GENERAL ELECTRICAL NOTES

- 1. Equipment shall be new unless otherwise noted.
- 2. Equipment shall be listed unless otherwise noted.
- 3. Equipment shall be installed providing adequate working space in compliance with NEC.
- 4. Copper conductors shall be used and shall have insulation rating 600v, 90°C unless otherwise noted.
- 5. Conductors shall be sized in accordance with the NEC and ampacity shall be derated for temperature increase, conduit fill & voltage drop.
- 6. All conductors shall be installed in approved conduits. Conduits shall be adequately supported in accordance with the NEC.
- 7. AC Disconnect is optional, however it may be required by the utility.

NOTE: NO MORE THAN 3 MODULES PER MCI RAPID SHUTDOWN

DEVICE, AND NO MORE THAN FIVE PER STRING

- 8. Exposed non-current carrying metal parts shall be grounded in accordance with the NEC.
- 9. All work shall comply with the NEC and all applicable local electrical code requirements.
- 10. Contractor will provide labeling in accordance with the NEC, Article 110, 225, 690, and 705.

LEGEN	<u>1D</u>
(N)	NEW
(E)	EXISTING
(0)	NEW BY OTHERS
	NEUTRAL
	GROUND

WIRING SCHEDULE							
TAG	CONDUIT SIZE	CONDUCTOR	NEUTRAL	GROUND	NOTES		
1	NONE	#10 PV Wire	NONE	#6 Bare CU	(Mfg.supplied cabling within array)		
2	NONE	10/2 MC	NONE	10 AWG	Roof J Boxes to Attic J Boxes		
3	3/4" EMT or EQUIV	#10 THWN-2	NONE	#10 THWN-2	Attic J box C to Inverter		
3a	1" EMT or EQUIV	#10 THWN-2	NONE	#10 THWN-2	Attic J Box AB to Ext. J Box; Ext. J Box to Inverter		
3b	1" Sch. 80 PVC emerging from grade; 1" Sch. 40 PVC below grade	#10 THWN-2	NONE	#10 THWN-2	Trench between Ext. J Boxes		
4	1" PVC or EQUIV	#6 THWN-2	#6 THWN-2	#10 THWN-2	Inverter to Disco to ATS		
5	2" PVC or EQUIV	4/0 AL THWN-2	4/0 AL THWN-2	#6 THWN-2	Meter to ATS to MDP		
6	1" PVC or EQUIV	#12 THWN-2	NONE	#10 THWN-2	Low Voltage Rapid Shutdown		
7	1" PVC or EQUIV	#6 THWN-2	#6 THWN-2	#10 THWN-2	MDP to NEMA Outlet		

ONE LEG OF THREE-PHASE DISCONNECT IS USED FOR LOW VOLTAGE RAPID SHUTDOWN

ROOFTOP (N)Q. TRON BLK M-G2+ 430, 44 REQ'D With MLPE LOCATED BEHIND MODULE MODULE STRINGS WIRED IN SERIES 6

MODULES ROOF J BOX A (N) 2 MCIs 8 MODULES (3a) POWERWALL3 3 MCIs Tesla Backup LOCKÁBLE INVERTER/BATTERY ARRAY Gateway 2 NONFUSED 6 AC DISCONNECT (ATS) ATTIC J BOX AB (N) M 60A TESLA SOLAR INVERTER (E) MODULES ROOF J BOX B (N) 4 **POWERWALL** BATTERY DISCONNECT 8 MODULES 200A 3 _{MCIs} **%** ARRAY B Wiring shown above run internally within equipment MODULES ATTIC J BOX C (N) ROOF J BOX C (N) MDP NEMA 14\50 OUTLET MODULES

> PANEL MODEL: Q. TRON BLK M-G2+ 430, QTY 44 REQ'D, 430W INVERTER TYPE: 1707000-xx-y, QTY 1 REQ'D, 11500W, 240V 11.500 kW-AC/ 18.920 kW-DC

MPPT Voltage Range	DC Voltage range	MPPT Min/Max	Absolute Min/Max
150	60	5	2
480	550	11	13

PV LEAD	ELECTRICIAN

SITE FLOOD PLANE:

ZONE X

Duncan Rd, Fuquay-Varina NC 27526 **DIAGRAM** LINE Oakridge |

CAPE & FEAR

SOLAR SYSTEMS 910 S. 2nd St.

Wilmington, NC 28401

910-409-5533

GC LIC. NO.: 65677

ELEC. LIC. NO.: U-33321

CROCKER SOLAR PROJECT

18.92 kW DC PV SYSTEM

	REVISION LIST \wedge			
#	REV. DATE	DESC.		
	DATE:	Contombor 2 2024		

DATE: September 3, 2024 DRAWN BY:

Sheet No.

E-01

PV SYSTEM DISCONNECT/ COMBINER BOX BREAKER PANELS



PHOTOVOLTAIC SYSTEM

AC DISCONNECT

OPERATING VOLTAGE

OPERATING CURRENT

AMPS

NEC 110.27(C) & OSHA 1910.145(f)(7)

RAPID SHUTDOWN PV ARRAY

SERVICE DISCONNECT

MAIN PHOTOVOLTAIC SYSTEM DISCONNECT

NEC 690.13(B)

SOLAR PV SYSTEM EQUIPPED WITH RAPID SHUTDOWN TURN RAPID SHUTDOWN SWITCH TO THE "OFF" POSITION TO SHUT DOWN PV SYSTEM AND

IFC 605.11.3(1) & NEC 690.12(D)

EMT/CONDUIT RACEWAYS

REDUCE SHOCK HAZARD IN THE ARRAY.

PHOTOVOLTAIC POWER SOURCE

NEC 690.31(D)(2)

NET METER w/ BATTERY



NEC 705.30(C) and NEC 690.59

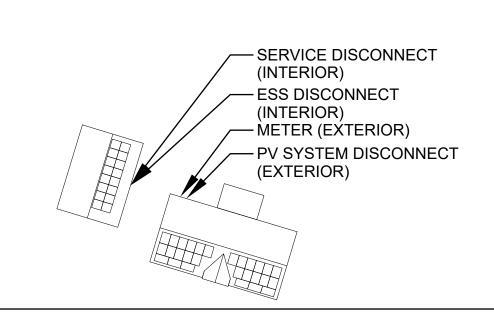
ENERGY STORAGE SYSTEMS

BATTERY DISCONNECT

NEC 706.7(E)(2)

CAUTION

POWER TO THIS BUILDING IS SUPPLIED FROM THE FOLLOWING SOURCES WITH DISCONNECTS LOCATED AS SHOWN:



CAPE FEAR
SOLAR SYSTEMS
910 S. 2nd St.
Wilmington, NC 28401
910-409-5533



ELEC. LIC. NO.: 05677

STICKERS

CROCKER SOLAR PROJECT
Oakridge Duncan Rd, Fuquay-Varina
NC 27526

18.92 kW DC PV SYSTEM

REVISION LIST A DESC.

PREV. DATE DESC.

DATE: September 3, 2024

Sheet No.

DRAWN BY:

E-02

SITE FLOOD PLANE: