

DERRY TOWNSHIP



SMALL WIRELESS COMMUNICATIONS FACILITY

DESIGN MANUAL

SECTION I. DEFINITIONS

The following terms are defined as follows:

1. *Collocation* – To install, mount, maintain, modify, or replace small wireless facilities on an existing utility pole or other wireless support structure.
2. *Communications Ancillary Equipment* – Any equipment serving or being used in conjunction with a Wireless Communications Facility or Wireless Support Structure, including, but not limited to, utility or transmission equipment, power supplies, generators, batteries, cables, equipment buildings, cabinets and storage sheds, shelters, or similar structures.
3. *Communications Antenna* – An apparatus designed for the purpose of emitting radiofrequency (RF) radiation, to be operated or operating from a fixed location pursuant to Federal Communications Commission authorization, for the provision of wireless service and any commingled information services.
4. *Decorative Pole* – A Township-owned pole that is specially designed and placed for aesthetic purpose and on which no appurtenances or attachments, other than a Small Wireless Communications Facility, lighting, banners, or municipal attachments have been placed or are permitted to be placed, excluding any acorn-style public streetlight or on or within 50 feet of any streetlights having shades which resemble a Hershey’s Kiss.
5. *Front Façade Area* – The area of the public right-of-way directly in front of a structure, identified by drawing a perpendicular line from each corner of the front of the structure to the public right-of-way.
6. *Prior Approved Design* – A design for a Small Wireless Communications Facility that has been reviewed and deemed to be in accordance with this Design Manual and approved by the Township for construction.
7. *Small Wireless Communications Facility* – A wireless communications facility that meets the following criteria:
 - A. The wireless communications facility —
 - (i) is mounted on a Wireless Support Structure that is 50 feet or less in height; or
 - (ii) is mounted on a Wireless Support Structure that is no more than 10 percent taller than other adjacent structures; or
 - (iii) does not extend an existing Wireless Support Structure to a height of more than 50 feet or by more than 10 percent above its pre-existing height, whichever is greater; and
 - B. Each communications antenna associated with the deployment (excluding the associated equipment) is no more than three cubic feet in volume; and

- C. All wireless equipment associated with the wireless communications facility (excluding communications antennas) are cumulatively no more than 28 cubic feet in volume; and
 - D. The wireless communications facility does not require communications antenna structure registration under 47 CFR Part 17; and
 - E. The wireless communications facility does not result in human exposure to radiofrequency radiation in excess of the applicable safety standards specified in 47 CFR 1.1307(b).
8. *Stealth Design* — Camouflaging methods applied to wireless communications facilities and Communications Ancillary Equipment which render them more visually appealing or blend the proposed facility into the existing structure or visual backdrop in such a manner as to render it minimally visible to the casual observer. Such methods include, but are not limited to, architecturally screened roof-mounted communications antennas, building-mounted communications antennas painted to match the existing structure, and facilities constructed to resemble trees, shrubs, and light poles.
 9. *Technically Feasible (As used in §225-420 of the Zoning Ordinance)* – By virtue of engineering or spectrum usage, the proposed placement for a small wireless communications facility or its design or site location can be implemented without a material reduction in the functionality of the small wireless communications facility.
 10. *Wireless Communications Facility (WCF)* – A communications antenna facility that is used for the provision of wireless communication service, whether such service is provided on a stand-alone basis or commingled with other wireless communications services.

SECTION II. GENERAL STANDARDS FOR SMALL WIRELESS COMMUNICATIONS FACILITIES

1. All Small WCFs shall be installed and maintained in a workmanlike manner in compliance with the Township’s Code of Ordinances, the American National Standards Institute (ANSI) Code, the National Electrical Safety Code, the National Electrical Code, the accepted industry practices of the National Association of Tower Erectors, and any other industry standard applicable to the WCF.
2. Wireless Support Structures installed or replaced in order to accommodate attached Small WCFs shall not obstruct vehicular, pedestrian, or cyclist traffic or sight lines.
3. All Small WCFs shall comply with applicable federal, state, and local standards regarding pedestrian access and movement.
4. All Small WCFs shall be designed and constructed utilizing stealth design to the extent technically feasible in an effort to minimize aesthetic impact. All applications for a Small WCF shall identify all design features intended to minimize aesthetic impact.
5. When placed within the public right-of-way, no Small WCF shall extend beyond the boundaries of the public right-of-way unless approved on a case-by-case basis by the Township Zoning

Officer. Small WCFs that extend beyond the public right-of-way or are entirely outside the public right-of-way shall be located within an easement area.

6. All Small WCFs shall be designed to withstand the effects of wind gusts and ice to the standards of the American National Standards Institute/Telecommunications Industry Association (ANSI/TIA-222, as amended), or to the industry standard applicable to the structure.

SECTION III. COMMUNICATIONS ANTENNA AND COMMUNICATIONS ANCILLARY EQUIPMENT STANDARDS

1. Communications Antenna Standards.

- A. Any Communications Antenna associated with a Small WCF shall not exceed three cubic feet in volume.
- B. All pole-top Communications Antennas shall be flush-mounted as closely to the top of the Wireless Support Structure as technically feasible.
- C. All Communications Antennas shall be of a design, style, and color that matches the Wireless Support Structure upon which they are attached.
- D. Any necessary pole-top extension shall be of the minimum height necessary to achieve separation from the existing pole attachments.
- E. Any Communications Antenna mounted on a lateral standoff bracket shall protrude no more than necessary to meet clearances from the pole and existing pole attachments.
- F. If mounted on an existing Wireless Support Structure, no Communications Antenna shall impair the function of said structure.
- G. Communications Antenna placement shall not materially impair light, air, or views from adjacent windows.

2. Communications Ancillary Equipment Standards.

- A. Communications Ancillary Equipment shall not exceed 28 cubic feet in volume. Equipment utilized solely for mitigation of the aesthetic impact of the Small WCF or required for utility service shall not be included in the Communications Ancillary Equipment volume calculation.
- B. Communications Ancillary Equipment shall be mounted flush to the side of a Wireless Support Structure, or as near flush to the side of a Wireless Support Structure as technically feasible.
- C. Communications Ancillary Equipment shall be mounted so as to provide a minimum of eight feet vertical clearance from ground level.

- D. Communications Ancillary Equipment shall be of a color that matches the Wireless Support Structure upon which such Communications Ancillary Equipment is mounted.
- E. All Communications Ancillary Equipment shall be contained within a single equipment shroud or cabinet. Such equipment shroud or cabinet shall be of the smallest dimensions technically feasible.
- F. All Small WCFs shall post a sign in a readily visible location identifying the name and phone number of a party to contact in the event of an emergency. The only other signage permitted shall be that required by the FCC or any other federal or state agency. All signage associated with a Small WCF shall be clearly shown in the application and shall be subject to approval by the Township Zoning Officer.
- G. The placement of Communications Ancillary Equipment shall not materially impair light, air, or views from adjacent windows.
- H. No Communications Ancillary Equipment shall feature any visible lighting, including flashing indicator lights, unless required by state or federal law.

3. Wiring Standards.

- A. Exposed wiring is prohibited on any Small WCF, Communications Ancillary Equipment, or Communications Ancillary Equipment enclosure.
- B. Transmission, fiber, power cables, and any other wiring shall be contained within any Wireless Support Structure for which such concealment is technically feasible. If such wiring cannot be contained within the Wireless Support Structure, all wiring shall be contained within a conduit or U-guard that is flush-mounted to the Wireless Support Structure.
- C. All wiring shall be installed tautly and without excessive slack or extra cable storage on the Wireless Support Structure.
- D. Any conduit or U-guard shall be of a color that matches the Wireless Support Structure to which the Small WCF is attached.
- E. Loops of extra wiring shall not be attached to any Wireless Support Structure.

SECTION IV. WIRELESS SUPPORT STRUCTURE STANDARDS

1. Replacement Wireless Support Structures.

- A. The maximum height of any proposed replacement Wireless Support Structure shall be: 1) no more than ten (10%) percent taller than the tallest existing Wireless Support Structure in the public rights-of-way within a two hundred fifty (250) foot radius of the proposed Small WCF; or 2) fifty (50) feet above ground level, whichever is greater.

- B. Any replacement Wireless Support Structure shall be of comparable materials, color, and design to the existing Wireless Support Structure being replaced except as otherwise required by the pole owner to achieve technical feasibility.
- C. Any replacement Wireless Support Structure shall be placed within a five-foot radius of the existing Wireless Support Structure being replaced.
- D. Any replacement Wireless Support Structure shall be designed to accommodate all uses that existed on the Wireless Support Structure being replaced. As part of an application for a Small WCF, the applicant shall provide documentation from a structural engineer licensed in the Commonwealth of Pennsylvania confirming that the replacement Wireless Support Structure is structurally sound to accommodate the Small WCF and prior existing uses.

2. New Wireless Support Structures.

- A. The maximum height of any new Wireless Support Structure shall be one of the following, whichever is greater:
 - (i) No more than 10 percent taller than the tallest existing Wireless Support Structure in the public rights-of-way within a 250-foot radius of the proposed Small WCF; or
 - (ii) Fifty feet above ground level.
- B. Any new Wireless Support Structure shall be of comparable materials, color, and design to adjacent Wireless Support Structures, except as required by the pole owner to achieve technical feasibility.
- C. To the extent technically feasible, no new Wireless Support Structure shall be installed:
 - (i) In the Front Façade Area of any residential building; or
 - (ii) Within 10 feet of the edge of any driveway; or
 - (iii) In the public rights-of-way directly opposite any driveway.
- D. To the extent technically feasible, new Wireless Support Structures in the public rights-of-way shall be connected to electricity with the same method as adjacent Wireless Support Structures so that, if electricity transmission wires are beneath ground for adjacent Wireless Support Structures, the wires shall be beneath ground for the proposed new Wireless Support Structure.
- E. Decorative Poles.
 - (i) Decorative Poles shall be required:
 - 1. For the replacement of any existing Decorative Pole; and

2. In any zoning district where all utilities are required to be placed underground on a non-discriminatory basis.
 - (ii) For any replacement Decorative Pole, the new Decorative Pole shall match the existing Decorative Pole in shape, design, color, and material to the extent technically feasible. The Township shall have final approval of any such replacement Decorative Pole.
 - (iii) No Small WCF shall be permitted on an existing Decorative Pole unless the applicant provides documentation showing that such Decorative Pole is the only technically feasible location for placement and that no suitable alternative sites exist.

SECTION V. APPROVAL

1. The Zoning Officer shall reasonably determine whether a proposed Small WCF design complies with the requirements of this Design Manual.
2. Any requests for relief from the requirements of this Design Manual shall be considered on a case-by-case basis by the Zoning Officer and shall be approved upon a determination by the Zoning Officer that such relief is necessary to prevent the effective prohibition of wireless service pursuant to the rules of the Federal Communications Commission.
3. Any appeal of the determination of the Zoning Officer shall be made to the Township's Zoning Hearing Board in accordance with Chapter 225, Zoning, of the Derry Township Code.
4. Upon approval of a design for a Small WCF requiring relief from the requirements of this Design Manual, such design shall be incorporated by reference into this Design Manual as a Prior Approved Design.

SECTION VI. PRIOR APPROVED DESIGNS

1. A record of Prior Approved Designs shall be kept on file at the Township Department of Community Development.

Small Wireless Communications Facility Design Checklist

The information detailed in the following checklist shall be included with any application for a Small Wireless Communications Facility:

Item	Description	Included in Application?		
		Yes	No	N/A
Cover Letter	The application shall include a cover letter detailing the location of the proposed site, all equipment being proposed, and a certification that the applicant has included all information required by the Township Code.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Site Information	Depiction of the proposed site shall show all proposed equipment associated with the Small Wireless Communications Facility.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	The manufacturer and model number, proposed location, volume (cubic feet), and dimensions of each piece of equipment shall be clearly shown.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Before and after diagrams of the proposed site showing the dimensional changes shall be included.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	If the proposed Wireless Support Structure supports existing attachments, the depiction of the proposed site shall show the location and dimensions of all such attachments.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	If installation of a new Wireless Support Structure is being proposed, the depiction of the proposed site shall include the color, dimensions, material, and type of Wireless Support Structure proposed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	The depiction of the proposed site shall show the location of any existing structures within 100 feet of the proposed location of the Wireless Support Structure, including, but not limited to, residential structures, commercial structures, light poles, traffic signals, traffic signage, property and right-of-way lines, and existing Wireless Support Structures.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Photo Simulations	Photo simulations shall depict the Small Wireless Communications Facility from at least two locations near the proposed site.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	The photo simulations should reflect the proposed design and location of all Communications Ancillary Equipment associated with the Small Wireless Communications Facility.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Paint	Communications Ancillary Equipment shall be painted a color that matches the Wireless Support Structure upon which such Communications Ancillary Equipment is mounted.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Application shall include the proposed paint color of any Communications Ancillary Equipment necessary to achieve aesthetic uniformity or stealth design of the site.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Wiring	All proposed wires associated with the Small Wireless Communications Facility shall be clearly shown.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	A depiction and description of the concealment methods to be utilized for the wiring shall be included.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	All exposed wiring is discreetly affixed to the structure.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Signage	Signage shall be posted in a readily visible location and identify the owner's permit number and the name and telephone number of a party to contact in the event of an emergency.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	If required, FCC-mandated signage is permitted. Applicant shall identify such signage in its application.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>