

# **Tatum Ranch Community Association Guidelines for Installation of Solar Energy Devices**

## **INTRODUCTION**

The installation of Solar Energy Devices for Tatum Ranch businesses and residences is permitted following Architectural Committee review and approval. These guidelines for installation of Solar Energy Devices provides definitions, application requirements for Architectural Committee review, and Architectural Committee approval standards.

## **DEFINITIONS**

- A “Collector” is a component of a solar energy device that is used to absorb solar radiation, convert it to heat or electricity and transfer the heat to a heat transfer fluid or to storage. A.R.S. § 44-1761(1).
- “Solar Day Lighting” is a device specifically designed to capture and redirect the visible portion of the solar beam spectrum, while controlling the infrared portion, for use in illuminating interior building spaces in lieu of artificial lighting. A.R.S. § 44-1761(3).
- A “Solar Energy Device” is a system consisting of a series of mechanisms designed primarily to provide heating, to provide cooling, to produce electrical power, to produce mechanical power, to provide solar lighting or to provide any combination of the foregoing by means of collecting and transferring solar generated energy for such uses either by active or passive means. Such systems may also have the capability of storing such energy for future utilization (batteries or heated water). Passive systems shall clearly be designed as a solar energy device such as a Trombe wall and not merely a part of a normal structure such as a window. A.R.S. § 44-1761(4).
- A Solar Energy Device does not include heat pumps, evaporative coolers, conventional windows and window treatments (dual pane, low-e, shade screens, reflective or dark coatings, awnings, interior shades, drapes and blinds), conventional skylights, reflective roof coatings, insulation, “outsulation”, radiant barriers, misting systems, and vegetation (shade trees, shrubs and grass).
- A “Storage Unit” is a component of a solar energy device that is used to store solar generated electricity or heat for later use. A.R.S. § 44-1761(5).

## **APPLICATION REQUIREMENTS**

Prior to installation of a Solar Energy Device, an application must be submitted for Architectural Committee review. The application should include scaled drawings showing construction details, elevations, location of the Solar Energy Device, location

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and routing of all associated plumbing or electrical runs to and from the Solar Energy Device, and location of all associated components (pumps, filters, meters, tanks, utility disconnects, electrical control/safety devices). Product literature for the proposed Solar Energy Device and associated components must also be submitted. The color of the Solar Energy Device and associated components (i.e., electrical cabling, plumbing runs) must also be included.

The Architectural Committee may request additional information or documents which must be supplied before the application is deemed complete.

The Architectural Committee may choose to visit the Tatum Ranch home or business site where the Solar Energy Device is proposed to be installed to inspect the location and visibility to clarify and resolve any application ambiguities.

### **APPROVAL STANDARDS**

Collectors or “solar panels” shall be mounted to minimize visual impact and shall comply with the following criteria:

- Collectors shall be mounted or located so as not to be seen from the ground level of common areas, neighboring properties, or the streets unless such location prevents the installation, impairs the functioning, or restricts the use of the Solar Energy Device or adversely affects the cost or efficiency of the device. For example, Collectors which can be hidden behind a parapet wall or a flat roof are preferable to Collectors located on a pitched roof.



**Photovoltaic panels (collectors) hidden behind a parapet wall on a flat roof**

- If installation on a pitched roof is necessary, mounting of Collectors on the street-side of the home should be avoided if possible. If the street-side pitched roof has a southern exposure, mounting on other roof faces must be considered first. For example, reverse pitched mounting on the roof face toward the back of the house is preferred over street-side mounting.

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**Reverse Pitched System prior to screening**

- If street-side mounting is necessary on a house with a southern exposure, side roof areas must be considered (with collectors grouped away from the street side as much as possible to reduce the visibility of the collectors from the street-side).
- Collectors must be mounted flush to the roof unless pitched collectors will reduce the visibility of the collectors from the street-side of the home (such as in the case of a reverse pitched system). Where pitched Collectors are used, the degree of pitch should be minimized to avoid visibility as much as possible.
- Collectors must be of a contiguous color with no metallic details or connections on or in the panels available to be seen from the street view. Collectors must be placed on the roof in a manner where the equipment has a balanced look and symmetry.

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**Non compliant street-side roofs with exposed and metallic mounting hardware and lack of symmetry in application of equipment**



**Street-side application with metallic look and exposed mounting hardware**

Components of Solar Energy Devices other than the Collectors should be installed completely out of view inside the business or residence structure or on the grounds unless such placement prevents the installation, restricts the functioning, impacts the efficiency or adversely increases the cost of the Solar Energy Device. For a photovoltaic electric system, for example, unless there is an impairment to the system, no major components should be installed on the exterior of the home except for Collectors, roof mounted combiner box, dedicated photovoltaic meter, and photovoltaic system utility disconnect switch.

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- All required electrical components of a Solar Energy Device must be mounted or grouped with existing utility boxes, such as photovoltaic dedicated meters or photovoltaic system utility disconnects and must be painted to match the color of the business or residence structure.
- Except for the Collector panels, all other components of the systems (e.g., mounting assemblies, rails, solar panel edges, tilt legs, electrical and plumbing runs, combiner boxes) must be painted to match the color of the roof or wall to which they are attached or adjacent to.
- Wires, conduit, pipe, tanks and other associated components shall be hidden from view unless such placement prevents the installation, impairs the functioning or restricts the use of the Solar Energy Device or adversely affects the cost or efficiency of the device.
- If a solar water heater or similar system requires a roof-mounted tank, the tank must be painted to match the roof color of the business or residence unless painting it impairs the function of the system.

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