



City of Long Beach
Department of Development Services
333 West Ocean Blvd., 4th Floor
Long Beach, CA 90802
Phone: (562) 570-5237 Fax: (562) 570-6753
Website: www.lbds.info

Small Residential Rooftop Solar PV Systems ≤ 10 kW Express Eligibility Checklist

GENERAL REQUIREMENTS

- | | | | | | | | |
|----|--|--------------------------|-----------|--------------------------|-------------|--------------------------|--------|
| A. | System size is 10 kW AC CEC rating or less | <input type="checkbox"/> | Y | <input type="checkbox"/> | N | | |
| B. | System is roof-mounted on one- or two-family dwelling or accessory structure | <input type="checkbox"/> | Y | <input type="checkbox"/> | N | | |
| C. | System will not exceed the maximum legal building height | <input type="checkbox"/> | Y | <input type="checkbox"/> | N | | |
| D. | No other existing systems are on the roof | <input type="checkbox"/> | Y | <input type="checkbox"/> | N | | |
| E. | Development Services permit application is completed and attached | <input type="checkbox"/> | Y | <input type="checkbox"/> | N | | |
| F. | Solar PV Plan and supporting documentation is completed and attached | <input type="checkbox"/> | Y | <input type="checkbox"/> | N | | |
| G. | Please indicate the type of electrical plans being submitted | <input type="checkbox"/> | Std Micro | <input type="checkbox"/> | Std Central | <input type="checkbox"/> | Custom |

ELECTRICAL REQUIREMENTS

- | | | | | | |
|----|--|--------------------------|---|--------------------------|---|
| A. | Using existing service panel rated 100 AMPS or greater | <input type="checkbox"/> | Y | <input type="checkbox"/> | N |
| B. | No more than four photovoltaic module strings are connected to each Maximum Power Point Tracking (MPPT) input where source circuit fusing is included in the inverter | <input type="checkbox"/> | Y | <input type="checkbox"/> | N |
| 1) | No more than two strings per MPPT input where source circuit fusing is not included | <input type="checkbox"/> | Y | <input type="checkbox"/> | N |
| 2) | Fuses (if needed) are rated to the series fuse rating of the PV module | <input type="checkbox"/> | Y | <input type="checkbox"/> | N |
| 3) | No more than one non-inverter-integrated DC combiner is utilized per inverter | <input type="checkbox"/> | Y | <input type="checkbox"/> | N |
| C. | For central inverter systems: No more than two inverters are utilized | <input type="checkbox"/> | Y | <input type="checkbox"/> | N |
| D. | System is interconnected to a single-phase AC service panel of nominal 120/220 Vac with a bus bar rating of 225 A or less | <input type="checkbox"/> | Y | <input type="checkbox"/> | N |
| E. | System is connected to the load side of the utility distribution equipment and the sum of the ampere ratings of overcurrent devices on circuits supplying power to a busbar or conductor does not exceed 120% of the rating of the busbar or conductor | <input type="checkbox"/> | Y | <input type="checkbox"/> | N |
| F. | Proposed installation is not a line side tap | <input type="checkbox"/> | Y | <input type="checkbox"/> | N |
| G. | The service panel is not center fed | <input type="checkbox"/> | Y | <input type="checkbox"/> | N |
| H. | The proposed circuit conductors are #10 AWG and less than or equal to 100-feet | <input type="checkbox"/> | Y | <input type="checkbox"/> | N |
| I. | All wiring system and equipment are located outside of the premise | <input type="checkbox"/> | Y | <input type="checkbox"/> | N |
| J. | Cold-water grounding for the system will be provided within 5-feet of water service entry to the residence | <input type="checkbox"/> | Y | <input type="checkbox"/> | N |

FIRE SAFETY REQUIREMENTS

- | | | | | | |
|----|---|--------------------------|---|--------------------------|---|
| A. | A diagram of the roof layout of all panels, modules, clear access pathways and approximate locations of electrical disconnecting means and roof access points are completed and attached. | <input type="checkbox"/> | Y | <input type="checkbox"/> | N |
| B. | System is a Fire Classification "C" rating | <input type="checkbox"/> | Y | <input type="checkbox"/> | N |
| C. | All required markings and placards will be provided | <input type="checkbox"/> | Y | <input type="checkbox"/> | N |
| D. | System diagram will be placed at the main panel | <input type="checkbox"/> | Y | <input type="checkbox"/> | N |

STRUCTURAL REQUIREMENTS

ROOF CHECKS

- A. Visual Review/Contractor's Site Audit of Existing Conditions:
- 1) Is the roof a single roof without a reroof overlay? Y N
 - 2) Does the roof structure appear structurally sound, without signs of alterations or significant structural deterioration or sagging as shown in Figure 1? Y N
- B. Roof Structure Data:
- 1) Measured roof slope (e.g. 6:12): _____:12
 - 2) Type of roof framing (rafter or Manufactured truss): Rafter Truss
 - 3) Measured rafter spacing (center-to-center): _____"
 - 4) Measured rafter size (e.g. 13/4 x 33/4, not 2x4): _____" x _____"
 - 5) Measured rafter horizontal span (see Figure 4*): _____' - _____"
 - 6) Horizontal rafter span per Table 2*: _____" - _____"
 - 7) Is measured horizontal rafter span less than Table 2* span? Y N

SOLAR ARRAY CHECKS

- A. Flush-mounted Solar Array:
- 1) Is the plane of the modules (panels) parallel to the plane of the roof? Y N
 - 2) Is there a 2" to 10" gap between underside of module and the roof? Y N
 - 3) Modules do not overhang any roof edges (ridges, hips, gable ends, eaves)? Y N
- B. Do the modules plus support components weigh no more than 4 psf for photovoltaic arrays? Y N
- C. Does the array cover no more than half of the total roof area (all roof planes)? Y N
- D. Are solar support component manufacturer's project-specific worksheets, tables completed? Y N
- E. Is a roof plan of the module and anchor layout attached? See Figure 2.* Y N
- F. Downward Load Check (Anchor Layout Check):
- 1) Proposed anchor horizontal spacing. See Figure 2.* _____' - _____"
 - 2) Horizontal anchor spacing per Table 1.* _____' - _____"
 - 3) Is proposed anchor horizontal spacing equal to or less than Table 1* spacing? Y N
- G. Wind Uplift Check (Anchor Fastener Check):
- 1) Anchor fastener data (see Figure 3*):
 - a. Diameter of lag screw, hanger bolt or self-drilling screw: _____"
 - b. Embedment depth of rafter: _____"
 - c. Number of screws per anchor (typically one): _____
 - d. Are 5/16" diameter lag screws with 2.5" embedment into the rafter used, OR does the anchor fastener meet the manufacturer's guidelines? Y N

*Refer to the website at <http://www.lbds.info/solarpermits>.

SUMMARY:

- A. These criteria are intended for express solar permitting process by checking "Y" to all above questions.
- B. If any items are checked "N," revise design to fit within Eligibility Checklist, otherwise permit application may go through standard process.

Job Address: _____ Permit #: _____

Contractor/Installer: _____ License # & Class: _____

Signature: _____ Date: _____ Phone #: _____