



Village of Third Lake
87 N. Lake Ave.
Third Lake, IL 60030
847-223-8422

Permit Requirements

For Solar Panel

The following items are required to be submitted at time of application for solar panels.

Please provide all documentation required to the Village Hall when submitting application for work to be completed.

1. **Completed Building Permit Application** which includes 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. Application must be signed, dated, and include the total value of the project.
2. **Site Plan and Drawings**
 - a. **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.
 - b. **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.
3. **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
4. **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.
5. **Labeling** - Submit specifications for system and component marking per 2011 NEC and 2012 IFC
6. **Electrical Line Diagram** - Electrical diagram showing PV array configuration, wiring system, overcurrent protection, inverter, disconnects, required signs, and AC connection to building.
7. **Structural Review of Rooftop PV Installation Mounting System (*Answer the following questions to determine if you need to conduct a structural review*)**

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



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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.

- Yes or No 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 or No 2. Is the equipment to be flush-mounted to the roof such that the collector surface is parallel to the roof?
- Yes or No 3. Is the roofing type lightweight? If Yes (composition, metal, etc.)
- Yes or No 4. Does the roof have a single layer roof covering?
5. Roof age: _____ 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.



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Additional Information for Residential Permit Submittal:

- **Payment to the Village of Third Lake for a Review fee at time of application.**

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