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12 Attachment 15

Township of Harris

SMALL WIRELESS COMMUNICATIONS FACILITY DESIGN MANUAL

[Added 1-3-2022 by Ord. No. 352]

SECTION I. DEFINITIONS.

The following terms are defined as follows:

1. 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.
2. Collocation or Collocate — To install, mount, maintain, modify or replace Small WCFs on an existing utility pole or other Utility Pole.
3. Decorative Pole — A Township-owned pole that is specially designed and placed for aesthetic purposes.
4. Front Facade 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 structure to the public right-of-way.
5. Prior Approved Design — A design for a Small WCF that has been reviewed and deemed to be in accordance with this Design Manual and approved for construction by the Township.
6. Related Equipment — Any Equipment serving or being used in conjunction with a wireless communications facility or Utility Pole, including but not limited to utility or transmission Equipment, power supplies, generators, batteries, or cables.
7. Small Wireless Communications Facility (Small WCF) — A Wireless Communications Facility that meets the following criteria:
 - (1) The Utility Pole on which antenna facilities are mounted —
 - (i) Is 50 feet or less in height, or
 - (ii) Is no more than 10% taller than other adjacent structures, or
 - (iii) Is not extended to a height of more than 50 feet or by more than 10% above its preexisting height as a result of the collocation of new antenna facilities, whichever is lesser; and

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- (2) Each antenna associated with the deployment (excluding the Related Equipment) is no more than three cubic feet in volume; and
 - (3) All Related Equipment associated with the facility (excluding antennas) are cumulatively no more than 28 cubic feet in volume.
8. **Stealth Technology** — Camouflaging methods applied to Wireless Communications Facilities and Related 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 antennas, building-mounted antennas painted to match the existing structure and facilities constructed to resemble trees, shrubs, and light poles.
 9. **Technically Feasible** — By virtue of engineering or spectrum usage, the proposed placement for a Small WCF or its design or site location can be implemented without a material reduction in the functionality of the Small WCF.
 10. **Underground Area** — An area of the Township in which all utility installations are required to be installed underground on a non-discriminatory basis and have been required to be so placed by a date certain that is at least three months prior to the submission of the application for the proposed Small WCF.
 11. **Utility Pole** — A pole or similar structure that is or may be used, in whole or in part, by or for telecommunications, electric distribution, lighting, traffic control, signage or a similar function or for collocation. The term includes the vertical support structure for traffic lights but does not include Utility Poles or horizontal structures to which signal lights or other traffic control devices are attached.
 12. **Wireless Communications Facility Applicant (WCF Applicant)** — Any person that applies for a wireless communication facility building permit, zoning approval and/or permission to use the public ROW or other Township-owned land or property.

SECTION II. GENERAL STANDARDS FOR SMALL WIRELESS COMMUNICATIONS FACILITIES

1. All Small WCFs shall comply with the applicable requirements of this Small WCF Design Manual and Section 12-2.4A(20) of the Township of Harris Zoning Ordinance.
2. All Small WCFs shall be installed in and maintained in a workmanlike manner in compliance with the 2017 National Electric Safety Code and all applicable laws, ordinances and regulations for the protection of underground and overhead utility facilities.
3. All Small WCFs shall comply with the Americans with Disabilities Act guidelines adopted by the Township and all applicable requirements relating to streets and sidewalks as established by Chapter 7 of the Township Code.

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4. Small WCFs shall be installed and maintained so as not to obstruct nor hinder travel or public safety within the right-of-way or obstruct the legal use of the right-of-way by the Township and public utilities.
5. All Small WCFs shall be designed and constructed in an effort to minimize aesthetic impact.
6. No Small WCFs shall extend beyond the boundaries of the rights-of-way unless approved on a case-by-case basis by the Township Zoning Officer. Such approval shall be contingent upon the provision of evidence by the WCF Applicant that the owner of the property onto which the Small WCF extends has granted permission for the construction of the Small WCF.
7. If located outside the rights-of-way, any Small WCF requiring the installation of a new Utility Pole shall be set back a distance equal to 100% of the height of the Small WCF from any adjacent property line, right-of-way, or structure.
8. All Small WCFs shall be designed to withstand the effects of wind gusts and ice to the standard designed by the American National Standards Institute as prepared by the engineering departments of the Electronics Industry Association and Communications Industry Association (ANSI/TIA-222, as amended), or to the industry standard applicable to the structure.
9. If Collocation of a Small WCF on an existing Utility Pole cannot be achieved, a Small WCF may be installed on a new or replacement Utility Pole.
10. If a Small WCF is proposed for location in a historic district or on a historic building, the Township may require additional design or concealment measures to the extent such design or concealment measures are Technically Feasible. Such design or concealment measures shall be tailored to the proposed location of the Small WCF.

SECTION III. ANTENNA AND RELATED EQUIPMENT STANDARDS

1. **Antenna Standards**
 - a. Any Antenna associated with a Small WCF shall not exceed three cubic feet in volume.
 - b. The Collocation of a Small WCF on an existing Utility Pole shall not extend more than five feet above the existing Utility Pole.
 - c. All pole-top Antennas shall be flush-mounted as closely to the top of the Utility Pole as Technically Feasible.
 - d. All Antennas shall be of a design, style, and color that matches the Utility Pole or other Utility Pole upon which they are attached.

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- e. Any necessary pole-top extension shall be of the minimum height necessary to achieve necessary separation from the existing attachments.
- f. Any Antenna mounted on a lateral standoff bracket shall protrude no more than necessary to meet clearances from the pole and existing pole attachments.
- g. If mounted on an existing structure, no Antenna shall impair any function of said structure.
- h. Antenna placement shall not materially impair light, air, or views from adjacent windows.
- i. Any proposed Small WCF shall employ the most current standards available in an effort to appropriately blend into the surrounding environment and minimize aesthetic impact.

2. **Related Equipment Standards**

- a. Related Equipment shall be of the smallest dimensions Technically Feasible, not exceed 28 cubic feet in volume. Equipment utilized solely for the minimization or mitigation of the aesthetic impact of the Small WCF shall not be included in the Related Equipment volume calculation.
- b. In no case shall ground-mounted Related Equipment be located within 18 inches of the face of the curb.
- c. Related Equipment shall be mounted flush to the side of the Utility Pole, or as near flush to the side of the Utility Pole as Technically Feasible.
- d. Related Equipment shall be mounted so as to provide a minimum of eight feet vertical clearance from ground level.
- e. Related Equipment shall be of a color that reasonably matches the Utility Pole upon which such Related Equipment is mounted.
- f. All Related Equipment shall be contained within a single Equipment shroud or cabinet. Such Equipment shroud or cabinet shall be of the smallest dimensions Technically Feasible. Electric utility Equipment, such as an emergency shutoff, shall be permitted to be located outside of such Equipment shroud or cabinet if necessary for access by the utility.
- g. Ground-mounted Related Equipment associated with, or connected to, a Small WCF shall be located underground if possible, or located within a building. In the event that an applicant can demonstrate that the Related Equipment cannot be located underground to the satisfaction of the Township Engineer, then such Related Equipment shall be screened from public view using vegetation, shrubs, or stealth technology.

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- h. 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 approved by the Township Zoning Officer.
 - i. Related Equipment placement shall not materially impair light, air, or views from adjacent windows. To the extent Technically Feasible, all Related Equipment shall be placed facing away from adjacent windows.
 - j. No Related Equipment shall feature any lighting, including flashing indicator lights, unless required by state or federal law.
 - k. Any underground vaults Related to Small WCFs shall be reviewed and approved by the Township.
3. **Wiring Standards**
- a. Exposed wiring is prohibited on any Small WCF.
 - b. Transmission, fiber, power cables and any other wiring shall be contained within any Utility Pole for which such concealment is Technically Feasible. If wiring cannot be contained within the Utility Pole, all wiring shall be contained within conduit or U-guard that is flush-mounted to the Utility Pole.
 - c. All wiring shall be installed without excessive slack or extra cable storage on the Utility Pole.
 - d. Any conduit or U-guard shall be of a color that matches the Utility Pole to which the Small WCF is attached.
 - e. Loops of extra wiring shall not be attached to any Utility Pole.

SECTION IV. UTILITY POLE STANDARDS

1. **Replacement Utility Poles**
- a. Replacement Utility Poles shall be permitted only upon a showing by the WCF Applicant that Collocation on an existing Utility Pole is not Technically Feasible.
 - b. The maximum height of any proposed replacement Utility Pole shall be 50 feet above ground level. The WCF Applicant shall submit documentation to the Township justifying the total height of the proposed Utility Pole.
 - c. Any replacement Utility Pole shall be of comparable materials and design to the existing Utility Pole being replaced.

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- d. Any replacement Utility Pole shall be placed within a three-foot radius of the existing Utility Pole being replaced.
- e. Any replacement Utility Pole shall be designed to accommodate all uses that existed on the Utility Pole being replaced.
- f. As part of an application for a Small WCF, the WCF Applicant shall provide documentation from a structural engineer licensed in the Commonwealth of Pennsylvania confirming that the replacement Utility Pole, Small WCF, and prior existing uses shall be structurally sound.
- g. Any replacement Utility Pole shall not deviate from the predominant pattern of existing Utility Poles.

2. **New Utility Poles**

- a. New Utility Poles shall be permitted only upon a showing by the WCF Applicant that Collocation on an existing Utility Pole or replacement of an existing Utility Pole is not Technically Feasible.
- b. The maximum height of any new Utility Pole shall be 50 feet above ground level. The WCF Applicant shall submit documentation to the Township justifying the total height of the proposed Utility Pole.
- c. Any new Utility Pole shall be installed in accordance with the predominant pattern of existing Utility Poles.
- d. To the extent Technically Feasible, no new Utility Pole shall be installed:
 - i. In an Underground Area;
 - ii. In the Front Facade Area of any residential building;
 - iii. Within 10 feet of the edge of any driveway;
 - iv. In the public rights-of-way directly opposite any driveway; or
 - v. In violation of the design standards contained herein.

3. **Decorative Poles:**

- a. 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.
- b. Decorative Poles shall be required:

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- i. For the replacement of any existing Decorative Pole;
 - ii. In any historic district, as established by the Code of the Township of Harris; and
 - iii. In any residential district.
- c. For any replacement Decorative Pole, the replacement Decorative Pole shall match the existing Decorative Pole in shape, design, color, and material.

SECTION V. APPROVAL

1. The Township Zoning Officer shall 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 Township Zoning Officer and shall be approved upon a determination by the Township Zoning Officer that such relief is necessary to prevent the effective prohibition of wireless service pursuant to the rules of the Federal Communications Commission.

SECTION VI. PRIOR APPROVED DESIGNS

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

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Small WCF Design Checklist

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

Item	Description	Included in Application?	
		Yes	No
Cover Letter	<ul style="list-style-type: none"> 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. The cover letter shall include the name and contact information for the WCF Applicant and, if different, the owner of the proposed Small WCF. 		
Site Plan	<ul style="list-style-type: none"> Site plan shall show all proposed Equipment associated with the Small WCF. The manufacturer and model, proposed location, and physical dimensions of each piece of Equipment should be clearly shown. Before and after diagrams of the proposed site showing the dimensional changes shall be included. If the proposed Utility Pole supports existing attachments, the site plan shall show the location and dimensions of all such attachments. If installation of a new or replacement Utility Pole is being proposed, the site plan shall include the color, dimensions, material and type of Utility Pole proposed. The site plan shall include an aerial photo showing the location of any existing structures within 500 feet of the proposed location, including but not limited to residential structures, commercial structures, light poles, traffic signals, traffic signage, and existing Utility Poles. If the Small WCF is proposed for attachment on third-party property, the applicant shall provide evidence that such third-party has granted the applicant the right to attach the proposed Small WCF. 		

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Item	Description	Included in Application?	
		Yes	No
Photo Simulations	<ul style="list-style-type: none"> • Before-and-after photo simulations shall depict the Small WCF from at least three locations near the proposed site. • The photo simulations should reflect the proposed design and location of all Related Equipment associated with the Small WCF. 		
Engineer Certifications	<ul style="list-style-type: none"> • A written certification by a structural engineer licensed in the Commonwealth of Pennsylvania confirming that the proposed Small WCF and Wireless Support Structure are structurally sound and shall not endanger public health and safety. • A report by a qualified engineering expert which shows that the Small WCF will comply with applicable FCC regulations, including applicable standards for radiofrequency emissions. 		
Paint	<ul style="list-style-type: none"> • Related Equipment shall be painted a color that matches the Utility Pole upon which such Related Equipment is mounted. • Application shall detail the proposed painting of any Related Equipment necessary to achieve aesthetic uniformity of the site. 		
Wiring	<ul style="list-style-type: none"> • All proposed wires associated with the Small WCF shall be clearly shown. • A depiction and description of the concealment methods to be utilized for the wiring shall be included. • No exposed wiring is permitted. 		
Signage	<ul style="list-style-type: none"> • Signage shall be posted in a readily visible location and identify the owner's permit number and the name and phone number of a party to contact in the event of an emergency. • If required, FCC-mandated signage is permitted. Applicant shall identify such signage in its application. 		
Certificate of Insurance	<ul style="list-style-type: none"> • A certificate of insurance as required by Section 12-2.4A(20)(f)[12] of the Township Zoning Ordinance. 		
Certification of Compliance	<ul style="list-style-type: none"> • A signed statement affirming the proposed WCF and WCF application's compliance with the applicable requirements of Section 12-2.4A(20) of the Township Zoning Code and this Small WCF Design Manual. 		