

## **Important Information and CHOA Guidelines for Solar Panel Installation**

Adopted February 2025

**Note First Step: It is critical that the vendor chosen is licensed and bonded in the State of Arizona who understands the permitting process with Maricopa county and knows AZ Power requirements; so, getting the right vendor is a key component of step 1.**

**Per the CHOA and DRC guidelines you will need to call the DRC Chair and alert them to your solar install thinking and plans. It will be considered a major modification, so the plans need to be submitted to the DRC for review and approval. Thank you!**

### Guidelines and Considerations for Solar Panel Installations

Ensuring Sustainable and Efficient Solar Energy Use

#### Introduction

The following information outlines the important points to consider when installing solar panels not only from a neighborly point of view but also per Caballeros Homeowners Association and DRC guidelines.

Solar energy is a renewable and sustainable source of power that can significantly reduce electricity costs and carbon footprints. Proper installation of solar panels is crucial for maximizing their efficiency and longevity. This document provides comprehensive guidelines for solar panel installations, covering site assessment, design considerations, installation procedures, and maintenance practices.

#### 1. Site Assessment

##### 1.1 Location

Selecting the right location is vital for optimal solar panel performance. Panels should be installed in areas with maximum sun exposure, ideally facing south in the northern hemisphere. Assess any potential shading from trees, buildings, or other obstructions.

The Vendor and Homeowner need to sign the CHOA contractor agreement (a part of the Information for Owners and Contractors During Construction document) indicating they've reviewed and agree to comply with design guidelines as part of the homeowner's request for approval.

In the Caballeros Homeowners Association, we strongly prefer installations on rooftops, with parapets which shield the visibility of the solar panels from neighbors' view as well as view from the golf course. Every effort should be made to respect the aesthetics of the CHOA neighborhood. Our Design Guidelines also require painting of all conduits and other electrical equipment to match adjacent surfaces. Large electrical panels should be mounted inside an attractive enclosure.

## 1.2 Roof Condition

Evaluate the condition and structural integrity of the roof. It should be able to support the weight of the solar panels and withstand local weather conditions. Any necessary repairs or reinforcements should be completed before installation.

## 1.3 Local Regulations and Permits

Check local building codes and regulations to ensure compliance with zoning laws and obtain the necessary permits. Some areas may have specific requirements for solar installations that must be adhered to.

# 2. Design Considerations

## 2.1 System Size and Capacity

Determine the appropriate size and capacity of the solar panel system based on the energy needs of the property. This includes considering the number of panels, inverter size, and battery storage if applicable.

## 2.2 Panel Type and Efficiency

Choose the type of solar panels that best suit the location and energy requirements. Monocrystalline panels are highly efficient and space-saving, while polycrystalline panels are more cost-effective. Evaluate the efficiency ratings and warranties of different panel options.

## 2.3 Mounting Systems

Select a suitable mounting system based on the roof type and angle.

# 3. Installation Procedures

## 3.1 Safety Precautions

Safety should be the top priority during installation. Ensure that all personnel are equipped with the necessary safety gear, including helmets, gloves, and harnesses. Follow all safety protocols to prevent accidents and injuries.

## 3.2 Electrical Components

Install electrical components, including inverters, charge controllers, and batteries if applicable. Ensure proper wiring and grounding to prevent electrical hazards. Consult a licensed electrician to verify compliance with electrical codes and standards.

### 3.3 Panel Installation

Install the solar panels according to the manufacturer's instructions and mounting system guidelines. Ensure secure attachment to the mounting structure and proper alignment for optimal sun exposure. Check for any potential shading issues and adjust as necessary.

### 3.4 System Testing

After installation, conduct thorough testing of the solar panel system to ensure proper operation. This includes verifying electrical connections, monitoring system performance, and checking for any faults or issues. Document the test results and make any necessary adjustments.

## 4. Maintenance Practices

### 4.1 Regular Inspections

Perform regular inspections of the solar panel system to identify any signs of damage or wear. Check for loose connections, debris accumulation, and potential shading. Address any issues promptly to maintain optimal performance.

### 4.2 Cleaning

Keep the solar panels clean and free from dirt, dust, and debris. Regular cleaning can significantly improve panel efficiency. Use a soft brush or sponge with water to gently clean the panels, avoiding harsh chemicals or abrasive materials.

### 4.3 Monitoring System Performance

Monitor the performance of the solar panel system through a monitoring system or software. Track energy production, consumption, and any deviations from expected performance. Regular monitoring helps identify potential issues early and ensures the system operates efficiently.

### 4.4 Professional Maintenance

Schedule professional maintenance and servicing at least once a year. Qualified technicians can perform more thorough inspections, testing, and repairs. They can also provide valuable recommendations for system optimization and longevity.

## Conclusion

Proper installation and maintenance of solar panels are essential for harnessing the full benefits of solar energy. By following these guidelines, property owners can ensure safe, efficient, and sustainable solar panel systems that contribute to energy savings and environmental protection. Embracing solar energy is a step towards a greener and more sustainable future.