



Small Cell Design Guidelines

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Background and Purpose

Wireless providers and wireless infrastructure companies have turned their attention from large cell tower facilities to small cell facilities in the public right of way (ROW). These low-powered antennas provide cellular and data coverage to supplement the provider's cellular network. New small cell towers will improve the providers ability to meet current and future cellular needs.

These Small Cell Design Guidelines provide aesthetic requirements and specifications that all small cell towers installed within the public ROW must meet prior to installation in the Village. Small cells not installed within the public ROW are not bound to the requirements of this guide; although, the public ROW small cell guidelines may apply to these installations.

Network Providers shall consider the aesthetics of the existing streetlights and neighborhoods adjacent to proposed small cell locations prior to submitting an application to the Village. New small cells shall match the existing streetlight aesthetics when installed within specific geographic areas with unique streetlight assemblies. Unique assemblies may include mast arms, decorative pole bases, architectural luminaires, mounting heights, pole colors, etc. that deviate from these guidelines.

Four different types of small cell installations are permitted within the Village. These types include attachments to utility poles and utility lines, attachments to wooden streetlight poles, attachments to new or existing Village owned streetlights, and new freestanding installations.

Deviations from this Guide shall be approved by the Department of Public Works prior to installation and may require Village Board Action.

Definitions

For the purposes of this guideline, the following terms shall have the following meanings:

Antenna – communications equipment that transmits or receives electromagnetic radio frequency signals used in the provision of wireless services.

Applicable codes – uniform building, fire, electrical, plumbing, or mechanical codes adopted by a recognized national code organization or local amendments to those codes, including the National Electric Safety Code.

Applicant – any person who submits an application and is a wireless provider.

Application – a request submitted by an applicant to the Village for a permit to collocate small wireless facilities, and a request that includes the installation of a new utility pole for such collocation, as well as any applicable fee for the review of such application.

Collocate or collocation – to install, mount, maintain, modify, operate, or replace wireless facilities on or adjacent to a wireless support structure or utility pole.

Communications service – cable service, as defined in 47 U.S.C. 522(6), as amended; information service, as defined in 47 U.S.C. 153(24), as amended; telecommunications service, as defined in 47 U.S.C. 153(53), as amended; mobile service, as defined in 47 U.S.C. 153(53), as amended; or wireless service other than mobile service.

Communications service provider – a cable operator, as defined in 47 U.S.C. 522(5), as amended; a provider of information service, as defined in 47 U.S.C. 153(24), as amended; a telecommunications carrier, as defined in 47 U.S.C. 153(51), as amended; or a wireless provider.

Historic district or historic landmark – a building, property, or site, or group of buildings, properties, or sites that are either (i) listed in the National Register of Historic Places or formally determined eligible for listing by the Keeper of the National Register, the individual who has been delegated the authority by the federal agency to list properties and determine their eligibility for the National Register, in accordance with Section VI.D.1.a.i through Section VI.D.1.a.v of the Nationwide Programmatic Agreement codified at 47 CFR Part 1, Appendix C; or (ii) designated as a locally landmarked building, property, site, or historic district by an ordinance adopted by the Village pursuant to a preservation program that meets the requirements of the Certified Local Government Program of the Illinois State Historic Preservation Office or where such certification of the preservation program by the Illinois State Historic Preservation Office is pending.

Law – a Federal or State statute, common law, code, rule, regulation, order, or local ordinance or resolution.

Municipal utility pole – a utility pole owned or operated by the Village in public rights-of-way.

Permit – a written authorization required by the Village to perform an action or initiate, continue, or complete a project.

Person – an individual, corporation, limited liability company, partnership, association, trust, or other entity or organization.

Public safety agency – the functional division of the federal government, the State, a unit of local government, or a special purpose district located in whole or in part within this State, that provides or has authority to provide firefighting, police, ambulance, medical, or other emergency services to respond to and manage emergency incidents.

Right-of-way – the area on, below, or above a public roadway, highway, street, public sidewalk, alley, or utility easement dedicated for compatible use. Right-of-way does not include Village-owned aerial lines.

Small wireless facility – a wireless facility that meets both of the following qualifications: (i) each antenna is located inside an enclosure of no more than 6 cubic feet in volume or, in the case of an antenna that has exposed elements, the antenna and all of its exposed elements could fit within an imaginary enclosure of no more than 6 cubic feet; and (ii) all other wireless equipment attached directly to a utility pole associated with the facility is cumulatively no more than 25 cubic feet in volume. The following types of associated ancillary equipment are not included in the calculation of equipment volume: electric meter, concealment elements, telecommunications demarcation box, ground-based enclosures, grounding equipment, power transfer switch, cut-off switch, and vertical cable runs for the connection of power and other services.

Utility pole – a pole or similar structure that is used in whole or in part by a communications service provider or for electric distribution, lighting, traffic control, or a similar function.

Village -the Village of Hanover Park.

Wireless facility – equipment at a fixed location that enables wireless communications between user equipment and a communications network, including: (i) equipment associated with wireless communications; and (ii) radio transceivers, antennas, coaxial or fiber-optic cable, regular and backup power supplies, and comparable equipment, regardless of technological configuration. Wireless facility includes small wireless facilities. Wireless facility does not include: (i) the structure or improvements on, under, or within which the equipment is collocated; or (ii) wireline backhaul facilities, coaxial or fiber optic cable that is between wireless support structures or utility poles or coaxial, or fiber optic cable that is otherwise not immediately adjacent to or directly associated with an antenna.

Wireless infrastructure provider – any person authorized to provide telecommunications service in the State that builds or installs wireless communication transmission equipment, wireless facilities, wireless support structures, or utility poles and that is not a wireless services provider but is acting as an agent or a contractor for a wireless services provider for the application submitted to the Village.

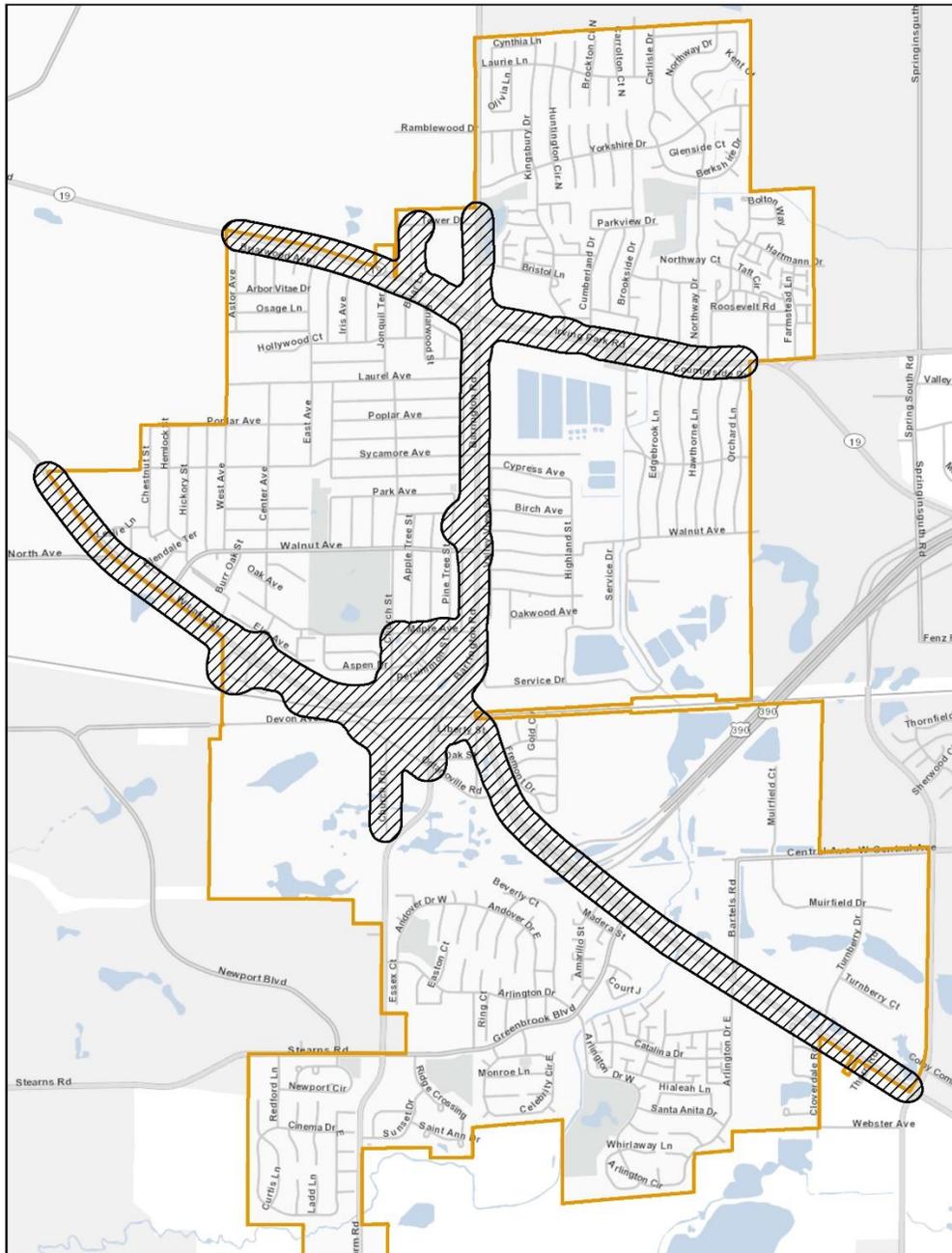
Wireless provider – a wireless infrastructure provider or a wireless services provider.

Wireless services – any services provided to the general public, including a particular class of customers, and made available on a nondiscriminatory basis using licensed or unlicensed spectrum, whether at a fixed location or mobile, provided using wireless facilities.

Wireless services provider – a person who provides wireless services.

Wireless support structure – a freestanding structure, such as a monopole; tower, either guyed or self-supporting; billboard; or other existing or proposed structure designed to support or capable of supporting wireless facilities. Wireless support structure does not include a utility pole.

Locations of Design Standard Requirements



The locations noted above are areas that have specifically designed poles to meet the aesthetic look the Village is wishing to portray. All appurtenances to be located on poles within these geographic areas must match the color and design characteristics of the pole on which they are going to be attached. In general this will require matching the color of the pole on which the equipment is going to be attached, or possibly placed next to.

Generally Applicable Requirements

Any small cell facility must comply with the following requirements:

- Installation so as not to significantly create a new obstruction to property sight lines.
- With appropriate clearance from existing utilities.
- In a single-family neighborhood, noise limit to be 5dBA above ambient sound, not to exceed 30 dBA as measured at a property line. Other noise regulations may apply. If the facility does not generate noise, include this information in the submittal so information can be shared with neighborhood.
- Installations shall match the aesthetics of existing street lights and street furniture in the neighborhood of the proposed small cell locations.
- These aesthetic considerations and accommodations are to be included in the application submittal.
- All equipment located within the public ROW 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 signal lights, signage, street lights, street furniture, fire hydrants, or business district maintenance.

Location Preference Hierarchy:

1. Attachments to utility poles
2. Attachments to wooden or metal street lights
3. Installation of monopoles (free standing poles solely for the purpose of a small cell installation)

Installation on Existing Poles

Any small cell facility that is collocated on an existing pole must comply with the following, in addition to the previously listed generally applicable requirements:

- Minimize impact to the aesthetics of the existing poles.
- New poles should match aesthetics of adjacent poles.
- Structural calculations, which show that the existing pole(s) can carry the loading of the new proposed facilities, shall be submitted with the permit application package.

Installation on Free Standing Poles (Monopoles)

All freestanding small cell poles shall be privately owned and must be permitted by the Village of Hanover Park.

All freestanding poles must comply with the generally applicable requirements previously listed, and be erected in the following manner;

- In a manner that does not impede, obstruct, or hinder pedestrian or vehicular travel.
- So as not to be located along the frontage of a Historic building, deemed historic on a federal, state, or local level.
- So as not to significantly create a new obstruction to property sight lines.
- At the intersection of property lines, or along secondary property frontage for corner lots.
- Within the street amenity zone whenever possible.
- Equal distance between trees when possible, with a minimum of 15 feet separation such that no proposed disturbance shall occur within the critical root zone of any tree, as shown in Figure 4. The Village Forester and Arborist must be consulted before any trees are trimmed above or below grade.
- Outside of the 20-foot equipment clear zone (for base cabinets less than 18-inches in diameter) or 30-foot clear sight triangle (for base cabinets equal to or greater than 18-inches in diameter) at intersection corners as shown in Figure 3.
- Shall not be located within 100 feet of the apron of a fire station, police station, or other adjacent emergency service facility.
- No closer than 250 feet away, radially, from another privately-owned freestanding small cell. This radius extends around corners and into alleys. See Figure 1.
- They shall be located in line with trees, existing streetlights, utility poles, and other furniture located in the amenity zone, as shown in Figure 2.

Figure 1 Freestanding Small Cell Spacing Radius

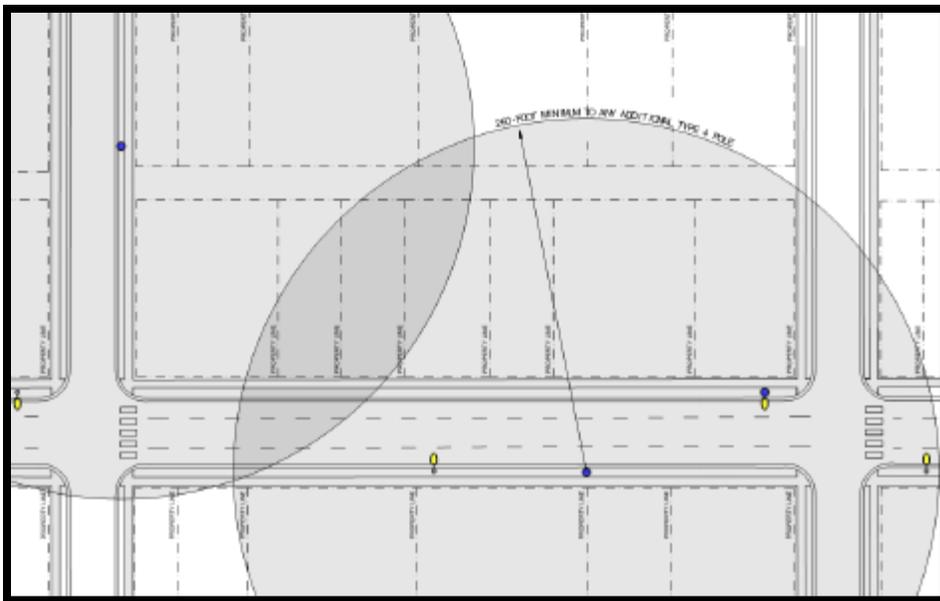


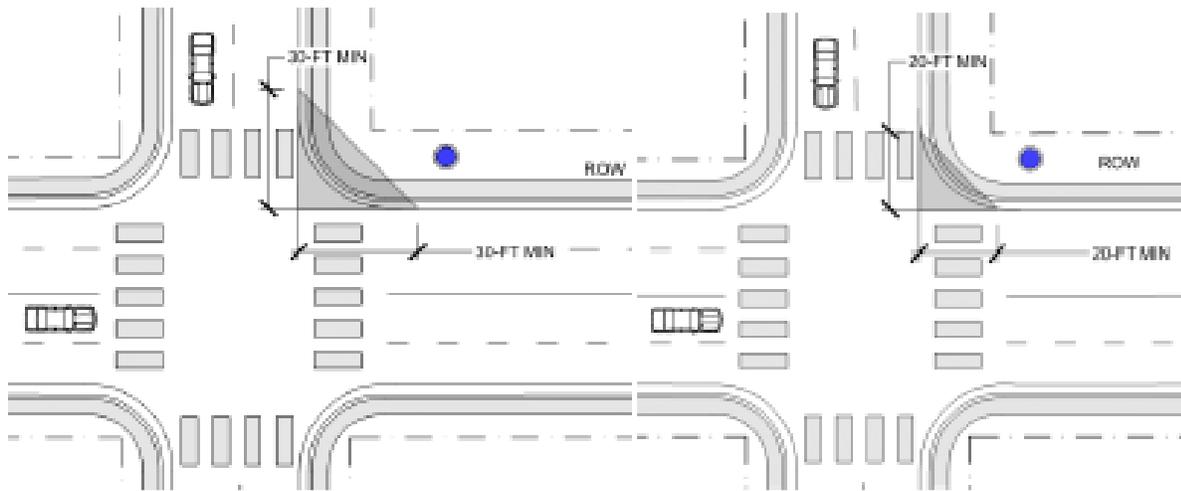
Figure 2 Small Cell in Neighborhoods



Freestanding small cells shall be located such that they in no way impede, obstruct, or hinder the usual pedestrian or vehicular travel, affect public safety, obstruct the legal access to or use of the public ROW, violate applicable law, violate or conflict with public ROW design standards, specifications, or design district requirements, violate the Federal Americans with Disabilities Act of 1990, or in any way create a risk to public health, safety, or welfare.

Free standing small cells shall be located within the ROW and off set from the sidewalk as shown in Figure 2.

Figure 3 Sight Line Requirements



Do not locate free standing small cell antennas in intersection sight lines or in a way that would obstruct the view of motorists.

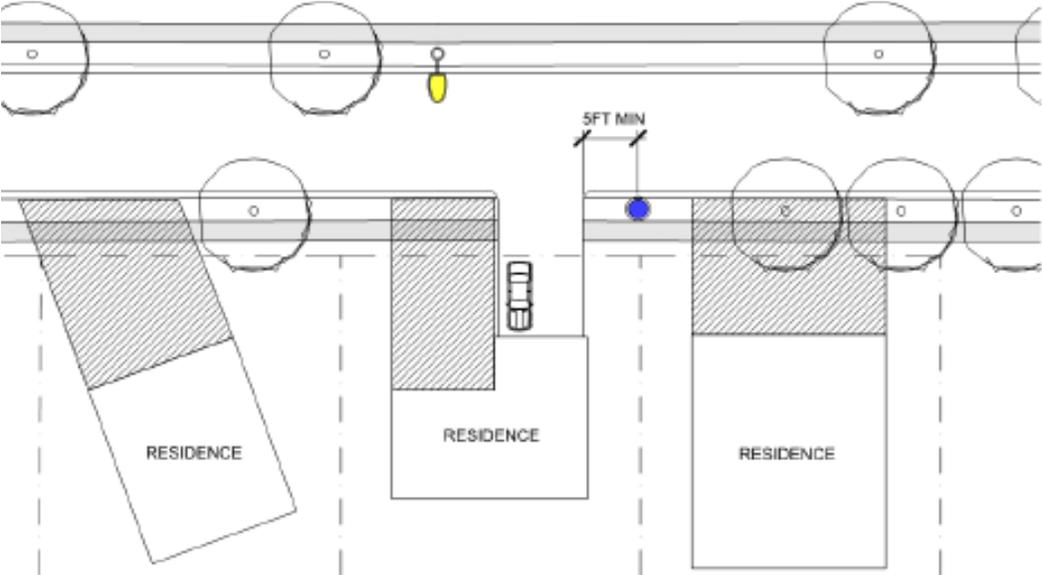
Figure 4 Freestanding small cell locations between property and trees



Freestanding small cells shall be located at intersecting property lines as much as possible. Whenever possible, the freestanding small cell shall be located on the secondary street. Small cells shall also be located a minimum of 15 feet away from trees to prevent disturbance within the critical root zone of any tree, as shown in Figure 4.

The small cells shall not be installed between the perpendicular extension of the primary street-facing wall plane of any single or two-family residence as shown in Figure 4.

Figure 5 Freestanding small cell between property lines



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

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

Figure 6 Small cell in commercial area



When located adjacent to a commercial establishment, such as a shop or restaurant, care should be taken to locate the small cell such that it does not negatively impact the business. Small cells shall not be located in-front of store front windows, primary walkways, primary entrances or exits, or in such a way that it would impede a delivery to the building. Small cells should be located between properties as much as possible as shown in Figure 6.

Village Owned Poles

Although many poles are owned by the Village, there are many poles in the Village that are owned by 3rd party utilities or other vendors all together. The Village's Engineering Division of Public Works should be contacted for a map of Village owned poles before the application process begins.