



Linn County Building Division
www.linncounty.org/planning

Solar Panels

A Guide to Installing Photovoltaic Systems

Zoning Requirements

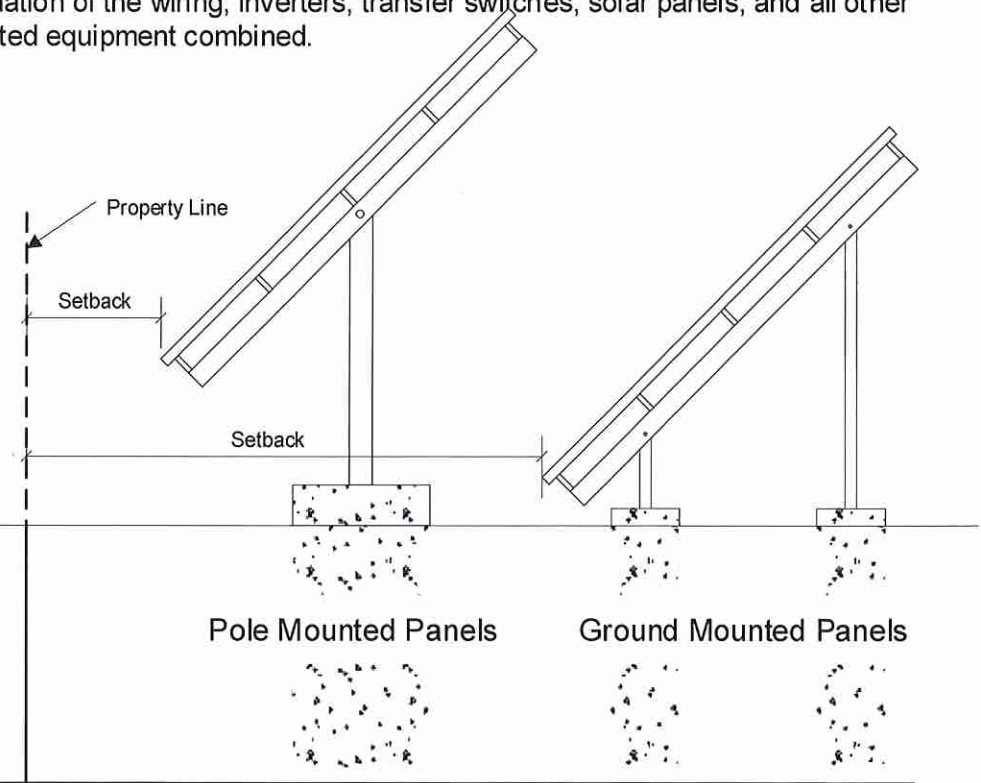
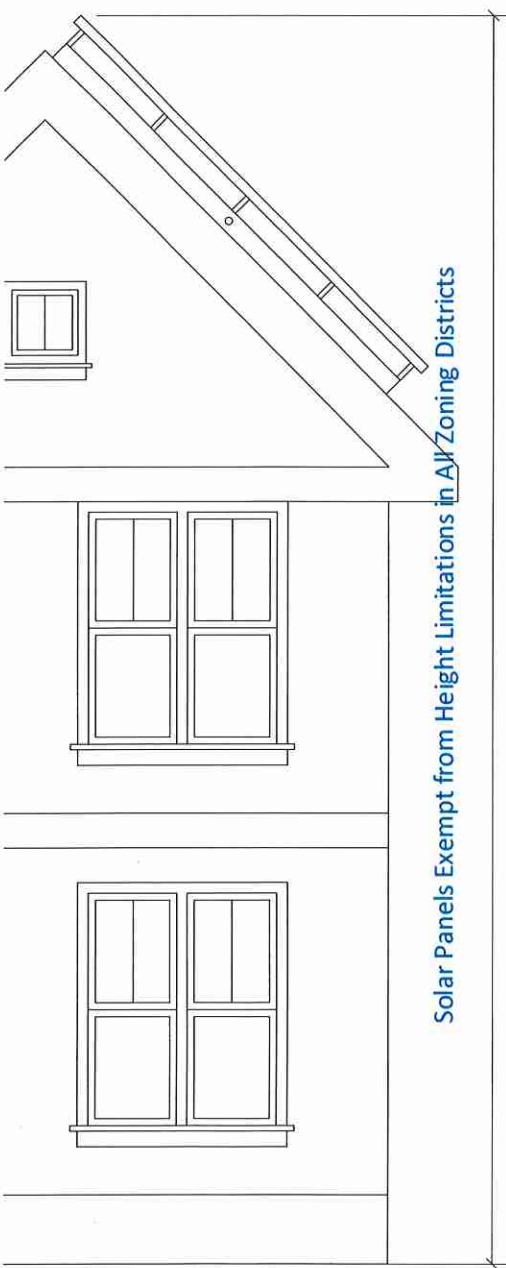
For ground- and pole mounted systems only: A site plan showing the location of the solar panels must be submitted for review and approval. A \$15 zoning permit will be issued after zoning staff verify the installation meets the setback requirements for accessory structures (setback varies by zoning district).

Building Requirements

Building Permit for Ground and Pole Mounted Systems: If panels are supported by racks or poles that are on the ground, a simple specification sheet showing the rack configuration and footings sizes must be submitted and reviewed by building division staff. Building permit fees are based on the value of the rack system and foundation only.

Building Permit for Roof Mounted Systems: If panels are roof mounted, a simple specification sheet showing the rack configuration and mounting must be provided. A structural analysis will also be required for roof framing members spaced at more than 24 inches center to center. Building division staff will review this information. Building permit fees are based on the value of the rack system only.

Electrical Permit: An electrical permit is also required for all solar panel installations. For residential applications, the permit fee will typically be \$40 for wiring without a service. (If the existing building service also needs to be upgraded or changed as part of the work being performed, the fee is \$50 for wiring including a new service) Commercial permit fees are based on the valuation of the wiring, inverters, transfer switches, solar panels, and all other related equipment combined.



Roof Mounted Panels

Pole Mounted Panels

Ground Mounted Panels





Linn County Planning and Development Photovoltaic Installation Plan Review Checklist

Within three (3) business days, Planning & Development Department staff will endeavor to review all photovoltaic solar array permits under 15 kW in size, and contact the applicant with approval, a request for more information, or rejection. Reviews of solar array permits over 15 kW may take longer than three (3) business days to complete.

In order to process your permit application in an expeditious manner you must provide *all* the required information regarding your proposal. *Incomplete applications will take significantly longer to process.* If you have questions please contact us using the information provided at the bottom of this sheet.

The following information will be required:

- A Building Permit Application and an Electrical Permit Application (to be completed in the Planning & Development office using information outlined in the next section)
- The installing contractor name, license type, and number
- An application fee (required with all applications and also serves as the price of the permit)

A complete application for a solar PV system will include:

- A permit application with:
 - The location of the proposed installation
 - Structural analysis of roof systems with framing member spacing of MORE than 24 inches center to center
 - Information about the mounting system that will be used to construct the array
 - Any zoning related information that may impact the installation
- A to-scale site plan showing:
 - Equipment locations
 - Types of panels and inverters
 - Types and sizes of conduits and conductors
 - Lengths of runs
 - A grounding diagram showing electrodes and grounding electrode conductors
- A wiring diagram showing:
 - All circuitry

- Equipment
- Fusing
- Points of connection
- Disconnects
- Array wiring
- Equipment grounding
- Cut sheets and instruction manual for the inverter with the applicable model numbers highlighted and the UL or comparable listing noted.
- Cut sheets for the PV modules, which need to include V_{OC} rating, I_{SC} rating, P_{MAX} , maximum series fuse rating, voltage at P_{MAX} and current at P_{MAX} .
- Cut sheets on batteries, if applicable, and connection diagrams with cable sizes.
 - Identify:
 - Battery fusing and fuse holders
 - Amp hour of battery bank
 - Charge capacity of charge system
 - Details for battery storage and venting
- Identify wire types and connectors of all cables.
- Provide details for array mounting and engineering for the supporting structure.
- Verify the ability of PV systems installed on three phase supplied systems to cease to export power on loss of voltage in any phase.
- Show all warning signs and their locations.

Ensure that all required materials have been completed and compiled and submit them to:

Linn County Planning and Development
935 2nd Street Southwest
Cedar Rapids, IA 52404
319.892.5130