# Attachment E

**APPENDIX TO CITY OF LOS ALTOS RESOLUTION 2022-___**

**DESIGN AND DEVELOPMENT STANDARDS FOR WIRELESS TELECOMMUNICATIONS FACILITIES**

## I. Definitions

**A. Small Cell Facility:** shall have the same meaning as "small wireless facility" in 47 C.F.R. 1.60020), or any successor provision (which is a personal wireless services facility that meets the following conditions that, solely for convenience, have been set forth below):

1. The facility-
   a. is mounted on a structure 50 feet or less in height, including antennas, as defined in 47 C.F.R. Section 1.1320(d), or
   b. is mounted on a structure no more than 10 percent taller than other adjacent structures, or
   c. does not extend an existing structure on which it is located to a height of more than 50 feet by more than 10 percent, whichever is greater;
2. Each antenna associated with the deployment, excluding associated antenna equipment (as defined in the definition of antenna in 47 C.F.R. Section 1.1320(d)), is no more than three cubic feet in volume;
3. All other wireless equipment associated with the structure, including the wireless equipment associated with the antenna and any pre-existing associated equipment on the structure, is no more than 28 cubic feet in volume;
4. The facility does not require antenna structure registration under 47 C.F.R. Part 17;
5. The facility is not located on Tribal lands, as defined under 36 C.F. R. Section 800.16(x); and
6. The facility does not result in human exposure to radio frequency radiation in excess of the applicable safety standards specified in 47 C.F.R. Section 1.1307(6).

**B. Underground areas:** Those areas where there are no electrical facilities or facilities of the incumbent local exchange cattier in the right of way; or where the wires associated witl1 the same are or are required to be located underground; or where the same are scheduled to be converted from overhead to underground. Electrical facilities are distribution facilities owned by an electric utility and do not include transmission facilities used or intended to be used to transmit electricity at nominal voltages in excess of 35,000 volts.

## II. Design And Development Standards for all Wireless Telecommunications Facilities.

**A. Purpose.** The purpose of this section is to provide guidelines to applicants and the City that prescribe clear, reasonable, and predictable design criteria to reduce visual and land use impacts associated with wireless telecommunication facilities in the City. Nothing in this section shall be construed to permit a wireless telecommunication facility in any location or configuration that it is otherwise prohibited by the City's locational and development standards found in Chapter 14.82.

The design and development standards set forth in this section apply to all wireless telecommunications facilities no matter where they are located. Wireless telecommunications facilities shall be designed and maintained so as to minimize visual, noise, and other impacts on the surrounding community and shall be planned, designed, located, and erected in accordance with the design and development standards in this section.

**B. Basic Design Principles**. ~~The design and development standards set forth in this section apply to all wireless telecommunications facilities no matter where they are located. Wireless telecommunications facilities shall be designed and maintained so as to minimize visual, noise, and other impacts on the surrounding community and shall be planned, designed, located, and erected in accordance with the design and development standards in this section and t~~The following describes basic principles upon which wireless telecommunications facilities design guidelines are based. They are intended to provide guidance in the application of the general and detailed design guidelines in the review and evaluation of site-specific wireless telecommunications facilities permit applications.

1. **Impact Minimization**. The overall impacts of a wireless telecommunications facility shall be minimized in relation to aesthetic, land use, noise, traffic, and other considerations. Although this is generally accomplished with the smallest feasible design for any given facility, a larger facility may sometimes be appropriate if it is well concealed, compatible with the surrounding neighborhood, and can reduce the overall number of wireless telecommunications facilities required to provide service within the City.
2. **Integration and Concealment**. Integration and concealment of a wireless telecommunications facility and its resulting visibility are a function of site context as well as the design and placement of a facility on a specific site.

**Comment G-1:** Verizon contends the basic design principles are vague and could be used to deny applications for facilities that otherwise meet specific criteria. Text revisions clarify but do not modify the guidelines' intent.

a. Overall, new wireless telecommunications facilities and modifications to existing facilities shall be visually integrated into their sites and as hidden from view as feasible.

*Figure 1: This well-concealed wireless telecommunications facility has its antennas architecturally integrated into the building.*

b. Non-integrated (unconcealed) installations are less preferred and permitted only where an integrated (concealed) facility is either infeasible or would reduce the number and overall visual intrusiveness of wireless telecommunications facilities required to provide service within the City.

c. Complete concealment (e.g., no visible exterior equipment) is preferred over other methods.

d. Covering or painting antennas and equipment does not necessarily mean they are well-concealed and must be evaluated based on their actual ability to conceal the facility. Factors to be considered include the visibility of exterior pole equipment on a pole regardless of its color and concealment methods (antenna skirts, fiberglass paneling, fiber-reinforced plastic [FRP] boxes, etc.) themselves.

e. RF safety barriers shall be the least visible barrier feasible. When feasible, striping and restricted access shall be used instead of posts, chains, and/or fencing. When barriers must be visible, building materials should be integrated into the design of the facility and its adjacent surroundings.

f. Any feature that is represented on plans and photo simulations submitted to the City as providing concealment (adjacent landscaping, paint colors, architectural elements, etc.) shall be present for the life of the project, and therefore need to be within the applicant's control.

g. Future modifications to a site or facility reduce concealment that was provided with the initial installation shall not be permitted unless no feasible alternative exists, or the proposed modification involves colocation and an overall reduction of the visual intrusiveness of wireless telecommunications facilities within the City.

3. **Context**. Specific situations require specific design solutions. What integrates well into one site and conceals a wireless telecommunications facility might not be

appropriate for another situation. Proposed designs shall therefore be evaluated based on the following considerations.

a. Concealment behind a parapet might be a good design solution; however, designs that raise the parapet or only a portion of the parapet might not be.

b. Façade-mounted antennas or a cupola might be appropriate for certain styles of architecture, but not for others.

c. Placement of a wireless telecommunications facility on an existing pole or a replacement pole might or might not be visually unobtrusive, depending on the extent to which the facility adds to the height of the pole and the presence and extent of external equipment and cabling added to the pole.

d. Placement of a new pole within a street right-of-way might or might not be appropriate depending on the location of any nearby utility poles, streetlights, or traffic signals.

e. Placement of a new pole on a property outside of a right-of-way (such as on a new flagpole) might or might not be appropriate depending on its design and location in relation to buildings and other onsite features.

f. A wireless telecommunications facility that fits into its context (e.g., a faux tree within an area having existing trees) is generally more integrated (concealed) than one that does not (e.g., a faux tree in the middle of a non-landscaped parking lot or a faux tree that is poorly designed or of a species not otherwise present in the area).

g. New wireless telecommunications facilities are generally appropriate as a means of reducing the overall number of facilities within the community but might be visually intrusive depending on their height, design, and placement.

**C. No Speculative Facilities**. A wireless telecommunications facility, telecommunications collocation facility, or telecommunications tower that is built on speculation and for which there is no wireless tenant shall be prohibited within the City.

**D. General Guidelines**.

1. **Concealment**. Each facility shall be designed to be as visually inconspicuous as feasible, to prevent the facility from dominating the surrounding area, and to conceal the facility from predominant views from surrounding properties, all in a manner that achieves compatibility with the community.

   a. Cabling and equipment should be concealed wherever feasible. Where cabling and/or equipment cannot feasibly be fully concealed from public view, they should be designed and located so as to minimize their visual intrusiveness.

2. **Traffic Safety**. All facilities shall be designed and located in such a manner as to avoid adverse impacts on traffic safety.

**Comment G-2:** Verizon contends the general guidelines are vague and could be used to deny applications for facilities that otherwise meet specific criteria.

**Comment G-3:** Other safety issues raised by members of the public in addition to RF transmissions (which the City is preempted from regulating) include potential for fire, explosion and the presence of hazardous materials equipment. All installations are required to be consistent with PUC General Order 95, and applicable building, fire, and electrical codes, as well as applicable regulations for handling hazardous materials.

a. Any wireless telecommunications facility attachments placed less than 16 feet above ground level shall not be placed closer than 18 inches to a curb, nor shall they extend over a sidewalk (Caltrans Highway Design Manual Section 309).

b. All wireless telecommunications facility equipment shall maintain at least 3 feet separation from any curb cut.

**3. Antennas**. The applicant shall use the least visible antennas possible to accomplish the coverage objectives. Antenna elements shall be flush mounted, to the extent reasonably feasible. All antenna mounts shall be designed so as not to preclude probable future collocation by the same or other operators or carriers. Antennas shall be situated to reduce visual impact without compromising their function. Whip antennas need not be screened.

**4. Landscaping**.

a. Where appropriate, facilities shall be installed so as to maintain and enhance existing landscaping on the site, including trees, foliage, and shrubs, whether or not the landscaping is used for screening.

b. The wireless telecommunications facility's design shall be consistent with the existing and/or proposed landscape design of the adjacent site, using a similar or complementary plant palette.

c. Existing, mature trees shall be retained when feasible. Any existing landscaping removed or damaged by installation shall be replaced in kind.

d. Additional landscaping shall be planted, irrigated, and maintained where such vegetation is deemed necessary by the City to provide screening or to block the line of sight between facilities and adjacent uses. Landscaping to screen wireless telecommunications facilities shall not, however, block the lines of sight and create hazards for motorists, bicyclists, and pedestrians.

e. Any proposed underground vaults shall be designed and constructed so as to protect existing street trees, including roots within the tree's drip line.

(1) A report from an experienced arborist shall be provided to the City upon request confirming the tree's root system has been adequately protected.

f. Landscaping proposed to screen, conceal, complement, or soften the visual intrusiveness of a wireless telecommunications facility shall remain for the life of the permit, even if not located within the applicant's lease area. Adequate provisions shall be entered into with property owners to ensure that required landscaping is not removed, and that it is properly maintained. Landscaping outside the applicant's control is generally not considered to provide concealment, but concealment provided by such landscaping can be considered on a case-by-case basis.

5. **Signage**. Wireless telecommunications facilities and wireless telecommunications collocation facilities shall not bear any signs or advertising devices other than certification, watting, or other signage required by law or permitted by the City.

6. **Lighting**. A wireless telecommunications facility shall not be illuminated unless lighting is specifically required by the Federal Aviation Administration or other government agency, or the lighting is in association with the illumination of an athletic field on City or school property. Lighting arresters and beacon lights are not permitted unless required by the Federal Aviation Administration or other government agency. Legally required lightning arresters and beacons shall be included when calculating the height of facilities such as telecommunications towers, lattice towers, and monopoles.

7. **Noise**.

   a. Each wireless telecommunications facility and wireless telecommunications collocation facility shall be operated in such a manner so as to minimize any disruption caused by noise.

   b. At no time shall any facility be permitted to generate noise exceeding the noise levels specified in Municipal Code Chapter 6.16 ~~45 dBA~~ except for backup generators operated during periods of power outages.

   c. Backup generators shall only be operated during periods of power outages, and shall not be tested on weekends, on holidays, or on weekdays between the hours of 5:00 p.m. and 7:00 a.m. ~~Noise from backup generators shall not exceed the noise levels specified in Municipal Code Chapter 6.16.~~

   d. Where feasible, passive louvers and/or other passive ventilation shall be provided as the primary means of temperature control.

8. **Security**. Each wireless telecommunications facility and wireless telecommunications collocation facility shall be designed to be resistant to, and minimize opportunities for, unauthorized access, climbing, vandalism, graffiti, and other conditions that would result in hazardous situations, visual blight, or attractive nuisances. The City may require the provision of warning signs, fencing, anti-climbing devices, or other techniques to prevent unauthorized access and vandalism when, because of its location or accessibility, a facility has the potential to become an attractive nuisance. The applicant shall cover any costs associated with the techniques described herein.

9. **Modification of Existing Equipment**. At the time of modification of a wireless telecommunications facility, existing equipment shall, to the extent feasible, be modified or replaced to reduce visual, noise, and other impacts. This shall include the reduction of the size of the ground cabinet and/or replacement with an underground vault. Examples include, but are not limited to, undergrounding the equipment or replacing larger, more visually intrusive facilities with smaller, less visually intrusive facilities.

**Comment G-4:** This clarifies that the City's existing noise standards are basis for noise regulation applied to wireless facilities.

**Comment G-5:** This standard would be added to paragraph b, above, and need not be repeated.

**Comment G-6:** Verizon contends that this standard would require changing otherwise unaltered components of a facility and should be deleted.

## III. Additional Design and Development Standards for Facilities Outside of the Public Right-of-Way and Public Utility Easements.

**A. Basic Requirements**. Facilities located outside the public right-of-way and public utility easements are subject to the design and development standards set forth in this section in addition to the design and development standards that apply to all facilities (Section 4).

**B. Preferred Designs**.

1. **Façade-Concealed Antennas**. Façade-concealed antennas have antennas, mounting apparatus, and any associated components fully concealed from all sides within a structure that achieves complete architectural integration with the existing building (for example, antennas behind fiber-reinforced plastic [FRP] in a parapet, and equipment inside an existing building), or within outbuildings that are architecturally integrated into a site and are expected components of the setting. This preferred installation type has the following additional characteristics.

*Figure 2: This completely concealed wireless telecommunications facility, including antennas, is cited in the City of San Diego's Land Development Manual in its guidelines for wireless communications facilities.*

   a. Cables and cable trays are completely hidden from view with cables routed internally or buried underground.

      (1) Exterior cable trays designed to replicate an existing vertical element may be considered on a case-by-case basis.

      (2) Standard cable trays painted and textured to match the existing building are indicative of a façade-mounted facility rather than the preferred façade-concealed facility.

   b. Equipment and equipment areas shall be completely hidden.

      (1) Associated equipment shall be completely concealed inside an existing building, inside an underground vault, or by the same method as the antennas (RRUs, RRHs, surge suppressors, and similar).

**Comment G-7:** This is to correct a typo in section numbering.

(2) Screen walls, fences, and prefabricated facilities are generally not indicative of building-concealed facilities; however, equipment enclosures designed to replicate existing buildings and structures may be considered on a case-by-case basis. This guideline shall apply to any existing or proposed mechanical equipment that serves the wireless telecommunications facility, including, but not limited to, generators, air conditioning units, and similar equipment.

*Figure 3: Antennas are concealed behind the circular element.*

c. FRPs shall be both textured and painted to match adjacent building faces. Paint and texture should match completely.

d. There should be no noticeable transitions (e.g., seams or differences in paint or texture) between FRP and adjacent surfaces.

e. If concealed within a parapet, the top, sides, and rear of antennas and associated components shall also be enclosed or otherwise screened from view. No wireless telecommunications facility components, including antenna, mounting apparatus, cabling, or equipment, should be visible.

f. If a project extends the parapet upward, the extensions should have symmetry in all visible dimensions. Antennas and concealment elements shall not dominate the element on which they are placed.

2. **Faux Architectural Elements**. Faux architectural elements are existing or proposed architectural elements on a building that completely conceal antennas. They are distinguished from façade-concealed antennas in that they appear to be architectural elements of a building.


*Figure 4: A cupola (above) and a clock tower (below) conceal antennas.*

   a. This preferred installation type may take a variety of forms, such as tower elements and cupolas. Architectural integration may also include tapered columns (which may hide façade-mounted antennas individually), wing walls, dormers, statues, façade-mounted signage, and other elements.

   b. This preferred installation type shall be appropriate to the architectural context and have the following additional characteristics:

      (1) Design that matches the style of the building and is designed as a feature commonly found on the type or style of building upon which the element is proposed; and

      (2) Colors and textures that match the existing building, including finishing features such as reveals, windows, tapers, cornices, tiling, roofing materials, and trim.

   c. Antennas and related equipment shall not encroach from a building into the public right-of way or onto an adjacent property.

3. **Rooftop Concealment**. If accessory equipment for roof-mounted facilities cannot be installed inside the building or underground, such accessory equipment may be located on the roof of the building that the facility is mounted on, provided that both the equipment and screening materials are painted the color of the building, roof, or surroundings. Rooftop facilities that appear to be a building façade, architectural element, or parapet are considered to be façade-concealed, façade-mounted, or faux

architectural facilities. Rooftop concealment is considered to be a preferred design where façade integration is not feasible.

a. Roof-mounted facilities shall be designed and constructed to be fully concealed or screened in a manner compatible in color, texture, and type of material with the existing architecture of the building on which the facility is mounted. Screening shall not increase the bulk of the structure nor alter the character of the structure.

   (1) All screening materials for roof-mounted facilities shall be of a quality and design that is architecturally integrated with the design of the building or structure.

   (2) Rooftop concealment shall be appropriate to the architectural setting, matching the colors and textures of existing building (including features such as reveals, cornices, tiling, roofing materials, and trim), and shall be designed as a feature commonly found on the type or style of building upon which the facility is proposed.

   (3) Integration into existing rooftop elements is preferred over creating new rooftop elements unless integration would be architecturally undesirable.

   (4) The height of rooftop screening shall not exceed the maximum height permitted by the zoning district within which the facility is located.

   (5) Roof-mounted wireless telecommunications facilities shall not be visible from any side and may need to be concealed from the top if adjacent structures are taller and have views onto the roof where wireless telecommunications facilities are proposed to be mounted.

   (6) Equipment located on the roof of an existing structure shall be set back or located to minimize visibility, especially from the public right of-way or viewing locations accessible to the public. Rooftop screening elements will generally need to be set back from the roof edge at least as far as they are tall.

   (7) Rooftop screening shall not dominate a façade. For example, an antenna screen that approaches the height of a building story and runs most of the length of a façade containing windows would substantially increase building height but not appear as part of the structure. In this case, it would be more desirable to extend the parapet and make the building itself appear taller.

b. Unconcealed rooftop installations such as lattice towers, monopoles, and rack mounts that are visible from the public right-of-way or viewing locations accessible to the public shall not be permitted.

4. **Architecturally Designed Stand-Alone Towers.** Towers that are designed to appear as buildings or signs, and that conceal antennas completely within them, may be permitted where appropriate to the site on which they are proposed. Examples include, but are not limited to, clock towers and obelisks.

a. Architecturally designed stand-alone towers shall be of high-quality design and provide variation in planes, textures, colors, or treatments to avoid the look of a simple box.

b. Clock towers shall have a functioning clock at all times.

c. A separate sign permit may be required for any onsite sign used to conceal antennas.

d. A wireless telecommunications facility permit may not be used to request signage that does not comply with Municipal Code standards for signage.

**5. Athletic Field Lights.** The guidelines in this section are for lights used to illuminate large areas for the purposes of recreation. For lights used to illuminate the immediate area for pedestrian or driver safety, see Section C.4, Parking Lot Light Standards, below.

a. Antennas shall be mounted as close as possible to the pole and within an antenna shroud that conceals the antennas and any associated components. No wireless telecommunications facility component except the antenna shroud shall be visibly mounted to a pole.

b. Antennas and mounting components shall be painted the same color as the pole.

c. All cables and conduit to and from the light standard shall be routed from the caisson up into the pole. Cable coverings may be permitted in limited circumstances where they would be minimally visible.

d. When a wireless telecommunications facility is proposed on a field with no existing lighting or no functional lighting, the applicant shall provide additional lighting as required to provide a functionally illuminated sports field. Partial lighting of a sports field is not acceptable.

**C. Other Permitted Designs.**

**1. Façade-Mounted Antennas**. Façade-mounted antennas are any antennas mounted on the exterior of a building that are not faux architectural elements. Façade- mounted antennas shall:

a. Employ a symmetrical, balanced design.

(1) No interruption of architectural lines or horizontal or vertical reveals should occur.

(2) Antennas should be no longer or wider than the façade on which they are proposed and shall not encroach into window areas or protrude above or below the surface on which they are mounted.

(3) Antennas should be mounted with their tops at the roofline unless there is an obstacle, or unless to do so would decrease concealment.

b. Use the smallest mounting brackets available to provide the smallest offset from the building.

c. Limit the distance from the front of the antenna (or antenna shroud/FRP) to the face of the building to 12 inches. Panel antennas may be mounted up to 18 inches away from a building façade when the applicant provides evidence demonstrating that the wireless communication facility cannot operate without incorporating a tilt greater than 12 inches.

d. Fit each antenna into the design of an existing façade, with each antenna being no longer or wider than the portion of the façade upon which it is mounted. The antennas should not interrupt the architectural lines of the façade.

e. Conceal associated mounting brackets and cable from view. Any pipes or similar apparatus used to attach panel antennas to a building façade shall not extend beyond the length or width of the panel antenna. Measurements may be verified during inspection.

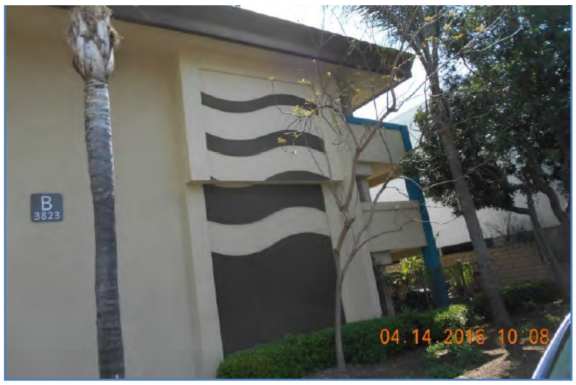

*Figure 5: Although façade-mounted boxes are not preferred, this example from San Diego achieves integration with the structure.*

f. If a façade-mounted facility dominates a façade element, use façade-mounted FRP boxes that look like an extension of the façade.

g. If not covered by an FRP box, use skirts and chin covers to conceal mounting hardware, create a cleaner appearance, and minimize visual impact. Chin covers shall be designed to replicate the antenna profile. Transitions between antennas and screening devices should not be visible (no gaps). Antennas should appear to be the same length, width, and depth, spaced uniformly.

h. Match the color and texture of concealment measures to adjacent building surfaces, including includes trim, reveals, lines, and similar features. No visible transition lines or gaps should occur.

i. Avoid exposed cabling.

j. If not covered by an FRP box, provide a unified appearance. If antennas differ in shape or size, they should all be given unified dimensions using skirts and chin straps spaced uniformly across a façade.

k. Locate ventilation openings on the top or bottom of screening elements only.

l. Not encroach from a building into the public right-of way or onto an adjacent property.

**2. Faux Trees**. Wireless telecommunications facilities may be designed to emulate trees where trees similar in size and species are present. Faux trees may also be appropriate when natural trees of similar species are planted concurrent with faux tree installation, depending on the density and size of trees being planted.

*Figure 6: In this example, antennas are concealed by the faux "mono-pine."*

a. Faux trees shall be of a type and size to adequately conceal antennas within them while appearing natural.

(1) Faux trees shall replicate the shape, structure, and color of live trees, and be designed to look like the tree species they intend to replicate (e.g., a faux pine tree shall be shaped like a pine tree). Branching shall not make the tree look top-heavy or unnatural.

(2) If no trees exist within the immediate area, the applicant shall create a landscape setting that integrates the faux tree with added species of a similar height and type.

(3) All branches at the antenna level shall extend a minimum of 24 inches beyond the entire vertical length of the antennas for maximum concealment. Antenna socks shall not count toward this requirement.

(4) Faux trees shall be designed with a minimum of four branches per foot for full density coverage with limited spacing between the branches unless three dimensional (3D) models justify lower branch counts.

(5) There shall be no gaps in branch coverage. All branch ports shall be used for branches. Branches shall blend down the tree with no abrupt transitions.

(6) Poles should be five feet shorter than the overall height of the faux tree to allow branching at the top of the tree.

(7) Due to the physical form of palm trees and the difficulty of providing concealment for wireless telecommunications facilities, faux palms shall not be permitted.

b. Applications proposing faux tree installations shall provide detailed specifications during plan review, including:

(1) 3D-modeled photo simulations illustrating branches, foliage, pole, and equipment; and

(2) Sufficient samples, models, or other means to demonstrate the quality, appearance, and durability of the faux tree.

c. Projects shall not be approved at final inspection if they do not match the approved exhibits, including photo simulations.

**3. Flagpoles and Similar Vertical Elements**. This section addresses the design of wireless telecommunications facilities designed as flagpoles or other stand-alone pole-like elements that are not used for illumination or above-ground utilities.

a. Flagpoles shall replicate the design, diameter, and proportion of the vertical element they are intended to imitate and shall maintain a tapered design.

b. Generally, flagpoles should be 30 feet or less in height and not exceed 9 inches in diameter.

(1) Flagpoles that are higher than 30 feet and/or exceed 9 inches in diameter may be permitted where the flagpole is located in a suitable setting and appropriately tapered to maintain the appearance of an authentic flagpole.

b. Antennas and any pole-mounted equipment shall be enclosed within the flagpole. Flagpoles shall not have an antenna shroud.

c. Flagpoles shall comply with the U.S. Flag Code at all times.

d. All cables shall be routed directly from the ground up through the pole.

**4. Parking Lot Light Standards**. These guidelines are for lights used to illuminate the immediate area for vehicular and pedestrian safety within a parking lot.

a. Light standards used for wireless telecommunications facilities shall:

(1) Replicate the design, diameter, and proportion of the vertical element they are intending to imitate; and

(2) Replicate as closely as possible the design of any other lighting standard within the parking lot, including but not limited to the height of other parking lot lighting standards and the design, material, and color of nearby light poles.

b. All cables and conduit to and from the light standard shall be routed from the caisson through the pole to the antennas.

c. All antennas shall be concealed inside an antenna shroud of a shall be compatible with the diameter of the pole or concealed within the pole.

d. Light fixtures shall be sized and balanced with the design and height of the overall light pole.

**D. Pole-Mounted Telecommunications Facilities**.

1. Facilities mounted to a telecommunications tower, including, but not limited to, the attached antennas, shall be designed to be the minimum functional height and width required to adequately support the proposed facility and meet Federal Communications Commission (FCC) requirements. The applicant shall provide documentation satisfactory to the City Manager establishing compliance with this paragraph.
2. Monopole installations shall be situated so as to utilize existing natural or man-made features including topography, vegetation, buildings, or other structures to provide the greatest amount of visual screening.
3. All antenna components and accessory wireless equipment shall be treated with exterior coatings of a color and texture to match the predominant visual background or existing architectural elements so as to visually blend in with the surrounding development. Subdued colors and non-reflective materials that blend with surrounding materials and colors shall be used.
4. Monopoles shall be no greater in diameter or other cross-sectional dimensions than is necessary for the proper functioning of the facility.

**E. Accessory Equipment.**

1. All accessory equipment associated with the operation of any wireless telecommunications facility shall be fully screened or camouflaged, and located in a manner to minimize its visibility to the greatest extent feasible.
2. Accessory equipment for facilities mounted to a telecommunications tower shall be visually screened by locating the equipment either within a nearby building, in an underground vault (with the exception of required electrical panels) or in another type of enclosed structure, which shall comply with the development and design standards of the zoning district in which the accessory equipment is located. Such enclosed structure shall be architecturally treated and adequately screened from view by landscape plantings, decorative walls, fencing or other appropriate means, selected so that the resulting screening will be visually integrated with the architecture and landscaping of the surroundings.

**F. Signage.**

1. All wireless facilities must include signage that accurately identifies the equipment owner/operator, the site name or identification number, and a toll-free number to the owner/operator's network operations center.

2. Wireless facilities may not bear any other signage or advertisements unless expressly approved by the City, required by law or recommended under existing and future FCC or other United States governmental agencies for compliance with RF emissions regulations.

3. RF notification signs shall be placed where appropriate, and not at pedestrian eye level, unless required by the FCC or other regulatory agencies.

**IV~~H~~. Additional Design and Development Standards for Facilities in the Public Right-of-Way and in Public Utility Easements.**

**Comment G-8:** Corrects typo in section numbering.

**A. Basic Requirements**. Facilities located in the public right-of-way and in public utility easements are subject to the design and development standards set forth in this section in addition to the design and development standards that apply to all facilities. Only pole-mounted antennas shall be permitted in the right-of-way. All other telecommunications towers are prohibited.

**B. Preferred Configurations**

**Comment G-9:** Verizon contends that strict application of this preference would contradict Government Code Section 65964(c) which bars local governments from limiting facilities to sites owned by any particular party. However, location on a city-owned light pole is a preference and not a requirement.

**1. Light Poles Wherein all Equipment, Cabling, and Antennas are Within the Pole Itself and/or Entirely Under the Ground.**

a. Use of light poles for wireless telecommunications facilities may be permitted where there are existing light poles or in areas where a new light pole would be appropriate (e.g., intersections).

b. The maximum height of any antenna mounted to a street light pole shall not exceed seven feet above the existing height of a street light pole in a location where the closest adjacent district is a commercial zoning district and shall not exceed three feet above the existing height of a street light pole in any other zoning district. Any portion of the antenna or equipment mounted on such a pole shall be no less than 18 feet above any drivable road surface.

c. Antennas shall be fully shrouded unless full shrouding would impede signal propagation. Antenna shrouds shall be the same diameter as the pole, unless multiple antennas (no more than three) are provided, in which case the maximum total diameter of antennas and shrouds shall be no greater than 29 inches.

**Comment G-10:** Verizon contends this standard might not be feasible and needs to be revised.

d. ~~The bottom 66 inches of a pole (the "base") may be up to 6 inches in diameter wider to accommodate equipment.~~ Associated equipment at the bottom of a pole (the "base") shall be concealed in a pole base that is:

(1) Up to 20 inches square and four feet tall; or

~~c.~~ (2) Within a side-mounted shroud up to 16 inches wide, 12 inches deep and 5.5 feet tall.

~~d.~~e. To prevent accumulation of trash, facilities shall be designed to avoid flat surfaces in the transition from the base to the upper pole.

~~e.~~f. Poles shall be painted and textured to City standards to match existing streetlights in the vicinity.

**C. Less Preferred Configurations.**

**1. Existing or Replacement Utility Poles.**

a. All installations on utility poles shall fully comply with the California Public Utilities Commission (CPUC) general orders (GOs), including, but not limited to, GO 95.1.

~~a.~~b. The maximum height of any antenna mounted to an existing utility pole shall not exceed 24, unless required by General Order 95, in which case the maximum height shall not exceed 48 inches above the height of an existing utility pole, exclusive of mounting hardware. No~~nor shall any~~ portion of the antenna or equipment mounted on a pole shall be less than:

*Figure 7: Landscaping conceals wireless telecommunications equipment mounted on the exterior of this pole located on Distel Drive.*

(1) 18 feet above any drivable road surface; or

(2) 7 feet above any portion of the right-of-way outside of the drivable road surface (e.g., parkways, medians). ~~All installations on utility poles shall fully comply with the California Public Utilities Commission (CPUC) general orders (GOs), including, but not limited to, GO 95.1.~~

~~b.~~c. Unless otherwise required by General Order 95:

(1) All antennas shall be shrouded. Antenna shrouds should have an outer diameter of 15" or less and measure no more than five cubic feet in size.

(2) The shroud should be no more than 4 feet tall, including antenna, radio head, mounting bracket, and all other hardware necessary for a complete installation.

**2. Stand-Alone Poles along Rights-of-Way with No Existing Overhead Utility Lines.**

**Comment G-11:** Verizon contends this section is inconsistent with PUC General Order 95 and needs revision. The revised text ensures consistency with General Order 95.

a. Where a stand-alone pole is proposed within a right-of-way or public utility easement with no overhead utility lines, the preferred configuration is for all equipment to be concealed within the pole itself, with an antenna/shroud mounted directly to the top of the pole and no visible transitions. No equipment shall be visible outside the pole. Equipment may, however, be placed in an underground vault.

b. Antennas and shrouds shall be ~~the same diameter as the pole, which should be~~ no wider than ~~14~~ 21 inches.

c. Associated equipment at ~~T~~the bottom ~~66 inches~~ of a pole (the "base") shall be concealed in a pole base that is:~~may be~~

(1) up to ~~18~~ 20 inches square and four feet tall; or

(2) within a side-mounted shroud up to 16 inches wide, 12 inches deep and 5.5 feet tall~~to accommodate equipment~~.

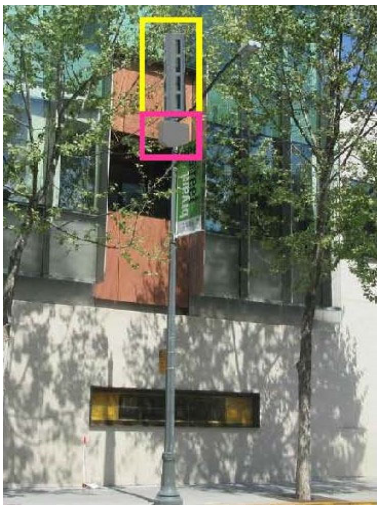

*Figure 8: Stand-alone small cell poles (as shown in this example) are not preferred but may be permitted if enclosure of all equipment within the pole or in an underground vault is technically infeasible.*

**Comment G-12]** Verizon asserted that these provisions would be technically infeasible and should be revised.

c. To prevent accumulation of trash, facilities shall be designed to avoid flat surfaces in the transition from the base to the upper pole.

d~~e~~. Stand-alone poles match the height and color of any nearby streetlight or utility pole.

**3. Light Poles Wherein Equipment, Cabling, and Antennas are Not Completely within the Pole Itself and/or Entirely Under the Ground.**

a. Use of light poles for wireless telecommunications facilities may be permitted only in areas where light poles are appropriate.

b. The maximum height of any antenna mounted to a street light pole shall not exceed seven feet above the existing height of a street light pole in a location where the closest adjacent district is a commercial zoning district and shall not exceed three feet above the existing height of a street light pole in any other zoning district. Any portion of the antenna or equipment mounted on such a pole shall be no less than 18 feet above any drivable road surface or 7 feet above any portion of the right-of-way outside of the drivable road surface (e.g., parkways, medians.

**Comment G-13:** This clarifies that the 18-foot minimum height applies only to drivable surfaces and sets a minimum height for locations within parkways and medians.

c. Antenna shrouds shall be the same diameter as the pole unless multiple antennas are proposed, in which case, the antennas and shrouds shall be no wider than 21 inches. ~~The bottom 66 inches of a pole (the "base") may be up to 6 inches in diameter wider to accommodate equipment.~~

d. Associated equipment at the bottom of a pole (the "base") shall be concealed in a pole base that is:

(1) up to 20 inches square and four feet tall; or

(2) within a side-mounted shroud up to 16 inches wide, 12 inches deep and 5.5 feet tall.

~~c.~~

~~d.~~c. To prevent accumulation of trash, facilities shall be designed to avoid flat surfaces in the transition from the base to the upper pole.

~~e~~f. Poles shall be painted and textured to City standards to match existing streetlights in the vicinity

**D. Requirements for Approval of Less-Preferred Configurations.**

1. **Application Requirements.** Applications that involve less-preferred configurations may be approved only if the applicant demonstrates that:

   a. No preferred configuration would be technically feasible; or

   b. The proposed configuration would be aesthetically superior to a preferred configuration due to existing conditions at the proposed site.

   The burden of proof for demonstrating that one of these two conditions exists shall lie with the applicant.

2. **Accompanying Evidence.** Applications that involve a less-preferred configuration shall be accompanied by clear and convincing written evidence demonstrating the need for approval of the proposed configuration rather than a preferred configuration.

3. **Independent Consultant.** In reviewing a request for a less-preferred configuration, the City may hire an independent consultant at the applicant's expense to evaluate the applicant's demonstration of need for the proposed less-preferred configuration.

**E. Pole Requirements**.

1. **Pole Height and Width Limitations.**

   a. All poles for wireless telecommunications facilities shall be designed to be the minimum functional height and width required to support the proposed antenna installation and meet FCC requirements. Poles, antennas, and similar structures shall be no greater in diameter or other cross-sectional dimension than is necessary for the proper functioning of the facility.

   b. Pole-mounted equipment shall not exceed ~~six~~ nine cubic feet in dimension.

**Comment G-14:** Verizon contends this standard might not be feasible and should be revised.

**Comment G-15:** Verizon stated that this standard may not accommodate all antennas, radios, meters, disconnect switches and mounting hardware required for service.

2. **Requirements for Replacement Poles.** If an applicant proposes to replace a pole in order to accommodate the facility, the pole shall match the appearance of the original pole to the extent feasible, unless another design better accomplishes the objectives of this section. Such replacement pole shall not exceed the height of the pole it is replacing by more than seven feet.

3. **Requirements for New Poles.** New poles shall be designed to resemble existing poles in the right-of-way, including size, height, color, materials, and style, unless (a) the existing poles are scheduled to be removed and not replaced, or (b) another design better accomplishes the objectives of this section.

**F. Pole-Mounted Facilities Requirements.**

1. **Facilities Mounted to a Telecommunications Tower.**

   a. Facilities mounted to a telecommunications tower, including, but not limited to, the attached antennas, shall be designed to be the minimum functional height and width required to adequately support the proposed facility and meet FCC requirements. The applicant shall provide documentation satisfactory to the City Manager establishing compliance with this paragraph. In any event, facilities mounted to a telecommunications tower shall not exceed the applicable height limit for structures in the applicable zoning district.

   b. Aside from the antenna itself, no additional equipment may be visible. All cables, including, but not limited to, electrical and utility cables, shall be run within the interior of the telecommunications tower and shall be camouflaged or hidden to the fullest extent feasible without jeopardizing the physical integrity of the tower.

2. **Monopoles.**

   a. Monopole installations shall be situated so as to utilize existing natural or man-made features including topography, vegetation, buildings, or other structures to provide the greatest amount of visual screening.

   b. All antenna components and accessory wireless equipment shall be treated with exterior coatings of a color and texture to match the predominant visual background or existing architectural elements so as to visually blend in with the surrounding development. Subdued colors and non-reflective materials that blend with surrounding materials and colors shall be used.

   c. Monopoles shall be no greater in diameter or other cross-sectional dimension than is necessary for the proper functioning of the facility.

**G. Accessory Equipment.**

1. All accessory equipment associated with the operation of any wireless telecommunications facility shall be screened or camouflaged, and located in a manner to minimize the equipment's visibility to the greatest feasible extent.

2. Accessory equipment for facilities within public rights-of-way ~~mounted to a telecommunications tower~~ shall be visually screened to the extent feasible by locating the equipment either ~~within a nearby building,~~ in an underground vault (with the exception of required electrical panels), or ~~in another type of enclosed structure that shall comply with the development and design standards of the zoning district in which the accessory equipment is located. Such enclosed structure shall be architecturally treated and adequately screened from view~~ by landscape plantings~~, decorative walls, fencing, or other appropriate means, selected so that the resulting screening will be visually integrated with the architecture and landscaping of the surroundings~~.

3. **Space Occupied**. Facilities shall be designed to occupy the least amount of space in the right-of-way that is technically feasible.

4. **Cables.** All cables, including, but not limited to, electrical and utility cables, between the pole and any accessory equipment shall be placed underground, if feasible.

5. **Wires.** Except for wood utility poles and other solid core poles, ~~A~~all new wires needed to service the wireless telecommunications facility shall be installed within the width of the existing utility pole so as to not exceed the diameter and height of the existing utility pole.

6. **Equipment Undergrounding.** All equipment (other than the antenna, antenna supports, ancillary wires, cables and any electric meter) shall be installed underground wherever feasible.

7. With the exception of the electric meter, which shall be pole-mounted to the extent feasible, all accessory equipment shall be located underground to the extent feasible. All wireless equipment installed on poles should be completely contained within an equipment shroud. Equipment shroud and lines should be painted, treated or finished to match existing utility pole and line aesthetics. Utility line installations should have a non-reflective color and finish. Required electrical meter cabinets shall be adequately screened and camouflaged.

**H. Americans with Disabilities Act Compliance**. All facilities shall be built in compliance with the Americans with Disabilities Act (ADA), and no facility shall be approved that would render any portion of the right-of-way noncompliant with the ADA.

**I. Other Requirements**.

1. **Facilities on Decorative Streetlights Prohibited.** Small wireless facilities shall not be located on decorative streetlights.

2. **Pole Height Calculation.** Legally required lightning arresters and beacons shall be included when calculating the height of facilities. Pole height shall be is measured from the top of foundation, which should be flush with the ground, to the top of pole or top of antenna, whichever is greater.

**Comment G-16:** Revised text is appropriate to facilities within rights-of-way. The deleted text addresses sites on private property and appears in the appropriate location (Section II E (2), for which Verizon has no comments.

**Comment G-17:** Verizon correctly noted that this cannot be accomplished on a wood pole.

**Comment G-18]:** Verizon asserted it is unreasonable to require small cell accessory equipment to be placed underground where feasible citing potential problems with sidewalk placement and existing underground utilities. However, undergrounding is required only where it can feasibly be accomplished.

3. **New Pole Material and Finish** New pole material and finishes should match the existing materials of the City standard streetlight poles or match aesthetics and materials of existing decorative poles.
4. **Disturbance of Topography and Vegetation.** Disturbance of existing topography and on-site vegetation shall be minimized unless such disturbance would substantially reduce the visual impacts of the facility.
5. **Separation of Service.** Separation of service shall be provided by installing all new electrical conduit(s) or using empty conduit(s) with the conduit owner's express consent in writing.
6. **Facilities on Streetlight or Traffic Signal Control Poles.** For proposed facilities on streetlight or traffic signal control poles, a hand hole should be provided at the top of the pole to maintain fiber and electrical service for streetlights and future attachments.
7. **Pole Foundation Calculations.** Pole foundation calculations shall be prepared and stamped by a California professionally licensed structural engineer and provided to the City for review. Pole foundation calculations shall account for all new and existing pole attachments and the pole.
8. **Pole Structural Calculations.** Pole structural calculations, including seismic loads, showing the load impacts of the wireless facility on City streetlight and traffic signal control poles, shall be prepared and stamped by a California professionally licensed structural engineer and provided to the City for review.
9. **Design Wind Velocity.** Design wind velocity shall be 115 miles per hour (mph) minimum in accordance with TlA-222 rev G, IBC 2012 with ASC 710, and amendments for local conditions.
10. **Trench Backfill.** Asphalt concrete sections for trench backfills shall be a thickness