



Residential Roof Mounted Solar Photovoltaic System Permit Application Checklist

This checklist will assist with determining the minimum required submittals when applying for a residential roof mounted solar photovoltaic system permit. There may be cases where additional submittal requirements are needed to show full compliance with the codes and ordinances, as determined on a case by case basis.

Required Information for Permit Submittal:

_____ **Fully completed application for an Electrical Permit, copy of electricians Illinois municipality license, and an electrician's signature on project related document.**

_____ **Site Plans and Drawings**

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 beings installed, and type of roof covering and engineering details of the installation. All associated equipment (electrical panel, disconnect, inverter(s), modules, mounting, meters, etc.) shall be located.

_____ **Roof-Mounted Solar Array Set Backs**

Array must be set back from all roof edges and ridges. An array shall occupy a maximum of 80% of the roof area. Diagram the proposed access pathway(s) from the soffit(s) to the ridge(s) including the clearance to the ridge(s). Note where valleys and roof surfaces will be utilized as access pathways and keep access points away from doors, windows, or openings below. Emergency egress/escape openings and pathways shall not be obstructed.

_____ **Specification Sheets**

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 2009 IFC.

_____ **Electrical Line Diagram**

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

Mayor: Rhiett Taylor
Trustees: Shawn M. Vogel ~ Ronald L. Jarvis ~ Kevin D. Waldenstrom ~ Elizabeth Davies ~ Adam R. Shores ~ Heather S. Nicodemus
Village Clerk: Cynthia E. Lee

_____ **Structural Review of the Rooftop PV Installation Mounting System**

An analysis of the structure and project, stamped by an Illinois licensed design professional, is required.

_____ **Neighbor Notification**

Provide documentation that all adjacent property owners have been notified of the application. This shall include any property owners across a public right-of-way.

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. 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)).
- ___ 4. Provide overcurrent protection as required per (NEC 690.9).
- ___ 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.

Required Information for a Residential Permit Submittal:

Applicable Codes

The proposed installation must comply with:

- 2009 International Residential Code
- 2009 International Fire Code
- 2011 National Electrical Code
- Grayslake Zoning Ordinance (Village Code Chapter 17)
- Local amendments to the above codes.

General Information

- Permit applications that require structural or other building modifications shall also submit a completed building permit application, and supporting drawings/submittals, stamped by an Illinois licensed design professional.
- Exposed framing systems and support structures for the solar system shall be of a color compatible with the roofing material color.
- Solar system associated equipment shall be screened from view with landscaping or screen walls consistent with the principal structure design, materials, and colors.

- Panels shall be designed to prohibit sun reflection towards vehicular traffic and any habitable portions of adjacent structures; reflection onto and adjacent roof is unacceptable.
- Residential solar photovoltaic systems shall be maintained in an operable condition at all times, except for reasonable maintenance and repair outages.
- Residential solar photovoltaic systems shall not have any advertising material, writing, pictures, or signage other than manufacturer or ownership information. Manufacturer or ownership information shall be no larger than one square foot. No flag, decorative sign, streamer, pennant, ribbon, spinner, or waving fluttering or revolving device shall be attached to any portion of the system.

Typical Inspections

- A rough electrical inspection
- A final inspection upon completion of work

Consumer Protection Resources

<https://www.illinoissolar.org/ISEA-Code-of-Conduct>

<https://irecusa.org/consumer-protection/>

<https://www.seia.org/initiatives/solar-customer-resource-portal>