
§ 180-6.16. Outdoor lighting. – *replaced in entirety*

180-6.16.1. *Purpose.* The purpose of this section is to establish regulations to allow for outdoor illumination levels which are appropriate for the visual task, safety, and security while minimizing the undesirable side effects of excessive illumination such as glare, sky glow, and light pollution. Good lighting design can find a workable balance between safety, aesthetics, human health, and ecological and environmental impacts. The Town of Frisco understands that some exterior lighting is appropriate and necessary for the safety of people at night. What to light, why, and when, is a cornerstone of this lighting section. Over time, it is the intent that this section will allow for reasonably uniform illumination levels in our community. It is also the purpose of this section to establish recommendations for the design of outdoor lighting fixtures that will enhance the small mountain town atmosphere of Frisco. The following principles are used as a guide for responsible lighting design in the Town of Frisco:

- A. *Useful.* All lighting at night should have an intended purpose.
- B. *Targeted.* Light should be directed only where it is needed.
- C. *Low Light Levels.* Light should be no brighter than necessary for the task.
- D. *Controlled.* Lighting should only be used when it is useful.
- E. *Warm-Colored Light Spectrum.* Lighting should be warm-colored, limiting the amount of blue light.

180-6.16.2. *Applicability.* The lighting requirements of this section shall be applicable to all exterior lighting within the Town of Frisco. Outdoor lighting fixtures installed for new structures, the expansion or remodeling of existing structures, as well as new or replaced lighting fixtures shall meet the requirements of this section unless otherwise stated to be exempt.

- A. *Curfew.* Curfew regulations are in effect one (1) year upon the passage of this Section.
- B. *Nonconforming.* As of the effective date of this section, all outdoor lighting that does not conform to this Section 180-6.16 shall be legal nonconforming outdoor lighting. A legal nonconforming outdoor light fixture shall not be changed or altered without being brought into compliance with the provisions of this section. A nonconforming structure that is nonconforming in terms of its outdoor light fixtures may be expanded, changed, or altered provided that all outdoor light fixtures on the structure are brought into compliance with the provisions of this section.
- C. *10-year Legacy Exemption.* Existing outdoor lighting fixtures that do not meet the provisions of this section shall be considered legal nonconforming for ten (10) years from the adoption date of this section. Unless otherwise specified within this section, within ten (10) years of the effective date of this section all outdoor lighting fixtures that do not conform to the requirements of Section 180-6.16. shall be replaced or retrofitted to comply with the provisions of this section. After ten (10) years from the effective date of this section, noncompliant outdoor lighting fixtures will be considered a violation of this section and shall, in addition to any other penalties provided herein, be punishable as provided in Chapter 1, General Provisions, Article I.

180-6.16.3. *General Requirements.*

- A. *Design Criteria.*
 - 1. All exterior light fixtures shall be fully shielded fixtures. Any structural part of the fixture providing this shielding must be permanently affixed as shown in Figure 6-K below.

Figure 6-K: Fully shielded fixtures



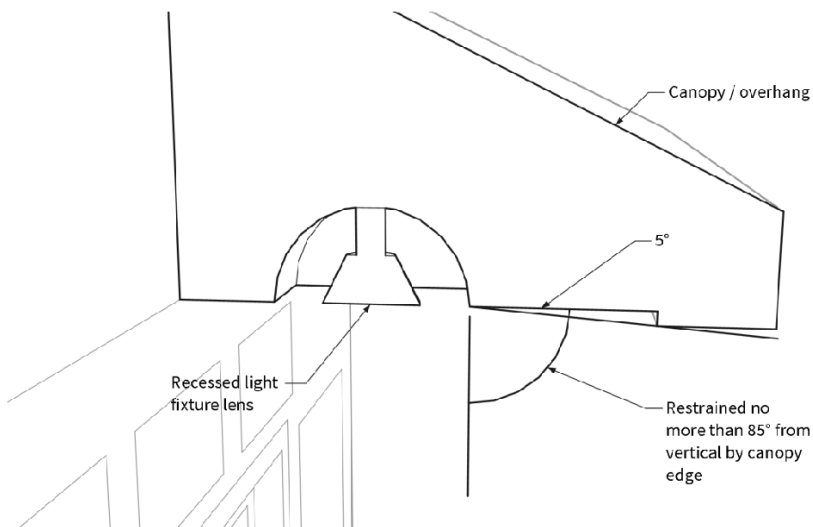
2. Outdoor light fixtures shall not have a correlated color temperature (CCT) of greater than 3000 Kelvins.
- B. *Light Output.* The upper lumen limits listed below should not be the design goal. The design goal should be to use the minimum light levels that meet the requirements of the task.
1. The total allowable site lumens for a residential property are limited to:
 - a. Residential uses (1 unit only): 6,500 lumens per net acre.
 - b. Residential uses (2 units or greater): 20,000 lumens per net acre.
 - c. Undeveloped, non-illuminated portions of the property shall not be included in the net acreage calculation.
 2. The total allowable site lumens for nonresidential and mixed-use properties are based on the square footage of the facade and other elements of the developed structure, landscape buffer, and hardscape. A site shall calculate a maximum site lumen allowance by choosing a maximum of four (4) of the following lighting types and adding their limits:
 - a. Building Entrance: 1,000 lumens per door. Fixtures shall be located within 20 feet of the door.
 - b. Building Facades: 10 lumens per square foot of building façade that is illuminated. Fixtures shall be aimed at the façade and capable of illuminating it without obstruction.
 - c. Nighttime Service Loading: 4,000 lumens per service loading door. Fixtures shall be located within 20 feet of the door.
 - d. Outdoor At-grade Parking Lot: 500 lumens per parking space. See 180-6.16.4.B. *Pole Lights*.
 - e. Gas Station Canopy: 5,000 lumens per fuel pump. Each side of a two-sided pump qualifies for an allowance. See 180-6.16.4.A *Canopy Lighting Standards*.

- f. Outdoor Dining, Decks, and Patios: 8 lumens per square foot of illuminated area for outdoor dining, decks, and patios. Fixtures shall be within 6 horizontal feet of the hardscape area of outdoor dining.
- g. Walkways and Pedestrian Areas: 1 lumen per square foot of walkways and areas used primarily for pedestrian circulation. Bollard lights are encouraged.

180-6.16.4. *Lighting Standards for Specific Types*

- A. *Canopy Lighting Standards.* Lighting levels for canopies and aprons shall be adequate only to facilitate the activities taking place in such locations and shall not be used to attract attention to the businesses. The following standards shall be met:
 - 1. Light fixtures mounted on canopies shall be recessed so that the lens cover is recessed or flush with the bottom surface (ceiling) of the canopy and/or shielded by the fixture or the edge of the canopy so that light is restrained to no more than 85 degrees from vertical, as shown in Figure 6-L below.

Figure 6-L: Canopy Lighting



- 2. Lights shall not be mounted on the top or sides (fascias) of the canopy or apron, and the sides (fascias) of the canopy or apron shall not be illuminated.
 - 3. Canopies shall be constructed of opaque materials that do not emit light.
- B. *Pole Lights.*
 - 1. Pole mounted lighting for multi-family or mixed-use common areas or any parking lot on a property that includes or is adjacent to a residential use are allowed up to twelve (12) feet from finished grade.
 - 2. Pole mounted lighting for nonresidential parking lots is allowed up to twenty (20) feet tall from finished grade, provided it is not directly adjacent to residential property.
 - 3. Outdoor light fixture and light pole designs must be aesthetically compatible with the site and structures on which they are mounted. Shoebox-style light fixtures are not permitted.
 - 4. Consideration of the overall appearance of the light fixture and pole, the placement of the light, surrounding landscaping for screening, and design features to eliminate off-sight light spillage will be

used when determining whether the proposed lighting accomplishes the purpose and intent of this Section.

C. *Security Lighting.* Motion sensor security lights shall be permitted if they are fully shielded and downcast per the requirements of this section. All motion sensor lights or proposed security surveillance systems shall meet the following criteria.

1. Shielded floodlights controlled by a motion sensor shall be limited to motion within the owner's property lines and turned off no more than five (5) minutes after such motion was detected.
2. Security lighting shall be properly installed/commissioned so it shall not be oversensitive to surroundings and be triggered repeatedly in an unreasonable or disruptive manner by naturally occurring causes (such as wind in foliage).

D. *Public Lighting.* New lighting, owned and operated by a public entity or private utility company, shall be allowed in situations where a public health hazard exists which can only be mitigated by artificial light at night. Streetlights are exempt from the General Requirements of this Section, but all other publicly-owned lighting shall comply.

1. All publicly owned lighting must be fully extinguished by 10:00 p.m., or within one (1) hour of the end of occupancy of the structure or area to be lit, whichever is later, unless needed for public safety as determined by the Community Development Director.
2. All public lighting shall make appropriate use of adaptive controls to limit the duration, intensity, and/or extent of outdoor lighting.
3. *Parks.* Light fixtures in municipal parks, pocket parks, and recreational fields shall follow the General Requirements of this section. Parks shall utilize the minimum amount of light for the tasks required, including signage, restroom entrances, amenities, curbs, stairs, or other changes in grade.

180-6.16.5. *Exemptions.* Provided that no dangerous glare is created on adjacent streets or properties, the following lighting is exempt from the regulations of this section:

- A. Lighting required by federal, state, county, municipal, or other territorial laws or regulations that conflict with this section may be exempted from the requirements of this section.
- B. Emergency exterior exit lighting, as required by the Chapter 65, Town of Frisco Building Construction and Housing Standards, is exempt when installed as lighting to be used only in emergencies.
- C. *Flags.* Lighting of national, state, or local municipal flags that is shielded from the sides to a narrow beam of no more than 15 degrees. Nighttime illumination of other flags is not allowed.
- D. *Signage.* See Section 180-6.19. Signs.
- E. *Historic Fixtures.* Fixtures that are consistent with the time period and historic character of a historic structure in the Historic Overlay District may be exempt from shielding and light trespass requirements upon request and approval from the Community Development Department. All lighting related to historic properties shall be otherwise consistent with all other performance standards laid out in this section.
 1. Historic properties shall not be permitted to exceed the total site lumen amount for the property as outlined in Section 180-6.16.3.B.
 2. Historic fixtures that are documented as part of the historic nature of the structure but do not meet the general lighting criteria of this section shall be limited to 1,000 lumens per fixture and a correlated color temperature (CCT) of 3,000K.

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- F. *Streetlights.* New street lighting, owned and operated by a public entity or private utility company, shall be allowed in situations where a public health hazard exists which can only be mitigated by artificial light at night.
1. New streetlights shall be fully shielded fixtures approved by the Community Development Director, utilizing a minimum output consistent with the safety of drivers and pedestrians.
 2. Freestanding light fixtures installed along Highway 9 shall be mounted no more than 40 feet high.
 3. Freestanding light fixtures installed within public roadway rights-of-way other than along Highway 9 shall be mounted no more than 30 feet high.
 4. Streetlights shall be dimmed or extinguished by 10:00 p.m., as needed for public safety.
 5. All street lighting shall make appropriate use of adaptive controls to limit the duration, intensity, and/or extent of outdoor lighting.
- G. *Seasonal Lighting.* Seasonal string lighting of a temporary nature is allowed between October 15 and March 1. Multicolored lighting is acceptable.
1. When seasonal lighting is white, it shall not exceed a CCT of 3000K.
 2. Seasonal lighting is subject to the following curfew hours. During these times, all seasonal lighting shall be extinguished.
 - a. Residential Uses, including residential units in a mixed-use building: 10:00 p.m. to 7:00 a.m.
 - b. Nonresidential and Mixed Uses: Curfew hours of 10:00 p.m. to 7:00 a.m. shall apply to all businesses unless normal operating hours end or begin within the hours of curfew. If so, the curfew applies from one (1) hour after closing until one (1) hour before opening.
- H. *Festoon Lighting.* Also known as bistro or ping-pong lighting, this is string lighting intended for permanent installation and year-round use. This is not seasonal lighting and is not intended to allow the use of other types of seasonal lighting year-round.
1. Festoon lighting is allowed over patios, decks, pedestrian plazas, outdoor dining, and other pedestrian walkways where permanent, decorative lighting would be beneficial.
 2. Festoon lighting shall be counted toward the maximum site lumens for a property.
 3. Festoon lighting shall be white color and shall not exceed a CCT of 3000K.
 4. Festoon lighting shall not be higher than twelve (12) feet, except when used over a public right-of-way. If over a public right-of-way, the lighting shall be hung at the minimum height appropriate for vehicle passage and safety. Height of the festoon lighting shall be the measured vertical distance from finished grade or from the most adjacent walking surface below the fixture up to the centerline of the fixture.
 5. Festoon lighting shall not be wrapped around trees or used to define architectural features of buildings.
 6. Festoon lighting is subject to curfew requirements. During these times, all festoon lighting shall be extinguished.
 - a. Residential Uses, including residential units in a mixed-use building: Curfew hours shall be 10:00 p.m. to 7:00 a.m.
 - b. Nonresidential and Mixed Uses: Curfew hours of 10:00 p.m. to 7:00 a.m. shall apply to all businesses unless normal operating hours end or begin within the hours of curfew. If so, the curfew applies from one (1) hour after closing until one (1) hour before opening.

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- I. *Outdoor Recreation and Athletic Fields.* The following shall apply to outdoor recreational or athletic field lighting:
1. Where it is established that there is a need for some up light, "sharp cut off" fixtures, ones in which there is very good beam control of the light output, shall be used.
 2. Field lighting shall be provided exclusively for illumination of the surface of play and viewing stands. Illuminance levels must be adjustable based on the task (e.g., active play vs. maintenance). Offsite impacts of the lighting shall be limited wherever possible.
 3. Lights must be extinguished by 10:00 p.m. or one hour after the end of play or activity, whichever is later. Timers must be installed to prevent lights from being left on by accident.
 4. Outdoor recreation and athletic field lighting are exempt from the maximum total site lumen requirements and CCT requirements. These projects shall utilize the minimum lumen and CCT levels allowed to meet requirements for play and safety per ANSI/IES RP-6 rules for amateur and recreational levels of play.

180-6.16.6. *Prohibited.* The following lighting is prohibited:

- A. Non-shielded and partially shielded fixtures, except as allowed under Section 180-6.16.5. Exemptions.
- B. Blinking and flashing lights.
- C. Exposed strip lighting used to illuminate building facades or outline buildings.
- D. Neon tubing and simulated neon tubing except as otherwise permitted under Section 180-6.19, Signs.
- E. Laser lights.
- F. Any light that may be confused with or construed as a traffic control device except as authorized by the Federal Government, the State of Colorado, or the Town of Frisco.
- G. Beacons and search lights, except as used for rescue operations by the fire district or other rescue organizations.

180-6.16.7. *Submittal Process.*

- A. *Large Projects.* Applications for large projects (as defined in Chapter 180, Article IX) shall submit for approval by Planning Commission a preliminary lighting plan which includes the following:
 1. Site plan with location of all light fixtures.
 2. Area of illumination.
 3. For each lamp: Lamp type, lumens, and correlated color temperature (CCT).
 4. Total light output on the property, in lumens.
 5. Mounting height of all fixtures.
 6. Whether adaptive controls are used.
 7. Cut sheet showing the shielding, design, and finishes of all fixtures.
 8. Drawings of all relevant building elevations showing the location and aiming points of the fixtures.
- B. *Other Projects.* Applications for projects that do not meet the definition of a "large project," but which include the replacement or installation of exterior lighting fixtures, shall submit the following:

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1. Identification of each fixture type, quantity, lumen output, correlated color temperature (CCT), and the total site lumens. Submittal of supporting data sheets of the exact fixtures, with model numbers, is encouraged.
 2. A site plan and elevations showing the locations, mounting heights, and aiming directions of the fixtures shall be included to the extent necessary to show compliance with requirements.

Figure 6-M: *[Reserved.]*

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