Illinois Solar for All

UPDATED JANUARY 2025

Site Suitability Guidelines

Table of Contents

Introduction

These Illinois Solar for All (ILSFA) Site Suitability Guidelines identify rooftop residential solar and ground-mounted photovoltaic (PV) systems system installation barriers. These guidelines also prescribe Part I project approval minimum siting requirements. Properties with roofing, electrical, structural, or other issues can create or exacerbate maintenance and repair issues, create unexpected maintenance or improvement costs, and impact the performance of the system, potentially causing financial or legal burdens on property owners. These guidelines address common barriers in four category areas: a) roofing and structural, b) electrical, c) space and accessibility, and d) health and safety. Barriers in each of these categories may be found in income-eligible communities, where housing stock may be older and present deferred maintenance issues. Ground-mounted siting requirements represent site assessment requirements that are industry best practices.

This list of barriers and best practices is not exhaustive, and Approved Vendors should exercise judgment, training, and experience in site assessments. Approved Vendors, as well as their Designees, installers, and subcontractors, will follow these assessment protocols and ensure all requirements are met before contracting with participants. The ILSFA program requires approved projects to follow all applicable local building and electrical codes, standards, permitting, and zoning requirements and that sites meet the minimum suitability requirements detailed herein. Approved Vendors, as well as their agents, subcontractors, and Designees must attest that each installation meets these minimum requirements and will submit a completed Site Suitability Report, found at the end of this document, with each PV project application.

This document identifies barriers that represent an unacceptable safety hazard, property maintenance risk, or production risk. These conditions may also create a financial burden for the property owner if installation moves forward and repairs are deferred. For example, installing a PV system on a roof with only eight years of remaining life will incur removal and reinstallation costs before the end of the system life is reached and before the system, if approved, delivers 15 years of Renewable Energy Credits. To ensure high quality PV installations that are safe and productive for the project lifespan, Approved Vendors must submit a mitigation plan, discussed below, where existing site conditions do not meet minimum requirements at the time of Part I project application. The Energy Resources Guide identifies resources to help property owners resolve site deficiencies and programs and services to improve building energy

performance and affordability, as well as tenant comfort, health, and safety. In cases where critical onsite barriers cannot be resolved, these projects will not be approved by ILSFA.

Required Inspections

ILSFA requires photos as well as onsite inspections for installed projects. The Approved Vendor Manager reviews Part I photos submitted with the Part I project application, along with the Site Suitability Report, to validate the site suitability findings. Part II photo review documents the installed PV system, equipment, compliance with program and local code requirements, and general quality of workmanship. Onsite inspections will validate site suitability findings as well as a more detailed inspection of system quality, safety, and performance. All requirements of the Site Suitability Guidelines are validated for every ILSFA installation. Remedial processes associated with inspection findings are detailed in the Inspections section of the Approved Vendor Manual.

If an Approved Vendor seeks to move forward with an ILSFA installation at a site that does not meet the requirements presented in this document at the time of Part I project application but could meet these requirements with remedial measures, the Approved Vendor must provide a mitigation plan as part of the Site Suitability Report provided at the end of this section. Alternatively, if the Approved Vendor seeks to participate in the Home Repairs and Upgrades Initiative, it must complete the Home Repairs and Upgrades Pilot Reference List and submit photos of each repair needed prior to the full Part I submittal for the project. For more information, see the Home Repairs and Upgrades Application Process[1].

Projects submitted that do not meet these requirements and are not accompanied by a completed mitigation plan will not be approved. Where Approved Vendors dispute the findings of the Program Administrator, an appeal may be submitted in writing to the IPA in accordance with the process described in Section 1.4 of the Approved Vendor Manual.

Worker Safety Best Practices

Solar projects expose workers to jobsite hazards that can be minimized by following workplace safety requirements and standards such as OSHA and NFPA 70E. These common safety issues are not covered in the Site Suitability Guidelines or in ILSFA

[1] The Home Repairs and Upgrades Initiative was introduced as a pilot project in 2023-2024. The availability of home repair and upgrade funding is subject to change and may not be available in Program Year 7, 2025-25.

inspections. It is expected that Approved Vendors and their installer representatives will take precautions to minimize risk exposure by following these standards as well as through the appropriate use of fall protection, scaffolds, ladders, lifts, personal protective equipment, power tools, electrical safety protocols, and other safe work practices.

Site Suitability Screening

A comprehensive solar site analysis helps ensure a safe and well-performing PV system. Desktop tools have made great strides in bringing detailed analytical capabilities within the reach of a mouse click, but there is no substitute for a thorough in-person assessment of a proposed site. This document provides guidance and specific requirements for assessing a site's suitability for solar installation including:

1. Roofing and structural evaluation
2. Electrical evaluation
3. Space and accessibility
4. Health and safety considerations
5. Site assessment for ground-mounted systems

The Approved Vendor will document site suitability screening notes in the Site Suitability Report and share it with the Program Administrator and the property owner or manager. Available resources to help mitigate any deficiencies should be presented to the property owner or manager at this time.

Roofing and Structural Evaluation

ROOFING

It is critical to assess the roof covering and underlying structural support. The primary concern of the roof covering is its weather-sealing ability. Identifying potential roof degradation early reduces the chance of leak repairs and roof replacement later and costly removal and re-installation of PV equipment. Where it is difficult to determine the age or condition of a roof, a licensed, bonded, and insured roofer should be consulted. PV installers and/or roofers should inspect for the following problems with roofing materials:

- Asphalt shingles: brittleness, loss of granular coating, warping, curling, and moss growth where the roof is shaded or covered by foliage
- Slate, clay, or concrete tiles: cracks, misalignment, chips, missing tiles, and flaking

- Metal roofing: rusting, corrosion, and pitting
- Built-up, membrane, and gravel roofs: membrane brittleness, cracking, bubbling, evidence of water penetration

Requirements:

- The roof must have at least 15 years of expected life remaining and be weather-sealed.
- The roof must comply with all local building codes.
- If any of the conditions above are identified, they must be addressed through roof covering repair or replacement by a licensed, bonded, and insured roofer prior to or in conjunction with the installation of a PV system.
- Repairs must not void existing warranties.
- If it is determined that the site will need a new roof before the end of the 15-year REC period, the installation cannot proceed without a mitigation plan. The minimum requirements of the mitigation plan are:
    - The roof will be repaired or reroofed by a licensed contractor with a warranty of at least 15 years or provisions will be made for the removal and reinstallation of the PV system to allow for the reroofing on a future date.
        - The expense of the repairs, a new roof, or future reroofing cannot be supplied by ILSFA funding,
        - The expense of the PV mounting system and flashing are part of the PV system and can be supplied by ILSFA (as part of the REC or participant payments).
        - System removal and reinstallation costs are not covered by ILSFA funding.
- Any roof repair or replacement coordinated through the Approved Vendor and paid for, in whole or in part by financing obtained by the building owner, must not place an unsustainable financial burden on the building owner.; Specifically, financing amounts, terms, and conditions must be based on an assessment of the program participant's ability to repay the debt, as defined by Regulation Z, which is a federal rule that implements aspects of the Truth in Lending Act and the Dodd-Frank Act. See the Consumer Protection Handbook for more information.

STRUCTURAL

Roof surfaces and structures must be able to withstand the loads placed on them by PV arrays. The condition of the underlying structural members – trusses, rafters, beams – must be carefully evaluated. Additionally, the site should be assessed to determine that there has not been any significant decay of components or unaddressed fire or water damage that would impact the ability of the site to withstand loads associated with solar implementation. If the roof structure does not meet current structural code requirements and is not in generally acceptable structural condition, the site will be deemed unacceptable for solar installation. This will include checking specific components of the load as well as the solar array (overall geometry, weight limits, anchor layout, pullout strength, etc.) and compliance with support component

manufacturer's recommendations. The PV installer must also inspect the roof structure for:

- Significant decay, dry rot, insect, fire, or water damage of components
- Significant sagging, movement, or sponginess of the roof surface
- Added roof loads
- Multiple-layer roof (three or more layers)
- Removed web members
- Rafter holes, notches, and truss/roof framing modifications

Requirements:

- If any of the conditions above are identified, they must be addressed in a manner approved by a licensed structural engineer or architect before the PV installation can proceed.
- The roof structure should meet current local structural code requirements.
- The roof structure must be evaluated to be able to support additional loading of a PV system per ASCE-7 or local building code.

Electrical System

The electrical system is another key factor to be considered when determining site suitability for PV installation. Older homes often have electrical wiring that was installed according to previous versions of the National Electric Code (NEC) and is now out of code. This can lead to electrical issues that may need to be rectified before a PV system can be installed.

The PV installer must conduct an initial visual inspection to confirm none of the following hazardous and out-of-code conditions are present:

- Uncovered electrical boxes
- Improperly insulated or exposed wires
- Unsecure electrical connections
- Inadequate panelboard space for interconnection of the PV system
- Inadequate busbar capacity to handle power back fed into the panel
- Active knob and tube wiring
- Fused panelboards

Requirements:

- If any of the conditions above are identified, they must be resolved by an electrician licensed by the Authority Having Jurisdiction (AHJ) before a PV installation can proceed.
- The existing panelboard consists of circuit breakers and not Edison base fuses.

- The existing panelboard has space for adding the necessary overcurrent protection devices for the PV system.
- The busbar of the existing panelboard has enough capacity to handle the additional back fed load from the PV system.
- The existing panelboard does not present any hazardous electrical conditions (e.g., missing dead front cover, exposed wires, loose breakers, insufficient clearances, etc.).
- The existing electrical system does not contain active knob and tube wiring in any portion of the system.
- Electrical boxes are covered and all wiring has proper insulation and connectors.
- The electrical system must comply with the NEC enforced by the AHJ.

Space and Accessibility

PV systems require additional power conversion and safety equipment. The installation process will require safe access to the interconnection panel, the new equipment locations, and conduit routes. Sufficient space must be available for the planned inverter, disconnects, other balance of system equipment, and the accessibility clearances for these components.

The PV installer must conduct an initial visual inspection to confirm:

- Work areas are clear of hazardous materials (flammable materials, paints, solvents, etc.) and clutter that could impede work
- Electrical interconnection panel has sufficient clearances as defined by local electrical and building codes
- Planned equipment has sufficient mounting space and code-required work clearances

Requirements:

- Determine equipment locations with the building owner.
- Ensure spaces are hazard-free and have the proper clearances.

Other Health and Safety Considerations

HAZARDOUS MATERIALS

Older buildings may contain potentially hazardous materials that should not be disturbed (e.g., asbestos piping insulation, vermiculite, or fiberglass insulation). Hazardous materials can be harmful to workers and can introduce hazards to occupants if they are brought into living spaces. Where feasible, the hazardous materials should be removed by licensed remediation professionals. Where requirements cannot be met because of hazardous conditions, the PV system installation cannot be performed. ILSFA

does not provide funding to remediate hazardous materials or conditions. The PV installer should not:

- Disturb vermiculite insulation
- Disturb suspected asbestos-containing building materials (e.g., pipe wrap, fireproofing materials, boiler insulation, etc.) or any other materials that expose others to health or safety risk

Requirements:

- Develop installation plans that do not disturb hazardous materials.
- Do not install equipment within interior areas with exposed or damaged suspected asbestos materials.
- Do not enter roof cavities where vermiculite is suspected.

PESTS

Older buildings may have envelopes that are open to various types of pests (e.g., termites, insects, rodents, and birds). Left unchecked, pests can damage structural members and create unsafe and unhygienic work environments. ILSFA does not provide funding for pest control. The PV installer should not:

- Work in unsafe or unhygienic conditions

Requirement:

- Ensure work areas are free of pests prior to the installation of a PV system.

Ground-Mounted Systems

This section is relevant if any portion of the system will be ground-mounted. Ground-mounted solar systems must be able to withstand the loads placed on them by PV arrays. A ground-mounted system will need to have an appropriate foundation to support the proposed PV array. The installer will need to confirm that any flooding risks can be mitigated. If the site has a wide range of elevation variations, it may require grading to level out elevation differences. The geotechnical features of the proposed site will need evaluation to confirm the type of foundation necessary. Clearance around the PV array is required and needed for maintenance purposes. The installer must investigate the site to ensure eligibility will not be affected by wetlands or protected natural resources. If wetlands or protected natural resources are present, a mitigation plan to minimize impacts will be required.

Requirements:

The Approved Vendor must present an assessment that identifies all potential barriers to the PV system installation and provides mitigation plans to address any barriers identified. Ground-mounted systems larger than 250kW AC and systems that include ground-mounted sections larger than 250kW AC must provide a land use permit from Authority Having Jurisdiction (AHJ). If a land use permit is not required, the Approved Vendor will provide written confirmation from the AHJ that no permit is required. The Approved Vendor must attest that the permit requirements can be met.

The ground-mount narrative should describe notable features of the site conditions where the proposed system will be installed (e.g., soil conditions, flooding or marshy areas, excessive hills, old/abandoned foundations or structures, industrial waste, landfill, or capped remediation site). Photos should accompany the narrative.

Summary

The conditions summarized in this document may require the intervention of a licensed professional for remediation. Except in the case of projects enrolled in the Home Repairs and Upgrades initiative, ILSFA will not provide funding for remediation. Through the Home Repairs and Upgrades initiative, Illinois Solar for All may provide additional program incentives for repairs to a limited number of projects. The initiative makes additional incentives available to ILSFA Approved Vendors that complete the home repairs and upgrades necessary for solar installation on owner-occupied income-eligible homes within the Illinois Solar for All: Residential Solar (Small) sub-program. Wherever possible, the Approved Vendor and its installer should provide the site owner with available resources through the ILSFA Program Resources Guide and support the property owner in mitigating these deficiencies. Resources provided in the Program Resources Guide, as well as other resources known to the Approved Vendor or installer that can be used to support the mitigation of known risks or installation barriers, should be shared with property owners, including energy efficiency program details.

Finally, where repairs are made at a cost to the building owner, they should not place a financial burden on the owner and must be based on the customer's ability to pay. Specifically, financing amounts, terms, and conditions must be based on an assessment of the program participant's ability to repay the debt, as defined by Regulation Z, which is a federal rule that implements aspects of the Truth in Lending Act and the Dodd-Frank Act. See the Consumer Protection Handbook for more information.

Site Suitability Report

Project Information

Site address: _____

(City, state, zip code): _____

_____

Project type (select one):	Installation type (select one):
☐ 1-4 unit	☐ Rooftop
☐ 5+ unit	☐ Ground-mounted
☐ Non-profit/public facility	☐ Other (describe)
☐ Community solar	

Proposed project size (kW AC): _____

Building owner name: _____

Approved Vendor/Designee: _____

ILSFA Approved Vendor ID#: _____

Date: _____

For Designees: Aggregator associated with this project _____

Approved Vendor Site Assessment Statement

Select the applicable statement.

☐ This building/site meets all site suitability requirements in its current condition.

☐ This building/site will meet site suitability requirements prior to or coinciding with PV installation. The plan for these proposed remedial measures is detailed in the report below. The cost of repair will not place an unsustainable financial burden on the owner, as defined in the Site Suitability Guidelines.

☐ This building/site cannot meet the site suitability requirements without an unsustainable financial burden on the owner. The owner has been given the ILSFA Program Resources Guide to pursue assistance in mitigating problems outlined in this report. Upon successful mitigation, the owner is eligible to continue the process with the Approved Vendor or to contact the ILSFA program.

Site Conditions

Instructions: Complete each of the following sections and check the appropriate box. Please provide additional information and details in the notes section.

ROOF ASSESSMENT

The Approved Vendor/Designee uploads roof photos showing the overall roof condition and the area where the PV system will be located, according to Part I project application requirements.

☐ The roof is in good, very good, or excellent condition and is suitable for PV installation. A PV system installed here will not require removal for re-roofing within the required 15-year REC contract period. No repairs or upgrades are needed. Please describe:

☐ Minor repairs or upgrades are needed. Please describe:

☐ Major repairs or upgrades are needed. Please describe:

ROOF MITIGATION PLAN, IF APPLICABLE

☐ Roof deficiencies will be resolved by a licensed, bonded, and insured roofer prior to or in conjunction with installation of a PV system, provided that the repairs or replacement do not create an unsustainable financial burden on the building owner. The mitigation plan must describe the scope of work, the potential contractor(s), and how the work will be paid for.

Mitigation plan:

☐ Owner has selected not to proceed with roof repairs. The owner will not proceed with the PV installation at this time.

Notes:

Structural Assessment

The Approved Vendor/Designee uploads photo(s) showing the supporting structure, according to Part I project application requirements.

☐ The supporting structure is suitable for PV installation in its current condition. No upgrades are needed. Please describe:

☐ Minor repairs or upgrades are needed. Please describe:

☐ Major repairs or upgrades are needed. Please describe:

STRUCTURAL REPAIR PLAN, IF APPLICABLE

☐ Structural deficiencies will be resolved using a plan submitted by a licensed architect or structural engineer and approved by the local Authority Having Jurisdiction prior to or in conjunction with installation of a PV system, provided that the repairs or replacement do not create an unsustainable financial burden on the building owner. The mitigation plan must describe the scope of work, the potential contractor(s), and how the work will be paid for.

Mitigation plan:

☐ Owner has selected not to proceed with structural repairs. The owner will not proceed with the PV installation at this time.

Notes:

Electrical Assessment

The Approved Vendor/Designee uploads photos showing the electrical system tie-in location and overcurrent protection, according to Part I project application requirements.

SELECT THE APPLICABLE OPTION:

☐ The electrical system is suitable for PV installation. No upgrades are needed. Please describe:

☐ Minor repairs or upgrades are needed. Please describe:

☐ Major repairs or upgrades are needed. Please describe:

ELECTRICAL SYSTEM MITIGATION PLAN, IF APPLICABLE

☐ Electrical deficiencies will be resolved by licensed, bonded, and insured electricians with the approval of the local Authority Having Jurisdiction prior to or in conjunction with installation of a PV system, provided that the repairs or replacement do not create an unsustainable financial burden on the building owner. The mitigation plan must describe the scope of work, the potential contractor(s), and how the work will be paid for.

Mitigation plan:

☐ Owner has selected not to proceed with electrical repairs. The owner will not proceed with the PV installation at this time.

Notes:

Space, Accessibility, Health, and Safety Assessment

The Approved Vendor/Designee uploads photos showing there is ample space and clearances for PV system components, according to Part I project application requirements. Work areas must be clear of hazardous materials, pests, and other site hazards.

SELECT THE APPLICABLE OPTION:

☐ The site meets space, accessibility, health, and safety requirements. Please describe:

☐ Minor site changes are needed. Please describe:

☐ Major site changes are needed. Please describe:

SPACE, ACCESSIBILITY, PESTS, AND HAZARDOUS MITIGATION PLAN, IF APPLICABLE

☐ Site deficiencies will be resolved by licensed, bonded, and insured professionals as applicable (e.g., asbestos remediation contractor) and in accordance with local codes prior to or in conjunction with installation of a PV system, provided that the site mitigations do not create an unsustainable financial burden on the building owner. The mitigation plan must describe the scope of work, the potential contractor(s), and how the work will be paid for.

Mitigation plan:

☐ Owner has selected not to proceed with making the site free and clear of site space, accessibility, or health and safety deficiencies. The owner will not proceed with the PV installation at this time.

Notes:

Ground-Mount Siting Assessment

The Approved Vendor/Designee uploads photos and completes the following form, including a narrative description of the site, according to Part I project application requirements. Ground-mounted systems larger than 250kW AC must provide a land use permit from Authority Having Jurisdiction (AHJ). If a land use permit is not required, the Approved Vendor will provide written confirmation from the AHJ that no permit is required.

The Approved Vendor/Designee will attest that all permit requirements will be met as part of the construction of the ground-mounted system (please check the box on the attestation page).

☐ The site is suitable for ground mount PV installation. No upgrades are needed. Please provide a summary description of the conditions at the site:

☐ Minor repairs or upgrades are needed. Please provide a summary description of the conditions at the site and the specific item(s) to be remediated:

☐ Major repairs or upgrades are needed. Please provide a summary description of the conditions at the site and the specific item(s) to be remediated:

GROUND-MOUNT MITIGATION PLAN, IF APPLICABLE

☐ Barriers to ground-mounting will be resolved to the satisfaction of the local Authority Having Jurisdiction prior to or in conjunction with installation of a PV system. The mitigation plan will not create an unsustainable financial burden on the site owner. The mitigation plan must describe the scope of work, the potential contractor(s), and how the work will be paid for.

Mitigation plan:

☐ Owner has selected not to proceed with the remediation of barriers to the ground-mounted array. The owner will not proceed with the PV installation at this time.

Notes:

Attestation

☐ I verify that the information on this form is true, complete, and accurate.

☐ For ground-mount systems: I attest that all permit requirements have been investigated and can be met.

Name (first, last)

Title

Date

Company Name (Approved Vendor or Designee)

☐ Approved Vendor

☐ Approved Vendor Designee

☐ Subcontractor or Agent of Approved Vendor

Vendor/Contractor Signature Date

Participant/Property Owner Signature Date