

LAKE COUNTY  
SOLAR PHOTOVOLTAIC PERMIT APPLICATION CHECKLIST

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Building permits for a residential photovoltaic (PV) array system are processed and issued within 10 business days after the required permit application materials are submitted and fees are paid to the Planning, Building and Development Department, pending complete submittal. Systems not mounted on a roof may take additional time for zoning and Health Department review (if applicable). The permit fees are based on the cost of construction (see fee schedule [here](#)). The applicant must submit the required permit application, 3 sets of building plans, and 2 site plans (for ground mounted systems). Please refer to the list below for specific information required at time of application. Once permits are issued, inspections are required during the construction process (see list below) and are scheduled within 24-48 hours after the request is received.

**Required Information for Residential Permit Submittal:**

For non-residential projects, consult the Building Department for additional submittal requirements.

**\_\_\_\_\_ Fully completed application for a building permit, including the following information:**

Project address; owner's name, address, phone number, email; primary contact person's address, email, phone number; existing use; description of proposed work; cost of the project; cost of the alteration; total square footage of the project or area; and a list of contractors by trade.

**\_\_\_\_\_ Site Plan and Drawings****Ground Mounted:**

Scaled site plan showing the location and arrangement of panels on the property, the distance from the property lines, and adjacent building/structures (existing and proposed). Scaled drawing(s) of the proposed installation showing the structural element of the supporting structure and methods of attachment, as well as the height of the structure at its highest point.

**Roof Mounted:**

Scaled roof plan showing the arrangement of panels on the roof and scaled drawing(s) of the proposed installation showing the structural elements of the supporting structure and methods of attachment. This must include information on the roof truss or rafter sizing, weight of the equipment being installed, and type of roof covering and engineering details of the installation.

**\_\_\_\_\_ Roof-Mounted Solar Array Set Backs**

Array must be set back from all roof edges and ridges per 2012 IFC, Section 605.11. For roof mounted systems, diagram the proposed access pathway(s) from the soffit(s) to the ridge(s) including the clearance to the ridge(s). Note where valleys will be utilized as access pathways and keep access points away from doors, windows, or openings below.

**\_\_\_\_\_ Specification Sheet**

Specification sheets and installation manuals for all manufactured components including, but not limited to: PV modules, inverter(s), combiner box, disconnects, and mounting system.

\_\_\_\_\_ **Labeling**

Submit specifications for system and component marking per 2011 NEC and 2012 IFC

\_\_\_\_\_ **Electrical Line Diagram**

Electrical diagram showing PV array configuration, wiring system, overcurrent protection, inverter, disconnects, required signs, and AC connection to building.

\_\_\_\_\_ **Structural Review of Rooftop PV Installation Mounting System (*Answer the following questions to determine if you need to conduct a structural review*)**

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If you respond “NO” to any of questions 1 - 4 below, additional verification of the structural integrity of the project may be needed. An analysis of the structure and project stamped by an Illinois-licensed/certified structural engineer may be required, although other information may substitute for engineering review. Please contact a plan reviewer to determine additional information requirements. For truss systems, additional information may be needed to ascertain the truss’ design loads. Please contact a plan reviewer for standards on when structural analysis is needed. Pre- inspection may be needed based on the answers for questions 1 and 5.

1. Is the solar installation to be mounted on a pitched roof in good condition, without visible sag or deflection, no cracking or splintering of support, or other potential structural defect?  
 Yes  No
2. Is the equipment to be flush-mounted to the roof such that the collector surface is parallel to the roof?  Yes  No
3. Is the roofing type lightweight?  Yes (composition, metal, etc.)  No
4. Does the roof have a single layer roof covering?  Yes  No
5. Roof age:  < 5 years  5–10 years  20–30 years  30+ years

**Electrical Review Checklist**

\_\_\_ 1. Provide One Line Diagram including all circuitry, types/sizes of conduits and conductors, lengths of runs, arrays wiring, equipment, fusing, points of connections, disconnects, equipment grounding and component listings.

\_\_\_ 2. Inverters are listed to UL 1741. (NEC 690.4(B)) NOTE: grid-tied system inverters need to be identified for use in interactive power systems.

\_\_\_ 3. A complete grounding electrode system is present. The PV system equipment grounding conductors shall be connected to the grounding electrode system. (NEC 690.47(A))

- a. Current grounding system shall be updated to comply with the 2011 NEC. Since all metal parts of a PV system (raceways, enclosures, panel frames, racking, etc.) are required to be bonded together and incorporated into the grounding electrode system of the structure that they are attached to- it needs to be determined whether or not the existing grounding electrode system of the structure meets the minimum requirements of the 2011 NEC (which can be found in Part 3 of NEC Article 250). The existing system will be supporting the added PV system (that will be back feeding the service) and it needs to be found adequate to do so. Show that the current grounding system has a resistance to the earth of 25 ohms or less.

- \_\_\_4. Provide overcurrent protection as required per (NEC 690.9(A)(B)).
- \_\_\_5. PV system disconnect must disconnect the PV system from all other systems. (NEC 690.13) . Disconnects or isolating devices are installed for all ungrounded conductors. (NEC 240.15 & 690.15)
- \_\_\_6.If battery storage is proposed in the design, provide cut sheets and connection diagrams for battery storage system.

**Additional Information for Residential Permit Submittal:**

**Applicable Codes**

The proposed installation must comply with:

- 2012 International Residential Code
- 2012 International Building Code
- 2012 International Fire Code
- 2011 National Electrical Code
- 2018 International Solar Energy Provisions (proposed to be adopted in Fall 2019)

**Inspections**

- Pre-approval inspection (if applicable)
- A setback inspection (for ground mounted arrays)
- A base inspection (for ground mounted arrays)
- A rough electrical inspection
- A final inspection upon completion of work

It is the owner/applicant’s responsibility to schedule all required inspections. To request an inspection with the County, call 847-377-2600 or set up online [here](#). Please have your permit number readily available when scheduling inspections.

I, \_\_\_\_\_ (Please print) to the best of my knowledge and ability affirm and certify that all the information and answers to questions herein are complete, true and correct. I understand that any misrepresentation, falsification, or omission of any facts called for in the application may affect the validity of approvals issued.

Signature\_\_\_\_\_ Date\_\_\_\_\_

Address: \_\_\_\_\_

Building Permit # \_\_\_\_\_