220544

OCALA ELECTRIC UTILITY
OCALA, FLORIDA

FIRST REVISED SHEET NO. 19.0
CANCELS ORIGINAL SHEET NO. 19.0

APPLICATION FOR INTERCONNECTION OF CUSTOMER-OWNED RENEWABLE GENERATION SYSTEMS

TIER 1 - Ten (10) kW or Less
TIER 2 - Greater than 10 kW and Less Than or Equal to 100 kW
TIER 3 - Greater than 100 kW and Less Than or Equal to Two (2) MW

Note: These customer-owned renewable generation system size limits may be subject to a cumulative enrollment limit on net-metering customers located in the area served by the City of Ocala Electric Utility. Please refer to the Ocala Electric Utility Net-Metering Rate Schedule.

Ocala Electric Utility customers who install customer-owned renewable generation systems (RGS) and desire to interconnect those facilities with the Ocala Electric Utility system are required to complete this application. When the completed application and fees are returned to Ocala Electric Utility, the process of completing the appropriate Tier 1, Tier 2 or Tier 3 Interconnection Agreement can begin. This application and copies of the Interconnection Agreements may be obtained at Ocala Electric Utility, located at 201 SE 3rd Street, Ocala, Florida 34471, or may be requested by email from OEU@ocalafl.org.

1. Customer Information

Name: Lucie Westen

Mailing Address: 1500 NW 20th Ave

City: Ocala State: FL Zip Code: 34475

Phone Number: (352) 615-4333 Alternate Phone Number:

Email Address: tabbikatt9@yahoo.com Fax Number:

Ocala Electric Utility Customer Account Number: 511209-100375

2. RGS Facility Information

Facility Location: 1500 NW 20th Ave, Ocala, FL 34475

Ocala Electric Utility Customer Account Number:

RGS Manufacturer: SolarEdge Technologies Inc.

Manufacturer's Address: 47505 Seabridge Drive
Fremont, CA 94538

Reference or Model Number: SE6000H-US

Serial Number: 730D44B6-7A

(Continued on Sheet No.19.1)

Issued by: Michael Poucher, P.E.
Electric Utility Director

Effective: October 1, 2019

3. Facility Rating Information

Gross Power Rating: 6.73 kW (AC)("Gross power rating" means the total manufacturer's AC nameplate generating capacity of an on-site customer-owned renewable generation system that will be interconnected to and operate in parallel with Ocala Electric Utility's distribution facilities. For inverter-based systems, the AC nameplate generating capacity shall be calculated by multiplying the total installed DC nameplate generating capacity by 0.85 in order to account for losses during the conversion from DC to AC.)

Fuel or Energy Source: Solar

Anticipated In- Service Date: 3/2/2022

4. Application Fee

The application fee is based on the Gross Power Rating and must be submitted with this application. The non-refundable application fee is $375 for Tier 2 and $750 for Tier 3 installations. There is no application fee for Tier 1 installations.

5. Interconnection Study Fee

For Tier 3 installations, a deposit in the amount of the estimated costs of the study (to be determined at time of application) must be paid along with this application in addition to the application fee referenced in Article 4 above. This deposit will be applied toward the cost of an interconnection study. The customer will be responsible for the actual costs of the study. Should the actual cost of the study be less than the deposit, the difference will be refunded to the customer. Customer agrees to comply with all interconnection requirements identified in the interconnection study report.

6. Required Documentation

Prior to completion of the Interconnection Agreement, the following information must be provided to the Ocala Electric Utility by the customer.

A. Documentation demonstrating that the installation complies with (or most current version at time of inspection approval):

1. IEEE 1547 (2018) Standard for Interconnecting Distributed Resources with Electric Power Systems.
2. IEEE 1547.1 (2005) Standard Conformance Test Procedures for Equipment Interconnecting Distributed Resources with Electric Power Systems.
3. UL 1741 (2010) Inverters, Converters, Controllers and Interconnection System Equipment for Use with Distributed Energy Resources.

(Continued on Sheet No. 19.2)

B. Documentation that the customer-owned renewable generation has been inspected and approved by local code officials prior to its operation in parallel with the Ocala Electric Utility system to ensure compliance with applicable local codes. OEU will also require proof of commission testing by a qualified 3rd party testing company (not affiliated in any way with the manufacturer, vendor or installation contractor), for compliance with all required and applicable codes, standards, and interconnection study requirements, prior to setting of OEU metering equipment.

C. Proof of insurance in the amount of:
Tier 1 - $100,000.00
Tier 2 - $1,000,000.00
Tier 3 - $2,000,000.00

Customer

By: Lucie Weston Date: _____
(Print Name)
Ruthie A. Welton POA for
Lucie D Weston
(Signature)

Tier 1 – Standard Interconnection Agreement
Customer-Owned Renewable Generation System

This **Agreement** is made and entered into this 11 day of March, 2022, by and between Lucie Weston, (hereinafter called "**Customer**"), located at 1500 NW 20th Ave in Ocala, Florida, and the City of Ocala doing business as Ocala Electric Utility (hereinafter called OEU), a body politic. Customer and OEU shall collectively be called the "**Parties**". The physical location/premise where the interconnection is taking place: 1500 NW 20th Ave, Ocala, FL 34475.

WITNESSETH

Whereas, a Tier 1 Renewable Generation System (RGS) is an electric generating system that uses one or more of the following fuels or energy sources: hydrogen, biomass, solar energy, geothermal energy, wind energy, ocean energy, waste heat, or hydroelectric power as defined in Section 377.803, Florida Statutes, rated at no more than ten (10) kilowatts (10 kW) alternating current (AC) power output and is primarily intended to offset part or all of the Customer's current electric requirements; and

Whereas, OEU operates an electric system serving the City of Ocala; and

Whereas, Customer has made a written Application to OEU, a copy being attached hereto, to interconnect its RGS with OEU' electrical supply grid at the location identified above; and

Whereas, the City of Ocala and the Florida Municipal Power Agency (hereinafter called "FMPA") have entered into the All-Requirements Power Supply Contract pursuant to which the City of Ocala has agreed to purchase and receive, and FMPA has agreed to sell and supply OEU with all energy and capacity necessary to operate the OEU electric system, which limits OEU' ability to directly purchase excess energy from customer-owned renewable generation; and

Whereas, in order to promote the development of small customer-owned renewable generation by permitting OEU to allow its customers to interconnect with OEU's electric system and to allow OEU customers to offset their electric consumption with customer-owned renewable generation, FMPA, in accordance with the terms and conditions of this agreement, has agreed to purchase excess customer-owned generation from OEU customers interconnected to OEU's electric system; and

Whereas, the OEU desires to provide interconnection of a RGS under conditions which will insure the safety of OEU customers and employees, reliability and integrity of its distribution system;

NOW, THEREFORE, for and in consideration of the mutual covenants and agreements herein set forth, the parties hereto covenant and agree as follows:

(Continued on Sheet No. 21.1)

1. The Customer shall be required to enter into a Tri-Party Net-Metering Purchase Power Agreement with FMPA and the City of Ocala Electric Utility (OEU).

2. "Gross power rating" (GPR) means the total manufacturer's AC nameplate generating capacity of an on-site customer-owned renewable generation system that will be interconnected to and operate in parallel with OEU's distribution facilities. For inverter-based systems, the GPR shall be calculated by multiplying the total installed DC nameplate generating capacity by 0.85 in order to account for losses during the conversion from DC to AC.

3. This agreement is strictly limited to cover a Tier 1 RGS as defined above. It is the Customer's responsibility to notify OEU of any change to the GPR of the RGS by submitting a new application for interconnection specifying the modifications at least 30 days prior to making the modifications. Increase in GPR above the ten kilowatt (10 kW) limit would necessitate entering into a new agreement at either Tier 2 or Tier 3 which may impose additional requirements on the Customer. In no case does the Tier 1, Tier 2 or Tier 3 agreement cover increases in GPR above two megawatts (2MW).

4. The RGS GPR must not exceed 90 percent (90%) of the Customer's OEU calculated distribution service rating at the Customer's location (including shared electric facilities). If the GPR does exceed the 90 percent (90%) limit, the Customer shall be responsible to pay the cost of upgrades to the distribution facilities required to accommodate the GPR capacity and ensure the 90 percent (90%) threshold is not breached. OEU will not allow a RGS GPR greater than required to offset the customer's annual kWh energy consumption (based on customer's historical consumption data or by means of estimated usage of similar type of service as determined by OEU).

5. The Customer shall not be required to pay any special fees due solely to the installation of the RGS.

6. The Customer shall fully comply with OEU's Design Standards following NEC standards as those documents may be amended or revised by OUS from time to time.

7. The Customer certifies that its installation, its operation and its maintenance shall be in compliance with the following standards (or most current version at time of inspection approval):
   a. IEEE-1547 (2018) Standard for Interconnecting Distributed Resources with Electric Power System;
   b. IEEE-1547.1 (2005) Standard Conformance Test Procedures for Equipment Interconnection Distributed Resources with Electric Power Systems;
   c. UL-1741 (2010) Inverters, Converters, Controllers and Interconnection System Equipment for Use with Distributed *Energy Resources.*
   d. The National Electric Code, state and/or local building codes, mechanical codes and/or electrical codes;
   e. The manufacturer's installation, operation and maintenance instructions.

(Continued to Sheet No. 21.2)

8. The Customer is not precluded from contracting for the lease, operation or maintenance of the RGS with a third party. Such lease may not provide terms or conditions that provide for any payments under the agreement to any way indicate or reflect the purchase of energy produced by the RGS. Customer shall not enter into any lease agreement that results in the retail purchase of electricity; or the retail sale of electricity from the customer-owned renewable generation. Notwithstanding this restriction, in the event that Customer is determined to have engaged in the retail purchase of electricity from a party other than OEU, then Customer shall be in breach of this Agreement and may be subject to the jurisdiction of the Florida Public Service Commission and to fines/penalties.

9. The Customer shall provide a copy of the manufacturer's installation, operation and maintenance instructions to OEU. If the RGS is leased to the Customer by a third party, or if the operation or maintenance of the RGS is to be performed by a third party, the lease and/or maintenance agreements and any pertinent documents related to these agreements shall be provided to OEU.

10. Prior to commencing parallel operation with OEU's electric system, Customer shall have the RGS inspected and approved by the appropriate code authorities having jurisdiction. Customer shall provide a copy of this inspection and approval to OEU.

11. The Customer agrees to permit OEU, if it should so choose, to inspect the RGS and its component equipment and the documents necessary to ensure compliance with this Agreement both before and after the RGS goes into service and to witness the initial testing of the RGS equipment and protective apparatus. OEU will provide Customer with as much notice as reasonably possible, either in writing, email, facsimile or by phone as to when OEU may conduct inspections and or document review. Upon reasonable notice, or at any time without notice in the event of an emergency or hazardous condition, Customer agrees to provide OEU access to the Customer's premises for any purpose in connection with the performance of the obligations required by this Agreement or, if necessary, to meet OEU's legal obligation to provide service to its customers. At least ten (10) business days prior to initially placing the customer-owned renewable generation system in service, Customer shall provide written notification to OEU advising of the date and time at which Customer intends to place the system in service, and OEU shall have the right to have personnel present on the in-service date in order to ensure compliance with the requirements of this Agreement.

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12. The Customer's RGS must have an appropriately sized grid-tie inverter system that includes applicable protective systems. Customer certifies that the RGS equipment includes an OEU interactive inverter or interconnection system equipment that ceases to interconnect with the OEU system upon a loss of OEU's electric power. The inverter shall be considered certified for interconnected operation if it has been submitted by a manufacturer to a nationally recognized testing laboratory (NRTL) to comply with UL 1741. The NRTL shall be approved by the Occupational Safety & Health Administration (OSHA).

13. If Customer adds another RGS that (i) utilizes the same OEU interactive inverter for both systems, or (ii) utilizes a separate OEU interactive inverter for each system, Customer shall provide OEU with sixty (60) days advance written notice of the addition.

14. The Customer shall not energize the OEU system when OEU's system is deenergized. The Customer shall cease to energize the OEU system during a faulted condition on the OEU system and/or upon any notice from OEU that the deenergizing of Customer's RGS equipment is necessary. The Customer shall cease to energize the OEU system prior to automatic or non-automatic reclosing of OEU's protective devices. There shall be no intentional islanding, as described in IEEE 1547, between the Customer's and OEU' systems.

15. The Customer is responsible for the protection of its generation equipment, inverters, protection devices, and other system components from damage from the normal and abnormal operations that occur on OEU system in delivering and restoring system power. Customer agrees that any damage to any of its property, including, without limitation, all components and related accessories of its RGS system, due to the normal or abnormal operation of OEU system, is at Customer's sole risk and expense. Customer is also responsible for ensuring that the customer-owned renewable generation equipment is inspected, maintained, and tested regularly in accordance with the manufacturer's instructions to ensure that it is operating correctly and safely.

16. The Customer must install, at their expense, a manual disconnect switch of the visible load break type to provide a separation point between the AC power output of the customer-owned renewable generation system and any Customer wiring connected to OEU's system, such that back feed from the customer-owned renewable generation system to OEU's system cannot occur when the switch is in the open position. The manual disconnect switch shall be mounted separate from the meter socket on an exterior surface adjacent to the meter. The switch shall be readily accessible to OEU and capable of being locked in the open position with an OEU padlock. When locked and tagged in the open position by OEU, this switch will be under the control of OEU.

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17. Subject to an approved inspection, including installation of acceptable disconnect switch, this Agreement shall be executed by OEU within thirty (30) calendar days of receipt of a completed application. Customer must execute this Agreement and return it to OEU at least thirty (30) calendar days prior to beginning parallel operations with OEU's electric system, subject to the requirements of Section 18, below, and within one (1) year after OEU executes this Agreement.

18. Once OEU has received Customer's written documentation that the requirements of this Agreement have been met, all agreements and documentation have been received and the correct operation of the manual switch has been demonstrated to an OEU representative, OEU will, within fifteen (15) business days, send written notice that parallel operation of the RGS may commence.

19. OEU requires the Customer to maintain general liability insurance for personal injury and property damage in the amount of not less than one hundred thousand dollars ($100,000.00).

20. OEU will furnish, install, own and maintain metering equipment capable of measuring the flow of kilowatt-hours (kWh) of energy. The Customer's service associated with the RGS will be metered to measure the energy delivered by OEU to Customer, and measure the energy delivered by Customer to OEU. Customer agrees to provide safe and reasonable access to the premises for installation, maintenance and reading of the metering and related equipment. The Customer shall not be responsible for the cost of the installation and maintenance of the metering equipment necessary to measure the energy delivered by the Customer to OEU.

21. The Customer shall be solely responsible for all legal and financial obligations arising from the design, construction, installation, operation, maintenance and ownership of the RGS.

22. The Customer must obtain all permits, inspections and approvals required by applicable jurisdictions with respect to the generating system and must use a licensed, bonded and insured contractor to design and install the generating system. The Customer agrees to provide OEU with a copy of the local building code official inspection and certification of installation. The certification shall reflect that the local code official has inspected and certified that the installation was permitted, has been approved, and has met all electrical and mechanical qualifications.

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23. In no event shall any statement, representation, or lack thereof, either express or implied, by OEU, relieve the Customer of exclusive responsibility for the Customer's system. Specifically, any OEU inspection of the RGS shall not be construed as confirming or endorsing the system design or its operating or maintenance procedures or as a warranty or guarantee as to the safety, reliability, or durability of the RGS. OEU's inspection, acceptance, or its failure to inspect shall not be deemed an endorsement of any RGS equipment or procedure. Further, as set forth in Sections 15 and 26 of this Agreement, Customer shall remain solely responsible for any and all losses, claims, damages and/or expenses related in any way to the operation or misoperation of its RGS equipment.

24. Notwithstanding any other provision of this Interconnection Agreement, OEU, at its sole and absolute discretion, may isolate the Customer's system from the distribution grid by whatever means necessary, without prior notice to the Customer. To the extent practical, however, prior notice shall be given. The system will be reconnected as soon as practical once the conditions causing the disconnection cease to exist. OEU shall have no obligation to compensate the Customer for any loss of energy during any and all periods when Customer's RGS is operating at reduced capacity or is disconnected from OEU' electrical distribution system pursuant to this Interconnection Agreement. Typical conditions which may require the disconnection of the Customer's system include, but are not limited to, the following:

a. OEU system emergencies, forced outages, uncontrollable forces or compliance with prudent electric OEU practice.
b. When necessary to investigate, inspect, construct, install, maintain, repair, replace or remove any OEU equipment, any part of OEU's electrical distribution system or Customer's generating system.
c. Hazardous conditions existing on OEU's system due to the operation of the Customer's generation or protective equipment as determined by OEU.
d. Adverse electrical affects (such as power quality problems) on the electrical equipment of OEU's other electric consumers caused by the Customer's generation as determined by OEU.
e. When Customer is in breach of any of its obligations under this Interconnection Agreement or any other applicable policies and procedures of OEU.
f. When the Customer fails to make any payments due to OEU by the due date thereof.

25. Upon termination of services pursuant to this Agreement, OEU shall open and padlock the manual disconnect switch and remove any additional metering equipment related to this Agreement. At the Customer's expense, within thirty (30) working days following the termination, the Customer shall permanently isolate the RGS and any associated equipment from OEU's electric supply system, notify OEU that the isolation is complete, and coordinate with OEU for return of OEU's lock.

(Continued to Sheet No. 21.6)

26. To the fullest extent permitted by law, and in return for adequate, separate consideration, Customer shall indemnify, defend and hold harmless OEU, any and all of their members of its governing bodies, and its officers, agents, and employees for, from and against any and all claims, demands, suits, costs of defense, attorneys fees, witness fees of any type, losses, damages, expenses, and liabilities, whether direct, indirect or consequential, related to, arising from, or in any way connected with:

a. Customer's design, construction, installation, inspection, maintenance, testing or operation of Customer's generating system or equipment used in connection with this Interconnection Agreement, irrespective of any fault on the part of OEU.
b. The interconnection of Customer's generating system with, and delivery of energy from the generating system to, OEU's electrical distribution system, irrespective of any fault on the part of OEU.
c. The performance or nonperformance of Customer's obligations under this Interconnection Agreement or the obligations of any and all of the members of Customer's governing bodies and its officers, agents, contractors (and any subcontractor or material supplier thereof) and employees.

Customer's obligations under this Section shall survive the termination of this Interconnection Agreement.

27. Customer shall not have the right to assign its benefits or obligations under this Agreement without OEU's prior written consent and such consent shall not be unreasonably withheld. If there is a change in ownership of the RGS, Customer shall provide written notice to OEU at least thirty (30) days prior to the change in ownership. The new owner will be required to assume, in writing, the Customer's rights and duties under this Agreement, or execute a new Standard Interconnection Agreement. The new owner shall not be permitted to net meter or begin parallel operations until the new owner assumes this Agreement or executes a new Agreement.

28. This Agreement supersedes all previous agreements and representations either written or verbal heretofore made between OEU and Customer with respect to matters herein contained. This Agreement, when duly executed, constitutes the only Agreement between parties hereto relative to the matters herein described. This Agreement shall continue in effect from year to year until either party gives sixty (60) days' notice of its intent to terminate this Agreement.

(Continued on Sheet No. 21.7)

29. This Agreement shall be governed by and construed and enforced in accordance with the laws, rules and regulations of the State of Florida and OEU's tariff as it may be modified, changed, or amended from time to time, including any amendments modification or changes to OEU's Net-Metering Service Rate Schedule, the schedule applicable to this Agreement. The Customer and OEU agree that any action, suit, or proceeding arising out of or relating to this Interconnection Agreement shall be initiated and prosecuted in the state court of competent jurisdiction located in Marion County, Florida, and OEU and the Customer irrevocably submit to the jurisdiction and venue of such court. To the fullest extent permitted by law, each Party hereby irrevocably waives any and all rights to a trial by jury and covenants and agrees that it will not request a trial by jury with respect to any legal proceeding arising out of or relating to this Interconnection Agreement.

None of the provisions of this Interconnection Agreement shall be considered waived by either Party except when such waiver is given in writing. No waiver by either Party of any one or more defaults in the performance of the provisions of this Interconnection Agreement shall operate or be construed as a waiver of any other existing or future default or defaults. If any one or more of the provisions of this Interconnection Agreement or the applicability of any provision to a specific situation is held invalid or unenforceable, the provision shall be modified to the minimum extent necessary to make it or its application valid and enforceable, and the validity and enforceability of all other provisions of this Interconnection Agreement and all other applications of such provisions shall not be affected by any such invalidity or unenforceability. This Interconnection Agreement does not govern the terms and conditions for the delivery of power and energy to non-generating retail customers of OEU's electrical distribution system.

30. This Agreement incorporates by reference the terms of the tariff filed with the Florida Public Service Commission by OEU, including OEU's Net-Metering Service Rate Schedule, and associated technical terms and abbreviations, general rules and regulations and standard electric service requirements (as may be applicable) are incorporated by reference, as amended from time to time. To the extent of any conflict between this Agreement and such tariff, the tariff shall control.

31. OEU and Customer recognize that the Florida Statutes and/or the Florida Public Service Commission Rules, including those directly addressing the subject of this Agreement, may be amended from time to time. In the event that such statutes and/or rules are amended that affect the terms and conditions of this Agreement, OEU and Customer agree to supersede and replace this Agreement with a new Interconnection Agreement, which complies with the amended statutes/rules.

(Continued on Sheet No. 21.8)

32. Customer acknowledges that its provision of electricity to OEU hereunder is on a first-offered, first-accepted basis and subject to diminution and/or rejection in the event the total amount of electricity delivered to OEU pursuant to the OEU's Net-Metering Service Rate Schedule, (as filed with the Florida Public Service Commission), from all participating OEU customers, exceeds two and one-half percent (2.5%) of the aggregate customer peak demand on the OEU system.

33. This Agreement is solely for the benefit of OEU and Customer and no right nor any cause of action shall accrue upon or by reason, to or for the benefit of any third party not a formal party to this Agreement. Nothing in this Agreement, expressed or implied, is intended or shall be construed to confer upon any person or corporation other than OEU or Customer, any right, remedy, or claim under or by reason of this Agreement or any of the provisions or conditions of this Agreement; and, all provisions, representations, covenants, and conditions contained in this Agreement shall inure to the sole benefit of and be binding upon OEU and Customer and their respective representatives, successors, and assigns. Further, no term or condition contained in this Agreement shall be construed in any way as a waiver by OEU of the sovereign immunity applicable to OEU as established by Florida Statutes, 768.28.

(Continued on Sheet No. 21.9)

IN WITNESS WHEREOF, Customer and OEU have executed this Agreement the day and year first above written.

City of Ocala Electric Utility:

By: Ken Whitehead

Title: Asst. City Manager

Date: 07 / 05 / 2022

Customer:

By: Lucie Weston
(Print Name)

Ruthie L. Welton POA for Lucie West
(Signature)

Date:

City of Ocala Electric Utility Account Number:

511209-100375

Approved as to form and legality:
Robert W. Batsel, Jr.
Robert W. Batsel, Jr.
Assistant City Attorney

Tri-Party Net-Metering Power Purchase Agreement

This Tri-Party Net-Metering Power Purchase Agreement (this "Agreement") is entered into this 11 day of March, 2022, by and between the Florida Municipal Power Agency, a governmental joint action agency created and existing under the laws of the State of Florida (hereinafter "FMPA"), the City of Ocala doing business as Ocala Electric Utility, a body politic (hereinafter "OEU"), and Lucie Westen, a retail electric customer of OEU (hereinafter "Customer").

Section 1. Recitals

1.01. OEU and Customer have executed OEU's Standard Interconnection Agreement for a Customer-Owned Renewable Generation System (RGS) pursuant to which OEU has agreed to permit interconnection of Customer's renewable generation to OEU's electric system at Customer's presently-metered location, and Customer has agreed to deliver excess electric energy generated by Customer's Renewable Generation System to OEU's electric distribution system;

1.02. The City of Ocala and FMPA have entered into the All-Requirements Power Supply Contract, dated as of May 1, 1986, (hereinafter the "ARP Contract") pursuant to which the City of Ocala has agreed to purchase and receive, and FMPA has agreed to sell and supply OEU with all energy and capacity necessary to operate the OEU electric system, which limits OEU's ability to directly purchase excess energy from customer-owned renewable generation.

1.03. In order to promote the development of small customer-owned renewable generation by permitting OEU to allow its customers to interconnect with OEU's electric system and to allow OEU's electric customers to offset their electric consumption with customer-owned renewable generation, FMPA, in accordance with the terms and conditions of this agreement, has agreed to purchase excess customer-owned generation from OEU's electric customers interconnected to OEU's electric system.

NOW THEREFORE, for and in consideration of the mutual covenants and agreements set forth herein, the Parties covenant and agree as follows:

Section 2. Interconnection

2.01. Customer shall not begin parallel operations with the OEU electric distribution system until Customer has executed OEU's electric Standard Interconnection Agreement for Small Customer-Owned Renewable Generation and is in compliance with all terms and conditions

OEU requires that the customer install and operate the RGS in accordance with all applicable safety codes and standards. OEU shall establish and enforce terms and conditions of operation and disconnection of all interconnected customer-owned renewable generation as it relates to the effect of the RGS on OEU's electric distribution system.

(Continued on Sheet No. 20.1)

Section 3. Metering

3.01 In accordance with the OEU's Standard Interconnection Agreement for Customer-Owned Renewable Generation, OEU shall install metering equipment at the point of delivery capable of recording two separate kWh meter readings: (1) the flow of electricity from OEU to the Customer (Delivered), and (2) the flow of excess electricity from the Customer to OEU. OEU shall take meter readings on the same cycle as the otherwise applicable rate schedule.

Section 4. Purchase of Excess Customer-Owned Renewable Generation

4.01. Customer-owned renewable generation shall be first used for Customer's own load and shall offset Customer's demand for OEU's electricity. All electric power and energy delivered by OEU to Customer shall be received and paid for by Customer to OEU (Received) pursuant to the terms, conditions and rates of the OEU otherwise applicable rate schedule.

4.02. Excess customer-owned renewable generation shall be delivered to the OEU Electric distribution system. For purposes of this Agreement, the term "excess customer-owned renewable generation" means any kWh of electrical energy produced by the customer-owned renewable generation system that is not consumed by Customer and is delivered to the OEU electric distribution system. FMPA agrees to purchase and receive, and Customer agrees to sell and deliver, all excess customer-owned renewable generation at the energy rate established by FMPA, which shall be calculated in accordance with Schedule A. Excess customer-owned renewable generation shall be purchased in the form of a credit on Customer's monthly energy consumption bill from OEU.

4.03. In the event that a given monthly credit for excess customer-owned renewable generation exceeds the total billed amount for Customer's consumption in any corresponding month, then the excess credit shall be applied to the subsequent month's bill. Excess energy credits produced pursuant to the preceding sentence shall accumulate and be used to offset Customer's energy consumption bill for a period of not more than twelve (12) months. At the end of each calendar year, any unused excess energy credits shall be paid by OEU to the Customer in accordance with the OEU Electric Net-Metering Service Rate Schedule.

(Continued on Sheet No. 20.2)

4.04. FMPA and OEU shall not be required to purchase or receive excess customer-owned renewable generation, and may require Customer to interrupt or reduce production of customer-owned renewable generation, (a) when necessary in order to construct, install, maintain, repair, replace, remove, investigate, or inspect any OEU equipment or part of OEU's system; or (b) if either FMPA or OEU determine, in their sole judgment, that curtailment, interruption, or reduction is necessary because of emergencies, forced outages, force majeure, or compliance with any applicable electric code or standard.

4.05. Customer acknowledges that its provision of electricity to OEU hereunder is on a first-offered, first-accepted basis and subject to diminution and/or rejection in the event the total amount of electricity delivered to OEU pursuant to the Net-Metering Service Rate Schedule (as filed with the Florida Public Service Commission), from all participating OEU customers, exceeds two and one-half percent (2.5%) of the aggregate customer peak demand on the OEU electric system.

Section 5. Renewable Energy Credits

5.01. Customer shall offer FMPA a first right of refusal before selling or granting to any third party the right to the Green Attributes associated with its customer-owned renewable generation that is interconnected to OEU electric distribution system. The term "Green Attributes" shall include any and all credits, certificates, benefits, environmental attributes, emissions reductions, offsets, and allowances, however entitled, attributable to the generation of electricity from the customer-owned-renewable generation and its displacement of conventional energy generation.

5.02. Any additional meter(s) installed to measure total renewable electricity generated by the Customer for the purposes of measuring Green Attributes, including and renewable energy certificates (or similarly titled credits for renewable energy generated), shall be installed at the expense of the Customer, unless determined otherwise during negotiations for the sale of the Customer's credits to FMPA.

Section 6. Term and Termination

6.01. This Agreement shall become effective upon execution by all Parties, and shall remain in effect thereafter on a month-to-month basis until terminated by any Party upon thirty (30) days written notice to all other Parties.

6.02. This Agreement shall terminate immediately and without notice upon: (a) termination of the electric distribution service by OEU or (b) failure by Customer to comply with any of the terms and conditions of this Agreement or OEU's Standard Interconnection Agreement for Customer-Owned Renewable Generation.

(Continued on Sheet No. 20.3)

Section 7. Miscellaneous Provisions

7.01. Assignment. It is understood and agreed that no party may transfer, sell, mortgage, pledge, hypothecate, convey, designate, or otherwise assign this Agreement, or any interest herein or any rights or obligations hereunder, in whole or in part, either voluntarily or by operation of law, (including, without limitation, by merger, consolidation, or otherwise), without the express written consent of the other parties (and any such attempt shall be void), which consent shall not be unreasonably withheld. Subject to the foregoing, this Agreement shall inure to the benefit of and be binding upon the parties and their respective successors and permitted assigns.

7.02 Amendment. It is understood and agreed that FMPA and OEU reserve the right, on no less than an annual basis, to change any of the terms and conditions, including pricing, in this Agreement on sixty (60) days advance written notice. FMPA and OEU may make such changes on an immediate basis in the event any applicable law, rule, regulation or court order requires them. In such event, FMPA and OEU will give Customer as much notice as reasonably possible under the circumstances.

7.03. Indemnification. To the fullest extent permitted by laws and regulations, and in return for adequate, separate consideration, Customer shall defend, indemnify, and hold harmless FMPA and OEU, their officers, directors, agents, guests, invitees, and employees from and against all claims, damages, losses to persons or property, whether direct, indirect, or consequential (including but not limited to fees and charges of attorneys, and other professionals and court and arbitration costs) arising out of, resulting from, occasioned by, or otherwise caused by the operation or misoperation of the customer-owned renewable generation, or the acts or omissions of any other person or organization directly or indirectly employed by the Customer to install, furnish, repair, replace or maintain the customer-owned renewable generation system, or anyone for whose acts any of them may be liable.

7.04. Governing Law. The validity and interpretation of this Agreement and the rights and obligations of the parties shall be governed and construed in accordance with the laws of the State of Florida without regard for any conflicts of law provisions that might cause the law of other jurisdictions to apply. All controversies, claims, or disputes arising out of or related to this Agreement or any agreement, instrument, or document contemplated hereby, shall be brought exclusively in the County or Circuit Court for Marion County, Florida, or the United States District Court sitting in Marion County, Florida, as appropriate.

(Continued on Sheet No. 20.4)

7.05. Enforcement of Agreement. In the event that either party is required to enforce this Agreement by court proceedings or otherwise, the prevailing party shall be entitled to recover all fees and costs incurred, including reasonable attorney's fees and costs for trial, alternative dispute resolution, and/or appellate proceedings.

7.06. Severability. To the extent any provision of this Agreement is prohibited by or invalid under applicable law, such provision shall be ineffective to the extent of such prohibition or invalidity, without invalidating the remainder of such provision or the remaining provisions of this Agreement.

7.07. Third Party Beneficiaries and Sovereign Immunity. This Agreement is solely for the benefit of FMPA, OEU, and Customer and no right nor shall any cause of action accrue upon or by reason, to or for the benefit of any third party not a formal party to this Agreement. Nothing in this Agreement, expressed or implied, is intended or shall be construed to confer upon any person or corporation other than FMPA, OEU, or Customer, any right, remedy, or claim under or by reason of this Agreement or any of the provisions or conditions of this Agreement; and, all provisions, representations, covenants, and conditions contained in this Agreement shall inure to the sole benefit of and be binding upon FMPA, OEU, and Customer and their respective representatives, successors, and assigns. Further, no term or condition contained in this Agreement shall be construed in any way as a waiver by either FMPA or OEU of the sovereign immunity applicable to either or both of them as established by Florida Statutes, 768.28.

(Continued on Sheet No. 20.5)

IN WITNESS WHEREOF, Customer and OEU have executed this Agreement the day and year first above written.

City of Ocala Electric Utility
By: Ken Whitehead
Title: Asst. City Manager
Date: 07 / 05 / 2022

Florida Municipal Power Agency
By: _____
Title: Bus Dev & Sys Ops Director
Date: 06 / 28 / 2022

Customer
By: Lucie Weston (Print Name)
Ruthie L Walton FOA for Lucie W Weston (Signature)
Customer's City of Ocala Electric Utility Account Number: 511209-100375

Approved as to form and legality:
Robert W. Batsel, Jr.
Robert W. Batsel, Jr.
Assistant City Attorney

(Continued on Sheet No. 20.6)

Tri-Party Net-Metering Power Purchase Agreement
Schedule A

I. All-Requirements Project Calculation of Excess Customer-Owned Renewable Generation Credit

a) FMPA shall pay OEU for the excess kWh energy delivered by customer-owned renewable generation to OEU's electric system. Every month, OEU shall determine the total kWh of customer-owned renewable generation that is delivered to OEU's electric system, and shall send the information to FMPA as soon as it becomes available, but no later than the second working day of every month. FMPA will then provide a monthly payment to OEU in the form of a credit on the ARP power bill for the excess energy delivered to the distribution grid. The ARP Renewable Generation Credit will be calculated as follows:

ARP Renewable Generation Credit = Quarterly Energy Rate * Monthly kWh of excess customer-owned renewable generation

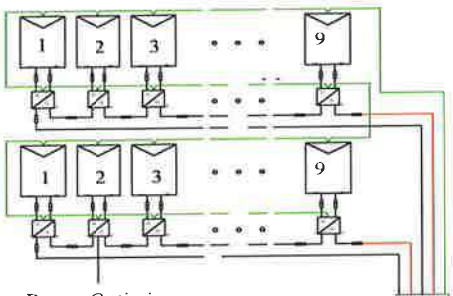
Quarterly Energy Rate = 3 month average of ARP energy rate. FMPA will update the Quarterly Energy Rate every April 1, July 1, October 1 and January 1.

b) As part of the monthly bill adjustment, FMPA will also increase OEU's kWh billing amount by the same kWh amount as the customer-owned renewable generation purchased by FMPA. This adjustment is necessary because excess customer generation that flows onto OEU's electric system has been purchased by FMPA, but will remain on OEU's electric system and be used by OEU to meet its other customers' electric needs. As a result, OEU's monthly ARP bill will be adjusted accordingly to reflect FMPA's subsequent sale of this energy to OEU.

II. Payment for Unused Excess Energy Credits

a) Monthly excess energy credits shall accumulate and be used to offset the Customer's following month energy consumption bill for a period of not more than twelve (12) months.

b) At the end of each calendar year, OEU shall pay the Customer for any unused excess energy credits in accordance with the OEU Electric Net-Metering Service Rate Schedule.



Power Optimizer

FBox Typ

(4) #10 AWG Wire
(1) #8 EGC
In 3/4" typ or FMC

SolarEdge Inverter
SE6000H-US
w/ Integrated Disconnect

Main Service Panel
150A Main

Line Side Tap

Manual Lockable Disconnect
60A Service Rated
Fused Disconnect
Neutral to Ground Bond
AC Disconnect
40A Fuse
Located Adjacent to Utility Meter

B

C

M

In Compliance with NEC 705.12(D)

Equipment list

PV:
(18) DNA-144-MF26-440W

(18) SolarEdge Power Optimizer P505
(2) strings of (9)

Inverter:
(1) SolarEdge SE6000H-US
SolarEdge AC/DC Safety Switch

AC Disconnect:
60A Fused Disconnect

All wiring to meet the 2017 NEC and 2018 Energy Code

PHOTOVOLTAIC SYSTEM DC DISCONNECT
MAX POINT CURRENT: 20.84A
MAX POWER POINT VOLTAGE: 380 VDC
MAX SYSTEM VOLTAGE: 480 DC
MAX CIRCUIT CURRENT: 15 A

WARNING
ELECTRIC SHOCK HAZARD

THE DC CONDUCTORS OF THIS PHOTOVOLTAIC SYSTEM ARE UNGROUNDED AND MAY BE ENERGIZED

Apply to DC disconnect/inverter

Apply to each J box, combiner box, disconnect,and device where energized, ungrounded circuits maybe exposed during service.

Refer to NEC 312.8 for Conditions on taps in switch and over current devices Enclosures
If the conditions are not met a tap box will need to be installed and revision completed

! WARNING !
POWER SOURCE OUTPUT CONNECTION: DO NOT RELOCATE THIS OVERCURRENT DEVICE

PHOTOVOLTAIC SYSTEM
! AC DISCONNECT !
RATED AC OUTPUT CURRENT 25A
NOMINAL OPERATING VOLTAGE 240VAC

Inverter Output Ckt	
To Overcurrent Protection Device	
AC Max Output Current	25.0
AC Max Output Current * 125%	31.3
Overcurrent Protection (A)	40
No. of Current Carrying Cond	<4
Conductor Gauge (AWG)	8

		Conduit(in)	L1,L2,N (Awg)	Ground (Awg)	OCPD
After Inverter	B	0.75	8	8	40
To Line Side Tap	C	0.75	6	N/A	40

Godwin Engineering and Design, LLC
8378 Foxtail Loop
Pensacola, FL 32526
D. Chad Godwin, PE
Chad@godwineng.com

Donnie C Godwin
2022.02.11 11:44:49 '00'06-

AC/DC Solar LLC
605 W Lumsden Rd,
Brandon, FL 33511
855-577-7999

Including the label below

In Case of Emergency Call
ACDC Solar LLC
at 855-577-7999

Meets 11.12.2.1.5

Note:
-All wiring to meet the 2017 NEC and Florida electric codes.
60A Disconnect
-Type of conduit to be determined on site by contractor.

Install will be done to Manufacturer Spec

GEC NOTES
- Ungrounded system per 690.41(A)(4)
- GEC must be installed per 250.64
- GEC must be continuous un-spliced or irreversibly spliced from inverter to existing service ground system or continuous from the arrays to the existing service ground system.
- GEC must be min #8 AWG and installed in conduit
- If GEC is not in conduit, it must be #6 min

Disconnects will be Visible, lockable, adjacent to and within 10' of utility meter
All Labels & Markings for photovoltaic system will be reflective and meet all requirements for NFPA 11.12

Customer Info:

Ruthie Welton
1500 Nw 20th Ave
Ocala, FL
34475

Date:	2/11/2022
Drawn by:	DC
Revised by:	
Rev #:	00
Rev Date:	
Page:	E-1

Inverter Type:
SolarEdge SE6000H-US
PV Panel:
(18)
DNA-144-MF26-440W
Total Wattage:
7,920W

CITY OF OCALA BUILDING PERMIT

THIS CARD TO BE POSTED ON STREET SIDE OF LOT BEFORE WORK IS STARTED
The Issuance of this Permit is conditioned upon full compliance with the provisions of the laws as set forth and provided for in Chapter 7 of the Ocala Code of Ordinances.

Permit No. BLD22-0417 / ELE22-0183 **Date** 2/18/2022

Location 1500 NW 20TH AVE **Parcel No.** 2196-004-003

Owner WELTON TIBBITS OCTAVIA CHARISS

Contractor AC/DC SOLAR LLC

Zone _____ **Use** _____

Setbacks: **Front** _____ **Side** _____ **Rear** _____

BUILDING

	INSPECTOR	Date
Footing		
Slab		
Lintel		
Roof Sheathing		
Wall Sheathing		
Framing		
Dry-In		
Lath		
Insulation		
Final		
Other		

PLUMBING

	INSPECTOR	Date
Ground Rough		
Rough		
Final		
Sewer		
Water Serv.		
Septic Tank		

GAS

	INSPECTOR	Date
Rough-In		
Final		
Other		

HARV

	INSPECTOR	Date
Rough		
Final		

SITE

	INSPECTOR	Date
Drainage		
Driveway		
Utilities		
Final		

FIRE

	INSPECTOR	Date
Rough		
Final		
Other		

ELECTRIC

	INSPECTOR	Date
Temp. Serv.		
UFER Grd.		
Slab		
Rough In		
Above ceiling		
Semi Perm		
Under-Ground		
Serv Ugrd.		
Change of Serv.		
Final		

WARNING TO OWNER: YOUR FAILURE TO RECORD A NOTICE OF COMMENCEMENT MAY RESULT IN YOUR PAYING TWICE FOR IMPROVEMENTS TO YOUR PROPERTY. A NOTICE OF COMMENCEMENT MUST BE RECORDED AND POSTED ON THE JOB SITE BEFORE THE FIRST INSPECTION. IF YOU INTEND TO OBTAIN FINANCING, CONSULT WITH YOUR LENDER OR AN ATTORNEY BEFORE RECORDING YOUR NOTICE OF COMMENCEMENT.

NOTICE: IN ADDITION TO THE REQUIREMENTS OF THIS PERMIT, THERE MAY BE ADDITIONAL RESTRICTIONS APPLICABLE TO THIS PROPERTY THAT MAY BE FOUND IN THE PUBLIC RECORDS OF THIS COUNTY, AND THERE MAY BE ADDITIONAL PERMITS REQUIRED FROM OTHER GOVERNMENTAL ENTITIES SUCH A WATER MANAGEMENT DISTRICTS, STATE AGENCIES OR FEDERAL AGENCIES.

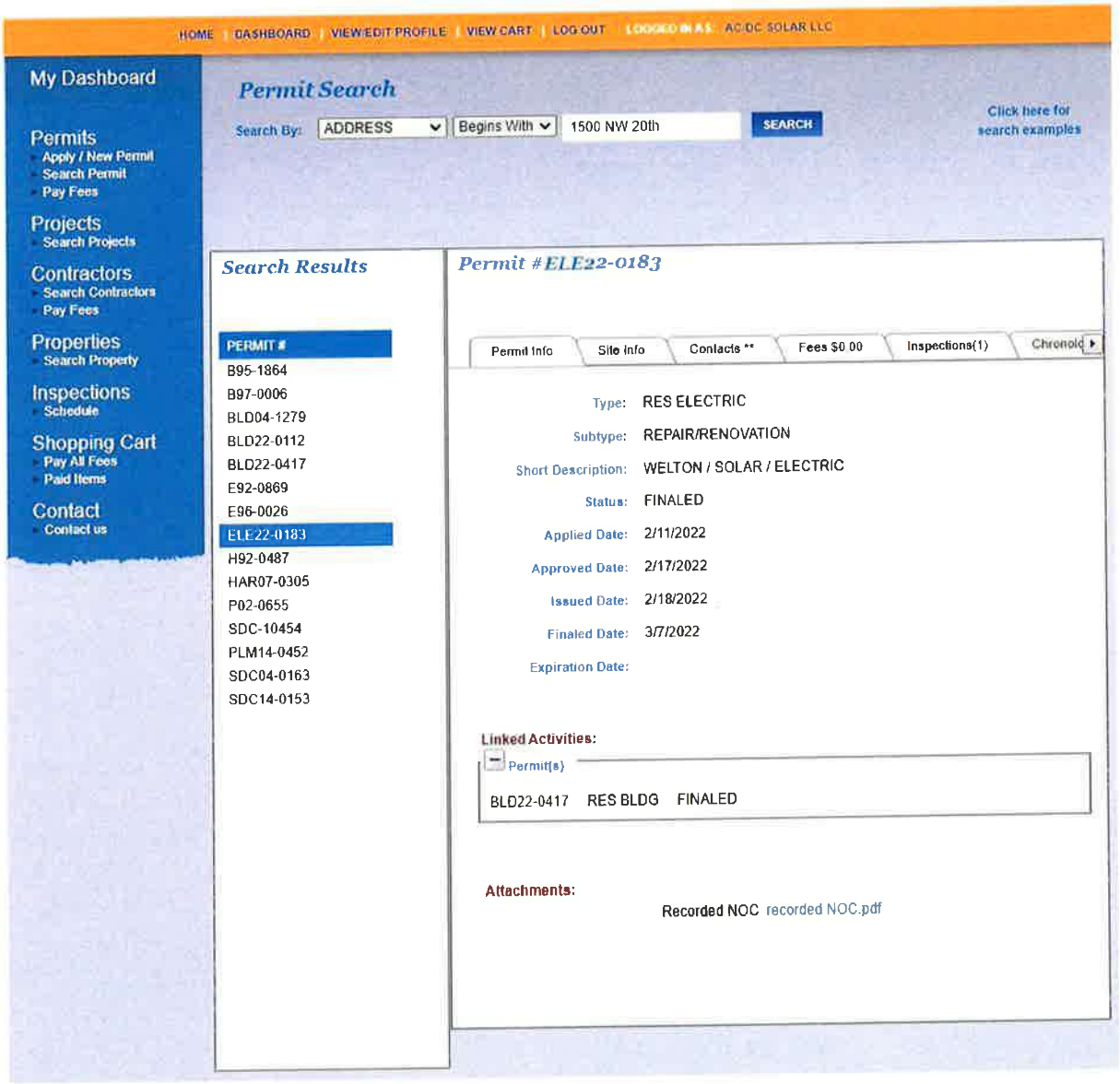
The City of Ocala Building Division is not liable in any civil action for any inaccurate information submitted by an owner or contractor using the authority's electronic confirmation system for permits that are submitted and approved per Florida Statues Chapter 713, OWNER'S ELECTRONIC SUBMISSION STATEMENT: Under penalty of perjury, I declare that all the information contained in this building permit application is true and correct.

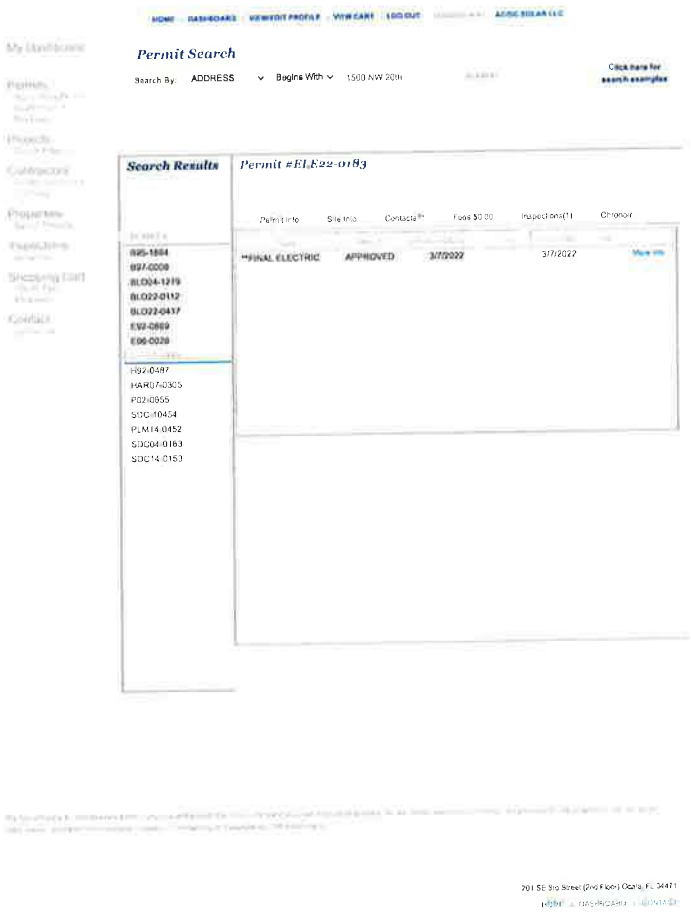
FOR FIRE INSPECTONS CALL: (352) 629-8398

For Inspections Visit: http://crwtrakit.ocalafl.org/eTRAKIT3/

Phone (352) 629 - 8421

Andrew Babbitt, Chief Building Official





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Location 1500 NW 20TH AVE **Parcel No.** 2196-004-003

Owner WELTON TIBBITS OCTAVIA CHARISS

Contractor AC/DC SOLAR LLC

Zone _____ **Use** _____

Setbacks: **Front** _____ **Side** _____ **Rear** _____

BUILDING

Footing	INSPECTOR	Date
Slab	INSPECTOR	Date
Lintel	INSPECTOR	Date
Roof Sheathing	INSPECTOR	Date
Wall Sheathing	INSPECTOR	Date
Framing	INSPECTOR	Date
Dry-In	INSPECTOR	Date
Lath	INSPECTOR	Date
Insulation	INSPECTOR	Date
Final	INSPECTOR	Date
Other		

PLUMBING

Ground Rough	INSPECTOR	Date
Rough	INSPECTOR	Date
Final	INSPECTOR	Date
Sewer	INSPECTOR	Date
Water Serv.	INSPECTOR	Date
Septic Tank	INSPECTOR	Date

GAS

Rough-In	INSPECTOR	Date
Final	INSPECTOR	Date
Other		

HARV

Rough	INSPECTOR	Date
Final	INSPECTOR	Date

SITE

Drainage	INSPECTOR	Date
Driveway	INSPECTOR	Date
Utilities	INSPECTOR	Date
Final	INSPECTOR	Date

FIRE

Rough	INSPECTOR	Date
Final	INSPECTOR	Date
Other		

ELECTRIC

Temp. Serv.	INSPECTOR	Date
UFER Grd.	INSPECTOR	Date
Slab	INSPECTOR	Date
Rough In	INSPECTOR	Date
Above ceiling	INSPECTOR	Date
Semi Perm	INSPECTOR	Date
Under-Ground	INSPECTOR	Date
Serv Ugrd.	INSPECTOR	Date
Change of Serv.	INSPECTOR	Date
Final	INSPECTOR	Date

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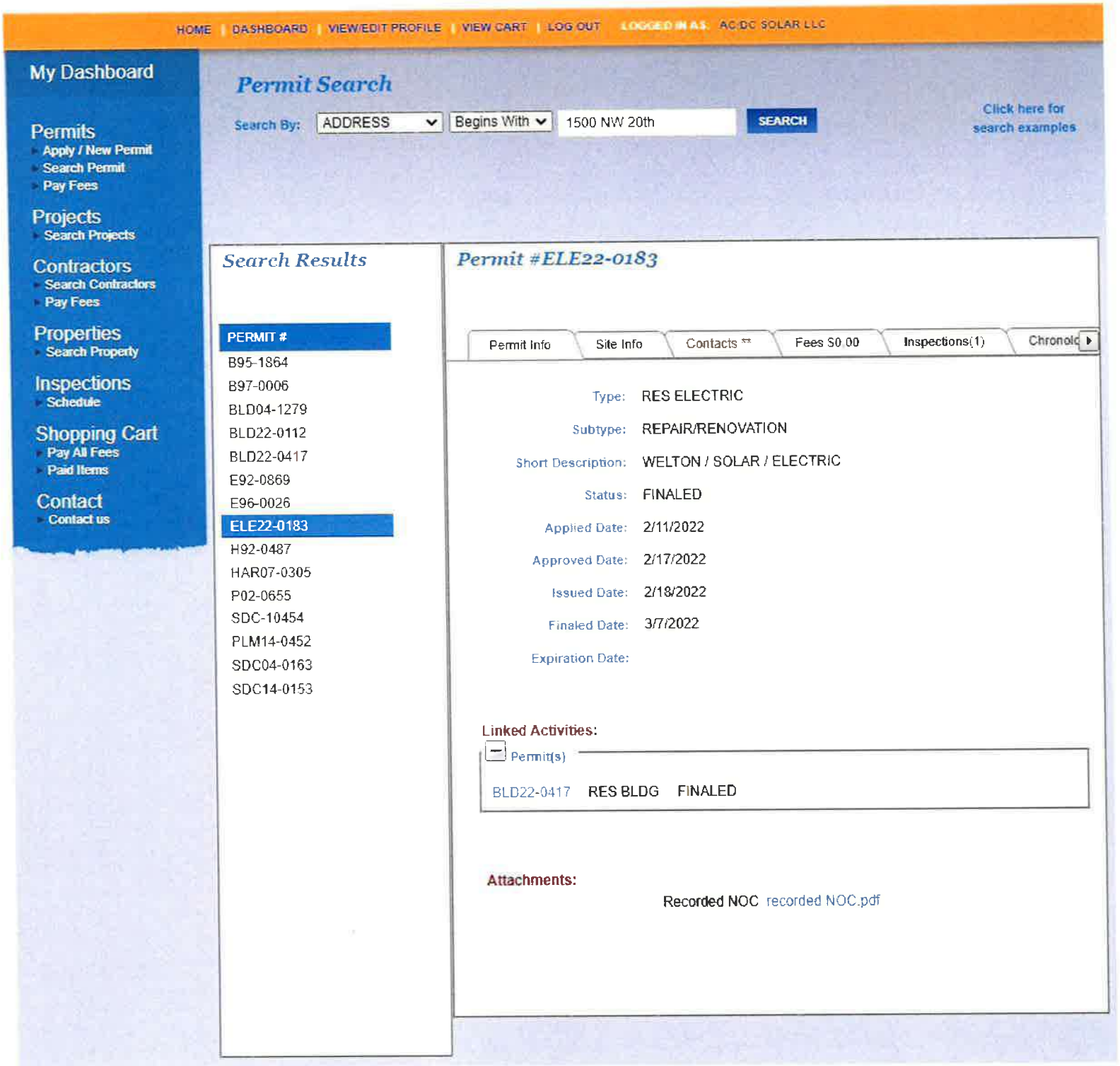
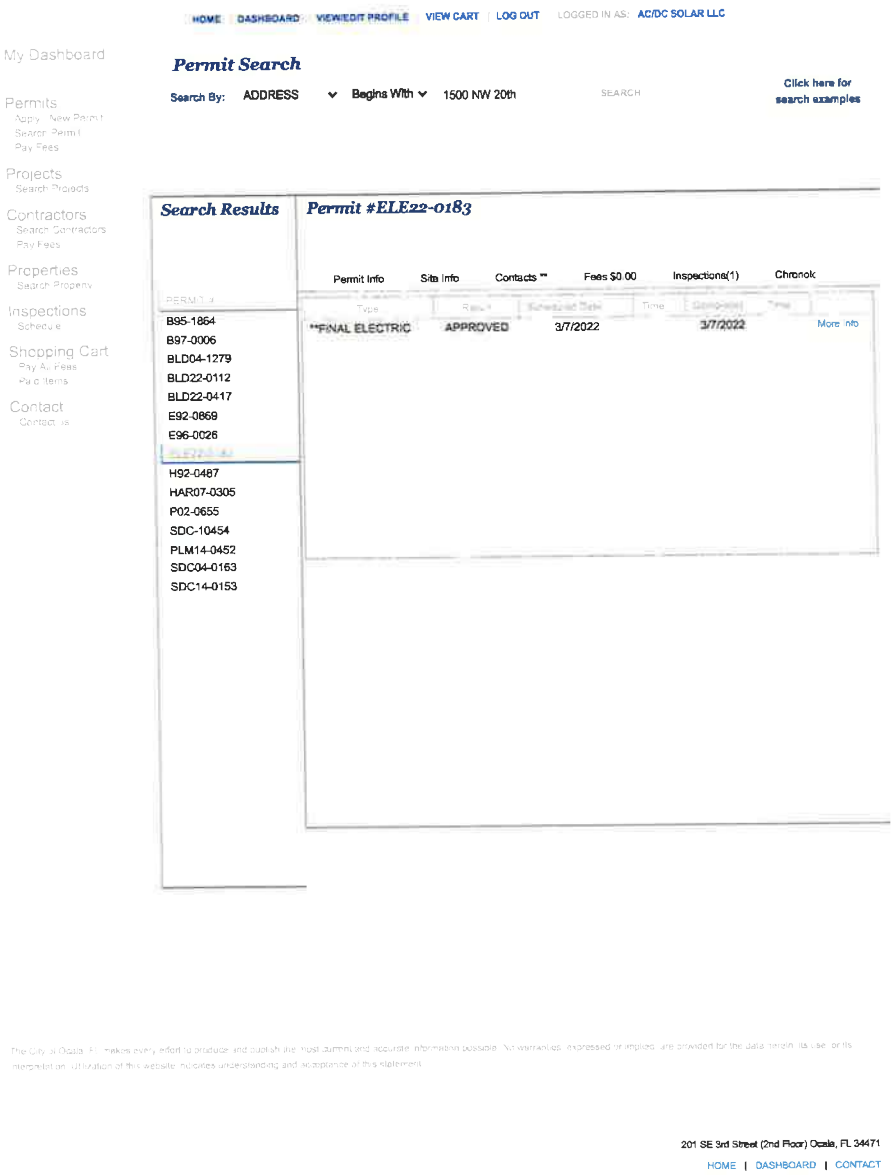




Agency Code: H4929

Policy Number:	HOH326963
Named Insured:	LUCIE M WESTON
Mailing Address:	1500 NW 20TH AVE OCALA, FL 34475
Phone Number:	(352)629-0894
Insuring Company:	Heritage Property & Casualty Insurance Company 2600 McCormick Dr., Suite 300 Clearwater, FL 33759
Effective Dates:	From: 08/23/2021 12:01 am To: 08/23/2022 12:01 am — Effective date of this transaction: 08/23/2021 12:01 am
Activity:	Renewal — Co-Applicant: Ruthie Lee Welton
Insured Location:	1500 NW 20TH AVE OCALA, FL 34475 Marion County

Coverage at the residence premises is provided only where a limit of liability is shown or a premium is stated.

Coverages and Premiums:

Coverage Section	Limits	Non-Hurricane	Hurricane	Total
Coverage - A - Dwelling	*$173,342	$755.00	$993.00	$1,748.00
Coverage - B - Other Structures	$3,467			Included
Coverage - C - Personal Property	$86,671			Included
Coverage - D - Loss Of Use	$17,334			Included
Coverage - E - Personal Liability	$300,000	$15.00		$15.00
Coverage - F - Medical Payments To Others	$1,000			Included
* Coverage A increased due to an Inflation Factor				
Total of Premium Adjustments		($183.00)	($224.00)	($407.00)
SEE PAGE 3 FOR DETAILED DESCRIPTION OF PREMIUM ADJUSTMENTS				
Total Policy Premium				$1,356

Hurricane Premium = $769.00 Non-Hurricane Premium = $587.00

Deductible: All Other Perils: $1,000 **Hurricane Deductible: 2% of Coverage A = $3,467**

Law and Ordinance: Law and Ordinance : 25% of Coverage A = $43,336

If your policy contains replacement cost on dwelling, the amount of coverage will not exceed the stated policy value.

06/23/2021

INSTALLMENT SCHEDULE

Homeowners

HERITAGE Insurance
Pillars of Strength and Character.

POLICY NUMBER	POLICY PERIOD From	To
HOH326963-07	08/23/2021	08/23/2022

12:01 A.M. Standard Time at the described location

PO Box 11407-Birmingham, AL 35246-3051 1-855-536-2744 FOR ALL INQUIRIES

Date Issued: 06/24/2021

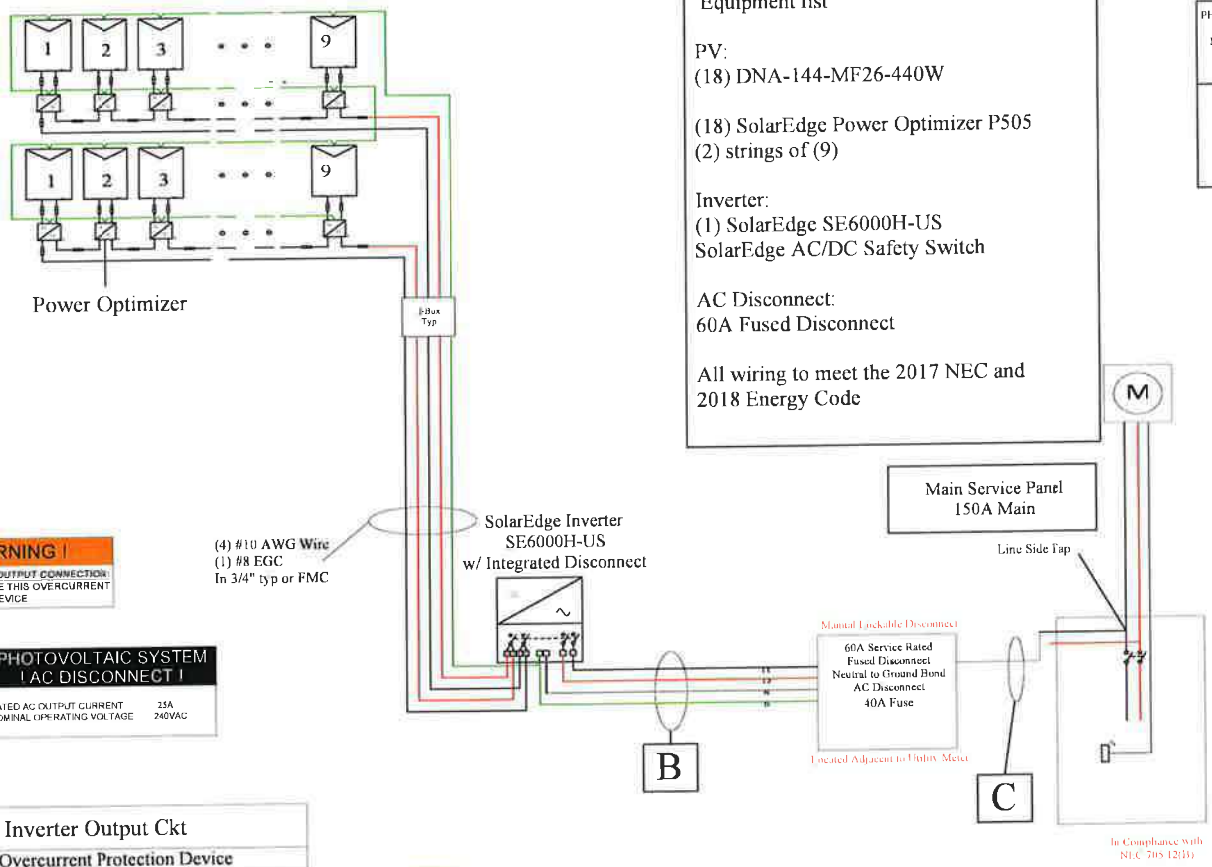
INSURED'S COPY

INSURED:
LUCIE M WESTON
Ruthie Lee Welton
1500 NW 20TH AVE
OCALA, FL 34475

AGENT: H4929
Carey Insurance Agency LLC
203 NE 8th Avenue
Ocala, FL 34470

Telephone: 3527320800

...date stated below:



Equipment list

PV:
(18) DNA-144-MF26-440W

(18) SolarEdge Power Optimizer P505
(2) strings of (9)

Inverter:
(1) SolarEdge SE6000H-US
SolarEdge AC/DC Safety Switch

AC Disconnect:
60A Fused Disconnect

All wiring to meet the 2017 NEC and 2018 Energy Code

PHOTOVOLTAIC SYSTEM DC DISCONNECT
MAX POINT CURRENT: 20.84A
MAX POWER POINT VOLTAGE: 380 VDC
MAX SYSTEM VOLTAGE: 480 DC
MAX CIRCUIT CURRENT: 15 A

WARNING
ELECTRIC SHOCK HAZARD

THE DC CONDUCTORS OF THIS PHOTOVOLTAIC SYSTEM ARE UNGROUNDED AND MAY BE ENERGIZED

Apply to DC disconnect/inverter

Apply to each J box, combiner box, disconnect,and device where energized, ungrounded circuits maybe exposed during service.

Refer to NEC 312.8 for Conditions on taps in switch and over current devices Enclosures
If the conditions are not met a tap box will need to be installed and revision completed

! WARNING !
POWER SOURCE OUTPUT CONNECTION
DO NOT RELOCATE THIS OVERCURRENT DEVICE

PHOTOVOLTAIC SYSTEM
! AC DISCONNECT !
RATED AC OUTPUT CURRENT 25A
NOMINAL OPERATING VOLTAGE 240VAC

Inverter Output Ckt	
To Overcurrent Protection Device	
AC Max Output Current	25.0
AC Max Output Current * 125%	31.3
Overcurrent Protection (A)	40
No. of Current Carrying Cond	<4
Conductor Gauge (AWG)	8

		Conduit(in)	L1,L2,N (Awg)	Ground (Awg)	OCPD
After Inverter	B	0.75	8	8	40
To Line Side Tap	C	0.75	6	N/A	40

Godwin Engineering and Design, LLC
8378 Foxtail Loop
Pensacola, FL 32526
D. Chad Godwin, PE
Chad@godwineng.com

Donnie C Godwin
2022.02.11 11:44:49 '00'06-

AC/DC Solar LLC
605 W Lumsden Rd,
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855-577-7999

Including the label below

In Case of Emergency Call
ACDC Solar LLC
at 855-577-7999

Meets 11.12.2.1.5

Note:
-All wiring to meet the 2017 NEC and Florida electric codes.
60A Disconnect
-Type of conduit to be determined on site by contractor.

Install will be done to Manufacturer Spec

GEC NOTES
- Ungrounded system per 690.41(A)(4)
- GEC must be installed per 250.64
- GEC must be continuous un-spliced or irreversibly spliced from inverter to existing service ground system or continuous from the arrays to the existing service ground system.
- GEC must be min #8 AWG and installed in conduit
- If GEC is not in conduit, it must be #6 min

Disconnects will be Visible, lockable, adjacent to and within 10' of utility meter
All Labels & Markings for photovoltaic system will be reflective and meet all requirements for NFPA 11.12

Customer Info:

Ruthie Welton
1500 Nw 20th Ave
Ocala, FL
34475

Date:	2/11/2022
Drawn by:	DC
Revised by:	-
Rev #:	00
Rev Date:	-
Page:	E-1

Inverter Type:
SolarEdge SE6000H-US
PV Panel:
(18)
DNA-144-MF26-440W
Total Wattage:
7,920W

The Placard shall be permanently riveted, and shall be made of red, weatherproof, hard plastic, with engraved white block lettering

-A placard will be added with instructions and locations to be in compliance with 690.12, 690.56(B) and NEC 705.10

Rapid Shutdown Built in Per Code NEC 690.12

In compliance with NEC 250.58, NEC 690.8, NEC 250.24, NEC250.24(D)

PV AC disconnect is lockable in the open position per code NEC 705.22(7)

Conductors have a min ampacity of 60 amperes Per Code NEC 230.79(D)

Everything will be built to Code without all Specifics labeled on plan

System is in compliance with FFPC 1:11.12 7th Edition.

Smoke Detectors will be added as per FBC 553.883

Markings shall be placed on all DC Conduits, DC Combiners, Raceways, Enclosures, Junction Boxes, and Cable Assemblies at every 10', turns, and above and below penetrations in compliance with NFPA

Disconnect means shall be provided for all disconnecting all ungrounded conductors that supply or pass through the building or structure Per Code 2017 NEC Section 225.31 & Section 225.32

E04. Construction documents specify PV system circuits installed on or in buildings include a rapid shutdown function that controls specific conductors in accordance with NEC article 690.12.

E05. These construction documents specify that a label is provided with the method to initiate rapid shut down per 690.12(4):

E06. Construction drawings specify buildings or structures with both utility service and a PV system, complying with NEC article 690.12 shall have a permanent plaque or directory including the following wording: "PHOTO VOLTAIC SYSTEM EQUIPPED WITH RAPID SHUTDOWN" as per NEC article 690.56 (C).

E07. Construction documents specify PV power circuit labels shall appear on every section of the wiring system that is separated by enclosures, walls, partitions, ceilings, or floors.

E08. Construction documents specify all warning sign(s) or label(s) shall comply with NEC article 110.21 (B). Label warnings shall adequately warn of the hazard. Labels shall be permanently affixed to the equipment, and Labels required shall be suitable for the environment.

System meets the grounding requirements of NEC 690.43

Inverter Output Ckt To Overcurrent Protection Device		
Design Temperature(F)	94°F	
Max Amb Temp Range(F)	87-95	310.15(B)(2)(a)
Temp Rating of Conductors (C)	75°C	
Current Carrying	<4	310.15(B)(3)(a)
AC Max Output Current	25A	690.8(A)(1)
AC Max Output Current * 1.25%	31A	690.8(B)
Overcurrent Protection(A)	40A	
Amp Temp Correction Factor	0.94	310.15(B)(2)(a)
Raceway Fill adjustment Factor	100%	310.15(B)(3)(a)
Wire Size(Awg)	8	310.15(B)(16)
Cond. Allowable Ampacity(A)	50A	
Cond Adjusted Ampacity(A)	47A	50A*1*0.94=47A
Ampacity Check 1 Per 690.8(B)(1)	Pass	25A*1.25=40A<50A Pass
Ampacity Check 2 Per 690.8(B)(2)	Pass	50A*0.94A*1=47A>25A Pass

PV Source Ckt		
Distance Above Roof	7/8in-3 1/2in	310.15(B)
Design Temperature(F)	137°F	
Max Amb Temp Range(F)	132-140	310.15(B)(2)(a)
Temp Rating of Conductors (C)	75°C	
Current Carrying	<4	310.15(B)(3)(a)
AC Max Output Current	15A	690.8(A)(3)
AC Max Output Current * 1.25%	19A	690.8(B)
Overcurrent Protection(A)	20A	
Amp Temp Correction Factor	0.58	310.15(B)(2)(a)
Raceway Fill adjustment Factor	100%	310.15(B)(3)(a)
Wire Size(Awg)	10	310.15(B)(16)
Cond. Allowable Ampacity(A)	35A	
Cond Adjusted Ampacity(A)	20A	35A*0.58*1=20.3A
Ampacity Check 1 Per 690.8(B)(1)	Pass	15A*1.25=20A<35A Pass
Ampacity Check 2 Per 690.8(B)(2)	Pass	35A*0.58*1=20.3A>15A Pass

All Exterior equipment is A minimum of Nema-R3 Rated

In compliance with 230.71

All Interactive System(S) Points of interconnection with other sources shall be marked at an accesible location at the disconnecting means as a power source and with the rated ac output current and the nominal operating AC voltage. Per NEC 690.54

Disconnect is in compliance 230.72

Supply side disconnect adjacent to Msp

Over Current Protection Device is "Next size up" Based on Inverter Maximum Continuous Output Current Rating 2017 NEC 240.4(B)

-All new equipment located adjacent to Meter on exterior wall

Labels will be placed in the correct location Per Code NEC 690.56(B), 690.56(C), & 690.53

Metallic conduits, raceways or flexible metal conduit exceeding 6 feet in length are not permitted in accordance with NEC article 690.31(G).

Include required label for metallic raceways and conduits to sheet E-1 per NEC article 690.31(G)(3).

Add required label to sheet E-1 per NEC article 705.10.

Include required label to sheet E-1 per NEC article 705.12(B)

Photovoltaic AC disconnect shall be capable of being locked in the open position per NEC article 705.22(6).

Photovoltaic AC Overcurrent protection shall be located within 10 feet of the point where conductors are connected to the service per NEC 705.31.

DC to DC Converter Current Per String - 15A

Permanent sticker added to disconnect

In Case of Emergency Call ACDC Solar LLC at 855-577-7999 ← Apply to Main Disconnect

3/8 IN MIN. TEXT

SOLAR PV SYSTEM EQUIPPED WITH RAPID SHUTDOWN

TURN RAPID SHUTDOWN SWITCH TO THE "OFF" POSITION TO SHUT DOWN PV SYSTEM AND REDUCE SHOCK HAZARD IN THE ARRAY.

3/16 IN MIN. TEXT

Line Side Tap will be done in Main Service Disconnect located inside House

-Markings Shall Be reflective, Weather Resistant and suitable for the environment
-Markings Shall be red with white lettering with minimum ⅜" Capital Letters

Note:
-Subject PV Systems has been designed to meet the requirments of the NEC 2017, and those set forth by the Florida Solar Energy Center Certification, Including Maximum Number of Module Strings, Maximum number of modules per string, Maximum Output, Module Manufacturer and model number, inverter manufacturer and model number, as applicable.

NEC 705.10 A permanent plaque or directory, denoting the location of all electric power source disconnecting means on or in the premises, shall be installed at each service equipment location and at the location(s) of the system disconnect(s) for all electric power production sources capable of being interconnected. One sign required for each PV system.

Plans Satisfy NEC 250.94 & NEC250.53(A)(2)

WARNING
DUAL POWER SUPPLY
SOURCES: UTILITY GRID AND PV SOLAR ELECTRIC SYSTEM

WARNING
INVERTER OUTPUT CONNECTION: DO NOT RELOCATE THIS OVERCURRENT DEVICE

! WARNING !
POWER SOURCE OUTPUT CONNECTION: DO NOT RELOCATE THIS OVERCURRENT DEVICE

WARNING
DEDICATED SOLAR PANEL DO NOT CONNECT ANY OTHER LOADS

PHOTOVOLTAIC SYSTEM EQUIPPED WITH RAPID SHUTDOWN

WARNING: PHOTOVOLTAIC POWER SOURCE

DO NOT OPEN UNDER LOAD

⚠WARNING
THIS SERVICE METER IS ALSO SERVED BY A PHOTOVOLTAIC SYSTEM
705.12(B)(3)

⚠WARNING
POWER SOURCE OUTPUT CONNECTION DO NOT RELOCATE THIS OVERCURRENT DEVICE
705.12(B)(2)(3)(b)

⚠WARNING
PHOTOVOLTAIC POWER SOURCE
NEC 690.31 (G)(3)

Figure 690.56(C)(1)(a) Label for PV Systems that Shut down the array and the conductors leaving the array

EMERGENCY RESPONDER
THIS SOLAR PV SYSTEM IS EQUIPPED WITH RAPID SHUTDOWN
TURN RAPID SHUTDOWN SWITCH TO THE "OFF" POSITION TO SHUT DOWN THE ENTIRE PV SYSTEM

NEC690.56(C)(3) AND NFPA 1:11.12.2.1.1.1.1.1.12.2.1.4

⚠WARNING
ELECTRIC SHOCK HAZARD
DO NOT TOUCH TERMINALS
TERMINALS ON BOTH THE LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION 690.17(E)

NEC 690.35

Install will be done to Manufacturer Spec

Including the label below

In Case of Emergency Call
ACDC Solar LLC
at 855-577-7999

Customer Info:

Ruthie Welton
1500 Nw 20th Ave
Ocala, FL
34475

Godwin Engineering and Design, LLC
8378 Foxtail Loop
Pensacola, FL 32526
D. Chad Godwin, PE
Chad@godwineng.com

Donnie C Godwin
2022.02.11 11:45:02 '00'06-

AC/DC Solar LLC
605 W Lumsden Rd,
Brandon, FL 33511
855-577-7999

Date:	2/11/2022
Drawn by:	DC
Revised by:	
Rev #:	00
Rev Date:	
Page:	E-2

Inverter Type: SolarEdge SE6000H-US
PV Panel: (18) DNA-144-MF26-440W
Total Wattage: 7,920W

DNA™ 144

Solar for Innovators

Residential | Commercial

Designed & Engineered in Silicon Valley

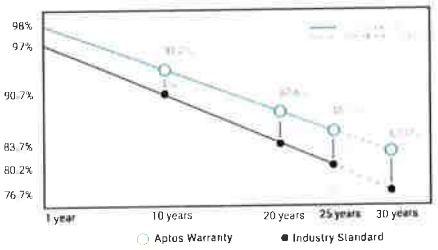
440W | 435W | 430W

Our DNA™ Split Cell Series impressively combines advanced solar technologies to maximize performance. Our patented Dual Nano Absorber (DNA™) Technology allows the panel to operate at high efficiencies in extreme temperatures. Contact our sales team today to learn more about our line of high-efficiency solar panels.

- Patented DNA™ technology boosts power performance & module efficiency
- Advanced split cell technology with 9 ultra-thin busbars allows for less resistance and more photon capture
- Ideal solution for applications affected by shading
- All-black design for pristine aesthetics
  No excessive silver bussing or ribbons
- Robust product design is resilient in extreme weather. Up to 5400 Pa snow load and 210 mph wind speeds

30 Year Warranty | 3X IEC Standards | RETC Top Performer

Linear Performance Warranty

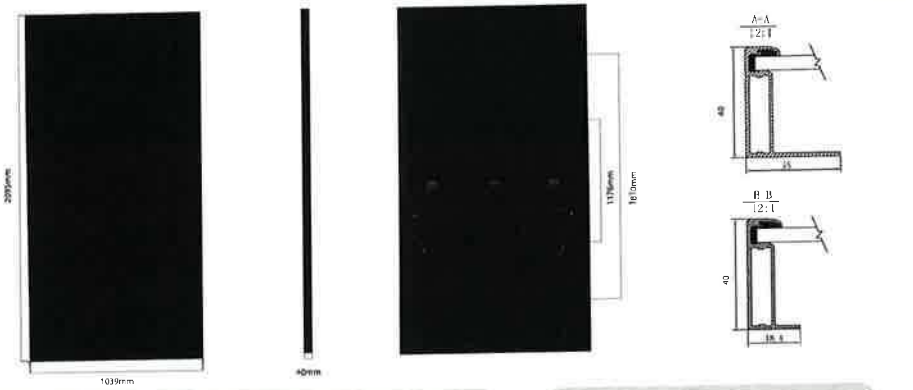


aptos solar technology

3140 De La Cruz Blvd., Ste 200
Santa Clara, CA 95054
www.aptossolar.com
info@aptossolar.com

DNA™ 144

Solar for Innovators



Electrical Specifications

	DNA-144-NF26-440W	DNA-144-NF26-435W	DNA-144-NF26-430W
STCrated Output P_{max} (W)	440W	435W	430W
Module Efficiency	20.21%	19.98%	19.76%
Open Circuit Voltage V_{oc} (V)	49.9	49.7	49.5
Short Circuit Current I_{sc} (A)	11.33	11.26	11.19
Rated Voltage V_{mp} (V)	41.0	40.8	40.6
Rated Voltage I_{mp} (A)	10.74	10.67	10.60

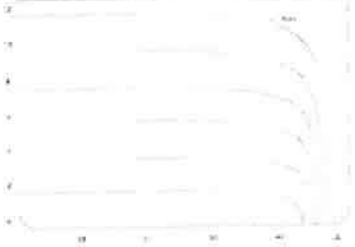
Mechanical Properties

Cell Type	Monocrystalline
Glass	3.2mm anti-reflection coating, high transmission, low iron, tempered glass
Frame	Anodized Aluminum Alloy
Junction Box	IP68
Dimensions	2095 X 1039 X 40mm
Output Cable	4mm2 (EU)12AWG,39.37in (1200mm)
Weight	53.13lbs (24.1kg)
Cable Length	1200mm
Encapsulant	POE

Temperature Coefficients

Temperature Coefficients P_{max}	-0.36%
Temperature Coefficients I_{sc}	+0.05%/°C
Temperature Coefficients V_{oc}	-0.29% °C
Normal Operating Cell Temperature (NOCT)	44°C

I-V Curve



Test Operating Conditions

Maximum Series Fuse	20A
Maximum System Voltage	1,000 VDC (UL/IEC)
Maximum Load Capacity (Per UL 1703)	5400 PA Snow Load / 210mph Wind Rating
Fire Performance Class	Class C/Type 1

Packaging Configuration

Number of Modules per Pallet	27
Number of Pallets per 40ft. Container	22
Pallet Dimensions	2110 X 1120 X 2365
Pallet Weight (kg)	660
Container Weight (kg)	14960

Certifications

UL61730-1, UL61730-2

Aptos Solar Technology reserves the right to make specification changes without notice

Single Phase Inverter with HD-Wave Technology

for North America

SE3000H-US / SE3800H-US / SE5000H-US / SE6000H-US / SE7600H-US / SE10000H-US / SE11400H-US

INVERTERS

Optimized installation with HD-Wave technology

- Specifically designed to work with power optimizers
- Record-breaking efficiency
- Fixed voltage inverter for longer strings
- Integrated arc fault protection and rapid shutdown for NEC 2014 and 2017, per article 690.11 and 690.12
- UL1741 SA certified, for CPUC Rule 21 grid compliance
- Extremely small
- Built-in module-level monitoring
- Outdoor and indoor installation
- Optional: Revenue grade data, ANSI C12.20 Class 0.5 (0.5% accuracy)

solaredge.com

solaredge

Single Phase Inverter with HD-Wave Technology for North America

SE3000H-US / SE3800H-US / SE5000H-US / SE6000H-US/ SE7600H-US / SE10000H-US / SE11400H-US

	SE3000H-US	SE3800H-US	SE5000H-US	SE6000H-US	SE7600H-US	SE10000H-US	SE11400H-US	
OUTPUT								
Rated AC Power Output	3000	3800 @ 240V 3300 @ 208V	5000	6000 @ 240V 5000 @ 208V	7600	10000 @ 240V	11400 @ 240V 10000 @ 208V	VA
Maximum AC Power Output	3000	3800 @ 240V 3300 @ 208V	5000	6000 @ 240V 5000 @ 208V	7600	10000	11400 @ 240V 10000 @ 208V	VA
AC Output Voltage Min-Nom-Max (211 - 240 - 264)	✓	✓	✓	✓	✓	✓	✓	Vac
AC Output Voltage Min-Nom-Max (183 - 208 - 229)		✓		✓			✓	Vac
AC Frequency (Nominal)	59.3 - 60 - 60.5							Hz
Maximum Continuous Output Current @240V	12.5	16	21	25	32	42	47.5	A
Maximum Continuous Output Current @208V	-	16	-	24	-	-	48.5	A
GFDI Threshold	1							A
Utility Monitoring, Islanding Protection, Country Configurable Thresholds	Yes							
INPUT								
Maximum DC Power @240V	4650	5900	7750	9300	11800	15500	17650	W
Maximum DC Power @208V	-	5100	-	7750	-	-	15500	W
Transformerless, Ungrounded	Yes							
Maximum Input Voltage	380							Vdc
Nominal DC Input Voltage	380					400		Vdc
Maximum Input Current @240V	8.5	10.5	13.5	16.5	20	27	30.5	Adc
Maximum Input Current @208V	-	9	-	13.5	-	-	27	Adc
Max. Input Short Circuit Current	45							Adc
Reverse Polarity Protection	Yes							
Ground-Fault Isolation Detection	600kΩ Sensitivity							
Maximum Inverter Efficiency	99	99.2						%
CEC Weighted Efficiency	99						98 @ 240V 97.5 @ 208V	%
Nighttime Power Consumption	< 2.5							W
ADDITIONAL FEATURES								
Supported Communication Interfaces	RS485, Ethernet, ZigBee (optional), Cellular (optional)							
Revenue Grade Data, ANSI C12.20	Optional[2]							
Rapid Shutdown - NEC 2014 and 2017 690.12	Automatic Rapid Shutdown upon AC Grid Disconnect							
STANDARD COMPLIANCE								
Safety	UL1741, UL1741 SA, UL1699B, CSA C22.2, Canadian AFCI according to T.I.L. M-07							
Grid Connection Standards	IEEE1547, Rule 21, Rule 14 (HI)							
Emissions	FCC Part 15 Class B							
INSTALLATION SPECIFICATIONS								
AC Output Conduit Size / AWG Range	3/4" minimum / 14-6 AWG					3/4" minimum / 14-4 AWG		
DC Input Conduit Size / # of Strings / AWG Range	3/4" minimum / 1-2 strings / 14-6 AWG					3/4" minimum / 1-3 strings / 14-6 AWG		
Dimensions with Safety Switch (HxWxD)	17.7 x 14.6 x 6.8 / 450 x 370 x 174					21.3 x 14.6 x 7.3 / 540 x 370 x 185		in / mm
Weight with Safety Switch	22 / 10	25.1 / 11.4		26.2 / 11.9		38.8 / 17.6		lb / kg
Noise	< 25					< 50		dBA
Cooling	Natural Convection							
Operating Temperature Range	-40 to +140 / -25 to +60 (-40°F / -40°C option)[4]							°F / °C
Protection Rating	NEMA 4X (Inverter with Safety Switch)							

RoHS

Power Optimizer

P370 / P401 / P404 / P485 / P500 / P505 / P601

POWER OPTIMIZER

PV power optimization at the module level

- Specifically designed to work with SolarEdge inverters
- Up to 25% more energy
- Next generation maintenance with module-level monitoring
- Mitigates all types of modules mismatch loss, from manufacturing tolerance to partial shading
- Superior efficiency (99.5%)
- Flexible system design for maximum space utilization
- Module-level voltage shutdown for installer and firefighter safety
- Fast installation with a single bolt

solaredge.com

solaredge

/ Power Optimizer

P370 / P401 / P404 / P485 / P500 / P505 / P601

OPTIMIZER MODEL (typical module compatibility)	P370 (60&70 Cell modules)	P401 (60&70 Cell modules)	P404 (for 60-cell and 72 cell, short strings)	P485 (for high voltage modules)	P500 (for 96-cell modules)	P505 (for higher current modules)	P601 (for 1 x high power PV module)	UNIT
INPUT								
Rated Input DC Power[1]	370	420	405	485	500	505	600	W
Absolute Maximum Input Voltage (Voc at lowest temperature)	60		80	125	80	83	65	Vdc
MPPT Operating Range	8 - 60		12.5 - 80	12.5 - 105	8 - 80	12.5-83	12.5 - 65	Vdc
Maximum Short Circuit Current (Isc)	11	12.5	11		10.1	14		Adc
Maximum Efficiency	99.5							%
Weighted Efficiency	98.8						98.6	%
Overvoltage Category	II							
OUTPUT DURING OPERATION (POWER OPTIMIZER CONNECTED TO OPERATING SOLAREDGE INVERTER)								
Maximum Output Current	15							Adc
Maximum Output Voltage	60		80		60	80		Vdc
OUTPUT DURING STANDBY (POWER OPTIMIZER DISCONNECTED FROM SOLAREDGE INVERTER OR SOLAREDGE INVERTER OFF)								
Safety Output Voltage per Power Optimizer	1 ± 0.1							Vdc
STANDARD COMPLIANCE								
EMC	FCC Part 15 Class B, IEC61000-6-2, IEC61000-6-3							
Safety	IEC62109-1 (class II safety), UL1741							
RoHS	Yes							
Fire Safety	VDE-AR-E 2100-712:2013-05							
INSTALLATION SPECIFICATIONS								
Maximum Allowed System Voltage	1000							Vdc
Dimensions (W x L x H)	129 x 153 x 27.5 / 5.1 x 6 x 1.1	129 x 153 x 29.5 / 5.1 x 6 x 1.16	129 x 153 x 42.5 / 5.1 x 6 x 1.7	129 x 159 x 49.5 / 5.1 x 6.2 x 1.9	129 x 153 x 33.5 / 5.1 x 6 x 1.3	129 x 162 x 59 / 5.1 x 6.4 x 2.3	129 x 153 x 52 / 5.1 x 6 x 2	mm / in
Weight (including cables)	655 / 1.5		725 / 1.7	845 / 1.9	750 / 1.7	1064 / 2.3		gr / lb
Input Connector	MC4[3]			Single or Dual MC4[3][5]	MC4[3]			
Input Wire Length	0.16 / 0.52, 0.9 / 2.95		0.16 / 0.52					m / ft
Output Connector	MC4							
Output Wire Length	1.2 / 3.9						1.4 / 4.5	m / ft
Operating Temperature Range[4]	-40 to +85 / -40 to +185							°C / °F
Protection Rating	IP68							
Relative Humidity	0 - 100							%

(1) Rated power of the module at STC will not exceed the optimizer "Rated Input DC Power". Modules with up to +5% power tolerance are allowed
(2) For other connector types please contact SolarEdge
(3) For dual version for parallel connection of two modules use the P485. In the case of an odd number of PV modules in one string, installing one P485 dual version power optimizer connected to one PV module is supported. When connecting a single module, seal the unused input connectors using the supplied pair of seals
(4) For ambient temperature above +70°C / +158°F power de-rating is applied. Refer to Power Optimizers Temperature De-Rating Technical Note for more details

PV System Design Using a Solaredge Inverter[6]		Single Phase HD-WAVE	Single Phase	Three Phase	Three Phase for 277/480V Grid	
Minimum String Length (Power Optimizers)	P370, P401, P500[7]	8		16	18	
	P404, P485, P505, P601	6		14 (13 with SE33K[7])	14	
Maximum String Length (Power Optimizers)		25		50	50	
Maximum Nominal Power per String[8]		5700	5250	11250[9]	12750[10]	W
Parallel Strings of Different Lengths or Orientations		Yes				

(5) It is not allowed to mix P404/P485/P505/P601 with P370/P401/P500 in one string
(6) The P370/P401/P500 cannot be used with the SE33K three phase inverter (available in some countries, refer to the three phase inverter SE33K-SE100K datasheet)
(7) Exactly 10 when using SE33K-RW0108NN4
(8) If the inverters rated AC power x maximum nominal power per string, then the maximum power per string will be able to reach up to the inverters maximum input DC power
Refer to: https://www.solaredge.com/sites/default/files/se-power-optimizer-single-string-design-application-note.pdf
(9) For the 230/400V grid: it is allowed to install up to 13,500W per string when the maximum power difference between each string is 2,000W
(10) For the 277/480V grid: it is allowed to install up to 15,000W per string when the maximum power difference between each string is 2,000W

CE

Inverter Type: SolarEdge SE6000H-US
PV Panel: (18) DNA-144-MF26-440W
Racking: Iron Ridge XR-10
Total Wattage: 7,920W
Roof Type: Composition Shingle
Wind Load: 7 to 20 Deg
Fastener Type: Use 5/16" Dia 4" Lags

Sheet Index

S-1 Cover Sheet / Site Plan
S-2 Detail
E-1 One - Line
E-2 Electrical Code
S-1A Mounting Plan

General Notes:

-SolarEdge SE6000H-US Inverter located near utility meter
-SolarEdge P505 Optimizers are located on roof behind each module.
-First responder access maintained and from adjacent roof.
-Wire run from array to connection is 60 feet.

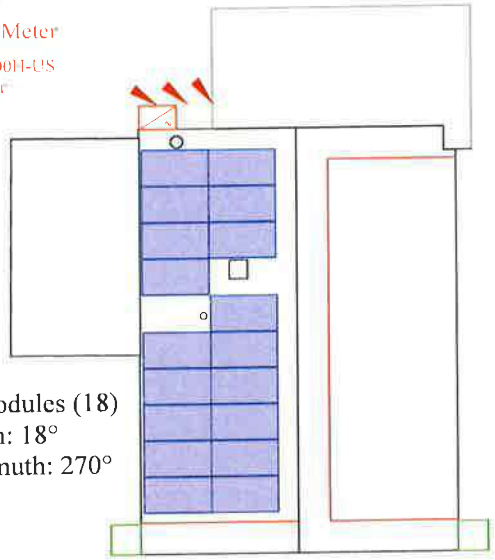
AC/DC Solar LLC

605 W Lumsden Rd,
Brandon, FL 33511
855-577-7999

-COGEN Disconnect Located adjacent to Utility meter

Utility Meter

-SE6000H-US Inverter



R-1
Modules (18)
Pitch: 18°
Azimuth: 270°

3'-5"
6'-10"

FRONT OF HOUSE

Layout Subject to Change Based on Site Conditions

System meets the requirements of NFPA 70th Edition, Chapter 11.12

Install will be done to Manufacturer Spec

Legend

Ground Access
Utility Meter
PV Disconnect

3' 1'-6" First responder access
Chimney
Satellite
Vent Pipe
SolarEdge Inverter

Meets All Editions of Florida Fire Prevention Code 2020 7th Edition
Meets all requirements of NFPA-1 7th Edition and NFPA-101

3' Access Pathway

Represents all Fire Clearance including Alternative methods

1st Responder Access minimum of 36" unobstructed as per Section R324 of the 2020 IRC

Meets the requirements of the following- (2020 FL Residential Code & FBC, 7th Edition (2020 International Residential Code) - 2nd Printing modified by the FL Building Standards, 2020 Florida Building Energy Conservation Code 7th edition, City of Ocala Code, 2017 National Electric Code.)

Customer Info:

Ruthie Welton
1500 Nw 20th Ave
Ocala, FL
34475

Godwin Engineering and Design, LLC
8378 Foxtail Loop
Pensacola, FL 32526
D. Chad Godwin, PE
Chad@godwineng.com

Donnie C Godwin
2022.02.11 11:44:29 '00'06-

Date:	2/11/2022
Drawn by:	DC
Revised by:	
Rev #:	00
Rev Date:	
Page:	S-1

N

Compass for Aerial

GODWIN ENGINEERING AND DESIGN, LLC

8378 Foxtail Loop, Pensacola, FL 32526 | (850)712-4219 | chad@godwineng.com

February 11, 2022

To: City of Ocala Growth Management Department
110 SE Watula Ave.
Ocala, FL 34471

Re: Welton – Residential PV Roof Mount Installation
1500 Nw 20th Ave.
Ocala, FL 34475

Plan Reviewer,

This letter is regarding the installation of a new roof mounted Solar PV System on the existing residential structure at the address above. I have reviewed the attachment plan and have determined that the roof mounted PV system is in compliance with the applicable sections of the following Codes as amended and adopted by the jurisdiction:

2020 Florida Building Code 7th Edition, FBC
ASCE 7 Min. Design Loads for Buildings & Other Structures

Per 2020 FBC, the Roof Mounted PV system will be subject to the following design criteria:
Design Wind Speed(V_{ult}) - 130mph 3sec gust, Exposure Category – B

The PV System consist of the modules, railing, and connection hardware. The system will add a dead load of approximately 3 psf to the roof.

The existing roof covering is Asphalt Shingle with min. ½" plywood decking and 2" x 4" roof trusses 24" O.C. The roofing, decking, and roof trusses are in good condition. The existing structure will be adequate for supporting the additional PV dead load and wind loads.

The securement method of the PV system is to be flush mounted to the asphalt shingle roof with the Iron ridge railing and the flashings/attachments. The attachments can be attached up to 72" apart in roof zones 1, & 2e, and 48" apart in roof zones 2n, 2r, 3e, & 3r. The mounts should be staggered, where possible, to allow distribution of the design loads evenly to the structure. The mounts shall be installed with a min. 5/16" x 4" lag screw with minimum 2-5/16" thread length.

Please see attached documents and contact me should you have any questions.

Sincerely,

D. Chad Godwin, PE 81360
Exp. 02/28/2023

Donnie C Godwin
2022.02.11 11:43:35 '00'06-

D. CHAD GODWIN LICENSE No. 81360 STATE OF FLORIDA PROFESSIONAL ENGINEER

THIS ITEM HAS BEEN ELECTRONICALLY SIGNED AND SEALED BY DONNIE CHAD GODWIN USING A DIGITAL SIGNATURE AND DATE. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES

Tech Brief

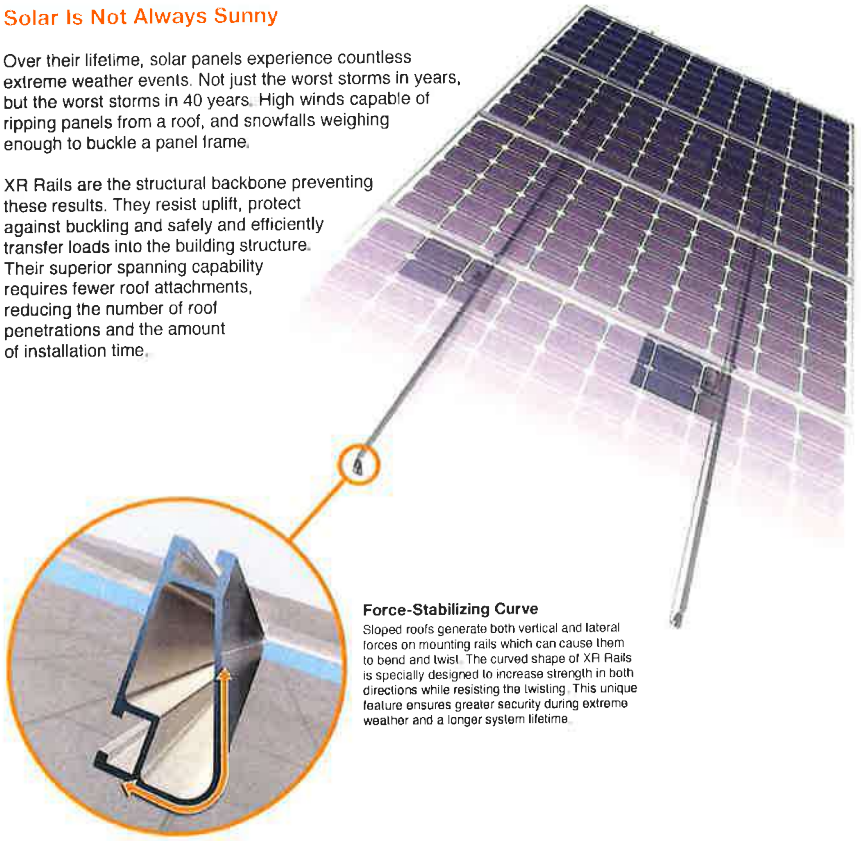
IRONRIDGE

XR Rail Family

Solar Is Not Always Sunny

Over their lifetime, solar panels experience countless extreme weather events. Not just the worst storms in years, but the worst storms in 40 years. High winds capable of ripping panels from a roof, and snowfalls weighing enough to buckle a panel frame.

XR Rails are the structural backbone preventing these results. They resist uplift, protect against buckling and safely and efficiently transfer loads into the building structure. Their superior spanning capability requires fewer roof attachments, reducing the number of roof penetrations and the amount of installation time.



Force-Stabilizing Curve

Sloped roofs generate both vertical and lateral forces on mounting rails which can cause them to bend and twist. The curved shape of XR Rails is specially designed to increase strength in both directions while resisting the twisting. This unique feature ensures greater security during extreme weather and a longer system lifetime.

Compatible with Flat & Pitched Roofs

XR Rails are compatible with FlashFoot and other pitched roof attachments.

IronRidge offers a range of tilt leg options for flat roof mounting applications.

Corrosion-Resistant Materials

All XR Rails are made of 6000-series aluminum alloy, then protected with an anodized finish. Anodizing prevents surface and structural corrosion, while also providing a more attractive appearance.

Tech Brief

XR Rail Family

The XR Rail Family offers the strength of a curved rail in three targeted sizes. Each size supports specific design loads, while minimizing material costs. Depending on your location, there is an XR Rail to match.

XR10

XR10 is a sleek, low-profile mounting rail, designed for regions with light or no snow. It achieves spans up to 8 feet, while remaining light and economical.

- 6' spanning capability
- Moderate load capability
- Clear & black anodized finish
- Internal splices available

XR100

XR100 is the ultimate residential mounting rail. It supports a range of wind and snow conditions, while also maximizing spans up to 10 feet.

- 10' spanning capability
- Heavy load capability
- Clear & black anodized finish
- Internal splices available

XR1000

XR1000 is a heavyweight among solar mounting rails. It's built to handle extreme climates and spans up to 12 feet for commercial applications.

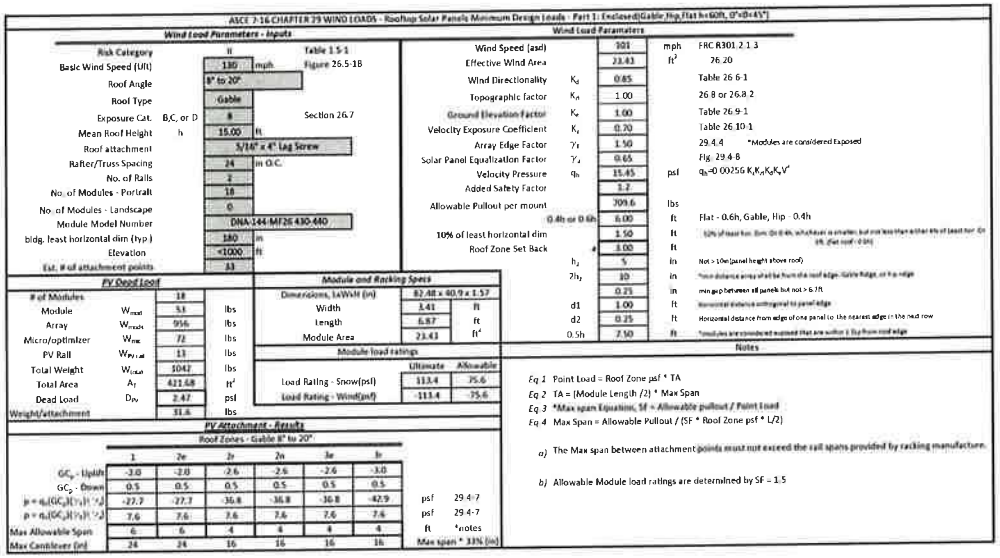
- 12' spanning capability
- Extreme load capability
- Clear anodized finish
- Internal splices available

Rail Selection

The table below was prepared in compliance with applicable engineering codes and standards.* Values are based on the following criteria: ASCE 7-16, Gable Roof Flush Mount, Roof Zones 1 & 2e, Exposure B, Roof Slope of 8 to 20 degrees and Mean Building Height of 30 ft. Visit IronRidge.com for detailed certification letters.

Load		Rail Span					
Snow (PSF)	Wind (MPH)	4'	5' 4"	6'	8'	10'	12'
None	90	XR10		XR100		XR1000	
	120						
	140						
	160						
20	90						
	120						
	140						
	160						
30	90						
	160						
40	90						
	160						
80	160						
120	160						

Table is meant to be a simplified span chart for overlying general rail capabilities. The approved certification letters are the final source of guidance.



ASCE 7-16 CHAPTER 29 WIND LOADS - Rooftop Solar Panels Minimum Design Loads - Part 1: Enclosed|Gable,Hip,Flat h<60ft, 0°<θ<45°|

Wind Load Parameters - Inputs

Risk Category		II	Table 1.5-1
Basic Wind Speed (Ult)		130 mph	Figure 26.5-1B
Roof Angle		8° to 20°	
Roof Type		Gable	
Exposure Cat.	B,C, or D	B	Section 26.7
Mean Roof Height	h	15.00 ft	
Roof attachment		5/16" x 4" Lag Screw	
Rafter/Truss Spacing		24 in O.C.	
No. of Rails		2	
No. of Modules - Portrait		18	
No. of Modules - Landscape		0	
Module Model Number		DNA-144-MF26 430-440	
bldg. least horizontal dim (typ.)		180 in	
Elevation		<1000 ft	
Est. # of attachment points		33	

Wind Load Parameters

Wind Speed (asd)		101	mph	FRC R301.2.1.3
Effective Wind Area		23.43	ft²	26.20
Wind Directionality	K_d	0.85		Table 26.6-1
Topographic factor	K_{zt}	1.00		26.8 or 26.8.2
Ground Elevation Factor	K_e	1.00		Table 26.9-1
Velocity Exposure Coefficient	K_z	0.70		Table 26.10-1
Array Edge Factor	γ_E	1.50		29.4.4 *Modules are considered Exposed
Solar Panel Equalization Factor	γ_A	0.65		Fig. 29.4-8
Velocity Pressure	q_h	15.45	psf	q_h=0.00256 $K_z K_{zt} K_d V^2$
Added Safety Factor		1.2		
Allowable Pullout per mount		709.6	lbs	
0.4h or 0.6h		6.00	ft	Flat - 0.6h, Gable, Hip - 0.4h
10% of least horizontal dim		1.50	ft	10% of least hor. Dim. Or 0.4h, whichever is smaller, but not less than either 4% of least hor. Or 3ft. (flat roof - 0.6h)
Roof Zone Set Back	a	3.00	ft	
	h_z	5	in	Not > 10in (panel height above roof)
	$2h_z$	10	in	*min distance array shall be from the roof edge (Gable Ridge, or Hip edge
		0.25	in	min gap between all panels but not > 0.2ft
	d1	1.00	ft	Horizontal distance orthogonal to panel edge
	d2	0.25	ft	Horizontal distance from edge of one panel to the nearest edge in the next row
	0.5h	7.50	ft	*modules are considered exposed that are within 1 0.5h from roof edge

PV Dead Load

# of Modules		18	
Module	W_{mod}	53	lbs
Array	W_{mods}	956	lbs
Micro/optimizer	W_{mi}	72	lbs
PV Rail	W_{PVrail}	13	lbs
Total Weight	W_{total}	1042	lbs
Total Area	A_T	421.68	ft²
Dead Load	D_{PV}	2.47	psf
Weight/attachment		31.6	lbs

Module and Racking Specs

Dimensions, LxWxH (in)	82.48 x 40.9 x 1.57	
Width	3.41	ft
Length	6.87	ft
Module Area	23.43	ft²

Module load ratings

	Ultimate	Allowable
Load Rating - Snow(psf)	113.4	75.6
Load Rating - Wind(psf)	113.4	75.6

PV Attachment - Results

Roof Zones - Gable 8° to 20°

	1	2e	2r	2n	3e	3r			
GC_p - Uplift	-1.0	-2.0	-2.6	-2.6	-2.6	-3.0			
GC_p - Down	0.5	0.5	0.5	0.5	0.5	0.5			
$p = q_h[(GC_p)(\gamma_E)(\gamma_A)] + p_d$	-27.7	-27.7	-36.8	-36.8	-36.8	-42.9	psf	29.4-7	
$p = q_h[(GC_p)(\gamma_E)(\gamma_A)] - p_d$	7.6	7.6	7.6	7.6	7.6	7.6	psf	29.4-7	
Max Allowable Span	6	6	4	4	4	4	ft	*notes	
Max Cantilever (in)	24	24	16	16	16	16	Max span * 33% (in)		

Notes

Eq 1 Point Load = Roof Zone psf * TA

Eq 2 TA = (Module Length /2) * Max Span

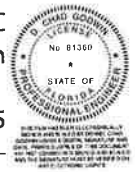
Eq 3 *Max span Equation, Sf = Allowable pullout / Point Load

Eq 4 Max Span = Allowable Pullout / (SF * Roof Zone psf * L/2)

a) The Max span between attachment points must not exceed the rail spans provided by racking manufacturer.

b) Allowable Module load ratings are determined by SF = 1.5

Donnie C Godwin 2022.02.11 11:43:55 '00'06-



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