



## **Building Safety Residential Solar Water Heater Requirements**

The following checklist has been prepared in order to streamline the process of applying for and obtaining a permit for your solar water heating system. It is important that the installation be permitted and inspected to insure the safety of the installation. If you have any further questions regarding your permit, please contact Plans Examiner, Adam Venetis for assistance. If you have issues regarding planning or zoning items, you may contact Remigio Cordero, city Planner. Both Adam and Remigio can be reached at 623-930-2800. A permit application can be obtained through the website <http://www.glendaleaz.com/buildingsafety/documents/Permit-Application.pdf>

Please note that a licensed contractor is required to install your system and they should be able to assist you by providing the information you will need to obtain the permit.

**Building Safety Requirements:** In order to complete the application and obtain a permit, you will need to provide the following information.

- 1.) Property owner
- 2.) Property address
- 3.) Contractor's name and license number
- 4.) Contractor's City of Glendale Sales Tax number
- 5.) Size of the system
- 6.) Valuation of the system including the installation

You will be expected to provide plans to the city for the system that you are proposing. The information you will need to provide includes:

**Please Provide:**

- 1.) A site plan will be required showing the location of all buildings on the property as well as the location of the unit on your property.
- 2.) Specify the applicable codes (2006 IRC, 2006 UPC, 2006 IMC, & 2005 NEC)
- 3.) Provide a simple floor plan indicating the location of water heater and solar panels with proper protection per IMC, 303.4
- 4.) Be aware that all water heaters in a garage have an ignition source that produces a spark. For this reason, the water heater and all associated equipment must be elevated not less than 18" above garage floor (UPC, 508.14)
- 5.) You will need to specify the location and termination details of the temperature & pressure relief line at the water heater. (UPC, 608)
- 6.) Provide electrical disconnecting means of all equipment: electrical disconnects, lockout breakers, or service panel within sight of any pumps and water heaters (NEC, 422.30)
- 7.) Provide and specify the electrical disconnecting means of all equipment. This could include any electrical disconnects, lockout breakers, or a service panel within sight of any photovoltaic equipment (NEC, 422.30)

8. Provide the size and weight of all roof top units. Please be aware that the maximum allowable additional loading of all roof units is 20 pounds per square foot (IRC, Table R301.6)
9. Provide a note on the plans that the solar water system and all solar panels shall be installed in accordance with NEC 690 and posted with applicable warnings, signage and plaques per NEC 705-10, 690-17, and 690-64(b)(5)
10. Provide the existing roofing material and the existing slope (IRC, Chapter 9)
11. Specify the anchoring method of all units
12. Specify and provide flashing at all roof penetrations (IRC, R903)
13. Provide an electrical one-line diagram of the service entrance system. Since you are adding additional loads to you electrical unit, you must also provide us with electrical load calculations. Be sure to include all existing and new information.
14. Provide cut sheets and listings for the system.
15. Provide the listing of all equipment from a nationally recognized testing agency such as UL.
16. Provide the specifications for installation on the job site.

**Permit fees-** Based on the City of Glendale currently adopted fee schedule, the fees for the solar water heating system for residential construction will be as follows:

Base Permit Fee:	\$26.17
Water Heater:	13.70
½ hr Inspection:	52.23
½ hr Plan Review:	53.98
<b>Total Permit Fee:</b>	<b>\$146.08</b>

(These fees are adjusted annually based on the CIP. This increase takes place on August 1 of each year.)

**Planning Requirements:**

- 1.) All panel systems mounted to a roof must be flush mounted and limited to rear and side elevations where permissible.
- 2.) All free standing units must meet accessory structure provisions for their particular zoning district as specified in the Zoning Ordinance in Section 7.300 on page 161 (of 172) at <http://www.glendaleaz.com/planning/documents/AppendixAZONING.pdf>
- 3.) Planning and Zoning regulations, involving such requirements as setbacks, height limitations, color, reflectivity, or other design considerations may apply. Contact Remigio in the Planning Department for further information.

\*See Development Services Department for commercial applications\*