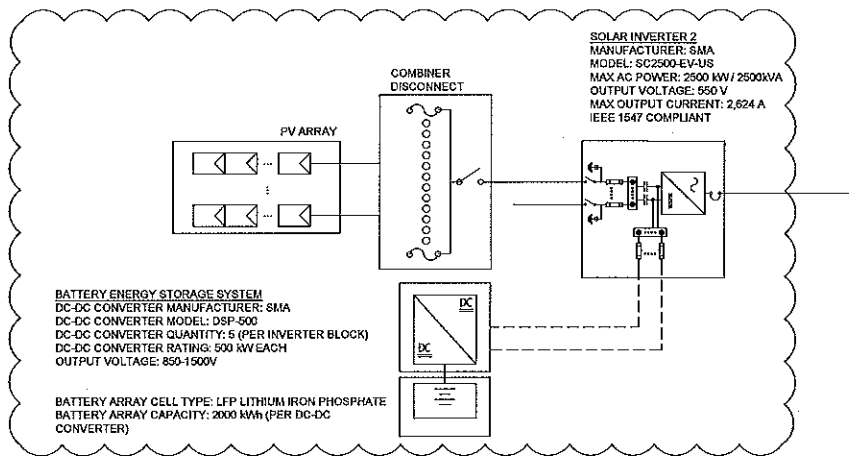
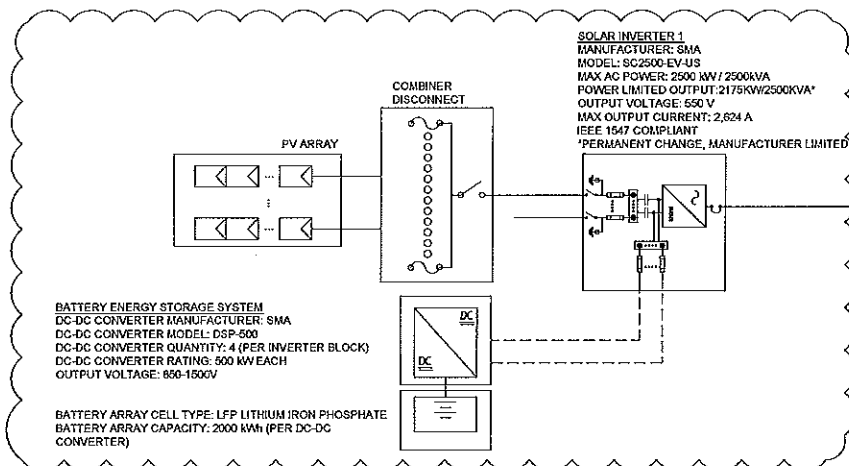


INVERTER SETTINGS FIELD ADJUSTABLE:		
DEVICE	PICKUP	DELAY
27-1	240 (50%)	1.1 SEC
27-2	422.4 (89%)	2.0 SEC
59-1	578 (110%)	2 SEC
59-2	578 (120%)	0.16 SEC
81U-1	56.5 HZ	0.16 SEC
81U-2	58.5 HZ	300 SEC
81O-1	61 HZ	300 SEC
81O-2	62 HZ	0.16 SEC

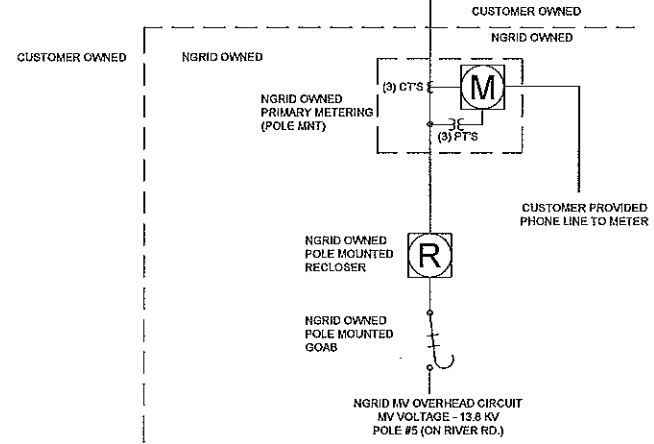
RELAY SETTINGS - SEL651R RELAY ON RECLOSER - UTILITY VOLTAGE: 13.8 kV			
ELEMENT	PICKUP RANGE	CLEARING TIME RANGE (SEC)	DEFAULT CLEARING TIME (SEC)
UNDERVOLTAGE (27-1)	17 V (50% of nominal)	0.1-11	0.16
UNDERVOLTAGE (27-2)	29.9 V (86% of nominal)	0.1-21	2
OVERVOLTAGE (59-1)	37.37 V (110% of nominal)	0.1-13	1
OVERVOLTAGE (59-2)	40.77 V (120% of nominal)	0.16	0.16
UNDERFREQUENCY (81U)	<58.5 Hz	0.16	0.16
UNDERFREQUENCY (81U)	<(58.9-57.1) Hz (Adjustable, default set to 58.5 Hz)	0.1-300.0	300
OVERFREQUENCY (81O)	61 Hz < f < 62.0 Hz	0.1-300.0	300
OVERFREQUENCY (81O)	>62.0 Hz	0.16 sec	0.16
OVERCURRENT (51C)	1.46 A (342 A Primary)	TD; 2.0, Curve U4	
OVERCURRENT (51G)	1.09 A (257 A Primary)	TD; 1.5, Curve U4	
RECLOSING-AUTO RESTORATION (79)	LOCKOUT ON 11/17/51G	300 SEC	
ALARM	RELAY FAILURE	2.00 SEC	
ALARM	DC LOST POWER	2.00 SEC	
ALARM	AC LOST POWER	2.00 SEC	

****CONTACTOR OPENING - EQUALS 3 CYC****



- CUSTOMER OWNED - POLE MOUNTED RECLOSER**
TAVRIDA-OSM16_AL_2 (830_150 (OR EQUAL))
- RATED VOLTAGE: 15.5kV
 - RATED CURRENT: 530A
 - RATED POWER FREQ. WITHSTAND VOLTAGE (VD), 1 MIN DRY: 60kV
 - RATED LIGHTNING IMPULSE WITHSTAND VOLTAGE (PEAK, VP): 110kV
 - RATED SHORT-TIME WITHSTAND CURRENT: 16 KA
 - OPERATING CYCLES: RATED CURRENT (CO-CYCLES): 30,000
 - STANDARD COMPLIANCE: IEEE/ANSI C37.60
 - CURRENT SENSING: 3 CURRENT TRANSFORMERS
 - VOLTAGE SENSING: 3 VOLTAGE SENSORS
 - FACTORY ASSEMBLED: SEL-651R RELAY, CTs (INTERNAL), CAPACITIVE SENSORS (INTERNAL) USED FOR VOLTAGE MEASUREMENTS ON ALL (6) BUSHINGS, UMBILICAL CORD & BATTERY BACK-UP.
 - SHALL BE "SERVICE ENTRANCE RATED"

- CUSTOMER OWNED**
POLE MOUNTED GANG OPERATED LOAD BREAK DISCONNECT
COOPER POWER SYSTEMS
- MODEL #, K-SEC 926
 - PART #, M1HA28C2AH1
 - 15kV/10kV, 500A
 - 50@ 600 A/10 @ 500A
 - 40 KA ASY. RMS
 - 25 KA ASY. RMS
 - 1@ 20 KA, 3@ 15 KA
 - 247 ACCESS
 - SHALL BE CAPABLE OF LOCKING IN THE "OPEN POSITION".
 - SHALL BE "SERVICE ENTRANCE RATED" LABELED "UTILITY LOCKABLE - MAIN GENERATOR DISCONNECT"
- NOTE: LOAD BREAK SWITCH WILL HAVE VISIBLE BREAK WHEN OPEN.



- NOTES:**
- THE INTERCONNECTION WILL BE MADE TO NGRID 13.8 kV FEEDER.
 - THE POCO WILL BE DESIGNATED AS THE CUSTOMER SIDE OF THE PRIMARY METERING ASSEMBLY.
 - THE INTERCONNECTING CUSTOMER TO INSTALL A DEAD END POLE DIRECTLY AFTER THE PRIMARY METERING ASSEMBLY, WHICH IS TO BE FRAMED, DEAD ENDED ANCHORED AND GUY. THE CUSTOMER TO INSTALL A GANG OPERATED DISCONNECT ON THIS POLE AND COMPLETED CONNECTIONS FROM THE SWITCH TO NGRID'S MV CONDUCTORS.
 - FINAL INSTALLATION WILL INCLUDE PLACARDING PER NEC 2017 REQUIREMENTS.
 - ALL CUSTOMER EQUIPMENT SHALL BE LISTED AS "SERVICE ENTRANCE RATED".
 - FINAL RELAY SETTINGS TO BE REVIEWED & APPROVED BY UTILITY. FINAL RELAY SETTINGS WILL BE TESTED DURING THE UTILITY WITNESS TEST PROCEDURE, AS REQUIRED BY NATIONAL GRID.
 - SOME ELEMENTS WITHIN THIS DESIGN HAVE BEEN OMITTED FOR CLARITY.
 - PV SYSTEM WILL HAVE A 5 MINUTE HEALTHY GRID RECONNECT FEATURE PROGRAMMED INTO THE RECLOSER. THIS WILL BE PROGRAMMED INTO THE RECLOSER TO DEFEAT THE CLOSE BUTTON AND BLOCK CLOSE UNTIL THE 5 MINUTE TIMER HAS COMPLETED. SETTINGS WILL BE PER IEEE 1547 SECTION 4.2.6 FOR 5 MINUTES. VOLTAGES WILL BE WITHIN (7.576-8.376 kV ON A 7.9 kV BASE). FREQUENCY WILL BE WITHIN 59.5-60.5 HZ. THE 6 MINUTE TIME INTERVAL WILL RESTART IF VOLTAGE OR FREQUENCY FALLS OUT OF THIS WINDOW.

Project Summary	
System Size (kW-DC)	4,675 MW-DC/5.95 MW-AC
Tilt	25 Degree
Azimuth	180 Degrees
Module	14,202
Inverter 1	Qty. 2, SC-2500-EV-US
Racking System	TERRASmart or equal
Battery System Rating	4,500 kWdc
Battery Capacity	18,000 kWh

Module Specs		Inverter Specs		Inverter Specs	
Make	GCL SOLAR	Make	SMA	Make	SMA
Model	GCL-M8/72GDF-395	Model	SC-2500-EV-US	Model	SC-2500-EV-US
Quantity	14,202	Quantity	1	Power limited	2175 kWac*
String Length	(27) Modules/String	AC Volts	550 VAC	Quantity	1
Voc	49.13 front, 48.23 rear VDC	Max Current Output	2,624 A/inverter	AC Volts	550 VAC
Vmp	40.32 front, 40.72 rear VDC	Power Factor	0.95	Max Current Output	2,624 A/inverter
Isc	10.28 front, 7.22 rear ADC	Freq	60 HZ	Power Factor	0.95
Imp	9.8 front, 6.86 rear ADC	Dimensions	109.4" x 91.3" x 62.5"	Freq	60 HZ
Grounding	Negative	Weight	7496 LBS.	Dimensions	109.4" x 91.3" x 62.5"
				Weight	7496 LBS.

*Factory limited, permanent change

CYPRESS CREEK RENEWABLES

SANTA MONICA OFFICE
3402 PICO BLVD, Suite 300
SANTA MONICA, CA 90405

REV	BY	DATE	DESCRIPTION
0	SMD	4/3/2018	Preliminary Electrical One-Line
1	JAP	4/26/2018	ISSUE FOR INTERCONNECTION

STAMP
LUKE ODEA ELECTRICAL INC. 5036 W. CENTRAL AVENUE, SUITE 100, GARDEN GROVE, CA 92640

PERMIT DRAWING - NOT RELEASED FOR CONSTRUCTION

WILLIAMSBURG B
10 RIVER ROAD
WILLIAMSBURG, MA 01039

PROJECT #	---
PROJECT MILESTONE	PRELIMINARY
DRAFTED BY	JAP
REVIEWED BY	LO
PROJECT MANAGER	SR
DATE	2019-03-25
SCALE	NTS
TITLE	ELECTRICAL ONE-LINE
DRAWING	PV-601

ARCH D (24.00 X 36.00 inches) 2019-03-27