

CITY OF BERKELEY
WIRELESS TELECOMMUNICATIONS PROGRAM
GUIDELINES FOR PROJECTS REQUIRING
TELECOMMUNICATIONS ENCROACHMENT/EXCAVATION PERMITS

These guidelines have been prepared and adopted to establish a uniform set of criteria to guide implementation of the requirements of BMC Section 16.10.050 regarding installation of any equipment used to provide telecommunications services if any part of the facility will be located in, above, or below the City of Berkeley public right-of-way including, but not limited to, overhead aerial installations, installations in existing conduit, installations in new conduit that requires excavation of public streets, or equipment that is installed on a public sidewalk. Because it is not practical to incorporate detailed design standards in BMC Section 16.10, the Code authorizes the City Manager to adopt additional guidelines, regulations, and standards to address their aesthetic effects as well as other features that could present a physical hazard or otherwise degrade the character of residential and commercial neighborhoods.

To facilitate administration of the permit program, the guidelines incorporate relevant provisions of BMC Section 16.10.050 and relevant provisions of BMC Chapter 23C.17, which establishes zoning regulations applicable to wireless telecommunications facilities on property outside of the public right-of-way. Additional sources for these guidelines are standard conditions imposed on projects subject to regulation under BMC Title 23 (Zoning Ordinance) and other regulations of the Berkeley Department of Public Works.

The objective of the guidelines is ensure that the design, operation, and siting of facilities in the public right-of-way will occur in a manner that protects and promotes public safety, community welfare and the aesthetic quality of the City consistent with the goals, objectives and policies of the Berkeley General Plan and Public Utilities Code Sections 7901 and 7901.1. At the same time, recognizing that the construction of antenna system components on telephone poles may be necessary in areas where installation of base stations on buildings is not feasible, the guidelines provide for managed development of wireless telecommunications infrastructure in accordance with the Telecommunications Act of 1996.

The guidelines are intended to achieve the following specific objectives:

- 1. Foster an aesthetically pleasing urban environment, protect and preserve public safety and general welfare, and protect the character of residential and adjacent neighborhood commercial areas by preventing visual blight and clutter from inappropriately designed and sited wireless communication facilities to the extent allowed by applicable state and federal legislation;*
- 2. Promote location and design of facilities to minimize interference with pedestrian and vehicular traffic, avoid damage to street trees, and protect historic and cultural, and natural resources by preventing degradation of their surrounding setting;*

3. *Minimize noise, traffic disruption, dust, air pollution, and other short-term impacts of construction activities and day-to-day operation;*
4. *Meet the needs of the City's residents, businesses, and visitors for reliable communication services by providing for the installation of appropriately designed antenna system components in the public right-of-way in areas where installation on buildings or other sites is not feasible;*
5. *Ensure that underground installations do not degrade public streets and sidewalks;*
6. *Provide opportunities for citizens to comment on the location and design of overhead facilities, such as pole-mounted antennas, and above-ground structures, such as phone pedestal boxes, to make installations more responsive to neighborhood concerns about their aesthetic and environmental effects;*
7. *Provide greater certainty to both applicants and interested members of the public while ensuring compliance with all applicable public works requirements;*
8. *Provide a mechanism for taking advantage of improvements in wireless technology improvements that would allow further reductions in the aesthetic and environmental impacts of telecommunications facilities as such changes in technology occur.*

I. EXISTING REQUIREMENTS

- A. Existing laws and City ordinances require that, in general, telecommunications facilities located within the public right-of-way in the City of Berkeley conform to the following requirements:
- B. Applicable BMC Regulations. Facilities shall be located, constructed, installed, and maintained in compliance with all applicable requirements of BMC Title 16 (Streets, Sidewalks and Other Public Property);
- C. Applicable Federal and State Requirements. Carriers and their agents shall comply with applicable regulations and standards of any other governmental agency with jurisdiction over the installation or operation of wireless telecommunications facilities including, but not limited to, the Federal Communications Commission, the Federal Aviation Administration, and the California Public Utilities Commission. The City Manager may require the Applicant to provide evidence that the Applicant has obtained all approvals required to construct, install, and maintain the proposed facility and that such approvals have been reviewed in compliance with the requirements of the California Environmental Quality Act (Public Resources Code Sections 21000 et seq.);
- D. Notification Requirements. Under BMC Chapter 16.10, at least 30 days before beginning construction, the Applicant shall provide written notification of any proposed above-ground installation in the public right-of-way to all owners and residents within 500 feet of the proposed location.
 1. The notice shall include a description of the proposed installation, including the proposed dimensions, design, color, type of facility, proposed location and identification of alternative locations (including undergrounding) that would meet project objectives.

2. The Applicant shall maintain a log of all calls and correspondence received in response to the notice including the date received, name, property address, comment, and resolution. A copy of the log shall be provided to the City prior to construction.

E. Construction Period Requirements

1. Construction shall be coordinated with other utility companies or applicants installing infrastructure in the public right-of-way as provided for in BMC Section 16.10.050.
2. When projects require excavation, the Applicant shall determine whether surplus conduit is available in the project area and whether joint trenching or boring will be feasible.
3. Facilities that require excavation shall be installed within existing facilities whenever sufficient excess capacity is available subject to reasonable terms and conditions.
4. Construction shall be scheduled and conducted so as to minimize interference with public use of the right-of-way including access to the right-of-way from private property.
5. Noise-producing site preparation and construction activities shall only occur on weekdays between the hours of 8 am to 7 pm in residential areas and between the hours of 7 am to 7 pm in commercial areas, or as designated on permit notes or attachments.
6. All trucks and equipment shall use the best available noise control techniques and equipment including improved mufflers, intake silencers, ducts, engine enclosures, and noise-reducing shields or shrouds.
7. Impact tools such as jackhammers, pavement breakers, and noise drills shall be hydraulically or electrically powered wherever feasible to avoid noise associated with compressed air exhaust from pneumatically powered tools.
8. When the use of pneumatic tools is unavoidable, an exhaust muffler shall be used on the compressed air exhaust to lower noise levels.
9. External jackets shall be used on tools where feasible to achieve noise reductions. To the extent possible, quieter procedures should be used such as drilling instead of jack hammering.
10. Stationary noise sources should be located as far as possible from sensitive receptors. If location within 20 feet of homes, schools, neighborhood parks, and retail businesses is necessary, stationary sources should be muffled and enclosed with temporary sheds.
11. Trucks and other vehicles should not be permitted to idle when waiting at or near the construction site.
12. Construction sites shall be watered at least twice daily to control dust caused by site preparation and construction activities. Increased watering may be necessary whenever wind speeds exceed 15 miles per hour. Whenever possible, reclaimed water should be used for this purpose.

13. Cover all trucks hauling soil, sand, paving materials, and other loose materials or require all trucks to maintain at least 2 feet of space between the top of the load and the top of the trailer.
14. Sweep streets, if possible with water sweepers using reclaimed water, at the end of each workday if soil, sand, or other material has been carried onto adjacent paved streets or sidewalks.
15. Best Management Practices shall be used to prevent oil, dirt, and other materials from construction equipment or activity from washing into the City storm drainage system.
16. Excavation and trenching activities shall not disturb the root systems of trees measuring 24 inches or more in diameter. Protective fencing should be installed around street trees within or adjacent to the work area to prevent damage to branches, trunks, or root systems.
17. If any cultural resources are discovered during excavation, trenching, or other construction activities, work shall be stopped immediately and the Director of Planning and Development shall be notified.
18. Directional boring should be used instead of trenching whenever possible to minimize interference with vehicular traffic and may be required by the City when working in streets that have been recently resurfaced or resealed.
19. When trenching is necessary, all trenches shall be covered at the end of each workday. The total time that a trench may remain open in any segment of the road system should not exceed one week.

II. SITE SELECTION GUIDELINES

- A. Based on potential aesthetic impact, the order of preference for selecting locations for installations in the public right-of-way is as follows:
 1. Areas that are located in commercial or manufacturing districts and are not within a designated landmark district, or located within 100 feet of a property that is designated as a City Landmark or is an historic resource as defined by the State Public Resources Code.
 2. Any neighborhood commercial district;
 3. Any residential district;
 4. Any location within 100 feet of a City park, property designated as a City Landmark, or property that contains an historic resource as defined by the State Public Resources Code;
- B. Facilities and equipment shall only be installed where equipment will not interfere with existing or future City uses of the right-of-way, the rights of private property owners, other utility fixtures and services, water hydrants or mains, wastewater stations, traffic control systems, or any other service or facility that benefits the City or the health, safety, or welfare of its residents.
- C. If a property or business owner objects to an installation in the right-of-way along his or her property, the City Manager may require the provider to identify at least one

feasible alternate location, if possible, subject to compliance with these guidelines including approval of adjacent owners.

- D. Facilities shall be installed within existing underground ducts or conduits whenever such ducts, conduits, manholes or other facilities have volume or capacity that is available or will be available for third party facilities. Utility boxes, power units, and similar fixtures shall be installed completely underground partially buried unless the City Manager finds that undergrounding would result in maintenance and operation problems that would interfere with service. Overhead facilities may be installed on existing utility poles where deemed appropriate by the City Manager.
- E. Facilities that transmit and/or receive electromagnetic signals including wireless communication services shall not be located closer than 100 feet to any existing legal dwelling unit, residentially zoned parcel, licensed day care facility or other educational facility unless the Applicant submits to the City non-ionizing electromagnetic radiation (NIER) calculations prepared by a qualified electrical engineer licensed by the State of California showing that NIER levels at these locations comply with FCC Maximum Permissible Exposure Limit for human exposure or any more restrictive standard adopted by the State of California or the Federal government. For information elsewhere
- F. Overhead Facilities. Overhead facilities may be installed on existing utility poles when the City Manager finds the proposed installation in accord with these guidelines and necessary to meet the Applicant's service objectives. No support structures other than utility poles are permitted.
 - 1. The City Manager may approve the replacement of an existing pole if the new pole has the same or better appearance than the existing structure.
 - 2. Overhead facilities shall not be installed in the public right-of-way where there are no existing overhead utility facilities or where a project has been implemented to remove existing overhead facilities.
 - 3. No facility shall be installed on a utility pole that is less than 25 feet in height.
 - 4. To the extent permitted by law, new utility poles over 40 feet are prohibited. Regardless of the height of new utility poles, telecommunications facilities shall not be installed on new poles at a height greater than the minimum necessary to comply with General Order 95 and P, G & E safety requirements.
- G. Above-Ground Installations.
 - 1. Pedestals, amplifier units, equipment cabinets, and similar above ground installations shall, where feasible, be located at least 6 inches from any sidewalk and 2 feet from driveway and curb edges. As required by the State Fire Code, pedestals must be at least 3 feet from fire hydrants. Installations must leave a minimum horizontal clear space for the path of travel of at least 6 feet. The City Manager may require more clear space for travel in heavily used commercial areas to provide sufficient room for pedestrian traffic.

2. Above-ground installations shall not be placed in front of the primary entrance to a residence or retail business or at any other location where they would unduly interfere with the operation of a business, including blocking views of the entrance or display windows.
 3. Above-ground installations in residential districts should generally be located at least 1,500 feet apart from one another.
 4. Above-ground units should not be sited at any location where the removal of vegetation will be necessary unless the City Manager determines that no other location is feasible and replacement landscaping is provided in accord with these guidelines.
 5. No unit higher than 3 feet shall be placed in any location that would interfere with vehicular sight lines at street corners, driveways, and other points of ingress or egress or obstruct the view of any traffic devices installed or authorized by the City.
 6. Proposed facilities shall not be located where they would reduce the amount of space available for on-street parking spaces or interfere with access of the public or workers to meters, fire hydrants, or other objects of street hardware in the right-of-way.
 7. Above ground facilities should not be placed at any location where they will be in a direct line of sight of a significant or sensitive view corridor, would adversely affect a scenic vista, or would materially impair the significance of an historical resource or unique archeological resource. When alternate sites are not available, facilities must be camouflaged, screened, or otherwise designed to minimize their visibility as provided for in these guidelines.
- H. Expert Review. In the event an Applicant claims that compliance with the foregoing standards is unreasonable or infeasible for technical reasons, the City Manager shall have the discretion to require peer review by an independent, qualified consultant to evaluate technical and other aspects of an application. The Applicant shall provide the City with written authorization for the City Manager to do so.
1. The Applicant's authorization shall include a written agreement by the Applicant to advance or promptly reimburse the City for all reasonable costs associated with such consultation. In the alternative, the City Manager may require the Applicant to submit a cash deposit for the estimated cost of such consultation, and to replenish said deposit if consumed by reasonable costs associated with such consultation.
 2. Such consultation is intended to be a site-specific review of technical aspects of the proposed wireless telecommunications facility and shall address all of the following:
 - a. Compliance with applicable radio frequency emission standards;
 - b. Height analysis;
 - c. Configuration;
 - d. The appropriateness of granting any requested exceptions;

- e. The accuracy and completeness of submissions;
- f. The applicability of analysis techniques and methodologies;
- g. The validity of conclusions reached; and
- h. Any specific technical issues designated by the city.

III. DESIGN AND LANDSCAPING GUIDELINES

- A. Providers shall take all reasonable steps to modify proposed plans to accommodate public concerns and shall describe such changes in the application filed with the City.
- B. The color, design, and landscaping of above-ground installations may be varied from these guidelines in response to the request of property or business owners so long as the City Manager approves such changes.
- C. Providers shall use the smallest and least visible antennas, equipment cabinets, and other facilities to accomplish the operator's coverage and service objectives.
- D. When feasible and consistent with the purposes and requirements of these guidelines and applicable requirements, providers shall make unused space on existing poles available for future co-location of other telecommunication facilities, including space for different operators providing similar, competing services.
- E. Overhead Facilities.
 - 1. Subject to the limitations recognized by paragraph (C), facilities installed on existing utility poles should not be larger, more obtrusive, or more readily visible than the existing facilities and devices affixed to the pole.
 - 2. No more than 1 antenna array may be attached to a utility or street light pole.
 - 3. An antenna enclosure attached to the top of a utility or street light pole shall be cylindrical in shape, shall not exceed 4 feet in height, and shall not have a diameter greater than the diameter of the pole.
 - 4. Equipment Enclosures. A maximum of 2 equipment enclosures and 1 meter box may be attached to a utility or street light pole, as follows:
 - a. A primary equipment enclosure installed on the same utility or street light pole as the antenna enclosure(s), preferably facing the street or perpendicular to the street, shall be no larger than approximately 4 cubic feet in volume, with a width not exceeding approximately 12 inches and a depth not exceeding approximately 10 inches, and shall be as small as reasonably possible with current technology. An electric meter and a cut-off switch may be located outside of the primary equipment enclosure;
 - b. A secondary equipment enclosure installed on a utility or street light pole that is near the utility or street light pole to be used for the antenna enclosure(s) and primary equipment enclosure, preferably facing the street or perpendicular to the street, shall be no larger than approximately 4 cubic feet in volume, with a width not exceeding approximately 12 inches and a depth not exceeding approximately 10 inches, and shall be as small as reasonably possible with current technology.

- c. In lieu of a separate meter box, the City Manager may allow a larger primary equipment enclosure if the Applicant demonstrates that the enclosure will contain an electricity meter and cut-off switch, provided that the width of the enclosure does not exceed approximately 12 inches and the depth does not exceed approximately 10 inches, and is as small as reasonably possible with current technology.
 - d. The bracket supporting an equipment enclosure shall not extend more than the minimum necessary to support the equipment.
 - 5. Supporting Elements. If applicable law, or generally applicable written rules of the pole owner, require a supporting element for any antenna enclosure such as a cross-arm or pole top extension, such supporting element shall be no larger, longer, or bulkier than is necessary to comply with applicable law or such generally applicable written rules.
- F. Colors and materials for facilities shall be chosen to minimize visibility. All visible exterior surfaces shall be constructed of non-reflective materials and painted or textured using colors to match or blend with the primary background.
- G. Utility Boxes and Cabinets. Facilities shall be compatible in scale and integrated architecturally with the design of surrounding buildings or the natural setting.
 - 1. Above-ground and partially buried ancillary equipment including support pads, cabinets, shelters, and buildings shall be designed to be architecturally compatible with surrounding structures and/or screened using appropriate techniques to camouflage, disguise, and/or blend into the environment including landscaping, color, and other techniques to minimize their visual impact.
 - 2. Ground-mounted utility boxes, equipment cabinets, power supply units and similar facilities shall be painted dark forest green or another approved color that will camouflage or disguise the facility, and/or blend it into the surrounding environment
 - 3. If the City Manager determines than an equipment cabinet is not or cannot be adequately screened from surrounding properties or from public view or architecturally treated to blend in with the environment, the equipment cabinet shall be placed underground or outside of the right-of-way subject to the requirements of the BMC Chapter 23 (Zoning Ordinance).
 - 4. Above-ground utility boxes in residential districts, and power supply units, shall generally not have dimensions that exceed a United States Postal Service mail box or the following dimensions:
 - Height: 48 inches
 - Width: 48 inches
 - Depth: 24 inches
 - 5. Power supply units must be enclosed by a fence with mesh and slats of dark forest green or other color designated by the City Manager to match the color of the unit.

- H. When facility lighting is needed for security or safety reasons it shall be designed to avoid glare and minimize illumination on adjacent properties.
- I. No advertising shall be placed on any above-ground telecommunications facilities or equipment. Informational signage required by these guidelines may include an identifying logo.
- J. Screening. Above ground facilities shall be screened as required by the City Manager.
 - 1. Screening shall be of a sufficient height and density to screen the facility from the public sidewalk and parkway.
 - 2. The City Manager may require the Applicant to submit a tree protection plan prepared by a certified arborist for the installation of any telecommunications facility located within the canopy of a street tree, or a protected tree on private property, or within a minimum of a 10-foot radius of the base of such a tree. Depending on site-specific criteria (e.g. location of tree, size and type of tree etc.), the City Manager may require a radius greater than 10 feet.
- K. All facilities shall be designed to be resistant to and minimize opportunities for unauthorized access, climbing, vandalism, graffiti, and other conditions that would result in hazardous conditions, visual blight, or attractive nuisances. The City Manager may require the provision of warning signs, fencing, anti-climbing devices, or other techniques to prevent unauthorized access and vandalism when, because of their location and/or accessibility, antenna facilities have the potential to become an attractive nuisance. The design of the fencing and other access control devices shall be subject to design review by the City Manager.
- L. At the time of modification or upgrade of facilities, existing equipment shall, to the extent feasible, be replaced with equipment of equal or greater technical capacity and reduced size so as to reduce visual impacts.
- M. Each owner or operator of a telecommunications facility shall provide signage identifying the name and phone number of a party to contact in event of an emergency. The signage shall be attached to the base of any utility pole or light standard to which equipment is affixed. Dimensions shall not exceed 8 1/2 inches by 11 inches.
- N. The exterior walls and roof covering of all aboveground equipment shelters and cabinets shall be constructed of materials rated as nonflammable in the Uniform Building Code. Openings in all above-ground equipment shelters and cabinets shall be protected against penetration by fire and windblown embers to the extent feasible.


IV. OPERATING AND MAINTENANCE GUIDELINES

- A. Telecommunications facilities and related equipment, including lighting, fences, shields, cabinets, and poles, shall be maintained in good repair, free from trash, debris, litter and graffiti and other forms of vandalism, and any damage from any cause shall be repaired as soon as reasonably possible so as to minimize occurrences of dangerous conditions or visual blight. Graffiti shall be removed from any facility

or equipment as soon as practicable, and in no instance more than 48 hours from the time of notification by the city

- B. Telecommunications facilities shall be operated in a manner that will minimize noise impacts to surrounding residents and persons using nearby parks, trails, and similar recreation areas.
 - 1. Except for emergency repairs, testing and maintenance activities that will be audible outside of the right-of-way shall only occur in residential areas between the hours of 8:00 am and 5 pm on Monday through Friday, excluding holidays.
 - 2. The City Engineer shall provide approval in any advance for any non-emergency work that will be performed in residential areas on weekends.
 - 3. All air conditioning units and any other equipment that may emit noise that would be audible from beyond the nearest private property line shall be enclosed or equipped with noise attenuation devices. Backup generators shall only be operated during periods of power outages or for testing.
 - 4. At no time shall equipment noise from any source exceed the standards specified in the Berkeley Community Noise Ordinance (BMC Chapter 13.40).
- C. An owner or operator or may replace equipment that is part of a permitted facility if the City Manager determines that the replacement equipment will be of substantially the same size, appearance, and power or superior in design to the previously permitted equipment.
 - 1. The owner or operator shall notify the Public Works Director prior to replacing any permitted equipment
 - 2. The owner or operator shall not install the proposed replacement equipment unless and until the Director provides written notification that the City Manager has found that the proposed replacement equipment complies with the requirements of this Section.

Dated: March 16, 2011



PHILIP KAMLARZ
City Manager