



RESIDENTIAL SOLAR PLAN REVIEW CHECK LIST FOR STRING INVERTERS

Apply for a Residential Building Permit for A solar string inverter system. This information packet will help you prepare and organize the necessary information to help speed up the plan review process and turnaround time for building permits. Be prepared to provide all the information requested in electronic format so that it can be submitted electronically.

Solar Permits, String Inverter

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Residential Solar Photovoltaic (PV) System Plan Submittal Checklist

This checklist is only a basic list of items needed **to begin** a solar PV system plan review and is **not** all inclusive. Having all the items listed on this checklist does **not** guarantee a permit will be issued and any additional plans, information, and/or requirements may be requested or required by Roy City at any time.

1. **Site plan:** A detailed site plan showing the location of the home, electrical meter panel, any backfed sub-panelboards, and all PV system components on the property is required.
2. **Mounting system:** Provide detailed information on the module mounting system and also the weight of all components on the roof. The support manufacture specs must also specify the required support spacing based on the local wind and snow loads. Note if the home roof rafters are engineered trusses or provide information on the type and size of the roof rafters if they are other than engineered trusses. Also note the type of the roof covering (shingles, metal, or tile) and how many layers of the covering there are.
3. Show that the existing roof rafters can safely handle the new loads of the system. Provide an engineer's analysis of the roof structure.
4. **One-line diagram:** A detailed one-line diagram is required and must show: the type of PV system being installed (a single inverter system with one or more strings of modules connected in series, a micro inverter system, or an AC module system), the exact number and layout of modules and how they are connected together (in series or in parallel), all wire types, all wire sizes, conduit types and sizes, detailed info on the grounding wiring and connections, the locations of all circuits and system components on or in the house, and the ratings of all fuses or breakers.
5. **Electrical panel to be backfed:** **Note which home electrical panel the PV system will backfeed and give the location and rating of that panel. Please provide pictures of the service panel with a picture of its interior label also. Please also provide photos of labels of any sub-panel that will be backfed.**
6. **Module spec sheets:** Provide the PV module (solar panels) spec sheets showing the modules' **STC** rated watts (Pmp), volts (Vmp), amps (Imp), open circuit voltage (Voc), and short circuit current (Isc). Modules must be listed UL 1703.
7. **Inverter spec sheets:** Provide the inverter manufacture spec sheets showing the amount of watts and volts the inverter can safely handle, and also noting what the inverter's max rated AC output amps and voltage is. Utility tied inverters must be listed as "utility interactive" meeting UL 1741, and have ground fault protection.
8. **Total array power:** (This is not required for systems with micro inverters) Provide the total amount of watts, amps, volts, open circuit voltage (Voc at the coldest possible outside temperature-see NEC 690.7), and short circuit current that the array can produce.
9. **System components:** Provide information on the different types of components that will be used in the system and how they are to be installed. Also show that all equipment is listed and rated for the type of voltage (AC or DC), amount of voltage, and the amount of current that it could be subjected to.