

G. Testing

Testing shall be required at the developer's or contractor's expense on all materials and construction as specified in the WSDOT Standard Specifications.

At a minimum, one slump test and 2 test cylinders shall be taken once per day. All other testing frequencies shall be as specified in the Testing and Sampling Table.

In addition, the City shall be notified before each phase of sidewalk, curb and gutter construction commences.

6.21 Illumination

A. General

All new commercial or residential subdivisions, short plats or property development requiring review shall provide street lights in accordance with these standards. Large Lot (KMC 17.21) Subdivisions may be exempted from lighting standards with the written approval of the City.

B. Design Standards

A street lighting plan submitted by the applicant and approved by the City shall be required for all street light installations. All public street light designs shall be prepared by an engineering firm capable of performing such work. All developments shall submit the lighting plans on a separate sheet. Street light layout plans shall be on separate drawings from the street plan/profile sheets. The final locations shall be approved by the City and comply with these Standards.

Street lighting plans shall include:

- a. Street light: location, type, height, and wattage
- b. Service Cabinets: location and type
- c. Conduits and Wire: location, type, size and length
- d. Junction Boxes: locations and types

C. General Material Requirements

a. Conduit

All conduit shall be buried a minimum of 24 inches deep. All roadway crossing shall be Schedule 80 PVC. Conduit shall conform to Section 9-29 of WSDOT Standard Specifications. Schedule 40 PVC may be used in locations other than roadway crossings.

b. Junction Boxes (when required):

Junction boxes shall be installed at locations as shown on the Plans. They will conform to WSDOT Standard J-11a, Type I. They shall be installed within the landscape strip and firmly to prevent future settlement.

c. Conductors, Wire, Etc.:

Wire conductors for underground feeder runs and for circuitry from the in-line fuse in the poles to the Junction Box shall be 600 volt, single conductor stranded copper and insulated with USE grade polyvinyl chloride compound or approved equal in accordance with the Insulated Power Cable Engineer's Association Specifications. An AWG 10 bare solid copper wire or green insulated stranded copper wire will be run from the service ground rod to the safety ground lug on each pole. Feeders shall be sized in accordance with the National Electrical Code. Splices will be allowed in junction boxes and poles based only.

d. Fuses:

Luminaire Fusing and Electrical connections at Light Standard Base shall conform to Section 9-29.7 of the State of Washington Standard Specifications.

e. Safe Wiring Labels:

The Contractor is advised that Safe Wiring Labels as required by Labor and Industries shall apply on all projects.

f. Location and Spacing:

In general, poles and luminaries shall be spaced as described below to provide average illumination of 0.4 foot candles on the roadway with a Uniformity Ratio of 6 to 1 (average/minimum), as prescribed for a Local-Residential classification with R 2/3 surface in IES Standard RP 8, "Roadway Lighting."

1. Poles shall be spaced 36 inches from the face of the curb.
2. Poles shall be spaced to provide the specified illumination. Locate poles on alternate sides of residential streets wherever possible. Calculations supporting the selected spacing shall be provided.
3. Locate extra luminaires on corners if more than 50 feet from another luminaire.

4. Locate an extra luminaire at the end of a cul-de-sac shorter than 50 feet.
5. Street light conduit for wiring shall be located in the utility easement form power, gas, telephone, and cable TV wherever possible.

For all streets other than “local-residential”, please refer to the I.E.S. Standards and provide photometric calculations.

D. Poles and Luminaire

a. Residential Areas:

Residential areas shall be provided with the following street light and pole unless an alternative is approved by the Public Works Superintendent.

1. Luminaires:

The standard residential streetlight luminaire shall be the Holophane Acrylic Washington Postlite II LED2. Voltage 240V. Fixture housing color shall be black. Catalogue number AWDE2-P20-40K-AS-M-BK-3-M-S-BK-P7-PCLL-NL1X1.

2. Poles:

The standard residential streetlight pole shall be the Holophane Charleston Aluminum Pole. The lighting post shall be all aluminum, one-piece construction, with classic tapered and fluted base design. Pole shall have a 15-foot mounting height. Pole color shall be black. Catalogue number CHA-15-F5J-16-P07-ABG-BK-FPH1/CO-5-CA/BK-BA-18-C52-H-4.

b. Downtown Area:

The downtown area shall be provided with the following street light and pole unless an alternative is approved by the Public Works Superintendent.

1. Luminaires:

The standard downtown streetlight luminaire shall be the Holophane GlasWerks Hallbrook Extended Cover LED. Voltage 240V. Fixture housing color shall be black. Catalogue number GELF2-P30-40K-AH-2-B-L3-H-PCS.

2. Poles:

The standard downtown streetlight pole shall be the Holophane Charleston Aluminum Pole and the Holophane Valencia Crossarm. The lighting post shall be all aluminum, one-piece construction, with classic tapered and fluted base design. Pole shall have a 16-foot mounting height. Pole color shall be black. The Valencia crossarm shall be made of cast aluminum, shall be black, and requires a P11 tenon. Catalogue number VL27/1CA-BKH-CH15S5/16U-U789A-PBA18H/1/CO2(180)EBBK-FPH4C5.0BKH-AB-31-4-RFD306817. Flag holders and banner arms to match existing.

c. Arterials, and Industrial Streets

Street lights for arterials and industrial streets shall be as approved by the Public Works Superintendent.

E. Electrical Services

- All electrical services shall be Tesco service cabinet catalog #26-100, anodized aluminum with meter base and keyed lock or approved equivalent.
- Conduit size and quantity as required by plans of N.E.C.
- For residential street lighting the contractor shall be responsible to install one meter for the plat lighting system per Cowlitz County PUD requirements. On very large plats Cowlitz County PUD may require more than one meter.