



IV. LIGHTING

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OBJECTIVES

Outdoor lighting directly impacts the visual appearance of Kittery, as well as the town's safety and security. The following lighting guidelines are designed to help balance the need for visibility and safety and enhance the visual quality of Kittery, while respecting the privacy of abutting residential properties. Lighting plans must consider illumination levels and fixtures that accommodate safety and visibility needs, but are also respectful of neighbors. Light levels must comply with the Town's requirements and not exceed IESNA recommended minimum standards.

LUDC Reference. These Guidelines are intended to supplement, illustrate, and amplify the provisions of Section 16.32 of the Kittery LUDC.

Lighting Goals

- Provide appropriate levels of lighting to ensure visibility and safety throughout Kittery while avoiding over-illumination.
- Promote wise energy consumption.
- Help to unify the quality of the visual environment through the selection of attractive, appropriately scaled fixtures.
- Avoid light fixtures or mountings that can cause distractions or hazards to motorists or pedestrians.
- Minimize reflected light from parking lots and large commercial users that contribute to sky-glow.
- Avoid intrusions onto abutting property owners, especially residential uses.
- Enhance noteworthy features such as monuments, sculpture, or architectural elements.



The lighting plan for this commercial building considers both security and visual appeal for motorists and pedestrians.

OBJECTIVES

Exterior lighting must be designed to provide the minimum level of illumination necessary for security, safety, and visual appeal for both pedestrians and vehicles. Lighting should allow activity after sunset without adding to unnecessary skyglow. Functional, aesthetic, and safety goals should be met with fixtures that are designed as integral site elements.

LUDC References

16.36.060.B.3.i: information for lighting plan.
16.08.020: definitions (e.g., cut-off fixture)
16.3.1210.G: technical requirements (e.g., mounting heights).



The color, form, and line of this fixture reflect the contemporary design of this office building. Its height and placement contributes to the human scale of the entrance.

DESIGN GUIDELINES

Lighting Plan. Lighting Plans required for Development Plan review must be presented with the application to enable the Planning Board to properly understand and review the lighting design.

Luminaires. Lighting fixtures mounted on poles or masts must be cut-off fixtures except for period or historical fixtures described below.

Pole and Fixture Design. The location and design of lighting should complement adjacent buildings, pedestrian amenities, and site elements. Poles and fixtures should be proportionate to the buildings and spaces they illuminate.



A cut-off fixture that complements the simple line of this commercial building. The fixture is mounted on an 18-foot pole on a one-foot base for an effective height of 19 feet.

Period or Ornamental Fixtures. Decorative fixtures may be used as alternatives to cut-off fixtures, provided that they comply with the LUDC. Period or ornamental fixtures should be designed or selected to complement the color, form, and lines of the architecture on the site.



Period light fixtures can be an effective and attractive way to add character and scale to the landscape. Fixtures are available with internal baffles to minimize glare.

Mounting Heights. Light fixtures must be mounted at the lowest level allowing compliance with IESNA practices and in conformance with the LUDC.

Safety and Energy Conservation. Illumination levels must not exceed the minimums to provide safe conditions as currently defined by the Illuminating Engineering Society of North America (IESNA) and the requirements of the LUDC.



Highly detailed ornamental lighting, mounted on 10' poles, is in scale with the pedestrian environment.



This pedestrian fixture has been located to illuminate the crosswalk that leads into a commercial establishment.

Safety Considerations. The design and placement of plantings, buffers, screen walls, fencing, and other landscape elements should be coordinated with the lighting plan to eliminate dark spots and potential hiding places.

Feature Lighting. Unique building or landscape features may be highlighted if the lighting does not create glare or distraction. Neon tubes should not be used as lighting or advertising features on the exterior of buildings.



These tall pole-mounted fixtures are out of scale with the development.



These light fixtures complement the surrounding architecture and site through the use of similar materials and appropriate scale.

Light Pollution. Lighting must not cause spillover onto neighboring residential properties or create dangerous conditions due to glare on adjacent roadways. The maximum illumination level at the property line abutting residential properties must not exceed 0.1 footcandles. Unshielded light bulbs are not allowed.

Updating Existing Lighting. When existing fixtures are replaced or modified, the replacements must conform to the requirements of the LUDC, Chapter 16.32.1200.

Energy Saving Devices. Wherever practicable, lighting design should include the installation of timers, photo sensors, and other energy saving devices to reduce the overall energy required for the development and eliminate unnecessary lighting.

After-hours Lighting. Where commercial properties abut residential areas, lighting in parking lots should be reduced to an average of 0.2 footcandles within one hour after closing.



A well-coordinated lighting plan that uses variations on the same fixture for both walkway and parking lot lighting.



The wall-mounted light fixture on the right appears too small in relation to the height and scale of this large retail store. A proper installation is seen in the left photo.



Small spotlights directed downward are easily aimed to prevent glare. The simple design of the fixture complements the line and colors of the sign.

OBJECTIVES

Proposed driveway lighting must be designed to provide the minimum lighting necessary for traffic and pedestrian safety. Lighting must not cause glare or avoidable spillover onto adjacent properties. Poles and fixtures should be proportional in size to the roadways they are illuminating.

DESIGN GUIDELINES

Illumination. Driveway lighting should be designed to illuminate the roadway and sidewalk, with a concentration on roadways. Light fixtures should be selected and aimed to prevent glare and spillage onto abutting properties. Illumination levels must comply with Section 16.32.1220 of the LUDC.

Luminaires. The use of metal halide lamps is strongly recommended for general illumination throughout Kittery for their color rendition and energy efficiency.

Design. The design and color of fixtures (poles and luminaires) used along driveways should complement the architecture, landscaping, and street furnishing of the site to be developed or redeveloped in terms of color, form, and style.

Layout. The alignment and spacing of fixtures should follow a regular pattern that is coordinated with the layout of buildings, parking lots, and other site elements.

Coordination with Planting Plan. The layout of light fixtures should compliment the spacing and rhythm of surrounding plantings, especially large shade trees. The lighting plan should take into consideration growth patterns of trees to avoid excessive pruning as trees mature.

Mounting Height. Light fixtures used in driveways and parking lots must be in scale with adjacent buildings. Mounting heights must comply with Section 16.32.1210 of the LUDC.



Driveway lighting effectively used to add character to a new road and illuminate the adjacent sidewalk.



Simple 'shoe-box' fixtures mounted on square poles provide a clean look that complements the site.

OBJECTIVES

Lighting for parking lots, outdoor sales and service areas must be designed to provide the minimum lighting necessary for safety, visibility, and comfort, without causing glare or avoidable spillover onto adjacent properties or roadways, or an increase in skyglow. In general, these areas should have less illumination than other surrounding commercial uses.

DESIGN GUIDELINES

Layout. The alignment and spacing of fixtures in parking lots should follow a regular pattern that is coordinated with the orientation of buildings and other site elements.

Location. Light poles should be incorporated within raised planting areas wherever possible to avoid damage from vehicles and plows.

Bases. The use of bases raised above the level of plantings (when installed in islands or plant beds) or higher than one foot above the level of the pavement (when installed in walkways) is discouraged.

Coordination with Planting Plan. The lighting plan should be coordinated with the landscape plan to avoid obstructions from large trees, dark spots from shadows, or other conflicts as plantings mature.



These light fixtures have been coordinated with the planting plan to avoid problems as the trees mature. Slightly raised bases protect the poles from plow damage.

Illumination Levels. Illumination levels must comply with Section 16.32.1220 of the LUDC.

Design. The design and color of fixtures used in parking lots should complement the roadway and pedestrian lighting, the architecture, and other street furnishings in terms of color, form, and style.

Luminaires. Metal halide lamps are strongly recommended in parking lots throughout Kittery for their color rendition and energy efficiency.

Mounting Heights. Light fixtures must be mounted at the lowest level allowing compliance with IESNA practices and in conformance with Section 16.32.1210 Lighting Fixtures.



The lighting in this parking area has been coordinated with the design of the lights used in the walkways and entrance drives (see examples on page 4).



These lighting fixtures are taller than the main building and out of scale with the site.



Lighting placed at the circumference of this parking lot blends into the surrounding trees, reducing its visibility during the day.



Spotlight fixtures should be avoided since they are difficult to aim and may cause spillover onto adjacent properties.



This parking lot lighting illuminates the walkway and emphasizes the route to the front door.

OBJECTIVES

The lighting of pedestrian spaces should consider users' needs and safety. Light standards should adequately, but not excessively, illuminate not only the space occupied by people, but also the elements within those spaces such as stairs, walls, benches, curbs, and landscaping.

DESIGN GUIDELINES

Heights. Mounting heights for pedestrian lighting should be appropriate for the project and the setting. Bollard fixtures, 3-4 feet in height, and ornamental fixtures, up to 12 feet in height, are encouraged as pedestrian area lighting.

Luminaires. Lamps should be metal halide housed in a luminaire that is classified by IESNA as a cutoff fixture. In general, illumination should not exceed 100 watts.

Decorative. Ornamental and decorative lighting should be used to highlight significant design elements (e.g., gateways, plazas, major building entrances).

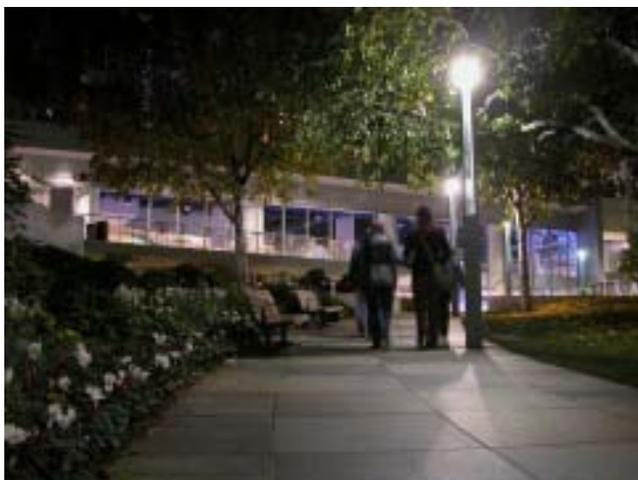
Design. The light poles and fixtures should be selected to complement the roadway and parking lot lighting, as well as the other elements of the streetscape.



Low pedestrian lights must be well constructed and secured to a permanent base to prevent damage and dislocation. The fixture on the left appears unstable and prone to damage. Bollard fixtures on the right provide even illumination and complement the building.



Unshielded wall-pac lighting can cause dangerous glare and make it difficult to see the stairway.



The glare from this unshielded walkway light may make it difficult to recognize faces of oncoming pedestrians.



These 10-foot fixtures add human scale to the landscape while illuminating the pathways and outdoor use areas.

OBJECTIVES

Facade lighting is a way of highlighting special architectural features and attractively landscaped areas, while adding depth and variety to Kittery at night. Lighting used to illuminate building facades and landscaping should be limited to areas where it enhances particular features in accordance with the overall lighting plan and does not disturb surrounding residential areas.

DESIGN GUIDELINES

Intent. The lighting plan narrative must describe how the facades of individual buildings and/or landscaping will be lit (if at all) and the design intent behind such lighting.

Levels. Maximum level of illumination on any vertical surface should not exceed 5.0 foot-candles.

Location. Lighting fixtures should be properly sited, aimed, and shielded so that light is directed only onto the building facade. Lighting fixtures should not be directed toward adjacent streets, sidewalks, or properties.

Mounting Heights. The maximum light fixture height for building-mounted fixtures should be 15 feet on the facades facing public streets (the front lot line) and 20 feet on all other faces.

Wall Mounted Fixtures. Facade-mounted lighting fixtures must include full face shielding: either solid panel or louvers that direct the light upward or downward. This provision does not apply to ornamental lighting of 8,500 lumens or less.

Landscape Lighting. Landscape lighting should be properly sited, aimed, and shielded so that light is directed only onto the selected tree or shrub. Lighting fixtures should not be directed toward adjacent streets, sidewalks, or properties. The lighting plan must demonstrate that the installation will not generate excessive light levels, cause glare, or direct light beyond the landscaping toward the night sky. Indirect landscape lighting (uplighting and washes) is encouraged over high branch-mounted floodlights aimed toward the ground.



These facade-mounted lighting fixtures are visually compatible with the form and color of the building.



Unshielded facade-mounted lights are not allowed because they cause glare and spill light onto adjacent properties.

GAS STATION, CONVENIENCE STORES & DRIVE-THROUGH CANOPY LIGHTING

OBJECTIVES

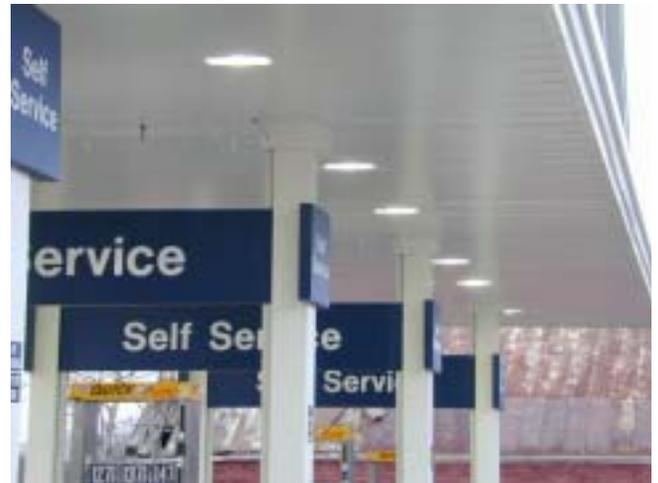
Lit canopies, architectural features, or devices used to illuminate gas stations, convenience stores, and drive-through elements of a building should facilitate the activities taking place in such locations without creating glare onto adjacent properties or roadways.

DESIGN GUIDELINES

Light Levels under Canopies. Lighting in areas around gasoline pumps and under canopies must comply with Section 16.32.1220.D of the LUDC.

Canopy Luminaires. Canopy-mounted light fixtures must comply with Section 16.32.1210.D of the LUDC so motorists cannot see the source of light. Drop fixtures are not allowed.

Fascia. Lights should not be mounted on the sides (fascia) or top of the canopy. Sides and tops of canopies should not be illuminated.



Drop fixtures are not allowed since they can produce dangerous levels of glare and cause a nuisance to abutting properties.

Lighting being considered as an integral part of the canopy design. The canopy light fixtures are recessed so the light source is not visible and do not create 'hot spots' that are distracting to the passing motorist.