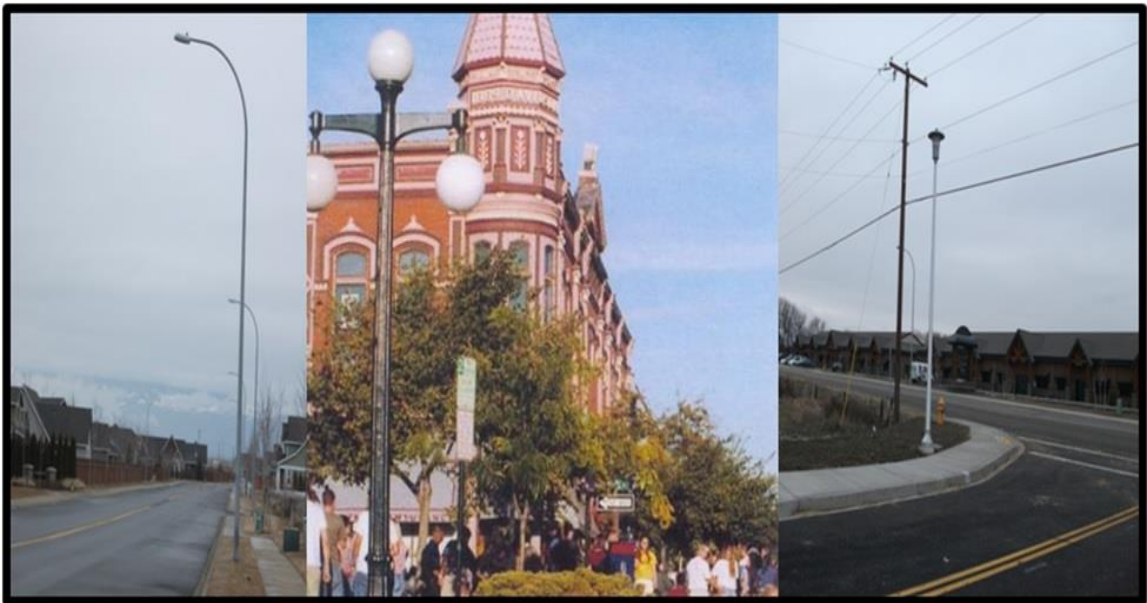


DEVELOPMENT STANDARDS

City of Ellensburg



ILLUMINATION STANDARDS

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STREET ILLUMINATION

All new commercial or residential subdivisions, short plats, building site plans shall provide street lights in accordance with the standards for such improvements of the City and they shall be owned and operated by the City. Street lighting shall be required for all projects when street improvements in Section 3 are triggered.

A street lighting plan submitted by the applicant and approved by the Public Works and Energy Services Departments shall be required for all street light installations. Type of installation shall be as set forth in the current edition of the WSDOT/APWA Standard Specifications and as directed by the City except where noted herein.

All public street light designs shall be prepared by an engineering firm capable of performing such work. The engineer shall be licensed by the State of Washington. All developments shall submit the lighting plan on a separate sheet, which has approval lines, on which both the Public Works and Energy Services Departments can sign.

All developments shall include conduit installed so as to provide adequate capacity for future installation of complete street lighting as set forth in these standards. Positioning of conduit shall be determined by the City engineer.

All street light electrical installations including wiring, conduit, and power connections shall be located underground. Exceptions to underground is permissible in limited locations with approval of both Public Works and Energy Services.

The General Notes below need to be included on any plans dealing with street design.

GENERAL NOTES (STREET LIGHT CONSTRUCTION)

1. All workmanship, materials and testing shall be in accordance with the current edition of the WSDOT/APWA, MUTCD, or City of Ellensburg Development Standards unless otherwise specified below. In cases of conflict, the most stringent guideline shall apply.
2. Developer or developer's engineer shall submit proposed lighting layout and types on plans, the City Light Dept. will then design conduit, junction boxes, service locations, and size the wire. The Energy Services Department will be required to sign off on the plans prior to overall development approval.
3. All trenches, conduits, backfilling, and street light bases must be inspected by the City of Ellensburg Public Works Department, prior to backfilling and/or placing or pouring concrete bases. Please contact the Public Works Department at 509-962-7230 for inspections.

INSTALLATION AND CONNECTIONS

Developer or developer's contractor will be required to install all conduit, street light bases, and junction boxes according to these Development Standards. Developer will be required to furnish all materials for street lighting system. Wire size and color to be determined by the City's Energy Services Department. Developer will be required to pay labor and equipment costs if the City light crews to erect street light poles, install fuses, pull wire, connect and test street lighting system. The service location for new illumination system shall be determined by City's Energy Service Department.

MARKING

Manufacturer's name or symbol, catalog number, and wattage rating shall be printed on each lamp.

STAKING

All surveying and staking shall be performed by an engineering or surveying firm capable of performing such work. The engineer or surveyor directing such work shall be licensed by the State of Washington.

A preconstruction meeting shall be held with the City prior to commencing staking. All construction staking shall be inspected by the City prior to construction.

The minimum staking of luminaries shall be as follows:

- A. Location and elevation to the center of every pole base;
- B. Location and elevation of each conduit bend, elbow, or sweep.

TRENCH REQUIREMENTS

As per City of Ellensburg Standard Details located at the end of this Section, Electrical Conduit shall have a minimum of 24" of cover. Conduit shall also be bedded in sand. The sand bedding shall meet the requirements of WSDOT Standard Specifications 9-03.13, and shall be bedded to a point 4" above the top of conduit and 4" below the bottom of the conduit. Twelve inches above the top of conduit the developer or developer's contractor shall install approved electrical warning tape along the entire length of conduit runs.

ILLUMINATION SYSTEM MATERIAL

(Refer to Approved Material Supplier sheets and Standard Details at the end of this Section)

CONDUIT: Electrical Conduit for street illumination systems shall be 2" from the power source to the junction box and 1.5" from the junction box into the street light base. The City's Energy Services Department will determine the size of conduit to be used. All conduit shall be gray in color. A bushing or bell end shall be used at the end of a conduit that terminates at a junction box or luminaries. All conduit sweeps into light bases, around bends and junction boxes shall be 18" radius gray schedule 40 PVC(45 or 90 degrees as specified). A nylon pull string is required in every conduit run and tied off at each termination of said run.

CONDUCTOR WIRE: Conductor wire shall be #6 AL TPX URD 600V in 2" and #12/3 UF 600V in 1.5", with the size and color coding to be determined by the City's Energy Service Department. Conductor/circuit identification shall be used throughout the illumination system. Direct bury wire and wire splices will not be allowed. All other installations shall conform to WSDOT/APWA and MUTCD standards. All wire connections shall be with Thomas & Bets RAD 1/0 - 4 connectors or approved equivalent, as shown on City's Energy Services Dept. design.

JUNCTION BOXES: Junction boxes shall be Pencil, Penta Head locking lid type Flood-Seal Multi-Port connectors, (part #: PE 20HDX, or PE 14HDX as designed) or approved equivalent. Refer to the catalog cut sheet at the end of this section. Junction boxes shall be installed at a maximum of 200 ft. of conduit runs, at base of each luminaries, and at each road crossing. Exceptions to these locations is permissible with approval of both Public Works and Energy Services.

LUMINARIES POLES: Each luminaries pole shall have an in-line, water tight fuse, located at the base of the pole. Access to these fuses shall be through the hand-hole on the pole. The hand hole shall be facing away from on-coming traffic. Additional conductor length shall be left inside the pole and junction box equal to a loop having a diameter of one foot. Load side of in-line fuse to luminaire head shall be a minimum of #12 copper, and shall be supported at the end of the luminaire arm by an approved means. Fuse size and grounding in pole shall conform to NEC standards. Each luminaire base shall be grout packed.

FIXTURE: Fixtures must meet specifications at the end of this section and properly fit required luminaire pole.

PHOTO CELLS: Each luminaire shall be equipped with a photo cell, to operate independently. Photo cells shall face the North, unless otherwise determined by the City, shall be long life utility grade for LED fixtures, and installed in a vandal/tamper resistant manner. Photo cells shall be per standard details and catalog cut sheets for each individual street light located at the end of this section.

LAMPS: Each luminaire lamp shall be Light Emitting Diode (LED) lamps, in accordance with the standard details and catalog cut sheets for each individual street light located at the end of this section. Lamps shall be packaged in containers which will prevent shipping and handling breakage. Each container shall be marked with the manufacturer's name, name of item, wattage, and catalog number.

BASES: Refer to the Standard Details at the end of this Section for light base requirements and anchor bolt patterns. Please note, that the light base for the Contempo Style light must be precast.

FUSES: Refer to the Standard Details at the end of this Section for required fuses and fuse holders and their catalog numbers.

STREET LIGHT REQUIREMENTS FOR ROAD CLASSIFICATIONS

ARTERIAL STREETS

Valmont Style

Arterial Streets shall be lighted with 35' Valmont Style, 165 watt LED luminaires. Luminaires shall be installed at a maximum 240' spacing and shall be staggered on either side of the road unless otherwise approved by City Engineer. At intersections with Arterial Streets, two luminaries shall be on opposite corners of intersection. At intersections with Collectors or Local Access Streets, one luminaire shall be on one of the four corners of the intersection. If developer is only performing half street improvements, luminaire spacing shall be at a maximum 480'. Junction boxes and conduit stubs across roadway may be required for half street improvements. Refer to the Standard Details and catalog cut sheets at the end of this Section for typical spacing, required material and part numbers, and light bases.

If overhead power or other obstacles are in conflict with the installation of the luminaires the following options will be decided upon by the City of Ellensburg.

- Shift the location of light
- Perform line maintenance (decreasing sag in line, etc.)
- If City owned pole, install timber mounted light, with approval of the Energy Services Dept.
- Install Contempo style or Acorn Style lights in accordance with these Development Standards, at a maximum of 150' spacing's and staggered on both sides of the street, with two luminaries at the intersection.

COLLECTOR STREETS

Valmont Style

Arterial Streets shall be lighted with 35' Valmont Style, 100 watt LED luminaires. Luminaires should be installed at a maximum 240' spacing and should be staggered on either side of the road. Each completed intersection should have a minimum of one Valmont luminaires at the intersection. If developer is only performing half street improvements, luminaire spacing shall be at a maximum 480'. Junction boxes and conduit stubs across roadway may be required for half street improvements. Refer to the Standard Details and catalog cut sheets at the end of this Section for typical spacing, required material and part numbers, and light bases.

If overhead power or other obstacles are in conflict with the installation of the luminaires the following options will be decided upon by the City of Ellensburg.

- Shift the location of light
- Perform line maintenance (decreasing sag in line, etc.)
- If City owned pole, install timber mounted light, with approval of the Energy Services Department, and in accordance with the Standard Details located at the end of this section.
- Install Contempo style or Acorn Style lights in accordance with these Development Standards, at a maximum 150' spacing and staggered on both sides of the street.

Acorn Style

Developer may elect to use the Acorn Style light in place of the Valmont Style. Acorn lights should be 54 watt LED and should be staggered on both sides of the street at a maximum 150' spacing. Each completed intersection should have a minimum of one luminaires at the intersection. If developer is only performing half street improvements, luminaire spacing shall be at a maximum 300'. Junction boxes and conduit stubs across roadway may be required for half street improvements. Refer to the Standard Details and catalog cut sheets at the end of this Section for typical spacing, required material and part numbers, and light bases.

Contempo Style

Developer may elect to use the Contempo Style light in place of the Valmont Style. Contempo lights should be 44 watt LED and should be staggered on both sides of the street at a maximum 150' spacing. Each completed intersection should have a minimum of one luminaires at the intersection. If developer is only performing half street improvements, luminaire spacing shall be at a maximum 300'. Junction boxes and conduit stubs across roadway may be required for half street improvements. Refer to the Standard Details and catalog cut sheets at the end of this Section for typical spacing, required material and part numbers, and light bases.

LOCAL ACCESS STREETS

Contempo Style

Developer may elect to use the Contempo Style light for Local Access Streets. Contempo lights should be 44 watt LED and should be staggered on both sides of the street at a maximum 240' spacing. Each completed intersection should have a minimum of one luminaires at the intersection. If developer is only performing half street improvements, luminaire spacing shall be at a maximum 480'. Junction boxes and conduit stubs across roadway may be required for half street improvements. Refer to the Standard Details and catalog cut sheets at the end of this Section for typical spacing, required material and part numbers, and light bases.

Acorn Style

Developer may elect to use the Acorn Style light for Local Access Streets. Acorn lights should be 54 watt LED and should be staggered on both sides of the street at a maximum 240' spacing. Each completed intersection should have a minimum of one luminaires at the intersection. If developer is only performing half street improvements, luminaire spacing shall be at a maximum 480'. Junction boxes and conduit stubs across roadway may be required for half street improvements. Refer to the Standard Details and catalog cut sheets at the end of this Section for typical spacing, required material and part numbers, and light bases.

DOWNTOWN BUSINESS DISTRICT

3 Globe Historic Street Light

Light specifications and luminaire locations shall be determined by the City of Ellensburg Public Works Department.