

SCG ANTENNA RULES FOR AMATEUR RADIO OPERATORS

The Sun City Grand Board on April 11, 2019 approved the use of certain outdoor amateur radio antennas. Amateur radio operators will be allowed these antenna types:

- 1) **Flagpole antennas** in front of the home; this will be the only allowed antenna type in the front of the property. They cannot exceed the height of home which is generally 16' although some home models may be slightly higher.
- 2) **Vertical antennas** can be mounted in the rear of the home, either ground or roof mounted. They can be up to 5 feet above the peak of the roof. Thus, a ground mounted vertical antenna could be up to 21 feet high.
- 3) **Wire antennas** can be up to 5 feet above the peak of the roof and must be contained solely within the homeowner's property lines. Example antennas might be a G5RV, a center-fed dipole, or an off-center-fed dipole. Wire antennas can be attached to trees on the homeowner's property.

Miscellaneous rules:

- A) All antennas must incorporate lightning arrestors and use proper grounding.
- B) Amateurs can erect a total of two (2) antennas.
- C) Vertical antennas must be placed within the setback for your specific home's property lines. Applicants should visit the Standards Office for the Setbacks of their specific property.
- D) Feed lines such as coaxial cable must be buried when running along the ground [Note: easy to do with rock/gravel lawns]. They should also be painted the color of the home if they run vertically up the side of the home or where they enter the home.
- E) Vertical antennas cannot use guy lines, they must be freestanding.
- F) No antenna, vertical or horizontal, may have exposed stubs, traps, visible radials, or other projections. The only exception to this is the tiny counterpoise radials on smooth-sided, roof-mounted VHF/UHF verticals.
- G) Ground-mounted vertical antennas whose traps, stubs, coils, or other projections that can fit inside a 5" o.d. PVC or fiberglass pipe are allowed.
- H) Any type of vertical tower is strictly prohibited.

Antenna Applications to the Standards Office:

- 1) Obtain and fill out the "APPENDIX B Application for Approval" form which is available in the Standards Office. The deadline each week for submitting applications is by noon Wednesday if

you want it reviewed yet that week. Approved applications are available for pickup from the Standards Office the following Monday.

- 2) Clearly describe the antenna type in your application and list its maximum height.
- 3) You will need to include two (2) copies of the plot map of your property and indicate on the drawing where the antenna will be located. If you do not already have such a plot map, the Standards Office can print one for you upon request at no charge.
- 4) A copy of your Amateur Radio license must be included.
- 5) If you have engineering drawings of the proposed antenna, please include them with your application.
- 6) Photos of the proposed antenna are not required.
- 7) Building permits should not be required.

Practical Considerations:

- A) Try to make your antenna installation appearance to be as attractive as is practical. Unsightly antenna installations will be viewed as detriment to our newly granted amateur radio antenna privileges. For example, if you have two options for placing a vertical antenna and one choice makes it more hidden (such as behind a tree) please consider using the less visible choice.
- B) If you can paint a vertical to match the color of your home (or roof) without impacting its performance, please consider doing so. Some spray paints contain metal therefore check the label before using any spray paint. Flat paint is a better choice than glossy. If your antenna supplier offers powder coating, it is suggested that you use that option.
- C) To maintain good relations with your immediate neighbors, it might be helpful to inform them ahead of time about the antenna(s) that you plan to erect and how amateur radio can serve the entire community in the event of an emergency.
- D) Most Vertical HF antennas always require radial fields in order to work properly. You can use insulated wire such #16 size and place it under your rock lawn. Radials for ground mounted verticals do not need to be a specific length and can be any practical length that you can achieve, generally 10' to 12'. An option is to use wire mesh which is also underneath your rock/gravel. If the HF vertical is elevated above ground, then radials should be cut to specific lengths per the manufacturer's documentation.
- E) Although a lightning arrestor is a requirement, it is also wise to use a grounding antenna coax switch in your ham shack so that one can turn the coaxial switch and ground the antenna when lightning storms are active or when you are away from your home.

The specific Sun City Grand HOA Antenna Amendment to the Design Guidelines is shown on the next 2 pages:

SUN CITY GRAND AMATEUR RADIO ANTENNA DESIGN GUIDELINES

(9 May 2019)

1. GENERAL RADIO ANTENNA REQUIREMENTS

Certain antennas may be installed on the home to facilitate the sending and/or receiving of radio signals by Sun City Grand residents that are FCC licensed Amateur Radio Operators.

- a) Antennas allowed under this article shall support emergency preparedness use or radio communication/listener use and shall meet the criteria below:
- b) Emissions from antennas will be governed by the Federal Communications Commission Rules and Regulations.
- c) Antennas may be of the vertical type or horizontal wire type, or a combination of each, as described below.
- d) A maximum of two (2) antennas may be installed on the applicant's house and/or applicant's property.

2. Amateur Radio Antenna Placement Acceptability List

- a) **ROOF (as hidden as possible).** Any location on the roof of the home, except that the mounting location must be as hidden as possible from all sides of the lot while still permitting adequate signal strength.
- b) **GROUND MOUNTED.** Ground-mounted on the lot in an area that is as hidden as much as possible from the street and adjacent properties unless it is encased in flagpole type antenna.

3. TYPES OF RADIO ANTENNAS ALLOWED

Type 1 – Vertical Antennas:

- a) All vertical antennas shall be self-supporting without guy wires or towers of any kind and may have a diameter of no more than 5" inches at the widest point.
- b) Vertical antennas (ground or roof mounted) shall not exceed 5 feet in height above the peak of the roof. (excludes flagpole antenna)
 1. They must be mounted at the rear of the home and can be mounted in the front of the home if completely concealed within a flagpole type antenna.
 2. The height of the flagpole antenna is limited to 16'.
- c) Antennas may be constructed of metal, fiberglass or other suitable material.

Type 2 - Horizontal Wire Antennas:

- a. Wire antennas may be mounted no higher than 5 feet from the roof peak.

- b. May be mounted using the home owner's trees as anchor points but must be fully contained within the owner's property.
- c. Wire antennas cannot contain what are commonly known as "Trap" coils.
- d. Wire size shall not exceed 12-gauge wire; and must be a neutral color to blend with the house roof.
- e. Associated mounting hardware and equipment, such as end-mounts, eye-bolts, turnbuckles, tensioning devices and insulators are to be of rust and corrosion resistant material, and of a non-reflective color that will blend with the roofing or trim of the home, depending on where mounting is done.
- f. Mounting should employ tensioning devices that minimize the catenary [sagging] effect to the maximum degree possible.

4. RADIO ANTENNA CONNECTIONS

- a) The connecting wire from the antenna should enter the house at a point closest to the antenna mounting point.
- b) Any and all leads, wires, or other connections between the antenna and the home shall be painted a neutral color to blend with the house color.
- c) All antenna installations shall include the installation of lightning arrestors to applicable antenna feed lines prior to entering the home.

5. REMOVAL OF RADIO ANTENNAS

- a) The responsibility to remove any radio antennas, and associated mounting equipment and wiring from the home, remains with the installing homeowner.
- b) Antenna(s) and all associated equipment and wiring is to be removed within thirty (30) days of any of the following events:
 - 1) When the active use of amateur radio equipment ceases for over 1 year.
 - 2) Amateur Radio Operator License is surrendered, lost or expired.
 - 3) The property is sold, or the licensed operator leases the property for more than 6 months.
 - 4) In November of each calendar year the SCG Ham Radio Club will certify to the SCG Standards Department that all members with approved antennas are currently active, and have not surrendered, lost or have expired licenses.
 - 5) If the SCG Standards Department determines that a resident has a non-approved radio antenna on their property, the SCG Radio group will work with Standards to get the violator in compliance with this policy.