

CHAPTER 7

7.000 LIGHTING

7.010 General

Lighting is more than a functional part of the infrastructure, it is a design tool that shapes the night landscape of our cities and countryside. Choosing a lighting strategy that preserves the livability of Snoqualmie makes sense from both a planning and an environmental perspective.

In general, light levels should parallel the hierarchy of land uses. Illumination levels can be encouraged that reinforce and accentuate gateways and important public spaces while providing a safe pedestrian and driving environment. The more densely developed and active commercial areas call for a slightly higher level of light than do quieter residential areas. Lamps that are aesthetically pleasing and produce good color rendition shall be used. No mercury vapor lamps shall be permitted.

Some activities, such as walking in a park, do not need much light, and may, in fact, be best enjoyed with very little light. Other activities, such as finding and unlocking a car in a commercial parking lot, need higher light levels. Using only the amount of light necessary saves energy, decreases skyglow, and avoids escalation of light levels in surrounding neighborhoods.

Snoqualmie Ridge intends to take a proactive role in ensuring that outdoor lighting avoids light and glare on surrounding properties and contributes positively to our nighttime environment consistent with Mixed Use Final Plan Condition 120.

7.020 Street Lighting

7.021 General

This section applies to streets with a classification of local access or higher. Street Lighting shall employ localized illumination similar to the lighting in Railroad Park, rather than illuminating large areas. Street lighting is generally necessary to allow people to see comfortably and to illuminate hazards along or on the roadway. In many residential areas, street lighting may not be necessary except at intersections, sharp curves, or other hazardous locations. In those areas with street lighting, luminaires should direct more light onto the street and sidewalk than onto yards and homes. In denser or commercial locations such as

the business park or neighborhood center, street lighting is also used to assure people that it is safe to walk or drive on streets at night, and to discourage vandals or burglars. The real issue is the degree of lighting that is needed to accommodate pedestrians and motorists without causing adverse impacts on the surrounding environment.

7.022 Poles

A. Neighborhood Center and Residential Areas

All lighting poles on Neighborhood Center streets classified as collectors or higher shall be cast aluminum or high quality fiberglass, consisting of a tapered fluted shaft and a classic double tapered and fluted base. All other residential and neighborhood center streets may use concrete poles as an alternate to aluminum or fiberglass. Pole height shall be such to allow luminaire mounting height of approximately 12 feet above ground level.

Aluminum poles shall be Unique Solution, Wadsworth Series or equivalent. The color shall be dark green (Tiger-Drylac® Powder Coatings - RAL6004 or equivalent). See Figure 7-02.

Fiberglass poles shall be direct buried Whatley Washington Series 405 pole or equivalent. The color shall be Whatley Dark Green or equivalent. See Figure 7-03.

Concrete poles shall be direct buried Ameron concrete poles Centrecon Series "S" or equivalent, small octagonal pole, natural/mold finish or natural/exposed concrete. See Figure 7-04.

B. Business Park

All lighting poles on Business Park streets shall be direct buried Ameron natural exposed aggregate concrete. Pole height shall be such to allow a luminaire mounting height of approximately 25 feet above ground level. See Figure 7-05.

C. Accessories

Optional Accessories on poles may include banner brackets, hanging basket brackets, flagpole holders and electrical receptacles. See Chapter IV of Residential Design Guidelines for banner requirements.

7.023 Luminaires

A. Neighborhood Center and Residential Areas

Luminaires in the Neighborhood Center and residential neighborhoods shall be Holophane Unique Solution Granville Series with 5" decorative finial, internal upright shield and Type III distribution or other luminaries as

approved by the City Design Review Board and the New Construction Committee. See Figures 7-02, 7-03, 7-04. The color shall match those of the poles except for the concrete pole option where the color of the luminaire shall be the Whatley Dark Green.

B. Business Park

Luminaires in the Business Park shall be American Electric Company Luxmaster Series 53 which are rectangular shoebox cutoff style fixtures. The color of the luminaires shall be gray. Other luminaires may be used if approved by the City Design Review Board and the New Construction Committee. See Figure 7-05. All luminaries shall be "Full Cut Off Fixtures" (no light visible above the horizontal plane of the Luminaire.)

7.024 Lamps

A. Neighborhood Center and Residential Areas

Lamps shall be 100 watt high pressure sodium.

B. Business Park

Lamps in luminaires on Business Park streets shall be 150 watt high pressure sodium.

C. Alternate Lamps

Alternate lamps, such as Phillips QL, may be used in the Neighborhood Center, Residential areas and the Business Park under the following conditions:

1. Produce equal or better color rendition.
2. Produce similar light output (lamp lumens).
3. Result in similar or better installation and maintenance costs.
4. Are approved by Puget Sound Energy for installation, ownership and maintenance.

7.025 Placement and Spacing

Pole placement varies with location and intensity of use, both by pedestrians and vehicles. Figure 7-01 shows the standards for spacing of light poles for roads classified as neighborhood collector and above and those roads within the Neighborhood Center. Actual pole placement shall be determined at the time of roadway design based upon intersection locations, traffic and pedestrian safety considerations, neighborhood security concerns, and viewshed protection.

Clear distance between the face of curb and the nearest part of the pole shall be 3 feet for streets classified as Neighborhood Collector and above and 2 feet for local access streets. In areas of thickened edge asphalt, a clear distance of 10 feet shall be maintained between the pole and edge of the travel lane.

A. Residential Local Access Street

For local access street within residential neighborhoods, street lighting is optional. If the street lighting option is selected, pole spacing shall generally be no less than 200 feet apart (staggered).

For those parcels or portions of parcels within the SR-202 or Snoqualmie Falls Viewshed, (i.e. Parcels A, B, C, D, F and K) additional restrictions apply. See Section 7.050.

B. Business Park

Pole spacing along streets within the Business Park shall generally be no less than 120 feet apart (staggered).

7.030 Parking Lot Lighting

7.031 Neighborhood Center – [reserved]

7.032 Business Park

A. Poles

Lighting poles within parking lots in the Business Park shall be direct buried Ameron natural exposed aggregate concrete. Pole height shall be such to allow a maximum luminaire mounting height of 30 feet above ground level.

B. Luminaires

Luminaires on the poles within parking lots in the Business Park shall be Lighting Systems Incorporated Caroline Series which includes both rectangular shoebox cutoff style fixtures and vertical lamp top style fixtures. Other luminaires may be used when approved by the City Design Review Board and the New Construction Committee. The rectangular shoebox style fixture may be mounted one or two per pole at a maximum height of 30 feet above ground level. The fixtures shall be either brown or gray. See Figure 7-06. The vertical lamp post top fixture shall be mounted one per pole at a maximum height of 30 feet above ground level. See Figure 7-07. All luminaires shall be "Full Cut Off Fixtures" (no light visible above the horizontal plane of the Luminaire.)

C. Lamps

Horizontally mounted lamps shall be 250 watt light pressure sodium. Vertically mounted lamps shall be 400 watt light pressure sodium. Alternate lamps, such as Phillips QL, may be used under the following conditions:

1. Produce equal or better color rendition.
2. Produce similar light output (lamp lumens).
3. Result in similar or better installation and maintenance costs.

D. Placement and Spacing

Poles shall be placed in parking lots in the Business Park such that a minimum light level of 0.6 foot candles is maintained, while providing an average light level of 1.5 foot candles.

Lighting levels shall be no greater than the 0.6 foot candle minimum at the inside edge of any perimeter or Parkway buffer. Lighting levels shall be verified by a photometric plan stamped by a professional engineer. Upon completion of construction, the City may require installation of non-reflective shields at a specific perimeter parking lot fixture if glare from said fixture is directed into a specific residence.

E. Lighting Management

Parking Lot Lighting Systems in the Business Park shall be designed and constructed such that portions of the light fixtures may be turned off during non service hours. Within ninety days of occupancy (i.e. once the Occupant has established their use patterns for the facility) the City and the Occupant shall meet and work together to develop a Lighting Management Plan. The goal of the Lighting Management Plan shall be to identify ways to reduce parking lot lighting during hours of non-operation. The Lighting Management Plan shall serve as a means for the Occupant and City to work cooperatively to reduce unnecessary light glare and energy consumption while providing adequate safety within parking areas. The Lighting Management Plan shall be subject to the needs of the Occupant and may be modified as the Occupants need change.

7.040 Parks and Trails Lighting**7.041 Parks****A. Mini-Parks**

Mini-parks typically adjoin streets which are subject to Section 7.020. Any additional lighting within the mini-park will be addressed at the time of mini-park design in accordance with Mixed Use Final Plan Conditions 50 and 53.

B. Neighborhood and Community Parks

Uses and facilities in Neighborhood and Community Parks vary widely. Each park requires a unique design which is subject to review by the City in accordance with Mixed Use Final Plan conditions 50 and 53. Lighting requirements for each park will be presented as part of the park design.

7.042 Trails

The purposes and locations of trails in Snoqualmie Ridge vary widely. Lighting of trails within Community, Neighborhood or Mini-parks would be considered part of a specific park plan. Soft-surface trails will not be illuminated. Lighting

of hard surface trails, paralleling streets (i.e. sidewalks) is addressed in the Street Lighting section of this chapter (Section 7.020).

All lighting for Parks and trails within the Snoqualmie Falls or SR-202 viewshed is subject to Section 7.050.

7.050 Snoqualmie Falls and SR-202 Viewshed Lighting

To avoid direct and indirect light, glare and nightglow impacts to the Snoqualmie Falls viewpoint and to the SR-202 viewshed, street lights and other bright outdoor lights such as outdoor flood lights are prohibited in parcels A, B, D, and F-North, unless it can be demonstrated by the applicant that direct and indirect light, glare, and nightglow from these lights can be kept to a minimum. If such lights are proposed, evaluation of these impacts shall occur as part of the preliminary plat approval process (except for Parcel F-North, where evaluation shall occur prior to final plat).

Other subtle lighting measures, such as low-wattage, low-standing (less than four feet) yard lamps at driveway entrances and low-wattage porch lamps, are allowed within these parcels.

7.060 Design, Testing and Warranty

7.061 Street Lighting

All street lighting will be designed, installed, owned and maintained by Puget Sound Energy or its successor. Lighting plans shall be submitted to the City for review prior to installation.

All street light designs shall be prepared by Puget Sound Energy, its successor, or an engineering firm capable of performing such work. The engineer shall be licensed by the State of Washington. All developments shall submit the street lighting plan on a separate sheet.

All street light electrical installations including wiring conduit and power connections shall be located underground.

7.062 Public Parks and Trails

All light designs for public parks and trails 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 to the City for review prior to installation.

All street light electrical installations including wiring conduit and power connections shall be located underground.

Lamp, photocell and fixture, including construction and materials, shall be warranted by the contractor for a period of one year.

7.070 Building-Mounted Lighting**7.071 Business Park**

Low level lighting at entryways is permissible. Building mounted lighting away from entries is permitted for utility functions only, such as lighting of service or loading areas. In these areas lights shall be full cut-off, high pressure sodium fixtures at a maximum of 150 watts. No building uplighting is permitted.

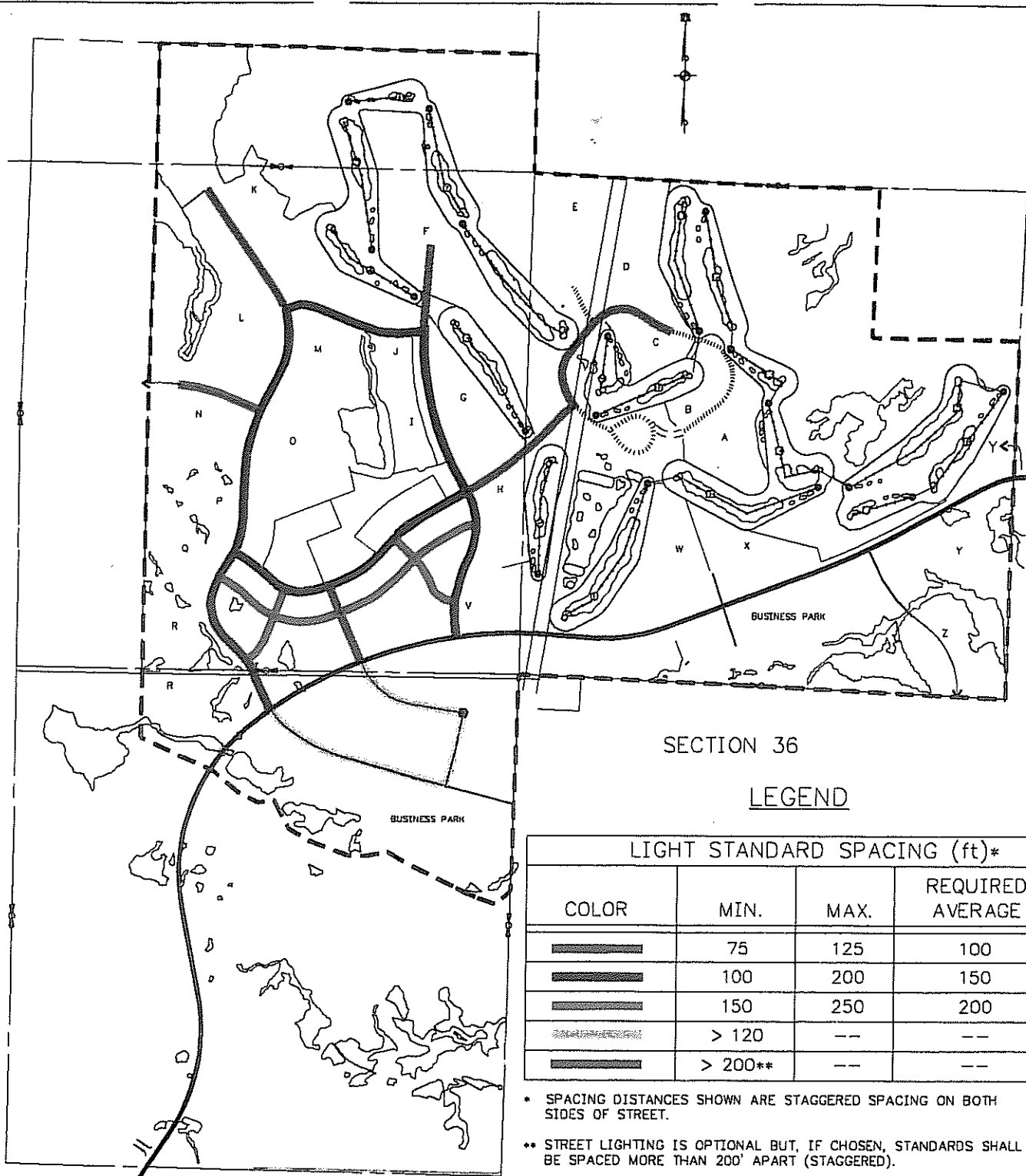


LIST OF STANDARD DRAWINGS

CHAPTER 7 – LIGHTING

TITLE	DRAWING
Street Light Spacing Plan	7-01
Street Light – Option 1 (Aluminum Pole)	7-02
Street Light – Option 2 (Fiberglass Pole)	7-03
Street Light – Option 3 (Concrete Pole)	7-04
Business Park Street Lighting	7-05
Business Park – Parking Lot Lighting (Horizontal Lamps)	7-06
Business Park – Parking Lot Lighting (Vertical Lamp)	7-07





SECTION 36

LEGEND

LIGHT STANDARD SPACING (ft)*			
COLOR	MIN.	MAX.	REQUIRED AVERAGE
	75	125	100
	100	200	150
	150	250	200
	> 120	--	--
	> 200**	--	--

- * SPACING DISTANCES SHOWN ARE STAGGERED SPACING ON BOTH SIDES OF STREET.
- ** STREET LIGHTING IS OPTIONAL BUT, IF CHOSEN, STANDARDS SHALL BE SPACED MORE THAN 200' APART (STAGGERED).

STREET LIGHT STANDARD SPACING PLAN
NO SCALE

SNOQUALMIE RIDGE			
STREET LIGHT SPACING PLAN			
DWN	CKD	DATE 8-21-97	DWG 7-01

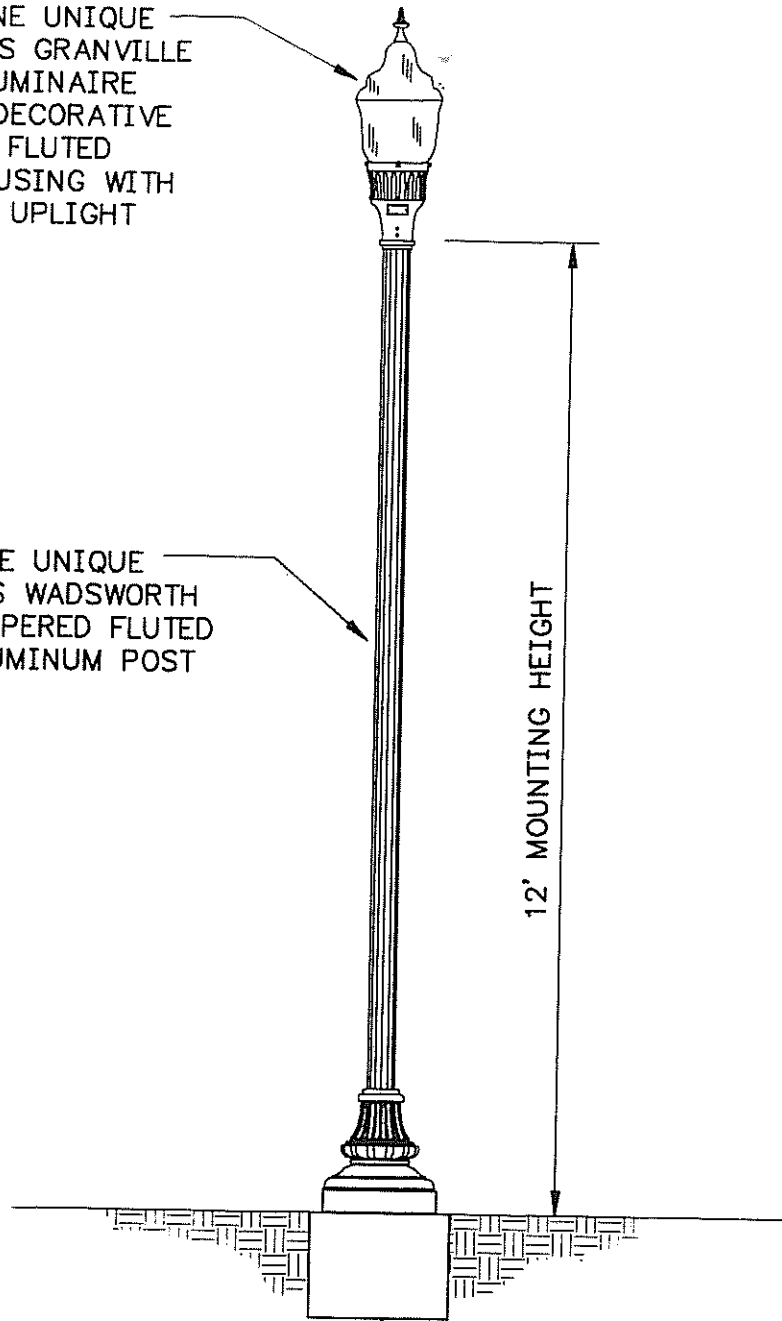
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EP 040002
10 10 97

HOLOPHANE UNIQUE SOLUTIONS GRANVILLE SERIES LUMINAIRE WITH 5" DECORATIVE FINIAL & FLUTED STYLE HOUSING WITH INTERNAL UPLIGHT SHIELD

HOLOPHANE UNIQUE SOLUTIONS WADSWORTH SERIES TAPERED FLUTED SHAFT ALUMINUM POST (TYPE P2)

20" DIA. CONCRETE (CLASS 3000) BASE

12' MOUNTING HEIGHT



SNOQUALMIE RIDGE

STREET LIGHT-OPTION 1
ALUMINUM POLE

JW
REF: 7-01.DWG
08/22/97

NOT TO SCALE

DWN

CKD

DATE

08-22-97

DWG

7-02

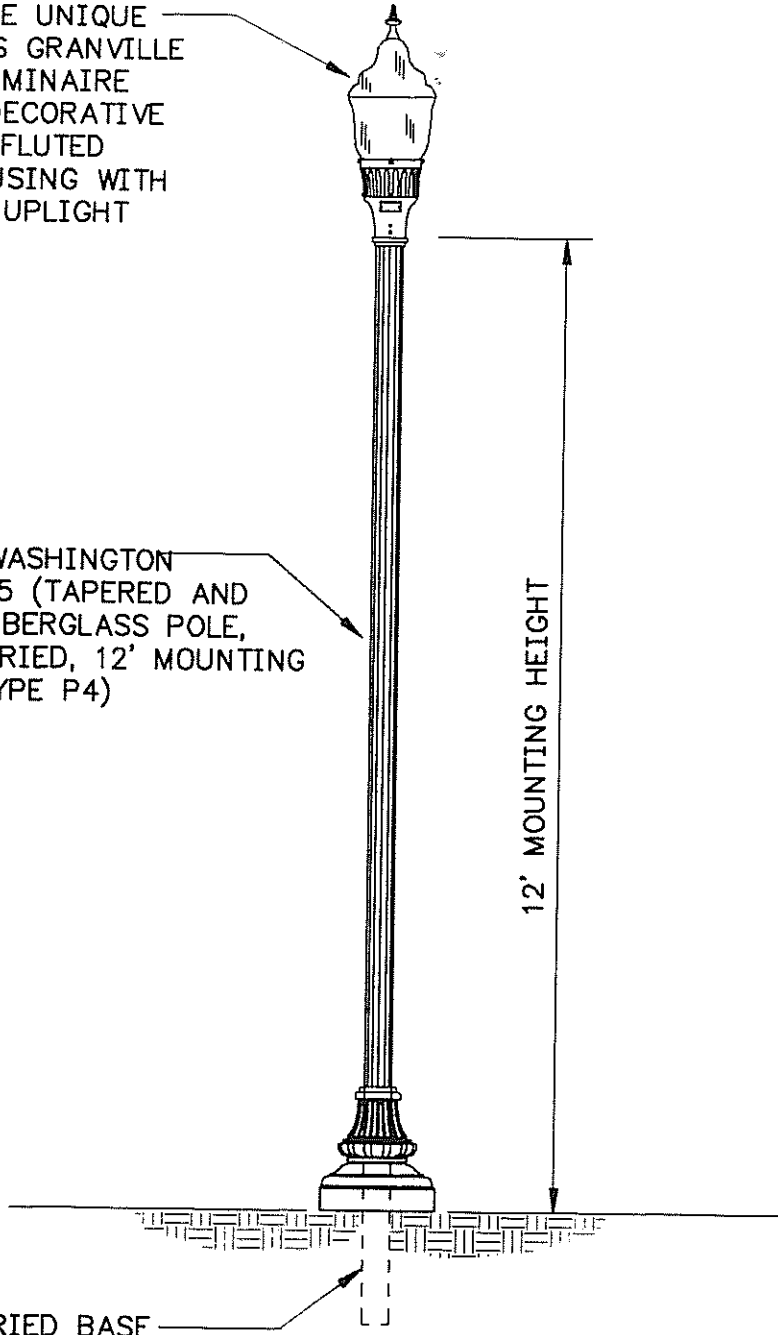
REV. NO.

HOLOPHANE UNIQUE SOLUTIONS GRANVILLE SERIES LUMINAIRE WITH 5" DECORATIVE FINIAL & FLUTED STYLE HOUSING WITH INTERNAL UPLIGHT SHIELD.

WHATLEY WASHINGTON SERIES 405 (TAPERED AND FLUTED) FIBERGLASS POLE, DIRECT BURIED, 12' MOUNTING HEIGHT (TYPE P4)

DIRECT BURIED BASE

12' MOUNTING HEIGHT



SNOQUALMIE RIDGE

STREET LIGHT-OPTION 2
FIBERGLASS POLE

REF: 7-02.DWG
08/22/97

NOT TO SCALE

DWN

CKD

DATE
08-22-97

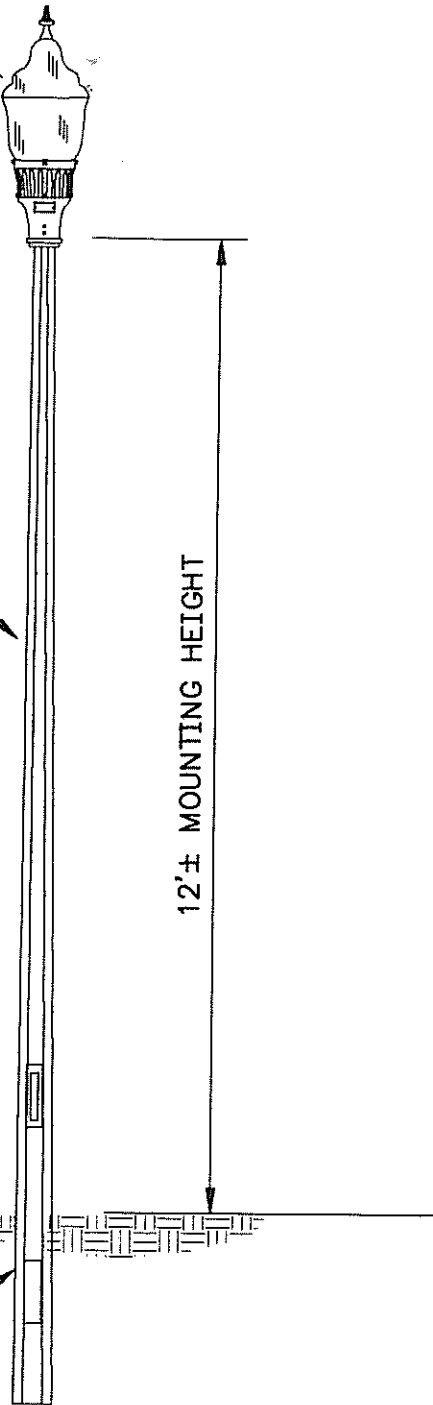
DWG
7-03

REV. NO.

HOLOPHANE UNIQUE SOLUTIONS GRANVILLE SERIES LUMINAIRE WITH 5" DECORATIVE FINIAL & FLUTED STYLE HOUSING WITH INTERNAL UPLIGHT SHIELD.

AMERON CONCRETE POLE CENTRECON SERIES "S" SMALL OCTAGONAL POLE (SEO-4) NATURAL/MOLD FINISH OR NATURAL/EXPOSED

DIRECT BURIED (EMBEDDED) BASE



SNOQUALMIE RIDGE

STREET LIGHT-OPTION 3
CONCRETE POLE

REF: 7-03 DWG
08/22/97

NOT TO SCALE

DWN

CKD

DATE

08-22-97

DWG

7-04

REV. NO:

AMERICAN ELECTRIC CO.
LUXMASTER SERIES 53

AMERON CONCRETE POLE
CENTRECON SERIES "S"
SMALL OCTAGONAL POLE
(SEO-4) NATURAL/EXPOSED
FINISH

DIRECT BURIED
(EMBEDDED) BASE

25'± MOUNTING HEIGHT

SNOQUALMIE RIDGE

BUSINESS PARK
STREET LIGHTING

REF: 7-04A.DWG
08/22/97

NOT TO SCALE

DWN

CKD

DATE
08-22-97

DWG
7-05

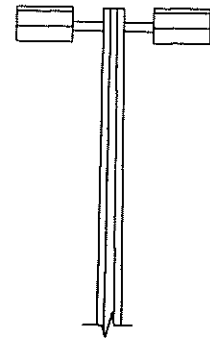
REV. NO

LIGHTING SYSTEMS INC.
CAROLINA SERIES
RECTANGULAR SHOEBOX
CUTOFF STYLE W/
HORIZONTAL LAMP

AMERON CONCRETE POLE
CENTRECON SERIES "S"
SMALL OCTAGONAL POLE
(SEO-4) NATURAL/EXPOSED
FINISH

DIRECT BURIED
(EMBEDDED) BASE

30'± MOUNTING HEIGHT



DOUBLE MOUNTED
OPTION

RECTANGULAR SHOEBOX CUTOFF OPTION

SNOQUALMIE RIDGE

BUSINESS PARK
PARKING LOT LIGHTING

REF: 7-05.DWG
08/22/97

NOT TO SCALE

DWN

CKD

DATE
08-22-97

DWG
7-06

REV NO

LIGHTING SYSTEMS INC.
CAROLINA SERIES
VERTICAL LAMP POST
TOP STYLE

AMERON CONCRETE POLE
CENTRECON SERIES "S"
SMALL OCTAGONAL POLE
(SEO-4) NATURAL/EXPOSED
FINISH

DIRECT BURIED
(EMBEDDED) BASE

30'± MOUNTING HEIGHT

POST TOP MOUNT OPTION

SNOQUALMIE RIDGE

BUSINESS PARK
PARKING LOT LIGHTING

REF: 7-36 DWG
08/22/97

NOT TO SCALE

DWN

CKD

DATE
08-22-97

DWG
7-07

REV. NO.