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Glossary

Anchor Bolts - Attach a pole to its foundation used along with the anchor bolt templates to insure that the foundation bolt pattern aligns with the tower, base plate bolt pattern. Usually 7'-8' long. There are typically 5 nuts to each bolt.

Anchor Bolt Template - Steel plates (typically 1/4" thick) that are used to guide (align) a poleproduct's anchor bolts through the foundation. Two templates are typically provided with each pole.

Antenna - Any system of wires, poles, rods, reflecting discs, or similar devices used for the transmission or reception of electromagnetic waves. The antennas typically used by SCS customers include panel (or directional) antennas, Omnidirectional (whip) antennas, and microwave dishes.

Antenna Array - A group of antenna elements on the same geometric plane.

Antenna Mounts - Special hardware specific to an antenna model for attachment to an antenna mounting pipe or concealment structure. Custom antenna mounts are required for some flagpole products.

Antenna, Omnidirectional ("whip antennas") - Cylindrical shaped antenna which transmits and/or receives in 360°.

Antenna, Panel - Directional radiating elements to transmit radio frequency for use in mobile communications.

Architectural Drawings - See 'SITE PLANS'.

As-built Drawings - Drawings showing dimensions and conditions of an existing structure, building or rooftop.

Attenuation - Reduction in strength of a radio signal as a result of atmospheric absorption, obstruction by buildings, etc.

Azimuth - Horizontal direction expressed as the angular distance between a reference direction (usually true north) and the direction of the object. Generally expressed in units of compass degrees to describe which direction an antenna 'faces'. Standard azimuths for a typical triangular antenna array are 0°, 120°, and 240°.

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Ballasted - Describes a structure that uses the weight of cinderblocks or water to keep a screening structure on a building roof (not attached with mechanical fasteners; no roof penetrations are required).

Ball Truck Assembly - Gold ball and pulley arm (truck) placed on top of the flagpole. Its purpose is to raise and lower a flag, attached to a rope, from the ground. Also, the assembly is usually a swivel type so that the flag will freely rotate to the wind direction.

Base Plate - Plate used to attach the base of a tower or monopole to its anchor bolts and foundation.

Base Station Equipment - Cellular radio equipment that can have one or more cells, found at the base station.

Caisson - Type of foundation using a cylindrical drilled "pier" of reinforced concrete to attach a tower to the ground. Usually 5' in diameter. Depth varies with site soil conditions.

Coax - Short for coaxial cable. Purpose is to supply power and signal to and from the antennas and to keep the signal from getting outside interference. There is generally at least one used for every antenna. Standard sizes = 1/2", 7/8", 1-5/8" (nominal diameters listed; outside diameter is actually larger).

Concealment - The process of screening, hiding, or "camouflaging" antennas. It can be used to satisfy a municipality or building owner's need to minimize the visual affect of an antenna installation by disguising it as flagpole, clock tower, a rooftop structure, or any other conceivable design that helps the site blend visually into its environment.

Conduit - A pipe used to house electrical wires or cables. Standard design for passing coax through a flagpole foundation uses (3) 8" diameter conduit pipes.

Corner Panel - A one-piece StealthSkin™ V panel bent to form the corner of a concealment structure. Standard corner panels are 2' wide per side and 8'-10' tall and are bent to 90°. Custom SCS corner panels can be bent to virtually any angle.

Corothane - Industrial urethane-based two-part coating paint manufactured by Sherwin Williams™.

Cylinder - See 'RADOME'.

dB Loss - Signal strength measured in decibels (dB) that is lost, usually measured based on concealment screening, coax size, and number of connections between antenna and base station equipment. dB loss translates to range and/or capacity reduction for a cell site.

Distributed Antenna System (DAS) - a network of many small antennas tuned to precisely boost service in areas where additional coverage may be needed (i.e. stadiums, downtown metropolitan areas, shopping malls).

Edge Cap - Extruded PVC Channel that goes on the top edge of StealthSkin™ V panels to cover exposed foam, and to prevent water from migrating between the panels.

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Elevation - (1) Sometimes signifies the actual height of a structure or antennas above the ground (or sea level). (2) On engineering drawings, signifies the view that shows a structure as seen from a straight-on point-of-view, either from the front, back, or sides, and shows the heights at which items will exist on the structure.

ESSV Panel – A Raycap manufactured product that is RF transparent and used for exterior surface concealment structures. These panels are made of ABS skins and a foam core. They are primarily used in areas where temperatures fluctuate, dark colors are required and/or radius appearance is necessary.

Fire-Rated - Describes a special line of StealthSkin™ panels which have a greater ability to resist flame spread.

Foundation - The element that connects the structure to the ground that supports it. Typically used in the form of a “caisson” (pier) or “mat” (pad) reinforced concrete structure.

Frequency - Term used to describe the number of cycles per second of the “invisible” electromagnetic waves emitted by an antenna.

FRP - Fiberglass Reinforced Plastic; is a composite product that is composed of a plastic resin matrix reinforced by embedded glass fibers. Typical FRP structural shapes include pipes, square tubes, angles, I-beams, wide flange beams and sheets.

Galvanization - A hot-dipped zinc treatment for steel to prevent oxidation (rust) caused by the weather elements. Steel is hot-dipped galvanized after fabrication.

Girt - A horizontal structural member used around the entire perimeter of a concealment structure for panel attachment.

Grazing Angle - Angle (relative to a StealthSkin™ V corner panel) at which an antenna is placed transmitting through a corner section.

Halyard - Flagpole "rope" that allows for the raising and lowering of the flag.

Horizontal Beam Width - Horizontal angular measurement in degrees of an antenna's signal pattern.

Incidence Angle - See “Angle of Incidence”

Kicker - See “Knee Brace”.

Knee Brace - Diagonal structural member used in combination with a column to minimize moment reactions at the column's base plate.

Molded Fiberglass – Glass-reinforced plastic resin that can be molded into various shapes and appearances. It provides a very strong and durable option for antenna concealment, but typically introduces more RF losses than the alternatives.

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Monopole - A tubular tower structure made of metal, reinforced concrete, or wood. Typically used to describe the multi-sided, tapered steel poles popular in the cell site industry.

MW02 Panel - Used to conceal microwave antennas (14 - 23 GHz). Overall thickness = 1.625"; Weight = 1.65 lbs./sf.

Outrigger Assembly - Unique assemblies that attach STEALTH panels to their support columns that allow horizontal and vertical adjustment for panel placement.

Panel Bolt - Custom low profile stainless steel square drive bolt to fasten StealthSkin™ panels to the support structure.

Pre-Engineering - First set of conceptual drawings provided by SCS for custom projects which address the design of the concealment based on customer-provided information.

Rad Center - Vertical center of antenna.

Radome - Protective covering over the antenna; usually plastic or thin fiberglass. Options include smooth 1-piece, 2-part multi-sided, 3-part multi-sided, smooth multi-part, and smooth multi-part using SSV panels.

Retainer Ring - Ring used with a flagpole to keep the bottom of the flag as close to the pole.

RF Transparent - Describes a material that is able to let RF signals pass through with minimal or no dB loss. (Also called "RF Friendly").

Sector - A group of antennas in a cell-site oriented at the same azimuth. Most cell-sites have (3) sectors each with 1 -4 antennas per sector.

Shop Drawings - A set of fabrication plans that show how a concealment structure is constructed. Included in shop drawings are all measurements needed to manufacture and construct, detailed dimensions of each part, and a bill of materials.

Site Plans - A set of drawings that show the make-up of a designated area for construction, included are measurements of existing structures, proposed dimensions of new structure any other needed information about the site.

Site Walk - An action performed to gather information about a proposed area for construction, information such as: color/texture sample or dimensions of existing structures.

Small Cell - Smaller, short-range antennas used to complement service from larger towers.

Spline - The blue foam piece that is used align the vertical seam between the StealthSkin™ panels employing a "spline and groove" connection.

StealthSkin™ V Panel - SSV; the standard concealment panel trademarked and frequently used by Raycap for the concealment of Cellular and PCS antennas. These panels are made of ABS skins and a foam core and can be modified to look like virtually any existing building's exterior.



StealthSkin™ V Radius Panel - A StealthSkin™ panel manufactured “curved” to a specific radius for concealment applications such as silos and water tanks.

Structural Steel - Galvanized steel used for structural support for antenna screening enclosures.

Transition Collar - Hardcoated foam section used to smooth the transition when a radome is larger than an existing pole.

Wind Load - Loading imposed on an element from the effects of the wind.