



**CITY OF LAKE FOREST
Wireless Communication Facilities
In The Public Right-of-Way
and on Private Streets
-Design and Development Standards-**

Effective: July 16, 2019

INTRODUCTION

The purpose of these City of Lake Forest ("City") Design Standards is to establish aesthetic requirements for all wireless communication facilities (WCFs) installed within the public right-of-way ("P-ROW") and on private streets. These standards are published on the City's Community Development Department's Planning Documents webpage (<http://www.lakeforestca.gov/292/Planning-Documents>) and are subject to amendment from time to time. Applicants are encouraged to check the website regularly for updates and to consult with City staff prior to formally submitting an application.

For questions regarding this document, please contact the Community Development Department, Planning Division at (949) 461-3460. Note: These Standards shall be enforced to the extent permitted under the current regulations in effect (LFMC Ch. 9.162). In the event of conflict between these Standards and LFMC Ch. 9.162, the Municipal Code shall prevail.

DESIGN AND DEVELOPMENT STANDARDS FOR ALL FACILITIES

The City desires to minimize the amount of new infrastructure placed in the P-ROW and on private streets. The Director of Development Services may approve an exemption from these standards to prevent a prohibition or an effective prohibition of wireless services. City staff is available to meet with applicants or their representatives to discuss their designs and the application of these Standards.

1. Visual Criteria.
 - a. Generally, WCFs shall be designed in the least visible means possible and to be compatible with support structures/surrounding, such as color, materials, size, and scale. Further, the smallest elements (including, without limitation, antennas, cabinets, shrouds, and electric meters) available shall be used.
2. Location.
 - a. In locations where streetlight or other utility poles are not present, or are not capable of supporting new equipment, a wireless communication service provider may request to:
 - i. Remove an existing pole and replace it with a new pole, as set forth in these Standards; or
 - ii. Install a new pole, pursuant to criteria for new single-purpose poles set forth in these Standards. A single-purpose pole is a pole installed for the sole purpose of providing wireless communication with no secondary purpose, such as a streetlight.
 - b. Pole-mounted WCFs shall be located such that they do not: impede, obstruct, or hinder the usual pedestrian or vehicular travel; adversely affect

- public safety; obstruct the legal access to or use of the P-ROW; violate applicable law; violate or conflict with P-ROW design standards, specifications, or zoning district requirements; or in any way create a risk to public health, safety, or welfare.
- c. WCFs shall be co-located on existing infrastructure wherever feasible.
 - d. The placement of new poles adjacent to parks and historical landmarks shall be avoided whenever possible.
3. **Safety.** WCFs may not adversely affect public safety, interfere with use of the P-ROW or private street, or violate Americans with Disabilities Act (ADA) requirements. All installations shall meet or exceed all applicable structural standards, clearance standards, and provisions of the latest California Building Code and City construction standards. In case of conflict, the most stringent requirements shall prevail.
 4. **Strand-Mounted Facilities.** Due to the limited existence of overhead utility wires in the City and the general requirement for undergrounding of new utilities City-wide, strand-mounted WCFs are prohibited. If strand-mounted installations are required for technical reasons, an applicant may submit a waiver request pursuant to Section 9.162.080(C) of the Lake Forest Municipal Code.
 5. **Lighting.** WCFs shall not be illuminated (internally or externally), except as incidentally illuminated by an unrelated light source, or as specifically required by the Federal Aviation Administration (FAA) or other government agency. Any required lighting shall be shielded to eliminate, to the maximum extent possible, impacts on the surrounding neighborhood. Unless otherwise required under FAA or FCC regulations, applicants may install only timed or motion-sensitive light controllers and must install lights so as to avoid illumination impacts to adjacent properties to the maximum extent feasible.
 6. **Signs.** No logos, decals, or advertising of any type shall be affixed to any element of the WCFs or support structures, except: (1) as required by federal or state law; and (2) a decal or placard measuring no more than 4" x 6" in size, which lists the facility owner's name and emergency contact telephone number shall be installed. The decal or placard shall be placed in an inconspicuous manner on the equipment or on the pole immediately below the antenna.
 7. **Landscaping.** In addition to any landscaping used for concealment or screening purposes, the applicant shall propose, install, and maintain additional landscaping to replace any existing landscaping displaced during construction or installation of the applicant's facility in the right-of-way. The applicant's landscaping plan shall be subject to the City's review and approval but shall, at a minimum, match the existing landscaping and foliage surrounding the installation site.
 8. **Ground-mounted Equipment.** Ground-mounted equipment is discouraged

unless undergrounded. If ground-mounted equipment is necessary for technical reasons, equipment shall be enclosed in cabinets, sized as small as possible for necessary equipment. Any cabinets shall be painted to achieve compatibility with other utility cabinets in the vicinity and P-ROW. In addition, concealment efforts such as camouflaging and landscape screening should be incorporated whenever and to the extent feasible.

DESIGN STANDARD FOR PARTICULAR TYPES OF FACILITIES

In addition to the generally applicable standards set forth in the section above, the design and development standards for specific types of facilities in the P-ROW and on private streets are listed below. WCFs may be allowed as attachments to existing wood utility poles (with or without streetlights); attachments to metal, concrete, or wood streetlight poles; or attachments to new, non-wooden single-purpose poles located within the P-ROW and on private streets.

1. Definition of Pole-Mounted WCF: For purposes of these Standards, the term “pole-mounted WCF” means a WCF that is, or is proposed to be, attached to, contained in or on, or otherwise mounted to, in, or on a pole.
2. Pole-Mounted WCFs, Generally. For WCFs installed on any pole:
 - a. WCF antennas shall be top-mounted whenever technically feasible. A top-mounted WCF antenna is installed on a pole such that it extends vertically from the top of the pole.
 - b. Side-mounted WCF antennas. In instances in which top-mounted antennas are technically infeasible, side-mounted antennas may be permitted subject to the following standards:
 - i. Maximum projection from the face of the pole: thirty (30) inches;
 - ii. Maximum antenna length: six (6) feet;
 - iii. Maximum antenna shroud diameter: fifteen (15) inches;
 - iv. Permitted only in combination with a maximum of one side-mounted equipment box.
 - c. All elements of a WCF shall be painted or otherwise finished to match the color of the existing support pole/structure to which they are attached to the greatest extent possible. Further, all elements of a WCF shall be concealed by a shroud or other enclosure that meets the requirements of these Standards. The shrouds shall be generally cylindrical or match the shape of the pole on which they are installed.
 - d. A maximum of three pole-mounted screening shrouds/equipment boxes (including the antenna shroud) may be used per pole.
 - e. WCFs, including antennas, shrouds and associated apparatuses, shall

- not extend the height of the new or existing support pole on which they are mounted by more than six (6) feet.
- f. The diameter of antenna shrouds shall not exceed fifteen (15) inches or the diameter of the support pole, whichever is greater.
 - g. The minimum vertical clearance for any pole-mounted equipment shall be twelve (12) feet above the sidewalk/finished grade.
 - h. Pole-mounted equipment affixed to the side of a pole shall be permitted subject to the following requirements:
 - i. Equipment box dimensions when only a single equipment box is used:
 - Maximum height: 48”
 - Maximum width: 16”
 - Maximum depth: 12” (measured from the pole face to the outer extremity of the shroud; the depth of any standoff brackets shall be excluded in the calculation of total depth, provided however that equipment boxes shall be mounted as close to the face of the pole as technically feasible).
 - ii. Each equipment box when two equipment boxes are used:
 - Maximum height: 24”
 - Maximum width: 16”
 - Maximum depth: 12” (measured from the pole face to the outer extremity of the shroud; the depth of any standoff brackets shall be excluded in the calculation of total depth, provided however that equipment boxes shall be mounted as close to the face of the pole as technically feasible).
 - iii. The equipment/shrouds shall be mounted in the 3 o’clock, 6 o’clock, or 9 o’clock positions on the pole where the side of the pole facing the street shall be considered the 12 o’clock position.
 - iii. Exposed banding is prohibited.
 - i. Horizontal protrusions from the outer circumference, including any wires or cables, of a wireless communication facility support pole shall not exceed thirty (30) inches in any direction.
 - j. Cables and Wiring. No loose, exposed, or dangling wiring or cables shall be allowed. All external cables or wiring shall be sheathed (or enclosed) within durable conduit of the smallest diameter necessary to protect and provide the shortest direct route between elements of the facility.

- k. Electric Service. The City strongly encourages site operators to use flat-rate electric service when it would eliminate the need for a meter. Where meters are required, use the narrowest electric meter and disconnect available.
 - l. Prohibition of Generators. Generators are prohibited in the P-ROW and on private streets.
 - m. Vaults and pull boxes shall be installed flush to grade.
3. Streetlight Poles.
- a. WCFs shall not compromise the performance of any streetlight.
4. Utility Poles. All installations on utility poles shall fully comply with the California Public Utilities Commission (CPUC) general orders (GOs), including, but not limited to, GO 95. None of the Design Standards are meant to conflict with or cause a violation of GO 95, including, but not limited to, its standards for a safe installation on a utility pole. In the event of a conflict, the GO standard will prevail, but only to the minimum extent necessary for compliance.
5. Traffic Signal/Control Poles. Installations of WCFs on traffic signal/control poles are prohibited.
6. Replacement Poles.
- a. A replacement pole, and fixtures affixed thereto, for WCFs shall match the predominate design, including but not limited to shape, colors, materials, finish, height, taper, diameter, configuration, and alignment of the pole that it is replacing. Matched features, where applicable, shall include mast arms, pole bases, luminaires, and other visible components.
 - b. A replacement pole must match the setback of the pole that it is replacing. Further, a replacement pole must be in the same location as the pole that it is replacing or as close to the original location as possible, taking into account pole owner safety-related requirements and all applicable location and placement standards herein.
 - c. All wires, cables, and conduit associated with a WCF shall be routed inside the pole, and all points of connection for power and data shall be underground.
7. New Poles.
- a. In locations where WCF installations on existing streetlight or utility poles within the P-ROW or on private streets are not technically feasible, a new pole may be installed for the purpose of supporting a WCF. The new pole and any associated equipment shall be owned and maintained by the wireless communication service provider.

- b. A new pole, and fixtures affixed thereto, for WCFs shall match the predominate design, including but not limited to shape, colors, materials, finish, height, taper, diameter, configuration, and alignment of any existing streetlight or utility poles in the same P-ROW or private street corridor/neighborhood. Matched features, where applicable, shall include mast arms, pole bases, and other visible components.
- c. A new pole shall match the predominant alignment/setback (relative to the street centerline, curb, sidewalk), arrangement, and spacing of any existing streetlights and/or utility poles in the vicinity.
- d. New single-purpose WCF poles shall be metal or concrete.
- e. New single-purpose wooden poles are prohibited.

ACCEPTABLE (IN CONTEXT) FACILITY DESIGN EXAMPLES

