

Small Wireless Communication Facilities

CHAPTER 10

SMALL WIRELESS COMMUNICATION FACILITIES

10.01 Design Standards

The items herein contained are the Small Wireless Communication Facilities Installation Standards, Conditions, and Specifications for the City of Centralia. These are minimum installation requirements only and may be revised at the discretion of the City, but in no event shall said standards be reduced below current local, state, federal requirements and standard specifications that are referenced in this document.

Centralia street lighting and power facilities are owned and operated by the City of Centralia. The only authorized personnel to operate City electrical facilities are City personnel unless otherwise approved. Applicants and their contractors may only access City facilities with written approval through the application process for installation of small cell wireless facilities. Unauthorized use of City facilities will invalidate any approval for small cell wireless facilities at that location and unauthorized equipment will be removed at the applicant's expense.

"Wireless Equipment" shall be defined as any and all equipment required to operate a wireless communication system and shall include, but not be limited to, antenna, panels, disconnect and all associated appurtenances.

"Applicant" shall be defined as the person requesting to install wireless equipment within Centralia city limits, on City Owned Property, easements or Right of Way, and shall be the owner of all such equipment.

After the system is completed, installed and approved, a hard copy and digital set of "as-built" drawings shall be submitted to the City Engineer as a permanent record. These shall be in accordance with all applicable Guideline requirements for plans and as-builts.

These standards shall be used in conjunction with the City of Centralia Municipal Code Section 14.32 and the Small Cell Wireless Facilities Standard Details found at the end of this Section.

The Standards Specifications for this Section shall be The National Electric Safety Code (NESC), National Electric Code (NEC), the Revised Code of Washington (RCW), Washington Administrative Code (WAC), City of Centralia Municipal Code Section 14.32 and the City of Centralia Design and Development Guidelines. In the event of conflicting standards the higher standard shall control. Only one small wireless facility per owner shall be allowed per pole. Installation shall not be allowed on poles where adequate clearance is not available.

All work above the communication worker safety zone, as defined in NESC, shall be performed by Centralia City Light crew or Qualified Electrical Employee per definition in WAC 296-45. Contractor must be approved by the City of Centralia. Any variance from this standard shall require approval in writing from the City of Centralia.

Small Wireless Communication Facilities

10.02 Codes, Permits and Approvals

1. All necessary permits shall be obtained by the applicant. This includes the City of Centralia Small Wireless Communication Facility Permit, Franchise Agreement, Street Light Attachment Lease, City Light Commercial New Service Agreement, Right of Way Permit and L & I electrical permit.
2. The applicant must have a completed City of Centralia Franchise agreement accepted by the Centralia City Council before submitting an application to install a wireless device.
3. All easements on private property for pad-mounted communication equipment, down guys, aerial overhangs, services, etc. shall be obtained by the applicant and provided to the City prior to construction approval.
4. Permits and applications for all proposed work, which includes installations, modification, or relocations shall be reviewed and approved by the City of Centralia.
5. All installation shall meet or exceed any applicable structural and clearance requirements of the latest revision of the NESC, NEC, WAC, Centralia Municipal Code 14.32 and all Centralia Design and Development Guidelines. In case of conflict, the most stringent requirement will prevail. This may result in pole replacement to accommodate the installation of the added antenna and its associated equipment. All costs for pole replacement, due to wireless equipment installation, shall be the responsibility of the applicant.
6. Where equipment is being attached to existing street light poles, a complete pole loading analysis indicating all new and existing loads shall be provided. Pole loading analysis to be stamped by a professional engineer licensed in the State of Washington.
7. A Non-Ionizing Electromagnetic Radiation (NIER) report shall be submitted to the City of Centralia and retained on file for each equipment type/model. The NIER report shall be endorsed by a Radio Frequency (RF) Professional Engineer (PE) who is licensed in the state of Washington. The NIER report shall specify minimum approach distances to the general public (uncontrolled) as well as to the electrical and communication workers potentially working in a RF environment (controlled) when accessing the pole by climbing or by aerial lift.
8. If top of Antenna is above 36 feet, the design must be approved by the City of Centralia Public Works Director and City Light General Manager or their designee.
9. If equipment is installed without proper approval and does not meet the requirements specified in this document, then the applicant shall be required to correct or remove such violations at their expense within 90 days of written notification from the City of Centralia, or it will be removed by the City at the applicant's expense.

Small Wireless Communication Facilities

10. These standards are subject to change at any time by the City of Centralia. The applicant must refer to and reference the most recent revision of this Standard at the Time and Date the Small Wireless Communication Facility Permit Application is signed.

10-03 Electrical Service Voltage and Connection

1. The Applicant must fill out the service voltage requirements for the wireless equipment on the City Light New Commercial Service Agreement and turn in with the Small Wireless Communication Facility Permit Application.
2. All costs associated with New Service requirements will be paid for by the applicant.
3. Power to serve the wireless equipment shall be metered and installed in accordance with Centralia City Light standards.
4. An external disconnect switch shall be required per Federal Communication Commission (FCC) Office of Engineering Technology (OET) Bulletin 65; Washington Administrated Code (WAC) 296-62-09005 to allow the antenna to be de-energized before work can be performed within the area designated by the RF warning signs. The service disconnect switch shall isolate all electric services as required to completely de-energize the equipment and antennas, including backup power or batteries. The service disconnect switch shall be either mounted to the communication equipment enclosure or just below it and be clearly identified.

10-04 Construction Requirements

1. All equipment and appurtenances shall be installed in accordance with the requirements of the standard specification called out in this Chapter. (NESC, NEC, WAC, etc.) All trenching in the Right of Way and all restoration shall be in accordance with the City of Centralia Development Guidelines and Standard Plans.
2. All risers shall comply with the City of Centralia standards and the table shown below except that the conduit shall match the color of the poles attached to when standard gray street light poles are not used.

Purpose	Type	Minimum Size (in.)	Maximum Size (in.)	Max. Total Qty. on Pole
120/240 V power supply conductors	Sch. 40 PVC, gray	2.5	2.5	2
First 10' of riser for the 120/240 V power supply conductors if fed from UG service	Sch. 80 PVC, gray	2.5	2.5	2
Antenna equipment cables	Sch. 40 PVC, gray	1-1/4	4	2

Small Wireless Communication Facilities

3. For pole top installations on poles, the riser orientation shall be on the field side, away from traffic flow.
4. All conduit shall be installed on standoff brackets.
5. The minimum space between the pole and the closest part of the conduit shall be 4.5 inches.
6. Stand-off brackets for conduit, at the base of the pole, shall be installed at a minimum of 8 feet from ground level.
7. Specific material for mounting equipment shall meet or exceed the quality standards provided in this document.
8. All equipment mounted on the ground or poles shall be painted a color that fits its current surroundings. Color shall be approved by the City prior to installation.
9. All newly installed Street Light Poles must meet the Standard Specification as specified in this document and various design criteria prior to installation. Approved Street Light Pole dimensions and color requirements may vary and are on a case-by-case basis depending on exact location of small wireless facility device.
10. If it is determined that the existing street light pole is not adequate for the newly installed wireless equipment, the pole shall be replaced as required. All costs for installing the new pole shall be paid for by the applicant.
11. All Existing or New Street Light Poles and bases must be certified by the manufacturer or professional engineer, licensed with the state of Washington, to support any existing equipment and the weight of the additional wireless equipment shall be designed per requirements of the climate and seismic zoning for the City of Centralia. Certified test reports and stamped documents must be submitted with the application.
12. When installing wireless equipment on a new Street Light Pole, the Street Light Pole must be provided with either a Dual or Tri Chamber compartment as shown in the Standard Plans and Details. Alternatives from the Dual or Tri Chamber compartment may be approved by the City on a case by case basis, as long as the installation meets all NEC and NESC requirements around separation of jurisdictions.
13. No Wireless equipment shall be installed on City Owned Downtown Decorative Style Street Light poles or Centralia City Light power poles.

10-05 Aesthetic, Concealment and Design

- A. This section sets the criteria for poles in the public right-of-way or private streets for which there is a valid lease or wireless site agreement, including those poles that are owned in whole

Small Wireless Communication Facilities

or in part by the City, other public entities, and privately owned poles in the public right-of-way or public places or spaces.

B. Preference for Locations and Methods. The preferred locations of Small Wireless Communication Facility infrastructure, in order, are:

1. Existing, new or replacement metal/steel streetlight poles with cobra heads.
2. New standalone metal/steel poles on streets. New poles where the primary purpose for the pole is to support SWCFs are not allowed unless the city agrees to take ownership upon installation or if authorized by the Public Works Director. Generally, new poles within the rights-of-way are permitted only if the applicant can establish that:
 - a. The proposed small wireless communication facility cannot be located on an existing, new or replacement street light pole in accordance with the City's Street Light Standards;
 - b. Even if an alternative location is determined to exist instead of installing a new pole in the right-of-way, the director may determine that a new pole in the right-of-way is in fact a better alternative based on the impact to the city, the concealment element design and the added benefits to the community.
3. New privately owned wood poles where the primary purpose for the pole is to support SWCFs are not allowed unless the city agrees to take ownership upon installation or if authorized by the director. Generally, new poles within the rights-of-way are permitted only if the applicant can establish that:
 - a. The proposed small wireless communication facility cannot be located on an existing or replacement street light pole;
 - b. Even if an alternative location is determined to exist instead of installing a new pole in the right-of-way, the director may determine that a new pole in the right-of-way is in fact a better alternative based on the impact to the city, the concealment element design and the added benefits to the community. In such case, the new pole must be a metal pole and adhere to the requirements herein.
4. Existing metal/steel traffic signal poles.
5. Existing steel electric distribution/transmission poles with SWCF connections (requirements as per pole attachment agreement with Centralia City Light).
6. Existing wood electric distribution/transmission poles with SWCF connections (requirements as per pole attachment agreement with Centralia City Light).

C. Permitted. Small wireless communication facilities (SWCF) are permitted in all zoning districts in public rights-of-way.

Small Wireless Communication Facilities

D. Setbacks. The following setbacks will be required for the installation of new small cell structures:

1. No setback from a property line is required if a pole is located in the right-of-way.
2. If a pole is located in a public place/space the SWCF shall meet the setbacks as per the underlying zoning.
3. Poles shall be set back a minimum of five feet from all driveways and outside of the visual site distance clear zone for intersections.
4. Poles shall have a minimum setback of one foot from all sidewalks.
5. Poles and equipment shall be a minimum of three feet from an existing fire hydrant or a building's fire connections.
6. Pole location cannot violate applicable local, state, or federal laws, including the 1990 Americans with Disabilities Act.
7. Alignment with Existing Poles. New poles need to align with existing streetlights and street trees to maintain a clear pedestrian zone.

E. Height. SWCF shall not exceed the maximum height of thirty-six feet (measured from the ground to the top of an antenna) in all zoning districts. Exception: the height may be increased to forty-four feet if the freestanding pole is designed for co-location or multi-carriers. The SWCF may exceed the height limit if attached to the side of a building and if an engineering study is conducted demonstrating the height is needed for the proper functioning of a provider's network. The study shall show the existing SWCF service area and service area intended to be covered by the proposed facility.

F. Attachment to Trees Prohibited. It is prohibited to use any tree as a support for any small wireless communication facilities or to use any tree to attach any metal guy or cable supporting any wireless communication facilities.

G. Small wireless communication facilities shall comply with all federal, state, and Centralia requirements and regulations including the Centralia Design and Development Guidelines.

Small Wireless Communication Facilities

H. Specification for Pole Installations on Non-City Light Poles.

New Pole	Existing Pole with Street Light	Specifications for Pole Installations	
X	X	Pole Type	Round, straight, steel poles are preferred, other pole types may be permitted if approved by the director.
X	X	Pole Color	Poles shall match or be substantially similar to the finishes, designs, colors, and other aesthetic characteristics of existing poles or designated for the area (black or gray). Mellen/Cherry/Alder Streets corridor—black poles Pearl/Tower Streets corridor—historic color of existing poles Main/Harrison Streets corridor—black poles All other areas within the city match pole colors within 200 feet
X	X	Color of all System Equipment	All small wireless equipment including antennas, shrouds, cantennas, brackets, conduits, cables, wires, and fiber shall be the same color as the pole (black or gray or brown).
X	X	Pole Design Parameters	As per the engineering standards and per the International Building Code
X	X	Pole Diameter	Maximum pole diameter for a signal SWCF carrier is 13 inches or the size of the existing pole. Maximum pole diameter for a multi-carrier SWCF pole is 34 inches.
	X	External (not attached) Equipment Cabinet Area	Maximum size: 48 inches long by 21 inches wide by 20 inches deep. If attached to the pole, it must match the color of the pole. If not attached to the pole, the equipment cabinets shall use camouflage design techniques including undergrounding, or other design options that will blend into the surrounding natural setting.
X		Built-in (pole base) Equipment Cabinet Dimensions	Round, 5 feet, 10 inches maximum height from the top of the concrete foundation to the top of the equipment cabinet shroud, maximum 20-inch diameter
X		Access Doors	Utility access—Meter shall be recessed as much as possible into the equipment cabinet. Luminaire access—hand hole with fused power disconnect. Carrier access—Lockable door appropriately sized.
X	X	Electrical Service	Per City of Centralia Light Department approval. Application required with Small Wireless Communication Facility Permit Application

Small Wireless Communication Facilities

New Pole	Existing Pole with Street Light	Specifications for Pole Installations	
X	X	Separation of Service	All new conduit and cable shall be separated by the owner in any pull boxes. SWCF services shall be separate from streetlight electrical service.
X		Pole Ventilation	Passive louvers and/or passive ventilation systems; if required, fans shall not emit noise greater than 50 dBs at 3.5 feet.
X		Cantenna Height	Single carrier with cantenna and external shroud is 6 feet max. The multi-carrier maximum height of a cantenna(s) is 7 feet, 6 inches. Cantenna height is measured from the top of the riser pole to the top of a cantenna.
X	X	Cantenna Shroud Transition	Tapered and smooth transition between the riser pole and cantenna is required.
	X	Cantenna Attached to an Existing Pole	Top-mounted cantenna shall be placed to look as if it is an extension of the pole. All cables shall be concealed within the pole. The canister antenna's outer diameter may not be more than 16 inches diameter by 36 inches height (maximum).
	X	Panel Antenna	36 inches in height and no further than 22 inches from the pole surface measured at the antenna's outer edge and 15 feet above grade. Panel antennas must be flush mounted to the pole and in no case greater than 6 inches off the pole to allow for antenna tilt. Panel antennas shall be located at least 12 inches below the streetlight or arm. Maximum of 3 panel antennas per pole.
X	X	RF Transparent Equipment Shroud (side-mounted on a pole)	49 inches in height, 19 inches in width, and 13 inches in depth. Equipment must be a minimum of 15 feet above grade and be attached flush to the pole.
X	X	Cables, Conduit, and Wiring	All conduit, cables, fiber, and wiring must be internally within the pole. Minimal conduit, cables, fiber, and wiring are allowed externally of the pole.
X	X	Owner or User Identification Signage	A 4-inch-by-6-inch (maximum) plate with the carrier's name, location-identifying information, and emergency telephone number shall be permanently affixed to the equipment.
X	X	Radio Frequency Warning Label	Radio frequency warning labels shall be mounted on the equipment and clearly marked on the pole or cabinet
X		Foundation	Constructed as per engineering specs

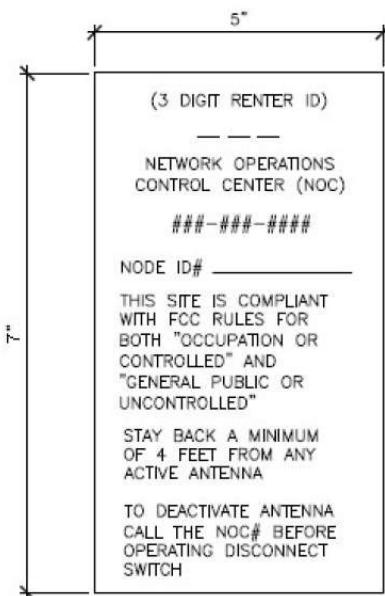
Small Wireless Communication Facilities

10-06 Labeling and Caution Tags

The following tags shall be provided for each wireless installation:

1. Applicant's identification (ID) and RF notification tags shall be installed on equipment and be clearly visible from the ground. Tags shall contain a company name, unique company equipment ID number, working clearance and a 24-hour contact phone number for deactivation notification.
2. RF caution tags for wireless antennas shall be applied on the pole directly below the antenna. These shall be clearly marked and visible from the ground and approved by City of Centralia Engineering prior to application per Federal Communication Commission (FCC) 47 CFR 1.1307(b).
3. Maintaining tags and labels
All labels and tags must be made of durable material that can withstand the weather and elements. All tags and labels shall be kept up by the applicant, and shall be replaced by the applicant immediately if damaged or faded.

Example of RF Notification Tag

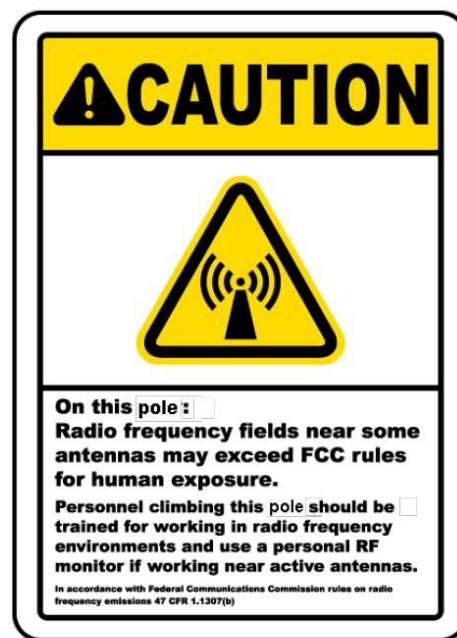


Notes:

1. 5" x 7" aluminum (yellow with black lettering)
2. Located on side of equipment cabinet
3. Made of weather and corrosive resistant material

Example of RF Caution Tag:

NOTE: Color and Layout may change based on requirements laid out in WAC.



Notes:

1. 5" x 7" aluminum (yellow with black lettering)
2. Located on side of equipment cabinet
3. Made of weather and corrosive resistant material

Small Cell Wireless Communication Facilities

10-07 Trenching

All trenching and restoration within the right of way shall be in accordance with the City of Centralia Development Guidelines Chapter 4 and an approved right of way permit.

10-08 Location and Staking

All small wireless communication facilities shall be located on existing or replacement street light poles wherever possible. Location of freestanding poles in areas without an existing street light pole within 400 feet of the desired location shall adhere to all setback and site distance requirements of the City.

Location and size of pad mount facilities not attached to poles shall be in accordance with the Standard Details. Pad mount facilities may not interfere with other existing underground facilities or obstruct the pedestrian way.

A pre-construction meeting shall be held with the City after locates have been completed prior to commencing staking. All construction staking shall be inspected by the City prior to construction. Staking shall be maintained throughout construction.

The minimum staking of new poles shall be as follows:

1. Location and elevation to the center of every pole base.
2. Location and elevation of each service disconnect.
3. Location and elevation of each J-box.

7.03 —Testing

All luminaires and small cell wireless facilities shall be subject to a L & I electrical inspection. Lamp, photocell and fixture of a new luminaire shall be warranted for a period of one year.

Small Cell Wireless Communication Facilities

LIST OF DRAWINGS

CHAPTER 10: SMALL WIRELESS COMMUNICATION FACILITIES

<u>Drawing Title</u>	<u>Number</u>
Street Light Top Antenna Pole Mounted Wireless Installation.....	10-01
Street Light Top Antenna Pad Mounted Wireless Installation.....	10-02
Street Light Side Antenna Pole Mounted Wireless Installation	10-03
Street Light Side Antenna Pad Mounted Wireless Installation	10-04
Free Standing Pole Small Wireless Communication Facility.....	10-05