

## **Administrative Detailed Wireless Facility Design Guidelines**

All type I-IV wireless facilities must be consistent with all requirements of Chapters 17.46, 17.58 as well as those contained within these Administrative Guidelines.

The intent of these guidelines is to promote and maintain the City's special character as a residential village with a compact development pattern that respects and has been strongly influenced by the natural setting and is typified by a visually rich and creative mix of architectural styles. The execution of design details can substantially affect the perceived character of a wireless facility, including its mass and scale and its design compatibility within the neighborhood context. Therefore, compliance with these guidelines is important.

### **I. Facilities on Parcels**

- A. **Towers.** The following requirements shall be applied to an application for a tower:
1. **Quantity.** No more than one tower shall be permitted on any one parcel.
  2. **Fall Zone.** All towers must be set back from habitable structures approved for residential occupancy by a distance equal to one hundred and ten percent (110%) of the height of the tower. The reviewing authority may reduce the setback requirement for freestanding towers that meet Class 3 structural standards for critical infrastructure as defined in the most current revision of the ANSI/TIA-222 Structural Standard for Antenna Supporting Structures, Antennas and Small Wind Turbine Support Structures.
  3. **Setbacks.** All wireless facilities must be compliant with all setback requirements applicable to structures on the underlying parcel; notwithstanding the foregoing, no wireless facilities shall be installed (in whole or in part) in the front setback applicable to structures on the underlying parcel.
  4. **Secondary Power Sources.** The reviewing authority may approve secondary or backup power sources and/or generators on a case-by-case basis. No permanent diesel generators or other similarly noisy or noxious generators in or within 250 feet from any residential structure are permitted absent a showing of extraordinary need, such as a declared public emergency; provided, however, the reviewing authority may approve sockets or other connections used for temporary backup generators.
  5. **Utilities.** All underground cables and connectors for telephone, primary electric and other similar utilities must be routed underground to the extent feasible in conduits large enough to accommodate future collocated wireless facilities. To the extent feasible, undergrounded cables and wires must

- transition directly into the pole base without any external doghouse or similar enclosure. Meters, panels, disconnect switches and other associated improvements must be placed in inconspicuous locations to the extent possible. No new overhead utility lines or service drops are permitted merely because compliance with the undergrounding requirements would increase the project cost. Microwave or other wireless backhaul is discouraged when it would involve a separate and non-stealth antenna. Undergrounding of utilities will not be required when it is determined by the City Forester that the undergrounding operation will damage or destroy significant tree(s); provided, that the property owner posts a bond in an amount equal to the estimated cost of the undergrounding work. The bond shall be maintained until such time that the service lateral is placed underground.
6. **Parking; Access.** Any equipment or improvements constructed or installed in connection with any wireless facilities must not reduce any parking spaces below the minimum requirement for the subject property. Whenever feasible, existing parking and access should be used for ingress to and egress from new wireless facilities rather than constructing new parking or access improvements to access the wireless facility. Any new parking or access improvements should be the minimum size necessary to reasonably accommodate the proposed use and comply with applicable safety codes.
  7. **Tower-Mounted Antennas and Accessory Equipment.** All tower-mounted antennas and equipment must be mounted as close to the tower structure as possible to reduce its overall visual profile. Applicants must mount non-antenna, tower-mounted equipment (including, but not limited to, remote radio units/heads, surge suppressors and utility demarcation boxes) directly behind the antennas to the maximum extent feasible.
  8. **Ground-Mounted Accessory Equipment.** All accessory equipment not mounted on the tower must either be concealed underground in an environmentally controlled vault, or concealed within an existing or new structure, or other enclosure(s) subject to the reviewing authority's prior approval. The reviewing authority may require additional stealth elements as the reviewing authority finds necessary or appropriate to blend the ground-mounted equipment, enclosure and/or other improvements into the natural and/or built environment consistent with the underlying design guidelines of its zoning district. An "environmentally controlled underground equipment vault" means a below-grade chamber for electronic equipment that protects against heat, humidity, water intrusion and fire. Undergrounding of accessory equipment will not be required when it is determined by the City Forester that the undergrounding operation will damage or destroy significant tree(s); provided, that the property owner posts a bond in an amount equal to the estimated cost of the undergrounding work. The bond shall be maintained until such time that the service lateral is placed underground.

**B. Building-Mounted Wireless Facilities.**

1. **Rooftop Wireless Facilities.** All building-mounted equipment must be placed on the rooftop, screened from public view, stealth, completely concealed and architecturally integrated into rooftop features with no visible impacts from any publicly accessible areas at ground level (examples include, but are not limited to, antennas behind existing parapet walls replaced with RF-transparent material and finished to mimic the replaced materials). When integration with existing rooftop building features is not feasible, the facilities shall be stealth, completely concealed new structures or appurtenances designed to mimic the support structure's existing architecture and proportions (examples include, but are not limited to, cupolas, steeples, chimneys and water tanks). Facilities must be located behind existing parapet walls or other existing screening elements to the maximum extent feasible.
2. **Height Limitations.** Building-mounted wireless facilities shall not exceed the height limit for structures in the applicable zoning district unless the facility is fully screened as required by Section I(B)(1), in which case the facility may exceed the height limit by up to 10 feet. All equipment mounted on rooftops shall be as low as necessary to achieve the desired architectural integration.

**C. Fire and Electrical Safety Standards.** The wireless communications facility shall contain:

1. Surge protection for lightning discharge and other significant electrical disturbances.
2. Signage as required by the permit conditions, the National Electric Code or the Fire Safety Authority.

**II. Facilities In Public Rights-of-Way**

**A. Poles**

1. **Replacement Poles.** All replacement poles must be: (1) located as close to the removed pole's location as possible, unless relocation would be in a more compatible location; (2) aligned with the other existing poles along the public right-of-way; (3) designed to resemble existing poles, including an overall height that is no greater than 10 feet taller than the replaced pole, or the additional height necessary to comply with CPUC safety standards such as General Order 95.
2. **New Poles.** All new poles must be: (1) aligned with the other existing poles along the public right-of-way; (2) designed to be aesthetically consistent with the proposed location; (3) placed as close as possible to alignment with the property line that divides two parcels abutting the public rights-of-way; and (4) compliant with all applicable standards and specifications issued by the City,

which may include, without limitation, requirements related to aesthetics, materials and safety.

**B. Antennas**

1. **Placement.** Antennas should be placed at the location(s) on the pole that do not significantly impair public or private views described in CMC 17.46.040(F)(1)(k), and that result in the least intrusive and most compatible aesthetic design based on site-specific circumstances.
2. **Concealment.** All antennas and associated cables, jumpers, wires, mounts, masts, brackets and other connectors and hardware must be installed within a unified shroud or “radome” to the extent technically feasible. Antenna shrouds must be visually consistent with the underlying pole’s design, color and scale and painted with matte non-reflective paint. Antenna shrouds placed above a pole must taper down to the point where the shroud and pole connect to conceal the cables below the antennas and create a smooth transition into the pole. All antenna mounting posts shall be trimmed so that the post does not extend above the antenna. For antennas approved to be affixed to the side of the pole within a shroud, all cables must be concealed within the shroud and the extension arm, if any, to create a smooth transition into the pole, to the maximum extent feasible, or back into the external conduit on the pole, if any.
3. **Volume.** Any individual antenna shall not exceed three cubic feet in volume. The cumulative limit for all antennas (including their shrouds or other stealth or concealment devices and any accessory equipment integrated with the antennas) on a single wireless facility shall not exceed six cubic feet. However, the reviewing authority may approve a larger cumulative volume on a case-by-case basis when the applicant demonstrates that additional volume will not be visually incompatible with the surrounding environment and may reduce the need for additional wireless facilities in the vicinity.

**C. Accessory Equipment.**

1. **Placement.** The placement of accessory equipment is ordered from least compatible to most compatible, as follows:
  - a. within a separate surface-mounted equipment cabinet.
  - b. within a shroud that exceeds 6 cubic feet in volume mounted above ground level on the pole.
  - c. within a shroud that is 6 cubic feet in volume or less mounted above ground level on the pole.
  - d. within an environmentally controlled underground equipment vault that does not impact any healthy trees.

Accessory equipment up to 6 cubic feet in volume is allowed to be mounted on a pole. The City strongly prefers that all accessory equipment in excess of 6 cubic feet be undergrounded whenever technically feasible because it mitigates unnecessary physical obstructions in the public rights-of-way. However, the reviewing authority may approve a less compatible configuration for the accessory equipment when the applicant demonstrates that more compatible configurations are technically infeasible or the reviewing authority finds that a less compatible configuration is more consistent with existing poles and the surrounding environment.

2. **Volume.** The cumulative limit for all accessory equipment (including their shrouds, cabinets or other stealth or concealment devices) for a single wireless facility shall not exceed 17 cubic feet. These limits shall not be applicable to undergrounded accessory equipment.
3. **Pole-Mounted Accessory Equipment.** These standards for pole-mounted accessory equipment apply except to the extent that different safety requirements are required by CPUC General Order 95.
  - a. **Concealment.** Applicants should propose to place any pole-mounted accessory equipment using concealment elements (e.g. paint, film, shielding) and in the least conspicuous position under the circumstances presented by the proposed pole and location. Pole-mounted accessory equipment may be installed behind street, traffic, or other signs to the extent that the installation complies with applicable public health and safety regulations. Unless placed behind a street sign or some other concealment that dictates the equipment orientation on the pole, all pole-mounted accessory equipment should be oriented away from prominent views. If more than one orientation would be technically feasible, the reviewing authority may select the most appropriate orientation.
  - b. **Minimum Ground Clearance.** The lowest point on any pole-mounted accessory equipment shall be at least 8.5 feet above ground level at the base of the pole. If applicable laws require any pole-mounted accessory equipment component to be placed less than 8.5 feet above ground level, the clearance from ground level shall be no less than required for compliance with such laws.
  - c. **Horizontal Extensions.** Pole-mounted accessory equipment should be as close to flush with the pole as technically feasible and shall not extend over any roadway for vehicular travel, any pedestrian path of travel, or any abutting private property. If applicable laws preclude flush-mounted accessory equipment, the separation gap between the pole and the accessory equipment shall be no greater than required for compliance with such laws and concealed by opaque material (such as cabinet “flaps” or “wings”).

4. **Surface-Mounted Equipment Cabinets.**

- a. **Concealment.** Concealment for surface-mounted equipment cabinets shall be design to be compatible with the location and existing uses and aesthetic elements in the vicinity. In general, the City prefers surface-mounted accessory equipment to be stealth with concealment elements as follows, subject to approval by the reviewing authority: (i) within a landscaped parkway, median, or similar location, behind or among new/existing landscape or hardscape features, and painted, powder coated or wrapped in flat natural colors to blend with the landscape features; (ii) if landscaping concealment is not technically feasible, disguised as other street furniture adjacent to the support structure; and (iii) if neither landscaping concealment or street furniture is available, accessory equipment should be completely shrouded or placed in a cabinet substantially similar in appearance to existing surface-mounted accessory equipment cabinets in the vicinity.
- b. **Public Safety.** To promote and protect public health and safety and prevent potential hazards hidden behind large equipment cabinets, individual surface-mounted accessory equipment cabinet may not exceed four feet in height or four feet in width.

D. **Utilities Serving the Wireless Facility.**

1. **Vertical Cable Risers.** All cables, wires, and other connectors must be routed through conduits within the pole or other support structure, and all conduit attachments, cables, wires, and other connectors must be concealed from public view. To the extent that cables, wires, and other connectors cannot be routed through the pole, such as with wood utility poles, applicants shall route them through external conduits or shrouds that have been finished to match the underlying pole. The applicant shall minimize the number and size of external conduits to the extent technically feasible.
2. **Electric Meters.** Wireless facilities shall use flat-rate electric service or other method that obviates the need for a separate above-grade electric meter. If flat-rate service is not available, applicants may install a smart meter, which shall be placed in a shroud unless not allowed by the safety rules of the electric utility. A separate meter pedestal may only be installed if the electric utility service rules do not allow other options. If the proposed facility involves a surface-mounted equipment cabinet, an electric meter may be integrated with the cabinet, but the reviewing authority shall not approve a separate surface-mounted electric meter pedestal. In no case shall the applicant be permitted to use electricity/power provided by a City-owned circuit without separate written authorization from the City.

3. **Existing Underground Conduits.** To reduce unnecessary wear and tear on the public rights-of-way, applicants are encouraged to use existing underground conduits whenever available and technically feasible.

E. **Fire Safety.** The wireless facility shall contain:

1. A power shut off readily accessible to fire service personnel for emergencies;
2. Surge protection for lightning discharge and other significant electrical disturbances;
3. Signage as required by the permit conditions, the National Electric Code or the Fire Safety Authority; and
4. Instructions for first responders to de-energize the equipment.