



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 will be able to assist you by providing the information you need to obtain a permit. Check with your local utility company for a list of approved licensed contractors and additional requirements.

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 (Currently 2006 IRC, 2006 UPC, 2006 IMC, & 2005 NEC + City of Glendale Amendments)
- 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 (Gas burner, thermostat, heating element). For this reason, the spark producing element cannot be less than 18" above garage floor (IRC M1307.3, IMC 304.3, UPC, 508.14)
- 5.) You will need to specify the temperature and pressure relief line (T&P) location and it's termination details (i.e. terminates outside in downward position between 6" and 24" above grade) (UPC, 608)
- 6.) Provide and specify the electrical disconnecting means of all equipment. This could include an electrical disconnect at water heater, a plug in type circulating pump, lock-offs

at breaker in the service panel, or a service panel within sight (NEC, 422.30) Keep in mind if you add a new receptacle you must show the proper branch circuit wiring on the plans.

- 7.) Provide the existing roofing material and the existing slope (IRC, Chapter 9)
- 8.) Provide the size and weight of all roof top units. Please be aware the maximum allowable additional loading of all roof units supported by trusses is 5 pounds per square foot and a 50 pound point load. For conventionally framed roofs the applicant will need to provide all framing member sizes, spacing, and any other pertinent information to the reviewer so they can determine if the existing members can handle the additional loading.
- 9.) Specify the anchoring method of all units (Minimum 3/8" diameter anchors into blocking)
- 10.) Specify and provide flashing at all roof penetrations (IRC, R903)
- 11.) Provide cut sheets and listings of all equipment from a nationally recognized testing agency such as UL.
- 12.) Provide the specifications for installation on the job site.

Requirement assumes new replacement water heater electrical load will be equal to or less than the original water heater electrical load.

*All existing vents/flue's through the roof shall not be compromised by the installation of the new equipment.

**Solar Water Heaters with storage tanks mounted on a roof will require structural engineering*

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	(\$53.98 due at application submittal)
Total Permit Fee:	\$146.08	(Remaining \$92.10 due at permitting stage)

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

Fire Department Requirements:

- 1.) Provide minimum 3 feet clear space on roof on at least one side of eave and from ridge for fire access and venting.

Contact the Fire Plans Examiner at (623) 930-2800 for additional requirements & details

Planning Requirements:

- 1.) 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>
- 2.) 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 at 623-930-2800 for further information.

See Development Services Department for commercial applications