



## Section 1: Collocations on Existing Wireless Support Structures (Type I and II Requests)

**1.1 Collocations Encouraged.** The collocation of wireless facilities on existing support structures engineered to accommodate such facilities is strongly encouraged.

**1.2 Maximum Permitted Height.** Antennas, small cell facilities and any associated concealment materials shall not increase the overall height of the existing wireless support structure by more than five (5) feet.

**1.3 Use of Existing Privately Owned Utility Poles.** There are existing private utility poles located within the right-of-way throughout the city. These support structures are not owned by the City, but may be eligible for collocations of small cell facilities with documented permission of the legal owner of the structures.

- A. Antenna Mounting Requirements. Where possible, antenna shall be installed consistent with the requirements of 3.1. Where existing conditions preclude this mounting location, antennas shall be fully enclosed within a shroud attached as near as possible to the top of the wooden pole and on the side of the pole opposite the direction of vehicular traffic along the same side of the right-of-way.
- B. Wiring, Cables and Conduit Requirements. All wiring and cables shall be firmly secured to the support structure and enclosed within a separate rigid external conduit attached directly to the pole or offset not more than four (4) inches by mounting brackets. Conduit color shall match the required small cell facilities and enclosure color. Spools and/or coils of excess fiber optic or cables or any other wires shall not be stored on the pole except completely within the approved enclosures or cabinets.

**1.4 Structural Capacity of Existing Support Structures.** The city will not authorize any attachments to city-owned infrastructure that negatively impacts the structural integrity of the associated infrastructure. The city may condition approval of the collocation on replacement or modification of the wireless support structure at the operator's cost if the city determines that replacement or modification is necessary for compliance with city standards. A replacement or modification of the wireless support structure shall conform to all applicable design guidelines and city specifications for the type of structure being replaced. The city may retain ownership of the replacement wireless support structure.

**1.5 Right to Reserve Space.** The city may reserve space for future public safety or transportation uses in the right-of-way or on a wireless support structure in a documented and approved plan in place at the time an application is filed. A reservation of space shall not preclude placement of a pole or collocation of a small cell facility. If replacement of the wireless support structure is necessary to accommodate the collocation of the small cell facility and the future use, the operator shall pay for and install the replacement of the wireless support structure, which must accommodate the future use.

## Section 2: New Wireless Support Structures and Small Cell Facilities (Type III Requests)

**2.1 Maximum Permitted Height.** The maximum permitted height for private wireless support structures, antennas and associated small cell facilities shall not exceed forty (40) feet in height above established grade as measured at the base of the wireless support structure, except that the maximum permitted height for private wireless support structures, antennas and associated small cell facilities shall not exceed thirty-five (35) feet in height where the maximum permitted height for building construction in the underlying zoning district is thirty-five (35) feet in height or less.

### 2.2 Minimum Spacing Requirements.

- A. Minimum spacing between proposed and existing wireless support structures. The minimum horizontal distance between a new wireless support structure and associated small cell facilities and any other existing, or permitted but unconstructed, wireless support structures and small cell facilities on the same side of the right-of-way at the time a complete application is filed with the city, irrespective of the owners/operators, shall be not less than 300 linear feet, as measured parallel to the right-of-way.
- B. Multiple requests in violation of spacing requirements. If multiple requests are received to install two or more wireless support structures that would violate the applicable spacing requirements, or to collocate two or more small cell facilities on the same wireless support structure, notwithstanding division (I) of section 4939.0313 of the Revised Code, the city may resolve conflicting requests through whatever reasonable and nondiscriminatory manner it deems appropriate.
- C. City proposed alternative location for wireless support structures. The city may propose an alternate location to any proposed location of a new wireless support structure, subject to the following:
  - The alternate location is within one hundred (100) feet of the proposed location or within a distance that is equivalent to the width of the right-of-way in which the new wireless support structure is proposed, whichever is greater; and
  - The operator shall use the alternate location if it has the right to do so on reasonable terms and conditions and the alternate location does not impose technical limits or additional costs.
- D. Waiver to city directed alternate wireless support structure location. Small cell operators may seek a waiver of the alternative location requirements for the placement of a new wireless support structure if the operator is unable to achieve its service objective using a small cell facility either:



- In a utility easement within the right-of-way the operator has the right to access; or
- In or on other suitable locations or structures made available by the city at reasonable rates, fees, and terms.

### 2.3 Required Setbacks.

- Preferred Alignment.** The centerline of new support structures shall be installed in alignment with existing poles where present, or with street trees along the same side of the right-of-way.
- Minimum Distance from Travelway.** Equipment shall be placed so as not to impede or impair public safety or the legal use of the right-of-way by the traveling public, and in no case shall any portion of new support structure be located less than two feet from the travelway, edge line, face of curb, sidewalk or bike lane.
- Minimum Distance from Existing Objects in the Right-of-Way.** New wireless support structures shall be located a minimum of twelve (12) feet from any permanent object or existing lawful encroachment in the right-of-way to allow for access.
- Minimum Distance from Intersections and Driveway Aprons.** Wireless support structures shall be located a minimum of twelve (12) feet from driveway aprons. Wireless support structures shall be located outside of intersection sight distance triangles, whenever possible.
- Minimum Distance from Street Trees.** Wireless support structures shall be sited outside of the critical root zone of existing street trees located in the immediate vicinity.

### 2.4 Wireless Support Structure Design Specifications.

- Pole Specifications.** All new wireless support structures shall be constructed of solid hot-dipped galvanized steel, be round in shape with a smooth pole shaft. Wireless support structures incorporating pole mounted small cell facilities shall be tapered in diameter from the base to the top, with a maximum diameter of 12 inches at the base and a maximum diameter of 8 inches at the top. Wireless support structures incorporating small cell facilities in an equipment cabinet within a transformer base may utilize poles tapered in diameter or poles having a consistent outside diameter.
- Transformer Base.** All new wireless support structures shall include a one-piece cast aluminum alloy transformer base in a breakaway design (unless 5G; see AASHTO Roadside Design Guide), designed by a professional engineer licensed and registered in the State of Ohio, and subject to the City Engineer's review and approval.
- Foundation.** All new wireless support structures must be supported with a reinforced concrete foundation designed, stamped, sealed and signed by a professional engineer licensed and registered in the State of Ohio, and subject to the City Engineer's review and approval. Anchor bolts

must be constructed from high strength steel and in a length and diameter

determined, stamped, sealed and signed by a professional engineer licensed and registered in the State of Ohio, and subject to the City Engineer's review and approval. All anchor bolts must be concealed from public view, with an appropriate pole boot or cover powder coated to match the pole color.

## Section 3: Small Cell Facilities (All Request Types)

### 3.1 Antennas

- Maximum Size.** Each antenna shall be located entirely within a shroud enclosure of not more than six (6) cubic feet in volume (except 5G-no shroud). The diameter of the antenna or antenna enclosure should not exceed the diameter of the top of the wireless support structure pole, and to the maximum extent practical, should appear as a seamless vertical extension of the pole. In no case shall the maximum diameter of the shroud be wider than one and one half times the diameter of the top of the pole. Where maximum shroud diameter exceeds diameter of the top of the pole, the shroud shall be tapered to meet the top of the pole.
- Mounting Location.** All antenna shall be mounted to the top of the wireless support structure pole, aligned with the centerline of the structure.
- Design Specifications.** Antennas shall be generally cylindrical in shape. Antenna shall be completely housed within a cylindrical shroud that is capable of accepting paint to match the wireless support structure (except 5G-no shroud). The color for all antennas and shrouds shall match the color of the wireless support structure.

### 3.2 Associated Small Cell Facilities and Equipment

- Maximum Size.** Exclusive of the antenna, all wireless equipment associated with the small cell facility shall not cumulatively exceed twenty-eight (28) cubic feet in volume. The calculation of equipment volume shall not include electric meters, concealment elements, telecommunications demarcation boxes, grounding equipment, power transfer switches, cut-off switches and vertical cable runs for the connection of power and other services.
- Encroachments Prohibited.** No portion of a wireless support structure or small cell facility cabinet may encroach at grade or within the airspace beyond the right-of-way or over the travel way.
- Screening and Installation Location.** All small cell facilities, associated equipment and cabling shall be completely concealed from view within an enclosure, and may be installed in the following locations:



- Within an equipment enclosure mounted to the wireless support structure;
- Within an equipment cabinet integrated within the transformer base of a new wireless support structure; or
- Within a ground-mounted cabinet physically independent from the wireless support structure.

### 3.3 Small Cell Facilities Mounted to Wireless Support Structures

- A. Minimum Mounting Height. All small cell facilities mounted to wireless support structures shall provide a minimum clearance of 10 feet above established grade.
- B. Maximum Permitted Protrusion of Enclosure from Wireless Support Structure Pole. Small cell equipment enclosures shall not protrude more than eighteen (18) inches beyond the face of the pole to the outermost portion of the enclosure. Small cell equipment enclosures should be installed as flush to the wireless support structure pole as practical. In no case shall an enclosure be installed more than four inches from the wireless support structure pole.
- C. Required Enclosure Mounting Location. All small cell facilities and equipment enclosures shall be mounted on the side of the pole opposite the direction of vehicular traffic of the adjacent roadway. Enclosures shall extend perpendicular from the pole and parallel to the right-of-way.
- D. Required Arrangement of Multiple Small Cell Facility Cabinets. All pole-mounted equipment must be installed as flush to the pole as possible. Where multiple enclosures are proposed on a wireless support structure pole, the enclosures shall be grouped as closely together as possible on the same side of the pole.
- E. Design Specifications. Small cell equipment enclosures should be the smallest size practicable to house the necessary small cell facilities and equipment. Small cell equipment enclosures shall be cylindrical or rectangular in shape, and should generally be no wider than the maximum outside diameter of the pole to which it is attached, to the maximum extent possible. The shroud enclosure shall be securely strapped to the wireless support structure pole using stainless steel banding straps. Through-bolting or use of lag bolts on publicly-owned wireless support structures is prohibited. New wireless support structures may utilize mounting brackets in accordance with the maximum horizontal offset requirements. Care should be taken to integrate the mounting hardware into the enclosure design.

### 3.4 Small Cell Facilities Cabinets Integrated within a Wireless Support Structure Transformer Base

- A. Transformer Base/Cabinet Size. Equipment cabinets integrated into the support structure transformer base shall have a maximum width or diameter of twenty-four (24) inches, and a maximum height of five (5) feet. The top of

the cabinet shall have no flat horizontal area greater than two (2) inches as measured outward from the pole to the edge of the cabinet to prevent objects from being placed on top the equipment cabinet.

- B. Siting Requirements. Small cell facilities cabinets within transformer bases and associated wireless support structures are prohibited to be located within sight visibility triangles.
- C. Design Specifications. Transformer base/cabinet shape shall either be tapered with a trapezoidal or truncated cone section or cylindrical in shape. A decorative transition or base cover shall be installed over the equipment cabinet upper bolts to match the equipment cabinet size and color. Transformer base/cabinet shall feature a breakaway design (unless 5G) in the event of collisions.

### 3.5 Ground-Mounted Small Cell Facilities

- A. Siting Requirements. So as not to impede or impair public safety or the legal use of the right-of-way by the traveling public, in no case shall a ground mounted small cell facility cabinet be located closer than two feet from the travel way, edge line, face of curb, sidewalk or bike lane as measured to the nearest part of the wireless support structure. Ground-mounted small cell facility cabinets shall be located a minimum of twelve (12) feet from any permanent object or existing lawful encroachment in the right-of-way to allow for access. Ground-mounted small cell facility cabinets shall not be sited in conflict with required intersection sight distance triangles. Ground-mounted small cell facility cabinet locations shall be located a minimum of twelve (12) feet from driveway aprons as measured parallel to the right-of-way.
- B. Design Specifications. Cabinets must be secured to a concrete foundation or slab with a breakaway design in the event of collisions (except 5G-no cabinet required).

### 3.6 Power Supply and Fiber Optic Connections

- A. Independent Power and Communication Sources Required. Small cell facilities located on city-owned wireless support structures may not use the same power or communication source providing power and/or communication for the existing facility original to the purposes of the support structure. The independent power source must be contained within a separate conduit inside the support structure. The applicant shall coordinate, establish, maintain and pay for all power and communication connections with private utilities.
- B. Wiring, Cables and Conduit Requirements. All wiring and cables must be housed within the steel support structure or pole and extended vertically within a flexible conduit. Spools and/or coils of excess fiber optic or coaxial cables



or any other wires shall not be stored on the pole except completely within the approved enclosures or cabinets. Exposed wires, cables, connections and external conduit are prohibited, except as may be permitted by the City Engineer based on the characteristics of the wireless support structure.

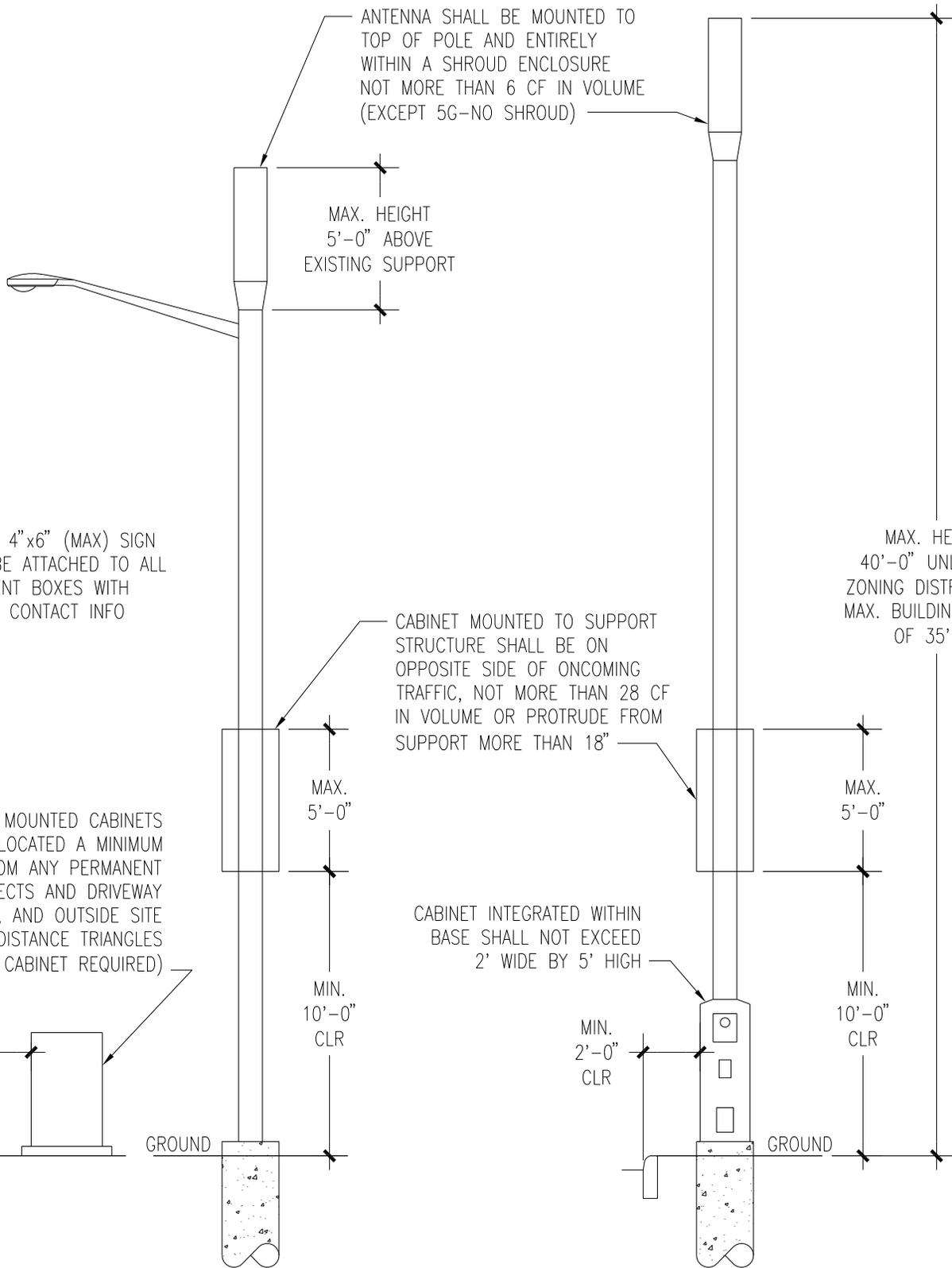
### 3.7 Other Small Cell Facilities Regulations

- A. Color. All small cell facilities, cabinets, shrouds, conduit and mounting hardware proposed in conjunction with installation on an existing wooden pole shall be powder coated gray. Color for new wireless support structures and associated antenna shrouds, pole mounted equipment, and equipment cabinets within a transformer base shall be powder coated gray; except when located in the Butternut Ridge Historic District, color for new wireless support structures and associated antenna shrouds, pole mounted equipment, and equipment cabinets within a transformer base shall be powder coated black.
- B. Lighting. Lighting associated with small cell facilities is prohibited. Any internal lights associated with electronic equipment shall be shielded from public view.
- C. Signage. A four (4) inch by six (6) inch (maximum) plate with the Carrier's name, location, identifying information, and emergency telephone number shall be permanently fixed to small cells facilities cabinets on the side of the cabinet opposite the direction of vehicular traffic of the adjacent roadway. All other signage on all small cell facilities and wireless support structures, including stickers, logos, text and other non-essential graphics and information other than the owner identification is prohibited unless required by FCC.
- D. Prohibited Wireless Facilities. Microwave, macro towers and other wireless backhaul facilities are not permitted within the right-of-way.

### Section 4: Removal of Small Cell Facilities and Wireless Support Structures (Type 4 Requests)

**4.1 Remediation of City-Owned Support Structures.** All City-owned support structures must be returned to an equal or better state, upon removal of small cell facilities. All mounting hardware and equipment must be removed from the site. All holes left in the pole must be neatly sealed from any moisture intrusion and painted to match the pole.

**4.2 Remediation of Sites.** Applicant shall restore all areas of the right-of-way impacted by the small cell facilities and/or wireless support structure installation and/or removal to equal or better condition.



GROUND MOUNTED CABINETS SHALL BE LOCATED A MINIMUM 12' FROM ANY PERMANENT OBJECTS AND DRIVEWAY APRONS, AND OUTSIDE SITE DISTANCE TRIANGLES (5G-NO CABINET REQUIRED)

CABINET INTEGRATED WITHIN BASE SHALL NOT EXCEED 2' WIDE BY 5' HIGH

TYPE 1 & 2  
COLLOCATION ON  
EXISTING STRUCTURES

TYPE 3  
NEW SUPPORT  
STRUCTURES

SMALL CELL DESIGN GUIDELINES – EXHIBIT A  
CITY OF NORTH OLMS TED

SCALE: NTS  
DATE: 07/19/2019

