



## RESOLUTION 2022-075

### AMENDING PREVIOUS RESOLUTIONS AND ADOPTING NEW ENGINEERING DESIGN AND STANDARD DETAILS FOR SMALL WIRELESS FACILITIES

**WHEREAS**, with Resolution 2019-045 (adopted on May 21, 2019), Council established municipal code language and engineering design and standard details for small wireless facilities; and

**WHEREAS**, with Resolution 2019-068 (adopted on August 20, 2019), Council amended the engineering design and standard details to conform to the latest used municipal/industry standards; and

**WHEREAS**, since the adoption of Resolution 2019-068, City staff has continued working on updating the engineering design and standard details for the various street light pole types currently used in the city; and

**WHEREAS**, the intent is to have Council review and approve the updated engineering design and standard details for the Small Cell Wireless Facilities poles used within the city; and

**WHEREAS**, the approved Small Cell Wireless Facilities pole engineering design and standard details will be included in the Engineering Design and Standard Details Manual as adopted details; and

**WHEREAS**, adoption of this resolution will amend all previously adopted municipal code language and engineering design standards and details, and replace them with the amended municipal code language and engineering design standards and details attached to this resolution as Exhibits LT-1 through LT-7; and

**WHEREAS**, it appears to Council that such revisions are necessary and appropriate.

#### **NOW, THEREFORE, THE CITY OF SHERWOOD RESOLVES AS FOLLOWS:**

**Section 1.** The engineering design and standard details attached hereto as Exhibit A, which includes Exhibits LT-1 through LT-7 are hereby approved and replaces previously adopted small cell wireless facility engineering design and standard details in their entirety.

**Section 2.** The City Manager is hereby directed and authorized to adopt rules and to take such actions as may be necessary to implement this Resolution.

**Section 3.** This Resolution shall be effective upon its approval and adoption.

**Duly passed by the City Council this 20th of September, 2022.**

  
Keith Mays, Mayor

Attest:

  
Sylvia Murphy, MMC, City Recorder

## **Small Wireless Facility Design Standards**

### **A. Definitions and Applicability**

1. These design standards apply to Small Wireless Facilities ("SWF") installed in the public right-of-way pursuant to SMC 12.02 unless the applicant obtains approval of a deviation pursuant to Section F. SWF are defined as facilities that meet the following:
  - a. The proposed facilities meet one or more of the following height parameters:
    - i. Are mounted on structures 50 feet or less in height including their antennas as defined in 47 C.F.R. Section 1.1320(d), or
    - ii. Are mounted on structures no more than ten percent (10%) taller than other adjacent structures, or
    - iii. Do not extend existing structures on which they are located to a height of more than 50 feet or by more than ten percent (10%), whichever is greater.
  - b. Each antenna or antenna enclosure shall not exceed three (3) cubic feet in volume, and the total volume of multiple antennas on one structure shall not exceed fifteen (15) cubic feet.
  - c. The total volume of all installed equipment external to the pole (including, but not limited to cabinets, vaults, boxes) shall not exceed twenty-eight (28) cubic feet. This maximum applies to all equipment installed at the time of original application and includes any equipment to be installed at a future date.
  - d. The facilities do not result in human exposure to radio frequency radiation in excess of the applicable safety standards specified in the FCC's Rules and Regulations [47 CFR section 1.1307(b)].

### **B. General Requirements**

1. Dimensional requirements set forth herein shall be superseded by any more restrictive dimensional requirements set forth in an approved SWF light pole design details (as set forth in attached Exhibits LT-2 through LT-7) or approved SWF standalone pole design (as set forth in attached Exhibits LT-1, and LT-5 through LT-7), as applicable.
2. Ground-mounted equipment in the right-of-way is prohibited. If a deviation from these design standards allowing for ground-mounted equipment is approved, then such equipment shall be concealed in a cabinet, in street furniture, or with landscaping.
3. Replacement light poles, and standalone poles, and the installation thereof, shall comply with the Americans with Disabilities Act (ADA), city construction and sidewalk clearance standards, and city, state and federal laws and regulations in order to provide a clear and safe passage within the right-of-way. Further, the location of any replacement light pole, or standalone pole, must comply with applicable traffic requirements, not interfere with utility or safety fixtures (e.g., fire hydrants, traffic control devices), and not adversely affect public health, safety, or welfare.
4. Replacement light poles shall be located as near as feasible to the existing light pole, as determined by the City Engineer based on the required photometric analysis, unless otherwise required by these design standards. The abandoned light pole must be removed within thirty (30) days after installation of the replacement light pole and either disposed of by the applicant or delivered to City, as directed by the City Engineer.
5. Any replacement light pole shall substantially conform to the color, material and design of the existing light pole unless a different color, material, and/or design is required by these design standards.
6. To the extent technically feasible, antennas, equipment enclosures, and all ancillary equipment, boxes, and conduit shall be colored or painted, with graffiti-resistant paint, prepared and powder

coated consistent with Section 00593 of the 2022 ODOT Standard Specifications, to match the color of the surface of the pole on which they are attached.

7. No advertising, branding (including manufacturer decals), or other signage is allowed except as permitted as a concealment technique pursuant to the design standards or as follows:
  - a. Safety signage as required by law placed in accordance with legal requirements; and,
  - b. All poles to which an SWF is attached must be posted with the SWF owner's name, City-assigned pole number, and 24-hour emergency telephone number. This information must be posted on a sign that is a maximum of three (3) inches wide by one and a half (1.5) inches tall, in engraved lettering that is fifteen one-hundredths (0.15) of an inch tall, on a solid black background. The sign must be curved to mount flush to the pole and mounted five (5) feet above the ground on side of the pole that is not facing the street. These requirements may be superseded by requirements set forth in an approved SWF light pole design (as set forth in the attached Exhibits LT-2 through LT-7) or approved SWF standalone pole design (as set forth in attached Exhibits LT-1, and LT-5 through LT-7) as applicable.
8. Antennas and antenna equipment shall not be illuminated except as required by a federal or state authority.
9. When external equipment is permitted, all connection points between external and internal equipment must be concealed.
10. All cables and connectors for telephone, data backhaul, electric, and other similar utilities must be routed underground in conduits. Underground cables and wires must transition directly into the pole base without any external doghouse.
11. Generators, including backup generators, are not permitted in the ROW.
12. Disconnect switches must be present and accessible by City and local utility staff for each SWF installation, and, if a meter is required, disconnect switches shall be stacked above or below the meter, instead of attached to the side of the meter, if permitted by the electric utility.
13. All SWF installations shall comply with the National Electric Safety Code (NESC) and National Electric Code (NEC) standards and with ANSI/TIA 222-G-2 to Class II standard.
14. When the City is not the owner of the pole on which a SWF is installed, the SWF installation must also comply with any requirements of the pole owner. The applicant must provide documentation of the approval of the pole owner with its application to the City.
15. SWF proposed to be installed in the ROW shall be sited according to the following priorities, in descending order of preference. If an applicant proposes to install a SWF in any location other than a first priority location, the applicant must provide evidence demonstrating why a higher priority location is not suitable for use. For purposes of this subsection, streets shall have the classification set forth in the Sherwood Transportation System Plan.
  - a. First priority: principal arterials;
  - b. Second priority: arterial streets;
  - c. Third priority: collector streets;
  - d. Fourth priority: neighborhood routes;
  - e. Fifth priority: local streets.
16. SWF must be installed, and maintained by the SWF owner, in a manner that does not:
  - a. Obstruct, impede, or hinder the usual travel, or public safety, on the public ROW.
  - b. Obstruct the legal use of the public ROW by others.
  - c. Violate or conflict with any laws, including but not limited to City of Sherwood Ordinances and standards.
  - d. Obstruct, impede, or hinder any operations of the City's infrastructure or systems, including but not limited to Smart City equipment, street light equipment, traffic signal equipment, etc.

**C. Small Wireless Facilities Attached to Existing or Replacement Light Poles.**

1. Small wireless facilities attached to existing or replacement light poles shall conform to the following design criteria:
  - a. **External Equipment.** When external equipment is permitted under these design standards, the antennas and associated equipment enclosure must appear as an integral part of the light pole or be mounted as close to the light pole as feasible and must be reasonably related in size to the intended purpose of the facility and reasonable expansion for future technologies, not to exceed the volumetric requirements described in Section A. If the equipment enclosure is mounted on the exterior of the light pole, the applicant is limited to one (1) equipment enclosure per pole and is required to place the equipment enclosure behind any banners or signs that may be on the light pole. All external equipment, other than antennas, must be enclosed within this equipment enclosure. Conduit, fiber, and all wiring and cabling must be fully concealed within the light pole.
  - b. **Concealed Equipment.** When concealed equipment is required under these design standards, all equipment (excluding disconnect switches), conduit and fiber must be fully concealed within the light pole. The antennas must appear as an integral part of the light pole or be mounted as close to the light pole as feasible.
2. Applications for small wireless facilities attached to replacement light poles must include an accompanying photometric analysis that meets the Illuminating Engineering Society (IES) RP-08-14 for street lighting. The photometric analysis must be sealed by a Professional Engineer in the State of Oregon.
3. Small wireless facilities are only permitted on existing or replacement light poles in geographic areas for which a SWF light pole design has been approved. A description of the areas for which SWF light pole designs have been approved is attached hereto as Exhibit LT-Map. Approved SWF light pole designs are attached hereto as Exhibits LT-1 through LT-7.
4. The height of any replacement light pole may not extend more than 10 feet above the height of the existing light pole.
5. The diameter of a replacement light pole shall comply with the city's sidewalk clearance requirements.

**D. Small Wireless Facilities Installed with Standalone Poles.**

Small wireless facilities may be attached to standalone poles, installed by the wireless provider, subject to the following criteria:

1. Antennas, antenna equipment and associated equipment enclosures (excluding disconnect switches), conduit and fiber shall be fully concealed within the structure, unless such concealment is not technically feasible, or is incompatible with the standalone pole design, then the antennas and associated equipment enclosures must appear as an integral part of the structure or mounted as close to the standalone pole as feasible, and must be reasonably related in size to the intended purpose of the facility and reasonable expansion for technologies, not to exceed the volumetric requirements in Section A.
2. To the extent technically feasible, all standalone poles and standalone pole-mounted antennas and equipment shall be painted or colored with flat, non-reflective colors or shades that are compatible with other infrastructure in the right-of-way and/or blend with the visual environment.
3. Standalone poles shall be no more than forty (40) feet in height.
4. Small wireless facilities are only permitted on standalone poles in geographic areas for which a SWF standalone pole design has been approved. A description of the areas for which SWF

standalone pole designs have been approved is attached hereto as Exhibit LT-Map. Approved SWF standalone pole designs are attached hereto as Exhibits LT-1, and LT-5 through LT-7.

5. Standalone poles are only permitted when the applicant can demonstrate that installation on an existing or replacement light pole is not technically feasible or otherwise not possible due to a lack of owner authorization, safety considerations, or other similar reasons.

**E. Small Wireless Facilities Attached to Utility Poles with Overhead Lines, Aerial Cable Spans, Traffic Signal Poles, and Other Structures in the ROW**

1. Due to the City's requirements relating to transitioning to undergrounding of all utilities, which do not allow new utilities of any kind to be installed on utility poles with overhead lines except for certain electric lines which cannot be undergrounded, and due to aesthetic and safety concerns, SWF are not permitted on utility poles with overhead lines, aerial cable spans (including aerial span power connections), traffic signal poles, or any other structures in the ROW, other than those specifically permitted by these design standards.
2. Notwithstanding the foregoing, in areas of the City where utility poles with overhead lines exist, but separate light poles do not exist, SWF may be attached to such utility poles, subject to the following criteria:
  - a. If the pole is not owned by the City the installation must comply with all pole owner requirements.
  - b. The existing pole may be replaced with a taller pole or extended for the purpose of accommodating a small wireless facility, provided that the replacement or extended pole does not exceed fifty (50) feet in height or a height that is ten (10) percent taller than the adjacent poles, whichever is less. The replacement or extended pole height may be increased only if required by the pole owner, and such height increase is the minimum amount necessary to provide sufficient separation and/or clearance from electrical and wireline facilities. Replacement poles and extensions must either match the color and materials of the replaced pole or be the standard new pole used by the pole owner in the City.
  - c. Antennas (to the extent technically feasible), equipment enclosures, and all conduits must match the material, color, and design of the surface of the pole or existing equipment to which they are attached.
  - d. Antennas and all other equipment must be mounted as close to the pole as is technically feasible and as is consistent with pole owner requirements.
  - e. No antenna may extend horizontally more than twenty (20) inches past the outermost mounting point.
  - f. All equipment must be placed in a single enclosure reasonably related in size to the intended purpose of the facility and reasonable expansion for future technologies. The equipment enclosure must be placed behind any banners or signs that may be on the pole. All external equipment, other than antennas, conduit, fiber, and other wiring, must be enclosed within this equipment enclosure.
  - g. All cables and wiring must be enclosed in conduits, if allowed by the pole owner. The number of conduits must be minimized to the number technically necessary to accommodate the small wireless facilities.

**F. Deviations from Design Standards.**

- I. An applicant may obtain a deviation from these design standards if compliance with the standard:
  - (a) is not technically feasible;
  - (b) unreasonably impedes the effective operation of the small wireless facility;
  - (c) unreasonably impairs a desired network performance objective; or
  - (d) otherwise materially inhibits or limits the provision of wireless service. The City may also

approve a deviation from these standards when it finds the applicant's proposed design provides equivalent or superior aesthetic value when compared to strict compliance with these standards.

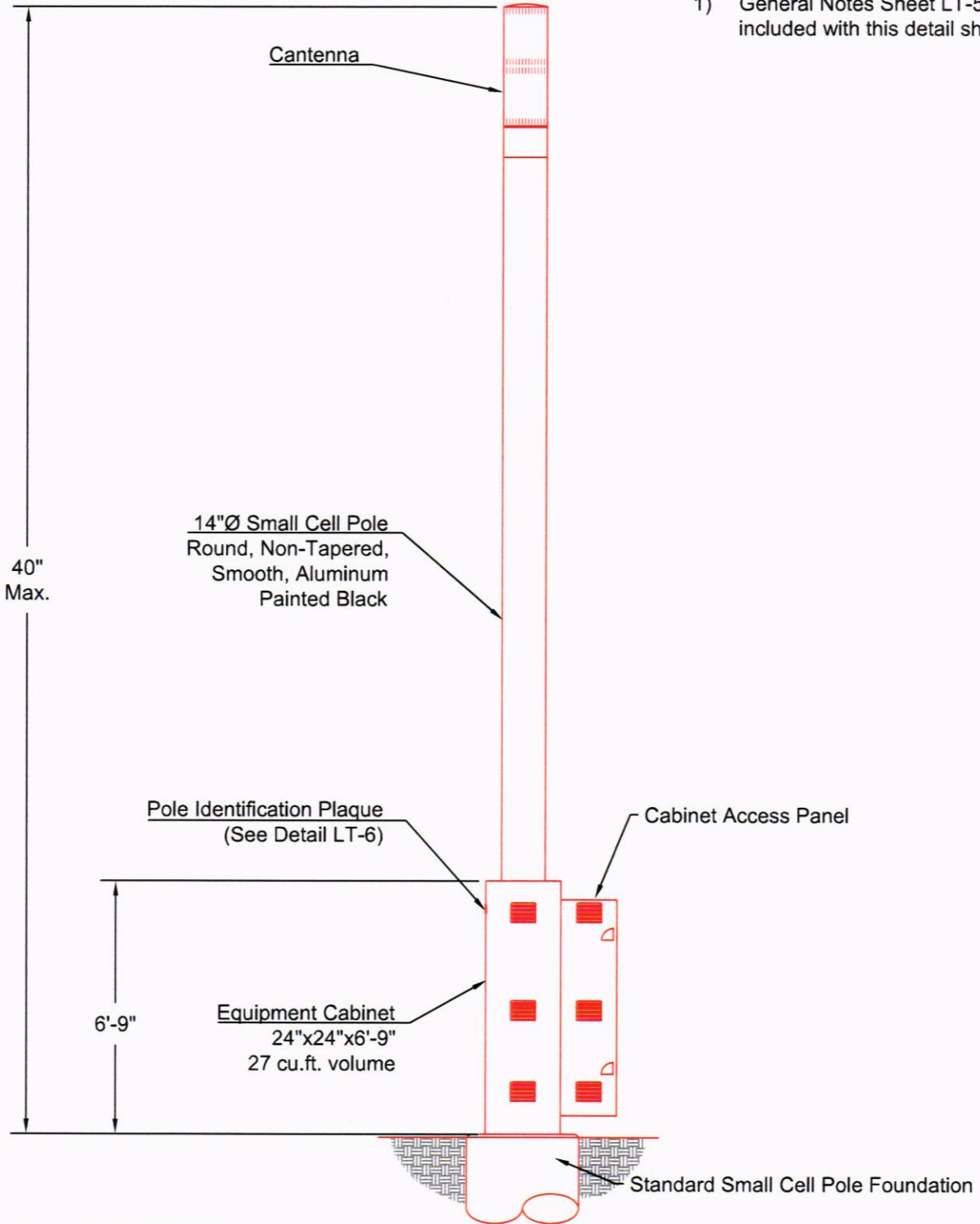
2. Requests for deviation must be narrowly tailored to minimize deviation from the requirements of these design standards.
3. The City Manager, or designee, has authority to approve all requests for deviation from these design standards only to the minimum extent required.


**G. Conflicting Design Requirements**

In circumstances where the design requirements of the pole owner and the City are different, the more stringent of the two shall prevail. City design requirements that are in direct conflict with the pole owner's requirement may be waived by the City Manager, or designee.

Notes:

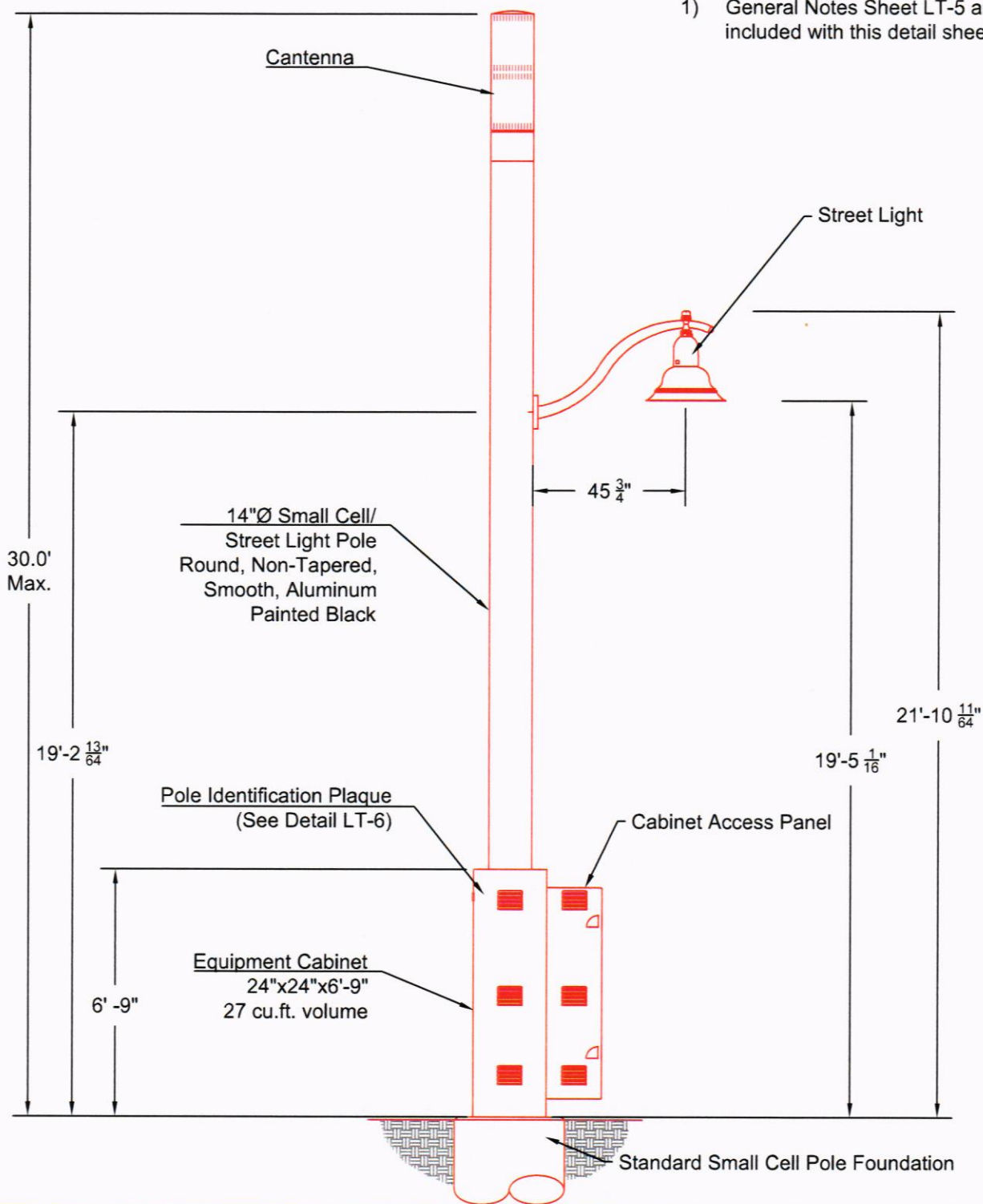
- 1) General Notes Sheet LT-5 are included with this detail sheet.



	STANDARD DRAWING TITLE		DRAWING NUMBER
	SMALL CELL POLE CONFIGURATION		LT-1
	Any alteration of this drawing may not be associated in any way with the City of Sherwood Standard Drawings.	SCALE	DATE
		N.T.S.	07/28/2022

Notes:

- 1) General Notes Sheet LT-5 are included with this detail sheet.

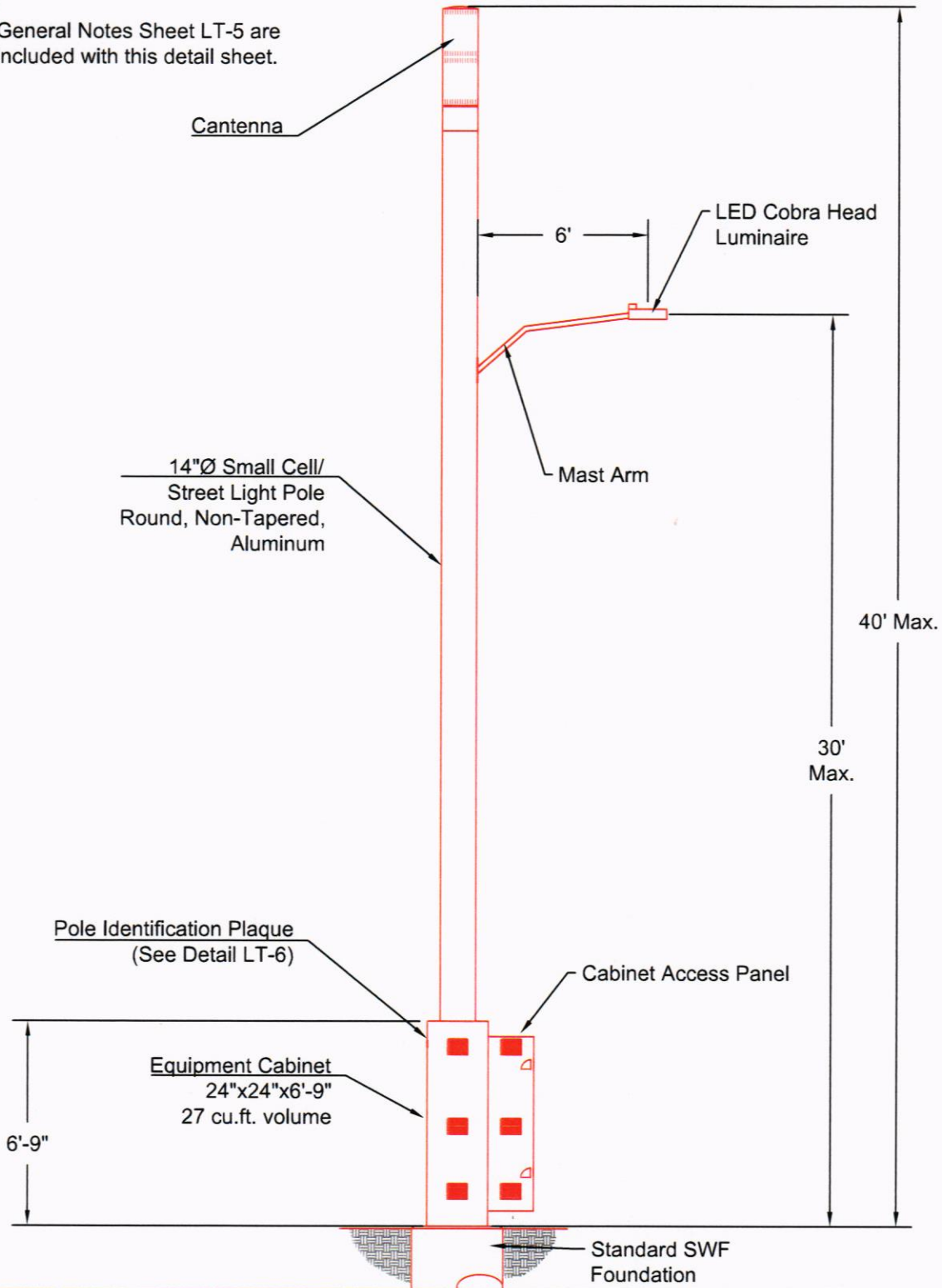



STANDARD DRAWING TITLE		DRAWING NUMBER
STREET LIGHT POLE - WESTBROOKE STYLE WITH SMALL CELL CONFIGURATION		LT-2
Any alteration of this drawing may not be associated in any way with the City of Sherwood Standard Drawings.	SCALE	DATE
	N.T.S.	07/22/2022

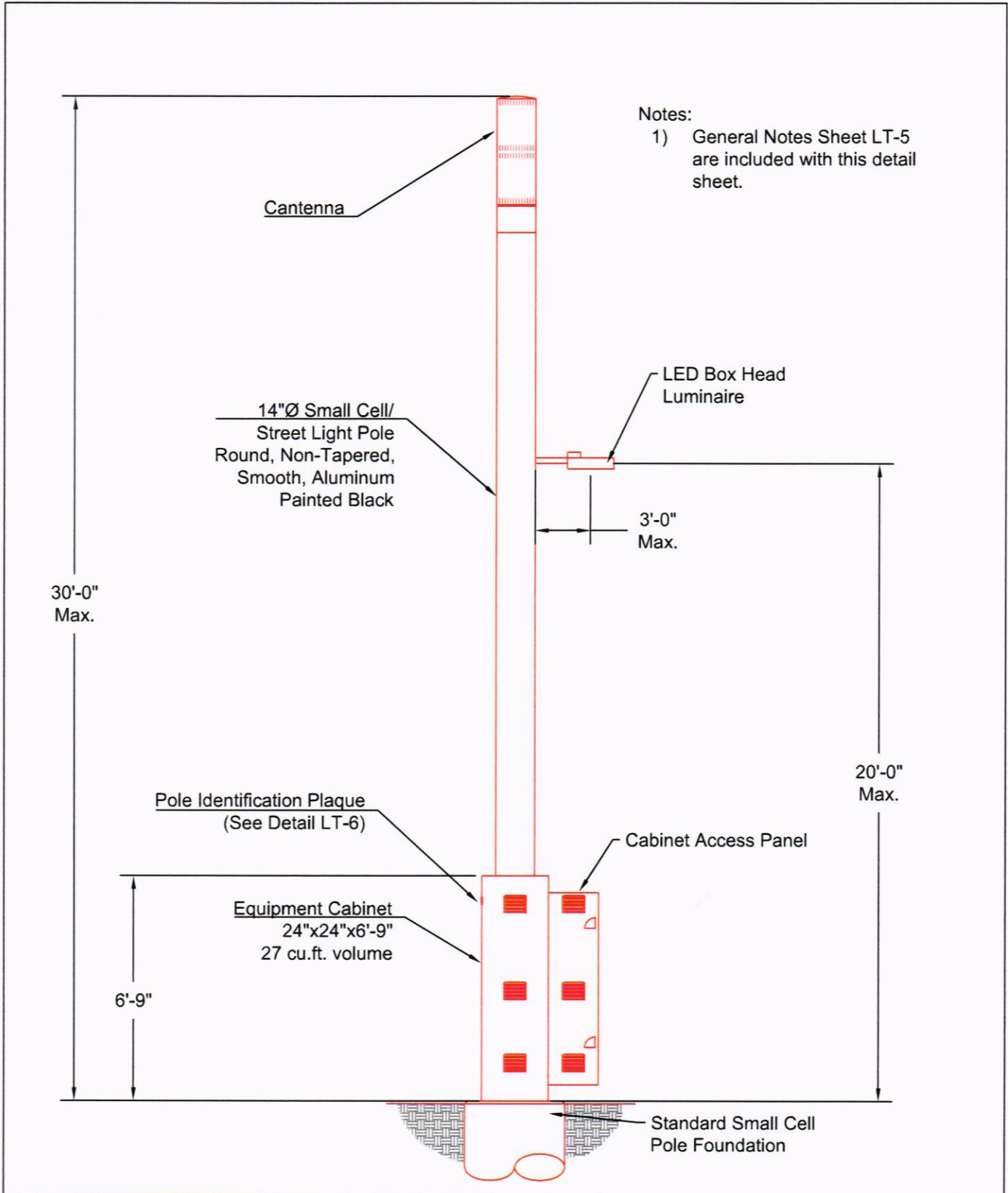



Notes:

- 1) General Notes Sheet LT-5 are included with this detail sheet.




	STANDARD DRAWING TITLE		DRAWING NUMBER
	STREET LIGHT POLE - COBRA HEAD STYLE WITH SMALL CELL CONFIGURATION		LT-3
	Any alteration of this drawing may not be associated in any way with the City of Sherwood Standard Drawings.	SCALE	DATE
		N.T.S.	07/27/2022



 City of <b>Sherwood</b> Oregon	STANDARD DRAWING TITLE		DRAWING NUMBER
	STR' EET LIGHT POLE - BOX HEAD STYLE WITH SMALL CELL CONFIGURATION		LT-4
	Any alteration of this drawing may not be associated in any way with the City of Sherwood Standard Drawings.	SCALE	DATE
		N.T.S.	07/27/2022

NOTES:

1. All anchor bolt hardware shall be concealed.
2. All electrical wiring and fiber in upper pole shall be separated by owner.
3. All small wireless facility equipment shall be housed internal to the pole/cabinet and hidden behind the antenna.
4. Applicant shall submit calculations for pole foundation meeting the following criteria:
  - 4.1. Wind load shall by 125 mph ultimate.
  - 4.2. Maximum dead load at top of foundation (including pole, equipment cabinet, shrouds, and small cell antenna, wiring and equipment) is assumed to be 2,600 lbs.
  - 4.3. AASH to risk category with MCAN recurrence interval is 700 years.
5. Any existing hardscape damaged during the installation of the small wireless facility, shall be removed and replaced to the extents determined by the City, using materials meeting City standards, to conditions of equal or better than existing as determined by the City.
6. Separate conduits shall be provided for City streetlight electrical, City fiber, small wireless facility electrical, and small cell wireless facility carrier fiber.
7. All conduit, landscaping, and concrete or asphalt restoration shall be installed in accordance with City standards.
8. All foundations shall have grounding in accordance with NEC requirements.
9. Anchor bolts, anchor plates, anchor nuts and washers shall be galvanized in accordance with ASTM A-153.
10. All street lighting materials (including pole, shroud, and foundation) shall meet or exceed PGE Approved Street Lighting Equipment for New Installations, Outdoor Lighting Services - (Current Edition) standards and specification.
11. New Small Wireless Facility pole colors shall match existing street light pole color or as approved by City Engineer.
12. A photometric analysis conforming to IES RP-08-14, shall accompany each small cell pole submittal where street lighting is affected. Photometric analysis must be stamped by a Professional Engineer licensed to practice in the State of Oregon.
13. Small Wireless Facility applicants shall submit detailed drawings, materials specifications, and installation specifications to the City Engineer for review and approval, prior to installation of any facility within the City ROW. Drawings, specifications, and any accompanying reports or calculations shall be stamped by a Professional Engineer licensed to practice in the State of Oregon.
14. Small Cell Wireless Facility installations shall conform to specification listed the City Engineering Design and Standard Details Manual, and requirements listed in City of Sherwood Resolution 2019-045 (Adopting Design Standards for Small Wireless Facilities).


	STANDARD DRAWING TITLE		DRAWING NUMBER
	SMALL CELL TOWER GENERAL DETAIL NOTES		LT-5
	Any alteration of this drawing may not be associated in any way with the City of Sherwood Standard Drawings.	SCALE	DATE
		N.T.S.	07/27/2022

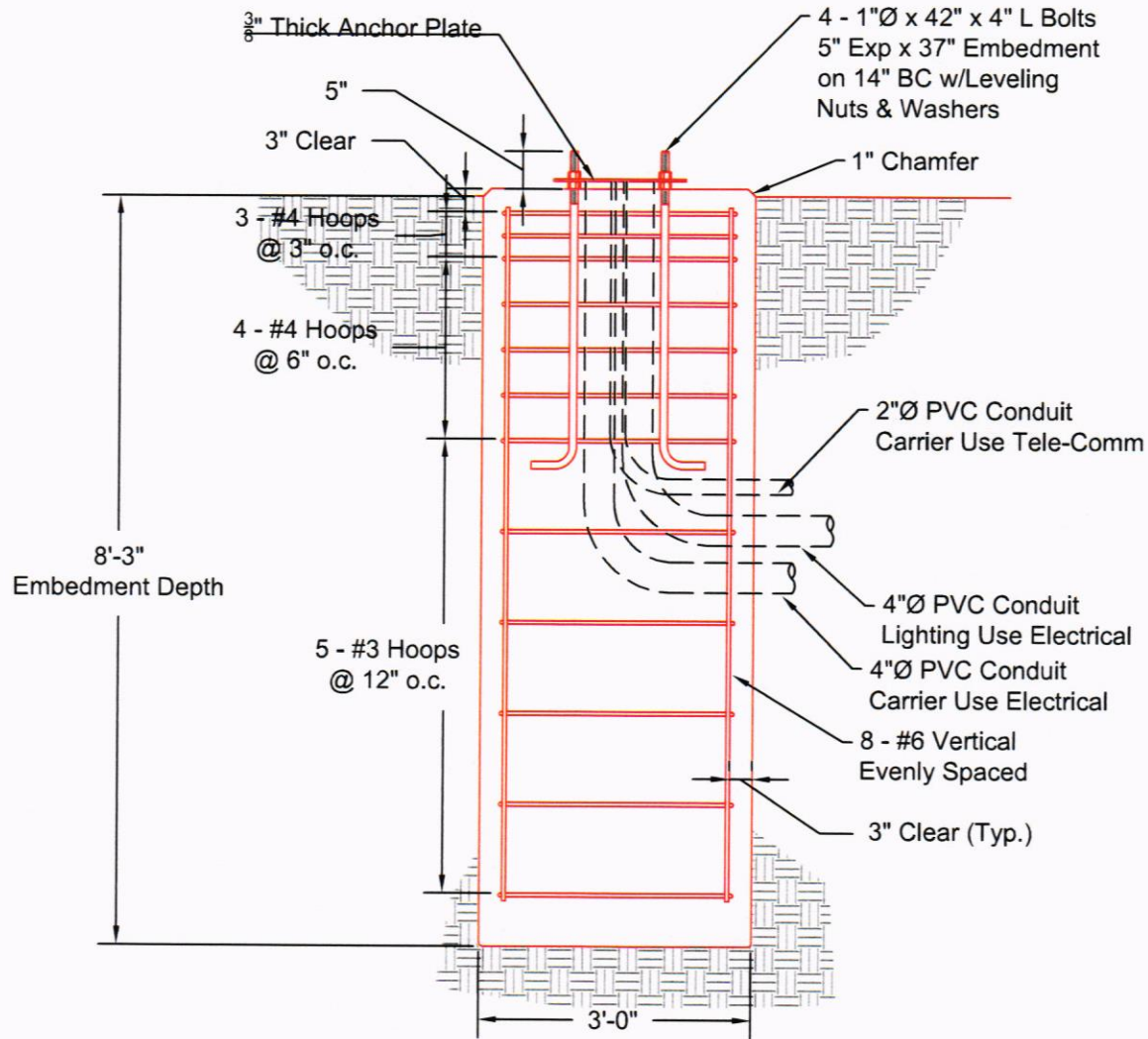


SMALL CELL POLE IDENTIFICATION PLAQUE

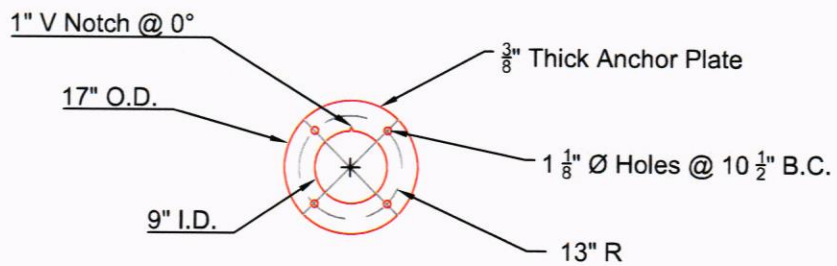
NOTES:

1. Plaque to be 16-gauge stainless steel, curved to match pole diameter.
2. Lettering to be stamped into plaque
3. Text height shall be 0.15"
4. Plaque to be painted black
5. Mounted on sidewalk facing side of pole, 5-feet above grade.


	STANDARD DRAWING TITLE		DRAWING NUMBER
	SMALL CELL TOWER IDENTIFICATION PLAQUE DETAIL & NOTES		LT-6
	Any alteration of this drawing may not be associated in any way with the City of Sherwood Standard Drawings.	SCALE	DATE
		N.T.S.	07/27/2022



**FOUNDATION SECTION**



**ANCHOR BOLT PLATE**

	STANDARD DRAWING TITLE	DRAWING NUMBER	
	SMALL CELL/STREET LIGHT POLE FOUNDATION DETAIL	LT-7	
	Any alteration of this drawing may not be associated in any way with the City of Sherwood Standard Drawings.	SCALE	DATE
		N.T.S.	07/27/2022