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## Attachments on Wood Poles



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### 1. Scope

This standard provides the requirements for attachments on wood poles. Pole attachments may be owned by Seattle City Light (SCL) or renters (customers).

For pole attachment identification and tagging requirements, see SCL 0093.12.

Wireless (cellular) antenna pole attachments are outside the scope of this standard.

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### 2. Application

This standard is directed at SCL engineers, crews, contractors, and customers regarding the required spacing and location of pole attachments. These attachments may be electric or communication.

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### 3. Definitions

**Clearance** – The distance between two objects measured surface to surface.

**Communication space** – The space on the pole where communication cables and equipment can be located and accessed by a qualified communication worker.

**Communication worker safety zone** – The space between the communication space and supply space.

**Spacing** – The distance between two objects measured center to center.

**Supply space** – The space on the pole where supply cables and equipment can be located and accessed by a qualified electrical worker.

See Figure 5.2 for a graphic representation of the terms defined above.

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#### **4. Conflict**

Where conflict exists, the following order of precedence shall apply:

1. Project-specific construction drawings
  2. This standard
  3. Other SCL standards
  4. Seattle Electrical Code (SEC)
  4. Washington Administrative Code (WAC)
  5. National Electrical Safety Code (NESC) and National Electrical Code (NEC)
  5. Other industry standards
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#### **5. Requirements**

##### **5.1 Codes, Permits, and Approvals**

Communication workers shall not perform work in the supply space. All work done in the supply space shall be performed by an SCL-qualified electrical worker or an SCL-approved contractor.

No customer or third-party attachment shall be allowed in the communication worker safety zone.

Pole attachment approvals are determined on a pole-by-pole basis as part of the Joint Use Engineering application and review process.

All pole attachments shall:

- Have a signed pole attachment agreement with SCL Joint Use Engineering
- Comply with the permitting jurisdiction (Burien, Lake Forest Park, Normandy Park, Renton, SeaTac, Shoreline, Tukwila, and unincorporated King County and Seattle)
- Comply with the strength requirements per the NESC
- Comply with the clearance requirements per the applicable SCL construction standards, which meet or exceed the NESC, NEC, or WAC

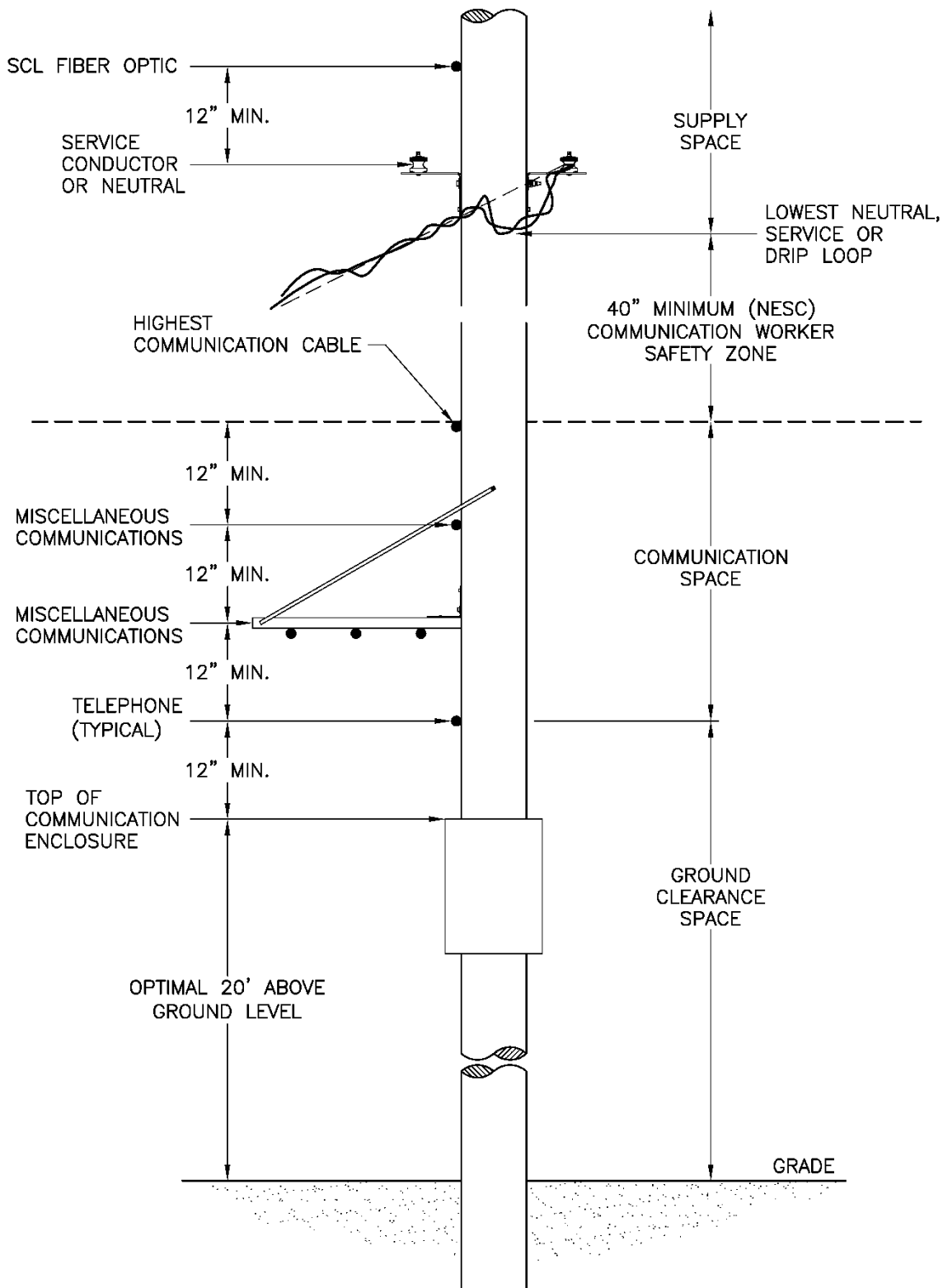
Communication cables and messengers in the communication space shall be attached to the same side of the pole as existing communication attachments, unless otherwise directed by SCL Joint Use Engineering.

##### **5.2 Clearances at the Structure**

SCL clearances at the structure shall meet the clearances shown in Figure 5.2.

See Section 3 for definitions of terms.

**Figure 5.2. Pole Attachment and Space Allocation Clearances**



The highest communication cable attachment shall maintain a minimum 40 inches from the supply space (system neutral, secondary service or its drip loop). This clearance is measured from the lowest supply conductor surface to the top of the highest communication cable.

A 12-inch minimum clearance shall be maintained between each pole attachment in the communication space.

A 12 inch minimum clearance shall be maintained from the lowest communication cable to the top of the communication enclosure.

If any of the clearances in the communication space cannot be maintained, a written letter of agreement between the parties including the pole owner(s) shall be delivered to the pole owner(s) prior to installation.

### 5.3 Clearances at the Mid-Span (Pole-to-Pole)

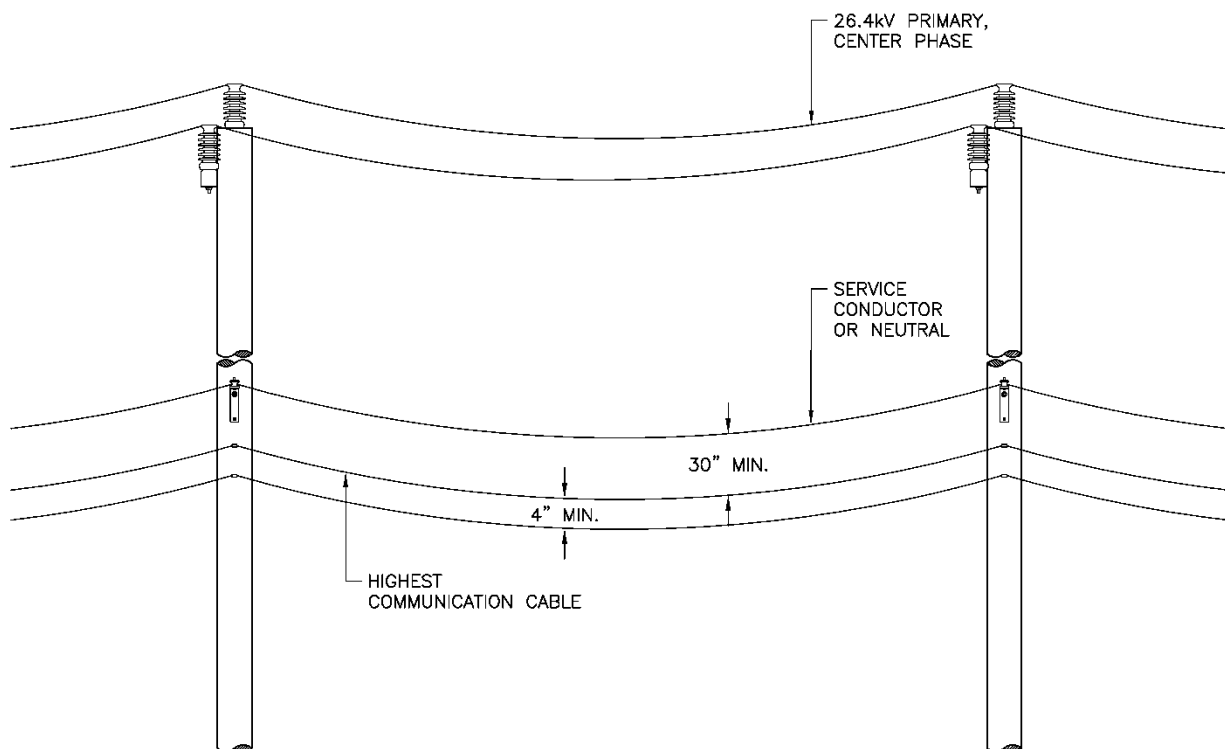
SCL clearances in the mid-span shall be as shown in Figure 5.3.

At any point within the span, the vertical clearance shall be no less than 30 inches between the lowest supply conductor (secondary service, neutral) and the highest communication cable (cable TV, telephone, fiber).

At any point within the span, no less than a 4-inch minimum vertical clearance shall be maintained between each communication cable or messenger in the communication space. If any of the clearances in the communication space cannot be maintained, a written letter of agreement between the parties, including the pole owner(s), shall be delivered to the pole owner(s) prior to installation.

There shall be no crossing or transposition of communication lines at any point within the span.

**Figure 5.3. Mid-Span Clearance Between Supply and Communication Cables**



## **6. Guying and Anchoring**

Attachments shall be guyed and tensioned to offset the added load on the pole.

Guying and tensioning shall not change the sag characteristics of existing parties' conductors on the pole, or compromise the pole alignment, or cause buckling.

Anchors for communication attachments shall be installed by the attachment owner(s) or its contractor at the installer's expense.

New anchors shall not be installed within 5 ft of existing anchors.

Anchor attachments to existing SCL anchors shall not be allowed.

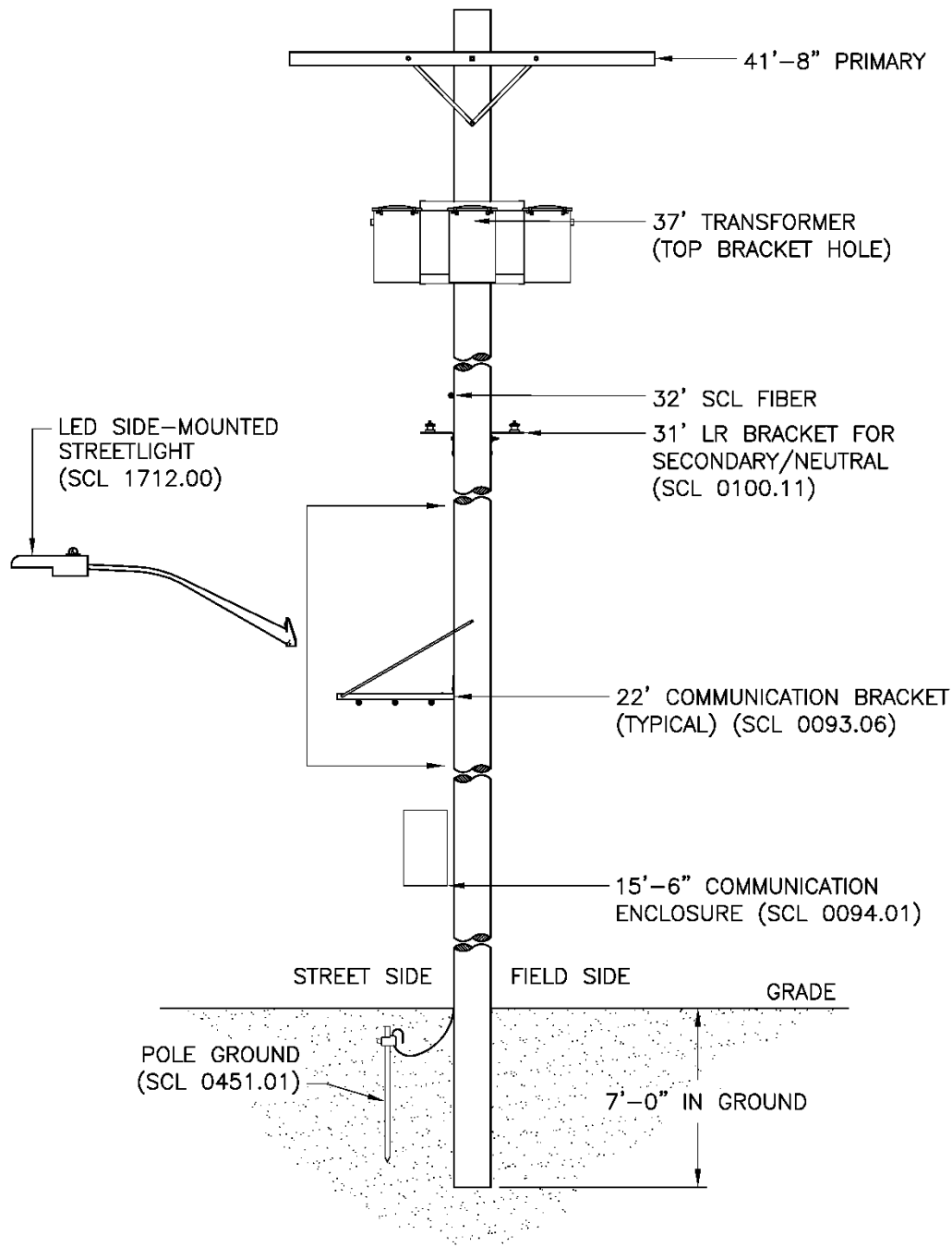
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## **7. Installation**

A minimum 7-ft spacing is required between the SCL primary circuit and the next SCL attachment (crossarms or neutral) down the pole.

See Figure 7 for location requirements for all attachments discussed in this section.

**Figure 7. Pole Attachment Locations Above Grade and Associated SCL Standards**



**7.1 LR Brackets for Secondary and Neutral**

LR brackets shall be installed per SCL 0100.11.

## 7.2 SCL Fiber

SCL fiber optic ducts shall be installed 1 ft above the system neutral, on the same side of the pole as the neutral, using a serpentine messenger suspension clamp.

SCL fiber is allowed in the Supply Space and Communication Worker Safety Zone.

## 7.3 Streetlight

LED side-mounted streetlights shall be installed per SCL 1712.00.

## 7.4 Communications Bracket

Communications brackets shall be approved by Joint Use Engineering to optimize the number of pole attachments in the communication space.

Brackets shall be provided by SCL upon request.

Brackets shall be installed by attachment owner per SCL 0093.06.

## 7.5 Communications Enclosure

Communications enclosures and corresponding electric supply equipment shall be installed per SCL 0094.01.

## 7.6 Pole Ground and Ground Rod

Grounding electrodes for wood pole application and assemblies shall be installed per SCL 0451.01.

## 7.7 Identification and Tagging

All attachments shall be identified and tagged per SCL 0093.12.

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## 8. References

**SCL Construction Standard 0093.06**; "Communications Bracket Installation"

**SCL Construction Standard 0093.12**; "Pole Attachments, Identification and Tagging Requirements"

**SCL Construction Standard 0094.01**; "Communication Enclosures on SCL Wood Poles"

**SCL Construction Standard 0100.11**; "LR Bracket Installation"

**SCL Construction Standard 0451.01**; "Grounding Electrodes for Distribution Poles"

**SCL Construction Standard 1712.00**; "Streetlight Luminaire Installation on Wood Poles"

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## 9. Sources

**Lee, Christopher**; Joint Use Engineer and subject matter expert for 0093.04  
(christopher.lee@seattle.gov)

**Munyao, Manfred**; Joint Use Engineer and subject matter expert for 0093.04  
(manfred.munyao@seattle.gov)

**National Electrical Safety Code (NESC), C2-2017 Edition**; Institute of Electrical and Electronics Engineers, Inc. (IEEE), New York, NY, 2011

**NFPA 70, National Electrical Code (NEC)**; 2014 Edition; National Fire Protection Association, Quincy, MA, 2010

**Neuansourinh, Ponet**; SCL Standards Engineer, originator and subject matter expert for 0093.04 (ponet.neuansourinh@seattle.gov)

**SCL Construction Standard 0093.02 (canceled); "Utility Pole Attachments"**

**Seattle Electrical Code (SEC); 2017 Edition; Seattle Department of Construction and Inspections (SDCI)**

**Seattle Municipal Code (SMC) 15.32.300; "Attachments to City-Owned Poles"**

**Revised Code of Washington (RCW); 19-29-010; "Rules for use of electrical apparatus or construction"**