

ZONING

210 Attachment 1

Town of Poughkeepsie

Small Wireless Facility Design Standards

I. BACKGROUND AND PURPOSE

The Town of Poughkeepsie has adopted these design standards to facilitate the orderly installation of small wireless telecommunications (WT) facilities in the Town. These standards apply to all requests to locate small WT facilities throughout the Town and within the public rights-of-way ("ROW") pursuant to § 210-115.1 of the Poughkeepsie Town Code. The Town requires WT providers to locate and design small WT facilities in a responsible fashion. These networks of low-powered micro antennas provide cellular and data coverage to supplement the providers' macro-cellular networks. New small cell installations will improve the providers' ability to meet current and future consumer cellular and data needs.

The following design standards have been developed by the Town of Poughkeepsie to maintain an aesthetically pleasing community environment, protect the safety and welfare of Town residents, protect the integrity of historic, cultural, and scenic resources in the Town, minimize degradation of the residential character of neighborhoods, and require the best available design to eliminate visual impacts while ensuring that adequate public services and facilities are constructed to accommodate the needs of Town residents.

These design standards supplement the requirements in § 210-115.1 of the Town Code, particularly the standards on Visual Mitigation:

"Landscaping and/or other screening and mitigation, including but not limited to architectural treatment, camouflaging design, use of neutral or compatible coloring and materials, or alternative construction and transmission technologies, shall be required to minimize the visual impact of such facility from public thoroughfares, and surrounding properties to the maximum extent practicable as determined by the Planning Board or Planning Department."

This document establishes design and aesthetic requirements and specifications that all small WT facilities must meet prior to installation within the Town's boundaries. In this document, the term "shall" indicates a mandatory requirement unless the Town finds a strong justification for an alternative solution in an unusual and specific circumstance; the terms "should" and "may" indicate that the standard is an optional guideline that is encouraged but not required.

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II. AESTHETIC STANDARDS

- A. General.** All small WT facilities shall utilize the smallest, least visually intrusive antennas, components, and other necessary equipment available at the time of installation, and shall employ screening, concealment, and other camouflage techniques to minimize visual impacts to the greatest extent practicable.
- B. Location.** The Town encourages roof-mounted small WT facilities and location on an existing or replacement pole, over installation of a new freestanding small cell pole whenever feasible. Roof-mounted facilities shall be screened and be located so as to be substantially hidden from view at eye level from street rights-of-way and any adjacent residential properties. Roof-mounted equipment shall be compatible with, or painted the same color as, the building.

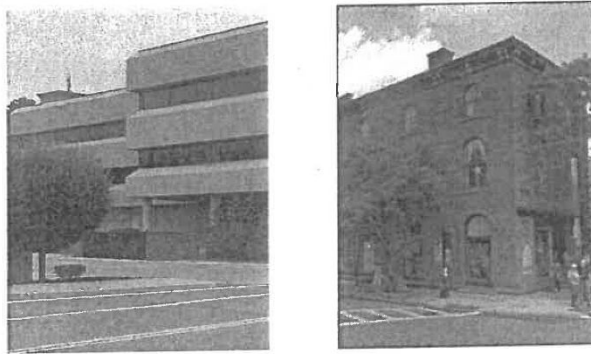


Figure 1: Examples of Roof-Mounted Small Wireless Installations

- C. Internal Installs.** Equipment shall be installed within an existing pole when technically feasible, and always on a new pole. Any equipment installed within a pole may not protrude from the pole except to the extent reasonably necessary to connect to power or a wireline.
- D. External Shrouding.** The antenna shall be contained entirely within a cantenna (i.e., antenna enclosure), and any other equipment that cannot be installed within a pole shall be concealed within an equipment cabinet or shroud, with the exception of equipment required by the electric utility.
- E. Antennas.**
- (1) A cantenna shall be mounted directly on top of the pole, unless a side arm installation is required by a pole owner. Top-mounted cantennas shall be aligned with the centerline of the pole, shall not exceed the diameter of the pole at the level of the antenna attachment whenever possible, and shall appear as a seamless vertical extension of the pole. Where the maximum cantenna diameter exceeds the diameter of the top of the pole, a tapered transition between the upper pole and cantenna is required.
 - (2) Side-mounted antennas shall be, as nearly as possible, flush-mounted to the pole and in no case shall the furthest point of the enclosure extend more than 18 inches from the pole.

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F. Equipment Enclosures Generally. Mechanical equipment and devices shall be concealed underground; within the pole or an equipment cabinet designed as a decorative pole base; or in the case of wood poles only, within an unobtrusive equipment shroud mounted directly to the pole. Strand-mounted equipment shrouds attached to utility lines are prohibited. Equipment enclosures, including electric meters, shall be as small as possible.

G. Ground-Mounted Equipment.

- (1) Ground-mounted equipment in the right-of-way is prohibited, unless the applicant can demonstrate that all other options outlined in § F. above are technically infeasible, or the electric utility requires placement of equipment on the ground (such as an electric meter). Examples of conditions that would constitute technical infeasibility include shallow groundwater and the presence of existing underground utilities that would preclude underground installation.
- (2) If ground-mounted equipment is necessary, the applicant shall conceal the equipment. Concealment shall include landscaping (with a planting quantity and size such that 100% screening is achieved within two years of installation), strategic placement in less obtrusive locations, and placement within existing or replacement street furniture, as shown in Figure 2. Alternative measures for concealment may be approved if the Town determines they are at least as effective in concealing the small wireless facilities as the measures required.

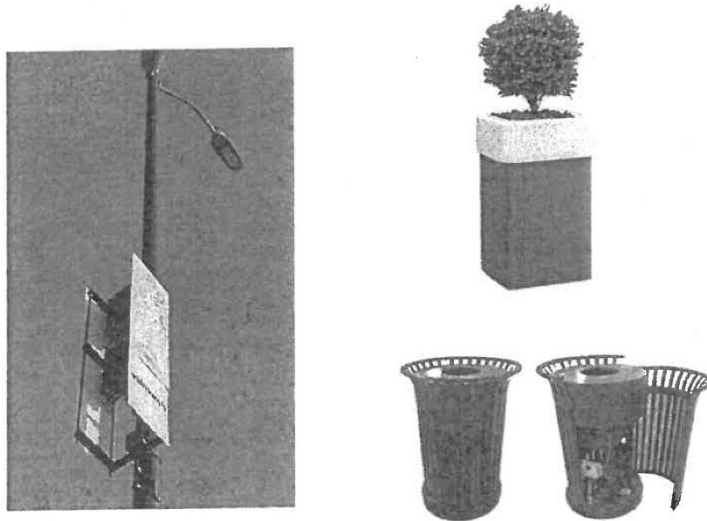


Figure 2: Examples of Concealed Equipment

- (3) All ground-mounted equipment within the right-of-way shall be located such that it meets ADA requirements and does not obstruct, impede, or hinder usual pedestrian or vehicular travel or interferes with the operation and maintenance of traffic signals, public transportation, signage, streetlights, street furniture, fire hydrants, underground infrastructure, or business district maintenance.

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- H. Exterior Pole-Mounted Equipment.** All exterior pole-mounted equipment other than the electric meter and disconnect switch shall be concealed within an equipment shroud. The lowest point of the equipment shroud shall be a minimum of eight (8) feet above ground level below the pole. The equipment shroud shall match the pole aesthetics and shall be securely strapped to the pole. Wires and cabling shall be hidden from view. Where possible, equipment shrouds shall be concealed behind decorative banners, as shown in Figure 2.
- I. Cables and Wires.** All cables and wires related to the small wireless facility shall be concealed within the hollow interior of the pole, or if concealment is not technically feasible, flush-mounted to the pole in conduit painted to match the color of the pole. There shall be no external cables or wires hanging off or otherwise exposed on the wireless support structure.
- J. Color.** All equipment, antennas, shrouds, straps, etc. shall be painted to match the color of the pole in order to make it as unobtrusive as possible. Paint shall be powder coated over zinc paint. If the pole is wood, the visible attachments and hardware shall be colored gray.
- K. Stickers/Signs.** Any on-pole shroud and ground-mounted utility box shall be labeled with one (1) RF warning sticker, with a background to match the pole color, no larger than 4 inches by 6 inches, unless otherwise required by the FCC. Facing to the street near the elevation of the antennae, there shall be a 4-inch by 6-inch (maximum) plate with the provider's name, location identifying information, and 24-hour emergency telephone number. No other advertising, logos or decals shall be permitted.
- L. Replacement Poles.** Replacement poles shall be located as near as possible to the existing pole. The abandoned pole shall be removed within 15 days of installing the replacement pole, and no small wireless facility certificate of compliance shall be issued until the abandoned pole is removed. Any replacement pole shall substantially conform to the material and design of the existing pole or adjacent poles located within the contiguous ROW unless a different design is required by the Town.
- M. Consideration of Alternative Locations.** The Town reserves the right to propose an alternative location for a small wireless facility and/or wireless support structure to the one proposed in the application, which the operator shall use if it can obtain permission to use the alternative location on comparable terms and conditions, and the alternative location provides comparable projected service to the proposed location.

III. ATTACHMENTS TO LIGHT POLES

- A. Purpose.** This section of the design standards provides additional requirements for small wireless facility attachments to a light pole. No small wireless facility shall be allowed as an attachment on an existing ornamental light pole, as determined by the Town. Three different types of small wireless facility installations are permitted on light poles, which are:
- (1) Locating small wireless facility equipment on plain (non-ornamental) wood light poles.
 - (2) Locating small wireless facility equipment on plain (non-ornamental) metal light poles.
 - (3) Replacing an existing plain wood or plain metal streetlight pole so that small wireless facility equipment can be attached. This would be applied in instances when an existing wood or metal streetlight pole is approved to be removed and replaced.

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B. Standards.

- (1) Only one (1) small wireless facility shall be allowed per light pole.
- (2) All pole components shall be shaped to be visually pleasing and proportional to each other, as shown in Figure 3-B. Each pole component shall be architecturally compatible to create a cohesive aesthetic. There shall be a smooth transition from the upper pole to the cantenna. Examples of unacceptable and acceptable small cell installations can be found in Figures 3-A and 3-B.
- (3) On an existing or replacement wood light pole, all equipment excluding the antenna shall be housed in an equipment shroud on the pole, or in a new or existing ground-mounted utility box, as shown in Figure 4-A.
- (4) On an existing or replacement metal light pole, all equipment excluding the antenna shall be housed within the pole or an equipment cabinet designed as a decorative pole base (as shown in Figure 4-B), or contained in an existing underground vault (required unless technically infeasible). No equipment shall be strapped to the outside of the pole.
- (5) A base equipment cabinet shall be round with a preferred diameter up to 16 inches and a maximum 20-inch diameter.
- (6) A decorative transition shall be installed over the upper bolts on the base equipment cabinet, or a decorative base cover shall be installed to match the equipment cabinet size. Horizontal flat spaces shall be no more than 1.5 inches to prevent trash and other objects from being paced on the pole components
- (7) Equipment shall be oriented away from the street. If an exception is made allowing the small cell equipment to orient toward the street, the attachment shall be installed no less than 16 feet above the ground.
- (8) Equipment shall not block visibility of streetlight banners.

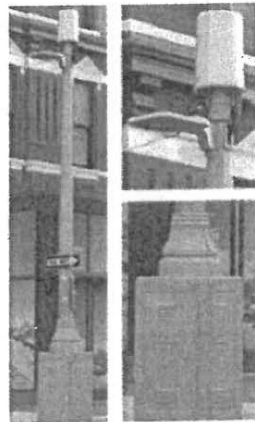


Figure 3-A: Unacceptable Installation

Conduit, mounting bracket, and other hardware must be hidden from view

Cantenna must include a smooth transition between upper pole and cantenna attachment

Upper pole shall be smooth and straight, with 1.5 inch (max.) of flat surface where mounted to the equipment cabinet

Equipment cabinet must be round. 16-inch diameter is preferred, 20-inch diameter max

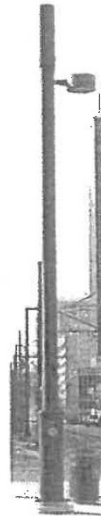


Figure 3-B: Acceptable Installation

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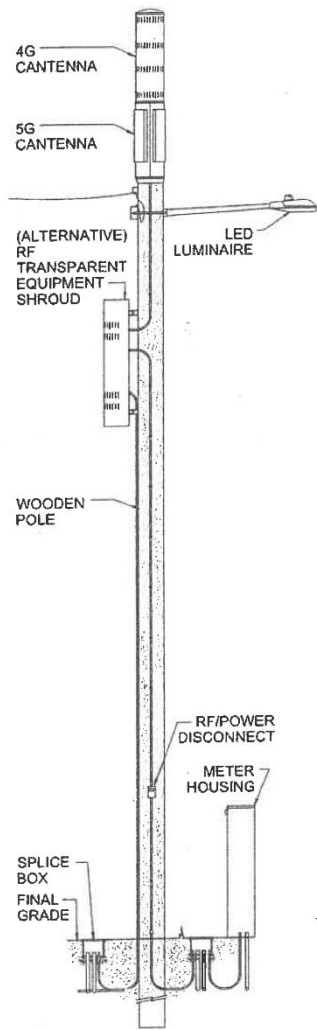


Figure 4-A: Installation on Wood Light Pole

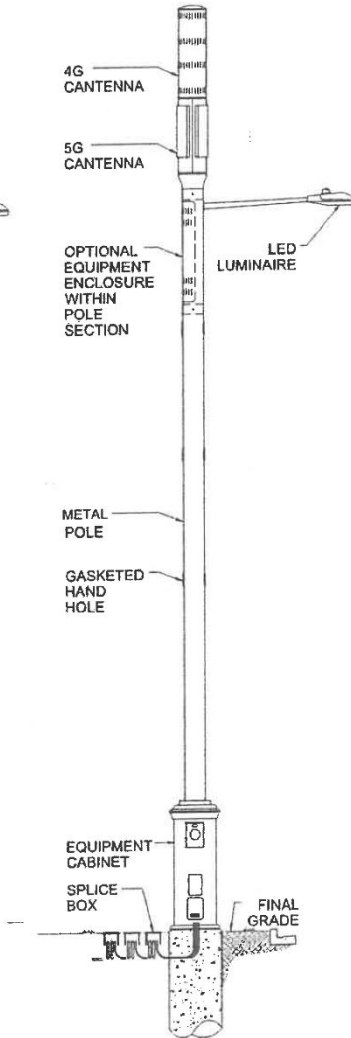


Figure 4-B: Installation on Metal Light Pole

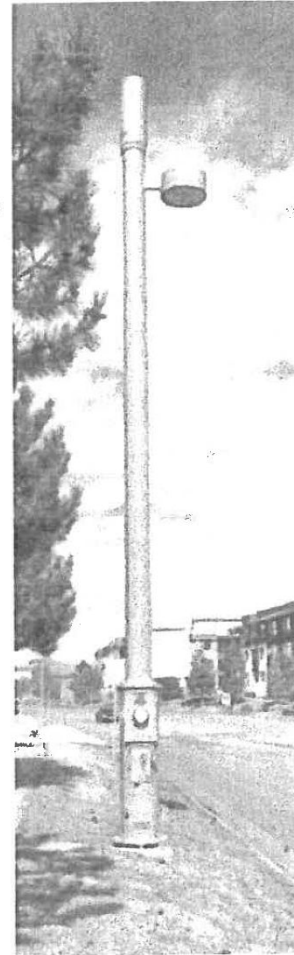


Figure 4-C: Light Pole Installation

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IV. ATTACHMENTS TO UTILITY POLES

A. Purpose. This section of the design standards provides additional requirements for the attachment of a small wireless facility to an existing utility pole.

B. Standards.

- (1) Only two (2) equipment shrouds shall be allowed per utility pole.
- (2) Any attachment to a utility pole shall first be approved by the owner of the utility pole.
- (3) A small wireless facility attachment shall conform to the pole owner's attachment standards.
- (4) All associated equipment shall be mounted on the pole if allowed by the pole owner and the pole is capable of supporting it. Otherwise, equipment shall be located as permitted in § IIF herein.
- (5) A new utility pole installed for the purpose of attaching a small cell is not permitted but would be treated as a freestanding small cell pole.

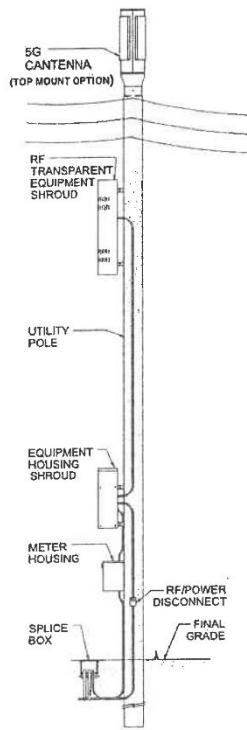


Figure 5: Installation on a Utility Pole

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V. INSTALLATION OF FREESTANDING SMALL CELL POLE

A. Purpose. This section of the design standards provides additional standards for a freestanding small cell pole.

B. Standards.

- (1) New poles shall be of monopole design; lattice structures shall not be permitted.
- (2) Poles, equipment cabinets, and bolts shall be galvanized steel. Paint shall be powder coated over zinc paint.
- (3) All pole components shall be shaped to be visually pleasing and proportional to each other, as shown in Figure 6-B. Each pole component shall be architecturally compatible to create a cohesive aesthetic. Examples of unacceptable and acceptable small cell installations can be found in Figures 6-A and 6-B.

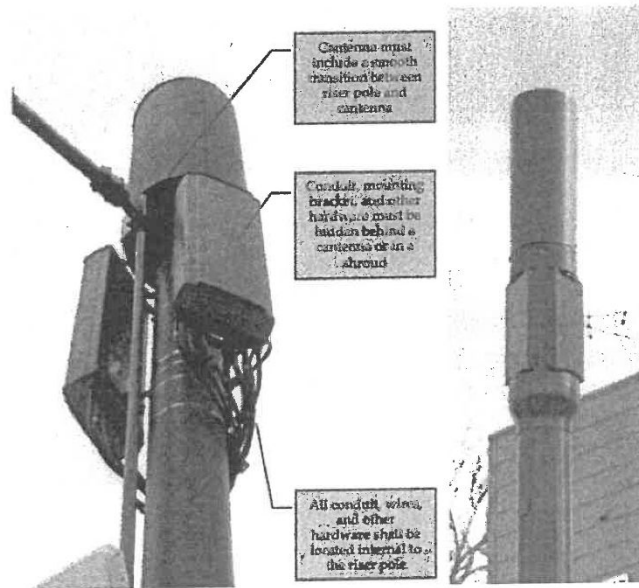


Figure 6-A: Unacceptable Installation

Figure 6-B: Acceptable Installation

- (4) All equipment excluding the antenna shall be housed within the pole or an equipment cabinet designed as a decorative pole base. No equipment shall be strapped or banded to the outside of the pole.
- (5) A base equipment cabinet shall be round with a preferred diameter of up to 18 inches and a maximum 24-inch diameter.

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- (6) A decorative transition shall be installed over the upper bolts on the base equipment cabinet, or a decorative base cover shall be installed to match the equipment cabinet size. Horizontal flat spaces shall be no more than 1.5 inches to prevent trash and other objects from being paced on the pole components.
- (7) Small cell poles shall have a smooth transition from the upper pole to the antenna.
- (8) All hardware connections shall be hidden from view.
- (9) Small cell poles shall coordinate with neighborhood pole style, color, and material type, matching aesthetics of adjacent poles, except where directed otherwise by the Town, but may have larger diameter to internally conceal equipment.
- (10) Ownership of small cell poles is to remain with the provider.
- (11) At least 15% of the pole design structural capacity should be reserved for future municipal installations.
- (12) All new poles shall have appropriate clearance from existing utilities.

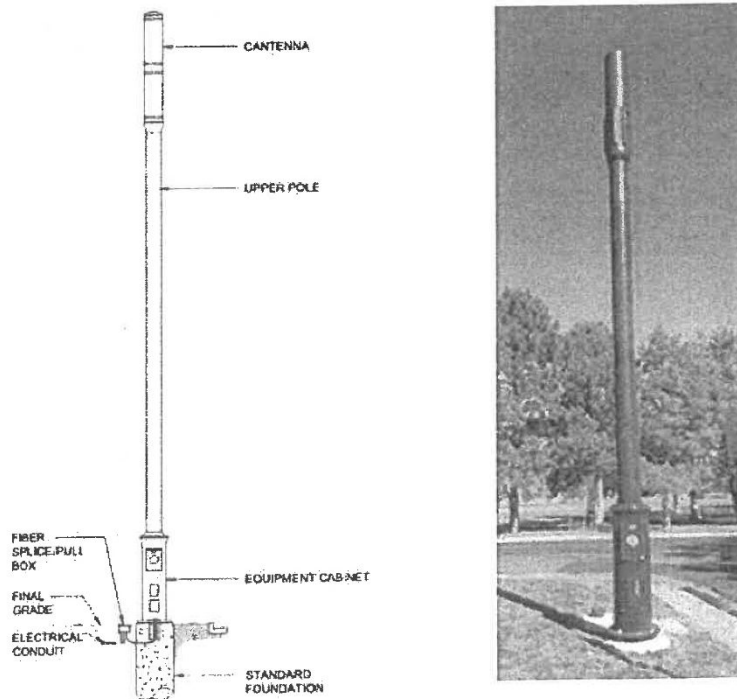


Figure 7: Freestanding Small Cell Pole

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C. Placement Requirements. All small cell poles placed in the ROW shall be located:

- (1) In a manner that does not impede, obstruct, or hinder operation of any emergency service, nor the usual pedestrian or vehicular access or travel including to or from private properties and of legally parked vehicles or permitted items in the public ROW.
- (2) In alignment with existing trees, utility poles, and streetlights.
- (3) Within the street amenity zone whenever possible, as shown in Figure 8.

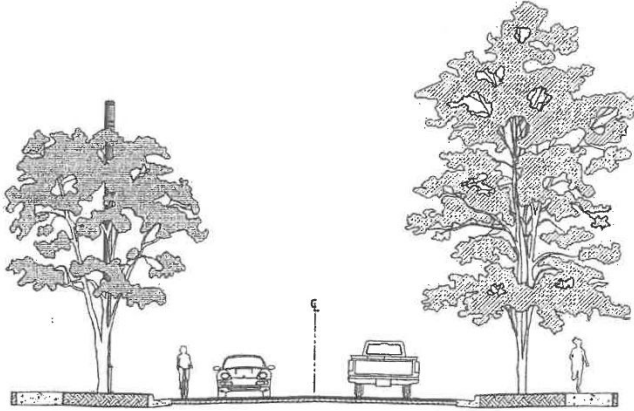
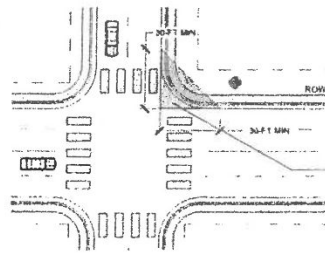


Figure 8: Freestanding Small Cell Pole in Amenity Zone of ROW

- (4) At an equal distance between other poles when possible.
- (5) Equal distance between trees when possible, with a minimum of 15-25 feet of separation to the tree trunk such that no proposed disturbance shall occur within 5 feet of the critical root zone (drip-line) of any tree. Small cell poles shall not be placed on sites that are prime locations for tree planting due to soil quality, tree lawn width, and importance of tree canopy at this location to the community.
- (6) With appropriate clearance from existing utilities.
- (7) Outside clear sight triangle at intersections, driveways, and alleys as shown in Figure 9.



Do not locate small cell pole in clear sight triangles at intersections, alleys, driveways, etc.

Figure 9: Small Cell Pole Sight-Line Requirements

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- (8) So as not to be located within 100 feet of the apron of a fire station or other adjacent emergency service facility.
- (9) At least 5' from driveways, entrances or private walks to buildings, and bus shelters.
- (10) At the intersection of property lines as much as possible to avoid interference with the building face, views, business signage, pedestrian flow, etc., as shown in Figure 10.



Figure 10: Preferred Pole Location

- (11) So as not to be located along the frontage of a building that is a contributing feature to the Main Street and Stone Street Historic District designations, is listed on or eligible for listing on the State or National Registers of Historic Places, or is designated by the Town as a landmark pursuant to Chapter 126 of the Town Code
- (12) So as not to significantly create a new obstruction to property sight lines as shown in Figure 12.
- (13) When located adjacent to a commercial establishment, such as an office, store, or restaurant, or a multi-family or mixed use structure, care shall be taken to locate the small cell pole such that it does not negatively impact the adjacent business. Poles shall not be located in front of storefront windows, primary walkways, primary entrances or exits, or in such a way that would impede a delivery to the building. Poles shall be located between buildings/properties as much as possible, as shown in Figure 11.

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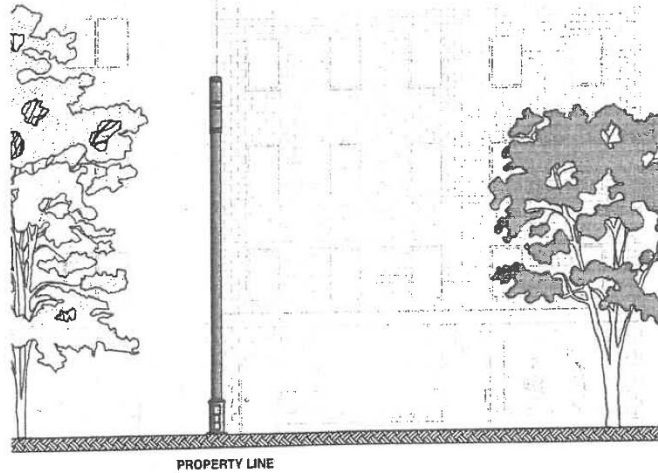
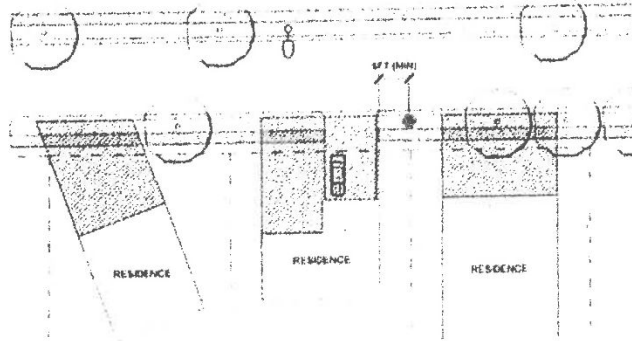


Figure 11: Preferred Pole Location

(14)The small cells shall not be installed within the perpendicular extension of the primary street-facing wall plane of any single or two-family residence as shown in Figure 12. The primary street-facing wall plane is recognized as the plane(s) with a front door.



Do not locate small cell poles in the perpendicular extension of the primary street-facing wall plane.

Do not locate small cell poles in front of driveways, entrances or walkways.

Figure 12: Preferred Pole Location

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VI. INSTALLATION OF NEW SMALL CELL AND PEDESTRIAN LIGHT

A. Purpose. This section of the design standards provides additional standards for installation of a new combination small cell and pedestrian light.

B. Standards.

- (1) Poles shall be round, straight, a maximum of 10-inch round.
- (2) Poles, equipment cabinets, and bolts shall be galvanized steel. Paint shall be powder coated over zinc paint.
- (3) The antenna shall be housed internal to the pole.
- (4) All equipment shall be housed internal to the pole or in an equipment cabinet designed as a decorative pole base. No equipment shall be strapped or banded to the outside of the pole.
- (5) A base equipment cabinet shall have a maximum 14-inch diameter.
- (6) All pole components shall be shaped to be visually pleasing and proportional to each other, as shown in Figure 13. Each pole component shall be architecturally compatible to create a cohesive aesthetic.
- (7) A decorative transition shall be installed over the upper bolts on the base equipment cabinet, or a decorative base cover shall be installed to match the equipment cabinet size. Horizontal flat spaces shall be no more than 1.5 inches to prevent trash and other objects from being paced on the pole components.
- (8) A small cell and pedestrian light pole should only be located where an existing pedestrian light can be removed and replaced, or at a new location where it has been identified that a pedestrian light is necessary.
- (9) Small cell and pedestrian light poles shall be owned by the applicant.
- (10) Luminaires shall comply with § 210-81 of the Town Code.

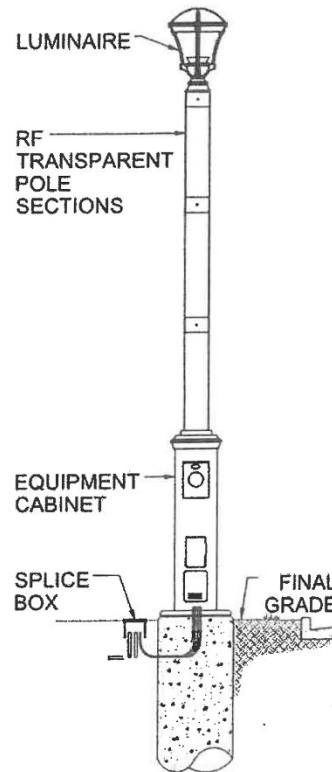


Figure 13: Combination New Small Cell and Pedestrian Light