

Initial Application Date: 3/23/18

Application # 185004 ~~SCA~~ ~~995~~

CU# \_\_\_\_\_  
DATE \_\_\_\_\_

Central Permitting 108 E. Front Street, Lillington, NC 27546 Phone: (910) 893-7525 ext:2 Fax: (910) 893-2793 www.harnett.org/permits

**COUNTY OF HARNETT RESIDENTIAL LAND USE APPLICATION**

**\*\*A RECORDED SURVEY MAP, RECORDED DEED (OR OFFER TO PURCHASE) & SITE PLAN ARE REQUIRED WHEN SUBMITTING A LAND USE APPLICATION\*\***

LANDOWNER: Jeremy Porter April Mailing Address: 8498 NC Hwy 42  
City: Holly Springs State: NC Zip: 27540 Contact No: (919) 524-1736 Email: quartermileauto71@gmail.com

APPLICANT\*: Chris Yarbrough (NC Solar Now, Inc.) Mailing Address: 3401-101 Atlantic Ave  
City: Raleigh State: NC Zip: 27604 Contact No: 919-833-9096 Email: permitting@ncsolarnow.com

CONTACT NAME APPLYING IN OFFICE: Chris Yarbrough Phone # 919-833-9096

PROPERTY LOCATION: Subdivision: \_\_\_\_\_ Lot #: \_\_\_\_\_ Lot Size: 1.86

State Road # \_\_\_\_\_ State Road Name: \_\_\_\_\_ Map Book & Page: - 1 -

Parcel: 050625 0038 06 PIN: 0625-15-5815-000

Zoning: R-30 Flood Zone: X Watershed: NO Deed Book & Page: 3297, 421 Power Company\*: Duke Energy Progress

\*New structures with Progress Energy as service provider need to supply premise number \_\_\_\_\_ from Progress Energy.

**PROPOSED USE:**

- SFD: (Size \_\_\_\_\_ x \_\_\_\_\_) # Bedrooms: \_\_\_\_\_ # Baths: \_\_\_\_\_ Basement(w/wo bath): \_\_\_\_\_ Garage: \_\_\_\_\_ Deck: \_\_\_\_\_ Crawl Space: \_\_\_\_\_ Slab: \_\_\_\_\_ Slab: \_\_\_\_\_  
(Is the bonus room finished? ( ) yes ( ) no w/ a closet? ( ) yes ( ) no (if yes add in with # bedrooms))
- Mod: (Size \_\_\_\_\_ x \_\_\_\_\_) # Bedrooms \_\_\_\_\_ # Baths \_\_\_\_\_ Basement (w/wo bath) \_\_\_\_\_ Garage: \_\_\_\_\_ Site Built Deck: \_\_\_\_\_ On Frame \_\_\_\_\_ Off Frame \_\_\_\_\_  
(Is the second floor finished? ( ) yes ( ) no Any other site built additions? ( ) yes ( ) no
- Manufactured Home: \_\_\_\_\_ SW \_\_\_\_\_ DW \_\_\_\_\_ TW (Size \_\_\_\_\_ x \_\_\_\_\_) # Bedrooms: \_\_\_\_\_ Garage: \_\_\_\_\_ (site built? \_\_\_\_\_) Deck: \_\_\_\_\_ (site built? \_\_\_\_\_)
- Duplex: (Size \_\_\_\_\_ x \_\_\_\_\_) No. Buildings: \_\_\_\_\_ No. Bedrooms Per Unit: \_\_\_\_\_
- Home Occupation: # Rooms: \_\_\_\_\_ Use: \_\_\_\_\_ Hours of Operation: \_\_\_\_\_ #Employees: \_\_\_\_\_
- Addition/Accessory/Other: (Size \_\_\_\_\_ x \_\_\_\_\_) Use: Roof-Mounted Solar PV Array (approx. 386sq. ft.) Closets in addition? ( ) yes (  ) no

Water Supply: \_\_\_\_\_ County \_\_\_\_\_ Existing Well \_\_\_\_\_ New Well (# of dwellings using well \_\_\_\_\_) \*Must have operable water before final

Sewage Supply: \_\_\_\_\_ New Septic Tank (Complete Checklist) \_\_\_\_\_ Existing Septic Tank (Complete Checklist) \_\_\_\_\_ County Sewer

Does owner of this tract of land, own land that contains a manufactured home within five hundred feet (500') of tract listed above? ( ) yes (  ) no

Does the property contain any easements whether underground or overhead ( ) yes ( ) no

Structures (existing or proposed): Single family dwellings: 1 Manufactured Homes: \_\_\_\_\_ Other (specify): \_\_\_\_\_

**Required Residential Property Line Setbacks:**

	Minimum	Actual
Front	_____	_____
Rear	_____	_____
Closest Side	_____	_____
Sidestreet/corner lot	_____	_____
Nearest Building on same lot	_____	_____


Comments: Array will be flush mounted to the existing roof, therefore setbacks and footprint will be unaffected.

**SPECIFIC DIRECTIONS TO THE PROPERTY FROM LILLINGTON:** \_\_\_\_\_

Attached Separately

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

If permits are granted I agree to conform to all ordinances and laws of the State of North Carolina regulating such work and the specifications of plans submitted. I hereby state that foregoing statements are accurate and correct to the best of my knowledge. Permit subject to revocation if false information is provided.

  
\_\_\_\_\_  
Signature of Owner or Owner's Agent

3/23/18  
\_\_\_\_\_  
Date

**\*\*\*It is the owner/applicants responsibility to provide the county with any applicable information about the subject property, including but not limited to: boundary information, house location, underground or overhead easements, etc. The county or its employees are not responsible for any incorrect or missing information that is contained within these applications.\*\*\***

**\*\*This application expires 6 months from the initial date if permits have not been issued\*\***

Application # \_\_\_\_\_

**Harnett County Central Permitting**

PO Box 65 Lillington, NC 27546 - Ph: 910-893-7525 - Fx: 910-893-2793 - www.harnett.org/permits  
Certification of Work Performed By Owner/Contractor  
(Individual Trade Application)

Owner (s) of Structure: Jeremy Porter Phone: (919) 524-1736

Owner (s) Mailing Address: 8498 NC Hwy 42 Holly Springs, NC 27540

Land Owner Name (s): Jeremy Porter Phone: (919) 524-1736

Construction or Site Address: 8498 NC Hwy 42 Holly Springs, NC 27540

PIN # \_\_\_\_\_ Parcel # \_\_\_\_\_

Job Cost: \$1000 Description of Work to be done Installation of a roof-mounted solar pv array

Mechanical: New Unit With Ductwork \_\_\_ New Unit Without Ductwork \_\_\_ Gas Piping \_\_\_ Other \_\_\_

Electrical\*: 200 Amp  <200 Amp \_\_\_ Service Change \_\_\_ Service Reconnect \_\_\_ Other

\* For Progress Energy customers we need the premise number

Plumbing: Water/Sewer Tap \_\_\_ Number of Baths \_\_\_ Water Heater \_\_\_

Specific Directions to Job from Lillington:

Attached seperately

Subdivision: \_\_\_\_\_ Lot #: \_\_\_\_\_

I Karl Stupka will provide the Electrical labor on this structure.  
(Contractors Name) (Trade)

I am the building owner or my NC state license number is 31533-L, which entitles me to perform such work on the above structure legally. All work shall comply with the State Building Code and all other applicable State and local laws, ordinances and regulations.

NC SOLAR NOW  
Contractor's Company Name  
3401-101 Atlantic Ave Raleigh NC 27604  
Address  
31533-L  
License # \_\_\_\_\_

919-833-9096  
Telephone  
Karl@ncsolarnow.com  
Email Address

Structure Owner / Contractor Signature:  Date: 3/23/18

By signing this application you affirm that you have obtained permission from the above listed license holder to purchase permits on their behalf. If doing the work as owner you understand that you cannot rent, lease or sell the listed property for 12 months after completion of the listed work.

**\*Company name, address, & phone must match information on license**

**ENGINEER:** NORTH CAROLINA PROFESSIONAL ENGINEERS SEAL 035699

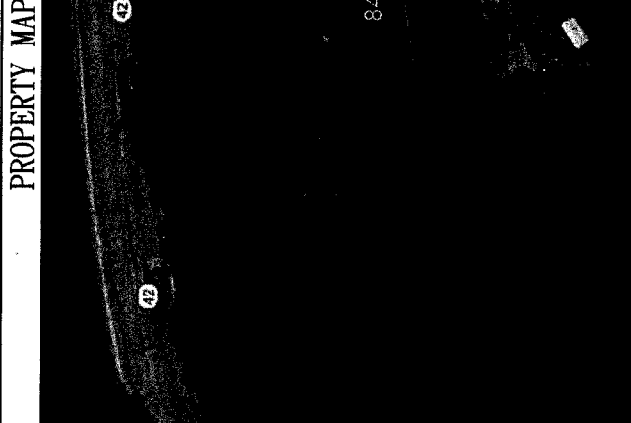
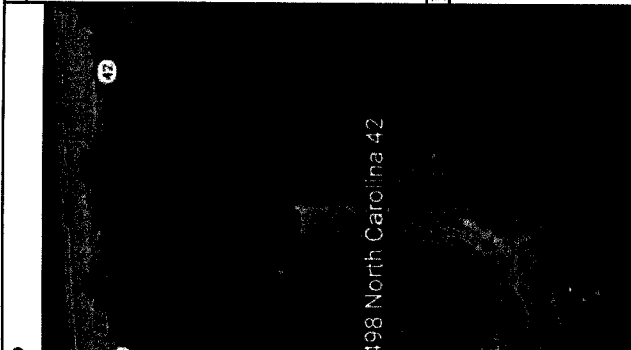
**MODEL ENERGY**  
702 E. FRANKLIN ST.  
RALEIGH, NC 27604  
919.274.9905  
MODELENERGY1.COM

**PROJECT INFO:** P-11194

**CLIENT:** NEW SOLAR PV SYSTEM  
6.21 KW DC INPUT  
6.00 KW AC EXPORT  
Jeremy Porter  
8498 NC Hwy 42  
Holly Springs, NC 27540

**ISSUED FOR:** PERMIT  
**DATE:** 03/15/18

**PROJECT INFORMATION**  
**PV1.1**



**CONSTRUCTION NOTES**

- ALL WORK AND EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST NATIONAL, STATE, AND LOCAL CODES AND ORDINANCES
- FOLLOW MANUFACTURER'S INSTALLATION INSTRUCTIONS, BEST PRACTICES, AND SPECIFICATIONS
- WIRES SHALL BE RATED AND LABELED "SUNLIGHT RESISTANT" WHERE EXPOSED TO AMBIENT CONDITIONS
- THE PHOTOVOLTAIC SYSTEM SHALL NOT EXCEED 600 VOLTS OR 800 AMPS
- EACH ELECTRICAL APPLIANCE SHALL BE PROVIDED WITH A NAMEPLATE GIVING THE IDENTIFYING NAME AND THE RATING IN VOLTS AND AMPERES, OR VOLTS AND WATTS. IF THE APPLIANCE IS TO BE USED ON A SPECIFIC FREQUENCY OR FREQUENCIES, IT SHALL BE SO MARKED. WHERE MOTOR OVERLOAD PROTECTION EXTERNAL TO THE APPLIANCE IS REQUIRED, THE APPLIANCE SHALL BE SO MARKED
- WHERE APPLICABLE, GROUNDING ELECTRODE CONDUCTOR TO BE CONTINUOUS. GROUNDING CRIMPS TO BE IRREVERSIBLE
- GROUNDING DC PHOTOVOLTAIC ARRAYS SHALL BE PROVIDED WITH DC GROUND-FAULT PROTECTION THAT MEETS THE REQUIREMENTS OF NEC SECTION 690.5. UNGROUNDED DC PHOTOVOLTAIC ARRAYS SHALL COMPLY WITH NEC SECTION 690.35
- IN ONE- AND TWO-FAMILY DWELLINGS, LIVE PARTS IN PHOTOVOLTAIC SOURCE CIRCUITS AND PHOTOVOLTAIC OUTPUT CIRCUITS OVER 150 VOLTS TO GROUND, SHALL ONLY BE ACCESSIBLE TO QUALIFIED PERSONS WHILE ENERGIZED.
- PHOTOVOLTAIC SYSTEMS SHALL BE PERMANENTLY MARKED AT VARIOUS EQUIPMENT LOCATIONS TO IDENTIFY THAT A PHOTOVOLTAIC SYSTEM IS INSTALLED AND THAT VARIOUS DANGERS ARE PRESENT.
- EACH PHOTOVOLTAIC SYSTEM DISCONNECTING MEANS SHALL BE PERMANENTLY MARKED TO IDENTIFY IT AS A PHOTOVOLTAIC SYSTEM DISCONNECT
- WHERE ALL TERMINALS OF A DISCONNECTING MEANS MAY BE ENERGIZED IN THE OPEN POSITION, A WARNING SIGN SHALL BE MOUNTED ON OR ADJACENT TO THE DISCONNECT
- A PERMANENT LABEL FOR THE DIRECT-CURRENT PHOTOVOLTAIC POWER SOURCE SHALL BE PROVIDED BY THE INSTALLER AT THE DC DISCONNECT MEANS
- A PERMANENT PLAQUE OR DIRECTORY, DENOTING ALL ELECTRIC POWER SOURCES SERVING THE PREMISES, SHALL BE INSTALLED AT EACH SERVICE EQUIPMENT LOCATION AND AT LOCATIONS OF ALL POWER PRODUCTION SOURCES.
- A PERMANENT PLAQUE OR DIRECTORY SHALL BE PROVIDED DENOTING THE LOCATIONS OF THE SERVICE DISCONNECT MEANS AND THE PHOTOVOLTAIC SYSTEM DISCONNECT MEANS IF THEY ARE NOT LOCATED AT THE SAME LOCATION.
- ALL MODULE GROUND CONNECTIONS SHALL BE MADE IN ACCORDANCE WITH NEC SECTION 690.4 (C)

**ABBREVIATIONS**

A AMPERE  
AC ALTERNATING CURRENT  
DC DIRECT CURRENT  
EGC EQUIPMENT GROUNDING CONDUCTOR  
EMT ELECTRICAL METAL TUBING  
GALV GALVANIZED  
GEC GROUNDING ELECTRODE CONDUCTOR  
GND GROUND  
I InP  
Isc CURRENT AT MAXIMUM POWER  
kVA KILOWATT AMPERE  
kW KILOWATT  
MAX MAXIMUM  
MIN MINIMUM  
MCB MAIN CIRCUIT BREAKER  
NOM NOMINAL  
NLS NOT TO SCALE  
NPHN NOMINAL POWER  
PV PHOTOVOLTAIC  
SIL SILICON  
STP STANDARD TEST CONDITIONS  
TYP TYPICAL

**CODE REFERENCES**

2014 NATIONAL ELECTRIC CODE  
2012 NORTH CAROLINA BUILDING CODE  
2012 NORTH CAROLINA RESIDENTIAL CODE  
2012 NORTH CAROLINA FIRE CODE

**SHEET INDEX**

PV1.1 - PROJECT INFORMATION  
PV2.1 - SITE & STRUCTURAL INFORMATION  
PV3.1 - ELECTRICAL INFORMATION  
PV4.1 - EQUIPMENT LABELS

**SITE CONDITIONS**

ASCE 7-10 WIND SPEED - II S MPH  
EXPOSURE CATEGORY - B  
RISK CATEGORY - II

**LEGEND**

DISCONNECT SWITCH  
FUSE  
CIRCUIT BREAKER  
EQUIP. GROUND

**CONSTRUCTION NOTES**

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3. WIRES SHALL BE RATED AND LABELED "SUNLIGHT RESISTANT" WHERE EXPOSED TO AMBIENT CONDITIONS

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6. WHERE APPLICABLE, GROUNDING ELECTRODE CONDUCTOR TO BE CONTINUOUS. GROUNDING CRIMPS TO BE IRREVERSIBLE

7. GROUNDING DC PHOTOVOLTAIC ARRAYS SHALL BE PROVIDED WITH DC GROUND-FAULT PROTECTION THAT MEETS THE REQUIREMENTS OF NEC SECTION 690.5. UNGROUNDED DC PHOTOVOLTAIC ARRAYS SHALL COMPLY WITH NEC SECTION 690.35

8. IN ONE- AND TWO-FAMILY DWELLINGS, LIVE PARTS IN PHOTOVOLTAIC SOURCE CIRCUITS AND PHOTOVOLTAIC OUTPUT CIRCUITS OVER 150 VOLTS TO GROUND, SHALL ONLY BE ACCESSIBLE TO QUALIFIED PERSONS WHILE ENERGIZED.

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15. ALL MODULE GROUND CONNECTIONS SHALL BE MADE IN ACCORDANCE WITH NEC SECTION 690.4 (C)

**DATE PLANS RECEIVED** 3/23/18

**SITE PLANS APPROVED** 3.24.18

**APPROVED BY** *[Signature]*

**JOB NAME** NC Solar Now

**APPLICATION #** 185343653

**HARNETT COUNTY CENTRAL PERMITTING**

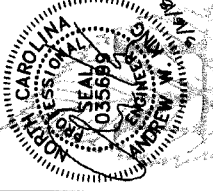
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**APPROVED BY** *[Signature]*

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ENGINEER:



**MODEL ENERGY**  
 702 E. FRANKLIN ST.  
 RALEIGH, NC 27604  
 919.274.9905  
 MODELENERGY1.COM  
 P-11194

PROJECT INFO:  
**NEW SOLAR PV SYSTEM**  
 6.21 KW DC INPUT  
 6.00 KW AC EXPORT  
 Jeremy Porter  
 8498 NC Hwy 42  
 Holly Springs, NC 27540

CLIENT:

**NC SOLAR NOW**  
 ISSUED FOR: PERMIT  
 DATE: 03/15/18

SITE INFORMATION

**PV2.1**

ROOF SUMMARY

STRUCTURE:	
TYPE	TRUSSES
MATERIAL	SOUTHERN PINE #2
SIZE	2" X 4"
SPACING	24 o.c.
PITCH	14'-4"
SPAN	4 / 12
DENSITY	30 LBS./CU.FT.
DECKING	
TYPE	OSB
MATERIAL	WOOD COMPOSITE
THICKNESS	7/16"
WEIGHT	1.6 LBS./SQ.FT.
ROOFING	
TYPE	METAL SEAM
MATERIAL	24 GAUGE STEEL
WEIGHT	1.5 LBS./SQ.FT.

ROOF LOADING

DEAD LOAD:	
ROOFING	3.1 LBS./SQ.FT.
PV ARRAY	2.7 LBS./SQ.FT.
TOTAL	5.8 LBS./SQ.FT.
WIND LOAD:	
UPLIFT ZONE 1	-23 LBS./SQ.FT.
UPLIFT ZONE 2	-39 LBS./SQ.FT.
UPLIFT ZONE 3	-57.4 LBS./SQ.FT.
DOWNWARD	15.6 LBS./SQ.FT.
FASTENER LOAD:	
UPLIFT ZONE 1	-197 LBS.
UPLIFT ZONE 2	-163 LBS.
UPLIFT ZONE 3	-245 LBS.
DOWNWARD	117 LBS.

PV MODULES

MAKE	CAN. SOLAR
MODEL	CS6U-345M
WIDTH	39.1"
LENGTH	77.2"
THICKNESS	1.57"
WEIGHT	49.4 LBS.

ARRAY SUMMARY

# MODULES	18
MOD. ATT. MID	30
MOD. ATT. END	12
ROOF MOUNTS	45
RAIL LENGTH	122 FT.
ARRAY AREA	386 SQ.FT.
ARRAY WEIGHT	1044 LBS.
AZIMUTH @ SN	175°
TILT ANGLE	16°

MOUNTING RAILS

MAKE	UNIRACK
MODEL	SM STANDARD
MATERIAL	ALUMINUM
WEIGHT	1.25 LBS./FT.
SPACING	34 IN.

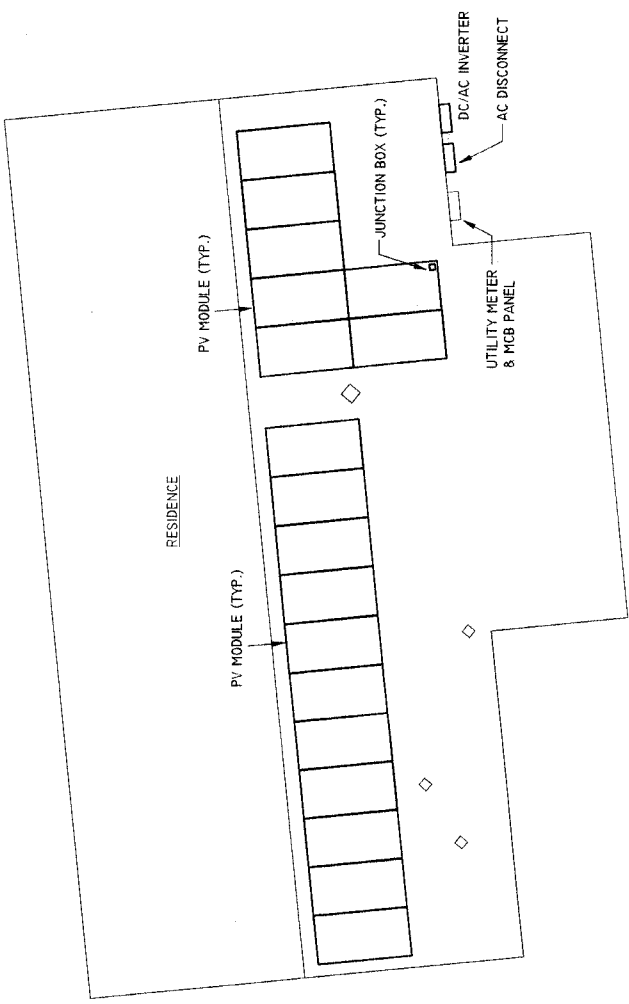
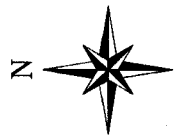
ROOF ZONES:  
 ALL ZONES  
 ZONE 1  
 ZONE 2  
 ZONE 3  
 MAX. OVERHANG = 16"  
 MAX. FASTENER SPAN ZONE 1 = 48"  
 MAX. FASTENER SPAN ZONE 2 = 32"  
 MAX. FASTENER SPAN ZONE 3 = 24"

**STATEMENT OF STRUCTURAL COMPLIANCE**  
 THE EXISTING ROOF STRUCTURE HAS BEEN DESIGNED TO SUPPORT THE ADDITIONAL LOADS OF THE PURPOSED PV SYSTEM. IN ADDITION, THE RACKING AND FASTENING SYSTEM SHALL BE CAPABLE OF SECURING THE SYSTEM TO THE STRUCTURE UNDER DESIGN CONDITIONS WHEN INSTALLED PROPERLY AND IN ACCORDANCE WITH THE RACKING AND FASTENING ARRANGEMENT DETAILED WITHIN THESE DRAWINGS.

SIGNED: *Andrew W. King*  
 NAME: ANDREW W. KING, PE  
 TITLE: PROFESSIONAL ENGINEER

ROOF MOUNT & FASTENER

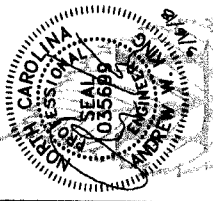
ROOF MOUNT:	
MAKE	DFW
MODEL	EZ-FEET
MATERIAL	ALUMINUM
FASTENER:	
MAKE	GRK
MODEL	PHENIX R4
MATERIAL	305 SS
SIZE	#9 X 2"
GENERAL	
WEIGHT	1 LBS.
FASTENERS PER MOUNT	5 PER MOUNT
MAX. PULL-OUT FORCE	325 LBS.
SAFETY FACTOR	2
DESIGN PULL-OUT FORCE	262 LBS.



SCALE: 1/8" = 1'-0"

1 SITE PLAN

ENGINEER:



**MODEL ENERGY**  
 702 E. FRANKLIN ST.  
 RALEIGH, NC 27604  
 919.274.9905  
 MODELENERGY1.COM  
 P:1194

**PROJECT INFO:**  
 NEW SOLAR PV SYSTEM  
 6.21 kW DC INPUT  
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 Jeremy Porter  
 8498 NC Hwy 42  
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**CLIENT:**  
 NC SOLAR NOW  
 ISSUED FOR: PERMIT  
 DATE: 03/15/18  
 ELECTRICAL INFORMATION

**PV3.1**

**CONDUCTOR SCHEDULE**

TAG	CURRENT CARRYING CONDUCTORS			GROUNDING CONDUCTORS			CONDUIT/RACEWAY			NOTES
	QTY.	SIZE	MATERIAL	INSULATION	QTY.	SIZE	MATERIAL	LOCATION		
C1	4	10 AWG	COPPER	PV WIRE	1	6 AWG	COPPER	BARE	FREE AIR	1
C2	4	10 AWG	COPPER	THWN-2	1	1/2"	ROMEX/EMT	INT/EXT		2,4
C3	3	8 AWG	COPPER	THWN	1	3/4"	ROMEX/EMT	INT/EXT		2,4
XC	-	-	-	-	-	-	-	-	-	3

- NOTES:**
1. MANUFACTURER PROVIDED. UL LISTED WIRING HARNESS FOR USE ON EXPOSED ROOFS
  2. CONDUIT SIZE SHOWN IS CODE MINIMUM. LARGER SIZES ARE ALLOWED.
  3. EXISTING CONDUCTORS, FIELD VERIFY
  4. EQUIPMENT TERMINAL RATING SHALL BE A MINIMUM OF 75°C AT BOTH END OF CONDUCTOR

**PV MODULES**

MAKE	MODEL	DC INPUT	DC OUTPUT	TECHNOLOGY	MAX. POWER	VOLT. RANGE	MAX. CURR.	MIN. STRING	MAX. POWER
CAN SOLAR	CS6U-250H	400 WATTS	400 WATTS	SOLAR EDGE	9100 WATTS	350-500 VOLTS	18 AMPS	8 OPTIMIZERS	5250 WATTS
MONO-CRIST.	325 WATTS	8-80	10.0 AMPS	SE6000A-US	TRANSFORMER-LESS	8-80	10.0 AMPS	8 OPTIMIZERS	5250 WATTS

**MODULE OPTIMIZER**

MAKE	MODEL	DC INPUT	DC OUTPUT	TECHNOLOGY	MAX. POWER	VOLT. RANGE	MAX. CURR.	MIN. STRING	MAX. POWER
SOLAR EDGE	PL60	400 WATTS	400 WATTS	SE6000A-US	TRANSFORMER-LESS	8-80	10.0 AMPS	8 OPTIMIZERS	5250 WATTS

**JUNCTION BOX**

MAKE	MODEL	PRO. RATING	VOLT. RATING	AMP RATING	UL LISTING
SOLADECK	0785-3R	NEMA 3R	600 VOLTS	120 AMPS	UL 50

**DC/AC INVERTER**

MAKE	MODEL	NOM. POWER	NOM. VOLT.	MAX. CURR.	GFCI (Y/N)	AFCI (Y/N)	DC DISC. (Y/N)	RAPID SHUTDOWN	FUSE RATING	PROTECT. RATING
SOLAR EDGE	SE6000A-US	6000 WATTS	240 VOLTS	25 AMPS	YES	YES	YES	YES	15 AMPS	NEMA 3R

**AC DISCONNECT**

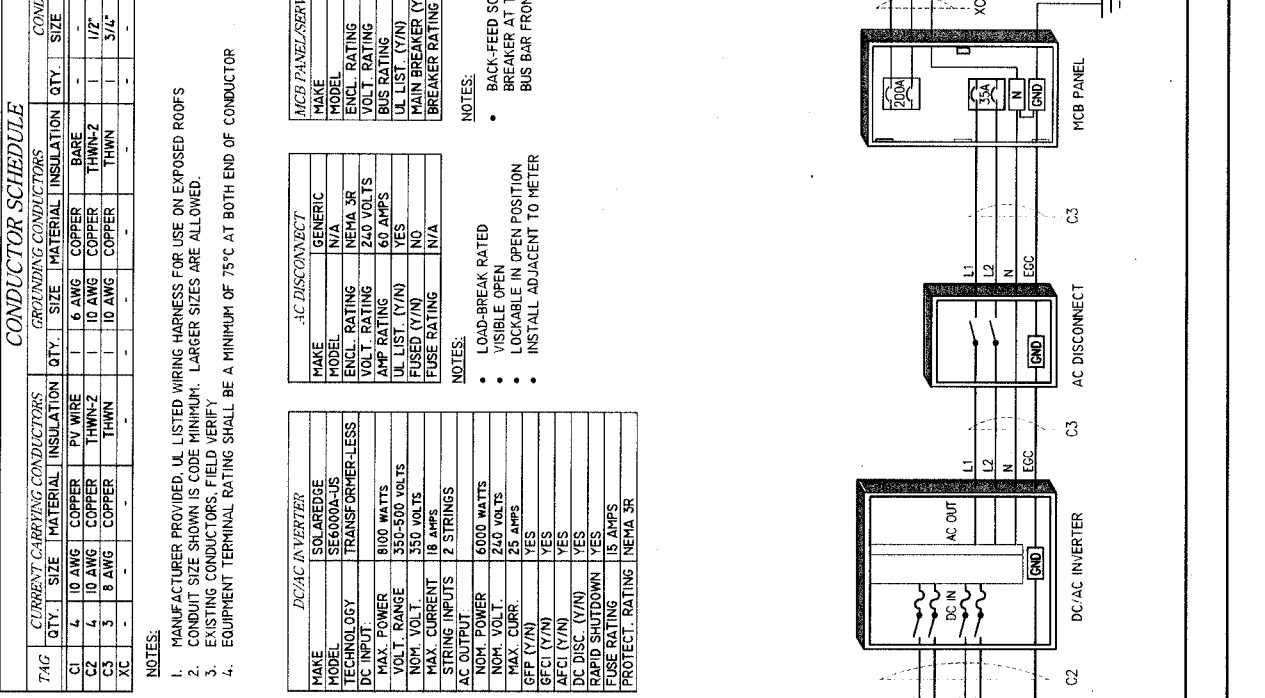
MAKE	MODEL	GENERIC	N/A	ENCL. RATING	VOLT. RATING	AMP RATING	UL LIST. (Y/N)	FUSED (Y/N)	FUSE RATING
GENERIC	N/A	NEMA 3R	240 VOLTS	60 AMPS	YES	NO	N/A		

**MCB PANEL**

MAKE	MODEL	ENCL. RATING	VOLT. RATING	BUS RATING	UL LIST. (Y/N)	MAIN BREAKER (Y/N)	BREAKER RATING
SQUARE D	QCB6F200C	NEMA 3R	240 VOLTS	200 AMPS	YES	YES	200 AMPS

**UTILITY METER**

MAKE	MODEL	GENERIC	N/A	ENCL. RATING	VOLT. RATING	AMP RATING	UL LIST. (Y/N)	FUSED (Y/N)	FUSE RATING
GENERIC	N/A	NEMA 3R	240 VOLTS	60 AMPS	YES	NO	N/A		



- NOTES:**
- LOAD-BREAK RATED
  - VISIBLE OPEN
  - LOCKABLE IN OPEN POSITION
  - INSTALL ADJACENT TO METER
  - BACK-FEED SOLAR OUTPUT VIA 35A BREAKER AT THE OPPOSITE END OF THE BUS BAR FROM MAIN BREAKER

SCALE : NTS

**1 PV SYSTEM ELECTRICAL WIRING SCHEMATIC**

2018 MODEL ENERGY, PLLC EXPRESSLY RESERVES ITS COMMON LAW COPYRIGHT AND OTHER PROPERTY RIGHTS IN THESE PLANS. THESE PLANS ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY FORM OR MANNER WHATSOEVER, NOR ARE THEY TO BE ASSIGNED TO ANY THIRD PARTY WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN PERMISSION AND CONSENT OF MODEL ENERGY, PLLC.





# Single Phase Inverters for North America

SE3000A-US / SE3800A-US / SE5000A-US / SE6000A-US /  
SE7600A-US / SE10000A-US / SE11400A-US

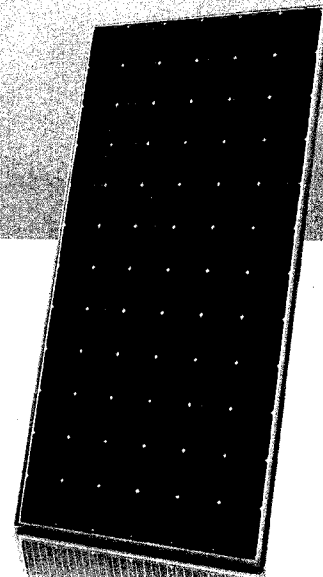
	SE3000A-US	SE3800A-US	SE5000A-US	SE6000A-US	SE7600A-US	SE10000A-US	SE11400A-US	
<b>OUTPUT</b>								
Nominal AC Power Output	3000	3800	5000	6000	7600	9980 @ 208V 10000 @ 240V	11400	VA
Max. AC Power Output	3300	4150	5400 @ 208V 5450 @ 240V	6000	8350	10800 @ 208V 10950 @ 240V	12000	VA
AC Output Voltage Min.-Nom.-Max. <sup>(1)</sup> 183 - 208 - 229 Vac	-	-	✓	-	-	✓	-	
AC Output Voltage Min.-Nom.-Max. <sup>(2)</sup> 211 - 240 - 264 Vac	✓	✓	✓	✓	✓	✓	✓	
AC Frequency Min.-Nom.-Max. <sup>(2)</sup>	59.3 - 60 - 60.5							Hz
Max. Continuous Output Current	12.5	16	24 @ 208V 21 @ 240V	25	32	48 @ 208V 42 @ 240V	47.5	A
GFDI Threshold	1							A
Utility Monitoring, Islanding Protection, Country Configurable Thresholds	Yes							Yes
<b>INPUT</b>								
Maximum DC Power (STC)	4050	5100	6750	8100	10250	13500	15350	W
Transformer-less, Ungrounded	Yes							
Max. Input Voltage	500							Vdc
Nom. DC Input Voltage	325 @ 208V / 350 @ 240V							Vdc
Max. Input Current <sup>(2)</sup>	9.5	13	16.5 @ 208V 15.5 @ 240V	18	23	33 @ 208V 30.5 @ 240V	34.5	Adc
Max. Input Short Circuit Current	45							Adc
Reverse-Polarity Protection	Yes							
Ground-Fault Isolation Detection	600k $\Omega$ Sensitivity							
Maximum Inverter Efficiency	97.7	98.2	98.3	98.3	98	98	98	%
CEC Weighted Efficiency	97.5	98	97 @ 208V 98 @ 240V	97.5	97.5	97 @ 208V 97.5 @ 240V	97.5	%
Nighttime Power Consumption	< 2.5			< 4				W
<b>ADDITIONAL FEATURES</b>								
Supported Communication Interfaces	RS485, RS232, Ethernet, ZigBee (optional)							
Revenue Grade Data, ANSI C12.1	Optional <sup>(3)</sup>							
Rapid Shutdown – NEC 2014 690.12	Yes							
<b>STANDARD COMPLIANCE</b>								
Safety	UL1741, UL1699B, UL1998, CSA 22.2							
Grid Connection Standards	IEEE1547							
Emissions	FCC part15 class B							
<b>INSTALLATION SPECIFICATIONS</b>								
AC output conduit size / AWG range	3/4" minimum / 16-6 AWG					3/4" minimum / 8-3 AWG		
DC input conduit size / # of strings / AWG range	3/4" minimum / 1-2 strings / 16-6 AWG					3/4" minimum / 1-3 strings / 14-6 AWG		
Dimensions with Safety Switch (HxWxD)	30.5 x 12.5 x 7.2 / 775 x 315 x 184					30.5 x 12.5 x 10.5 / 775 x 315 x 260		
Weight with Safety Switch	51.2 / 23.2		54.7 / 24.7		88.4 / 40.1			in / mm lb / kg
Cooling	Natural Convection				Natural convection and internal fan (user replaceable)	Fans (user replaceable)		
Noise	< 25					< 50		
Min.-Max. Operating Temperature Range	-13 to +140 / -25 to +60 (-40 to +60 version available <sup>(4)</sup> )							°F / °C
Protection Rating	NEMA 3R							

<sup>(1)</sup> For other regional settings please contact SolarEdge support.  
<sup>(2)</sup> A higher current source may be used; the inverter will limit its input current to the values stated.  
<sup>(3)</sup> Revenue grade inverter P/N: SExxxxA-US000NNR2 (for 7600W inverter:SE7600A-US002NNR2).  
<sup>(4)</sup> -40 version P/N: SExxxxA-US000NNU4 (for 7600W inverter:SE7600A-US002NNU4).



## RoHS





# MAXPOWER CS6U-330 | 335 | 340 | 345M

Canadian Solar's modules use the latest innovative cell technology, increasing module power output and system reliability, ensured by 15 years of experience in module manufacturing, well-engineered module design, stringent BOM quality testing, an automated manufacturing process and 100% EL testing.

### KEY FEATURES



Excellent module efficiency of up to 17.74 %



Cell efficiency of up to 20.0 %



Outstanding low irradiance performance: 96.5 %



High PTC rating of up to 91.7 %



IP67 junction box for long-term weather endurance



Heavy snow load up to 5400 Pa, wind load up to 2400 Pa



linear power output warranty



product warranty on materials and workmanship

### MANAGEMENT SYSTEM CERTIFICATES\*

ISO 9001:2008 / Quality management system

ISO 14001:2004 / Standards for environmental management system

OHSAS 18001:2007 / International standards for occupational health & safety

### PRODUCT CERTIFICATES\*

IEC 61215 / IEC 61730: VDE / CE / CQC / MCS

UL 1703 / IEC 61215 performance: CEC listed (US)

UL 1703: CSA / IEC 61701 ED2: VDE / IEC 62716: VDE / Take-e-way

UNI 9177 Reaction to Fire: Class 1



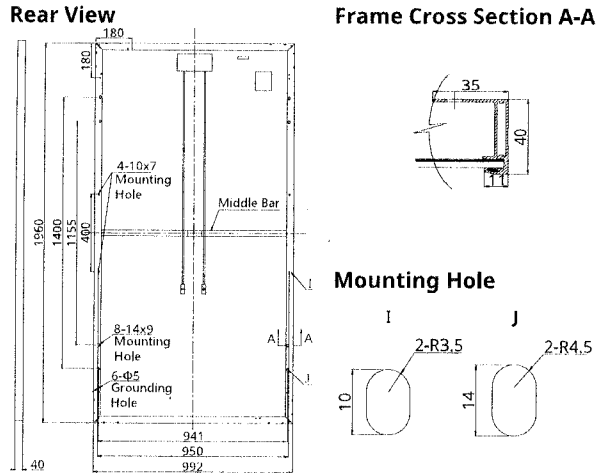
\* As there are different certification requirements in different markets, please contact your local Canadian Solar sales representative for the specific certificates applicable to the products in the region in which the products are to be used.

CANADIAN SOLAR INC. is committed to providing high quality solar products, solar system solutions and services to customers around the world. As a leading PV project developer and manufacturer of solar modules with over 15 GW deployed around the world since 2001, Canadian Solar Inc. (NASDAQ: CSIQ) is one of the most bankable solar companies worldwide.

### CANADIAN SOLAR INC.

2430 Camino Ramon, Suite 240 San Ramon, CA, USA 94583-4385 | [www.canadiansolar.com/na](http://www.canadiansolar.com/na) | [sales.us@canadiansolar.com](mailto:sales.us@canadiansolar.com)

## ENGINEERING DRAWING (mm)



### ELECTRICAL DATA / STC\*

CS6U	330M	335M	340M	345M
Nominal Max. Power (Pmax)	330 W	335 W	340 W	345 W
Opt. Operating Voltage (Vmp)	37.5 V	37.8 V	37.9 V	38.1 V
Opt. Operating Current (Imp)	8.80 A	8.87 A	8.97 A	9.06 A
Open Circuit Voltage (Voc)	45.9 V	46.1 V	46.2 V	46.4 V
Short Circuit Current (Isc)	9.31 A	9.41 A	9.48 A	9.56 A
Module Efficiency	16.97%	17.23%	17.49%	17.74%
Operating Temperature	-40°C ~ +85°C			
Max. System Voltage	1000 V (IEC) or 1000 V (UL)			
Module Fire Performance	TYPE 1 (UL 1703) or CLASS C (IEC 61730)			
Max. Series Fuse Rating	15 A			
Application Classification	Class A			
Power Tolerance	0 ~ + 5 W			

\* Under Standard Test Conditions (STC) of irradiance of 1000 W/m<sup>2</sup>, spectrum AM 1.5 and cell temperature of 25°C.

### ELECTRICAL DATA / NOCT\*

CS6U	330M	335M	340M	345M
Nominal Max. Power (Pmax)	238 W	242 W	245 W	249 W
Opt. Operating Voltage (Vmp)	34.2 V	34.5 V	34.6 V	34.7 V
Opt. Operating Current (Imp)	6.96 A	7.01 A	7.10 A	7.17 A
Open Circuit Voltage (Voc)	42.1 V	42.3 V	42.4 V	42.6 V
Short Circuit Current (Isc)	7.54 A	7.62 A	7.67 A	7.74 A

\* Under Nominal Operating Cell Temperature (NOCT), irradiance of 800 W/m<sup>2</sup>, spectrum AM 1.5, ambient temperature 20°C, wind speed 1 m/s.

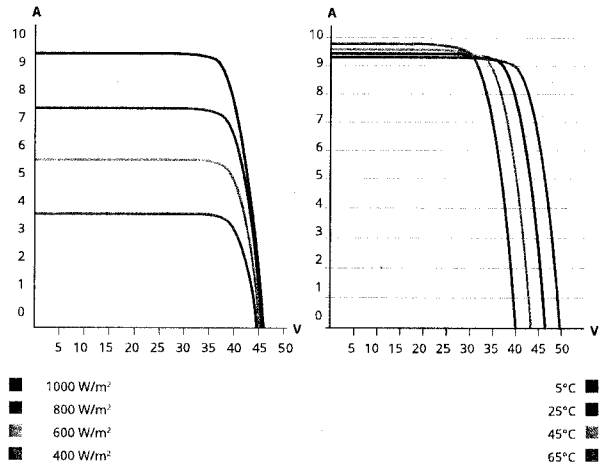
### PERFORMANCE AT LOW IRRADIANCE

Outstanding performance at low irradiance, average relative efficiency of 96.5 % from an irradiance of 1000 W/m<sup>2</sup> to 200 W/m<sup>2</sup> (AM 1.5, 25°C).

The specification and key features described in this datasheet may deviate slightly and are not guaranteed. Due to on-going innovation, research and product enhancement, Canadian Solar Inc. reserves the right to make any adjustment to the information described herein at any time without notice. Please always obtain the most recent version of the datasheet which shall be duly incorporated into the binding contract made by the parties governing all transactions related to the purchase and sale of the products described herein.

Caution: For professional use only. The installation and handling of PV modules requires professional skills and should only be performed by qualified professionals. Please read the safety and installation instructions before using the modules.

## CS6U-335M / I-V CURVES



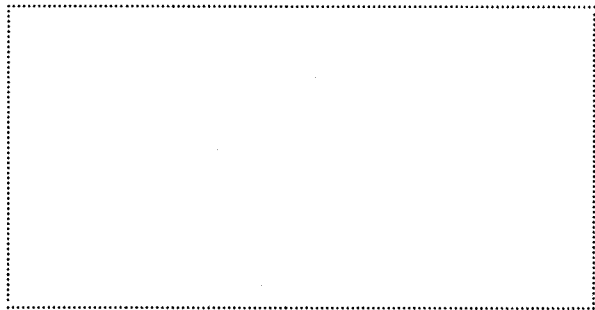
### MECHANICAL DATA

Specification	Data
Cell Type	Mono-crystalline, 6 inch
Cell Arrangement	72 (6 × 12)
Dimensions	1960 × 992 × 40 mm (77.2 × 39.1 × 1.57 in)
Weight	22.4 kg (49.4 lbs)
Front Cover	3.2 mm tempered glass
Frame Material	Anodized aluminium alloy
J-Box	IP67, 3 diodes
Cable	4 mm <sup>2</sup> (IEC) or 4 mm <sup>2</sup> & 12 AWG 1000V (UL), 1160 mm (45.7 in)
Connector	T4 (IEC/UL)
Per Pallet	26 pieces, 635 kg (1400 lbs)
Per container (40' HQ)	624 pieces

### TEMPERATURE CHARACTERISTICS

Specification	Data
Temperature Coefficient (Pmax)	-0.41 % / °C
Temperature Coefficient (Voc)	-0.31 % / °C
Temperature Coefficient (Isc)	0.053 % / °C
Nominal Operating Cell Temperature	45 ± 2 °C

### PARTNER SECTION



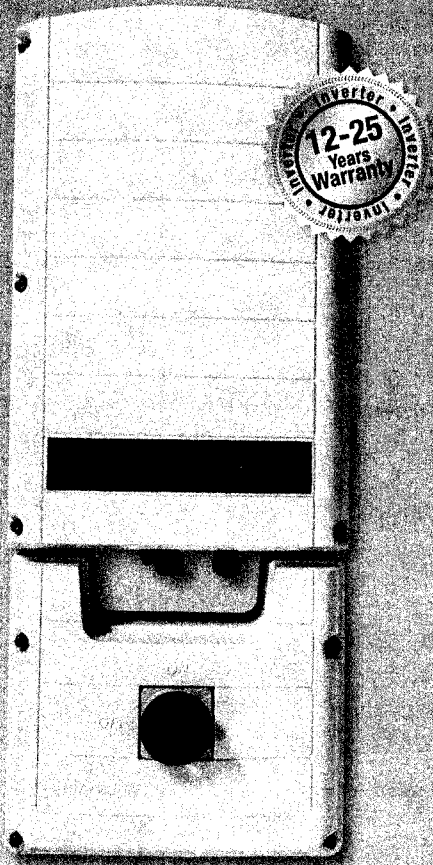


INVERTERS

## SolarEdge Single Phase Inverters

For North America

SE3000A-US / SE3800A-US / SE5000A-US / SE6000A-US /  
SE7600A-US / SE10000A-US / SE11400A-US



### The best choice for SolarEdge enabled systems

- Integrated arc fault protection for NEC 2011 690.11 compliance
- Rapid shutdown for NEC 2014 690.12
- Superior efficiency (98%)
- Small, lightweight and easy to install on provided bracket
- Built-in module-level monitoring
- Internet connection through Ethernet or Wireless
- Outdoor and indoor installation
- Fixed voltage inverter, DC/AC conversion only
- Pre-assembled Safety Switch for faster installation
- Optional – revenue grade data, ANSI C12.1

Application Number . . . . . 18-50043633 Page 2  
Property Address . . . . . 8498 NC 42 Date 3/27/18  
PARCEL NUMBER . . . . . 05-0625- - -0038- -06-  
Application description . . . CP STANDALONE TRADE - RESIDENTIAL  
Subdivision Name . . . . . CHARLES J ATKINS & BRENDA K  
Property Zoning . . . . . RES/AGRI DIST - RA-30

Permit . . . . . RESIDENTIAL ELECTRICAL PERMIT

Additional desc . . .  
Phone Access Code . 1235316

**SCANNED**  
MAR 27 2018

Required Inspections

Seq	Phone Insp#	Insp Code	Description	Initials	Date
999	211	E211	R*ELEC ABOVE CEILING	_____	___/___/___
999	217	E217	R*ELEC RECONNECT	_____	___/___/___
999	205	E205	R*ELEC UNDER SLAB	_____	___/___/___
999	215	E215	R*ELEC. UND. POOL	_____	___/___/___
999	213	E213	R*ELECTRICAL UNDERGROUND	_____	___/___/___
999	131	R131	ONE TRADE FINAL	_____	___/___/___
999	125	R125	ONE TRADE ROUGH IN	_____	___/___/___

HARNETT COUNTY CENTRAL PERMITTING

P.O. BOX 65

LILLINGTON, NC 27546

For Inspections Call: (910) 893-7525 Fax: (910) 893-2793

-----

Application Number . . . . . 18-50043633 Date 3/27/18  
 Property Address . . . . . 8498 NC 42  
 PARCEL NUMBER . . . . . 05-0625- - -0038- -06-  
 Application type description CP STANDALONE TRADE - RESIDENTIAL  
 Subdivision Name . . . . . CHARLES J ATKINS & BRENDA K  
 Property Zoning . . . . . RES/AGRI DIST - RA-30

Owner

-----

PORTER JEREMY M & APRIL F  
 8498 NC 42 W  
 HOLLY SPRINGS NC 27540

Contractor

-----

NC SOLAR NOW  
 3401-101 ATLANTIC AVE  
 RALEIGH NC 27604  
 (919) 833-9096

Applicant

-----

NC SOLAR NOW  
 3401-101 ATLANTIC AVE  
 RALEIGH NC 27604  
 (919) 833-9096

--- Structure Information 000 000 ROOF MOUT SOLAR ARRAY (386SQFT)  
 Flood Zone . . . . . FLOOD ZONE X  
 Other struct info . . . . . PROPOSED USE ELECTRICAL  
 WATER SUPPLY UNKNOWN

-----

Permit . . . . . RESIDENTIAL ELECTRICAL PERMIT  
 Additional desc . . . . .  
 Phone Access Code . . . . . 1235316  
 Issue Date . . . . . 3/27/18 Valuation . . . . . 0  
 Expiration Date . . . . . 3/27/19

Special Notes and Comments

T/S: 03/23/2018 04:05 PM LLUCAS ----  
 8498 NC HWY 42 - US 401 N - TURN LEFT  
 ONTO CHRISTIAN LIGHT RD - TURN LEFT  
 ONTO COKESBURY RD - TURN LEFT ONTO BALL  
 RD -TURN LEFT ONTO NC-42 W

-----

\_\_\_\_\_

\_\_\_\_\_

HARNETT COUNTY CASH RECEIPTS

\*\*\* CUSTOMER RECEIPT \*\*\*

Oper: BPETRICH      Type: CP    Drawer: 1  
Date: 3/27/18 51    Receipt no: 299829

Year	Number	Amount
2018	50043633	
8498 NC 42		
HOLLY SPRINGS, NC 27540		
B1	BP - PERMIT FEES	\$80.00

ROOF MOUNT SOLAR ARRAY

NC SOLAR NOW

Vendor detail	
CP CREDIT CARD	\$80.00
Total tendered	\$80.00
Total payment	\$80.00

Trans date: 3/27/18      Time: 15:18:21

\*\* THANK YOU FOR YOUR PAYMENT \*\*