

Residential Solar Panel (PV) Requirements

General Information

A permit is required for the installation of Solar Panel (PV) systems, which must comply with the requirements of the National Electrical Code and International Residential Code. Please see the Solar Panel/Photovoltaic (PV) system installation handout notes for material and installation requirements.

This work must be performed by a licensed Electrical Contractor registered as such with the City of Lewisville.

Plan Review

Submit site plan (a survey plat is required) showing the proposed location of the solar panels with respect to the property lines, easements and house.

Please see the Solar Panel - PV Check List for additional details related to Plan Review submittal requirements.

Inspections

Inspections will be required prior to and upon completion of work. A permit must be obtained prior to construction and must remain posted at the work site until the approved Rough Electric, Framing, Final Electric, and Final Inspection have been completed and the project is considered complete. The contractor shall request inspections through our [online inspection request](#) portal.

Fees and Applications

A permit fee is required, and an [online application](#) must be completed and submitted to Building Inspections. Building Inspections can be contacted at 972.219.3470 for additional information.

Additional Information

Note: Solar intended for a single user (i.e. an individual residence or business) is allowed by right in all zoning districts and does not require an SUP based on the Building Official's historical interpretation of the Zoning Ordinance. Section 17-3 refers to the requirements for a larger scale "private utility plant or substation" that would generate power for multiple users and would be required to go through the SUP process. For additional information, Building Inspections can be contacted at 972.219.3470.

**SOLAR PANEL/PHOTOVOLTAIC (PV) SYSTEM
INSTALLATION HANDOUT NOTES
2014 NATIONAL ELECTRICAL CODE**

1. Contact Building Inspection Supervisor prior to beginning Construction.
2. A rough electric inspection shall be performed prior to installing panels on roofs.
3. Provide an independent PV disconnect ahead of the inverter.
4. Equipment grounding conductors used for grounding arrays smaller than is #6 AWG. Copper shall be installed in a suitable raceway. All exposed equipment grounding and bonding conductors shall be solid copper or UV rated.
5. Devices (lugs) used for grounding arrays shall be suitable for use in wet locations (tin plated copper) and attachment hardware shall be stainless steel with star washers.
6. Provide all appropriate warning labels at disconnects and equipment.
7. Plastic UV rated cable ties shall not be used to secure exposed wiring between modules. Approved clips, stainless steel cable ties, or stainless steel pipe clamps with rubber inserts are acceptable.
8. Conductors and conduits run on rooftops may require additional ambient temperature adjustments per table 310.15(B)(3)(c).
9. Residential interior PV direct current system conductors shall be identified by system to comply with NEC 2011 section 690.4 (B). Direct Current ungrounded conductors shall be Orange or Yellow. The grounded conductor shall be identified by the color Gray.
10. PV source and output circuits run inside the building shall not be installed within 10" of the roof decking unless installed directly below the roof surface covered by PV modules and associated equipment. 690.31(E)(1)
11. Metal junction boxes, raceways, or other wiring methods supplying dc circuit wiring shall be labeled designating "Photovoltaic Power Source". 690.31. (E)(3) &(4)

Note: The 2014 NEC has many significant changes to article 690 and 705. Installers should carefully review those sections prior to installing photovoltaic systems. This is not an all-inclusive list and should only be used as a guideline for reference only.

Solar Panel - PV Check List

Please fill out the Solar Panel Self-Checklist and please sign below that all information is correct. Your self-checklist must be submitted along with your Solar Panel plans and application.

Residential Application Commercial Application

Copy of inverter manufacturer information sheets

Copy of module manufacturer information sheets

Copy of rail/racking system manufacturer information sheets and method of attachment.

Type of roof covering? Asphalt Other _____

Number of roofing layers installed _____

Type of roof framing Truss Stick: size of rafters and spacing _____

Does the proposed equipment installation cause the roof load assembly to exceed the maximum requirement of 10 psf per the IRC? Yes No

How many modules will be installed? _____

Where will modules be installed? Roof Accessory Structure

Site plan showing system installed on property. Site plan must include the following: modules, inverter(s), combiner boxes, all ac & dc disconnects, utility disconnect and meter(s), service panelboard

Copy of one-line or three-line diagrams

Connection to utility grid Supply Side Connection Load Side Connection

Panelboard ampere rating _____ amps Main breaker _____ Back feed Breaker _____ amps

System configuration Positive ground Negative ground Ungrounded

Are battery's being installed? Yes No

Signature: _____ Date: _____

Contact Name: _____ Phone: _____

This handout is for informational purposes only and should not be relied on in place of official regulations and/or policies. The CITY OF LEWISVILLE makes no representations, guarantees, or warranties as to the accuracy, completeness, currency, or suitability of the information provided via the handout. Customers and citizens are personally responsible for complying with all local, state and federal laws pertaining to projects within the city. Copies of the CITY OF LEWISVILLE adopted codes and Zoning Ordinances can be found on the city website at <http://www.cityoflewisville.com> or at the CITY OF LEWISVILLE [151 W. Church Street, Lewisville, Texas 75057](http://www.cityoflewisville.com)