



ELK GROVE VILLAGE, IL

THE EXCEPTIONAL COMMUNITY



SMALL WIRELESS FACILITY DESIGN STANDARDS

SEPTEMBER 23, 2019



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1. Executive Summary

1.1 Background

The Village of Elk Grove Village, as with communities across the country and around the world, is facing the next wave of communications technology. While the economic benefits are immense, it has the potential to impact the safety, aesthetic values, and enjoyment of our community in a manner and to a degree that is far more extensive than cellular phones and other types of recent technology.

Small wireless communications, also known as 5G technology, utilizes higher frequencies with the capability to accommodate significantly higher data needs than current 4G/LTE technologies. The physical limits of the higher frequencies require that the transmitters be installed at the spacing of streetlights or fire hydrants rather than 2+/- miles or greater distances that 4G/LTE technologies accommodate. The result of this physical need is that the public rights-of-way are the optimal location to install the required equipment.

In September of 2018, the Federal Communications Commission (FCC) adopted the Declaratory Ruling and Third Report and Order, known as FCC 18-133. The Order outlines the extent to which local agencies may or may not regulate the installation of small wireless facilities within the public rights-of-way and the use of existing public infrastructure.

A few months prior to the adoption of the FCC Order, in June of 2018, Public Act 100-0585, the State of Illinois, Small Wireless Facilities Deployment Act (the Act), previously known as Senate Bill 1451, became effective. In general, the Act specifies how local authorities throughout Illinois, may regulate the attachment of small wireless facilities. It is important to note that the FCC Order preempts some sections of the Act, particularly in the areas of fees, permit review timeframes, and local control.

Similar to the advent of the telephone which required extensive wires, switch boxes, poles and other structures to provide these services, small wireless communications technology will require a structure to mount a transmitter approximately every 300 to 500 feet with fiber and power connections to each one.

Absent the adoption of guidelines to assure that installations are context sensitive, service providers would be free to install equipment with no concern for the visual impact that they create. This document seeks to accommodate the implementation of the new technology while assuring that the new infrastructure is installed using context sensitive solutions.

In addition, the equipment needs to be located where it will not interfere with visibility for drivers, interference with sidewalks, or other common amenities found in public rights-of-way.

Other issues such as safety, noise and accommodating multiple providers at each location are also addressed within these guidelines.

1.2 Regulatory Matters

On September 26, 2018, the Federal Communications Commissions (FCC) adopted a Declaratory Ruling and Third Report and Order, titled "Accelerating Wireless Broadband Deployment by Removing Barriers to Infrastructure Investment" (the Order). The Order establishes fees, "shot clocks," and provides limits on local governments' control of small wireless infrastructure.

The Small Wireless Facilities Deployment Act (the Act) became effective June 1, 2018. In a similar manner to the FCC Order, the Act establishes fees, "shot clocks," and provides limits on local governments' control of small wireless infrastructure.

Various provisions of the Illinois and FCC actions provide similar but sometimes conflicting direction on issues such as fees, shot clocks, aesthetics and other considerations. The Village has established the governing structures in Chapter 25 of its municipal code, and all references to these items are governed by (a) Chapter 25 of the Municipal Code and subsequently (b) by definition in this Design Guideline manual.

1.3 Goal Statement

The Village of Elk Grove Village Small Wireless Facility Design Standards are hereby established with the goal of accommodating the installation of small wireless (4G, LTE, 5G, and other systems currently under development) technology within Village of Elk Grove Village public rights-of-way provided that the installations are completed in the most context sensitive manner through the establishment of minimum standards for:

- Aesthetics
- Location
- Spacing of facilities along streets
- Accommodation of two providers at each location
- Safety
- Noise

2. General Information

2.1 Introduction and Purpose

These Small wireless Design Guidelines provide objective, technically feasible criteria applied in a non-discriminatory manner that reasonably match the aesthetics and character of the immediate area regarding all of the following, which the Village shall consider in reviewing an application.

- (a) The location of any small wireless facilities including their relationship to other existing or planned small wireless sites
- (b) The location of a small wireless facility on a wireless support structure
- (c) The appearance and concealment of small wireless facilities, including those relating to materials used for arranging, screening, and landscaping
- (d) The design and appearance of a wireless support structure including any height requirements adopted in accordance with this document.

It is the goal of the Village to allow the installation of a small wireless infrastructure with a minimum foot print. This shall be accomplished by small wireless siting and the use of multi-cell poles that can accommodate multiple applicants.

The provisions of these Guidelines shall not limit or prohibit the Village's discretion to promulgate and make publicly available other information, materials or requirements in addition to, and separate from these Small Wireless Design Guidelines that do not conflict with state or federal law.

2.2 Definitions

The following words, terms and phrases, when used in this chapter, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

Administrative Review means ministerial review of an Application by the Village relating to the review and issuance of a Permit, including review by the Community Development Director or designee, if desired, to determine whether the issuance of a Permit is in conformity with the applicable provisions of these Guideline and all Village Codes.

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

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

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

Application means a request submitted by an applicant to the Village for a permit to install small wireless facilities as well as any applicable fee for the review of such application.

Authority means the Village of Elk Grove Village that has jurisdiction and control for use of public rights-of-way as provided by the Illinois Highway Code for placements within public rights-of-way or has zoning or land use control for placements not within public rights-of-way.

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

Batched Applications is the submission of multiple siting applications at one time. Batched applications shall not exceed 25 individual Small Wireless Facilities.

Code means the Elk Grove Village Code.

Camouflage Design Structures and associated equipment taking on the appearance of a piece of art, a natural feature, an architectural structural component or other similar element and which aesthetically blends with the surrounding building environment. Examples of camouflage design include, but are not limited to: architecturally screened roof-mounted antennas; antennas integrated into architectural elements; antennas designed to look other than an antenna; antennas integrated into existing buildings, sports field lights, highway signs, water towers, etc.; and towers designed to blend into the surrounding environment or to look other than a tower, such as flag poles, trees, clock towers, monuments, and church steeples. All such designs are subject to the review and approval of the Community Development Department.

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

Construction permit means the authorization to undertake any type of excavation or work, as defined herein, in the rights-of-way or to construct public improvements, as defined herein, in the Village or undertake any construction activity within the Village. A construction permit can be issued either as a ROW construction permit or as a site construction permit, as applicable.

Contractor means a person, partnership, corporation, or other legal entity who undertakes to construct, install, alter, move, remove, trim, demolish, repair, replace, excavate, or add to any improvements or public improvements covered by this chapter, that requires work to be undertaken and workers, and/or equipment to be in the ROW in the process of performing the above-named operations. Contractor, as the term is defined herein, should include any and all types of general contractor and subcontractor and successors or assigns of said contractor.

Development Code means *Title 8 - Engineering, Building and Community Development and Zoning Code* of [Village Code](#), as amended.

Director means the Community Development Director for the Village or designee.

Distribute Antenna System (DAS) A type of small wireless facility consisting of a network of spatially separated antenna nodes connected to a common source via a transport medium that provides wireless service within a geographic area. Generally, serves multiple carriers.

Effectively Screen aesthetically pleasing construction meant to conceal small wireless facility equipment. Shall be required where needed to improve the aesthetics of the local environment.

Equipment Concealed Whenever technically feasible, antennas, cabling, and equipment shall be fully concealed within a Pole, or otherwise camouflaged to appear to be an integrated part of a Pole.

Excavation or Excavate means any opening and/or tunneling in or under the surface of any public place or public rights-of-way in the Village. The exception is an opening into a lawful structure below the surface of a public place or public right-of-way (e.g., a manhole), the top of which is flush with the adjoining surface and so constructed as to allow frequent openings without injury or damage to the public place or public rights-of-way.

Facility(ies) means a pipe, sewer, pipeline, tube, main, service, trap, vent, vault, manhole, meter, gauge, regulator, valve, conduit, wire, tower, pole, pole line, anchor, cable, fiber optic, public irrigation system, junction box, transformer or any other material, structure, sign, traffic control device, or object of any kind or character, whether enumerated herein or not, which is or may be lawfully constructed, left, placed or maintained in, upon, along, across, under or over any public place or public right-of-way. Facilities shall include, as the context dictates, small wireless facilities, as defined herein.

FCC means the Federal Communications Commission of the United States.

FCC Order means the FCC's [Declaratory Ruling and Third Report and Order](#), WT Docket No. 17-79, WC Docket No. 17-84, FCC-18-133, released September 27, 2018, which is incorporated herein by this reference.

Fee means a one-time charge.

Franchise means an authorization granted by the Village to a person to construct, maintain, or emplace facilities generally upon, across, beneath and over a public place or the public right-of-way in the Village.

Franchise agreement means a contract entered into between the Village and a franchisee that sets forth the terms and conditions under which the franchise may be exercised.

Height means maximum height of the small wireless facility, including antenna, above established grade measured at the base of the structure

Indemnification means that any provider who owns or operates Small Wireless Facilities or Wireless Support Structures in the ROW shall indemnify, protect, defend, and hold the Village and its elected officials, officers, employees, agents, and volunteers harmless against any and all claims, lawsuits, judgments, costs, liens, losses, expenses, fees to include reasonable attorney fees and costs of defense, proceedings, actions, demands, causes of action, liability and suits of any kind and nature, including personal or bodily injury or death, property damage or other harm for which recovery of damages is sought, to the extent that it is caused by the negligence of the Operator who owns or operates Small Wireless Facilities and wireless service in the ROW, any agent, officer, director, representative, employee, affiliate, or subcontractor of the Operator, or their respective officers, agents, employees, directors, or representatives while installing, repairing, or maintaining facilities in the Rights-of-Way.

Inspector means the person designated by the Village within the Community Development Department to fulfill the responsibilities that have been empowered with such position.

Landscape means any combination of living plant material, such as trees, shrubs, vines, ground covers, flowers, vegetables, turf or grass; natural features, such as land and water forms; and structural features, including but not limited to landscaped pedestrian plazas, fountains, reflecting pools, screening, walls, fences and benches.

Landscape Screening The installation at grade of plantings, shrubbery, bushes or other foliage intended to screen the base of a small wireless facility from public view.

Lattice Tower an antenna support tower that is self-supporting with multiple legs and cross-bracing of structural steel.

Law means a federal or State statute, common law, code, rule, regulation, order, or Village ordinance or resolution.

Micro wireless facility means a small wireless facility that is not larger in dimension than 24 inches in length, 15 inches in width, and 12 inches in height and that has an exterior antenna, if any, no longer than 11 inches.

Minimum Height the lowest vertical distance at which the structure can still operate at an efficient level of service. An efficient level of service is deemed to be 95% or greater of possible service levels.

Modification Includes collocation, removal, or replacement of an antenna or any other transmission equipment associated with the supporting structure.

Monopole A structure composed of a single spire, pole or tower designed and used to support antennas or related equipment and that is not a utility pole, an alternative antenna structure, or a Village-owned infrastructure.

Ordinance means Title 3, Chapter 25, Small Wireless Facilities of the Elk Grove Village Code as amended, which is incorporated herein by this reference.

Ordinary Maintenance and Repair means inspections, testing and/or repair that maintain functional capacity, aesthetic and structural integrity of a Communications Facility and/or the associated Support

Structure, Pole or Tower, that does not require blocking, damaging or disturbing any portion of the Public ROW.

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

Person means an individual, corporation, limited liability company, partnership, association, trust, or other entity or organization, including the Village.

Public Act 100-0585 or Act means the State of Illinois, [Small Wireless Facilities Deployment Act](#), which is incorporated herein by this reference.

Public improvements means any item placed or constructed in public rights-of-way intended for public use including, but not limited to: roadways, streets, alleys, sidewalks, curbs, gutters, trails, crosswalk or other traffic markings or traffic structures, utilities (water, sanitary sewer, or storm sewer) either owned by or dedicated to the Village, or over which the Village has or there is recorded a public easement, any private access either owned or dedicated to the Village, parking lots, or landscaping, whether privately or publicly owned or maintained, unless otherwise specifically exempted within this chapter.

Public place means property owned or controlled by the Village and dedicated to public use, including but not limited to any park, square or plaza.

Rate means a recurring charge.

Replacement exchanging of transmission equipment; not to include the structure on which the equipment is located.

Responsible party means any person or entity who owns facilities or structures located or to be located in the Village rights-of-way and/or who is liable, whether financially or otherwise, for any installation, repair, or maintenance of facilities, or public improvements, either public or private, placed on or to be placed in the Village rights-of-way.

Right-of-way or ROW means 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.

ROW construction permit means a category of the general construction permit under this chapter.

Sidewalk means a paved walkway or pathway for the purpose of pedestrian traffic abutting or running parallel or adjacent to a street.

Site construction permit means a category of the general construction permit that is issued under this chapter.

Signage Signage is prohibited on all small wireless facilities and wireless support structures, including stickers, logos, and other non-essential graphics and information unless required by the FCC, except for a small placard identifying the service provider and contact information, which shall be placed at 6-feet above grade, facing away from the public rights-of-way or as otherwise directed by the Village.

Small wireless facility means a wireless facility that meets both of the following qualifications: (i) each antenna is located inside an enclosure of no more than 3 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 associated with the facility is cumulatively no more than 28 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.

Small Wireless Facility Installation means all equipment required for the operation and maintenance of so-called "small cell" wireless communications systems that transmit and/or receive signals but are not "Macro Telecommunications Facilities," including antennas, microwave dishes, power supplies, transformers, electronics, and other types of equipment required for the transmission or receipt of such signals.

Stealth Facility Any commercial wireless communications facility that is designed to blend into the surrounding environment by means of screening, concealment, or camouflage. The antenna and supporting antenna equipment are either not readily visible beyond the property on which they are located, or, if visible, appear to be part of the existing landscape or environment rather than identifiable as a wireless communications facility. Stealth facilities may be installed, but such installation methods are not limited to, undergrounding, partially undergrounding and landscaping.

Street, highway or roadway means the entire width between the boundary lines of every ROW or easement publicly or privately maintained and open to the use of the public for the purposes of vehicular travel.

Substructure means any pipe, conduit, duct, tunnel, manhole, vault, buried cable or wire, or any other similar structure located below the surface of any public place or public right-of way.

Structure means anything constructed or erected with a fixed location below, on, or above grade, including, without limitation, service cabinets, junction boxes, foundations, fences, retaining walls, awnings, balconies, and canopies.

Structure Height the vertical distance measured from the base of the antenna support structure at grade to the highest point of the structure. If the support structure is on a sloped grade, then the average between the highest and lowest grades of the cell site shall be used in calculating the height.

Telecommunications means the transmission, between or among points specified by the user, of information of the user's choosing, without change in the form or content of the information as sent and received.

Telecommunication system means the offering of telecommunications for a fee directly to the public, or to such classes of users as to be effectively available directly to the public, regardless of the facilities used. A system that provides both cable and telecommunications or information services may be considered both as a cable system and a telecommunications system pursuant to this Code.

Tower Any structure that is designed and constructed primarily for the purpose of supporting one or more antennas, including self-supporting lattice towers, guy towers, or monopole towers, and that is not a utility pole, an alternative antenna structure, or a Village-owned infrastructure. Except as otherwise provided for by this Policy, the requirements for a tower and associated antenna facilities shall be those required in this Policy.

Unacceptable Interference means any level of radio frequency (RF) interference from a source outside of the Village's public safety communications network that has the effect of partially or completely impeding aural and/or visual signals received or transmitted by Village personnel. Any RF interference from a wireless provider as defined by this Ordinance and state law, shall be measured, corrected, and eliminated in accordance with the requirements of Section 15(d)(6)(A) of Public Act 100-0585.

Utility pole means 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.

Variance or Variation A grant of relief by the Community Development Director or designee.

Village means the Village of Elk Grove Village.

Village cost means all costs borne by the Village for the administration of this chapter.

Village Board means the Elk Grove Village Board of Trustees.

Village Manager means the Elk Grove Village Manager or designee.

Village-Owned Infrastructure Infrastructure in public right-of-way within the boundaries of the Village, including, but not limited to, streetlights, traffic signals, towers, structures, or buildings owned, operated or maintained by the Village.

Wi-Fi Antenna An antenna used to support Wi-Fi broadband Internet access service based on the IEEE 802.11 standard that typically uses unlicensed spectrum to enable communication between devices.

Wireless facility(ies) means 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 means any person, including a 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, but that is not a wireless services provider.

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

Wireless services means any services provided using licensed or unlicensed spectrum, whether at a fixed location or mobile, provided using wireless facilities.

Wireless services provider means a person who provides wireless services.

Wireless support structure means 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.

2.3 Application Guidelines

Complete application requirements can be found in Section 3-25-3 of Title 3, Chapter 25, Small Wireless Facilities of the Village of Elk Grove Village Code as amended.

3. Pole Design Standards

3.1 General Pole Design Standards

Every small wireless facility collocation shall comply with the following standards:

1. Antennas shall be mounted no less than twenty-four (24) feet above ground level.
2. Antennas shall, to the extent technically feasible, be designed and installed to appear hidden within the utility pole or to appear like an original part of the utility pole or wireless support structure.
3. Each antenna not hidden within a utility pole shall be located entirely within a shroud enclosure not more than three (3) cubic feet in volume that is capable of accepting paint to match the approved color of the small wireless facility.
4. Top-mounted antennas and their enclosures shall not extend the diameter of the utility pole or wireless support structure at the level of the antenna attachment.
5. Side-mounted small wireless facility antennas within a shroud enclosure and side-mounted small wireless facility equipment enclosures shall be, if possible, flush mounted to the utility pole or wireless support structure at the level of the attachment. Metal flaps or “wings” shall extend from the enclosure to the utility pole or wireless support structure to conceal any gap between the between the small wireless facility and the utility pole or wireless support structure. The design of the flaps shall be integrated with the design of the small wireless facility.
6. Small wireless facilities located on street light poles or traffic control structures shall not block light emanating from the street light fixture or otherwise interfere with the purpose of the street light fixture or traffic control structure.
7. Small wireless facilities shall be attached to the utility pole or wireless support structure using rigid steel clamping mounts or stainless-steel banding to the exterior of any metal pole. All mounts and banding shall be of the same color as the utility pole or wireless support structure, except as otherwise approved by the Village. Care should be taken to integrate the mounting elements into the small wireless facility design. Through-bolting or use of lag bolts on Village-owned utility poles is prohibited.
8. For attachments to existing utility poles, wires serving the small wireless facility shall be concealed within the hollow interior of the utility pole, or if concealment is not technically feasible, flush mounted to an existing utility pole in an enclosed wire chase on which the facilities are collocated. For new utility poles or wireless support structures, wires serving the small wireless facility shall be concealed within the hollow interior of the utility pole or wireless support structure.
9. All small wireless facilities shall be installed in accordance with all applicable Village codes. No wiring or cabling shall interfere with any existing wiring or cabling installed by the Village, a utility or a wireless services provider.
10. No guy or other support wires will be used in connection with a small wireless facility unless the small wireless facility is to be attached to an existing utility pole or wireless support structure that incorporates guy wires prior to the date the applicant has applied for a permit.
11. The small wireless facility, including the antenna, and all related equipment when attached to an existing or new utility pole or wireless support structure, must be designed to withstand a wind force and ice loads in accordance with the applicable standards established in Chapter 25 of the National Electric Safety Code for utility poles, Rule 250-B and 250-C standards governing wind, ice, and loading forces on utility poles, in the American National Standards Institute (ANSI) in TIA/EIA Section 222-G established by the Telecommunications Industry Association (TIA) and the

Electronics Industry Association (EIA) for steel wireless support structures and the applicable industry standard for other existing structures. For any small wireless facility attached to a Village-owned utility pole or, in the discretion of the Village, to a non-Village-owned utility pole or wireless support structure, the operator of the small wireless facility must provide the Village with a structural evaluation of each specific location containing a recommendation that the proposed installation passes the standards described above. The evaluation must be prepared by a professional structural engineer licensed in the State of Illinois.

12. The Village will not authorize any attachments of small wireless facilities to a Village-owned utility pole that negatively impacts the structural integrity of the pole. The Village may condition approval of the collocation on replacement or modification of the Village-owned utility pole if necessary, to meet Village standards.
13. A provider's small wireless facility may not be installed or collocated within 300 feet of the nearest Small Wireless Facility owned by the same provider.
14. Ground mounted enclosures, including backup power supply, and electric meters must be concealed within the pole, in existing above-ground cabinets, or placed in a flush-to-grade underground equipment vault or within approved design standard treatments adopted by the Village. For additional requirements refer to section 4.3 *Related Ground Equipment* in this chapter.
15. Small wireless facilities shall be located in a manner that meets the Americans with Disabilities Act of 1990 and does not obstruct, impede or hinder the usual pedestrian or vehicular path of travel.
16. Small wireless facilities collocated on Village-owned utility poles may not use the same power or communication source providing power and/or communication for the existing infrastructure. The wireless provider shall coordinate, establish, maintain and pay for all power and communication connections with private utilities.
17. Signage is prohibited on all small wireless facilities and wireless support structures, except for a four (4) inch by six (6) inch plate with the wireless provider's name, location identifying information, and emergency telephone number shall be permanently fixed to the small wireless facility equipment enclosure or shroud. The provider is required to update this information whenever it changes.

3.2 Replacement of Existing Street Light Poles

The following standards apply when replacing an existing street light pole with a combination small wireless facility and street light pole. Such replacements should only be located where an existing street light pole can be removed and replaced, or at a new location where it has been identified that a street light is necessary. All such replacements shall meet the following standards:

1. All replacement street light poles shall be a similar design, material, and color as the replaced existing street light pole and other poles within the immediate area.
2. All replacement street light poles and pole foundations shall conform to the Village's standards and specifications for street light design and construction.
3. Replacement street light poles shall be an equal distance from other street light poles based upon the average distance between existing street light poles within the designated area.
4. Street light poles shall be designed and engineered to support a luminaire and mast arm of length equal to that of the existing pole to be replaced, as well as future planned or reserved banners/street sign loads, or of a length approved by the Village based upon the location of the replacement street light pole.

5. All luminaires and mast arms shall match the arc and style of the original luminaire and mast arm, unless otherwise approved by the Village.
6. The replacement luminaire and mast arm shall be at the same height above the ground as the existing luminaire and mast arm.
7. All replacement street light poles shall have new light emitting diode (LED) light fixtures of the same manufacturer, model and light output as the removed fixture and nearby light fixtures, or as otherwise approved by the Village.
8. Replacement street light poles shall have a five (5) year manufacturer's replacement warranty.
9. Replacement street light poles shall meet American Association of State Highway and Transportation Officials structural guidelines for roadway applications and the American National Standards Institute requirements for vibrations.
10. Street light pole height shall be measured from the ground to the top of the street light pole.
11. All replacement street light pole heights shall be consistent with those of existing street lights.
12. The small wireless facility components shall be sized appropriately to the scale of the street light pole.
13. Where required by district, the replacement pole shall include internally integrated wireless components. A decorative transition shall be installed over the equipment enclosure upper bolts, or a decorative base cover shall be installed to match the equipment enclosure size. All hardware connections shall be hidden from view. Each street light pole component shall be architecturally compatible to create a cohesive aesthetic.
14. Replacement street light poles shall continue to be owned by the Village.

3.3 Installation of New Poles

1. If a replacement pole design is not possible, then a new wireless support structure shall be designed to minimize the visual and aesthetic impact of the new vertical element and associated small wireless facilities upon the surrounding area and shall blend in with the surrounding streetscape with minimal visual impact. The Village requires that new wireless support structures to be constructed of a specific material that will enhance the stealth and concealment of the structure. New poles shall be designed as Monopoles, consistent with the pole designs concepts detailed in **Appendix A**.
2. New wireless support structures shall match the design, type, material and color of existing utility poles, including street light poles, within the immediate area, except as otherwise approved by the Village.
3. New wireless support structures shall be equal distance from other utility poles based upon the average distance between existing utility poles within the designated area. If a new wireless support structure cannot be located the average distance from other utility poles, a new wireless support structure may be approved if such wireless support structure is designed as a stealth pole.
4. The centerline of a new wireless support structure shall be in alignment with existing utility poles where present, or with street or parkway trees along the same side of the right-of-way.
5. New wireless support structures shall be located a minimum of twelve (12) feet from driveway aprons.
6. New wireless support structures shall be sited a minimum of 15 feet away from trees to prevent

disturbance within the critical root zone of existing trees having a six (6) inch diameter at breast height located in the immediate vicinity.

7. The outside diameter of any new wireless support structure shall not exceed the diameter of existing utility poles located within 300 feet of the location of the new wireless support structure.
8. New wireless support structures shall not exceed the heights as authorized by Section 3-25-4 of the Village Code.
9. New wireless support structures shall be round in shape with a smooth pole shaft unless otherwise directed by the Village.
10. New wireless support structures incorporating small wireless facilities in an equipment enclosure within a base may utilize poles tapered in diameter or poles having a consistent outside diameter.
11. All new wireless support structures must be supported with a reinforced concrete foundation or helixes designed, stamped, sealed and signed by a professional engineer licensed in the State of Illinois, and subject to the Village's approval.
12. All anchor bolts must be concealed from public view, with an appropriate pole boot or cover powder-coated to match the wireless support structure color.
13. For all new pole installations, the Village reserves the right to require a second applicant for the same general space to install a new pole capable of collocating both applicants internally in the pole. The first applicant is required to allow the subsequent applicant to replace the pole with a multi-cell pole. The original pole shall be made available to the installing applicant to salvage. If not retrieved in 30 days the pole shall be declared abandoned and disposed.

4. Pole Siting Requirements

4.1 Location

The Village reserves the right to approve all proposed pole locations and to modify those locations as necessary for future Village needs, functional and/or aesthetic reasons. The Village will work with the applicant to find a suitable location for both the Village and the applicant.

Wireless communication facilities shall not be located on historically or architecturally significant structures unless visually and architecturally integrated with the structure and shall not interfere with prominent vistas or significant public view corridors. New small wireless poles shall be located no closer than 300 feet to other poles containing a small wireless facility from the same provider without Village approval.

At the sole discretion of the Village, multiple poles may be placed at intersections, however, each applicant may apply for only one additional pole at an intersection. Poles shall be located where ever possible on property lines and not in sidewalks or within 12 feet of a driveway. Where ever possible the poles shall be sited to take advantage of existing screening.

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.

In general, Small Wireless Facilities shall be located in areas defined in the Village's zoning as follows (Most Preferred to Least Preferred):

1. Industrial Districts if not adjacent to a Municipal park or residential area.
2. Specified Urban Corridors. The Village has a public interest in maintaining visual aesthetic standards for certain urban arterial corridors. Such corridors are defined in this Guide.
3. Office Park, Office-Transitional, Town Center Shopping and Business Districts, if not adjacent to a Municipal park or residential area.
4. Residential Districts and Parks. A communication service provider is prohibited from installing a Small wireless pole in a ROW without written consent from the Village if the ROW is located in or adjacent to a street or thoroughfare that is adjacent to a public park or single-family residential lots or other multifamily residences or undeveloped land that is designated for residential use by zoning or deed restrictions. A wireless service provider installing a Small Wireless Facility or a Small wireless pole in a ROW shall comply with private deed restrictions and other private restrictions in the area that apply to those facilities.

4.1.1 Industrial Districts

Small Wireless Facilities are permitted to be placed on property within Industrial Zoning Districts, including but not limited to I-1 and I-2 districts, as attachments to infrastructure, including but not limited to light poles, existing towers, structures and buildings, or on new Utility Poles.

Small Wireless Facilities in these zoning districts are subject to compliance with the Public Act 100-0585, the FCC Order, and to administrative staff review for each site to ensure compliance with the Village's Small Wireless Facilities Ordinance and the general design standards in this manual, as well as the following additional zone-specific design standards:

1. Where applicable, the Wireless Provider shall comply with design standards approved as part of the development of the property for decorative parking lot lights; or provide reasonable stealth concealment.

2. External attachments are allowed in Industrial Districts as long as all other requirements are met. Where possible, the Village encourages the use of stealth technology to create improved aesthetics.

4.1.2 Specified Urban Arterial Corridors

Small Wireless Facilities are permitted to be placed on property identified below as Specified Urban Arterial Corridors, as attachments to infrastructure, including but not limited to light poles, existing towers, structures and buildings, or on new Utility Poles. Currently, the Village has identified the following corridors as subject to this section:

1. Busse Road (Route 83), from I-90 to Thorndale Ave
2. Oakton Street, from Stanley Avenue to I-90
3. Higgins (Route 72, W Touhy Ave), from Arlington Heights Road to the eastern limits of the Village (approximately 1,300 feet east of Elmhurst Road)
4. Landmeier Road, from Tonne Road to Elmhurst Road
5. Tonne Road, from Landmeier Road to the Southern Village Limits (approximately 700 feet south of Devon Avenue).
6. Biesterfield Road, from Michigan Lane to Arlington Heights Road
7. Wise Road, from Plum Grove Road to Michigan Lane
8. Meacham Road, from the northern Village limits (approximately 520 feet north of Vermont Drive to I-390).
9. Rohlwing Road (Route 53), from the northern Village limits (approximately 320 feet north of White Trail)
10. Arlington Heights Road, from I-90 to Devon Avenue
11. Beisner Road, from Bristol Lane to Winston Drive
12. Leicester Road, from Yarmouth Road to Gloucester Drive

Small Wireless Facilities in these corridors are subject to compliance with the Public Act 100-0585, the FCC Order, and to administrative staff review for each site to ensure compliance with the Village's Small Wireless Facilities Ordinance and the general design standards in this manual, as well as the following additional zone-specific design standards:

1. In lieu of placement on a decorative parking lot light pole, the Village reserves the authority to require Small Wireless Facilities to collocate on an existing Utility Pole, building or structure. Where applicable, the Wireless Provider shall comply with design standards approved as part of the development of the property for decorative parking lot lights; or provide reasonable stealth concealment.
2. Small Wireless Facilities located in Special Corridors must include concealment or stealth efforts, as follows:
 - a. Concealment efforts should use fiberglass, plastic or other synthetic materials, and replacement of street lights with modular combinations street light and antenna units. Exposed small cells on utility poles or galvanized steel macrocell sites are not allowed.
 - b. Battery boxes shall be ground-mounted on pedestals and landscaped.

- c. In order to prevent visual obstruction, small cell sites shall obtain power from underground lines buried in conduits, where possible. Fiber connections shall also be provided from underground sources. No power and fiber cables service Small Wireless Facilities shall be provided from aboveground sources.
- d. Photographic “before and after” simulations of the proposed location of the Small Wireless Facility demonstrating concealment efforts shall be provided to the Village as part of the permit application, and shall be modified according to reasonable requests from the Village to better blend with the surrounding area.

4.1.3 Office Park, Office-Transitional, Town Center Shopping and Business Districts

Small Wireless Facilities are permitted to be placed on property within Office Park, Office-Transitional, or Business Districts, including but not limited to O-P, O-T, B-1, B-2, B-3, and B-5 districts, as attachments to infrastructure, including but not limited to light poles, existing towers, structures and buildings, or on new Utility Poles.

Small Wireless Facilities in these zoning districts are subject to compliance with the Public Act 100-0585, the FCC Order, and to administrative staff review for each site to ensure compliance with the Village’s Small Wireless Facilities Ordinance and the general design standards in this manual, as well as the following additional zone-specific design standards:

1. In lieu of placement on a decorative parking lot light pole, the Village reserves the authority to require Small Wireless Facilities to collocate on an existing Utility Pole, building or structure. Where applicable, the Wireless Provider shall comply with design standards approved as part of the development of the property for decorative parking lot lights; or provide reasonable stealth concealment.
2. Small Wireless Facilities located in Office Park, Office Transitional, Town Center Shopping and Business Districts must include concealment or stealth efforts, as follows:
 - a. Concealment efforts should use fiberglass, plastic or other synthetic materials, and replacement of street lights with modular combinations street light and antenna units. Exposed small cells on utility poles or galvanized steel macrocell sites are not allowed.
 - b. Battery boxes shall be ground-mounted on pedestals and landscaped.
 - c. In order to prevent visual obstruction, small cell sites shall obtain power from underground lines buried in conduits, where possible. Fiber connections shall also be provided from underground sources. No power and fiber cables service Small Wireless Facilities shall be provided from aboveground sources.
 - d. Photographic “before and after” simulations of the proposed location of the Small Wireless Facility demonstrating concealment efforts shall be provided to the Village as part of the permit application, and shall be modified according to reasonable requests from the Village to better blend with the surrounding area.

4.1.4 Residential Zoning Districts

Small Wireless Facilities in residential zoning districts, including but not limited to R-1, R-2, R-3, R-4, A-1, A-2, and A-3 districts, shall require a Special Use Permit as provided for in the Village’s Antenna Siting Policy except when collocated in the Right of way of a residential zoning district.

Small Wireless Facilities in these zoning districts are subject to compliance with the Public Act 100-0585, the FCC Order, and to administrative staff review for each site to ensure compliance with the

Village's Small Wireless Facilities Ordinance and the general design standards in this manual, as well as the following additional zone-specific design standards:

1. Within residentially zoned areas, new wireless support structure installations shall be located where the shared property line between two residential parcels intersect the right-of-way whenever possible, unless an unsafe condition, cluttered appearance, or other violation of these standards will result.
2. Modification of existing street lights is required, if the street lights can be modified to accommodate one or more small cells. In lieu of placement on a decorative street light, the Village reserves the authority to request Wireless Providers to place the Small Wireless Facilities on new poles or to collocate on an existing Utility Pole within fifty (50) feet of the decorative street light.
3. Small Wireless Facilities located in the Right-of-Way in Residential Districts must include concealment or stealth efforts, as follows:
 - a. Concealment efforts should use fiberglass, plastic or other synthetic materials, and replacement of street lights with modular combination street light and antenna units. Exposed small cells on utility poles or galvanized steel macrocell sites are not allowed.
 - b. Battery boxes shall be ground-mounted on pedestals and landscaped.
 - c. In order to prevent visual obstruction, small cell sites shall obtain power from underground lines buried in conduits, where possible. Fiber connections shall also be provided from underground sources. No power and fiber cables servicing Small Wireless Facilities shall be provided from aboveground sources.
 - d. Photographic "before and after" simulations of the proposed location of the Small Wireless Facility demonstrating concealment efforts shall be provided to the Village as part of the permit application, and shall be modified according to reasonable requests from the Village to better blend with the surrounding area.

4.1.5 Historic Districts and Landmarks

For areas designated as historic districts, or on buildings or structures designated as national historic landmarks or historic landmarks pursuant to this code, in addition to the stealth, concealment, design and aesthetic requirements referenced in section 4.4 *Stealth and Concealment Requirements* of this chapter, the following additional restrictions/conditions apply to the installation of small wireless facilities:

1. Small wireless facilities shall not be mounted upon any portion of the historic-style decorative street lighting system.
2. Small wireless facilities shall be comprised of materials that are consistent with the surrounding elements so as to be concealed or to blend architecturally with any buildings or structures designated as historic landmarks or located within a designated historic district, and shall be designed to blend with the surrounding historical landmarks and/or district in design and color.
3. The design or concealment measures with respect to a historic district or historic landmark, including restrictions on a specific category of utility poles, may not have the effect of prohibiting any provider's technology. Such design and concealment measures shall not be considered a part of the small wireless facility for purposes of the size restrictions of a small wireless facility.
4. This subsection shall not be construed to limit the Village's enforcement of historic preservation

in conformance with the requirements adopted pursuant to the Illinois State Agency Historic Resources Preservation Act or the National Historic Preservation Act of 1966, 54 U.S.C. Section 300101 *et seq.*, and the regulations adopted to implement those laws.

4.2 Noise

The applicant is required to incorporate ambient noise suppression measures and/or required to place the equipment in locations less likely to impact adjacent residences or businesses to ensure compliance with all applicable noise regulations. The maximum allowable noise emitted by the Small Wireless Facility shall not exceed 30 dB measured at a distance of 3 feet from any portion of the facility.

4.3 Related Ground Equipment

The applicant is required to ensure that ground equipment meets the following design criteria to minimize the aesthetic and safety impacts of supporting equipment on the public.

1. Ground Equipment near street corners and intersections: Ground equipment should be minimal and the least intrusive. To minimize any obstruction, impediment, or hindrance to the usual travel or public safety on a ROW the maximum line of sight required to add to safe travel of vehicular and pedestrian traffic and in order to maximize that line of sight at Street corners and intersections and to minimize hazards at those locations, ground equipment may not be installed within the visibility triangle or as prohibited by sight distance calculations set out in other applicable law.
2. Ground Equipment near Municipal parks. For the safety of Municipal park patrons, particularly small children, and to allow full line of sights near Municipal park property, the wireless service provider shall not install ground equipment in a ROW that is within a Municipal park or within 250 feet of the boundary line of a Municipal park, unless approved by the Village in writing.
3. Minimize Ground equipment density: To enhance the public safety requirements of line of sight of pedestrians, particularly small children, the Village's designee may deny a request for a proposed Location if the Telecommunication service provider installs Small Wireless Facility ground equipment where existing ground equipment within 100 feet radius already occupies a footprint of a total of 25 sq. ft. or more. The aggregate measurement shall include any foundation pads, vaults, or other utility appurtenances.

4.4 Stealth and Concealment Requirements

Wireless providers shall comply with the design and construction standards that are generally applicable to utility installations in the public right-of-way, as set forth in Chapter 8 of Title 8 of the Village Code , as well as these standards, any other written design standards for decorative utility poles, or reasonable stealth, concealment, and aesthetic requirements that are otherwise identified by the Village in an ordinance, written policy adopted by the Village Board, in the Village's comprehensive plan, or in another written design plan that applies to other occupiers of the rights-of-way, including on a historic landmark or in a historic district. In addition to the design requirements found in Section 4.1 of this Manual, providers shall follow the criteria for stealth found below as a minimum requirement:

1. The use of stealth technology in the location and construction of small wireless facilities is required whenever and wherever possible. Stealth technology means using the least visually and physically intrusive design and equipment that is not technologically or commercially impractical under the facts and circumstances, to employ methods that blend into surroundings and not be visible; and to minimize adverse aesthetic and visual impacts on the right-of-way, property, building and/or other facilities adjacent to, surrounding and in generally the same area as the requested location of such small wireless facilities.
2. Small wireless facilities, including but not limited to antennas, equipment enclosures, mounting

brackets and hardware, mounting posts, cables, and shrouds, shall be of a color that is identical to the utility pole or of a neutral color compatible with the color of the utility pole and any surrounding elements so as to camouflage or conceal their appearance, create consistency among right-of-way infrastructure, and to make such small wireless facilities as unobtrusive as possible. The Village may approve compatible color schemes for antennas and small wireless facilities.

3. Mechanical equipment and devices shall be concealed underground, mounted within a concealment box designed as a decorative pole base or within unobtrusive equipment enclosures or other devices mounted directly to the pole a minimum of eight (8) feet above ground level and screened by means of Village-approved banners or other approved concealment methods.
4. Small wireless facilities must be located and oriented in such a way as to minimize view blockage.
5. The wireless provider shall use the smallest suitable wireless facilities then in industry use, regardless of location, for the particular application.
6. Additional landscaping and fencing shall be required to help mitigate the effects of the installation of any ground-mounted equipment.
7. Small wireless facilities shall not be artificially lighted or marked, except as required by law.
8. Small wireless facilities, other than top-mounted antennas, shall be mounted on the side of the utility pole or wireless support structure opposite the direction of vehicular traffic along the same side of the right-of-way or as otherwise directed by the Village.
9. Alternative measures for concealment may be proposed by the wireless provider and approved by the Village, if the Village determines that the optional measures will be at least as effective in concealing the small wireless facilities as the measures required above.

5. Safety Requirements

Prevention of failures and accidents. Any Person who owns a Small Wireless Facility and/or Wireless Support Structure sited in the ROW shall at all times employ ordinary and reasonable care and install and maintain in use industry standard technology for preventing failures and accidents which are likely to cause damage, injury, or nuisance to the public.

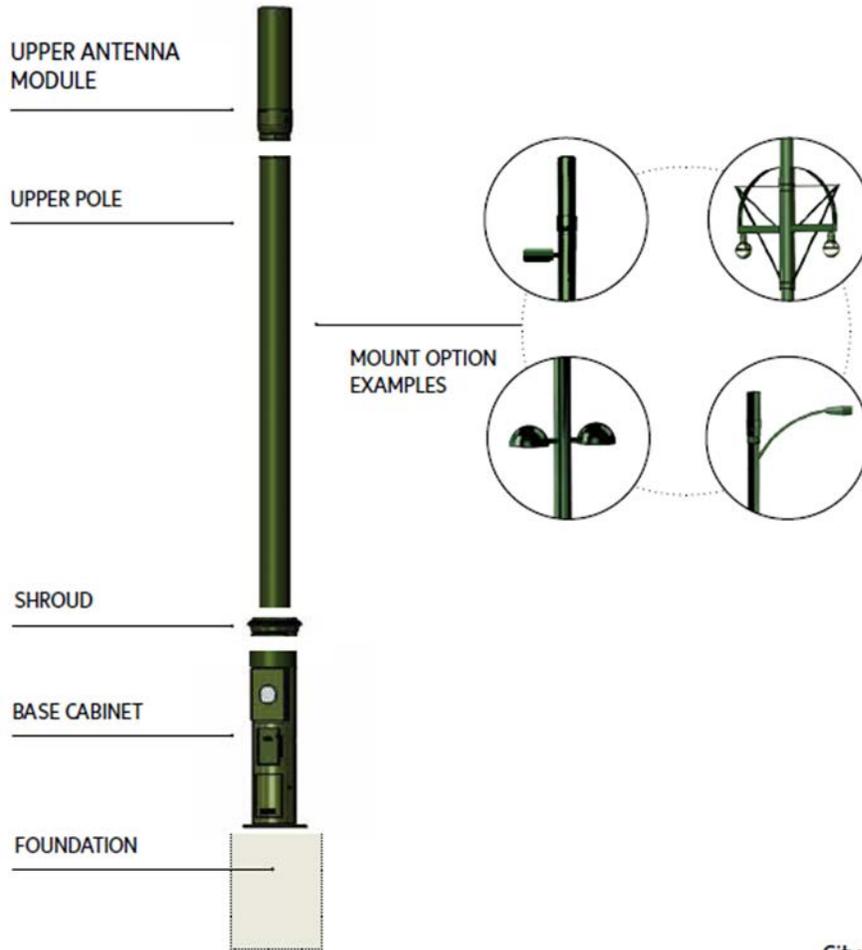
Compliance with fire safety and FCC regulations. Small Wireless Facilities, wires, cables, fixtures, and other equipment shall be installed and maintained in substantial compliance with the requirements of the National Electric Code, all FCC, state, and local regulations, and in such manner that will not interfere with the use of other property.

Changes in state or federal standards and regulations. If state or federal standards and regulations are amended, the owners of the Small Wireless Facilities and/or Wireless Support Structures governed by this chapter shall bring any facilities and/or structures into compliance with the revised standards and regulations within six months of the effective date of the standards and regulations, unless a different compliance schedule is mandated by the regulating agency. Failure to bring Small Wireless Facilities and/or Wireless Support Structures into compliance with any revised standards and regulations shall constitute grounds for removal at the owner's expense.

Appendix A: Designs

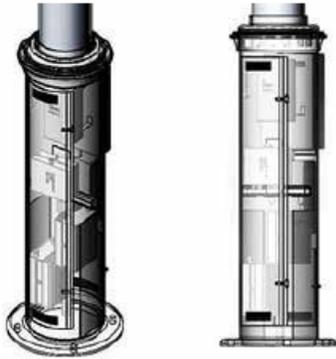
The following diagrams and information were provided by, and used with the permission of, Comptek Technologies/CityPole®. The inclusion of this information in no way indicates that the Village endorses CityPole or its products. Self-contained poles from other manufacturers will be considered as long as the structure meets the other guidelines outlined in the Small Wireless Facilities Ordinance and this document.

A.1 Small Wireless Facility Pole



CityPole.com

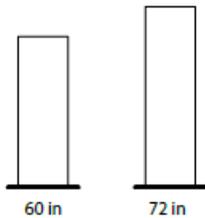
A.2 Base Cabinet



Integrated wireless equipment in base cabinet.

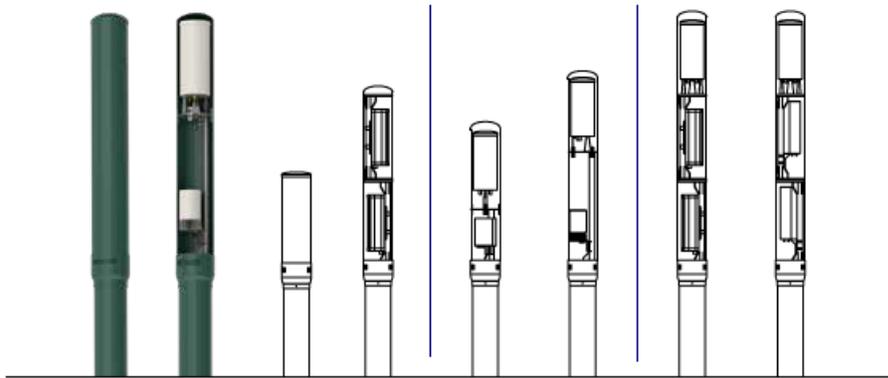


The base cabinet can be configured with a wide range of electrical disconnects to meet local building codes and preferences.



The base cabinet height can be chosen to house future equipment and complement local cityscapes.

A.3 Upper Antenna Module



The upper antenna module can be easily reconfigured for a number of technology generations. These includes multiple configurations of cellular technology, various backhaul and low power options such as WiFi, Bluetooth, or Zigbee, and as many as three different technology generations.

A.4 Foundation Selection



CityPole® pre-cast foundation speeds work in the Right of Way.



Caisson and custom designs are available.

Cast in place foundations are acceptable, as long as the foundation meets accepted guidelines for structural integrity required by the attached equipment.

A.5 Lighting Accessories



A.6 Color Options

CITYPOLE® STANDARD RAL COLOR OPTIONS



CUSTOM COLORS AND NATURAL FINISHES
ARE AVAILABLE UPON REQUEST



A.7 Product Selection Matrix

		Standard CityPole® System Offering	Custom Options
Overall Pole Height		25', 30', 35', and 40' Above Ground Level (AGL)	Available ↓
Color Choices		9 Color Choices are Standard (Custom colors are available.)	
Base Cabinet	Technology Types	1, 2, or 3 Different Technologies can be Accommodated	
	Dimension	Ground Diameter: 18", 20", 24" Height: 60", Optional 72"	
	Flexible Mount System	FlexMount™ system to reconfigure internals for future equipment sizes.	
	Electrical Options	No Disconnect, Disconnect Only, or Meter and Disconnect.	
	Universal Meter Bay	Accommodates power meter and meter screen requirements as determined by local utility provider; fits meter boxes of all sizes.	
Upper Pole Antenna Module	Rad Center Location	Variable and Based on Pole Height and Other Options	
	Technology Types	1, 2, or 3 Different Technologies can be Accommodated	
	Auxiliary Bay Options	Low Power RF, Backhaul, and Wifi Options can be Accommodated. Multiple and reconfigurable 12¾ inch modules with RlexRail™ universal equipment track system optional.	
	Antenna Mount and Shroud Options	Separate and Secure Bays with RF Transparent Materials to accommodate 4G/5G Equipment. Omni and Panel Types available.	
Accessory Selection	Lighting	Pole can be ordered without lighting or with 1, 2, 3, or 4 lights.	
	Light Mounts	Standard Plate or Offset Arms depending on light selection	
	Lighting	Shoebox, Cobrahead, Cylindrical, Dome and Acorn	
	Other Technology	Gun Shot Sensors, Video, Weather, Traffic Mgmt	
	Lower Shroud Details	Multiple Options are Available	
	Base Plate Details	Multiple Options are Available	
	Foundation Options	Pre-cast, or Cast-In-Place	
Environmental Control	Thermal Management	All Equipment and Antenna Bays Monitored for Temperature. Passive and Forced Air Standard; Heat Pipe and Thermoelectrical Optional	
	Security	External and Internal Locking Features. CityPole® FlexSmart™ Control and Connectivity Optional.	
	Monitoring and Control	Industrial Controller with 24 Digital and 12 Analog Inputs with FlexSmart™	