

**RESOLUTION NO. 2019-09**

**A RESOLUTION ADOPTING THE SMALL WIRELESS FACILITIES  
INFRASTRUCTURE DESIGN STANDARDS FOR CENTERVILLE CITY**

**WHEREAS**, the Utah legislature has adopted the Utah Small Wireless Facilities Deployment Act ("Act"), as set forth in Utah Code 54-21-101, et seq., encouraging wireless infrastructure investment within the State and requiring cities to allow for such facilities in certain public rights-of-way as more particularly provided in the Act; and

**WHEREAS**, the Federal Communications Commission ("FCC") has issued its Declaratory Ruling and Third Report and Order: *Accelerating Wireless Broadband Deployment by Removing Barriers to Infrastructure Investment*, WT Docket No. 17-79 and WC Docket No. 17-84, regarding deployment of wireless broadband; and

**WHEREAS**, the City Council has enacted Title 19 of the Centerville Municipal Code in compliance with applicable Federal and State laws, to provide a fair and predictable process for the deployment of small wireless facilities within the City and to promote and protect the safe management of the public rights-of-way in the overall interests of the public health, safety, and welfare; and

**WHEREAS**, the City Council desires to adopt additional aesthetic and design standards for the installation of small wireless facilities within the public rights-of-way as more particularly set forth herein.

**NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF  
CENTERVILLE CITY, STATE OF UTAH, AS FOLLOWS:**

**Section 1. Enactment.** The City Council hereby adopts the Small Wireless Facilities Infrastructure Design Standards for Centerville City as more particularly set forth in Exhibit A, attached hereto and incorporated herein by reference.

**Section 2. Severability Clause.** If any section, part or provision of this Resolution is held invalid or unenforceable, such invalidity or unenforceability shall not affect any other portion of this Resolution, and all sections, parts and provisions of this Resolution shall be severable.

**Section 3. Effective Date.** This Resolution shall become effective immediately upon its passage.

**PASSED AND ADOPTED BY THE CITY COUNCIL OF CENTERVILLE CITY,  
STATE OF UTAH, ON THIS 12<sup>th</sup> DAY OF APRIL, 2019.**

**ATTEST:**

  
Mackenzie Wood, City Recorder

**CENTERVILLE CITY**

By:   
Mayor Clark A. Wilkinson

**CERTIFICATE OF PASSAGE AND EFFECTIVE DATE**

According to the provisions of the U.C.A. § 10-3-719, as amended, resolutions may become effective without publication or posting and may take effect on passage or at a later date as the governing body may determine; provided, resolutions may not become effective more than three months from the date of passage. I, the municipal recorder of Centerville City, hereby certify that foregoing resolution was duly passed by the City Council and became effective upon passage or a later date as the governing body directed as more particularly set forth below.

Mackenzie Wood  
MACKENZIE WOOD, City Recorder

DATE: 4/12/2019

EFFECTIVE DATE: 12 day of April, 2019.



**Exhibit A**

**Small Wireless Facilities Infrastructure Design Standards  
Centerville City**

# **Small Wireless Facilities Infrastructure Design Standards Centerville City**

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## ***Section 1: Background/Purpose***

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### 1.1 Background

The State of Utah has adopted the Utah Small Wireless Facilities Deployment Act (Act), as set forth in Utah Code 54-21-101, et seq., requiring Utah cities to allow for small wireless facilities in certain public rights-of-way as more particularly set forth in the Act. In addition, the Federal Communications Commission (FCC) has issued its Declaratory Ruling and Third Report and Order: Accelerating Wireless Broadband Deployment by Removing Barriers to Infrastructure Investment (R&O).<sup>1</sup>

Under applicable Federal and State laws, municipal aesthetics requirements will not be preempted if they are: (1) reasonable; (2) no more burdensome than those applied to other types of infrastructure deployments; and (3) objective and published in advance.<sup>3</sup>

The following design standards provide design and aesthetic requirements and specifications that all small wireless facilities installed on a City-owned utility pole and within a public right-of-way (ROW) must meet prior to installation. These design standards are in addition to standards set forth in Title 19 (Small Wireless Facilities) of the Centerville Municipal Code. If a conflict exists between these design standards and Title 19, the provisions of these standards shall govern.

As with any pole attachments providers shall consider the aesthetics of the existing street lights and other infrastructure near proposed small cell locations.

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<sup>1</sup> Federal Communications Commission, Declaratory Ruling and Third Report and Order: *Accelerating Wireless Broadband Deployment by Removing Barriers to Infrastructure Investment*, WT Docket No. 17-79 and WC Docket No. 17-84, FCC 18-133.

<sup>2</sup> *Id* at ¶ 89, p. 46.

<sup>3</sup> *Id* at ¶ 86, p. 45.

## *Small Wireless Facilities Infrastructure Design Standards*

### 1.2 Definitions

In addition to the definitions set forth in CMC 19 (Small Wireless Facilities), the following terms are defined as used herein:

**APPLICABLE CODES:** The International Building Code (IBC), the International Fire Code, the National Electrical Code (NEC), National Electric Safety Code (NESC), as adopted and amended under Utah Code Annotated, title 15A, State Construction and Fire Codes Act.

**APPLICABLE STANDARDS:** The structural standards for antenna supporting structures and antenna, known as ANSI/TIA-222, from the American National Standards Institute and the Telecommunications Industry Association.

**BACKHAUL NETWORK:** Means the lines that connect a provider's WCFs to one or more cellular telephone switching offices or long distance providers, or the public switched telephone network.

**CITY or Centerville:** Means Centerville City, Utah.

**ELIGIBLE SUPPORT STRUCTURE:** A steel street light pole combined with pole mounted equipment will be the only eligible support structure for use within the Centerville City Right-of-Way for a wireless support structure or related accessory equipment, as defined in these Design Standards, provided that it is existing at the time the relevant application is filed with the City.

**FCC:** Means the Federal Communications Commission, or any successor thereto.

**LOCAL STREET:** A right-of-way designed primarily to serve land-access functions and projected trip length less than one mile, with two (2) lanes of ten feet (10') to twelve feet (12') in width and a design speed of twenty (20) to thirty (30) miles per hour.

**MONOPOLE:** A structure in the right-of-way erected by an applicant or provider specifically to support SWFs. These will not be permitted in Centerville City Right-of-Way.

**NONDISCRIMINATORY:** The equal treatment of similar situated entities unless there is a reasonable, competitively neutral basis for different treatment.

**PROVIDER:** Means a wireless service provider or wireless infrastructure provider.

**RELATED ACCESSORY EQUIPMENT:** Equipment used in conjunction with an antenna or

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## *Small Wireless Facilities Infrastructure Design Standards*

other component of SWFs which may be attached to a wireless support structure or located on the ground at or near the base of a wireless support structure.

RF: Means radio frequency.

**SMALL WIRELESS FACILITY (SWF):** A wireless facility on which each provider's antenna could fit within an enclosure of no more than six (6) cubic feet in volume and for which all related accessory equipment, whether mounted on the pole or the ground, is cumulatively no more than twenty eight (28) cubic feet in volume.

**SUBSTANTIAL MODIFICATION:** A modification to an eligible support structure which: a) increases the height of the structure by more than ten percent (10%) or more than ten feet (10'), whichever is greater; b) involves adding an appurtenance to the body of the structure that would protrude from the edge of the structure more than two feet (2'); c) involves the installation of more than the standard number of new equipment cabinets for the technology involved, but not to exceed two (2) cabinets; involves the installation of any new equipment cabinets on the ground if there are no pre-existing ground cabinets associated with the structure; or involves the installation of ground cabinets that are more than ten percent (10%) larger in height or overall volume than any other ground cabinets associated with the structure; d) entails any excavation or deployment outside of the current site; or e) requires excavation or otherwise disturbs the Right-of-Way; or f) would defeat the concealment elements of the eligible support structure.

**TECHNICALLY FEASIBLE:** The demonstrated measure of the feasibility of a proposal as it relates specifically to projected constraints of engineering, impacts to the signal, spectrum, stability, or practical interference with other facilities or properties.

**Section 2: General Standards**

**2.1 Small Cell Equipment Standards:**

Aesthetics	Equipment located on existing poles should match the aesthetics of the existing pole and the surrounding equipment and infrastructure. New poles and equipment located on new poles should match the aesthetics of the most recent pole in the area and the surrounding equipment and infrastructure.
Internal Installs	Equipment shall be installed within an existing pole when technologically feasible and always on a new pole. Any equipment installed within a pole may not protrude from the pole except to the extent reasonably necessary to connect to power or a wireline.
External Shrouding	The antenna shall be contained in a cantenna and any other equipment shall be contained in an equipment cabinet, unless the visual impact can otherwise be reduced by its location on the pole.
Width	May not exceed in width the diameter of the pole by more than three inches (3") on either side.
Sidearm Installs	If permitted, may not allow the furthest point of the enclosure to extend more than 18 inches from the pole.
Conduits	All cables shall be in conduits and shall be flush with the pole unless required to be installed inside the pole.
Hardware Attachment	All hardware attachments should be hidden. Welding onto existing equipment is not permitted.
Color	All equipment should match, or be painted to match pole aesthetics. Paint should be powder coated over zinc paint. If a wood pole, the visible attachments and hardware shall be colored gray or earthtones.
Equipment Access Doors	Lockable access door which is sized to install, maintain, and remove all small cell equipment as needed to meet provider's requirements. The City may require access.
Cables	All cables should be clearly labeled for future identification.
Cantennas	Cantenna must be mounted directly on top of the pole, unless a side arm installation is required by a pole owner. A tapered transition between the upper pole and cantenna is required.

***Small Wireless Facilities Infrastructure Design Standards***

Stickers	Any on-pole cabinet and ground mounted utility box should be labeled a (1) RF warning sticker, background to match pole color, no larger than four inches by six inches (4" x 6"). Facing to the street near the elevation of the antennae, (2) four inches by six inches (4" x 6") (maximum) plate with the provider's name, location identifying information, and 24-hour emergency telephone number, and (3) No advertising, logos or decals.
Lights	There shall be no lights on the equipment unless required by federal law.
Ground Mounted Equipment Box	Must meet and follow existing City ordinances for ground mounted utility boxes and be attached to a concrete foundation.
Design Wind Velocity	All structural components of small cell pole, standard, base, equipment cabinet, couplers, anchor bolts, luminaires, cantenna and other attachments to be used shall be designed for a minimum of 125 MPH wind velocity in accordance with applicable standards. Snow loading and other local conditions shall also be included in the pole design.
Height of Equipment on Pole	The lowest point may not be lower than eight feet (8') from the grade directly below the equipment enclosure.
Power Meter & Service Disconnect	Required by the City and in a location that (1) minimizes its interference with other users of the City's right-of-way including, but not limited to, pedestrians, motorists, and other entities with equipment in the right-of-way, and (2) minimizes its aesthetic impact.

**2.2 General Requirements:**

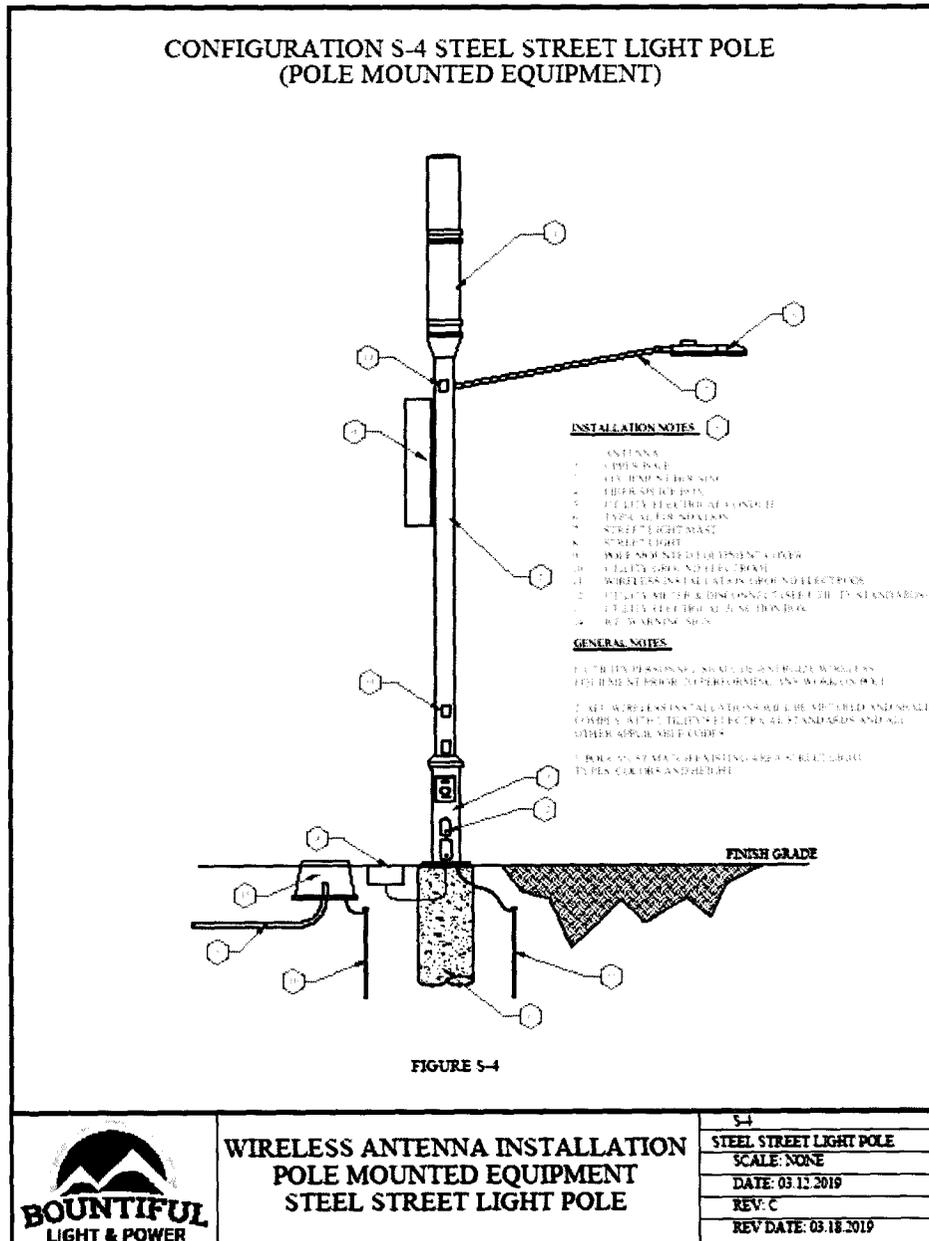
- A. **Noise Limitation:** In a single family neighborhood, noise limit to be 5dBA above ambient sound, not to exceed 30 dBA as measured at a property line. Any equipment or attachments exceeding the maximum noise levels shall be promptly removed from service. Other noise regulations may apply. If the facility does not generate noise, include this information in the submittal so information can be shared with neighborhood.
- B. **Pole Aesthetics:** Provider should provide detailed proposed pole aesthetics as part of their application.

*Small Wireless Facilities Infrastructure Design Standards*

- C. Position: Poles should not significantly obstruct property sight lines, at the intersection of property lines, provide clearance for existing utilities, and preference that new poles be located in park strips.
- D. ROW Position: 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 or interferes with the operation and maintenance of signal lights, signage, street lights, street furniture, fire hydrants, or business district maintenance.
- E. Power and Ground Utility Box: Shall comply with all City and local code requirements. Backup batteries are not allowed.
- F. All installations are subject to the City permit application and review process.

Section 3: Attachments to Street Lights

3.1 Typical Configuration Steel



## *Small Wireless Facilities Infrastructure Design Standards*

### 3.2 General Requirements

- A. The same small cell pole aesthetic shall be used to match existing streetlights in the area and maintain a cohesive appearance.
- B. Unless otherwise unfeasible the preferred installation configuration is to utilize poles that conceal all system components (i.e. meter, disconnect, radio, etc.).
- C. All small cell carrier equipment shall be housed internal to the pole or hidden behind an exterior shroud.
- D. The small cell components shall be sized to be visually pleasing. For a combination pole to be considered visually pleasing, the transition between the equipment cabinet and upper pole should be considered. A decorative transition shall be installed over the equipment cabinet upper bolts, or decorative base cover shall be installed to match the equipment cabinet size.
- E. Each pole component shall be architecturally compatible to create a cohesive aesthetic.
- F. All pole mounted enclosures shall be securely attached with hardware (not strapped).
- G. Provider shall certify that radiation is at safe levels by a non-ionizing radiation electromagnetic radiation report (NIER). The NIER report shall be endorsed by a qualified professional. Report shall be submitted to the City and City Power Department. It shall specify minimum approach distances to the general public as well as electrical and communication workers that are not trained for working in an RF environment (uncontrolled) when accessing the pole by climbing or bucket.
- H. The City reserves the right to disconnect power to the radio when working on the pole. The Provider shall provide a disconnect so the City has the ability to easily shut off radio signals and power while working on the pole
- I. All poles new or existing shall meet all City Pole Analysis Requirements (see appendix).
- J. All installations shall utilize City approved structures, arms, luminaires, and configurations and comply with all applicable City standards.

### 3.3 Equipment Color

- A. Equipment should be colored to match pole.

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### 3.4 Equipment Shroud

- A. 16 inches (16") (preferred), 20 inches (20") maximum diameter. Maximum height of cabinet is five feet – eight inches (5'-8"). Cabinet to be round and installed below the pole.
- B. If an antenna is located on the side of the pole, the antenna, radio equipment, brackets, and all other hardware required for a complete installation shall fit behind a 38"H x 16"W x 12"D maximum shroud, securely mounted (not strapped) to the pole.
- C. Equipment cabinet and/or equipment cabinet cover shall not have a flat, horizontal surface larger than 1.5 inches.
- D. All hardware attachments shall be hidden to the maximum extent possible.

### 3.5 Cantenna

- A. The antenna and antenna pole attachment shall be shrouded to meet the City's aesthetics. A tapered transition between the upper pole and cantenna shall be included.
- B. 14-inch maximum outer diameter x 5' 8" maximum length. Antenna shroud shall be colored to match pole.

### 3.6 Luminaire/Luminaire Mast Arm

- A. Luminaire shall meet the City's Construction Standards and Specifications and shall match existing luminaires adjacent to permit location.
- B. Luminaire mast arms shall match on adjacent streetlights or match aesthetics of adjacent streetlights. In any case, mast arms will be decorative.

### 3.7 Pole Size, Type and Foundation

- A. Round, straight, galvanized steel. Pole shall be architecturally compatible with the equipment cabinet. At least 15% of the pole design structural capacity shall be reserved for future City IOT installations.
- B. The upper pole shall be scaled to 0.5 to 0.75 times the size of the equipment cabinet with 10" minimum outer diameter. The pole diameter shall be scaled such that no flat, horizontal surface larger than 1.5 inches exists between the equipment cabinet and upper pole.
- C. Precast concrete or cast-in-place pole foundations shall be designed per the City standard to meet ACI 318. While the City accepts cast-in-place foundations,

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precast concrete foundations are preferred and should be installed whenever possible.

- D. Bolt circles should be 19.5-inch bolt circle when installing a 16-inch equipment cabinet and 23.5-inch bolt circle when installing a 20-inch equipment cabinet.

### 3.8 Access Doors

- A. Lockable doors to be provided as needed in the equipment cabinet to maintain equipment.
- B. A hand hole shall be provided at the top and bottom of the pole to maintain electrical service for streetlights and future IOT attachments.

# APPENDICES

## Pole Attachment and Loading Analysis Requirements

### 1. GENERAL

- A. All pole attachments can have a significant structural, wind and other loading on a pole. All pole attachments shall be properly engineered to assure the safety and reliability of the City's system is maintained.
- B. These requirements apply to wireline, wireless and any other attachment type to a City Owned pole.
- C. All attachments shall be reviewed and approved by the City for pole attachments to all City Owned poles. All attachments shall be properly engineered.
- D. A complete Pole Loading Analysis (PLA) shall be submitted for all pole types and locations indicated requiring a PLA. Other locations or structure types may also require a PLA to be completed as determined by the City.
- E. The PLA must be completed by a professional engineer licensed in the state of Utah and approved by the City. The PLA shall be signed and sealed by the engineer completing the analysis.
- F. Attachments without proper analysis and approval shall be promptly removed.

### 2. POLE TYPES AND CONDITIONS REQUIRING A PLA

- A. A PLA is required for the following structure types:
  - i. Steel Street Light Poles.
- B. Other locations not addressed above identified by the City that pole strength or clearance concerns are identified.

### 3. POLE LOADING ANALYSIS SUBMITTAL REQUIREMENTS

- A. The attaching entity is responsible for all required field and engineering work required to perform the PLA.

## *Small Cell Infrastructure Design Standards*

### B. Submittal Documents Required

- i. Detailed Map showing the location(s) of the proposed attachments and project scope.
- ii. Structure details all attachments and/or proposed modifications to the structures. Identification of the owners of equipment shall be shown.
- iii. The structure drawings shall identify existing attachments that will be or are no longer in use. All unused cables, wires, equipment shall be removed from the pole(s) as part of the proposed attachment project.
- iv. Complete loading and strength calculations meeting the requirements outlined below.
- v. Overhead wireline attachments will not be allowed.

### C. The Pole Loading Analysis shall use the following criteria and standards:

- i. Pole loading shall meet the requirements of the latest version of the National Electric Safety Code (NESC).
- ii. Loading Zone: NESC Medium
- iii. Construction Grade: Grade B
- iv. Pole Loading Analysis shall be submitted for all structural components of small cell pole, standard, base, equipment cabinet, couplers, anchor bolts, luminaires, cantenna and other attachments based on a minimum wind loading of 125 MPH.
- v. Pole Loading Analysis shall be submitted for all structural components of small cell pole, standard, base, equipment cabinet, couplers, anchor bolts, luminaires, cantenna and other attachments based on local Snow loading conditions.
- vi. Pole Loading Analysis shall be submitted for all structural components of small cell pole, standard, base, equipment cabinet, couplers, anchor bolts, luminaires, cantenna and other attachments based on local Seismic loading conditions.
- vii. Supply, communication, support and work safety zone spaces are to be indicated in the drawings.

### D. Proposed pole configurations shall meet current City construction standards details.

### E. The PLA will be valid for a time period of no longer than six (6) months from the time of the application submission. After this 6 month period a new PLA will be required.

# APPROVED STREET LIGHT DESIGN

CONFIGURATION S-4 STEEL STREET LIGHT POLE  
(POLE MOUNTED EQUIPMENT)

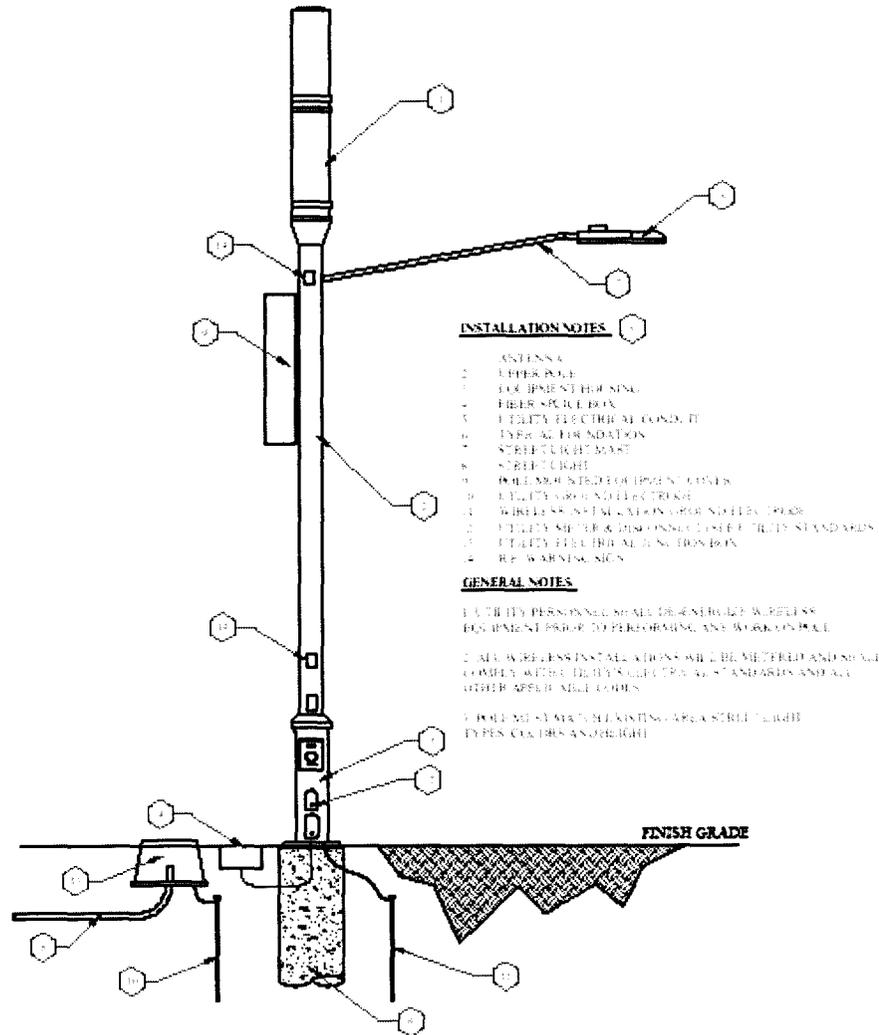


FIGURE S-4



**WIRELESS ANTENNA INSTALLATION  
POLE MOUNTED EQUIPMENT  
STEEL STREET LIGHT POLE**

S-4
STEEL STREET LIGHT POLE
SCALE: NONE
DATE: 03.12.2019
REV: C
REV DATE: 03.18.2019