

EXPRESS PERMIT PROCESS FOR SMALL-SCALE PV SYSTEMS MICRO-INVERTER

Required Information for Permit:

1. Site plan showing location of major components on the property. This drawing need not be exactly to scale, but it should represent relative location of components at site (see supplied example site plan). PV arrays on dwellings with a 3' perimeter space at ridge and sides may not need separate fire service review.
2. Electrical diagram showing PV array configuration, wiring system, overcurrent protection, inverter, disconnects, required signs, and ac connection to building (see supplied standard electrical diagram).
3. Specification sheets and installation manuals (if available) for all manufactured components including, but not limited to, PV modules, inverter(s), combiner box, disconnects, and mounting system.

Step 1: Structural Review of PV Array Mounting System

Is the array to be mounted on a defined, permitted roof structure? ☐ Yes ☐ No

If No due to non-compliant roof or a ground mount, submit completed worksheet for the structure WKS1.

Roof Information:

1. Is the roofing type lightweight (Yes = composition, lightweight masonry, metal, etc...)_____

If No, submit completed worksheet for roof structure WKS1 (No = heavy masonry, slate, etc...).

2. Does the roof have a single roof covering? ☐ Yes ☐ No

If No, submit completed worksheet for roof structure WKS1.

3. Provide method and type of weatherproofing roof penetrations (e.g. flashing, caulk)._____

Mounting System Information:

1. Is the mounting structure an engineered product designed to mount PV modules with no more than an 18" gap beneath the module frames? ☐ Yes ☐ No

If No, provide details of structural attachment certified by a design professional.

2. For manufactured mounting systems, fill out information on the mounting system below:

- a. Mounting System Manufacturer _____ Product Name and Model# _____
- b. Total Weight of PV Modules and Rails _____ lbs
- c. Total Number of Attachment Points _____
- d. Weight per Attachment Point ($b \div c$) _____ lbs (if greater than 45 lbs, see WKS1)
- e. Maximum Spacing Between Attachment Points on a Rail _____ inches (see product manual for maximum spacing allowed based on maximum design wind speed)
- f. Total Surface Area of PV Modules (square feet) _____ ft²
- g. Distributed Weight of PV Module on Roof ($b \div f$) _____ lbs/ft²

If distributed weight of the PV system is greater than 5 lbs/ft², see WKS1.

Step 2: Electrical Review of PV System (Calculations for Electrical Diagram)

In order for a PV system to be considered for an expedited permit process, the following must apply:

1. PV modules, utility-interactive inverters, and combiner boxes are identified for use in PV systems.
2. The PV array is composed of 4 series strings or less per inverter.
3. The total inverter capacity has a continuous ac power output 13,440 Watts or less
4. The ac interconnection point is on the load side of service disconnecting means (690.64(B)).
5. One of the standard electrical diagrams (E1.1, E1.1a, E1.1b, or E1.1c) can be used to accurately represent the PV system.

Fill out the standard electrical diagram completely. A guide to the electrical diagram is provided to help the applicant understand each blank to fill in. If the electrical system is more complex than the standard electrical diagram can effectively communicate, provide an alternative diagram with appropriate detail.

Fill out the standard electrical diagram completely. A guide to the electrical diagram is provided to help the applicant understand each blank to fill in. If the electrical system is more complex than the standard electrical diagram can effectively communicate, provide an alternative diagram with appropriate detail.

Step 3: Complete Solar Permit Application on the next two pages and sign. Include completed diagrams on pages four, five and six. Complete Tree Affidavit.

Step 4: Submit the application, supporting manufacturer's data, Photovoltaic Tree Affidavit and NABSEP certification via an email to Loraine Bell at: lbelle@dekalbcountyga.gov or in person at 330 West Ponce De Leon Avenue, 2nd floor, Decatur, GA 30030.

**Once approved, submit for an electrical trade permit online at:
http://63.170.23.47/DP1/Metroplex/DekalbCounty/permit/WIZ_APWELCOME.asp**

Chief Executive Officer

DEPARTMENT OF PLANNING & SUSTAINABILITY

Director

Andrew A. Baker, AICP

Shaded area for office use only

| | |
|---------------|----------------|
| Permit Number | Date Processed |
|---------------|----------------|

| | |
|---------------------------------|-----------------|
| PROJECT NAME / SUBDIVISION NAME | NUMBER OF UNITS |
|---------------------------------|-----------------|

| | | | | |
|-----------------|---------|-------|---------|-------|
| PROJECT ADDRESS | | City | State | Zip |
| Building # | Floor # | Apt # | Suite # | Lot # |

| | | |
|-----------------------|--------|-----|
| PROPERTY OWNER'S NAME | | |
| Address | | |
| Phone | Mobile | Fax |
| Email | | |

| | | |
|---|--------|-----|
| APPLICANT <input type="checkbox"/> Property Owner <input type="checkbox"/> Tenant Leasing Commercial Space <input type="checkbox"/> Contractor <input type="checkbox"/> Authorized Agent <input type="checkbox"/> Architect/Engineer | | |
| Applicant's Name | | |
| Company Name | | |
| Address | | |
| Phone | Mobile | Fax |
| Email | | |

| | | |
|---|---------------------------|-----|
| CONTRACTOR <input type="checkbox"/> Property Owner <input type="checkbox"/> To Be Determined <input type="checkbox"/> State of GA Licensed Electrical Contractor <input type="checkbox"/> Specialty Contractor | | |
| Contractor's Name | | |
| Company Name | | |
| Address | | |
| Phone | Mobile | Fax |
| Email | Business License Number | |
| Individual / Authorized Agent's State License # | Company's State License # | |
| NABSEP Certification # | # | |

MINIMUM FEE \$100 + \$20 Technology Fee

MICRO-INVERTER SITE PLAN

| | | | | | |
|--|-------|---|--------|-------|--|
| Contractor Name, Address and Phone: | | Site Plan for Small-Scale, Single-Phase PV Systems | | | |
| | | Site Name: | | | |
| | | Site Address: | | | |
| | | System AC Size: | | | |
| Drawn By: | SIZE | FSCM NO | DWG NO | REV | |
| Checked By: | SCALE | NTS | Date: | SHEET | |

EXPRESS PERMIT PROCESS FOR PV SYSTEMS

Diagram illustrating the connection of a PV system to a split-phase AC service panel. The diagram shows the PV array, micro-inverters, AC combiner panel, and the main service panel. Key components and connections are labeled:

- 1**: PV Array (Modules)
- 2**: Micro-Inverters in Branch-Circuit
- 3**: J-Box
- 4**: AC Combiner Panel
- 5**: AC DISCO (AC Disconnect)
- 6**: M (Main Service Panel)
- 7**: MAIN OCPD (Main Overcurrent Protection Device)
- 8**: INVERTER OCPD (Inverter Overcurrent Protection Device)
- 9**: MAIN SERVICE PANEL
- 10**: BUILDING GROUNDING ELECTRODE

Connections are shown for both the PV array and the AC combiner panel, leading to the main service panel. The diagram also indicates the location of the AC disconnect and the main overcurrent protection device.

SEE GUIDE APPENDIX D FOR INFORMATION ON MODULE AND ARRAY GROUNDING

FOR UNUSED MODULES PUT "N/A" in BLANK ABOVE

| | | | | |
|--|---|---------|--------|-------|
| Contractor Name, Address and Phone: | One-Line Standard Electrical Diagram for Micro-Inverter PV Systems | | | |
| | Site Name: Site Address: System AC Size: | | | |
| Drawn By: | SIZE | FSCM NO | DWG NO | REV |
| Checked By: | SCALE | NTS | Date: | SHEET |

NOTES FOR MICRO-INVERTER ELECTRICAL DIAGRAM

PV MODULE RATINGS @ STC (Guide Section 5)

| | |
|---|--|
| MODULE MAKE | |
| MODULE MODEL | |
| MAX POWER-POINT CURRENT (I_{MP}) | |
| MAX POWER-POINT VOLTAGE (V_{MP}) | |
| OPEN-CIRCUIT VOLTAGE (V_{OC}) | |
| SHORT-CIRCUIT CURRENT (I_{SC}) | |
| MAX SERIES FUSE (OCPD) | |
| MAXIMUM POWER (P_{MAX}) | |
| MAX VOLTAGE (TYP 600V _{DC}) | |
| VOC TEMP COEFF (mV/°C <input type="checkbox"/> or %/°C <input type="checkbox"/>) | |
| IF COEFF SUPPLIED, CIRCLE UNITS | |

NOTES FOR ALL DRAWINGS:

OCPD = OVERCURRENT PROTECTION DEVICE
NATIONAL ELECTRICAL CODE® REFERENCES
SHOWN AS (NEC XXX.XX)

INVERTER RATINGS (Guide Section 4)

| | |
|--------------------|--|
| INVERTER MAKE | |
| INVERTER MODEL | |
| MAX DC VOLT RATING | |
| MAX POWER @ 40°C | |
| NOMINAL AC VOLTAGE | |
| MAX AC CURRENT | |
| MAX OCPD RATING | |

SIGNS—SEE GUIDE SECTION 7

SIGN FOR DC DISCONNECT

No sign necessary since 690.51
marking on PV module covers
needed information

SIGN FOR INVERTER OCPD AND AC DISCONNECT (IF USED)

SOLAR PV SYSTEM AC POINT OF CONNECTION

| | |
|---|--|
| AC OUTPUT CURRENT | |
| NOMINAL AC VOLTAGE | |
| THIS PANEL FED BY MULTIPLE SOURCES (UTILITY AND SOLAR) | |

NOTES FOR ARRAY CIRCUIT WIRING (Guide Section 6 and 8 and Appendix E):

- 1.) LOWEST EXPECT AMBIENT TEMPERATURE BASED ON ASHRAE MINIMUM MEAN EXTREME DRY BULB TEMPERATURE FOR ASHRAE LOCATION MOST SIMILAR TO INSTALLATION LOCATION. LOWEST EXPECTED AMBIENT TEMP ____°C
- 2.) HIGHEST CONTINUOUS AMBIENT TEMPERATURE BASED ON ASHRAE HIGHEST MONTH 2% DRY BULB TEMPERATURE FOR ASHRAE LOCATION MOST SIMILAR TO INSTALLATION LOCATION. HIGHEST CONTINUOUS TEMPERATURE ____°C
- 2.) 2009 ASHRAE FUNDAMENTALS 2% DESIGN TEMPERATURES DO NOT EXCEED 47°C IN THE UNITED STATES (PALM SPRINGS, CA IS 44.1°C). FOR LESS THAN 9 CURRENT-CARRYING CONDUCTORS IN ROOF-MOUNTED SUNLIT CONDUIT AT LEAST 0.5" ABOVE ROOF AND USING THE OUTDOOR DESIGN TEMPERATURE OF 47°C OR LESS (ALL OF UNITED STATES),
 - a) 12 AWG, 90°C CONDUCTORS ARE GENERALLY ACCEPTABLE FOR MODULES WITH I_{sc} OF 7.68 AMPS OR LESS WHEN PROTECTED BY A 12-AMP OR SMALLER FUSE.
 - b) 10 AWG, 90°C CONDUCTORS ARE GENERALLY ACCEPTABLE FOR MODULES WITH I_{sc} OF 9.6 AMPS OR LESS WHEN PROTECTED BY A 15-AMP OR SMALLER FUSE.

NOTES FOR INVERTER CIRCUITS (Guide Section 8 and 9):

- 1) IF UTILITY REQUIRES A VISIBLE-BREAK SWITCH, DOES THIS SWITCH MEET THE REQUIREMENT? YES ☐ NO ☐ N/A ☐
- 2) IF GENERATION METER REQUIRED, DOES THIS METER SOCKET MEET THE REQUIREMENT? YES ☐ NO ☐ N/A ☐
- 3) SIZE PHOTOVOLTAIC POWER SOURCE (DC) CONDUCTORS BASED ON MAX CURRENT ON NEC 690.53 SIGN OR OCPD RATING AT DISCONNECT
- 4) SIZE INVERTER OUTPUT CIRCUIT (AC) CONDUCTORS ACCORDING TO INVERTER OCPD AMPERE RATING. (See Guide Section 9)
- 5) TOTAL OF ____ INVERTER OUTPUT CIRCUIT OCPD(s), ONE FOR EACH MICRO-INVERTER CIRCUIT. DOES TOTAL SUPPLY BREAKERS COMPLY WITH 120% BUSBAR EXCEPTION IN 690.64(B)(2)(a)? YES ☐ NO ☐

| | | | | |
|--|---|---------|--------|-------|
| Contractor Name, Address and Phone: | Notes for One-Line Standard Electrical Diagram for Single-Phase PV Systems | | | |
| | Site Name: Site Address: System AC Size: | | | |
| Drawn By: | SIZE | FSCM NO | DWG NO | REV |
| Checked By: | SCALE | NTS | Date: | SHEET |

DEKALB COUNTY ARBORIST - PHOTOVOLTAIC TREE AFFIDAVIT

DEKALB COUNTY DEPARTMENT OF PLANNING AND SUSTAINABILITY

Date: _____

Property Owner(s): _____

Project Address: _____

Please check or or more initial one of the following:

____ I certify that no trees will be removed or pruned for the installation of PV system.

____ I understand that no more than 20% (twenty percent) of the live canopy may be pruned. Pruning/removing up to 20% (twenty percent) of the live canopy must not make the tree lopsided or unbalanced. Proper pruning cuts must be made in accordance to ANSI standards.

____ I certify that I am removing up to five (5) healthy trees on your property per calendar year for the installation of PV system, *provided that those trees are not specimen trees*.

NOTE: The DeKalb County Ordinance Section 14-39 9(g) (8) defines a specimen tree as

A specimen tree is defined as a tree with a life expectancy of 15 years or more, relative sound trunk with no extensive decay or hollow and less than 20% trunk dieback. No major insect or pathological problem. In addition to a specimen tree must meet the following size guidelines:

- For Overstory (large) trees, ex.: Oak ,poplar & pine– diameter at breast height (4 ½ feet up from the ground) is greater than or equal to 30 inches (which equates to a circumference of 94.2 inches)
- For Understory (small) trees, ex: Dogwood - diameter at breast height (4 ½ feet up from the ground) is greater than or equal to 10 inches (which equates to a circumference of 31.4 inches)

I understand that if I provide false or misleading information in this form, I will be in violation of the DeKalb Tree Protection Ordinance and will be subject to the payments and penalties set forth therein.

I hereby affirm that the information provided is true and accurate. I hereby affirm that approval of this application does not constitute approval for any other permit that may be required by the county or other agency having jurisdiction.

I, (Owner's / Contractor's Signature) _____, attest that, to the best of my knowledge, all of the above information is true.

Sworn to and subscribed before me this _____ day of _____, 20____.

Signature of Notary Public

My Commission Expires

Notary Seal

Relationship to project (Circle): Property Owner Contractor Design Professional