

ION DEVELOPER INSTALLATION AGREEMENT

LICENSED ELECTRICAL CONTRACTOR

888-781-7074 | IONSOLAR.COM | support@ionsolar.com

We are excited that you (occasionally also referred to as “Owner”) have chosen ION Solar (occasionally also referred to as “we,” “us,” or “Contractor”) for your energy needs and we look forward to creating a greener planet with your help. Solar is not only an environmentally sustainable decision, but it is also optimized to meet your financial, environmental, and aesthetic goals. In addition to this agreement, you have entered into a separate agreement (or series of agreements) with one or more un-related third-party financing companies. Those agreements are between you and those third parties and govern your purchase of the solar system. By contrast, this agreement is between you and ION Solar and governs the installation of your solar system. Please read and sign below acknowledging you understand the terms.

<p><u>CONTRACTOR - ION DEVELOPER, LLC</u> All Installations completed by a Licensed Electrical Contractor Utah 10304593-5501, Colorado EC0100960, Oregon C1524, N. Carolina U.33681 California 1027027, Nevada 83098, New Mexico 391320, Texas 30990, Virginia 2705169123</p> <p><u>SYSTEM INFORMATION:</u></p> <ul style="list-style-type: none"> • System Size (in DC Watts) - 4,800.00 W • Total System Cost - \$ 21,504.00 • Estimated Rebate/Incentive Amount Contractor Shall Receive - \$0.0 • Net System Cost (Payment Due Upon Financial Agreement) - \$21,504.00 	<p><u>OWNER</u> Lakshma Vemmenthala</p> <p>1620 Mariah Ln Erie, Colorado 80516 (720) 416-1314 vlaxmareddy@gmail.com</p>
<p><u>COMPONENTS OF SOLAR SYSTEM INSTALLATION:</u></p> <ul style="list-style-type: none"> • Solar Panels, Inverters, and Monitoring Device • Other standard materials include installation of racking and mounting components, wiring, conduit, overcurrent protections, roofing sealant and/or flashing, all as required for standard solar installation. • 10-year Contractor workmanship limited warranty (See Exhibit A) <p><u>INCENTIVES AND ADD-ONS:</u></p> <ul style="list-style-type: none"> - Miscellaneous Promotion (Sent at PTO) \$224.00 - LED Light Bulbs (Cash out) \$50.00 - Promotion (Sent at PTO) \$500.00 - Thermostat (Cash out) \$150.00 - Critter Guard 	

INSTALLATION By signing this Agreement you acknowledge you have purchased a solar system (or have financed a solar system with a third-party) and now authorize ION Developer, LLC to undertake installation of the solar system and components identified above in the section entitled “Components of Solar System Installation” (collectively “Solar System”). This Agreement pertains to installation of the Solar System which, generally speaking, is divided into three separate phases described below:

Phase 1: During Phase 1, Contractor will conduct a physical site inspection to ensure that the Solar System can be installed according to the Design and Installation Specifications. Additional details about the Design and Installation Specifications and the Site Inspection are found elsewhere in this Agreement in the paragraphs entitled “Design and Installation Specifications” and “Site inspection/Owner Remedial Repairs.” By way of a good faith estimate (but not as a guarantee), We anticipate that Phase 1 will be completed within thirty (30) days from the Effective Date of this Agreement.

Phase 2: Phase 2 of the installation process is where the physical installation of the Solar System is begun and completed. As a general rule (but not as a guarantee), We anticipate that Phase 2 will take 45 to 60 days. Obviously, such things as unanticipated physical restraints, pandemics, needed remedial repairs (see the section entitled “Site Inspection/Owner Remedial Repairs), and other unanticipated contingencies could affect this desired timeline.

Phase 3: Phase 3 of the installation process consists of securing all necessary inspections, authorizations, and permits in order to “flip the switch” and make the Solar System operational. We generally plan on an additional 45 to 60 days once Phase 2 installation is completed. By way of example, before “flipping the switch” it will be

necessary to obtain express permission/authority from your local utility company to operate the Solar System (See section entitled "No Owner Access or Use of System Until Authorized"). Additionally, your financing company (if any) may require additional documentation/signatures from you before We are allowed to "flip the switch." We will help you in the process of obtaining all such necessary inspections and permission(s), but ultimately it is and remains Owner's responsibility to obtain all such permissions.

THIRD-PARTY CONTRACTORS/SERVICE PROVIDERS Contractor (but not Owner) shall have the right to use licensed third-parties to provide some or all of the installation services (or any remedial repairs) contemplated by this Agreement. Contractor shall be responsible for any and all such third-party service providers. Unless expressly authorized by this Agreement or unless expressly authorized in writing by Contractor, Owner shall not, at any time, engage any of Owner's own contractors or third-parties to provide any part of the Phase 1, Phase 2 or Phase 3 installation services (which may be collectively referred to throughout this Agreement simply as "installation" or "installation services") contemplated by this Agreement or to undertake any other work or repairs with regard to any aspect of the Solar System. Any breach of this condition by Owner shall automatically render the Limited Warranty (Exhibit "A") as null and void. Stated differently so as to avoid any confusion, Owner is simply not authorized to undertake any portion of the installation services or to make any repairs whatsoever to any aspect of the Solar System unless specifically authorized by the express written terms of this Agreement or unless specifically authorized in writing by Contractor. Any unauthorized work or repair by Owner (or anyone engaged by Owner) will automatically void the Limited Warranty and shall relieve Contractor from any further responsibility or liabilities arising thereunder. Additionally, if Owner engages any third-party contractor to provide non-installation services that are incidental to the installation services to be performed by Contractor (i.e. tree trimming, roof repair, etc.), Owner (not Contractor) is and shall remain responsible for the costs of all such services and shall hold Contractor harmless from any damages, injuries or harm resulting from such services.

OWNER COOPERATION/WORK AREA ACCESS Owner hereby agrees to cooperate, and not interfere in any way, with Contractor's efforts in accessing Owner's property and/or in undertaking and completing all of the installation services contemplated by this Agreement. To that end, Owner hereby unconditionally grants to Contractor all necessary authority and permissions to, upon reasonable notice (with 24 hours advanced notice being deemed reasonable) enter Owner's property (whether Owner is home or not) to undertake and complete all services and work inherent in all phases of the installation process. Without providing an exhaustive list, Owner agrees to ensure that during the entire installation process, access to the work area is open and accessible (i.e. gates unlocked and/or open as needed, access to electricity and water, etc.) and free from any obstructions or obstacles (i.e. clear driveways and walkways, animals properly secured, etc.). Additionally, until such point as the Solar System is fully operational, Owner shall also make available reasonably safe and secure areas in which Contractor may temporarily store such things as Contractor's tools and the Solar System parts and components. Owner also agrees to cooperate and work with Contractor to: (a) schedule site surveys and other pre-install inspections as soon as possible, (b) complete and provide to Contractor any and all required jurisdictional and utility documents (such as NEM agreements and interconnection agreements that must be signed by the Owner), (c) cooperate with Contractor in applying for and securing the necessary permits, (d) cooperate in the scheduling of the Installation and its related inspections, (e) timely execute and return any documents that may be required by Owner's third-party lender(s) to finalize the loan documents and/or to "fund" Owner's loan(s) such that Contractor gets paid the Total System Cost, and (f) otherwise cooperate with Contractor as Contractor shall reasonably request. In the event Owner unreasonably restricts and/or interferes with Contractor's access to the property and/or Contractor's installation services contemplated under this Agreement or otherwise fails and/or refuses to cooperate with Contractor in the fulfillment of Contractor's services and functions as contemplated by this Agreement, or fails and/or refuses to take action as requested and/or required by Owner's third-party loan provider(s) to fund Owner's loan (if any), or otherwise violates any of the foregoing terms and conditions, then Owner shall be considered to be in breach of this Agreement in which case ION may immediately discontinue providing any additional services otherwise contemplated by this Agreement (without recourse from Owner) and Owner is and shall remain personally responsible and liable to Contractor for immediate payment to Contractor of the Total System Cost as well as for immediate payment to Contractor of all other direct and indirect damages incurred or suffered by Contractor (or any third-party(ies) engaged by Contractor) as a result of Owner's breach. Owner hereby acknowledges that until Contractor is paid the Total System Cost in full (either directly from Owner or by one or more third-party loan providers) Owner is and shall remain personally responsible and liable to Contractor for the Total System Cost, as well as for all other, costs, fees, expenses and direct and indirect damages as more particularly set forth above.

DESIGN AND INSTALLATION SPECIFICATIONS For purposes of this Agreement, all proposals, drawings, design, installation and spec sheets presented to or otherwise made available to Owner at any time with regard to the Solar System are collectively referred to as the "Design and Installation Documents".

- Owner acknowledges that copies of the Design and Installation Documents have been and/or are made available to Owner either directly, via the ION Sunrise App, or by contacting ION at support@ionsolar.com.

- Owner acknowledges that after entering into this Agreement, certain minor changes and/or modifications to the Solar System may be necessitated or required due to a variety of factors such as market availability of parts and components and/or the physical condition of the installation site (i.e. size, dimensions, physical obstacles, condition, shading, jurisdictional code), etc. being discovered during the installation process or as a result of a pre-installation physical site inspection. Such minor changes and/or variations could include (but not be limited to) such things as an adjustment to the type of panels and/or inverter type, and/or slight modification(s) to the physical placement of the panels. As long as such changes and/or modifications are minor (as set forth above) and as long as such changes and/or modifications do not in any way change the "System Size" or "Total System Price" of the Solar System, Owner hereby authorizes Contractor to make any and all such minor changes and/or modifications as determined by ION.
- Owner acknowledges that except for the "System Size" and "Total System Price" all other information presented to Owner and/or set forth in any of the Design and Installation Documents relating to or specifically labeled as "Estimated Yearly Production," "Impact of Energy Efficiency", "Estimated Consumption and Production", "Estimated Offset", and "Estimated Savings" is subject to change and constitutes good faith estimates only which are subject to a variety of factors completely beyond the control or specific knowledge of ION and which, therefore, cannot and shall not be construed as constituting any form of guarantee or contractual term, condition, or commitment by ION to Owner. Owner, not ION, is ultimately responsible for Owner's utilization (or lack thereof) of the Solar System and as such for any production, efficiency, consumption, production, or savings realized by Owner. NO EMPLOYEE OR REPRESENTATIVE OF US IS AUTHORIZED TO MAKE ANY PROMISE TO YOU THAT IS NOT CONTAINED IN THIS AGREEMENT (WHICH INCLUDES THE DESIGN AND INSTALLATION DOCUMENTS) CONCERNING COST SAVINGS, TAX BENEFITS, OR GOVERNMENT OR UTILITY INCENTIVES. YOU SHOULD NOT RELY UPON ANY PROMISE OR ESTIMATE THAT IS NOT INCLUDED IN THIS AGREEMENT.
- If at any time the "System Size" or "Total System Price" changes in any way, ION Solar will affirmatively notify Owner who, at that time, shall have the option to enter into a new Agreement setting forth the new System Size and/or Total System Price.
- Owner acknowledges that any work not specifically set forth in the Design and Installation Documents (such as additional work required to begin installation or that is discovered during installation (such as the need to make roof repairs, customer-requested improvements, jurisdictional requests not related to the actual solar system components, trenching, movement of structures, complications caused by shading, electrical upgrades, etc.) are not included in the installation and are additional amounts for which Owner agrees to be financially responsible. Contractor may, but is not required to, make any such additional work the subject of a written change order. To the extent a change order is utilized, any and all such change order(s) shall immediately and automatically become part of this Agreement as an authorized amendment/addendum being subject to all of the other terms and conditions of this Agreement.

PERMITTING/HOA APPROVAL Contractor shall be responsible to file and obtain all necessary permits and applications with (a) state and local governmental authorities and (b) the applicable utility company(ies). Owner shall be responsible for obtaining any and all necessary Home Owner's Association or similar approvals. Contractor and Owner shall cooperate with one another in filing and obtaining the necessary permits and approvals as set forth herein. In the event any Owner's Association approvals are required or requested with regard to any aspect of the Solar System, Owner hereby grants to Contractor full rights and authority to file, process, and respond to any and all such Home Owner's Association applications and/or requests as necessary for approval of and/or completion of the installation of the Solar System.

ESTIMATED TIMELINE/DELAYS Owner acknowledges that Contractor shall employ reasonable efforts to meet the expected time frames of the overall installation process but also acknowledges that such time frames are provided as estimates only and not as a contractual commitment. Owner acknowledges and accepts that some delays are beyond Contractor's control such as delays caused by acts of God, pandemics, civil unrest, labor disputes, adverse weather conditions, acts of a government or other public authority, acts of the Owner or Owner's agents, and delay in the delivery of materials by suppliers. Owner acknowledges and agrees that under no circumstances shall Contractor be liable for any damages whatsoever caused or arising from any delays in the installation process unless such delays are caused by Contractor's own gross negligence.

SITE INSPECTION/OWNER REMEDIAL REPAIRS As part of the installation services, Contractor will physically inspect the intended installation site(s) as well as Owner's existing electrical service for the intended purpose of discovering any issues which may impede and/or prevent Installation of the Solar System. Such issues may include, but not be limited to pre-existing structural and/or electrical issues and/or integrity issues, existing water damage and/or other roof penetrations, etc. Owner (not Contractor) shall, at Owner's own cost and expense, be responsible for making all

necessary repairs or taking such remedial action as is necessary to allow Contractor to proceed with its installation services as contemplated by this Agreement. Such repairs or remedial action may include such things as upgrading and/or moving/relocating electrical panels and/or service meters, repairing structural damage and/or restoring structural integrity, removing and/or repairing any existing roof penetration issues (such as a pre-existing solar system or solar water system), extensive trenching, repairing/replacing roofing materials, and any other such work which impedes and/or prevents installation of the Solar System as contemplated by this Agreement.

NO OWNER ACCESS OR USE OF SYSTEM UNTIL AUTHORIZED At no point during the installation process shall owner access or use any portion of the Solar System until each and all of the following conditions have been met: (a) all components of the Solar System have been fully installed by Contractor; (b) all necessary inspections have occurred and passed and all necessary permits have been issued; (c) the utility company has given express written permission to operate the Solar System; (d) all third-party loan providers (if any) have deemed any underlying loan and/or financing documents finalized and fully funded; and (e) Contractor has expressly authorized Owner to access and use the Solar System (i.e. "flip the switch"). If Owner accesses and/or uses any portion of the Solar System before all of the foregoing conditions are met, Owner shall be responsible for any and all damages and/or losses and/or claims incurred by Contractor (and any third-party(ies) engaged by Contractor) as a result of such early use.

CONTRACTOR LICENSURE, INSURANCE, AND BONDS During installation, Contractor shall maintain in effect insurance and bonds including Contractor's License Bond, General Liability Insurance, and workers' compensation insurance in amounts and with coverage as determined by Contractor. Copies of any or all such policies are available to Owner upon request by requesting such at licensing@ionsolar.com. Owner shall have no authority to control or dictate the levels of coverage maintained by Contractor.

OWNERS HOMEOWNER INSURANCE Prior to the commencement of any installation work by Contractor, Owner shall either (a) obtain and maintain a standard homeowners policy which extends coverage to the Solar System and all of its components, or (b) add the Solar System and all of its components to Owner's existing homeowners policy. In either instance, such coverage shall be obtained and/or maintained with a sound and reputable insurance company with coverage extending to the Solar System and all of its components during the entire installation process as well as once installation is complete. Such coverage shall, at a minimum, insure the Solar System and all of its components from all loss or damage occasioned by any act of God, fires, floods, natural disasters, riots, terrorist acts, hail, snow, adverse weather, animal damage, damage from sporting devices such as golf balls, and any and all other acts of a similar nature. Contractor, and not Owner, shall be responsible for any loss or damage caused by Contractor's own gross negligence.

OWNER ACKNOWLEDGMENT OF ESTIMATE NATURE OF SYSTEM INFORMATION Owner acknowledges and agrees that the System Information set forth in this Agreement (including but not limited to the production estimates, savings/offset estimates, etc. set forth in the box above.) are good faith estimates only that have been based on data, information and input provided by Owner and for which Owner is solely and exclusively responsible. Owner further acknowledges and agrees that estimating solar production and usage is not an exact science because many factors such as weather, equipment placement, customer preferences, utility company rates and/or policies and procedures, third-party solar technology and equipment, power outages, equipment failure, tree and foliage growth, changes in Owner's own electrical usage, etc. all impact such figures, estimates, production, and offsets. Accordingly, Owner hereby acknowledges that all such conversations, figures and estimates, including but not limited to those set forth in the System Information sections of this Agreement (regardless of whether presented verbally, in a pamphlet or other advertising materials, as part of a sales presentation or otherwise) are all provided as estimates only and not as any sort of guarantee or contractual commitment of any type. Owner acknowledges and understands that Contractor is not and cannot make any guarantees whatsoever with regard to the actual production or usage of the Solar System or any offsets to be realized as a result thereof and that under no circumstances will Owner request (or Contractor be obligated to pay for) any expected utility bill offset (or any other offset of any kind) not actually realized or earned. Additionally, Owner acknowledges that solar system equipment generally experiences an average annual degradation in production of approximately .05% per year (sometimes more and sometimes less depending on how fast the equipment and components age, etc.) for which Contractor is not responsible or liable. Against the backdrop of all of the foregoing, Owner hereby knowingly and unconditionally waives and releases any and all claims Owner may have against Contractor (or any of Contractor's agents) that in any way arise from or relate to any estimates provided to Owner and/or to the System Information and specifications set forth in this Agreement, including but not limited to system size, estimated production, estimated savings, estimates offsets, projected use, or annual degradation, etc.

NON-AFFILIATION WITH UTILITY/GOVERNMENT. WE ARE NOT AFFILIATED WITH ANY UTILITY COMPANY OR GOVERNMENT AGENCY. NO EMPLOYEE OR OTHER REPRESENTATIVE OF US IS EVER AUTHORIZED TO CLAIM OR INSINUATE ANY AFFILIATION WITH ANY UTILITY COMPANY OR GOVERNMENT AGENCY.

POWER OUTAGES/ONGOING UTILITY PAYMENTS Owner understands and accepts that the Solar System will be installed in such a way that it is tied to (rather than independent of) a public utility grid that, unless specifically listed in the section entitled “Components of Solar System Installation,” does not include a power back up source. Among other things, this means that whenever the public utility grid is out of service, the Solar System will automatically shut down until the public utility grid is once again active and in service. Being tied to the grid (even if there is a power back up source) also means that Owner will continue to receive utility statements and bills for which Owner (and not Contractor) is responsible and liable. Owner shall not at any time hold Contractor responsible for any power outages and/or utility bills.

NO TAX CREDITS GUARANTEED During the sales process, it is likely that Owner was informed of general tax credits and incentives that, generally speaking, may be available to users of solar energy. However, by signing this Agreement, Owner expressly confirms and agrees that at no point has anyone (including but not limited to Contractor) ever analyzed Owner’s specific tax situation or ever promised or guaranteed Owner any specific tax credit(s), rebate(s), incentive(s) or the like. Owner acknowledges, agrees, and accepts that no one, except Owner and Owner’s tax advisors (which Contractor is not), is/are in a position to know what specific tax credits/incentives/rebates may or may not be available to Owner based on a variety of factors entirely unknown by Contractor such as Owner’s finances, tax filing status, etc. TAX AND OTHER FEDERAL, STATE, AND LOCAL INCENTIVES VARY AS TO REFUNDABILITY AND ARE SUBJECT TO CHANGE OR TERMINATION BY LEGISLATIVE OR REGULATORY ACTION, WHICH MAY IMPACT SAVINGS ESTIMATES. CONSULT A TAX PROFESSIONAL FOR MORE INFORMATION. Owner hereby agrees that Contractor is absolutely not responsible for anything related to any tax credits, rebates or incentives whatsoever and to that end hereby forever releases and waives any and all claims which Owner may have against Contractor (or any of Contractor’s agents or assigns) which arise from or relate to the availability or non-availability and/or the amount(s) of any specific tax credit(s), tax incentive(s), tax rebate(s) as well as any and all other claims arising from or pertaining to Owner’s taxes.

INCENTIVES, ADD-ONS AND REBATES Owner acknowledges that any and all incentives and/or component add-ons offered to Owner are set forth in this Agreement and that no other incentives or component add-ons whatsoever (including but not limited to such things as cash, critter guards, batteries, generators, main service panel upgrades, miscellaneous cash incentives or gifts, promotions, etc) have been promised to Owner by Contractor or will be provided to Owner. The incentives and add-ons identified and listed in this Agreement are the only incentives ever promised to Owner, and there are no others. Additionally, Owner hereby acknowledges and agrees that any and all rebates issued for the installation of the Solar System shall belong exclusively to Contractor, unless otherwise explicitly stated in this Agreement.

THIRD-PARTY LENDER(S) Owner specifically acknowledges that this Agreement contemplates installation of the Solar System and not the purchase or financing thereof. Accordingly, Owner (and not Contractor) is and at all times (even during the installation process) shall be responsible for performance of all terms and conditions of any agreement(s) between Owner and any other third-party regarding the purchase and/or financing of the Solar System including but not limited to making any loan and/or other financing payments that may become due prior to the Solar System being fully Installed and/or prior to Owner receiving the necessary authorization(s) from the applicable utility company(ies) that the Solar System may be engaged to operate and generate energy. Under no circumstances shall Contractor be responsible for any amounts whatsoever otherwise due from Owner to any third-party lender(s). Additionally, Owner shall remain responsible for payment to Contractor of all amounts due for Contractor’s installation services hereunder independent of whether or not Owner is or is not able to secure financing from any third-party lender(s).

OWNER AND CONTRACTOR RESPONSIBILITIES AFTER INSTALLATION Once installation of the Solar System is complete (which for purposes of this Agreement shall mean fully installed and ready to “flip the switch”), all of Contractor’s duties and obligations under this Agreement shall be considered delivered, fulfilled and completed with Contractor having no further obligations to Owner whatsoever except as expressly set forth in the Limited Warranty, a copy of which is attached to this Agreement as Exhibit A. To avoid any confusion and without in any way limiting the foregoing, Owner acknowledges that once installation is complete, Owner (and not Contractor) shall be responsible for any future/ongoing monitoring and maintenance of the Solar System. Contractor does not offer any ongoing services except as expressly set forth in Exhibit A.

POST-INSTALLATION SERVICE CALLS Except as covered by or otherwise set forth in the Limited Warranty (Exhibit A), if at any time after installation is complete Owner requests that Contractor inspect or otherwise perform any maintenance or service to the Solar System or any component thereof (a “Service Call”) Owner shall pay Contractor on a “labor plus parts” basis. The charge for labor shall be a minimum of \$195 per hour (with a one-hour minimum). Parts

shall be billed according to then-prevailing market prices. All such labor plus parts fees shall be due and payable by Owner upon completion of the Service Call.

CONTRACTOR'S WORKMANSHIP WARRANTY AND THIRD-PARTY WARRANTY(IES) Owner acknowledges that except for the Limited Warranty (attached hereto as Exhibit A and incorporated herein by this reference) and except as is expressly required by the laws of the state in which the Solar System is to be installed, Contractor offers no other express or implied warranty(ies) whatsoever. Owner also acknowledges that most (if not all) of the specific components of the Solar System have their own manufacturers or other third-party warranty(ies) (collectively "Third-Party Warranty(ies)"). Owner acknowledges and agrees that Contractor is not and shall not be responsible for any such Third-Party Warranty(ies). To the extent the rights of any such Third-Party Warranty(ies) apply to Contractor, Contractor hereby conveys, assigns and transfers all such rights and privileges to Owner. Owner (not Contractor) is and shall be responsible for knowing and/or enforcing the terms of any such Third-Party Warranty(ies). Contractor agrees to cooperate with Owner in connection with the filing any Third-Party Warranty(ies) claim(s). Regardless of the foregoing, Owner is and shall remain responsible to Contractor for paying all applicable labor and parts costs and expenses.

CANCELLATION YOU (OWNER) MAY CANCEL THIS AGREEMENT AT ANY TIME PRIOR TO MIDNIGHT ON THE THIRD (3rd) BUSINESS DAY AFTER YOU HAVE SIGNED IT. To exercise this right, Owner must call (888) 781-7074 and speak with our resolutions department or send written notice of cancellation to our corporate office at: 4801 N. University Ave., Suite 900, Provo, Utah 84604. A form "Notice of Cancellation" accompanies this Agreement. If Owner requests to cancel more than three (3) business days after the Effective Date of this Agreement, the following cancellation fee(s) shall apply, any and all such cancellation fees shall be compounding, if Owner cancels: (i) 1-3 Days after signing this Agreement – no fee; (ii) after site survey - \$500; (iii) after final CAD design has been completed - \$1,000; and (iv) after permit application has been submitted - \$2,000. In addition to these cancellation fees, Owner shall be responsible for (i) any and all costs incurred by a third-party in preparation for the installation of solar and (ii) any third-party financing/loan agreements. If Owner requests to cancel more than three (3) business days after the Effective Date of this Agreement in order to enter into a solar agreement with a separate company, Owner shall pay to Company a cancellation fee of \$3,500.

Any applicable cancellation fees shall be immediately due and payable upon any such cancellation. Except for the three (3) day right to cancel as set forth above, after any solar components have been installed on the home (meaning once any portion of Phase 2 installation has begun), Owner forfeits any and all rights to any cancellation and shall pay to Contractor the entire contract amount.

If at any time prior to install there is a change to the System Size or Total System Price, Contractor will affirmatively notify Owner who, at that time, shall have the option to enter into a new agreement setting forth the new System Size and/or Total System Price. If Owner enters into a new agreement prior to install, Owner's right to cancel the new agreement shall reset and Owner shall have three (3) days from the date on which Owner executes the new agreement to cancel. The same conditions, terms and cancellation fees as enumerate above will apply to any cancellation of the new agreement.

CONTINUING COOPERATION Each party to this Agreement shall be obligated hereunder to do such other and further acts (including but not limited to such things as the signing of documents or instruments and/or the allowing of inspectors access to the project and/or completing certificates required by Contractor or a third-party financing/lending company, etc.), which are reasonable or which may be necessary or convenient in either party carrying out its respective obligations under this Agreement or in carrying out the purposes and intent of this Agreement. If Owner impedes work or withholds signing of any forms for more than 30 days, Owner shall be in breach of contract, and shall be responsible for all damages arising therefrom, including but not limited to payment of all amounts to which Contractor would be due hereunder, as well as any damages or other amounts due to any third-party(ies) with all such amounts being due immediately upon such breach.

TELEPHONE/SMS/TEXTING CONSENT Owner hereby consents to being contacted by telephone at any phone number (including but not limited to wireless/cellular phone numbers) provided to ION Solar (or any of its agents) by Owner or anyone acting on behalf of Owner. Owner agrees that such calls/contact may be initiated by ION Solar or any of its affiliates, agents, contractors or assigns, and that the methods of contact may include using pre-recorded/artificial voice messages and/or the use of an automated dialing device and/or the use of text messages—some or all of which may result in data charges. To revoke this consent, or any portion of it, please send an email to: support@ionsolar.com indicating which specific portion(s) of this consent are being revoked.

OWNER, NOT CONTRACTOR, RESPONSIBLE FOR PRE-EXISTING ROOF ISSUES Owner acknowledges that Owner, and not Contractor, is solely responsible for the condition of Owner's roof and for any pre-existing roof issues associated with Owner's home including but not limited to such things as the overall age and/or condition of Owner's roof or roofing materials. Contractor has no duty to inspect the overall condition of Owner's roof. Except for the installation of the Solar System as set forth in this Agreement and honoring the terms and conditions of the Limited Warranty, Contractor has no other obligations or duties to Owner with regard to Owner's roof, roofing materials, or the condition(s) thereof.

LIFT AND REPLACE From time to time Owner may deem it necessary/desirable to "lift and replace" some or all of the Solar System. For example, if Owner is remodeling, replacing some or all of Owner's roof, replacing roof shingles, or any other type of repair where it may be necessary to "lift and replace" the Solar System, or certain components thereof. Owner acknowledges Contractor's willingness to perform such "lift and replace" as may be requested by Owner, but further acknowledges that the actual costs and expenses of any such "lift and replace" functions are not currently known and cannot be known until such point that Contractor has analyzed the scope of such services and provided Owner a firm written bid. To the extent Owner desires a "lift and replace" bid from Contractor, Owner shall first contact Contractor before undertaking any "lift and replace" functions. In order to preserve the Limited Warranty, only Contractor (or those expressly authorized by Contractor) can perform any "lift and replace" functions. In the event Owner itself (either directly or through any third-party(ies)) undertakes any portion of any "lift and replace" services without having obtained the prior express written consent of Contractor (which consent must be signed by a vice-president or higher officer of Contractor) then the Limited Warranty (attached hereto as Exhibit A) shall become immediately null and void.

DISPUTE RESOLUTION/ARBITRATION AGREEMENT By entering into this Agreement, Owner and Contractor each agree that any dispute, claim, or controversy between or involving Owner and Contractor arising in connection with or relating in any way to this Agreement, including, but not limited to: (a) claims arising out of or relating to any aspect of the relationship between Contractor and Owner or any of the services provided by Contractor, (b) claims that arose before this Agreement or any prior agreement(s) between Owner and Contractor (including, but not limited to claims arising from or related to any sales, marketing, and/or advertising); (c) claims that may arise after termination of Contractor's services contemplated hereunder, (whether any or all of such claims are based in contract, tort, statute, fraud, misrepresentation or any other legal theory, and whether the claims arise during or after the termination of this Agreement), will be determined and resolved by mandatory binding individual (not class) arbitration proceeding. Owner and Contractor further agree that the arbitrator shall have the exclusive power and authority to rule on his/her own jurisdiction, including any objections with respect to the existence, scope or validity of the arbitration agreement between the parties or to the arbitrability of any claim or counterclaim. Owner and Contractor each acknowledge and agree that arbitration is more informal than typical litigation. **THERE IS NO JUDGE OR JURY IN ARBITRATION, AND COURT REVIEW OF AN ARBITRATION AWARD IS QUITE LIMITED.** This agreement to arbitrate will survive any termination of this Agreement regardless of who initiated such termination or the reason(s) for such termination. Notwithstanding anything set forth in this paragraph (which may be referred to simply as the "Arbitration Agreement"), Owner and Contractor both agree that nothing in this Arbitration Agreement will be deemed to waive, preclude or otherwise limit the rights of either party to: (1) bring an individual action in a U.S. small claims court or (2) bring an individual action seeking only temporary or preliminary injunctive relief in a court of law, pending a final ruling from the arbitrator. In addition, the Arbitration Agreement does not restrict or stop either party from bringing issues to the attention of federal, state, or local agencies which may, if the law allows, seek relief against either of us on behalf of the other.

ARBITRATION RULES Unless otherwise expressly agreed to in writing by Owner and Contractor, any arbitration between or involving Contractor and Owner shall be governed by and conducted pursuant to the Consumer Arbitration Rules of the American Arbitration Association ("AAA") then in effect (the "AAA Rules"), as modified by the terms of the Arbitration Agreement. Owner and Contractor agree that the Federal Arbitration Act applies to and governs the interpretation and enforcement of this provision and all other provisions regarding dispute resolution and arbitration (including, but not limited to the Arbitration Agreement) as well as the class action waiver set forth below. The AAA Rules, as well as instructions on how to file an arbitration proceeding with the AAA, can be found at adr.org or by calling the AAA at 1-800-778-7898. Any arbitration hearings will take place in the county of Owner's billing address, provided that if the claim is for \$25,000 or less, Owner may choose whether the arbitration will be conducted (1) solely on the basis of documents submitted to the arbitrator; (2) through a non-appearance based telephonic hearing; or (3) by an in-person hearing established by and conducted in conformity to the AAA Rules.

NOTICE BEFORE FILING/ARBITRATION COSTS AND AWARD If either Contractor or Owner intends to file a small claims action or to seek arbitration, the party intending to do so must first send a written notice of dispute to the other. Notice from Owner to Contractor should be sent to: **4801 N University Ave #900, Provo, Utah 84604 ATTN: CANCELLATIONS** in such a way that delivery can be confirmed. Any notice from Contractor to Owner will be sent to

the Owner’s street and/or email address on file in such a way that delivery can be confirmed. Any such notice must (1) describe the nature of the claim(s) and/or dispute(s); and (2) the desired relief sought (the “Notice”). If Contractor and Owner are unable to informally resolve the dispute within thirty (30) days following receipt of the Notice, then either party may then proceed to file the small claims action or file a claim for arbitration. If Owner opts for arbitration and Owner is required to pay a filing fee, Contractor will reimburse Owner that filing fee, unless Owner’s claim is for greater than \$10,000, in which case Owner will be responsible for the filing fee. Contractor will pay any other arbitration fees, including Owner’s share of the arbitrator compensation, unless otherwise required by AAA rules or court order obtained pursuant to and consistent with the terms of the Arbitration Agreement, During the arbitration, the amount of any settlement offer(s) made by Owner or Contractor shall not be disclosed to the arbitrator until after the arbitrator makes a final written decision and award, if any. In the event the dispute is finally resolved through arbitration in favor of Owner, and the arbitrator issues Owner an award that is greater than the value of Contractor’s last written offer of settlement to Owner, then in such event Contractor hereby agrees to pay Owner either the amount of the arbitrator’s award, or \$1,000— whichever is greater. All documents and information disclosed in the course of the arbitration shall be kept strictly confidential by the recipient and shall not be used by the recipient for any purpose(s) other than for the purpose of the arbitration or the enforcement of the arbitrator’s decision and award. Regardless of the manner in which the arbitration is conducted, the arbitrator shall issue a reasoned written decision. The arbitrator may make rulings and resolve disputes as to the payment and reimbursement of fees or expenses at any time during the proceeding and upon request from either party made within 14 days of the arbitrator’s ruling on the merits.

CLASS ACTION WAIVER IN ADDITION TO THE ARBITRATION AGREEMENT AND OTHER TERMS SET FORTH ABOVE, OWNER AND CONTRACTOR EACH FURTHER AND SEPARATELY AGREE THAT THEY MAY BRING CLAIMS AGAINST THE OTHER ONLY IN THEIR RESPECTIVE INDIVIDUAL CAPACITIES AND NOT AS A PLAINTIFF OR CLASS MEMBER IN ANY PURPORTED CLASS OR REPRESENTATIVE ACTION. Additionally, unless expressly agreed upon by Owner and Contractor in writing, no arbitrator or judge may consolidate more than one person’s claims or otherwise preside over any form of a representative or class proceeding. In the event either party seeks injunctive relief, the arbitrator may award injunctive relief only in favor of the individual party seeking relief and only to the extent necessary to provide relief warranted by that party’s individual claim. If a court decides that applicable law precludes enforcement of any of this paragraph’s limitations as to a particular claim for relief, then that claim (and only that claim) must be severed from the arbitration and may be brought in court.


ENTIRE AGREEMENT This instrument contains the entire and only agreement between the parties hereto relating to the subject matter hereof and any representation, affirmation of fact, and course of prior dealings, promise or condition in connection therewith not incorporated herein shall not be binding on either party. This Agreement supersedes any previous agreement executed between the parties related to the Solar System and the installation thereof. The rights and obligations contained herein shall inure to and be binding upon the parties, their legal representatives, successors, and permitted assigns. This Agreement may be amended, replaced, or modified only by a written instrument executed by Contractor and Owner.

Please sign the contract and return to ION. We are committed to providing you with impeccable service throughout the entire installation process. Please contact us anytime using the contact information listed at the bottom of all pages of this Agreement.

Homeowner Acknowledgement:

ION Solar Acknowledgement:

DocuSigned by:
LAKSHMA VEMMENTHALA
By: _____
Printed Name: Lakshma Vemmenthala
Date: 3/15/2023

By: 
Printed Name: David Rasmussen
Date: 3/15/2023

Host Customer on Utility Bill Acknowledgement (if different from above):

By: _____
Printed Name: _____

EXHIBIT A - Limited Warranty

10-YEAR WORKMANSHIP WARRANTY Contractor hereby agrees to warranty the workmanship of its installation of the solar system (and its related components) as more particularly described in the underlying Installation Agreement (collectively the "PV System") for a period of ten (10) years from the date upon which the installation is completed. Contractor agrees that with respect to all roof penetrations made by Contractor, such roof penetrations will be free from material defects in workmanship and will be sealed or flashed to eliminate liquid or vapor penetration, and that such roof penetrations shall not diminish the existing water-repelling abilities of the existing roof. In the event of (a) roof leakage or (b) malfunction of any component of the PV System where such leakage or malfunction is **due to a workmanship issue**, Contractor will, at its cost, repair the affected area of the roof and/or repair and/or replace (as Contractor shall determine) such malfunctioning component(s).

For purposes of this Limited Warranty, a workmanship issue is defined as an issue directly caused by the improper installation by Contractor of the PV System. Owner hereby acknowledges that not all roof leaks and/or malfunctioning component(s) are the result of workmanship issues and as such may not be covered under the terms of this Limited Warranty. In the event of any dispute or controversy regarding whether or not an issue is due to a covered workmanship issue that should be covered by the terms of this Limited Warranty, then, before triggering any of the terms of Arbitration Agreement, the parties first agree that they shall engage the services of a third-party licensed contractor (having experience with solar system installations) to provide a written opinion as to whether the disputed issue is or is not the result of a covered workmanship issue. In the event the parties are unable to agree upon a mutually acceptable and qualified third-party licensed contractor, then each party shall choose its own experienced licensed contractor and then those two shall choose a third experienced licensed contractor (having experience with solar system installation) to render its written opinion. The opinion of the mutually acceptable third-party contractor (or the third-party contractor chosen by the parties' respective contractors) shall be binding upon the parties unless either party shall appeal such decision by triggering the terms Arbitration Agreement, in which case the dispute shall be resolved in accordance with those terms and conditions.

EXCLUSIONS FROM COVERAGE This ten-year warranty only covers issues resulting from improper installation of the PV System. Without providing an exhaustive list, Contractor is not responsible for:

- repairing any pre-existing damage to the roof and/or roofing material (such as shingles, tiles, etc.); or any leak, damage or malfunction caused by a failure of any part of Customer's building components themselves (such as failure of the roof substrate, roof trusses/framing, or other building structural failures);
- any leaks, damage or malfunction caused by fire or extreme weather conditions such as high winds, hail storms, ice dams, floods, tree damage, or other such acts of God; or for any leaks, damage or malfunction caused by pests or rodents.
- any leaks, damage or malfunction caused by other contractors or by any repair, replacement, modification, enhancement or reinstallation of the PV System (or any part thereof) using a part or service not provided by or authorized by Contractor.
- any leak, damage or malfunction caused by an accident, alteration, negligence, vandalism or other misconduct by Owner (or any subsequent owner), or any third party, including but not limited to damage from golf balls;
- any leaks, damage or malfunction that are the result of workmanship issues that were not reported to Contractor in a timely fashion.
- Any roof performance issues (1) not related to roof penetration of made as part of the installation of the PV System or (2) otherwise covered by Owner's homeowner's insurance.
- Any "lift and replace" services performed by anyone other than Contractor, unless such "lift and replace" services were expressly authorized in writing (which writing must be signed by Contractor's President).
- Any and all other exclusions listed in the underlining agreements, including but not limited to the Installation Agreement.

TRANSFERABILITY This 10-Year Limited Warranty is fully transferable to subsequent owners. No transfer, however, shall work to extend the ten (10) year term.

SERVICE CALLS—LABOR ONLY WARRANTY For a period of two (2) years following Contractor's Installation of the Solar System, Owner shall not be responsible for paying Contractor the labor portion of the first hour of any Service Call. Except for this two-year waiver of the first hour of Contractor's labor, and unless Contractor's other labor costs and component expenses (if any) are covered by (a) terms of the Limited Warranty set forth above or (b) the warranty of any third-party (such as those offered by a manufacturer of a specific component of the Solar System), Owner shall in all other cases be responsible for any and all other labor and/or parts/equipment costs and expenses as typically billed by Contractor. Contractor will strive to inform Customer of potential warranty coverage (or the lack thereof) as well as an estimate/bid for any work recommended by Contractor.

THIRD-PARTY WARRANTIES Owner acknowledges that except for the 10-Year Workmanship Warranty and Service Calls—Labor Only Warranty set forth above, Contractor offers no other express or implied warranty(ies) whatsoever. Owner also acknowledges that most (if not all) of the specific components of the Solar System have their own manufacturers or other third-party warranty(ies) for which Owner (and not Contractor) is responsible for knowing and enforcing. Owner is and shall remain responsible to Contractor for payment of all applicable labor and parts/equipment costs charged by Contractor for any service not otherwise covered by the 10-Year Workmanship Warranty, the Service Calls—Labor Only Warranty, or any applicable third-party warranty(ies).

NOTICE OF CANCELLATION

DATE OF HOMEOWNER ACKNOWLEDGEMENT: 3/15/2023

YOU MAY CANCEL THE “ION DEVELOPER INSTALLATION AGREEMENT” WITHOUT ANY PENALTY OR OBLIGATION, WITHIN THREE BUSINESS DAYS FROM THE SET FORTH ABOVE DATE (the date upon which you signed/acknowledged the Ion Developer Installation Agreement) (the “AGREEMENT”).

IF YOU CANCEL, ANY PAYMENTS MADE BY YOU UNDER THE AGREEMENT WILL BE RETURNED TO YOU WITHIN 10 BUSINESS DAYS FOLLOWING RECEIPT BY ION DEVELOPER OF YOUR CANCELLATION NOTICE. ADDITIONALLY, ANY SECURITY INTEREST ARISING OUT OF THE AGREEMENT/TRANSACTION WILL BE CANCELLED.

IF YOU CANCEL, YOU MUST MAKE AVAILABLE TO ION DEVELOPER AT YOUR RESIDENCE, IN SUBSTANTIALLY AS GOOD CONDITION AS WHEN RECEIVED, ANY GOODS DELIVERED TO YOU UNDER THE AGREEMENT; OR YOU MAY, IF YOU WISH, COMPLY WITH THE INSTRUCTIONS OF ION DEVELOPER REGARDING THE RETURN SHIPMENT OF THE GOODS AT ION DEVELOPER’S EXPENSE AND RISK.

IF YOU DO NOT AGREE TO RETURN THE GOODS TO ION DEVELOPER OR IF ION DEVELOPER DOES NOT PICK THEM UP WITHIN 20 DAYS OF THE DATE OF YOUR NOTICE OF CANCELLATION, YOU MAY RETAIN OR DISPOSE OF THE GOODS WITHOUT ANY FURTHER OBLIGATION.

TO CANCEL THE AGREEMENT, MAIL OR DELIVER A SIGNED AND DATED COPY OF THIS “NOTICE OF CANCELLATION” OR ANY OTHER WRITTEN NOTICE, TO ION DEVELOPER, LLC AT 4801 N. UNIVERSITY AVE., SUITE 900, PROVO, UTAH 84604, ATTN: CANCELLATIONS. NOT VALID LATER THAN MIDNIGHT THREE BUSINESS DAYS AFTER 3/15/2023 (the date on which you executed the ION Developer Installation Agreement).

I HEREBY CANCEL THE AGREEMENT AND THIS TRANSACTION.

Buyer/”Owner” Signature

Dated:

AERIAL SITE VIEW



JURISDICTION CODES AND STANDARDS

GOVERNING CODES
 1. ALL WORK SHALL COMPLY WITH:
 2020 NATIONAL ELECTRIC CODE (NEC)
 2015 INTERNATIONAL BUILDING CODE (IBC)
 2015 INTERNATIONAL RESIDENTIAL CODE (IRC)
 2015 INTERNATIONAL FIRE CODE (IFC)

2015 INTERNATIONAL EXISTING BUILDING CODE (IEBC), 2015 INTERNATIONAL ENERGY CONSERVATION CODE (IECC) AND ALL STATE AND LOCAL BUILDING, ELECTRICAL, AND PLUMBING CODES.

SITE CLASSIFICATION NOTES, OSHA REGULATION
 OCCUPANCY CLASS: SFR
 CONSTRUCTION CLASS: V-B
 ZONING TYPE: RESIDENTIAL

1. A LADDER SHALL BE IN PLACE FOR INSPECTION IN COMPLIANCE WITH OSHA REGULATIONS.
2. THIS PROJECT HAS BEEN REVIEWED AND WILL NOT DIRECT CONCENTRATED SOLAR RADIATION OR GLARE ONTO NEARBY PROPERTIES OR ROADWAYS.

ELECTRICAL CRITERIA, NOTES
 TEMPERATURE SOURCE: ASHRAE
 WEATHER STATION: DENVER STAPLETON INTL AP
 EXTREME MIN. TEMPERATURE: -25
 ASHRAE 2% HIGH TEMP: 34

1. DRAWINGS HAVE BEEN DETAILED ACCORDING TO UL LISTING REQUIREMENTS.
2. TERMINALS AND LUGS WILL BE TIGHTENED TO MANUFACTURER TORQUE SPECIFICATIONS (WHEN PROVIDED) IN ACCORDANCE WITH NEC 110.14(D) ON ALL ELECTRICAL.
3. PV MODULE CERTIFICATIONS WILL INCLUDE UL1703, IEC61646, IEC61730.
4. CONDUIT AND WIRE SPECIFICATIONS ARE BASED ON MINIMUM CODE REQUIREMENTS AND ARE NOT MEANT TO LIMIT UP-SIZING AS REQUIRED BY FIELD CONDITIONS.
5. PROPER ACCESS AND WORKING CLEARANCE AROUND EXISTING AND PROPOSED ELECTRICAL EQUIPMENT WILL BE PROVIDED AS PER SECTION [NEC 110.26].

STRUCTURAL CRITERIA, NOTES
 DESIGN LOAD STANDARD: ASCE 7-10
 WIND EXPOSURE CATEGORY: C
 WIND SPEED (3-SEC GUST): 142 MPH
 GROUND SNOW LOAD: 30 PSF
 DESIGN ROOF SNOW LOAD: 30 PSF
 SEISMIC DESIGN CATEGORY: B
 SEISMIC RISK FACTOR: II

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ION DEVELOPER, LLC
 4801 N UNIVERSITY AVE #900 PROVO, UT 84604
 888.781.7074

DAVID STANLEY CONRAD
 EC
 EC.0100960

SITE INFORMATION:
 LAKSHMA REDDY VEMMENTHALA
 1620 MARIAH LANE
 ERIE, COLORADO 80516
 (12) SILFAB SOLAR SIL-400 HC+
 (12) ENPHASE IQ8PLUS-72-2-US
 4.8KW DC, 3.48KW STC-AC,
 4.281KW CEC-AC

SCOPE OF WORK

INSTALLATION OF UTILITY INTERACTIVE PHOTOVOLTAIC SOLAR SYSTEM
 4.8 kW DC & 3.48 kW AC PHOTOVOLTAIC SOLAR ARRAY
 PV MODULES: (12) SILFAB SOLAR SIL-400 HC+
 INVERTER(S): (12) ENPHASE IQ8PLUS-72-2-US
 ROOF TYPE: COMPOSITION SHINGLE - 2 LAYER(S)
 PV MOUNTING HARDWARE: ECOFASTEN ROCK-IT 3.0

SHEET LIST

G-1	COVER SHEET
V-2	SITE PLAN (AD. LIB)
S-3	ROOF PLAN
S-4	STRUCTURAL DETAILS
S-5	STRUCTURAL CALCULATIONS & NOTES
E-6	ELECTRICAL DETAILS (LINE DIAGRAM)
E-7	ELECTRICAL CALCULATIONS & NOTES
E-8	ELECTRICAL LOAD CALCULATIONS (AD. LIB)
E-9	ELECTRICAL LABELS & LOCATIONS
E-10	ELECTRICAL DIRECTORY PLACARD (AD. LIB)



DRAWING BY
 IVY APUANG

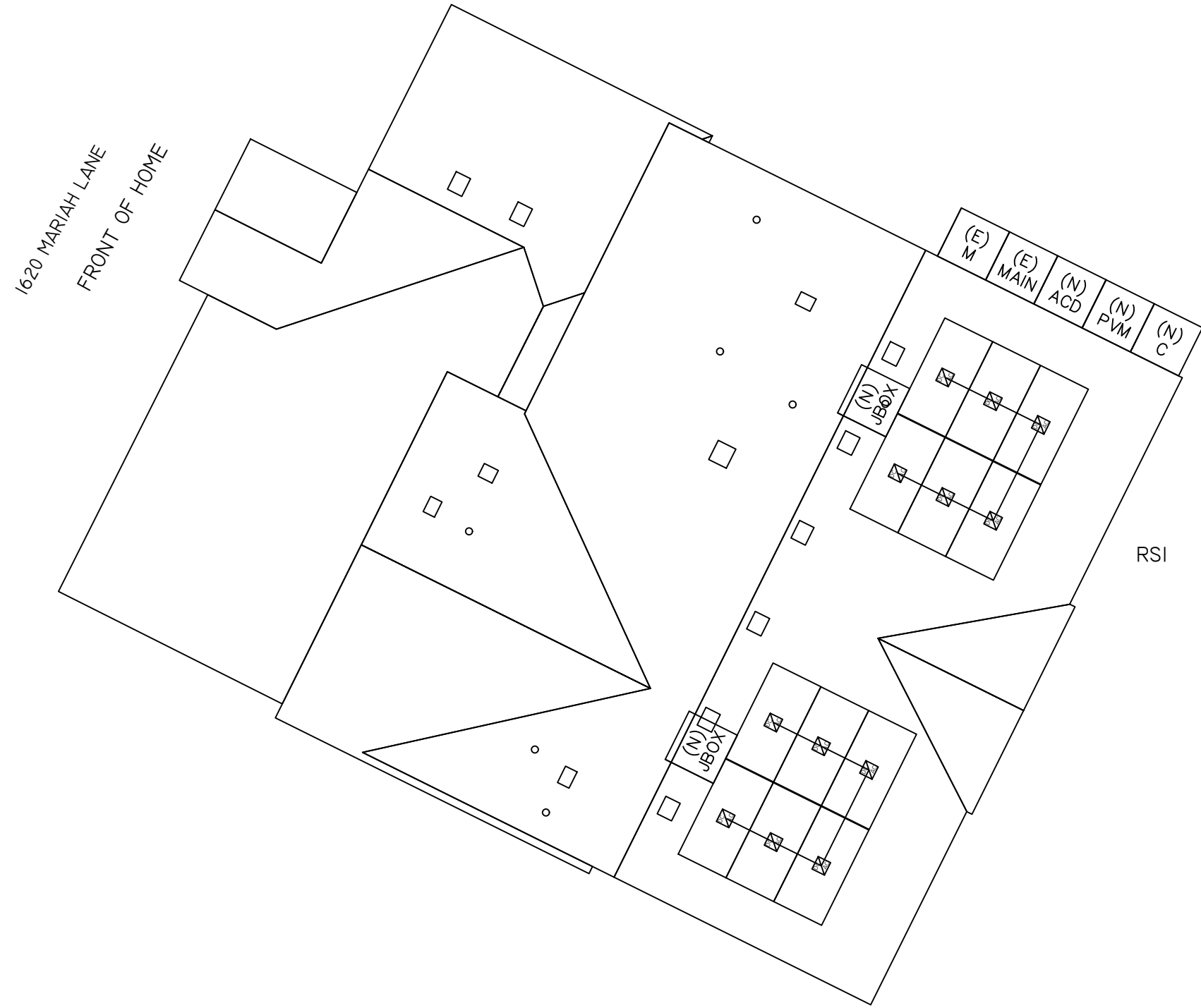
DATE
 30-MAR-2023

PROJECT ID
 009C5C

SHEET NAME
 COVER SHEET

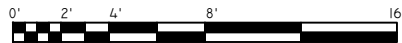
SHEET NUMBER	REVISION
G-1	0

SITE NOTES:



03/30/2023

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



SYSTEM LEGEND

	(E) UTILITY METER / MAIN SERVICE PANEL		(N) JUNCTION BOX		SUNEYE LOCATION
	(E) MAIN SERVICE PANEL		(N) AC DISCONNECT (VISIBLE-OPEN LOCKABLE LABELED DISCONNECT)		FIRE SETBACK
	(E) SUBPANEL		(N) MICROINVERTER		(N) PV MODULE
	(N) PV COMBINER PANEL		(N) DC DISCONNECT		
	(N) PV LOAD CENTER				
	(N) PV PRODUCTION METER				
	(N) DC-DC / STRING INVERTER				

ROOF SECTION CRITERIA AND SPECIFICATIONS

ROOF SECTION	PV MODULE QTY	AZIMUTH	PITCH	TSRF
RSI	12	116	22	90%



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888.781.7074

DAVID STANLEY CONRAD
EC
EC.0100960

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1620 MARIAH LANE
ERIE, COLORADO 80516
(12) SILFAB SOLAR SIL-400 HC+
(12) ENPHASE IQ8PLUS-72-2-US
4.8KW DC, 3.48KW STC-AC,
4.281KW CEC-AC

DRAWING BY
IVY APUANG

DATE
30-MAR-2023

PROJECT ID
009C5C

SHEET NAME
ROOF PLAN

SHEET NUMBER	REVISION
S-3	0

RACKING INSTALLATION SCHEDULE AND STRUCTURAL CRITERIA

PV RACKING	
RACKING:	ECOFASTEN ROCK-IT 3.0
RACKING TYPE:	RAIL-FREE
STANDOFF:	ROCK-IT SYS SLIDECOMP 4" BLK
STANDOFF TYPE:	RAIL-FREE MOUNT & FLASHING
FASTENER:	5/16" X 3-1/2" ZINC PLATED STEEL LAG SCREW

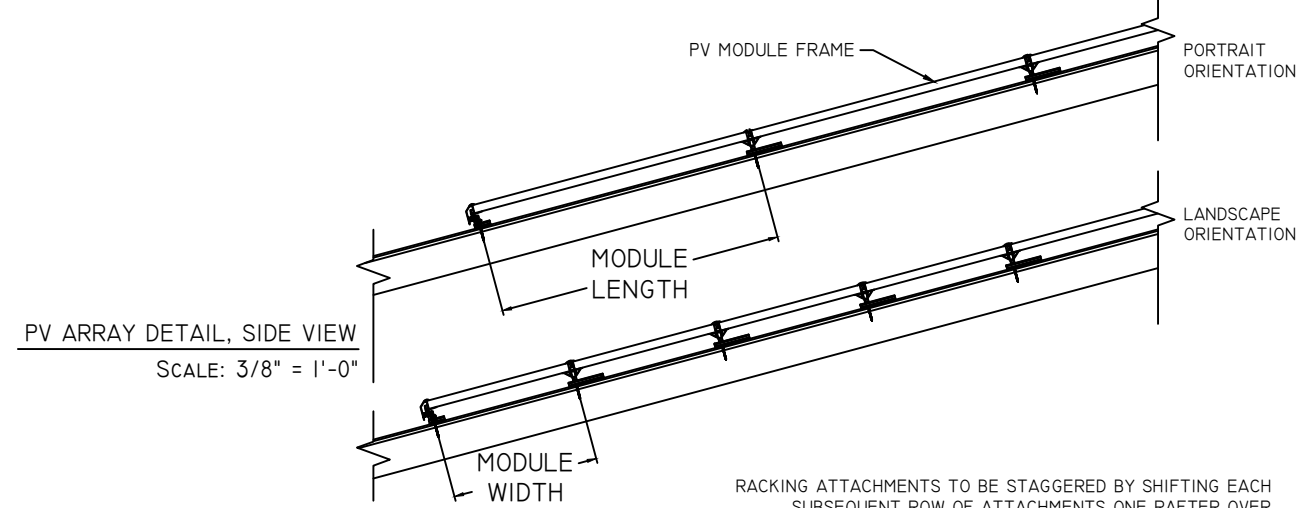
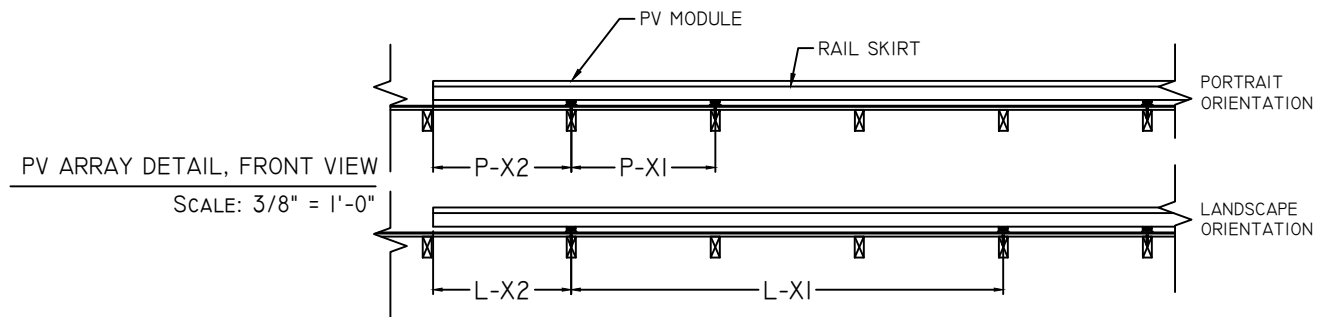
SPAN AREA	TAG	SPAN
<i>RAIL-FREE - PORTRAIT - MODULE ORIENTATION</i>		
X- SPACING	P-X1	24 IN. O.C. MAX.*
X-CANTILEVER	P-X2	8 IN. MAX.
Y- SPACING	P-Y1	MODULE LENGTH SPAN
Y-CANTILEVER	P-Y2	0 IN.

STRUCTURAL	
ROOF TYPE:	COMPOSITION SHINGLE
ROOF SHEATHING TYPE:	7/16" OSB
STRUCTURE TYPE:	MANUFACTURED WOOD TRUSS
RAFTER SIZE:	2x4
RAFTER SPACING:	24

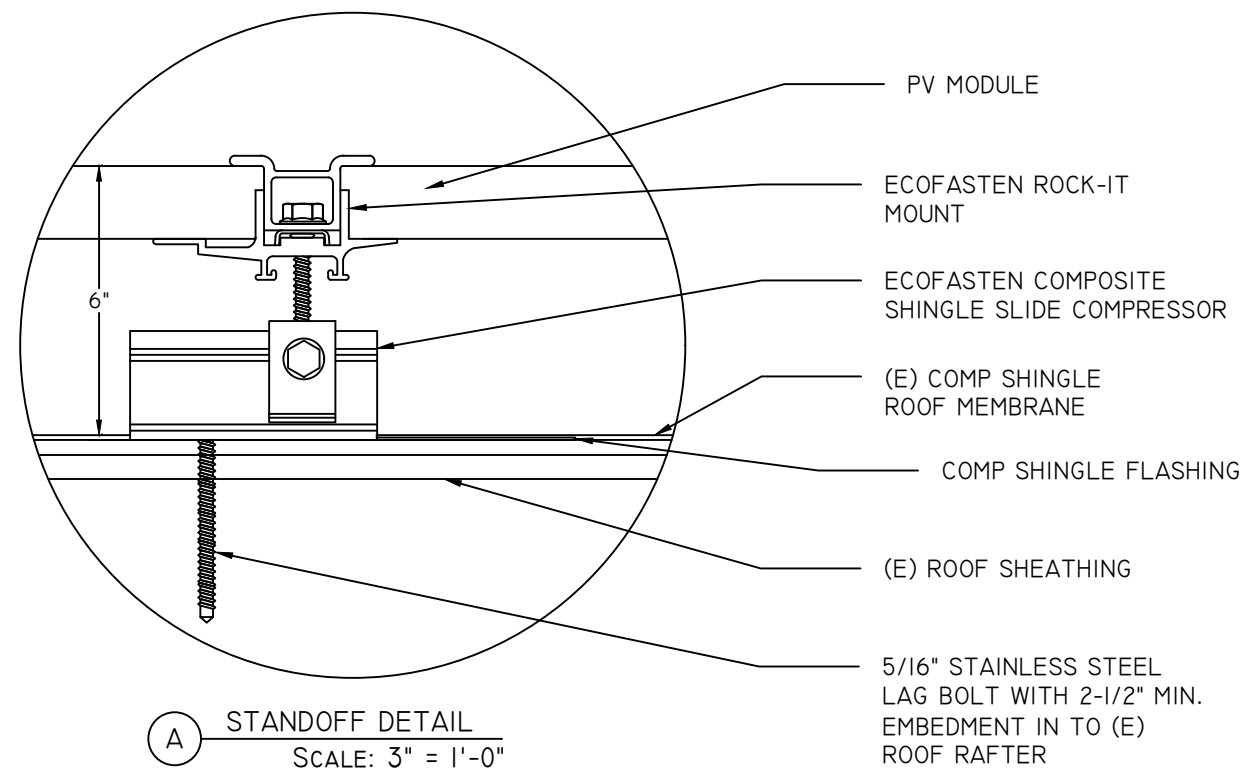
SPAN AREA	TAG	SPAN
<i>RAIL-FREE - LANDSCAPE - MODULE ORIENTATION</i>		
X- SPACING	L-X1	72 IN. O.C. MAX.
X-CANTILEVER	L-X2	23 IN. MAX.
Y- SPACING	L-Y1	MODULE WIDTH SPAN
Y-CANTILEVER	L-Y2	0 IN.

*FOR PORTRAIT MODULE ORIENTATION - NO MODULES ALLOWED TO BE PLACED IN WIND ZONE 2 & 3, WHICH IS EVERY 3' FROM THE EDGE OF EACH ROOF SECTION.

ARRAY PARAMETERS	
TOTAL ROOF AREA (SQ. FT.)	2357.72
TOTAL PV MODULE AREA (SQ. FT.)	255.6
% PV MODULE ROOF COVERAGE	11%



RACKING ATTACHMENTS TO BE STAGGERED BY SHIFTING EACH SUBSEQUENT ROW OF ATTACHMENTS ONE RAFTER OVER TO DISTRIBUTE LOAD ACROSS ALL FRAMING MEMBERS UNDER PV ARRAY.



ION

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4.8KW DC, 3.48KW STC-AC,
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DRAWING BY IVY APUANG	
DATE 30-MAR-2023	
PROJECT ID 009C5C	
SHEET NAME STRUCTURAL DETAILS	
SHEET NUMBER S-4	REVISION 0

PV SYSTEM STRUCTURAL SPECIFICATIONS AND CALCULATIONS

PV SYSTEM EQUIPMENT SPECIFICATIONS

MODULE MANUFACTURER / TYPE	SILFAB SOLAR SIL-400 HC+
SOLAR MODULE WEIGHT (LBS)	47
SOLAR MODULE LENGTH (IN.)	75.3
SOLAR MODULE WIDTH (IN.)	40.8
SOLAR MODULE AREA (SQ. FT)	21.3
PV RACKING	ECOFASTEN ROCK-IT 3.0
PV RACKING TYPE	RAIL-FREE
PV ROOF ATTACHMENT	ROCK-IT SYS SLIDECOMP 4" BLK
PV ROOF ATTACHMENT FASTENER	5/16" X 3-1/2" ZINC PLATED STEEL LAG SCREW
RACKING DEAD LOAD (PSF)	0.8
SOLAR MODULE DEAD LOAD (PSF)	2.21
TOTAL PV ARRAY DEAD LOAD (PSF)	3.01

PV SYSTEM STRUCTURAL SPECIFICATIONS

STRUCTURE TYPE - ROOF SHAPE	INHABITED - GABLE / FLAT ROOF
MIN. ROOF SLOPE (DEG.)	22
MEAN ROOF HEIGHT (FT.)	20
PORTRAIT ATT. SPACING (IN. O.C.)	24
LANDSCAPE ATT. SPACING (IN. O.C.)	72
# OF ATTACHMENT POINTS	40
MAX. POINT LOAD (LBS / ATT.)	11.2
MAX. TOTAL PV DEAD LOAD TO RAFTER (LBS)	22.4

DESIGN WIND PRESSURE AND CONNECTION UPLIFT CALCULATIONS

DESIGN WIND PRESSURE (PSF) = P = qh[(GCP)-(GCPI)]	ASCE 7-10 (C&C)		
VELOCITY PRESSURE (PSF) = qh = 0.00256(Kh)(Kzt)(Kd)(V^2)	EQN. 30.4-1		
TERRAIN EXPO. CONSTANT (A) = 9.5	TABLE 26.9-1	INTERNAL PRESSURE COEFF. (GCPI) = 0	TABLE 26.11-1
TERRAIN EXPO. CONSTANT (Zg)(FT) = 900	TABLE 26.9-1		FIG. 29.4-8
VP EXPOSURE COEFF.(KH) = 0.90	EQN. 30.3-1		EQN. 30.3-1
TOPOGRAPHIC FACTOR (Kzt) = 1.0	EQN. 26.8-1	QH (PSF) = 39.57	
WIND DIRECTIONALITY FACTOR (Kd) = 0.85	TABLE 26.6-1	ASCE 7-10 VP (PSF) (0.6) X QH = 23.74	

	UPLIFT			DOWNWARD	FIGURE 30.4-2B
	ZONE 1	ZONE 2	ZONE 3	ALL ZONES	
GABLE / HIP ROOF 7° < θ ≤ 27°	ZONE 1	ZONE 2	ZONE 3	ALL ZONES	
RAIL-FREE - PORTRAIT MODULE ORIENTATION	24 IN. O.C.			24 IN. O.C.	
EXTERNAL PRESSURE COEFF. (GCP) =	-0.9	NOT	NOT	0.5	
ASD PRESSURE (0.6P)(PSF) =	-21.37	ALLOWED	ALLOWED	32.98	
TRIBUTARY AREA (SQ. FT) =	12.6				
MAX. UPLIFT (0.6D+0.6P) (LBS) =	-245.5				
RAIL-FREE - LANDSCAPE MODULE ORIENTATION	72 IN. O.C.	24 IN. O.C.	24 IN. O.C.	72 IN. O.C.	
EXTERNAL PRESSURE COEFF. (GCP) =	-0.9	-1.7	-2.6	0.5	
ASD PRESSURE (0.6P)(PSF) =	-20.18	-40.36	-61.73	32.98	
TRIBUTARY AREA (SQ. FT) =	20.40	6.80	5.10		
MAX. UPLIFT (0.6D+0.6P) (LBS) =	-374.9	-262.2	-305.6		

ROOF ATTACHMENT FASTENER CHECK

ROCK-IT SYS SLIDECOMP 4" BLK - 5/16" X 3-1/2" ZINC PLATED STEEL LAG SCREW	NDS 12.2		
LAG SCREW WITHDRAWAL DESIGN VALUE (LBS) = W = 1800(G*3/2)(D*3/4)	MANUFACTURER MAX. UPLIFT CAPACITY = 432 LBS		
	12.2.1		
ROOF ATTACHMENT FASTENER (D) = 5/16 IN. LAG SCREW	LUMBER SPECIFIC GRAVITY (G)= 0.5	TABLE 2.3.2	
FASTENER QTY PER ATTACHMENT = 1	LOAD DURATION FACTOR (Cd) = 1.6	TABLE 12.3.3A	
FASTENER EMBEDMENT DEPTH (IN.) = 2.5	PRYING COEFFICIENT = 1.4		
WITHDRAWAL DESIGN VALUE(W)(LBS / IN.) = 266.0			
LAG SCREW WITHDRAWAL CAPACITY (LBS) = 760.0			
MAX. ATT. WITHDRAWAL CAPACITY (LBS) = 432.0	> 374.9	MAX UPLIFT DEMAND (LBS)	OK

DESIGN LOCATION AND SITE SPECIFICATIONS

JURISDICTION	TOWN OF ERIE
STATE	COLORADO
ADOPTED LOAD STANDARD	ASCE 7-10
OCCUPANCY / RISK CATEGORY	II
BASIC WIND SPEED (MPH (3-SEC GUST))	142
WIND EXPOSURE CATEGORY	C
GROUND SNOW LOAD (PSF) (Pg)	30
BASE ELEVATION (FT)	5025

DESIGNED ROOF SNOW LOAD CALCULATIONS

SLOPED ROOF SNOW LOAD (PSF)	ASCE 7-10 (C&C)
	EQN. 7.4-1

= Ps = (Cs)(0.7)(Ce)(Ct)(Is)(Pg)	
EXPOSURE FACTOR (Ce) = 1.0	TABLE 7.3-1
THERMAL FACTOR (Ct) = 1.0	TABLE 7.3-2
IMPORTANCE FACTOR (Is) = 1.0	TABLE 1.5-2
SLOPE FACTOR (Cs) = 1.0	FIG. 7.4-1
Ps (PSF) = 30	OK

GRAVITY LOAD / FRAMING CALCULATIONS

DEAD LOAD (PSF)	RSI
ROOF MEMBRANE	COMPOSITION SHINGLE 4.0
SHEATHING	7/16" OSB 1.7
PITCH (DEG)	22

FRAMING

MANUFACTURED WOOD TRUSS - TOP CHORD 2X4 @ 24 IN. O.C. - DF #2 @6 FT. MAX SPAN	1.0
TOTAL ROOF DEAD LOAD (PSF)	6.7
ADJUSTED TO SLOPED ROOF (PSF)	7.3
PV ARRAY ADJ. TO ROOF SLOPE (PSF)	3.2
ROOF LIVE LOAD < ROOF SNOW LOAD (PSF)	30.0
TOTAL LOAD (PSF)	40.5

RAFTER / TOP CHORD MEMBER PROPERTIES	DF #2 - 2X4
SECTION MODULUS (S)(IN^3)	3.06
MOMENT OF INERTIA (I)(IN^4)	5.36
TOTAL LOAD ON MEMBER (W) (PLF)	81.0
MAX. MEMBER SPAN (L) (FT)	6
MODULUS OF ELASTICITY (E) (PSI)	1600000
SHEAR (Fv) (PSI)	180
AREA (A) (IN^2)	5.25

MAX BENDING STRESS CHECK	(Fb)(Cd)(Cf)(Cr)
BENDING (Fb) (PSI)	900
LOAD DURATION FACTOR (Cd)	1.15
SIZE FACTOR (Cf)	1.50
REPETITIVE MEMBER FACTOR (Cr)	1.15
ALLOWABLE BENDING STRESS (PSI)	1785.4

ACTUAL BENDING STRESS (PSI) = (wL^2)/(8(S))	1428.2
	80% OK

MAX DEFLECTION CHECK - TOTAL LOAD	UNIFORM DISTRIBUTED
ALLOWABLE DEFLECTION	L / 180
ACTUAL MAX DEFLECTION	0.400
	(W)(L)^4 / 185(E)(I)
	0.114 IN.
	29% OK

MAX DEFLECTION CHECK - LIVE LOAD	L / 240
ALLOWABLE DEFLECTION	0.3 IN.
ACTUAL MAX DEFLECTION	0.086 IN.
	(W)(L)^4 / 185(E)(I)
	29% OK

MAX SHEAR CHECK	Fv (A)
ALLOWABLE SHEAR	LBS
	945
ACTUAL MAX SHEAR	(w)(L)/2
	243 LBS.
	26% OK



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ION DEVELOPER, LLC
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DAVID STANLEY CONRAD
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EC.0100960

SITE INFORMATION:
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1620 MARIAH LANE
ERIE, COLORADO 80516
(12) SILFAB SOLAR SIL-400 HC+
(12) ENPHASE IQ8PLUS-72-2-US
4.8KW DC, 3.48KW STC-AC,
4.28IKW CEC-AC

DRAWING BY
IVY APUANG

DATE
30-MAR-2023

PROJECT ID
009C5C

SHEET NAME
STRUCTURAL CALCS

SHEET NUMBER
S-5

REVISION
0

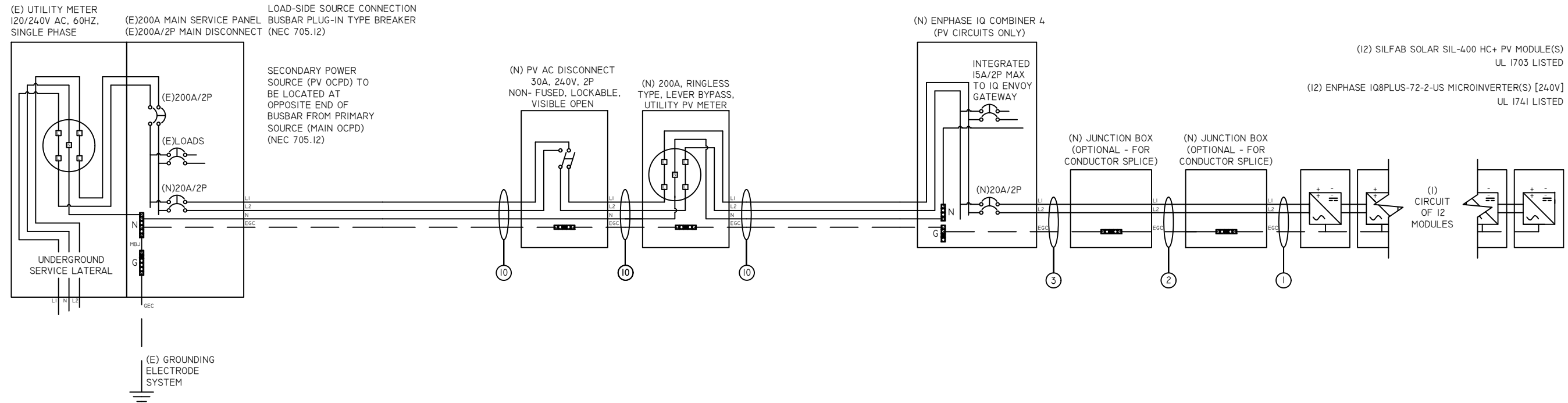
CONDUCTOR AND RACEWAY SCHEDULE

TAG	QTY	SIZE - #	TYPE	DESIGNATOR	I / V	TAG	QTY	SIZE - #	TYPE	DESIGNATOR	I / V	TAG	QTY	SIZE - #	TYPE	DESIGNATOR	I / V	TAG	QTY	SIZE - #	TYPE	DESIGNATOR	I / V
10	(1)	6 AWG	THHN / THWN-2, CU.	BLACK (L1)	14.5 A AC (MAX)	3	(1)	10 AWG	THHN / THWN-2, CU.	BLACK (L1)	14.5 A AC (MAX)	2	(1)	10 AWG	2C, NM-B W/G, CU.	(L1, L2, EGC)	14.5 A AC (MAX)	1	(1)	12 AWG	2C, TC-ER, CU.	(L1, L2)	14.5 A AC (MAX)
	(1)	6 AWG	THHN / THWN-2, CU.	RED (L2)	240 V AC		(1)	10 AWG	THHN / THWN-2, CU.	RED (L2)	240 V AC		(1)	6 AWG	SOLID BARE CU.	(EGC)	240 V AC		(1)	6 AWG	SOLID BARE CU.	(EGC)	240 V AC
	(1)	6 AWG	THHN / THWN-2, CU.	WHITE (N)			(1)	10 AWG	THHN / THWN-2, CU.	GREEN (EGC)			(1)	3/4 IN.	EMT OR FREE AIR	(RACEWAY)			(1)	3/4 IN.	EMT OR FREE AIR	(RACEWAY)	
	(1)	6 AWG	THHN / THWN-2, CU.	GREEN (EGC)			(1)	3/4 IN.	EMT	(RACEWAY)													
	(1)	3/4 IN.	EMT	(RACEWAY)	EXTERIOR						EXTERIOR						INTERIOR						EXTERIOR



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ELECTRICAL LINE DIAGRAM



ELECTRICAL LINE DIAGRAM NOTES

200A PV METERS CAN BE SWAPPED WITH THE 125A PV METERS IF THERE IS LACK OF INVENTORY -10/13/22 JG- WIRE MAY BE SPLICED/PIGTAILED DOWN TO MEET MAXIMUM WIRE SPECIFICATIONS FOR EQUIPMENT SO LONG AS THE WIRE AMPACITY REMAINS ABOVE 125% OF THE MAXIMUM INVERTER OUTPUT CIRCUIT CURRENT OF THE SYTEM, WHICH IS SHOWN ON SHEET E-7.



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 (12) SILFAB SOLAR SIL-400 HC+
 (12) ENPHASE IQ8PLUS-72-2-US
 4.8KW DC, 3.48KW STC-AC,
 4.281KW CEC-AC

DRAWING BY IVY APUANG	
DATE 30-MAR-2023	
PROJECT ID 009C5C	
SHEET NAME ELEC. LINE DIAG.	
SHEET NUMBER E-6	REVISION 0

PV SYSTEM ELECTRICAL SPECIFICATIONS AND CALCULATIONS

DESIGN LOCATION AND TEMPERATURES

TEMPERATURE DATA SOURCE	ASHRAE
STATE	COLORADO
JURISDICTION	TOWN OF ERIE
WEATHER STATION	DENVER STAPLETON INTL AP
ASHRAE EXTREME LOW TEMP (°C)	-25
ASHRAE 2% HIGH TEMP (°C)	34
DESIGNED MAX. SYSTEM VDROPP / VRISE	4.00%

PV MODULE SPECIFICATIONS

SILFAB SOLAR SIL-400 HC+	
RATED POWER (P _{MAX}) (W)	400
MAXIMUM POWER VOLTAGE (V _{MP})	36.05
MAXIMUM POWER CURRENT (I _{MP})	11.1
OPEN CIRCUIT VOLTAGE (V _{OC})	43.02
SHORT CIRCUIT CURRENT (I _{SC})	11.58
PMP/VMP TEMP. COEFFICIENT	-0.36
VOC TEMP. COEFFICIENT	-0.28
SERIES FUSE RATING	20
ADJ. MODULE VOC @ ASHRAE LOW TEMP	49.0
ADJ. MODULE VMP @ ASHRAE 2% AVG. HIGH TEMP	30.7

INVERTER SPECIFICATIONS

ENPHASE IQ8PLUS-72-2-US	
TYPE	MICROINVERTER
MAX. OR RECOMMENDED MODULE POWER (W)	440
MAXIMUM INPUT DC OPEN-CIRCUIT VOLTAGE (V _{OC})	60
MINIMUM START VOLTAGE (V)	30
MAXIMUM START VOLTAGE(V)	58
MAXIMUM INPUT CURRENT (I _{SC}) (A)	15
MAX CONTINUOUS OUTPUT POWER (VA)	290
MAX. CONTINUOUS OUTPUT CURRENT (A)	1.21
NOMINAL (L-L) OUTPUT VOLTAGE	240
CEC WEIGHTED EFFICIENCY (%)	97.0%

SYSTEM ELECTRICAL SPECIFICATIONS

CIR I	
NUMBER OF MODULES PER CIRCUIT	12
DC POWER RATING PER CIRCUIT (STC)(W DC)	4800
TOTAL MODULE QUANTITY	12 PV MODULES
STC DC POWER RATING OF ARRAY	4800W DC
INVERTER OUTPUT CIRCUIT CURRENT(A AC)	14.52
125% INVERTER OUTPUT CIRCUIT CURRENT(A AC)	18.15
CIRCUIT OCPD RATING (A)	20
	14.52A
COMBINED INVERTER CONTINUOUS OUTPUT CURRENT AC	
PV POWER PRODUCTION SYSTEM OCPD RATING (X125%)	20A
MAX. ARRAY STC-AC POWER (W)	3480W AC (STC)
MAX. ARRAY CEC-AC POWER (W)	4281W AC (CEC)

AC VOLTAGE RISE CALCULATIONS

	DIST (FT)	COND.	VRISE(V)	VEND(V)	%VRISE
VRISE SEC. 1 (MICRO TO JBOX) *	28.8	12 Cu.	1.7	241.7	0.70%
VRISE SEC. 2 (JBOX TO COMBINER BOX)	55	10 Cu.	1.9	241.9	0.80%
VRISE SEC. 3 (COMBINER BOX TO POI)	10	6 Cu.	0.1	240.1	0.06%
TOTAL VRISE			3.7	243.7	1.55% OK

* 8 MICROINVERTER MAX SUB-BRANCH CIRCUIT SIZE TO COMPLY WITH VRISE CALCULATIONS.

RACEWAY / CONDUCTOR CALCULATIONS

MICROINV. TO JUNCTION BOX (1)

MAX INVERTER OUTPUT CIRCUIT CURRENT =	14.5 A AC
CONDUCTOR SIZE / INSULATION / TYPE =	12 AWG 2C, TC-ER, CU.
CONDUCTOR AMP. RATING @ 90°C =	30 A

PER NEC 690.8(B)(1)(W/OUT CORRECTION FACTORS)

MAX INVERTER OUTPUT CURRENT X125%=18.0 A AC

PER NEC 690.8(B)(2)(WITH CORRECTION FACTORS)

AMB. TEMP. AMP. CORRECTION =	0.96
# OF CONDUCTORS IN RACEWAY CORRECTION =	1.0
ADJUSTED CONDUCTOR AMPACITY (A) =	28.8 A AC

LARGER AMPACITY OF 690.8(B)(1) OR (B)(2) = 18.0 < 28.8

(B)(1) - W/OUT CORRECTION FACTORS
LARGER AMPACITY COMPLIANCE = 30.0 > 18.0 **OK**

RACEWAY SIZE / TYPE = 3/4 IN. EMT OR FREE AIR
CONDUCTOR(S) / CABLE(S) CROSS-SECTION AREA (IN.^2) = 0.142 IN.^2

CROSS-SECTIONAL AREA OF RACEWAY(IN.^2) = 0.533 IN.^2

% ALLOWABLE RACEWAY FILL (NEC CH. 9, TBL I) = 53% > 27% **OK**

JUNCTION BOX TO JUNCTION BOX (2)

MAX INVERTER OUTPUT CIRCUIT CURRENT =	14.5 A AC
CONDUCTOR SIZE / INSULATION / TYPE =	10 AWG 2C, NM-B W/G, CU.
CONDUCTOR AMP. RATING @60°C =	30 A

PER NEC 690.8(B)(1)(W/OUT CORRECTION FACTORS)

MAX INVERTER OUTPUT CURRENT X125%=18.0 A AC

PER NEC 690.8(B)(2)(WITH CORRECTION FACTORS)

AMB. TEMP. AMP. CORRECTION =	0.91
# OF CONDUCTORS IN RACEWAY CORRECTION =	1.0
ADJUSTED CONDUCTOR AMPACITY (A) =	27.3 A AC

LARGER AMPACITY OF 690.8(B)(1) OR (B)(2) = 18.0 < 27.3

(B)(1) - W/OUT CORRECTION FACTORS
LARGER AMPACITY COMPLIANCE = 30.0 > 18.0 **OK**

RACEWAY SIZE / TYPE = FREE AIR

JUNCTION BOX TO COMBINER BOX (3)

MAX INVERTER OUTPUT CIRCUIT CURRENT =	14.5 A AC
CONDUCTOR SIZE / INSULATION / TYPE =	10 AWG THHN / THWN-2, CU.
CONDUCTOR AMP. RATING @75°C =	30 A

PER NEC 690.8(B)(1)(W/OUT CORRECTION FACTORS)

MAX INVERTER OUTPUT CURRENT X125%=18.0 A AC

PER NEC 690.8(B)(2)(WITH CORRECTION FACTORS)

AMB. TEMP. AMP. CORRECTION =	0.94
# OF CONDUCTORS IN RACEWAY CORRECTION =	1.0
ADJUSTED CONDUCTOR AMPACITY (A) =	28.2 A AC

LARGER AMPACITY OF 690.8(B)(1) OR (B)(2) = 18.0 < 28.2

(B)(1) - W/OUT CORRECTION FACTORS
LARGER AMPACITY COMPLIANCE = 30.0 > 18.0 **OK**

RACEWAY SIZE / TYPE = 3/4 IN. EMT
CONDUCTOR(S) / CABLE(S) CROSS-SECTION AREA (IN.^2) = 0.063 IN.^2

CROSS-SECTIONAL AREA OF RACEWAY(IN.^2) = 0.533 IN.^2

% ALLOWABLE RACEWAY FILL (NEC CH. 9, TBL I) = 40% > 12% **OK**

COMBINER BOX TO MAIN PV OCPD (10)

COMBINED INVERTER CONTINUOUS OUTPUT CURRENT =	14.5 A AC
CONDUCTOR SIZE / INSULATION / TYPE =	6 AWG THHN / THWN-2, CU.
CONDUCTOR AMP. RATING @75°C =	65 A

PER NEC 690.8(B)(1)(W/OUT CORRECTION FACTORS)

MAX COMBINED INVERTER CONTINUOUS OUTPUT CURRENT X125% =18.0 A AC

PER NEC 690.8(B)(2)(WITH CORRECTION FACTORS)

AMB. TEMP. AMP. CORRECTION =	0.94
# OF CONDUCTORS IN RACEWAY CORRECTION =	1.0
ADJUSTED CONDUCTOR AMPACITY (A) =	61.1 A AC

LARGER AMPACITY OF 690.8(B)(1) OR (B)(2) = 18.0 < 61.1

(B)(1) - W/OUT CORRECTION FACTORS
LARGER AMPACITY COMPLIANCE = 65.0 > 18.0 **OK**

RACEWAY SIZE / TYPE = 3/4 IN. EMT
CONDUCTOR(S) / CABLE(S) CROSS-SECTION AREA (IN.^2) = 0.203 IN.^2

CROSS-SECTIONAL AREA OF RACEWAY(IN.^2) = 0.533 IN.^2

% ALLOWABLE RACEWAY FILL (NEC CH. 9, TBL I) = 40% > 38% **OK**

ION

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DAVID STANLEY CONRAD
EC
EC.0100960

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1620 MARIAH LANE
ERIE, COLORADO 80516
(12) SILFAB SOLAR SIL-400 HC+
(12) ENPHASE IQ8PLUS-72-2-US
4.8KW DC, 3.48KW STC-AC,
4.281KW CEC-AC

DRAWING BY
IVY APUANG

DATE
30-MAR-2023

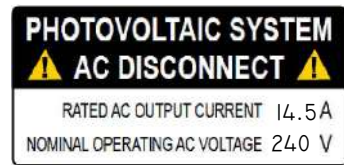
PROJECT ID
009C5C

SHEET NAME
ELECTRICAL CALCS.

SHEET NUMBER
E-7

REVISION
0

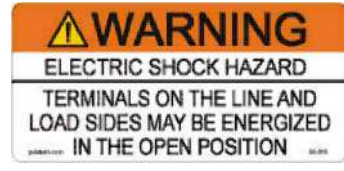
ELECTRICAL FIELD-APPLIED HAZARD MARKINGS



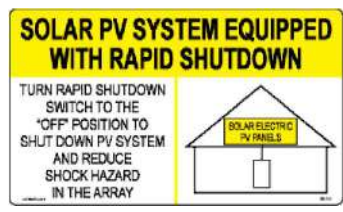
A AT EACH PV SYSTEM DISCONNECTING MEANS. [NEC 690.54, NEC 690.13(B)]



F SIGN LOCATED ON OR NO MORE THAN 3 FT FROM THE RAPID SHUT DOWN DISCONNECT SWITCH [NEC 690.56(C)].



B FOR PV DISCONNECTING MEANS WHERE ALL TERMINALS OF THE DISCONNECTING MEANS MAY BE ENERGIZED IN THE OPEN POSITION. [NEC 690.13(B), NEC 705.22]



G FOR BUILDINGS WITH PV SYSTEMS. TO BE LOCATED AT EACH SERVICE EQUIPMENT LOCATION TO WHICH THE PV SYSTEM IS CONNECTED. [NEC 690.56(C)]



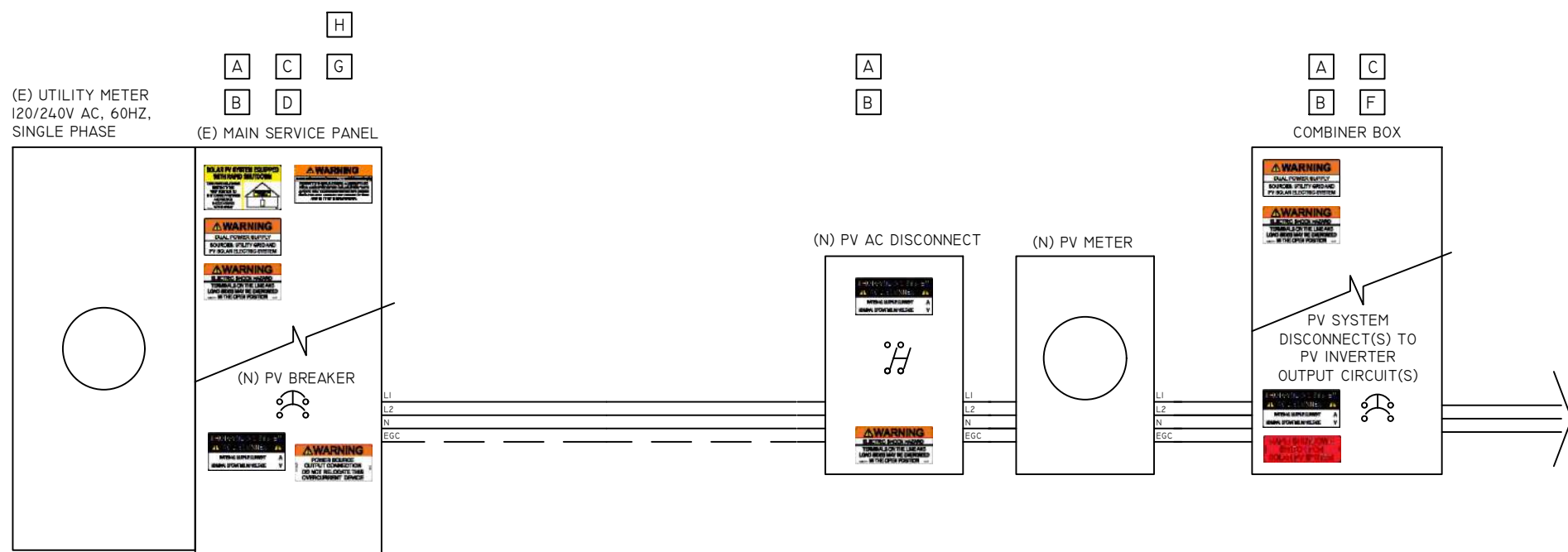
C AT EQUIPMENT CONTAINING OVERCURRENT DEVICES IN CIRCUITS SUPPLYING POWER TO A BUSBAR OR CONDUCTOR SUPPLIED FROM MULTIPLE SOURCES. [NEC 705.12(C)]



H PERMANENT DIRECTORY TO BE LOCATED AT MAIN SERVICE EQUIPMENT LOCATION IF ALL ELECTRICAL POWER SOURCE DISCONNECTING MEANS (SOLAR ARRAY RAPID SHUTDOWN SWITCH) ARE GROUPED AND IN LINE OF SITE OF MAIN SERVICE DISCONNECTING MEANS. [NEC 690.56(C) & NEC 705.10].



D PLACED ADJACENT TO PV SYSTEM PLUG-IN TYPE BREAKER TO A BUSBAR FOR A LOAD SIDE CONNECTION. [NEC 705.12(B)(3)(2)]



- ALL CAUTION, WARNING, OR DANGER SIGNS OR LABELS SHALL:
1. COMPLY WITH ANSI Z535.4-2011 STANDARDS.
 2. BE PERMANENTLY AFFIXED TO THE EQUIPMENT OR WIRING METHOD AND SHALL NOT BE HANDWRITTEN.
 3. SHALL BE OF SUFFICIENT DURABILITY TO WITHSTAND THE ENVIRONMENT INVOLVED.
 4. UNLESS OTHERS SPECIFIED MINIMUM TEXT HEIGHT TO BE 1/8" (3MM).

ION

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4.281KW CEC-AC

DRAWING BY IVY APUANG	
DATE 30-MAR-2023	
PROJECT ID 009C5C	
SHEET NAME ELECTRICAL LABELS	
SHEET NUMBER E-9	REVISION 0



CUSTOMER SELF-SERVICE PORTAL

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Inspection Number: 220588-2023

[Inspection Details](#) | [Tab Elements](#) | [Main Menu](#)

Inspection Type:	Solar Rough Photos	Requested Date:	05/19/2023	Requested Time:	05:10 PM
Inspection Status:	Pass	Scheduled Date:		Scheduled Time:	
Permit Number:	BPR-024043-2023	Completed Date:	05/19/2023	Completed Time:	3:10 PM
Inspector Name:	Mike Perras				
Main Address:	1620 MARIAH ERIE, CO 80516				



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Inspection Number: 221031-2023

[Inspection Details](#) | [Tab Elements](#) | [Main Menu](#)

Inspection Type:	Solar Final Service	Requested Date:	05/25/2023	Requested Time:	01:13 PM
Inspection Status:	Pass	Scheduled Date:	05/25/2023	Scheduled Time:	
Permit Number:	BPR-024043-2023	Completed Date:	05/25/2023	Completed Time:	11:18 AM
Inspector Name:	Matt Jensen				
Main Address:	1620 MARIAH ERIE, CO 80516				



Net Metering <netmetering@ionsolar.com>

PTO Request | Lakshma Vemmenthala | 1620 Mariah Ln

Luz Carrillo <lcarrillo@unitedpower.com>
To: Net Metering <netmetering@ionsolar.com>

Thu, Jun 8, 2023 at 9:52 AM

22790901

Lakshma Vemmenthala
[1620 Mariah Ln, Erie, Colorado, 80516](#)

Has PTO as of 6/7/2023

*****PLEASE NOTE THERE WILL BE NO APPLICATION APPROVALS, NET METER INSTALL ORDERS OR PTO SENT DURING THE WEEKS OF JULY 3RD – JULY 14TH*****



Luz (Lucy) Carrillo

Energy Systems Specialist

Office: 303-637-1390 |
lcarrillo@unitedpower.com |



United Power |
www.unitedpower.com
500 Cooperative Way Brighton, CO
80603
*Powering Lives, Powering Change,
Powering the Future—The
Cooperative Way*

From: Net Metering <netmetering@ionsolar.com>
Sent: Friday, May 26, 2023 12:26 PM
To: Luz Carrillo <lcarrillo@unitedpower.com>
Cc: vlaxmareddy@gmail.com
Subject: PTO Request | Lakshma Vemmenthala | 1620 Mariah Ln

CAUTION: This email originated from outside of United Power. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hello,

Please find attached the completed and approved inspection report for PTO. Please let me know if you need further information.

22790901

Lakshma Vemmenthala
[1620 Mariah Ln, Erie, Colorado, 80516](#)

Thank you,

Julese

Utility Department

[Redacted signature]

888-781-7074

netmetering@ionsolar.com

[Quoted text hidden]



Go to HighResolution Site



Lakshma Vemmenthala

1620 Mariah Ln , Colorado 80516

Alexys Hernandez

Apr 21, 2023

Customer Information

Customer Name:	Lakshma Vemmenthala	Survey Type:	Installation - Eligible
Survey Address:	1620 Mariah Ln , Colorado 80516	Survey Tech:	Alexys Hernandez
Assessment Date:	Apr 21, 2023	Salesforce Project Name:	Vemmenthala, Lakshma - 1620 Mariah Ln

General Install

Customer Name:

lakshma vemmenthala

Customer Address:

1620 Mariah Ln Erie, CO 80516 United States

Picture showing front of home and address:



Crew Lead:

Alexys Hernanadez

Picture of Job Hazard Analysis:

Date:

Crew Members:

Steven tancreti, Armando Aguirre, Anthony

Take a full house photo from the street/ground of the panels for marketing.:

Picture showing front of home with address visible (street curb, mail box, front door):

Panels

Panel Make and Model:

400

Number of panels installed:

12

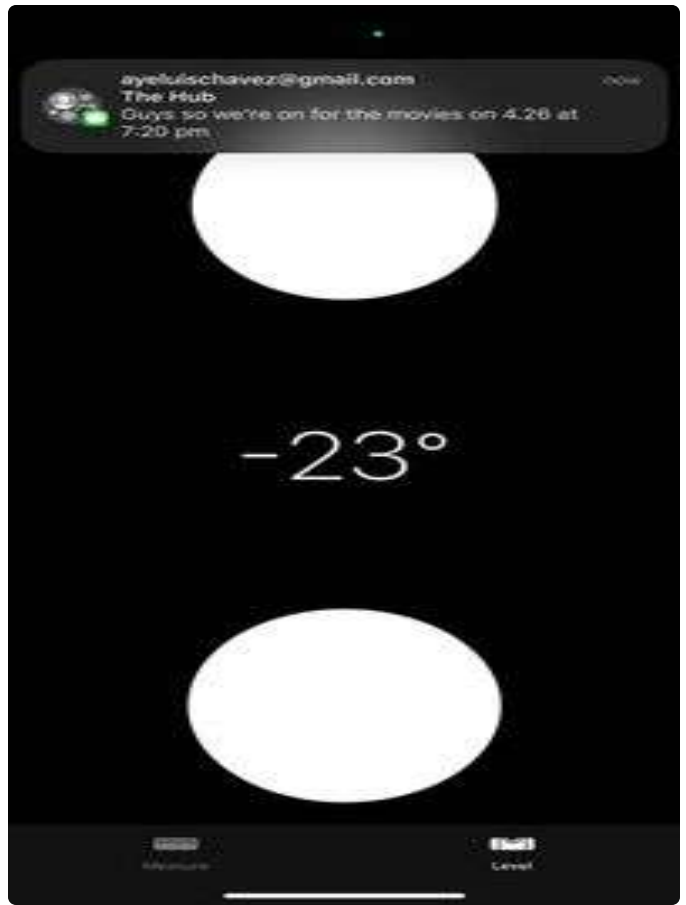
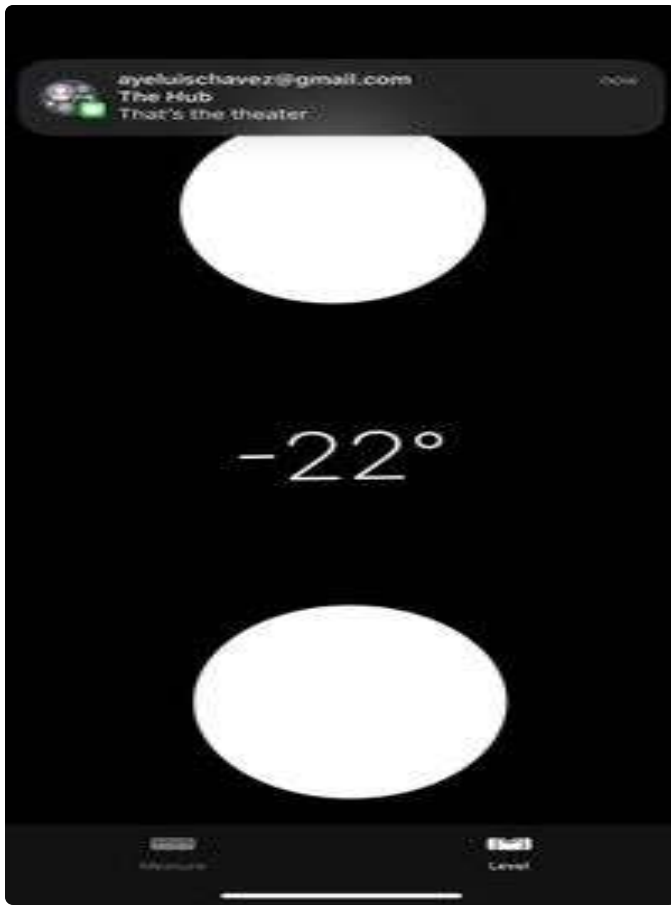
Back of Solar Panel (Show Serial Number, Watts of Panel That Correspond with Customer):

Picture of micro inverter label:

Site survey performed correctly? Do arrays fit as intended?:

Any Changes to the roof layout or roof design?:

Array Tilt (1 Photo for each Array):



Roof Checked post-install for Broken Tile, Tools, Trash, etc?:

ARRAY PHOTOS (ALL ARRAYS/PANELS! Photos must be clear enough so that each panel can be counted.)::



Mounts and Racking

Pre-install: Any existing damage on roof where solar panels will be located?:

Anchor Tie-Off (One life line per Anchor):



Anchor Tie-Off (Sealing After Removed):

Installer Harnessed & Tied Off (1 Photo):

Flashing SEALING BEFORE LAY:



Flashing AFTER SEALING:

Clamps to Racking (2 photos end and mid):

Mounts and Racking fully complete?:

Wire Management

How many Arrays Installed:

Wire Management Array #1:



Roof Clearance (1 Photo for Each Array):

Picture showing grounding conductor going from lug on array to rooftop junction box (soladeck):



Clear picture showing inside each rooftop junction box (soladeck):



Inverter(s) (2 Photos):

Wire management (trunk, inverters, etc) fully complete?:

What additional work is needed? How long will this take to complete? Do we need to order special equipment for it? How many people are needed and what skill level should they have? (inspections tech, crew, electrician, etc):

Attic Run

Is an attic run achievable?:

Yes

Boxes Mounted

Was all the wall mounted equipment successfully installed and tied into the homes existing electrical system?:

Yes

Is there a production meter?:

Yes

Production Meter - 1.) Show whole interior with cover off wiring completed 2.) Raceway entrance and connections:



Homerun Conduit

Home Run Conduit (As Many Photos as Necessary)::



Home Run Conduit fully complete?: :

Yes

Conduit Painted

Was the conduit painted?: :

Interconnection

Groundwork, MSP Checked post-install for Damage, Tools, Trash?: :

Any changes to electrical design or 1-line diagram (including breaker size or wire size)?: :

No

Groundwork Wall (2 Photos): :

Bonding (As Many Photos as Necessary): :





Did we Install Ground Rod(s)?: :

No

Is there a Utility Generation Meter?: :

No

Interconnection (3 Photos - Deadfront On, Deadfront Off, Showing Amperage): :



Interconnection fully complete?: :

Yes

Stickers, Placards, Labels, Brass Tags, Paperwork

Show LEGIBLE photos of all brass tags, stickers, and placards placed: :





Sticker with Volts and Amps Filled out :

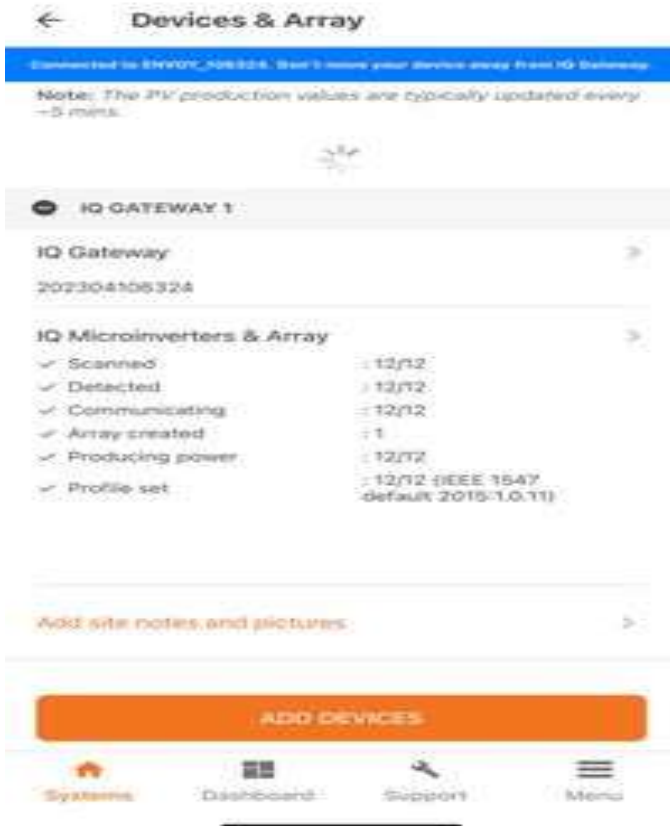
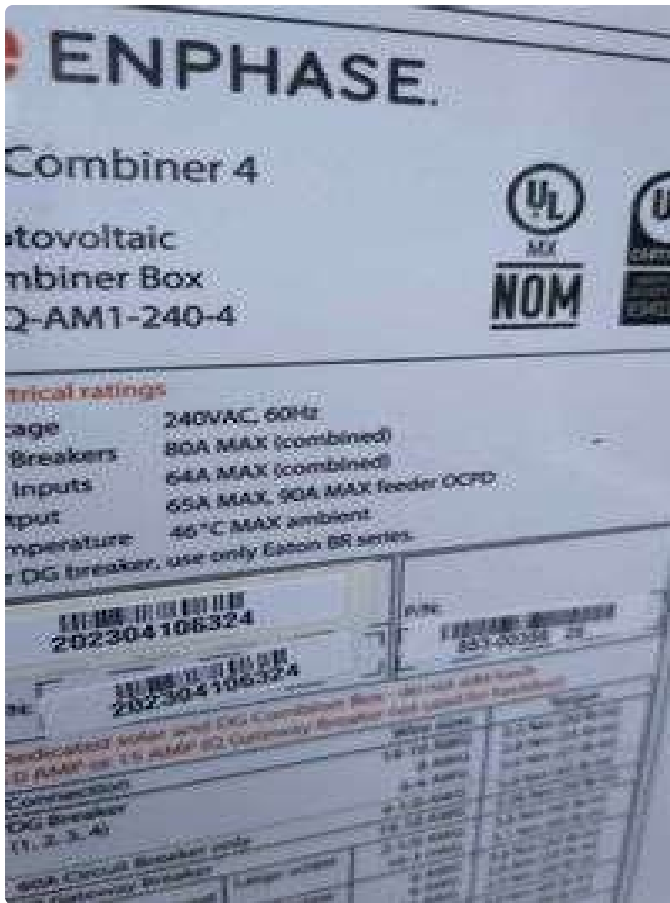


Stickers, placards, labels, and brass tags fully complete?: :

Yes

Envoy Provisioning

Photo showing Envoy serial number legibly: :



Envoy meter serial number: :

Envoy fully provisioned?: :

Readable picture of array map/sticker sheet.:

Notes

General notes about the project:: :
